## Washington Public Power Supply System

A JOINT OPERATING AGENCY
P.O. BOX 968 301FIFTHAVE. RICHLAND,WASHINGTON 99352 TELEPHONE (509) 946.9681
Mr. Edson G. Case
Acting Directorate of Reactor Licensing USAEC
Washington D.C. 20545
Subject: WPPSS NUCLEAR PROJECTS NO. 3 AND 5 PRELIMIIARY SAFETY AIIALYSIS REPORT PROJECT STN-501
References: 1) Letter, A. Giambusso to J. J. Stein, Project Number STN-501, April 15, 1974.
2) Letter, GC3-74-357, J. J. Stein to J. F. O'Leary, Same Subiect. June 4. 1974.

Dear Mr. Case:
Washington Public Power Supply System (WPPSS) submits herewith, the following documents in support of our application for construction permits for WPPSS Nillear Projects Ilumbers 3 and 5.

Ten (10) cc pies of Licensing Applications
Fifteen (15) copies of Preliminary Safety Analysis Report
The application as tendered is for a two unit project to be located near Satsop in Grays Harbor County, Washington.

The second unit (WPPSS Nuclear Project No. 5) has been added to the application as a result of action taken by the Northwest Public Power Council and the WPPSS Board of Directors since the WIPP-3 application was initially submitted for staff review on March 4, 1974. Each unit will utilize a Combustion Engineering "System 80" Nuclear Steam Supply System. The two units are identical with no shared Class I facilities or systems. Shared facilities will include the off-site power sources, intake and discharge lines, water and sanitary waste treatment facilities and certain parts of the plant fire protection system.

The Preliminary Safety Analysis Report has been revised to incorporate the addition of $K: I P . .5$ and to respond to questions raised during the BIMP-3 completeness review. All items listed in Mr . Giambusso's letter of April 15, 1974 (reference 1) as being required for docketing, have been responded to and included in the PSAR except as noted in our letter of June 4, 1974 to Mr. O'ieary (reference 2). Responses have aiso been provided to as many of the requests for additional information (not required for docketing) as possible at this point. To assist the reviewers, a list of the corpleteness review questions and the location of the responses is included following Chapter 17 of the PSAR.

As noted in our letter of June 4, 1974 to Mr. O'Leary, the Environmental Report is scheduled to be submitted on Aucust 15, 1974. It is our understanding from discussions with members of the staff that additional copies of the anti-trust information are not required at this tire.

Additional copies of the PSLR and applicatioii $\because 111$ be provided upon notification by the staff of the satisfactory completion of the comoletsness review.

Very trily yours,


JJS:GCS:ct
Enclosure
cc: Mr. J. B. Knotts, Conner, Hadlock \& Knotts
Mr. G. C. Sorensen, Washington Public Power Supply System Mr. P. J. Mannavay, Ebasco Services, Incorporated

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\text { APPLICANT FPQFOSED FINDING } \\
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the Board has made both findings of fact relating to the radiological health and safety issues specified in the Notice of Hearing, and appropriate conclusions of law, as set out below, along with our order ruling on the matter of issuance of construction permits for WNP-3 and WNP-5.

In making the following findings and conclusions, the Board reviewed and considered the entire record of the proceeding and all of the proposed findings of fact and conclusion of law submitted by the parties. All such proposed findings of fact and conclusions of law which are not incorporated directly or inferentially in this Initial Decision are hereby rejected as kaing unsupported in law or in fact, or as being unnecessary to the rendering of this Initial Decision.

> II. FINDINGS OF FACT - GENERAL HEALTH AND SAFETY MATTERS

## A. FINANCIAL QUALIFICATIONS

1. Washington Public Power Supply System is a municipal corporation and joint operating agency of the state of Washington, organized in January 1957 pursuant to the laws of the State of Washington. WPPSS is composed of 19 operating public utility districts and the cities of Richland, Seattle, and Tacoma, washington, each of which operates an electrical distribution system within the state of Washington. WPPSS
is empowered to acquire, construct and operate facilities for the generation and transmission of electric power and energy, but does not engage in the distribution of electric energy at retail. (Applicant's Exhibits 1 and 54; Staff Exhibit 16; Perko, Tr. following p. 598.)
2. WPPSS does not have rates and is not subject to the jurisdiction of any regulatory agency having control over rates. Rather, WPPSS is reimbursed for the cost of each project, including debt service, by the purchasers of the capability of that project. Ir this regard, the entire electrical capability of WPPSS' 70 \% ownership share of WNP-3 has been purchased by 103 publicly and cooperatively owned utilities ("Participants"), ${ }^{3 /}$ all of whom are statutory preference customers of the Bonneville Power Administration ("BPA"). The remaining 308 ownership share of WNP-3 has been purchased by fou: investor-owned utilities ("Companies") in the following undivided portions: Pacific Power and Light Company (108), Portland General Electric Company (108), The Washington Water Powe: Company (58), and Puget Sound
[^0]Power and Light Company (5\%). (Applicant's Exhibits 1 and 54; Staff Exhibit 16; Perko, Tr. following p. 598.)
3. WPPSS estimates its total cost for WNP-3 to be $\$ 970$ million. This estimate includes total nuclear production plant costs $(\$ 910,536,000)$, transmission and general plant costs $(\$ 14,989,000)$, and nuclear fuel inventory cost for the first core $(\$ 44,475,000)$. (Perko, Tr. following $p$. 598.)
4. The Participants have executed "Net Billing Agreements" ${ }^{4 /}$ with WPPSS and BPA which provide that the participants. portion of WPPSS' $70 \%$ share of the capability of WNP- 3 will be sold to the Participants, which in turn will assign the capability to BPA. The Net Billing Agreements provide that BPA will then credit the payments made to WPPSS by each participant for its proportionate share of the WNP-3 annual costs (including debt service) against billings made by BPA to the Participant for power and services. All participants are obligated by the Net Billing Agreements to pay their proportionate shares to WPPSS whether or not WNP-3 is complete, operable or operating, and notwithstanding the suspension, interruption, interference with, reduction, or curtailment of WNP-3. Further, BPA will

[^1]credit all payments made to WPPSS by the participants irrespective of energy actually received by BPA. Thus, there is assurance that the participants will possess the necessary funds to bear their share of costs for WNP-3 irrespective of operation of that project. In the event of a default by a Participant, the remaining Participants are obligated to automatic step-ups in their billings (by as much as 25\%) to satisfy the total obligations of the Participants. Thus, there are three levels of security for renayment of bonds and notes issued by WPPSS to finance its $70 \%$ share of WNP- 3 . The first level of security is the revenues to be derived from operation of WNP-3. The second level of security is the Net Billing Agreements pursuant to which the source of funds for payment of project costs is not dependent on actual project revenues. The third level of security is the obligation of the United States Government (through BPA) to provide power and credits to the Participants irrespective of operation of WNP-3. (Applicant's Exhibits 1 and 54; Staff Exhibit 16, Ferko, Tr. following p. 598.)
5. Permanent financing of WPPSS' $70 \%$ ownership share uf WNP-3 is effected by issuance of long-term debt securities of the revenue bond variety. State of Washington law (R.C.W. $\$ 43.52 .3411$ ) provides that WPPSS may issue revenue bonds payable from the revenues of the utility properties operated by it. WPPSS' Board of Directors has adopted a project plan
and system resolution for $W N P-3$, as well as plan and system resolutions for issuance of revenue bonds for wnP-3. These resolutions serve as the indentires to the buyers of the securities in which certain covenants are made to such buyers. The bonds or notes of WPPSS are negotiable instruments and legal securities for deposits of public monies, are legal investments for trustees and other fiduciaries, and for savings and loan associations, banks, and insurance companies. (Perko, Tr. following p. 598.)
6. WPPSS has a record of successful financing of generation projects. WPPSS began construction in 1952 and is now operating the Packwood Lake Hydroelectric Project $(27,000 \mathrm{kw})$. Construction costs of this project were financed by the sale of revenue bonds in the amount of $\$ 13,700,000$. A11 costs, including debt service, have been paid on a current basis and, excess construction funds have been applied to retire $\$ 519,000$ par value of honds ahead of schedule. In addition, $\$ 415,000$ bonds have been retired according to the original retirement schedule. The project output is sold to 12 public utility districts. Operating revenues for fiscal year 1976 totaled $\$ 782,259$. (Perko, Tr. following p. 598.)
7. WPPSS also successfully financed and constructed, and is now operating, the Hanford Generating Project $(860,000 \mathrm{kw})$, which utilizes by-product steam produced in
the dual purpose $N$-Reactor of the United States Energy Research and Development Administration ("ERDA") on the Hanford Reservation. Construction costs were financed by the sale of revenue bonds in 2963 in the total amount of $\$ 122,000,000$. All costs, including debt service, have been paid on a current basis and, in addition, excess construction funds have been applied to retire $\$ 34,825,000$ par value of bonds ahead of schedule. In addition, $\$ 28,265,000$ bonds have been retired according to the original debt retirement schedule. The project output is sold to 76 power purchasers, including public utility districts, municipalities, rural electric cooperatives and investor-owned utilities in the Northwest region. Operating revenues for fiscal year 1976 totaled $\$ 29,690,579$. (Perko, Tr. following p. 598.1
8. WPPSS is currently constructing its Nuclear Project No. 1 ("WNP-1") (1250 mw) located on ERDA's Hanford Reservation near Richland, Washington. WNP-1 is being financed pursuant to Net Billing Agreements similar to those executed for WNP-3. In September of 1975, NPPSS issued the first long-term revonue bonds to finance this project, and a total of $\$ 535,000,000$ in long-term debts has been issued to date. These securities were rated Aaa by Moody's Investor Service,

Inc. and AAA by Standard and Pocr's Corporation. ${ }^{\frac{5 /}{\prime}}$ Commercial operation is scheduled for January 1982. (Perko, Tr. following p. 598.)
9. WPPSS is also currently constructing WPPSS Nuclear Project No. 2 ("WNP-2") (formerly Hanford No. 2) (1100 miw) which is also located on the Hanford Reservation. WNP-2 is being financed in the same manner as WNP-1 and WNP-3, with the entire capability being sold to public and cooperatively owned utilities under similar Net Billing Agreoments. In July of 1973, WPPSS issued the first long-term revenue bonds to finance WNP-2, and a total of $\$ 800,000,000$ in long-term debts has been issued to date. These securities were rated Aaa by Moody's Investor Service, Inc. and ANA by Standard and Poor's Corporation. Commercial operation is scheduled for September 1980. (Perko, Tr. following p. 598.)
10. WPPSS has also begun work on WPPSS Nuclear Project No. 4 ("WNP-4"), a duplicate of WNP-1, located on the

Hanford Reservation. WNP-4 is being financed with WNP-5 as one system, and the project financing approach

5/ The Atomic Safety and Licensing Board in Wisshington Public Power Supply System (Wppss Nuclear Projects Nos. 1 and 4) 2 NRC 922,927 (December 22, 1975), concluded that WPPSS possessed or hed reasonable assurance of obtaining the funds necessary to cover estimated construction costs of WiNP-1 and related fuel cycle costs.

6/ The Atomic Safety and Licensing Board in Washington Public Power Supply System (WPPSS Nuciear Project No. 21 6 AEC 197 (March 15,1973 ), cenzluded that the record was adequate to supgort findings subsequently made by the then Dizector of wegulation that whpss was financially gualifind to construct WNP-2.
will not be altered, although there are some differences in the underlying contractual arrangements. These arrangements, and the financing history of WNP-4 and WNP-5, are discussed herein, infra, at paragraphs 13-17. 11. WPPSS has also issued $\$ 250$ million of long-term revenue bonds for WNP-3. These long-term securities were rated Aaa by Moody's Investor Service, Inc. and AAA by Standard and Poor's Corporation. These and all subsequent issues are earmarked as being for WNP-3 and proceeds of the sale of securities may be expended for that project only. Correspondingly, revenues associated with contracts for the sale and purchase of the output of WNP-3 may be applied only to WMP-3 costs, including debt service. To continue financing WNP-3, in addition to the $\$ 250$ million revenue bonds already sold, WPPSS will issue approximately $\$ 720$ million dollars of its tax exempt revenue boncs in series from time to time during the period of construction. Each series of bonds issued will be on a parity with other bonds issued. (Perko, Tr. following p. 598.) Based upon the foregoing, the Board finds that WPPSS is financially qualified in terms of 10 C.F.R. $\$ 50.33(f)$ and Appendix $C$ to 10 C.F.R. Part 50 to design and construct WNP-3 in that WPPSS possesses or has reasonable assurance of obtaining the funds necessary to finance its share (708) of those activities and related fuel cyele costs.
12. The Companies have executed "Ownership Agreements" with WPPSS which provide that each of the Companies will pay its respective portion of the costs of acquiring, constructing, and operating WNP-3, as well as of WNP-3 annual operating costs. The Companies also are obligated by the Ownership Agreements to make payments whether or not Wisp-3 is complete, operable or operating, and notwithstanding interruption or curtailment of output of WNP-3. The respective shares of the 308 aggregate which the four investor-owned electric utility Companies have agreed to purchase are set forth in paragraph 2, supra. The Companies are financing their respective shares individually in the same manner as the balance of their respective construction programs, viz., short-term borrowing, sale of equity securities, proceeds from first mortgage bonds, internally generated funds (including retained earnings, depreciation and deferred taxes), leases or other executory arrangements and other secured and unsecured transactions or construction financing. The Board finds that each of the four investor-owned Companies which have purchased an aggregate of 308 ownership intorest in WNP-3 is finzncially qualified

7/ $A$ form of Ownership's Agieement is set forth in Exhibit A to WPPSS' formal Application (Applicant's Exhibit 1).

8/ Current annual reports for the Companies are set forth in DSAR Amendment 39 (Applicant's Exhibit 54).
in terms of 10 C.F.R. $\$ 50.33(\mathrm{f})$ and Appendix C to $10 \mathrm{C} . \mathrm{F} . \mathrm{R}$. Part 50 in that each possesses or has reasonable assurance of obtaining the funds necessary to finance its respective share of design and construction costs for WNP-3, including related fuel cycle costs. (Applicant's Exhibits 1 and 54 ; Staff Exhibit 16; Perko, Tr. following p. 598.)
13. With respect to WNP-5, WPPSS owns a $90 \%$ undivided interest as a tenant in common with Pacific Power and Light Company, which owns the remaining $\$ 0 \%$ undivided interest. WPPSS has executed "Participants' Agreements" ${ }^{9 /}$ with 88 public and cooperative utilities ("Participants"), which will purchase the entire capability of WPPSS' ownership share (908) of WNF-5, and the entire capability ( $100 \%$ ) of WNP -4 , which is wholly owned by WPPSS. The ownership shares of WPPSS in WNP-4 (1008) and WNP-5 (908) will be financed in the same manner as WNP-1, WNP-2 and WNP-3, viz., through the issuance of revenue bonds. All projects heretofore undertaken by WPPSS, except WNP-4 and WNP-5, have been financed as separate systems. As noted, WPPSS' ownership interests in WNP-4 and WNP-5 wiJl be financed together as one system, and the project financing approach used for WNP-1, WNP-2 and WNP-3 and discussed in

9/ A form of Participants' Agreements and the respective portions purchased by each participant are set forth in PSAR Amendment 39 (Applicant's Exhibit 54).
detail herein, supra, paragraphs 4-9, will not be altered. (Applicant's Exhibit 54; Perko, Tr. following p. 598.)
14. WPPSS estimates its total cost of WNP-5 to be $\$ 1,718,661,000$. This estimate includes total nuclear production plant costs $(\$ 1,539,207,000)$, transmission and general plant costs $(\$ 19,271,000)$, and nuclear fuel inventory for the first core and reload fuel $(\$ 160,183,000)$. (Perko, Tr. following p. 598.)
15. Under the Participants' Agreements, WPPSS receives a promise from the Participants that each will pay a portion of the costs of acquiring, constructing and operating the project (WNP-4 and WNP-5). Each Participants' portion of such costs includes the amount required each year to pay the interest and a portion of the principal on the bonds outstanding, plus the participants' share of the annual operating costs. The first level of security for repayment of bonds is the revenues to be derived from operation of the project. The second level of security is that the Participants are obligated to make payments whether or not the profect is completed, cperable or operating, and notwithstanding interruption or curtailment of output. Thus, the source of funds for the payment of project costs is not degendenc on actual project revenues, but is insured on a broas base through the uiliyailun of the puivic and cooperative entities. Assurance
that such obligations can be met is provided in that the Participants covenanis to increase rates to the level necessary to meet their obligations to WPPSS set forth in the Participants' Agreements. These rates are not subject to review or approval by any state agency. In the case of default by a Participant, each other participant in its class (i.e., cooperative or public agencies) promises tc step-up their respective obligations by as much as $25 \%$. (Applicant's Exhibit 54; Perko, Tr. following p. 598.)
16. To finance $W N P-4$ and WNP-5, revenue notes in the amount of $\$ 15,000,000$ were sold in August of 1974 for the preliminary planning and progress payments. These notes matured and were retired on June 15, 1976. In addition, short-term revenue bonds in the amount of $\$ 100$ nillion were sold in July of 1975, and long-term revenue bonds in the amount of $\$ 145$ million were sold in February of 1977. Most recently, on May 24, 1977, long-term bonds in the amount of $\$ 90$ million were sold by WPPSS. These bonds wore sated $A-1$ by MoodY's and $A+$ by Standard and Poors. (Tr. 606-07.) To continue financinct WiP-4 and its ownership's share of WNP-5, in addition to the $\$ 335$ million revenue bonds already sold, WPESS :ill issue approximately $\$ 3.1$ billion of its tax-exempt revenue bonds in series f.om time to time during the period of
construction (Perko, Tr. folluwing p. 598). Based upon the foregoing, the Board finds that WPPSS is financially qualified in terms of 10 C.F.R. $\$ 50.33$ (f) and Appendix C to 10 C.F.R. Part 50 to design and construct $W N P-5$ in that WPPSS possesses or has reasonable assurance of obtaining the funds necessary to finance its share ( $90 \%$ ) $10 /$ of those activities and related fuel cycle costs.
17. Pacific Power and Light Company ("Pp\&L") has executed an "Ownership Agreement" $\dot{\text { with }}$ WPPSS to purchase $10 \%$ of WNP-5 108 of WP\&L will finance its ownership share of WNP-5 in the same manner as the balance of its respective construction programs, viz., short-term borrowing, sale of equity securities, proceeds from first mortgage bonds, internally generated funds (including retaincd earnings, depreciation, and deferred taxes), leases or other executory arrangements and other secured and unsecured transactions or $12 /$ construction financing. The Board finds that PPGL is

10/ As noted, WNP-4 and WPPSS' share of WNP-5 will be financed as one system. We note that the Atomic Safety and Liconsing Board in Wanhington Public Power Supply System (WPPSS Nuclear P=oject No. 4) in its demorandum and order dated Sost:mber 7, 1975, stated that it could at that time "nak2 a favorable conclusion of law on the financial qualifications issue for :MP-4." However, the ECArt in WNP-t deferred issuance of the decision on fi"uncial qualifications to await resolution of certain unrelated outstanding matters.
11) A copy of the ownership Agreement betvean PRot, and WPESS is set forth in Exhibit $H$ to Wz?ss' formal Application, as amended by PSAR Amendiant 39 (Applicant's Exhibit 54).
financially qualified in terms of 10 C.F.R. 550.33 (f) and Appendix C to 10 C.F.R. Part 50 in that it possesses or has reasonable assurance of obtaining the funds necessary to finance its share ( $10 \%$ ) of design and construction costs for WNP-5, including related fuel cycle costs. (Applicant's Exhibits 1 and 54; Staff Exhibit 16; Perko, Tr. following p. 598.)

## B. DESCRIPTION AND SAFETY EVALUATION OF THE FACILITIES

18. The facilities are to be located on a 2450 -acre site in southeastern Grays Harbor County, Washington, one mile southeast of the confluence of the Satsop and Chehalis Rivers, and approximately 26 miles west-southwest of Olympia, Washington. The exclusion area is approximately circular in shape with a minimum boundary distance of 4,300 feet $(1,310$ meters) measured approximately from the center of either reactor building. The Applicant currently owns all portions of the exclusion area fequired for plant construction activities. Further the Applicant has obtained by easement the authority to determine all activities within the exclusion area, including exclusion or sacral of personnel and property, with the exception of two parcels. Negotiations are ongoing between the Applicant and the Miners of these parcels for easements similar to those ottilncd $\omega$ : the Applicant from other landowners in the exclusion area. In the event that these negotiations ar? $m=t$ aucucssevi,

# Safety 

 Evaluation Repmertrelated to conetruction of

Washington Public Power
Supply System Nuclear
NUREG-0023
Suppl. No. 1
U. 8. Nuclear Regulatory Commission

Projects No. 3 and No. 5

Office of Nuclear Reactor Regulation

Docket Nos. STN 50-508 STN 50-509

June 1976
25. Washington Public Power

Supply System, et al.
Supplement No. 1




[^2]SUPPLEMENT NO. 1TO THE
SAFETY EVALUATION REPORTBY THE
OFFICE OF NUCLEAR REACTOR PEGULATION
U.S. NUCLEAR REGULATORY COMMISSION
IN THE MATTER OF
WASHINGTON PUBLIC POWER SUPPLY SYSTEM
NUCLEAR PROJECTS NO, 3 AND NO. 5
DOCKET NOS. STN 50-508 AND STN 50-509
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### 1.0 INTRODUCTION AND GENERAL DISCUSSION

### 1.1 Introduction

The Nuclear Regulatory Conmission's (Commission) Safety Evaluation Report in the matter of the application by the Washington Public Power Supply System, Pacific Power \& Light Company, Portland General Electric Company, Puget Sound Power os Light Company and The Washington Water Power Company (hereinafter referred to as the applicants) for Project No. 3 (WNP-3) and the Washington Public Power Supply System and Pacific Power \& Light Company for Project No. 5 ( $\mathbf{W N}-5$ ) to construct and operate the proposed facilities was issued on February 13, 1976.

The purpose of this supplement is to update the Safety Evaluation Report by providing (1) our evaluation of additional information submitted by the applicants since the Safety Evaluation Report was issued, (2) our evaluation of the matters where we had not completed our review of information submitted by the applicants when the Safety Evaluation Report was issued and (3) our responses to the comments made by the Advisory Committee on Reactor Safeguards in its report dated April 16, 1976.

Except for the appendices, each of the following sections of this supplement is numbered the same as the sections of the Safety Evaluation Report that is being updated, and the discussions are supplementary to and not in lieu of the discussion in the Safety Evaluation Report.

Appendix $A$ to this supplement is a continuation of the chronology of the staff's principal actions related to processing of the WNP-3 and WNP-5 application. Appendix $B$ is the Report of the Advisory Committee on Reactor Safeguards on WNP-3 and WNP-5. Appendix $C$ is a listing of errata to the Safety Evaluation Report.

## $1.9 \quad$ Outstanding Issues

In Section 1.9 of the Safety Evaluation Report, we listed a number of outstanding issues. All of the outstanding issues have been resolved.

W.1 | Geography and Demography |
| :--- |
| Exclusion Area Control |
| The exclusion area is approxim 4,300 feet ( 1,310 meters) |
| building. The applicants have |
| through easements of all prope |
| parcels. In a letter dated Ju |
| are continuing with the proper |
| executed by other property own |
| negotiations fail to produce a |
| thority to control these porti |
| intention to either purchase $c$ |
| to authority granted by Washir |
| With this commitment from the |
| that the applicants will have |
| exclusion area as required by |

"EMS AND COMPONENTS
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'pplicants systems and
ith the rainst

### 3.0 DESIGN CRITERIA FOR STRUCTURES, SYSTEMS AND COMPONENTS

## 3.6 <br> 3.6.2 <br> Protection Against Dynamic Effects Associated with the Postulated Rupture of Piping Energy Piping Outside Containment

In the Safety Evaluation Report, we stated that we had reviewed the applicants commitments regarding the design of the high and moderate energy piping systems and associated components and structures. We found them to be in accordance with the guidance set forth in the Commission's letter of July 12, 1974, "Protection Against Postulated Events and Accidents Outside Containment."

We further stated that the applicants had submitted a Topical Report, ETR-1002, "Desion Considerations for the Protection from the Effects of Pipe Rupture," to define in more detail criteria which will be used in providing protection from these postulated events. The Topical Report also summarizes the analytical methods to be employed to assess the consequences of the postulated failure. We stated that we would require that the criteria described in this topical report be consistent with the staff technical positions.

In Amendment 33 to the Preliminary Safety Analysis Report (PSAR), the app' 'cents deleted reference to the Topical Report. As stated in the Safety Evaluation Report, we continue to find that the applicants' commitments, as stated in the PSAR regarding the design of the high and moderate energy piping systems and associated components and structures, are in accordance with our design criteria and are acceptable, We consider this item resolved.
3.9 Mechanical Systems and Components
3.9.2 ASME Code Class 2 and 3 Components
3.9.2.1 Design and Installation Criteria, Pressure Relieving Devices

We reported in the Safexy Evaluation Report that the applicants had referenced two recently developed computer codes, LOADFACT and PIPESTRESS 2010, for use in analyzing the effects of dynamic loadings associated with the sudden operation of pressure relieving devices. We stated that we would require the applicants to establish the validity of these codes for this type of analysis in accordance with our technical positions.

In Amendment 30 to the PSAR, the applicants submitted program validation information for PIPESTRESS 2010. Also in Amemdment 30, the applicants stated that applicable validation information for LOADFACT could be obtained from reviewing the elastic solution validation results for a code entitled Plast 2267, as contained in iopical Report ETR-1002.

### 6.0 ENGINEERED SAFETY FEATURES

6.2 Containment Systems
6.2.8 Containment Air Purification and Cleanup Systems

In the Safety Evaluation Report, we described the applicants' proposed spray additive system and stated that, because of the unproven design of this system, we would require integral pre-operational testing of the spray and spray additive system to demonstrate adequate performance of the design. These pre-operational tests must be of sufficient detail to permit the evaluation of the capability of the system to inject sodium hydroxide into the containment spray flow at an adequate rate to produce an hydrogen fon concentration ( pH ) value of 8.5 in the containment sump at the end of injection, while maintaining the spray solution within the pH values of 9.0 and 11.0 . The performance of the system within these limits must be demonstrated with a single active failure in the spray or spray additive system, or any support system. In Amendment 30 to the PSAR, the applicants described a series of pre-operational tests which include integrated testing of the spray and spray additive system with a single active failure either in the spray or spray additive system. The spray additive tank will be filled with water in lieu of sodium hydroxide. The results of these integrated tests will be correlated with separate sodium hydroxide flow measurements. We find this pre-operational testing commitment acceptable at the construction permit stage of review, and we consider this issue to be resolved.

### 9.0 AUXILIARY SYSTEMS

### 9.5 Other Auxiliary Systems

9.5.1 Fire Protection System

In Amendments 30 and 31 to the PSAR, the applicants documented the following information to resolve our concerns regarding the fire protection system:
(1) Portable Halon 1301 fire extinguishers will be used as the fire extinguishing agent in the control room cabinets and computer room cabinets.
(2) The fire extinguishing system in the dry cooling tower electrical rooms will use ionization fire detectors, alarms, and automatic helon 1301 flooding.
(3) The Halon 1301 inventory of each Halon 1301 fire extinguisher will be checked quarterly by weighing the Halon container.
(4) Pre-action sprinklers with heat and ionization detectors and alarm plus manual fire hoses will be provided in the electrical penetration areas.
(5) An automatic hydrogen analyzer and alarm will be provided in the battery rooms to monitor hydrogen gas buildup from operation of the batteries. Portable Halon 1301 extinguishers will be located directly outside the battery rooms. Hose stations and portable Halon 1301 extinguishers will be provided in the vicinity of the emergency switchgear rooms.
(6) The diesel fuel oil storage tanks have been moved from the previous location directly under the electrical rooms between the dry cooling towers to the opposite ands of the dry cooling towers. The electrical rooms for the dry cooling towers remain in the original area between the two dry cooling towers. The electrical rooms and each diesel fuel oil storage tank will be enclosed in barriers with a minimum fire rating of three hours. The diesel fuel oil storage tank areas will be provided with automatic foam system with alarms.
(7) In Section 9.33 of the PSAR, the applicants stated that the safety related equipment rooms with automatic sprinkler systems such as the cable vault areas will be provided with floor drains.

Based on our review of the above fire protection system modifications, we conclude that the design criteria and bases meet the requirements of Criterion 3 of the General

Design Criteria regarding desigh of structures and systems and provision of fire detection and fighting systems of appropriate capacity and capability to minimize the probability and effect of fires and are acceptal le. We, therefore, consider this issue resolved. However, as a result of investigations presently being conducted by the staff on fire protection systems, additional requirements may be imposed before plant operation to further improve the capability of the fire protection system to prevent unacceptable damage that may result from a fire.

### 11.0 RADIOACTIVE WASTE MANAGEMENT

## Evaluation Findings

On April 30, 1975, the Comission adopted Appendix I to 10 CFR Part 50, "Numerical Guides for Design Objectives and Limiting Conditions for Operation to Meet the Criterion 'As Low As Reasonably Achievable for Radioactive Material in Light-WaterCooled Nuclear Power Reactor Effluents'." To effectively implement the requirements of Appendix 1, we have reassessed the parameters and mathenatical models used in calculating releases of radioactive materials in liquid and gaseous effluents in order to comply with the Commission's guidance. This guidance directed that current operating data, applicable to proposed radwaste treatment and $e^{\text {sfluent control systems for a }}$ facility, be considered in the assessment of the input parameters. The input parameters, models and their bases are given in Regulatory Guide 1.BB, "Calculation of Releases of Radioactive Materials in Liquid and Gaseous Effluents from Pressurized Water Reactors (PWRs)," September 9, 1975.

By letter from Daniel R. Muller to J. J. Stein, dated September 12, 1975, we requested the applicants to submit additional information concerning the means proposed to be employed to keep levels of radioactive materials in effluents from WNP-3 and WNP-5 to unrestricted areas "as low as reasonably achievable" in accordance with Appendix I guidelines. In a letter dated October 17, 1975, the applicants chose to perform the cost-benefit analysis required by Section II.D of R.ppendix 1 to 10 CFR Part 50.

We have performed an independent evaluation of the applicants' proposed methods to meet the requirements of Appendix 1 as documented in Supplement 6 to the Environmental Report. Our evaluation consisted of: (1) a review of the information provided by the applicants in response to the letter of Sepiember 12, 1975; (2) a review of the applicants' proposed radwaste treatment and effluent control systems as described in the PSAR as amended through Amendment 27 and in the Environmental Report as amended through Amendment 5; (3) the calculation of new source terms based on models and parameters as given in Regulatory Guide 1.8B; and (4) the calculation of the costbenefit of potential radwaste treatment augments, using doses based on the source terms calculated in (3) above and guidance as given in Regulatory Guide 1.110, "CostBenefit Analysis for Raduaste Systems for Light-Water Cooled Nuclear Power Reactors" (March 1976).

The individual and population doses were calculated using the guidance in Regulatory Guide 1.109, "Calculation of Annual Average Doses to Wan from Routine Releases of Reactor Effluents for the Purpose of Evaluating Compliance with 10 CFR Part 50 , Appendix I" (March 1976). Meteorologic and hydrologic facturs in the dose calculations were determined using the guidance in Regulatory Guide 1.111, "Methods for

Estimating Atmospheric Transport and Dispersion of Gaseous Effluents from Routine Releases from Light-Water-Cooled Reactors" (March 1976), and in Regulatory Guide 1.EE, "Analytical Models for Estimating Radiofsotope Concentration in Different Water Bodies" (September 1975).

We have determined the quantities of radioactive materials that will be released in the liquid and gaseous effluent streams during normal operation including anticipated operational occurrences. The principal radionuciides expected to be released in liquid and gaseous effluents are given in Tables 11.1 and 11.2 to this supplement. In making these detemminations, we have considered waste flows, radionuclide activities, and equipment decontamination factors, which are consistent with thnse expected over the 40 year operating life of the plant, considering nomal operation including tions is given in Table 11.3.

In our evaluation, we have determined that for each reactor on the WNP-3 and WNP-5 site that (1) the release of all radioactive materials above background in liquid effluents will not result in an annual dose or dose commitment to any individual in an unrestricted area from all pathways of exposure in excess of 3 milliroentgens equivalent man (millirems) to the total body and 10 millirems to any organ, (2) the release of all radioactive materials above background in gaseous effluents will not result in an estimated annual air dose at any location near ground level which could be occupied by individuals in unrestricted areas in excess of 10 milliradiation absorbed doses (millirads) for gamma radiation or 20 millirads for beta radiation, and (3) the release of all radioactive fodine and radioactive material in particulate form above background will not result in an annual dose or dose commitment to any individual in an unrestricted area from all pathways of exposure in excess of 15 millirems to any organ.

For the cost-benefit analyses, we considered the potential effectiveness of augmenting the proposed liquid and gaseous radwaste treatment systems using items of reasonably demonstrated technology. We further considered whether additional augmentation would effectively reduce the cumulative population dose reasonably expected within a 50 mile radius of the reactors.

We evaluated the potential radwaste system augments based on a study of the design of the app:icants' systems, on the dose information provided in Tab'es 11.4 and 11.5 of this supplement, on the basis of an interim value of $\$ 1,000$ per mar-roentgens equivalent man (man-rem) to the total body and $\$ 1,000$ per man-rem to the thyroid for reductions in dose by the application of augments, and on the cost of potential radwaste system augments as presented in Regulatory Guide 1.110.

The doses from gaseous releases to the population within a 50 mile radius of each reactor, when multiplied by $\$ 1,003$ per man-rem to the total body or $\$ 1,000$ per man-rem to the thyroid, resulted in a cost-assessment value of $\$ 7,000$ for the man-rem dose to the total body and $\$ 8,000$ for the man-rem dose to the thyroid. Similarly, the doses from liquid releases resulted in cost-assessment values of $\$ 610$ for the man-rem doses to the total body and $\$ 1,100$ for the man-rem doses to the thyroid.

TABLE 11.1
CALCULATED RELEAS:S OF RADIOACTIVE MATERIALS IN GASEOUS EFFLUENTS FROM
WNP-3 and WNP-5
(Curies per year per unit)

| Nuclide | Waste Gas Processing System | Reactor Bldg | Auxiliary B1dg | Turbine Bldg $\qquad$ | Condenser Air <br> Removal Vent | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Krypton-83m | a | a | ${ }^{1}$ | $\checkmark$ | a | a |
| Krypton-85m | a | 1 | 2 | ${ }^{\text {a }}$ | 1 | 4 |
| Krypton-85 | 260 | 1 | a | ${ }^{\circ}$ | ${ }^{\text {a }}$ | 260 |
| Krypton-87 | d | ${ }^{1}$ | 1 | ${ }^{\circ}$ | a | 1 |
| Krypton-88 | ${ }^{\text {a }}$ | 2 | 4 | a | 2 | 8 |
| Krypton-89 | $\cdots$ | ${ }^{1}$ | 0 | - | a | 0 |
| Xenon-131m | ${ }^{\text {a }}$ | 3 | ${ }^{\text {a }}$ | ${ }^{\text {a }}$ | a | 3 |
| Xenon-133m | ${ }^{1}$ | 7 | a | a | ${ }^{\text {a }}$ | 7 |
| Xenon-133 | a | 570 | 33 | a | 21 | 620 |
| Xenon-135m | a | a | a | $a$ | a | a |
| Xenon-135 | ${ }^{\circ}$ | 6 | 4 | 8 | 3 | 13 |
| Xenon-137 | ${ }^{\text {a }}$ | 8 | 0 | ${ }^{\text {a }}$ | a | a |
| Xenon-138 | ${ }^{\circ}$ | ${ }^{\text {a }}$ | 1 | ${ }^{\text {a }}$ | 0 | 1 |
| Iodine-131 | ${ }^{\circ}$ | 2.1(-3) | 4.3(-3) | 2.4(-4) | 2.7(-3) | 9.3(-3) |
| locine-133 | a | 8.3(-4) | 6.2(-3) | 3.4(-4) | 3.9(-3) | 1.1(-2) |
| Cobalt-60 | $7(-5)^{\text {b }}$ | 4.7(-5) | 2.7(-4) | $a$ | ${ }^{\circ}$ | 3.9(-4) |
| Cobalt-58 | 1.5(-4) | 1(-4) | $6(-4)$ | ${ }^{1}$ | ${ }^{0}$ | 8.5(-4) |
| Iron-59 | 1.5(-5) | 1(-5) | $61-5$, | $\checkmark$ | ${ }^{\circ}$ | 8.5(-5) |
| Manganese-54 | 44.5(-5) | 3(-5) | $1.8(-4)$ | ${ }^{\text {a }}$ | ${ }^{\circ}$ | 2.5(-4) |
| Cesium-137 | 7.5(-5) | 5.3(-5) | $3(-4)$ | ${ }^{\circ}$ | a | 4.3(-4) |
| Cesium-134 | 4.5(-5) | 3(-5) | 1.8(-4) | ${ }^{\circ}$ | ${ }^{\circ}$ | 2.5(-4) |
| Stront ium-90 | 90 6(-7) | 4.2(-7) | $2.4(-6)$ | ${ }^{\text {a }}$ | $a$ | 3.4(-6) |
| Strontium-89 | 89 3.3(-6) | 2.4(-6) | 1.3(-5) | $\cdots$ | ${ }^{\circ}$ | $1.9(-5)$ |
| Carbon-14 | 7.2 | $8(-1)$ | a | ${ }^{\circ}$ | d | 8 |
| Hydrogen-3 | ${ }^{8}$ | 380 | 380 | ${ }^{1}$ | ${ }^{\circ}$ | 760 |
| Argon-41 | a | 25 | ${ }^{\circ}$ | 8 | ${ }^{1}$ | 25 |

[^3]
## TABLE 11.2

## CALCULATED RELEASES OF RADIOACTIVE MATERIALS IN LIQUID EFFLUENTS FROM

 WNP-3 AND WNP-5| Nuclide | Curies per year $\qquad$ per unit | Nuclide | Curies per year per unit |
| :---: | :---: | :---: | :---: |
| Chromium-51 | $8(-5)^{2}$ | Tellurium-131m | 4(-5) |
| Manganese-54 | $1(-3)$ | Tellurium-131 | 2(-5) |
| Iron-55 | 1(-4) | Iodine-131 | 5.9(-2) |
| Iron-59 | $5(-5)$ | Tellurium-132 | 4.4(-4) |
| Cobalt-58 | 4.9(-3) | lodine-132 | $2.5(-3)$ |
| Cobalt-60 | 8.8(-3) | Iodine-133 | $3.7(-3)$ |
| Bromine-83 | 8(-5) | Iodine-134 | 3(-5) |
| Rubidium-86 | 2(-5) | Cesium-134 | 2.7(-2) |
| Strontium-89 | $2(-5)$ | Iodine-135 | $1.1(-2)$ |
| Mol ybdenum-99 | 1.6(-3) | Cesium-136 | 2.8(-3) |
| Technetium-99m | $1.6(-3)$ | Cesium-137 | 3.4(-2) |
| Tellurium-127m | $1(-5)$ | Barium-137 | 9.7(-3) |
| Tellurium-127 | $2(-5)$ | Neptunium-239 | $2(-5)$ |
| Tellurium-129m | $6(-5)$ | All Others Except Hydrogen-3 | $6(-5)$ |
| Tellurium-129 | 4(-4) | Total | $2.1(-1)$ |
| Iodine-130 | 1.7(-4) |  |  |
|  |  | Hydrogen-3 | $7.6(+2)$ |

[^4]TABLE 11.3
PRINCIPAL PARAMETERS AND CONDITIONS USED IN CALCULATING RELEASES
OF RADIOACTIVE MATERIAL IN LIQUID AND GASEOUS EFFLUENTS FROM
WNP-3 AND WNP-5

| Reactor Power Level | 3800 thermal megawatts |
| :--- | :--- |
| Plant Capacity Factor | 0.80 |
| Failed Fuel | 0.12 percent (a) |
| Primary System |  |
| Mass of Coolant | $5.4 \times 10^{5}$ pounds |
| Letdown Rate | 84 gallons per minute |
| Shim Bleed Rate | 1.1 gallons per minute |
| Leakage to Secondary System | 100 pounds per day |
| Leakage to Containment Building | (b) |
| Leakage to Auxiliary Buildings | 160 pounds per day |
| Frequency of Degassing for Cold Shutdowns | 2 per year |
| Secondary System | $1.7 \times 10^{7}$ pounds per hour |
| Steam Flow Rate | $1.6 \times 10^{4}$ pounds |
| Mass of Steam/Steam Generator | $1.6 \times 10^{5}$ pounds |
| Mass of Liquid/Steam Generator | $2.8 \times 10^{6}$ pounds |
| Secondary Coolant Mass | $1.7 \times 10^{3}$ pounds per hour |
| Rate of Steam Leakage to Turbine Building | 0.6 |
| Fraction of Feedwater Processed Through | $1.7 \times 10^{5}$ pounds per hour |
| Condensate Demineralizers | $3.4 \times 10^{6}$ cubic feet |
| Steam Generator Blowdown Rate | 4 |

[^5]O One percent per day of the primary coolant noble gas inventory and 0.001 percent per day of the primary coolant iodine inventory.

Decontamination Factors (DF) for liquid wastes

## Boron Recovery System (BRS)

Floor Drain Wastes Inorganic Chemical Wastes, Regenerant Solutions
$\begin{array}{ll}1 \times 10^{4} & 1 \\ 1 \times 10^{5} & 1 \\ 1 \times 10^{5} & 1\end{array}$

All Nuclides

Radwaste Evaporator DF BRS Evaporator DF

Laundry and Hot Shower Drains

| Iodine | $1 \times 10^{4}$ |
| :--- | :--- |
| Cesium, Rubidium | $2 \times 10^{4}$ |
| Others | $1 \times 10^{5}$ |


| Except lodine |
| :---: |
| $10^{4}$ |
| $10^{3}$ |


| $\frac{\text { Anions }}{10}$ | Cesium and <br> Rubidium |  |
| :---: | :---: | :---: |
|  | 2 |  |
| 10 | 2 | 10 |
| 10 | 10 | 10 |
| 10 | 2 | 10 |
| 10 |  |  |
|  |  | 10 |


$\frac{\text { odine }}{10^{3}}$

2 10

Turbine Air Removal System and Containment Building Internal Recirculation System Charcoal Filter, DF (Iodine Removal)
Boron Recycle Feed Demineralizer, DF
Primary Coolant Letdown Demineralizer, DF

Fuel Handling Building and Auxiliary Building
Ventilation System Charcoal Filter, DF
(Iodine Removal) 10

TABLE 11.4
COMPARISON OF CALCULATED DOSES FROM

> WNP-3 AND WNP-5 OPERATION

WITH SECTIONS II．A，II．B AND II．C
OF APPENDIX I TO 10 CFR PART 50
（Doses to Maximum Individual per Reactor Unit）

| Criterion | Appendix 1 Dose Design Objective | Calculated Doses |
| :---: | :---: | :---: |
| Liquid Effluents |  |  |
| Dose to total body from all pathways | $3 \mathrm{mrem} / \mathrm{yr}{ }^{\text {a }}$ | 2.1 mrem／yr |
| Dose to any organ from all pathways | $10 \mathrm{mrem} / \mathrm{yr}$ | $2.6 \mathrm{mrem} / \mathrm{yr}$ |
| Noble Gas Effluents |  |  |
| Gamma dose in air | $10 \mathrm{mrad} / \mathrm{yr}^{\mathrm{b}}$ | $2.6 \mathrm{mrad} / \mathrm{yr}$ |
| Beta dose in air | $20 \mathrm{mrad} / \mathrm{yr}$ | $4.7 \mathrm{mrad} / \mathrm{yr}$ |
| Dose to total body of an individual | $5 \mathrm{mrem} / \mathrm{yr}$ | 0.9 mrem／yr |
| Dose to skin of an individual | $15 \mathrm{mrem} / \mathrm{yr}$ | $2.1 \mathrm{mrem} / \mathrm{yr}$ |
| Radioiodines and Particulates ${ }^{\text {C }}$ |  |  |
| Dose to any organ from all pathways | $15 \mathrm{mrem} / \mathrm{yr}$ | $3.0 \mathrm{mrem} / \mathrm{yr}$ |

[^6]TABLE 11.5
CALCULATED POPULATION DOSES FOR COST-BENEFIT ANALYSIS, SECTION II.D OF APPENDIX I TO 10 CFR PART 50*

Total Body
Pathway

Liquid
Gaseous
0.61
6.8
1.1
8.0
*Based on the population reasonably expected to be within a 50 mile radius of the reactor.

Potential radwaste system augments were selected from the list given in Regulatory Guide 1.110. We considered 10 augments to the gaseous radwaste system and 10 augments to the liquid radwaste system. The total annual cost (TAC) for the gaseous radwaste system augments ranged from $\$ 8,000$ to $\$ 660,000$ per year. The TAC for the liquid radwaste system augments ranged from $\$ 11,000$ to $\$ 200,000$ per year. The principal parameters used in determining the TAC are given in Table 11.6.

For the 20 augments evaluated, we found that the TAC for each augment exceeded the $\$ 1,000$ per man-rem to the total body or $\$ 1,000$ per man-rem to the thyroid cost-benefit ratio. We concluded, therefore, that there were no cost-effective augments to reduce the cumulative population dose at a favorable cost-benefit ratio.

Based on our evaluation, we conclude that the liquid and gaseous radwaste treatment systems as described in the PSAR without augments are capable of reducing releases of radioactive materials in liquid and gaseous effluents to "as low as reasonably achievable" levels in conformance with 10 CFR Part 50.34 a and meet the requirements of Appendix 1 to 10 CFR Part 50 and are acceptable. We, therefore, consider the issue to be resolved.

TABLE 11.6

## PRINCIPAL PARAMETERS USED IN THE COST-BENEFIT ANALYSIS

| Labor Cost Correction Factor, Federal Power Conmission Region $7^{a}$ |  |
| :--- | :--- |
| Indirect Cost Factor ${ }^{\text {a }}$ | 1.3 |
| Cost of Money |  |
| Capital Recovery Factor ${ }^{\text {a }}$ | 1.62 |
|  | 7 percent |

[^7]
### 15.0 ACCIDENT ANALYSES

### 15.5 Postulated Accidents <br> 15.5.6 Radiological Consequences of Accidents

The whole body dose model used by us to calculate the radiological consequences of the design basis accident has been revised since we reported the whole body doses in the Safety Evaluation Report. The revised whole body dose model considers explicit dose conversion factors for each isotope of interest, and this model was used to calculate the doses reported in Table 15.1 to this supplement. In addition, the thyroid cose from contaiment purging to control hydrogen accumulation following a design basis loss-of-coolant accident has been reduced to reflect the additional dose reduction credit obtained by use of the containment spray additive system. The revised doses in this supplement do not affect our conclusion stated in the Safety Evaluation Report that the doses calculited fer the design basis accidents are well within the applicable guideline exposures of Ragulatory Guide 1.4, "Assumptions Used for Evaluating the Potential Radiologcial Consequences of a Loss-of-Coolant Accident for Pressurized Water Reactors," anc thus a small fraction of the 10 CFR Part 100 guideline values.

## TABLE 15.1

## RADIOLOGICAL CONSEQUENCES OF DESIGN BASIS ACCIDENTS

| Accident | Exclusion Area <br> 2-Hour Dose roentgen equivalent man |  | Low Population Zone ${ }^{\text {b/ }}$ 30-Day Dose, roentgen equivalent man |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Thyroid | Whole Body | Thyroid | Whole Body |
| Loss-of-Coolant | 74 |  |  |  |
| Hydrogen Purge |  | 15 | 25 | 4 |
| Fuel Handling | 3 | , | 2 | < 1 |

[^8]
### 18.0 REVIEW BY THE ADVISORY COMMITTEE ON REACTOR SAFEGUARDS

The Advisory Committee on Reactor Safeguards (the Comittee) completed its review of the application for construction permits for the Washington Public Power Supply System Units No. 3 and No. 5 at its 192nd meeting held April 8-10, 1976. The application was also considered during the 191st meeting of the Cormittee held March 4-6, 1976. A copy of the Committee's report, dated April 16, 1976, which contains corments and recommendations, is attached as Appendix B to this supplement. The actions we have taken or plan to take in response to these comments and recomnendations are dr cribed in the following paragraphs.
(1) The Committee stated that if studies, conducted with the best available techniques, establish that significant further emergency core cooling system improvements can be achieved, consideration should be given to incorporating such improvements into WNP-3 and WNP-5.

Studies are being conducted by several reactor vendors and the staff to better define the current safety margins associated with emergency core cooling systems. More specifically, we are holding generic discussions with Combustion Engineering regarding the concept of combined hot and cold side emergency core cocling system injection. Current efforts by the staff are aimed at determining if hot leg (upper head) injection mould bring about significant improvement in the reflood period after a loss-of-coolant accident. Experiments to determine the effectiveness of alternate emergency core cooling injection modes such as these are planned to be performed at the semiscale test facility in Idaho. In addition, we are developing advanced computer models for emergency core cooling systems performance evaluation. We will consider the results of these studies in evaluating any future modifications to the WNP-3 and WNP-5 emergency core cooling system.
(2) The Committee stated that a generic question has arisen concerning loads on the vessel support structure for certain postulated loss-of-coolant accidents in pressurized water reactors, and that this matter should be resolved for WNP -3 and WNP-5 in a manner satisfactory to the staff.

In a letter dated November 26, 1975, we requested the applicants to verify that the final design procedures would account for transient asymmetric pressure loads on the reactor vessel supports. In a letter from N. O. Strand to B. C. Rusche, dated December 31, 1975, the applicants stated that it is their intent that the final design of the reactor vessel support system will take into account these asymetric loads in combination with the appropriate loss-of-coolant accident and seismic loads. The applicants further stated that the results of these analyses and the final design parameters for the supports will be incorporated in
the Final Safety Analysis Report. We consider this to be an acceptable commitment, and, that accordingly, the design of the reactor vessel supports is acceptable for the construction pemit stage of review.
(3) The Comittee expressed the view that the applicants and the staff should continue to review the WNP-3 and WNP-5 design for features that could reduce the possibility and consequences of sabotage.

As we stated in the Safety Evaluation Report, we have concluded that the applicants' arrangements for protection of the plant against acts of industrial sabotage are acceptable for the construction permit stage of review. We have undertaken a study, on a generic basis, of design features of nuclear power plants to reduce the possibility and consequences of sabotage. We will apply the results of this study, as appropriate, to the WNP-3 and WNP-5 design.
(4) The Committee wishes to be informed of the specific application of the Browns Ferry Nuclear Plant fire special review group's recommendations as they apply to WNP-3 and WNP-5. These recommendations describe the development of additional information for fire prevention, fire fighting, quality assurance, and improvement of Commission policies, procedures and criteria.

We are proceeding with a program to conduct a comprehensive review and evaluation of nuclear power plants based on the staff's newly developed guidelines for fire protection system. The guidelines considered experience gained from the Browns Ferry Nuclear Plant fire, recomendations from the special review group, Nuclear Energy Liability-Property Insurance Association, and other qualified fire protection consulting agencies. The fire protection systems for WNP-3 and WNP-5 will be upgraded if the results of our evaluation so dictate. We will inform the Committee of the results of our review.
(5) The Committee expressed its continuing concern regarding generic problems related to large water reactors, recomending that such problems be dealt with appropriately by the applicants and the Nuclear Regulatory Commission staff.

These generic problems are discussed in a report by the Committee dated April 16, 1976. These problems are being worked on by the various reactor vendors, other industrial organizations and the staff, and will be the subject of our continuing attention.
(6) The following additional comment was appended to the letter:
> "The recurrence interval of an earthquake of the order of the safe shutdown earthquake (SSE) may be about 1,000 years for this site. For such a recurrence interval the probability of not achieving safe shutdown, given the SSE, must be very small if the staff goal of less than $10^{-7}$ per
year, of a serious accident from any single cause, is to be achieved. Since seismic design adequacy is not subject to direct experimental confirmation, we believe that other measures, including independent design review, low-amplitude shaking measurements of the completed structure, asbuilt construction validation, and detection of possible inservice degradation, should be evaluated and the necessary steps taken to provide the high degree of detafled specific assurance required with regard to seismic capability of all safety-related features "

We have in the past identified as a desirable safety objective for a large population of reactors that the probability of an accident with consequences that would significantly exceed the 10 CFR Part 100 guidelines from cne accident source should be $10^{-7}$ per reactor-year or less. This objective was primarily set for application in postulated accidents where we have been able to quantify or bound the probabilities (e.g., in the anticipated transients without scram case and in considering aircraft crashes), but was not intended for use in seismic design.

In the case of seismic design, we believe that a quantitive definition of various probabilistic parameters is still beyond the reach of the current state-of-the-art. Therefore, the use of a deterministic and conservative approach to ensure seismic design adequacy of safety related structures and systems is more appropriate.

The seismic design criteria of WNP-3 and WNP-5 were reviewed and accepted on the basis of deterministic zonsiderations. We concluded that the WNP-3 and WNP-5 seismic design will comply with applicable staff positions as set forth in Section 3.7 of the Standard Review Plan.

With regard to seismic capability of equipment, all essential mechanical and electrical equipment, including supports, in the WNP-3 and WNP-5 facilites will be seismically qualified by experiment and/or analysis as indicated in the Safety Evaluation Report. This seismic qualification is in accordance with the requirements of Appendix $C$ in the Safety Evaluation Report, and is consistent with our positions set forth in Sections 3.9.2, 3.9.3 and 3.10 of the Standard Review Plan and IEEE Standard 344-1975, "IEEE Recommended Practices for Seismic Qualification of Class IE Equipment for Nuclear Power Generating Stations." In addition, we are conducting a seismic audit program to assess the implementation of approved qualification methods and procedures for all essential mechanical and electrical equipment. This audit is being accomplished through visits to architect engineering companias, reactor vendors, and to typical plant sites to evaluate the test or analytical method employed for each item of equipment taking into account the actual configuration and mounting location of the item.

The measures noted are, nevertheless, considered significant and should be implemented if we are to further improve the reliability and conservatism of seismic design for safety related structures and systems. We are currently studying the advisability of implementing the above recomended measures, specifically, the implementation of an independent design review of plants.

We believe that the accaleration for seismic design which was accepted for the WNP-3 and WNP-5 site is near an upper bound value based on the geology and seismicity of the Puget Sound Region. Though the probability of this event being exceeded has not been determined, we believe that it is extremely low.

With respect to the comment on the probability of not achieving safe shutdown given an SSE of about 1000 years recurrence period, the design criteria used in the seismic design of the plant are such that the probability of not achieving safe shutdown is indeed very small but cannot be realistically quantified at this time.

We are of the opinion that there is not further need to implement other measures such as independent design review, low amplitude shaking of completed structures and detection of possible inservice degradation, insofar as licensing of WNP-3 and WNP-5 is concerned.
7. The following additional comment was appended to the letter:
"With increasing frequency, questions have arisen concerning the appropriate degree of conservatism to be included in the seismic design criteria for nuclear power piants. The needs of public safety would be best served if the design practices currently in vogue were altered to permit inelastic response so as to enhance the energy absorption characteristics of nuclear structures under severe seismic loadings. For the more severe seismic conditions inelastic design principl:s should be applied to foundations, concrete containments, floors, and support structures in order to assure a high degree of damping and thus minimize the forces transmitted to critical safety features and to the primary coolant circuitry. This would eliminate the need for many of the complex supplemental structural features of questionable reliability which are now used to meet extreme seismic design conditions. This design approach would allow nuclear structures to satisfy even the most pessimistic loading requirements of the most extreme seismic prophet. If it is not used there is doubtful value, and possibly some loss in public safety margin, from the use of ultraconservative seismic design requirements because the reliability of the structural restraints cannot be assessed from relevant structrual experience or post-construction vibrational testing."

We considered the concerns expressed in the above statement on the appropriate degree of conservatism to be included in the seismic design criteria for nuclear power plants, and how best would the needs of public safety be served if inelastic design principles instead of the elastic design approaches currently used were applied in the design and analysis of structures for the severe seismic conditions. We recognize some of the anomalies of elastic design. However, the current elastic design approach to seismic design has been established after extensive research and development. Research efforts in recent years have demonstrated that earthquaka effects, including lack of damage as well as damage, usually cannot be totally reconciled with elastic unit stresses and current design procedures. Various inelastic design methods have been proposed by several investigators, and certain empirical relationships and approximations are employed in order to reduce the complex problem of inelasticity and energy to more general application. However, there is a lack of more rigorous approach and the absence of complete scientific justification for the inelastic methodology. For instance, if the response spectrum approach which is rigorously applicable to structures only in the elastic range is used, inelastic response spectra have to be established. Since nonlinear systems have no true vibrational modes, such inelastic response spectra are generally obtained by modifying the elastic response spectra, which is, at best, an approximation and requires experience and judgment. There are other questions such as the damping values and ductility ratios to be used. Basically, the state-of-the-art of the non-linear design approach has not yet reached the point for more general and immediate application.

Realizing the limitations of the elastic approach, we have allowed the use of ultimate strength design for concrete structures and plastic design for steel structures in the design of member sections. We are presently considering the use of the inelastic approach for reevaluation of already built nuclear plants. In addition, the inelastic approach is being considered for non-catecory I structures, systems and components. Furthemore, we are considering the engagement of experienced consultants to investigate and establish nonlinear design approaches.
(8) The following additional comment was appended to the letter:
"The site for WPPSS Nuclear Projects No. 3 and No. 5 lies in a seismically active region that has been subject to large earthquakes in historic time and includes active major faults. While we do not disagree with the proposed seismic design basis, we belfeve it would be desirable to have the geologic and seisnic aspects of such sites, and perhaps most sites, also reviewed by the U. S. Geological Survey to provide the benefit of an additional independent evaluation."

The comment does not question the adequacy of the seismic sesign basis selected for the site. Rather it relates to the policy presently followed by the staff in determining the need for obtaining the advice of the U. S. Geological Survey in the review of nuclear plant sites. As indicated in our Standard Review Plan,

Section 2.5.1, a decision is made during the acceptance review as to the extent consultants such as the U. S. Geological Survey should be fnvolved in the review. This decision is based on considerations which include the complexity of the geology of the site and surrounding region, the proximity of the site to previously reviewed sites, and familiarity of the staff with the region. The bases for our decision to not involve the U. S. Geological Survey in the review of the WNP-3 and WNP-5 site are addressed in a memorandum from Edson G. Case to Raymond R. Fraley dated March 30, 1976, which is included in this report as Appendix 0 .

We are reviewing our policy regarding the involvement of the U. S. Geo ogical Survey in case reviews.

### 20.0 FINANCIAL QUALIFICATIONS

### 20.1 Introduction

In the Safety Evaluation Report, stated that we would report the results of our evaluation of the applicants' financial qualifications in a supplement to the Safety Evaluation Report. The applicants have provided additional financial information in Amendment 32 to the PSAR and a letter from D. L. Renberger to B. C. Rusche, dated April 20, 1976, indicating ownership of WNP-5. Our evaluation is presented below.

The Commission's regulations related to the financial data and information required to establish financial quailfications for applicants for facility construction wermits appear in Paragraph $50.33(f)$ and Appendix $C$ to 10 CFR Part 50. In accordance with these regulations, the applicants, Washington Public Power Supply System, Pacific Power \& Light Company, Portland General Electric Company, Puget Sound Power \& Light Company and The Washington Water Power Company, submitted financial infornation with their application, as well as providifig additional financial information in response to a request by us. Washington Public Power Supply System and the four investcr-owned utilities are the applicants for WNP-3. Washington Public Power Supply System and Pacific Power \& Light Company are the applicants for WNP-5. Their respective percentages of undivided ownership interest in each unit are listed below.

## Ownership Interest

(In percent)

Washington Public Power Supply System
Pacific Power \& Light Company

| $\frac{\text { WNP 3 }}{70}$ |  | WNP 5 <br> 70 |
| ---: | ---: | ---: |
| 10 |  | 10 |
| 10 | -- |  |
| 5 | - |  |
| 5 | - |  |
| 100 | 100 |  |

The following analysis summarizes our review of the application and the additional infomation and addresses the qualifications of each applicant to finance its undivided interest in the costs of designing and constructing the unit(s) in which it is a participant.

### 20.2 Construction Cost Estimates

The applicants have submitted construction cost estimates for the facility as follows:

> (dollars in millions)

Nuclear production plant costs

$$
\$ 2,380.1
$$

Transmission, distribution and general plant costs....
Nuclear fuel inventory cost for first core.
Total
134.8
$\$ 2,550.6$

The applicants' estimated cost for the nuclear production plant has been compared with costs estimated by the CONCEPT computer costing model. The Oak Ridge National Laboratory (ORNL) which does the CONCEPT computer work for the staff states that "estimates produced by the CONCEPT code are not intended as substitutesfor detailed engineering cost estimates, but were prepared as a rough check on the applicants' estimate." The CONCEPT costing model projected the cost of the nuclear production plant to be $\$ 1,942.0$ million. Discussions with the Oak Ridge National Laboratory and the applicants indicate that extraordinary structural requirements for the units (which are not assumed by the CONCEPT model) account for a significant portion of the difference between the two estimates. In addition, the units will have a smaller proportion of common use facilites than is assumed by the CONCEPT model. We have concluded that it is reasonable to use the applicants' estimate for purposes of this analysis because it represents the more detailed engineering cost study for this specific project.

## 20.3

## Participants and Financing Plans

### 20.3.1 Washington Public Power Supply System

Washington Public Power Supply System is a municipal corporation and a joint operating agency of the State of Washington. It is composed of eighteen operating pub ${ }^{-}$c utility districts of the State of Washington and the cities of Richland, Seattle and Tacoma, Washington. Washington Public Power Supply System has statutory authority to acquire, construct and operate plants and facilities for the generation and transmission of electric power. It has completed two electric generating projects: the 27.5 megawatt Packwood Hydroelectric Project and the 860 megawatt Hanford Steam Electric Project. In addition to WNP-3 and WNP-5, Washington Public Power Supply System has under construction or in advance planning, three additional nuclear units, namely WNP-1, WNP-2, and WNP-4. Washington Public Power Supply System does not engage in the distribution of power to retail customers, but is reimbursed for the cost of each project, including debt service, by the particioants therein. Also, it is not under the jurisdiction of any regulatory agency having control over its rates and services of the existing and proposed projects.

The respective financial obligations between Washington Public Power Supply System anc the above-named investor-owned companies are covered in the Ownership Agreement. Such agreement provides that each party shall be responsible for providing its ownership share of the costs of construction and operation, and will be entitled to its ownership share of the units' electrical capability. Under the Ownership Agreement, the investor-owned utilities have designated Washington Public Power Supply System to act as their agent to construct, operate and maintain the project.

Washington Public Power Supply System will finance its 70 percent ownership in WNP-3 and its 90 percent ownership in WNP-5 through the issuance of its revenue notes and its long-term revenue bonds. These securities are issued from time to time as construction funds are required. Washington Public Power Supply Systex engages in "project financing" and thus each of its security issues is related to a specific construction project. Its recent revenue bond offerings have been rated Aaa, the highest rating by Moody's and by Standard and Poor's. Washington Public Power Supply System issued $\$ 150 \mathrm{mllli}$ ion of revenue bonds in December 1975 to finance construction of WNP-3 and an additional $\$ 100 \mathrm{~m}$ illion in April 1976. It issued $\$ 100 \mathrm{million}$ of revenue bonds in July 1975 in partial support of preliminary work on WNP-5. An additional revenue bond issuance is planned during 1975 in support of WNP-5.

As noted above, Washington Public Power Supply System is not a retail distributor of electric power. Its 70 percent share in the capacity of WNP-3 and its 90 percent share in the capacity of WNP-5 $\mathbf{w 1 1 1}$ be sold to approximately 100 consumer-owned utilities in the Pacific Northwest. The Net Billing Agreements provide the contractual arrangements whereby the participants are obligated to make payments to Washington Public Power Supply System for their pro-rata shares of project costs whether or not the project is completed, operable or operating, and notwithstanding interruption or curtailment of output. Thus, the satisfaction of project costs is not solely dependent on actual project revenues, but is insured on a broad base through other revenueproducing assets of the participants. Each participant has covenanted that it will establish, maintain and collect rates or charges for power, energy and other services furnished through its electric utility properties which shall be adequate to provide revenues sufficient to make the required payments to Washington Public Power Supply System. The aforementioned contractual arrangements and the underlying revenue-producing capability provide the security for the servicing of Washington Public Power Supply System revenue bonds and notes.

Pacific Power \& Light Company
Pacific Power \& Light Company is an investor-owned electric utility operating in six states in the West and the Pacific Northwest. It serves approximately 540,000 residential, comercial, and industrial customers as well as selling power at wholesale to consumer-owned utilities. Pacific Power \& Light Company's operating revenues increased from $\$ 254.2$ million for the 12 months ended February 28,1975 , to $\$ 309.4$ million for the 12 months ended February 29, 1976, and net income increased from $\$ 56.1$ million to $\$ 72.7$ million over the same period. Invested capital on December 31, 1975 amounted to $\$ 1, \quad i 2.6$ million and consisted of 53.5 percent long-term debt, 10.2 percent preferred stock and 36.3 percent common equity. The company's first mortgage bonds are rated "Baa" by Moody's and "A-" by Standard and Poor's.

Pacific Power \& Light company plans to finance its ten percent portion of the WNP-3 and WNP-5 design and construction costs as part of its overall construction program. The funds will be provided from a combination of internally-generated sources (including retained earnings, depreciation and deferred taxes) and from the issuance of
securities including long-term debt, preferred stock and common stock. Interim funding requirements will be met with short-term borrowing. In response to our request, the company has submitted a source of funds statement (or financing plan) with underlying assumptions for its system-wide construction expenditures for the period 1976 through 1982, the estimated earliest year for completion of WNP-5. The financing plan and assumptions are shown in Tables 20.1 and 20.2 , respectively.

Pacific Power \& Light Company is subject to regulatory jurisdiction by state commissions in Oregon, Idaho, Washington, California, Montana and Wyoming. Since December 31, 1974. Pacific Power \& Light Company has been granted seven rate increases in five of the jurisdictions totalling $\$ 55.9$ million on an annualized basis. The allowed rates of return on common equity ranged from 11.25 percent to 13.5 percent. The company has four rate increases pending which request an average 15.0 percent return on common equity and a total annual revenue increase of $\$ 35.0 \mathrm{~m} 111$ ion.

## Portland General Electric Company

Portland General Electric Conpany is an investor-owned electric utility operating in n^rthwest Oregon. It serves approximately 390,000 residential and industrial customers as well as selling power at wholesale to other utilities. Portland General Electric Company's operating revenues increased from $\$ 146.8$ million for the 12 months ended January 31, 1975 , to $\$ 184.8$ million for the 12 months ended January 31, 1976 , and net income increased from $\$ 30.3 \mathrm{milli}$ ion to $\$ 51.2 \mathrm{million}$ over the same period. Invested capital on December 31, 1975 amounted to $\$ 837.4$ million and consisted of 53.1 percent long-term debt, 13.0 percent preferred stock and 33.9 percent common equity. The company's first mortgage bonds are rated "Baa" by Moody's and "BBE" by Standard and Poor's.

Portland General Electric Company plans to finance its ten percent zortion of the WNP-3 design and construction costs as part of its overall construction program. The funds will be provided from a combination of internally-generated sources (including retained earnings, depreciation and deferred taxes) and from the issuance of securities including long-term debt, preferred stock and common stock. interim funding requirements will be met with short-term borrowing. In response to our request, the company has submitted a sources of funds statement (or financing plan) with underlying assumptions for its system-wide construction expenditu is for the period 1976 through 1981, the estimated earliest year for completion of WNP-3. The financing plan and assumptions are shown in Tables 20.3 and 20.4 , respectively.

Portland General Electric Company is subject to the regulatory jurisdiction of the Public Utility Comission of Oregon. The company's most recent retail rate action, effective September 26,1975 , was a 24.7 percent increase amounting to $\$ 39.6$ million on an annual basis. A 13.3 percent rate of return on common equity was allowed in the case. Portland General Electric Company has requested a further 20 percent increase amounting to $\$ 42.2$ million on an annual basis. A 13.3 percent rate of return on common equity has been requested.

TABLE 20.1
APPLICANT PACIFIC POWER \& LIGHT COMPANY NUCLEAR PLANT WNP-3 AND WNP-5 SOURCE OF FUNOS FOR SYSTEM-WIOE CONSTRUCTION EXPENDI TURES DURING PERIOD OF CONSTRUCTION OF SUBJECT NUCLEAR PCWER PLANTS
(militions of dollars)
Construction Years of Subject Nuclear Power Plants


EExclusive of AFDC (allowance for funds used during construction)

## TABLE 20.2

PACIFIC POWER \& LIGHT COMPANY INPUT ASSUMPTIONS FOR SOURCES OF FUNDS STATEMENTS FOR WNP-3 AND WNP-5
(1) Capitalization goals of 52 percent Debt, 10 percent Preferred Stock and 38 percent Common Equity;
(2) Rates of 9-1/2 percent on long-term debt and preferred stock;
(3) Short-term interest rates at $8-1 / 2$ percent.
(4) Over-all rate of return up to 9.83 percent;
(5) Price/earnings ratio of 10 ;
(6) Dividend payout ratio of approximately 65 percent, and
(7) Coverages sufficient to maintain current bond ratings.
(8) Preferred Stock Coverage requirement and its method of calculation as contained 4, the "Restated Articles of Incorporation," Article III (17) (c) (Attached).

For the period 1976-1983, the coverage of total interest and preferred dividends combined would be:

| 1976 | $1.85 x$ | 1980 | $1.90 x$ |
| :--- | :--- | :--- | :--- |
| 1977 | $1.86 x$ | 1981 | $1.94 x$ |
| 1977 | $1.93 x$ | 1982 | $1.93 x$ |
| 1979 | $1.91 x$ | 1983 | $1.87 x$ |

TABLE 20.3
APPLICANT PORTLAND GENERAL ELECTRIC COMPANY NUCLEAR PLANT WKP-3 SOURCE OF FUNOS FOR SYSTEM-WIDE CONSTRUCTION EXPENOITURES DURING PERIOD
$\frac{\text { OF CONSTRUCTION OF SUBJECT NUCLEAR POWER PLANT }}{\text { (millions of dollars) }}$ (m)

Construction Year of Subject Nuclear Power Plant

*Exclusive of $A F D C$ (allowance for funds used during construction)

# TABL $\quad 20.4$ <br> PORTLAND GENERA, ELECTRIC COMPANY <br> INPUT ASSUMPTIONS FOR SOURCES OF FUNDS STATEMENT FOR <br> WNP-3 

## Item

Rate of return on average common stock equity Preferred stock dividend rate ${ }^{(a)}$ Growth rates ${ }^{(b)}$
a. kilowatt hour sales
b. revenues
c. expenses
d. interest charges
e. net income

Market/book ratio with respect to project common stock offerings

Common stock dividend payout ratio

Target capital structure

Resultant Security Exchange Commission and indenture coverages over the period of construction ${ }^{(f)}$

Long-term debt interest rate
Short-term debt interest rate

## Numerical Value

## 13.5 percent

10.0 vercent
7.44 percent
16.48 percent
13.03 percent
19.38 percent
14.54 percent
$1.00 / 1.00$ on $2 / 29 / 76$ (d)
$1.21 / 1.00$ on $12 / 31 / 85$
6.27 percent (1976) to 44.1 percent (1985)(e)

55 percent debt
10 percent preferred stock
35 percent common stock

| $1976-2.330$ | $1981-2.352$ |
| :--- | :--- |
| $1977-2.250$ | $1982-2.356$ |
| $1978-2.677$ | $1983-2.247$ |
| $1979-2.467$ | $1984-2.337$ |
| $1980-2.399$ | $1985-2.199$ |

10 percent
8 percent (general)
8.5 percent (nuclear fuel)

[^9]
### 20.3.4 Puget Sound Power \& Light Company

Puget Sound Power \& Light Company is an investor-owned electric utility operating in northern and central washington State. It serves approximately 410,000 residential, comercial and industrial customers. Puget Sound Power $\%$ Light Company's operating revenues increased from $\$ 149.7 \mathbf{m} 11$ ion for the 12 months ended March 31, 1975, to $\$ 169.6$ million for the 12 months ended March 31, 1976, and net income increased from $\$ 19.6$ million to $\$ 24.7$ million over the same period. Invested capital on December 31, 1975 amuunted to $\$ 622.9$ million and consisted of 57.6 percant long-term debt, 10.7 percent preferred stock and 31.5 percent comsion equity. The company's first mortgage bonds are rated "Baa" by Moody's and "BBB" by Standard and Poor's.

Puget Sound Power \& Light Company plans to finance its five percent portion of the WNP-3 design and construction costs as part of its overall construction program. The funds will be provided from a combination of internally-generated sources (including retained earnings, depreciation and deferved taxes) and from the issuance of securities including long-term, preferred stock and common stock. Interim funding requirements will be met with short-term borrowing. In response to our request, the company has submitted a sources of funds statement (or financing plan) with underlying assumptions for its system-wide construction expenditures for the period 1976 through 1981, the estimated earliest year for completion of WNP-3. The financing plan and assumptions are shown in Tables 20.5 and 20.6 , respectively.

Puget Sound Power \& Light Company is subject to regulatory jurisdiction by the Washington Utilities and Transportation Coninission. Its most recent rate increase amounted to $\$ 22.9$ milliton or 19.9 percent on an annual basis and was effective November 1 , 1974. The company has filed an additional $\$ 36.5 \mathrm{milli}$. would allow a 13.0 percent rate of return on common equity.

### 20.3.5 The Washington Water Power Company

The Washington Water Power Company is an investor-owned electric and gas utilify operating in the states of Washington and Idaho. It serves approximately 190,000 residential, comercial, and industrial customers as well as selling power at wholesate to consumer-owned utilities. The Washington Water Power Company's operating revenues increased from $\$ 117.4$ million for the 12 months ended March 31, 1975 to $\$ 142.5$ million for the 12 months ended March 31, 1976, and net income increased from $\$ 14.6 \mathrm{milli}$ ion to $\$ 19.1$ million over the same pariod. Invested capital on December 31, 1975 amounted to $\$ 409.7$ million and consisted oi 63.2 percent long-term debt and 36.8 percent common equity. The company's first mortgage bonds are rated "A" by Moody's and Standard and Poor's.

The Washington Water Power Company plans to finance its five percent portion of the WNP-3 design and construction costs as part of its overall construction program. The funds will be provided from a combination of internally-generated sources (including

TABLE 20.5
APPLICANT PUGET SOUND POWER \& LIGHT COMPANY NUCLEAR PLANT WNP-3 $\frac{\text { SOURCE OF FUNOS FOR SYSTEM-WIDE CONSTRUCTION EXPENDITURES OURING PERTIOO }}{\frac{\text { OF CONSTRUCTION OF SUBJECT NUCLEAR POWER PLANT }}{\text { (Millions of dollars) }}}$

Construction Years of Subject Nuclear Power Plant

*Exclusive of AFDC (allowance for funds used during construction)
This source of funds statement is based upon and qualified by the assumptions described on the attached pages and has been prepared and furnished at the request of the Nuclear Regulatory Commission. It is not to be used in connection with the sale or purchase of the Company's securities.

TABLE 20.6
PUGET SOUNO POWER \& LIGHT COMPANY
$\frac{\text { INPUT ASSUMPTIONS FOR SOURCES OF FUNDS STATEMENTS }}{\text { FOR WNP-3 }}$
(1) Generally maintain a minimum of either a 13 percent return on average common equity or first mortgage bend indenture coverage of 2.2 times interest.
(2) Preferred dividend rate on new issue of 10 percent.
(3) Growth rate in kilowatt hour sales to consumers 6 percent.
(4) Inflation factor of 7 percent compounded each year through 1982 for construction expenditures and certain operating and maintenance expense, 5 percent inflation factor compounded each year to forecast operation and maintenance of major generation plant.
(5) Interest rates used in forecast:

| Notes payable (short term): |  |
| :--- | :---: |
| Bank loans | 10 percent |
| Commercial paper | 6 percent |
| Long term debt | 10.25 percent |

(6) Target capftal structure:

## 1976-1980

5 percent
Notes payable (short term) 5 percent
Long term debt
Preferred stock Common stock

50 percent
13 percent
32 percent

## 1981-1982

5 percent
50 percent
10 percent
35 percent
(7) Common stock price/earnings ratio of 7 times earnings.
(8) Common dividend payout ratio averages 52 percent.
(9) Maximum dilution of common stock does not exceed 15 percent in any given year.
(10) In line with the 1975 Tax Reduction Act (Sec. 402 of P.L. $94-12$ ) the following investment tax credit assumptions are incorporated in the projections.
a. Invest tax credit rate - 1976 at 10 percent; 1977 to 1982 at 4 percent.
b. Investment tax credit taken on progress payments on Colstrip 3 and 4, Skagit Units 1 and 2, and Pebble Springs Units 1 and 2. Applicable transition percentages for phasing in qualified progress payment are 1976, 40 percent; 1977, 60 percent. 1978, 80 percent and 100 percent after 1978.
c. Limitation on use of investment tax credit as a percent of tax liability is 100 percent for 1976 and is scaled down 10 percent each year until it reaches the 50 percent level in 1981.
(11) AFDC rate adjusted periodically to reflect composite cost of capital. AFDC accruing from construction of major production plant is normalized in 1977 and subsequent years.

## TABLE 20.6 (Continued)

(12) Schedule of Major Plant Construction

| Plant | Puget Power Ownership Share |
| :---: | :---: |
|  | 50 percent |
| Colstrip 62-coal | 25 percent |
| Colstrip ${ }^{\text {colstrip } 4 . \text { coal }}$ | 25 percent |
| WNP 63 - nuclear | 55 percent |
| Skagit \&1 - nuclear | 20 percent |
| Pebble Springs 1 - nuclear | 40 percent |
| Skagit \$2 - nuclear | 20 percent |

## Project <br> Completion Date

## August 1976

July 1980
July 1981
March 1982
July 1983
July 1985
July 1986
July 1988
(13) Power Supply:
(a) System resources are based on an average of the 30 water years included in the 1975 west group forecast.
(b) Purchased hydro power costs debt service requirements are as precribed in the project owners official statement.
(c) Secondary (non-firm) sales are made either within or outside the Northwest Power Pool, and are based on relative levels of surplus. Revenues derived from sales are primarily based on established Bonneville (BPA)* rates or other agreements as applicable.
(d) Wheeling charges are based on:
(1) Required capacity to move purchased power to Puget's system.
(ii) BPA established rates
(14) Other Information
(a) Security Exchange Commission Fixed charge coverage:
$1976=195,1977=2.68,1978=2.30,1979=2.39,1980=2.36,1981=2.37,1982=2.39$.
(b) Growth rate of revenue from sales of electricity 17 percent, expenses 15 percent,
interest cost 21 percent, and net income 26 percent.

[^10]retained earnings and depreciation) and from the issuance of securities including long-term debt, preferred stock and common stock. Interim funding requirements will be met with short-term borrowing. In response to our request, the company has submitted a sources of funds statement (or financing plan) with underlying assumptions for its system-wide construction expenditures for the period 1976 through 1981, the estimated earliest year for completion of WNP-3. The financing plan and assumptions are shown in Tables 20.7 and 20.8 respectively.

The Washington Water Power Company is subject to regulatory jurisdiction by the Washington Utilities and Transportation Comission and the Idaho Public Utilities Commission. In August 1975, the Washington Commission authorized electric and gas increases totalling $\$ 3.6 \mathrm{milli}$ ion on an annual basis and allowed a 12.75 percent return on common equity. Also in August 1975, the Idaho Commision authorized electric and gas increases totalling $\$ 1.2 \mathrm{mfllion}$ on an annual basis and allowed a 12.75 percent return on common equtiy. The company had no rate requests pending as indicated in Arendment 32 to the PSAR.

Conclusions
Based on the preceding analysis including our evaluation of the reasonableness of the financing plans and underlying assumptions, we have concluded that Washington Public Power Supply System, Pacific Power a Light Company, Portland General Electric Company, Puget Sound Power \& Light Company, and The Washington Water Power Company are financially qualified to design and construct WNP-3 and WNP-5 in proportion to their respective undivided ownership interests as indicated in Section 20.1 of this supplement Our conclusion is based on the determination that the applicants have reasonable assurance of obtaining the funds necessary to complete the design and construction activities including related fuel cycle costs. It is also based on the basic assumptions of rational regulatory environment and viable capital markets due to the lengthy future period involved and the expected heavy dependence on external financing.

TABLE 20.7
APPLICANT THE WASHINGTON WATER POWER COMPANY NUCLEAR PLANT WNP-3
 Construction Year of Subject Nuclear Power Plant ${ }^{\text {(1) }}$

\begin{tabular}{|c|c|c|c|c|c|c|}
\hline Security issues \& \& \& \& \& \& <br>
\hline and other funds \& 1976 \& 1977 \& 1978 \& 1979 \& 1980 \& 1981 <br>
\hline Common stock \& \$ 12.0 \& $5-0$ - \& 523.0 \& \$ 24.0 \& \$ 15.0 \& \$ 15.0 <br>
\hline Preferred stock \& -0- \& 15.0 \& 15.0 \& -0- \& 20.0 \& -0- <br>
\hline Long-term debt \& 30.0 \& 30.0 \& 62.1 \& 40.0 \& 60.0 \& 30.0 <br>
\hline Motes payable \& (7.0) \& 9.0 \& (9.0) \& 29.0 \& (29.0) \& -0. <br>
\hline Contribution from parent-net \& -0- \& -0- \& -0- \& -0- \& -0- \& -0- <br>
\hline Other funds \& (4.4) \& 4.6 \& (4.8) \& 2.8 \& 3.9 \& (.8) <br>
\hline Total \& 30.6 \& 58.6 \& 86.3 \& 95.8 \& 69.9 \& 44.2 <br>
\hline \multicolumn{7}{|l|}{Internal funds} <br>
\hline Net income \& 18.0 \& 20.4 \& 24.0 \& 26.7 \& 34.0 \& 38.1 <br>
\hline \multicolumn{7}{|l|}{Less:} <br>
\hline Preferred dividends \& $10^{-0}$ \& -0- \& 1.4 \& 2.7 \& 2.7 \& 4.5 <br>
\hline Common dividends \& 11.4 \& 13.2 \& 15.6 \& 17.6 \& 22.3 \& 24.7 <br>
\hline Retained earnings \& 6.6 \& 7.2 \& 7.0 \& 6.4 \& 9.0 \& 8.9 <br>
\hline Deferred taxes \& -0- \& -0- \& -0- \& -0- \& -0- \& -0. <br>
\hline Invest. tax red. (deferred) \& 1.9 \& 1.4 \& 2.4 \& 3.4 \& 1.9 \& 1.6 <br>
\hline Depreciation 8 amort. \& 9.6 \& 10.5 \& 11.3 \& 12.2 \& 14.3 \& 17.2 <br>
\hline \multirow[t]{3}{*}{Less: AFDC
Total

TOTAL FUNDS} \& 1.8 \& \& \& \& \& . 5 <br>
\hline \& 16.3 \& $5 \frac{19.7}{78.3}$ \& 20.4 \& 21.6 \& 24.8 \& 27.2 <br>
\hline \& \$46.9 \& 578.3 \& 5106.7 \& \$117.4 \& 594.7 \& 571.4 <br>
\hline \multicolumn{7}{|l|}{Construction Expenditures ${ }^{(2)}$} <br>

\hline \multirow[t]{3}{*}{| Nuclear oower plants Other |
| :--- |
| Total const. Exp's. |} \& 59.8 \& \$20.5 \& \$ 34.1 \& \$ 37.2 \& \$ 35.7 \& \$ 31.6 <br>

\hline \& 37.1 \& 57.8 \& 72.6 \& 80.2 \& 59.0 \& 39.8 <br>
\hline \& \$ 46.9 \& 578.3 \& $8 \longdiv { 1 0 6 . 7 }$ \& $\underline{\$ 117.4}$ \& \$94.7 \& $\$ 71.4$ <br>

\hline \multirow[t]{2}{*}{Subject nuclear plant Interest coverage} \& \multirow[t]{2}{*}{$$
\frac{\$ 5.7}{2.1}
$$} \& \multirow[t]{2}{*}{\[

\frac{\$ 8.2}{2.2}

\]} \& \multirow[t]{2}{*}{\$ 13.6} \& \multirow[t]{2}{*}{\[

\frac{\$ 10.3}{2.2}

\]} \& \multirow[t]{2}{*}{\[

\frac{5 \quad 7.2}{2.4}

\]} \& \multirow[t]{2}{*}{\[

\frac{5 \quad 1.8}{2.4}
\]} <br>

\hline \& \& \& \& \& \& <br>
\hline
\end{tabular}

[^11]TABLE 20.8
THE WASHINGTON WATER POWER COMPANY INPUT ASSIMPTIONS FOR SOURCES OF

FUNOS STATEMENT FOR
WNP-3
(1) Rate of return on Average Common Equity - 14.5-15.0 percent.
(2) Preferred Stock Dividend Rate - 9 percent.
(3) Growth Rates: Sales of general business kilowatt hours are estimated to increase about 5 percent per year during the forecast veriod. As you know, kilowatt hour sales to other utilities are subject to resource availability and market conditions and therefore are not trendable.
Electric and gas revenues included within the forecast are a result of the general business kilowatt hour/therm sale trends and include elements of rate relief which were programed through-out the forecast as needed. The basis of rate rele the return on common equity as previously mentioned.
Operating expenses subject to inflation were escalated at 10 percent in 1976, decreasing to 7 percent in 1977 and finally to 6 percent for the balance of the forecast. Items such as power and gas purchased are generally regulated by contract and are not subject to escalation
(4) Common stock price/earnings ratio or market/book ratio with respect to the projected common stock offerings: This forecast assumes thet market and book values of common stock corm approximately equal, but on an increasing annual rate of about 5 percent. No pricel earnings ratio was used for projected common offerings.
5) Common stock dividend payout ratio: a target of 65 percent was assumed.
6) Target capital structure: a target goal of 60 percent debt, 30 percent common equity and 10 percent preferred has been assumed.
(7) Interest coverage requirements: Our most restrictive indenture requirement states that annual interest requirements must be at least twice any 12 consecutive mour results have gross earnings. Considering the rate relief programmed inder the indenture. We have not allowed us Eecurity Exchange Cormission coverage test.
. For
(8) An interest rate of 9 percent was assumed on all watilized.
short term bank loans, a rate of $7-1 / 2$ percent was utile

### 21.0 CONCLUSIONS

In Section 21.0 of the Safety Evaluation Report, we stated we would be able to make certain conclusions upon favorable resolution of the outstanding matters set forth in Section 1.9 of the Safety Evaluation Report. We have discussed these matters in this supplement and indicazed a favorable resolution of each matter. We are able to make the conclusions 1isted in Section 21.0 of the Safety Evaluation Report. Furthermore there are no other issues outstanding.

Accordingly, we affirm the conclusions listed in Section 21.0 of the Safety Evaluation Report.

| APPENDIX A <br> CONTINUATION OF THE CMRONOLOGY OF THE RADIOLOGICAL SAFETY REVIEW OF WASHINGTON PUBLIC POWER SUPPLY SYSTEM PROJECTS NO, 3 ANO NO, 5 |  |
| :---: | :---: |
| February 13, 1976 | Issuance of the Safety Evaluation Report. |
| February 24, 1976 | Advisory Committee on Reactor Safeguards meeting. |
| February 27, 1976 | Submittal of Amendment No. 31. |
| March 1, 1976 | Notice of avallability of the Safety Evaluation Report published in Federal Register. |
| March 2, 1976 | Submittal of Amendment No. 32 |
| March 4, 1976 | Advisory Committee on Reactor Safeguards full committee meeting. |
| April 1, 1976 | Submittal of Amendment No. 33. |
| April 16, 1976 | Letter from the Advisory Comittee on Reactor safeguards |
| April 20, 1976 | Letter from applicants providing information regarding ownership of WNP-5. |
| April 29, 1976 | Submittal of Washington Public Power Supply System Deeds and Agreements. |
| June 1, 1976 | Letter from applicants providing information on status of control of exclusion area. |

# ADVISORY COMMITTEE ON REACTOR SAFEGUARDS <br> NUCLEAR REQULATORY COMMISSION <br> ШАAningTON, D. C. zesss 

Apri1 16, 1976

Honorable Narcus A. Rowden
Acting Chairman
U. S. Nuclear Regulatory Comalasion

Washington, DC 20555
SUBJECT: REPORT ON WASAMGICN PUBLIC PONER SUPPLY SYSTEM NUCLBAR PRONBCTS NO. 3 ND NO. 5

Dear Mt. Rovden:
During its 192 nd meeting, April 8-10, 1976, the Advisory Comittee on Renctor Safequards completed a reviev of the application of the Warhington public power Supply System (WPPSS) for permission to construct the WPPSS nuclear Project No. 3 and WPPSS Huclear Project No. 5 (WNP-3 and WNP-5). The site was visited on August 4, 1975, and subocimittee meetings were held that sane day in Elma, Washington, and on Pebruary 24, 1976, in Richland, Washington. The project was also considered dur ing the 191st meeting of the Conmittee in Washington, D. C., Warch 4-6, 1976. During its review, the comnittee had the benefit of discussions with representatives of WPPSS and its consultants, Combustion Engineering, Inc., Ebssco Services, Inc., and the muclear Regulatory Conmission (NRC) Staff. The Comaittee also had the benefit of the documents listed.
The WNP-3 and WNP-5 site is located in Gays Barbor County, Weahington, approximately thirteen ailes east of Nberdeen-Hoquian-Comopolis, Whahington, the nearest population center ( 1970 population 28,549 ). The minimum exclusion distance is 1310 meters and the low population zone (LPR) radius is three miles. The total 1970 resident population within the LPS was 260 .
The werp-3 and wrp-5 application is subaitted in acoordance with the conmission's standardization policy as descr ibed in Appendix o to part 50 , "Licensing of production and Utilization Pacilities," and section 2.110 of Part 2, "Rules of Practice," of Title 10 of the Code of Pederal Regulations. Por this application the reference system is the Conbustion minineering Standardized wuclear Stean supply System known as its Standard Reference system-80. This design has been revieved by the ACRS and discuesed in its report of Septenber 17, 1975, "Conbustion Engineering Standard Safety Nalysis seport - Cassin-80."

The ultimate heat sink for each reactor will consist of a system of dry cooling towers and components that reject excess heat to the atmosphere. Because of its deaign the ultimate heat sink does not require a makeup

The Applicant described his investigations of the geologic and seismic characteristics of the site and the sur rounding region. While the geology of the surrounding area is complex, and there is definite tectonic activity, there are no known geologic or seimic problems that cannot be solved by design. The proposed safe shutionn earthquake is 0.32 g horizontal acceleration at the foundations. The operating basis sarthquake is 0.16 g .
Each Maxp reactor will employ a contaiment syatem including a free standing steel wessel surrounded by a reinforced concrete shield building. The inner steel wessel is designed for an internal pressure of 44 psig. The annulus, between the two structures, is maintrined at subatmospheric pressure to permit the collection of leakage from the steel vessel, in the enviconmant.

The Comaittee recommended in its report of September 10 , 1973, on acceptance criteria for BOCS, that significantly iproved ecos capmbility should be provided for reactors for which construction permit requests were filed after January 7, 1972. The werp-3 and warp-5 design is in this category. These projects will use the $16 \times 16$ fuel assenblises similar to those to be used in Arkansas huclear One Unit 2 and St. Wucie Plant Unit 2 . Although calculated peak clad temperatures, in the event of a postulated LOCA, may be less for $16 \times 16$ than for the $14 \times 14$ array, the Comattoe believes that the Applicant should continue studies that are responsive to the Conavailable techniger 10, 1973, report. If studies, conducied with the best can be achieved, consideration that significant fur ther BCOS improvenents WNP-3 and WNPR 5 .

A generic question has arisen concerning loads on the vessel support structure for certain postulated loss-of-coolant accidents in pressur ized water reactors. This matter should be resolved for werp-3 and wNP-5 in a marner satisfactory to the NRC Staff.

The Conaittee believps that the Applicant and the NBC Staff ahould continue to review the WNP-3 and WNP-5 design for faatures that could reduce the possibility and consequences of sabotage.

Following the Browns Ferry fire the NBC Executive Director for operations set up a special review group to determine what could be learned from this incident. This group has merle recommendations that apply to future reactors, to reactors that are already operating, and to the NOC regulatory process. The review group points out that its recomendecions are not specific to any single plant and that its recommendations are based on tenouledge at the time of this investigation. The NCSS vials to be kept informed of the specific application of the review group's recommendations, as they apply to verp-3 and lavp-5, for the development of additional information on fire prevention, fire fighting, quality asaurance, and the fagcovemont of NBC policies, procedures, and criteria.
other generic problems relating to large water reactors are discussed in the comittee's report dated April 16, 1976. These problems should be dealt with appropriately by the NOC staff and the Applicant.
The Advisory Conaittee on Reactor Safeguards believes that the items mentioned above can be resolved during construction and that, if due considerat ion is given to the foregoing and to items mentioned in its Crssin-so report of September 17, 1975, the Washington public power supply system Nuclear projects No. 3 and No. 5 can be constructed with reasonable assurance that they can be operated without undue risk to the health and safety of the public.
Additional comments by Members Max W. Carbon, David Ckrent, wilton S. Plesset, Stephen Lawroski, and meyer Bender are presented below.
sincerely yours,

made W. Weller
Chairman
Additional Comments by Members Max W. Carbon, David Okrent, Milton S. Plesset, and Stephen LawroskI
The site for WPPSS maclear projects No. 3 and No. 5 lies in a seismically active region that has been subject to large earthquakes in historic time and includes active major faults. While we do not disagree with the proposed seismic design basis, se believe it would be desirable to have the geologic and siemic aspects of such sites, and perhaps most sites, also ravieved by the U. S. Geological survey to provide the benefit of an additional independent evaluation.

## Additional Coments by Menbers David Okrent and Milton S. Plesset

The recurrence interval of an earthquake of the order of the safe shutdom earthquake may be about 1,000 years for this site. Por such a recurrence interval the probability of not achieving safe shutiom, given the Sse, nust be very mall if the NRC Staff goal of less than $10^{-7}$ per year, of a serious accident from any single cause, is to be achieved. Since seimic design adequacy is not subject to direct experimental confimation, se believe that other measures, including independent deeign reviev, low-mpilitude ahaking measuremants of the completed structure, as-built construction validation, and detection of possible inservice degradation, should be evaluated and the necessary steps taken to provide the high degree of detailed specific assurance required with regard to seimaic capebility of all safetyrelated features.

## Additional Comments by Merdber Myer Bender

With increasing frequency, questions have arisen concerning the appropriate degree of conservatism to be included in the seimic design criteria for nuclear power plants. The needs of public safety would be best served if the design practices currantly in wogue vere altered to permit inelastic response so as to enhance the energy absorption characteristics of nuclear structures under severe seiamic loadings. Por the more severe seismic conditions inelastic design principles should be applied to foundations, concrete contaiments, floors, and support structures in order to assure a high degree of camping and thus minimize the forces tranmitted to critical safety featuras and to the peimary coolant circuitry. This would eliminate the need for many of the complex supplemental structural features of questionable reliability wich are now used to meet extrene seimic design conditions. This design approsch would allow nuclear structures to satisfy even the most pessimistic losding requirenents of the most extrene seisnic prophet. If it is not uesd there is doubtful value, and possibly scone loss in public safety margin, from the use of ultraconservative seismic design requirenents because the reliability of the structural restraints carnot be assessed fron ralevant structural experience or post-construction vibcational testing.

## References:

1. Washington Public Power Supply Systens (WPPSS) Nuclear Projects No, 3 and No. 5 Preliminary Safety Analysis Report (PSAR) Volumes 1-18
2. Mendments $1-30$ to the PSAR

## APPENDIX C

ERRATA TO THE SAFETY EVALUATION REPORT
FOR THE WASHINGTON PUBLIC PONER SUPPLY SYSTEM PROJECTS NO, 3 AND NO, 5 DATED FEBRUARY, 1976

| $\begin{array}{r} \text { Page } \\ 1-1 \end{array}$ | Line | In the Safety Evaluation Report we inadvertently did not mention all owners of these projects. paragraph 1.1 of this supplement.) |
| :---: | :---: | :---: |
| 1-1 | 35 | Add . . . . . ${ }^{\text {report." }}$ |
| 1-7 | 31 | Change " 50.371 fl " to " 50.33 (f)" |
| 2-8 | 35 | Change "reverse" to "severe" |
| 3-3 | 9 | Change "trnasfor" to "transform" |
| 3-3 | 32 | Change "tornado" to "Tornado" |
| 3-11 | 14 | Change "provides" to "provide" |
| 3-11 | 26 | Change "((ACI)" to "(ACI)" |
| 7-7 | 5 | Change " 384 " to "383" |
| 13-1 | 23 | Change "Anerican National Institute" to "Anerican National Standards Institute" |
| 13-1 | 24 | Change "N18.1971" to "N18.7-1971" |
| 14-1 | 11 | Change "for Nuclear Power Plants" to "for water-Cooled Power Reactors" |

## CESSAR 15-11 Table

15-4 Add:
"(9) 1.2 peaking factor"
"(10) 0.45 percent of the fuel reaches at leas: incipient melting after rod ejection accident."
"(11) 100 percent of noble gases and 50 percent of iodine in fuel reaching incipient centerline melting temperature are released to the primary coolant." nUCLEAR REQULATORY COMMISSION waenimatow. D.C. zoses

140 3 1975

Docket Nos: STN 50-503
STN 50-509
Mr. Raymond R. Fraley Executive Secretary Advisory Committee on Reactor Safeguards washington, D. C. 20555

Dear Mr, Fraley:
In response to your recent request, there are transmitted herewith for the use of the Comfittee 18 copies of a menorandum dated March 26 , 1976, from the Director, Division of Site Safety and Environmental Analysis to the Deputy Director, Office of Nuclear Reactor Regulation concerning the WPPSS 3 and 5 seismology and geology review carried out by the NRR staff.
If you need any further information on this matter, plebse let me know.

```
Sincerely,
Orginyl Sipol
E.c Com
Edson G. Case, Deputy Director
Office of Nuclear Reactor
    Regulation
```

    Enclosures:
    As stated
    The seiamological review was conducted independently by Carl Stepp. Dr, Stepp, prior to foining the NRC, spent two years working on seismic risk mapping in the Puget Sound region. He, therefore, was already familiar with the literature of the region and was aware of the known relationships between earthquakes and geologic structure in the region of the site.
The WPPSS 3 and 5 site is locateC on che southwest extent of the Puget Sound lowlands. Although the utility proposed a division of tectonic provinces which would have placed the site within the Wallapa Hills tectonic mubprovince, in our review we considered the site to be related to the larger Puget Sound region. The maximum historic earthquake in the Puget Sound region produced an intensity VIII. This earthquake, if assumed at the aite, would result in an 0.25 g acceleration. However, the maximum historic earthquake was not controlling in determining the scceleration for seismic design for WPPSS 3 and 5 because of the presence of "capable" faults near the proposed site. The applicant did an extensive and thorough analysis of the relationship between earthquakes and geologic structures in the region. Most of the major earthquake producing atructures are not apparent at the surface. They do produce very large gravity anomalies, however, permiting their extent to be easily mapped. The safe shutdown earthquake at the site was based on an assessment of the maximum earthquake that can reasonably be expected to occur on the nearest capable fault to the site -21 miles away. The assessment of the maximum earthquake on that structure was based on a conservative estimate of the percentage of the total structure that could break in a single earthquake and a conservative interpretation of the eapirical relationship between length of fault rupture and earthquake magnitude. Finally, the acceleration at the site was computed on the basis of curves that envelop the world-wide data set, and this value was incorporated into the design as the high frequency anchor ( 33 Hz ) for Regulatory Guide 1.60 response spectra to be applied at the foundation level of structures. We accepted the applicant's proposed acceleration for seismic design of .32 g because we found his analysis to be conservative.
During the ACRS meeting on March 4, Dr. Stepp was asked for an estimate of the probability that the acceleration for seismic design ( 0.32 g ) for the WPPSS 3 and 5 plant would be exceeded. He replied that no computation of that probability had been attempted. However, he added that computations indicate the probability of an intensity VIII being exceeded at Aberdeen, about 12 miles from the WPPSS 3 and 5 site , is of the order of $10^{-3}$ per year. Dr. Stepp finally stated that it is his vieu that the 32 g is near an upper bound value of acceleration for seisaic design for the UPPSS 3 and 5 site.

Edson G. Case

While the probability of this acceleration at the WPPSS site being exceeded has not been computed, Dr. Stepp would expect it to be orders of magnitude lover than the probability of an intensity 8 at Aberdeen being exceeded. It is Dr. Stepp's judgment that the probability that the .32 g acceleration will be exceeded at the WPPSS site is extremely low (i.e. less than $10^{-5}$ per year). This difference in probability is primarily attributable to the facts that the WPPSS 3 and 5 facilities are founded on bedrock with the 0.32 g seismic input applied at the foundation level, whereas Aberdeen is sited on valley alluvium which is observed to result in higher intensities for a given magnitude ear thquake.


Harold R. Denton, Director Division of Site Safety and Environmental Analysis

## $\$ 29,000,000$

# W\&ASHINGTON PUBLIC POWER SUPPLY SYSTEM 

## A Municipal Corporati n and a Joint Operating Agency of the <br> State of Washington

# 43/8\% Washington Public Power Supply System <br> Nuclear Project No. 3 Revenue Notes, Series 1973A 

Dated: October 1, 1973
Due: June 15, 1976
Principal and semi-annual interest (December 15 and June 15, first coupon due December 15, 1973) payable at Chemical Bank, New York, New York, or Peoples National Bank of Washington, Seattle, Washington. The Notes will be in coupon form in the denomination of $\$ 25,000$.

Interest exempt, in the opinion of Bond Counsel, from federal income taxation under existing laws and regulations and a specific ruling issued by the Internal Revenue Service tvith respect to the Notes.

The Notes are being issued 'כ finance a portion of the Supply System's Ownership Share of the cost of acquiring and constructing Washington Public Power Supply System Nuclear Project No. 3, to pay at maturity the principal of and interest on $\$ 2,000,000$ of notes of the Supply System previously issued for such purpose and to pay interest on the Notes to maturity. The Project will be constructed and operated by the Supply System pursuant to an agreement between the Supply System and four investor owned utilities (the "Companies"). The Project will be $70 \%$ owned by the Supply System and $30 \%$ by the Companies. The Supply System's Ownership Share of Project capability, less a portion of the Project's output which will be sold to certain industrial companies during the period July 1, 1981 through June 30, 1984, has been sold by the Supply System to certain statutory preference customers (the "Participants") of the Bonneville Power Administration under agreements called Net Billing Agreements. The Participants will pay to the Supply System an amount equal to the Supply System's costs, including debt service, associated with its Ownership Share of the Project, less amounts payable by the industrial companies. Each Participant has assigned its share of the Supply System's Ownership Share of Project capability to Bonneville which will et rit the payments made to the Supply System by each such Participant against billings made by Bo eville to each such Participant for power and certain services. The Net Billing Agreements provide th. .h Participant is obligated to pay the Supply System whether or not the Project is completed, operaver, or eperating and notwithstanding the suspension, interruption, interference, reduction or curtailment of Project output.

The Notes, together with the interest thereon, will be payable from any moneys of the Supply System that may be lawfully applied the-cto, including revenues derived from the Supply System's Ownership Share of the Project and the proczeds of revenue bonds or refunding notes of the Supply System. Interest on the Notes will be capitalized to maturity. The Notes are not subject to redemption prior to maturity.

## PRICED TO YIELD $4.25 \%$ TO MATURITY (accrued interest to be added)

[^12]
# WASHINGTON PUBLIC POWER SUPPLY SYSTEM <br> Principal Office-Richland, Washington 

## Board of Directors

A. J. Benedetti* Kirby Billingsley Gerald C. Fenton<br>Ed Fischer* Alvin E. Fletcher John Goldsbury<br>D. E. Hughes*<br>W. G. Hulbert, Jr.* Arnold J. James<br>Roif E. Jemtegaard<br>Harold W. Jenkirs<br>Thomas F. Kroupa<br>Francis Longo<br>Howard Prey<br>E. Victor Rhodes* Joseph Shipman James E. Tannahill Edwin W. Taylor John L. Toevs Gordon Vickery* Glenn C. Walkle, *

* Executive Committee Member.

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Architect-Engineer
Ebasco Services, Inc.

Financtal Consultant
Blyth Eastman Dillon \& Co. Incorporated

This Official Statement, which includes the cover page and exhibits, does not constitute an offer to sell the Notes in any state to any person to whom it is unlawful to make such offer in such state. No dealer, salesman or other person has been authorized to give any information or to make any represt ntations, other than those contained in this Official Statement in connection with the offering of the Notes, and if given or made, such information or representation must not be relied upon.

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MAP

## OFFICIAL STATEMENT

# WASHINGTON PUBLIC POWER SUPPLY SYSTEM <br> (A Municipal Corporation and a Joint Operating Agency of the State of Washington) 

$\$ 29,000,00043 / 8 \%$ Washington Public Power Supply System Nuclear Project No. 3 Revenue Notes, Series 1973A

October 10, 1973

The purpose of this Official Statement is to set forth information concerning Washingion Public Power Supply System (the "Supply System"), its Washington Public Power Supply System Nuclear Project No. 3 (the "Project") and its $\$ 29,000,000$ Washington Public Power Supply System Nuclear Project No. 3 Revenue Notes, Series 1973A (the "Notes"), in connection with the sale by the Supply System of the Notes a.d for the information of all who may become holders of such Notes. The Notes are to be issued pursuant to the Revised Code of Washington, Chapter 43.52, as amended (the "Act") and Resolution No. 673 (the "Resoiution") adopted October 10, 1973 by the Supply System.

## PURPOSE OF THE NOTES

The purpose of the Notes is to oay a portion of the Supply System's Cwnership Share of certain preliminary costs of the Project, including paying at maturity the principal of and interest on $\$ 2,000,000$ principal amount of notes previously issued by the Supply System for such purpose and paying interest on the Notes to maturity. The estimated ap lication of the proceeds from the sale of the Notes to pay such costs is set forth herein under "The Project-Initial Financing Program".

The Supply System has entered into an agreement (the "Ownership Agreement") with Pacific Power \& Light Company, Portland General Electric Company, Puget Sound Power \& Light Company and The Washington Water Power Company (the "Companies") which provides for the acquisition, construction, operation and ownership, as tenants in common, of the Project. The Ownership Agreement provides that the Project will be owned by the Supply System (70\%), Pacific Power \& Light Company ( $10 \%$ ), Portland General Electric Company ( $10 \%$ ), Puget Sound Power \& Light Company ( $5 \%$ ), and The Washington Water Power Company (5\%). The Supply System's share of the Project is herein referred to as the "Supply System's Ownership Share".

Under the Ownership Agreement each party will be responsible for providing its ownership share of the costs of construction and operation and will be entitled to its ownership share of the Project's capability. The parties to the Agreement have designated the Supply System to act as their agent to construct, operate and maintain the Project.

## THE SUPPLY SYSTEM

The Supply System, a municipal corporation and a joint operating agency of the State of Washington, was organized in January, 1957, pursuant to the Act. Its membership is made up of 18 operating public utility districts and the Cities of Richland, Seattle and Tacoma, all located in the State of Washington. The Supply System has the authority, among other things, to acquire, construct and ope. e plants, works and facilities for the generation and transmission of electric power and energy. The Supply System has the power of eminent domain, but it is specifically precluded from the condemnation of any plants, works or facilities owned and operated by any city, public utility district or privately-owned electric utility.

The Supply System has its principal office in Richland, Washington. The management and control of the Supply System is vested in a Board of Directors composed of representatives of each of the members. Regular meetings of the Board are held quarterly.

The Executive Committee of the Board administers the business of the Supply System between regular meetings of the Board. The Executive Committee holds regular meetings twice each month and special meetings as often as the business of the Supply System may require.

Members of the Supply System and their respective representatives on the Board of Directors are ${ }^{2}$ follows:

| lity District No. 1 of Benton County | ry |
| :---: | :---: |
| Public Utility District No. 1 of Chelan County | Kirby Billingsley |
| Public Utility District No. 1 of Clallam County | Alvin E. Fletcher |
| Public Utility District No. 1 of Clark County | Ed Fischer* |
| Public Utility District No. 1 of Cowlitz County | D. E. Hughes* |
| Public Utility District No. 1 of Douglas County | Howard Prey |
| Public Utility District No. 1 of Ferry County | Thomas F. Kroupa |
| Public Utility District No. 1 of Franklin County | Glenn C. Walkley* |
| Public Utility District No. 2 of Grant County | C. Wakl |
| Public Utility District No. 1 of Grays Harbor County | ames E. Tanna |
| ublic Utility District No. 1 of Kittitas County | Harold W. Jennins |
| Public Utility District No. 1 of Klickitat County | Gerald C. Fenton |
| Public Utility District No. 1 of Lewis County | rnold J. James |
| Public Utility District No. 3 of Mason County | Edwin W. Taylor |
| Public Utility District No. 2 of Pacific County | E. Victor Rhodes* |
| City of Richla | Joseph Shipman |
| City of Seattle | Gordon Vickery* |
| Public Utility District No. 1 of Skamania County | Rolf E. Jemtegaard |
| Public Utility District No. 1 of Snohomish County | W. G. Hulbert, Jr.* |
| City of Tacoma | A. J. Benedetti* |
| Public Utility District No. 1 of Wahkiakum County | Francis Longo |

- Executive Committee Member

The Supply System presently employs 180 persons, including a highly qualified technical staff whose combined experience in the nuclear field totals over 600 man years and whose training includes disciplines in electrical, mechanical, civil and nuclear engineering. Through the operation of the Hanford Project described below the Supply System staff has accumulated substantial experience in the operation of a large steam electric generating facility.

The Supply System owns and operates the Packwood Lake Hydroelectric Project with a name plate rating 4approximately 27,500 kilowatts. In 1962 and 1965, the Supply System sold $\$ 10,500,000$ and $\$ 3,200$ Packwood Lake Hydroelectric Project Revenue Bonds, of which $\$ 13,181,000$ were outstanding as of September 7, 1973.

The Supply System also owns and operates an 860,000 kilowatt electric generating plant and associated facilities (the "Hanford Project") located on the Hanford Reservation of the United States Atomic Energy Commission (the "AEC"). The Hanford Project is currently the second largest producer of electricity generated from nuclear energy in the United States. Steam is provided for the Hanford Project from the New Production Reactor owned and operated by the AEC. In 1963, the Supply System issued $\$ 122,000,000$ Hanford Project Electric Revenue Bonds, of which $\$ 61,330,000$ were outstanding as of September 7, 1973. The AEC presently plans to end operation of the New Production Reactor in 1977. The Supply System is planning to build a new nuclear steam supply system and additional generating facilities which will incorporate the existing geverating facilities of the Hanford Project, such facilities to be known as the Washington Public Power Supply System Nuclear Project No. 1. This project will have a $1,220,000$ kilowatt net generating capacity. The Supply System has issued $\$ 25,000,000$ principal amount of revenue notes to finance preliminary work on this project, which is presently scheduled to begin commercial operation in September, 1980.

The Supply System has begun construction of a $1,100,000$ kilowatt nuclear electric generating plant, known as the Washington Public Power Supply System Nuclear Project No. 2. In July, 1973, the Supply System issued $\$ 150,000,000$ principal amount of revenue bonds in order to pay a portion of the costs of acquiring and constructing this project. This project is under construction on the Hanford Reservation of the AEC and is presently scheduled to begin commercial operation in September, 1977.

By 1982, it is expected that the Supply System will operate electric generating facilities with a capability of approximately $3,540,000$ kilowatts. Recentiy the Public Power Council, consisting of more than 100 statutory preference customers of the Bonneville Power Administration ("Bonneville"), requested the Supply System to investigate the financing and construction of an additional $1,200,000$ kilowatt nuclear project for operation in 1984.

All prejects heretofore undertaken by the Supply System have been financed as separate systems. The obligations issued with respect to each project are payable solely from the revenues of that project. The Supply System's Ownership Share of the Project will be similarly financed as a separate system.

On the basis of the estimated cost and interest during construction for the Supply System's Nuclear Projects Nos. 1, 2 and 3, it is estimated that the Supply System will require total long-term financing prior to 1980 of approximately $\$ 1,600,000,000$. The first long-term financing for Project No. 1 is projected for early in 1975 while the second long-term financing for Project No. 2 is projected for the fall of 1974. Additional financing for the Supply System's fourth nuclear project, if undertaken, will be required before 1980.

The schedule of financing for the Project contemplates, in addition to the sale of the Notes, the sale of bonds in one or more issues totaling approximately $\$ 529,000,000$ as described in more detail under the caption "The Project-Permanent Financing Program". The first such sale is presently contemplated for the summer of 1975.

## SECURITY FOR THE NOTES

The Notes, together with the interest thereon, shall be payable from any moneys of the Supply System that may be lawfully applied to the payment thereof, including (i) revenues derived from the Supply System's Ownership Share of the Project, including all payments to be made to the Supply System pursuant to certain agreements (the "Net Billing Agreements") described below; and (ii) the proceeds of revenue bonds or refunding notes of the Supply System. Interest on the Notes will be capitalized to maturity.

The Supply System's Ownership Share of Project capability, less a portion of the Project output which will be sold to 15 industrial companies during the period July 1, 1981 through June 30, 1984 pursuant to a power sales agreement (the "Rower Sales Agreement"), has been sold by the Supply System to 103 statutory preference customers (the "Participants") of Bonneville, and assigned by the Participants to Bonneville, pursuant to the Net Billing Agreements. Of the Participants, 27 are municipalities, 29 are districts and 47 are cooperatives. Exhibit I attached hereto lists each Participant and indicates its share of the Supply System's Ownership Share of Project capability.

The Participants will pay to the Supply System an aggregate amount equal to the Supply System's costs, including debt service associated with its Ownership Share of the Project, less any amounts payable pursuant to the Power Sales Agreement. Each Participant has assigned its share of the Supply System's Ownership Share of Project capability to Bonneville which will credit the payments made to the Supply System by such Participant against billings made by Bonneville to such Participant for power and certain services. The Net Billing Agreements provide that the Participants are obligated to pay the Supply System whether or not the Project is completed, operable, or operating and notwithstanding the
suspension, interruption, interference, reduction or curtailment of the Project output and that such payments shall not be subject to reduction and shall not be conditioned upon the performance or nonperformance by the Supply System or Bonneville or any other Participant under the Net Billing Agreements or any other agreement or instrument.

The Supply System covenants in the Resolution that it will terminate the Net Billing Agreements if fer any reason it is unable to issue and sell revenue bonds or refunding notes to obtain funds to pay the principal of the Notes, together with any interest thereon, when due. The Supply System may terminate the Net Billing Agreements if it i determined that the Supply System is unable to construct, operate or proceed as owner of the Project due to licensing, financing or operating conditions or other causes which are beyond its control and for other reasons specified in the Net Billing Agreements. Upon giving the notice of termination of the Net Billing Agreements, the Supply System shall make monthly accounting statemens to the Participants which shall show as the amounts due from the Participants in such month the maximum amount which can be stated therein for payment by the Participants without causing the amount Jue from any Participant to exceed the ability of Bonneville to allow net billing credits in such month to said Participant, taking into account all assignments which can be made pursuant to the Net Billing Agreements. The amounts paid by the Participants in the event of termination, or so much as is required therefor, will be deposited in the Washington Public Power Supply System Nuclear Project No. 3-Note Retirement Fund to be used to pay the principal of and interest on the Notes.
R. W. Beck and Associates (the "Consulting Engineer") estimates that under current Bonneville rates there will be in excess of $\$ 60,000,000$ of net billing capability available to the Participants during the fiscal year ending June $30,1976$.

## THE PROJECT

The Project will be constructed and operated by the Supply System pursuant to the Ownership Agreement as part of the Hydro Thermal Power Program designed to meet the anticipated needs for power in the Pacific Northwest. The Supply System and Bonneville have entered into an agreement (the "Project Agreement") with respect to Project construction, operation, maintenance and budgets.

Application will be made to the Thermal Power Plant Site Evaluation Council of the State of Washington for certification of a site in southeastern Grays Harbor County along the south bank of the Chehalis River near its confluence with the Satsop River. The site is approximately three miles south of the community of Satsop, Washington, and approximately 66 miles southwest of Seattle. Site investigation work is presently being carried out. Prior to the certification by such Cour. il public hearings will be held at which it is expected that some opposition to the Project will be posed.

The Project will consist of a pressurized water nuclear electric generating plant having a nominal capacity of $1,200,000$ kilowatts, together with associated facilities required to deliver the Project output to Bonneville's high voltage transmission system in the vicinity of the Project site. A more complete description of the Project is contained in the report of the Consulting Engineer attached as Exhibit II to this Official Statement.

The Supply System has entered into contracts for the delivery of ceriain items of equipment and material for the Project that require extensive lead time, including the nuclear steam supply system from Combustion Engineering, Inc., the turbine-generator from Westinghouse Elect-ic Co. and reload nuclear fuel from Exxon Nuclear Company. Specifications are presently being prepared for the uranium supply for the ininial nuclear core.

The Supply System has employed Ebasco Services, Inc. as architect-engineer for the Project (the "Architect-Engineer"), R. W. Beck and Associates as Consulting Engineer, and The S. M. Stoller Corporation as nuclear fuel consultant.

Under its current schedule, the Supply System anticipates (i) receipt of the AEC construction permit in the summer of 1975; (ii) fuel loading in the spring of 1981 and (iii) commercial operation in September 1981. The Supply System has considered environmental factors relative to the Project together with the technical and economic matters referred to herein; it has taken the steps required to date to conform with the Washington State Environmental Policy Act of 1971 and will continue to meet the requirements of that Act.

## Initial Financing Program

The proceeds from the Notes are estimated to provide the necessary funds to pay for the Supply System's share of the cost of the work that will be accomplished prior to June, 1976.

| Estimated Disposition of Note Proceeds |  |
| :---: | :---: |
| Engineering and Construction Management | \$12,957,000 |
| Escalation and Contingencies | 7,140,000 |
| Nuclear Fuel | 2,772,000 |
| Supply System's Direct Costs(1) | 5,166,000 |
| Financing Expenses | 232,000 |
| Capitalized Interest(2) | 3,489,000 |
| Gross Costs | \$31,756,000 |
| Less: Investment Earnings | 2,756,000 |
| Principal Amount of Note Issue | \$29,000,000 |
| (1) Includes payment of the principal of and interest to maturity on $\$ 2,000,000$ of revenue notes issued in May, 1973. |  |
| (2) Assuming an interest rate of $43 / 3 \%$. |  |

## Permanent Financing Program

The current Supply System program anticipates that permanent financing for its Ownership Share of the Project will be initiated after the construction permit is received from the AEC through the iss' sice of long-term bonds to be retired from revenues derived from the sale of the Supply System's Ownership Share of the Project capability. These bonds are proposed to be issued to provide funds to retire the Notes and to pay the balance of the Supply System's share of the costs associated with the construction of the Project and placing it into operation. The Supply System proposes to issue the bonds in several series.

The Architect-Engineer and the Supply System have estimated that the cost of construction of the Project will be $\$ 581,366,000$, including engineering and construction management, escalation and contingencies to a 1981 operating date, initial nuclear fuel core, sales tax and owner's costs, but exclusive of financing expenses and interest during construction. The Supply System's share of these costs is estimated to be $\$ 406,957,000$.

The Supply System's current program anticipates that funds necessary to provide one-half year's interest in a reserve account in the bond furd, working capital and an initial reserve and contingency fund associated with its Ownership Share of the Project will be obtained under the Net Billing Agreements in advance of the expected date of commercial operation.

Based on the foregoing and assuming permanent financing through the sale of four issues of bonds of approximately equal size at a $6 \%$ interest rate, the estimated total amount of bonds to be issued to finance the Supply System's Ownership Share of the Project is shown in the following table:

## Estimated Permanent Financing Required for the Supply System's Ownership Share of the Project

|  | $\underbrace{\begin{array}{c} \text { Total } \\ \text { Project Costs } \end{array}}$ | Suppiy System's Ownership Share of Project Costs |
| :---: | :---: | :---: |
| Structures and Improvements | \$ 95,000,000 | \$ 66,500,000 |
| Reactor Plant Equipment | 140,000,000 | 98,000,000 |
| Turbine Generator Unit | 110,000,000 | 77,000,000 |
| Accessory Electrical Equipment | 35,000,000 | 24,500,000 |
| Miscellaneous Power Plant Equipment | 3,000,000 | 2,100,000 |
| Station Equipment | 4,000,000 | 2,800,000 |
| Subtotal (1)(2) | \$387,000,000 | \$270,900,000 |
| Contingencies(2) | 53,400,000 | 37,380,000 |
| Nuclear Fuel (3) | 34,331,000 | 24,032,000 |
| Sales $\operatorname{Tax}(4)$. . . . . . . . . . . . . . . . . . . . | 21,635,000 | 15,145,000 |
| Engineering and Construction Management(2) | 45,000,000 | 31,500,000 |
| Owner's Direct Costs (3) | 40,000,000 | 28,000,000 |
| Subtotal | \$581,366,000 | \$406,957,000 |
| Bond Discount and Other Financing Expenses (5) |  | 9,990,000 |
| Cap:talized Interest During Construction(6) |  | 152,255,000 |
| Gross Requirement ......... |  | \$569,202,000 |
| Less: Estumated Income From Temporary Investments (7) |  | 40,202,000 |
| Net Requirement |  | $\underline{\$ 529,000,000}$ |

(1) -Includes escalation to projected date of commercial operation, September 1, 1981.
(2)-Estimated by the Architect-Engineer.
(3) - Estimated by the Supply System.
(4) -Includes sales tax on nuclear fuel.
(5)-Includes estimated cost of issuing the Notes.
(6)-Includes interest on the Notes at $47 / 8 \%$ to June 15, 1976 and interest on bonds at $6 \%$ to September 1, 1982.
(7)-Includes income from temporary investment of the proceeds from the Notes.

In addition to the foregoing amounts to be obtained through issuance of bonds, present planning anticipates that the Participants will, between January 1, 1981 and September 1, 1981, pay under the Net Billing Agreements the following amounts:

| Reserve Account in the Bond Fund | \$15,900,000 |
| :---: | :---: |
| Working Capital(1) | 10,100,000 |
| Reserve and Contingency Funa | 2,100,000 |
| Total | \$28,100,000 |

(1) Includes $\$ 8,000,000$ to be provided from advanced net billing to permit leveling annual fuel costs in the event of a critical period of power supply.

## BONNEVILLE POWER ADMINISTRATION

Bonneville, a bureau of the U. S. Department of the Interior, was established by the Bonneville Project Act of August 20, 1937, to build transmission facilities and to market power from federal hydroelectric projects in the Pacific Northwest. Such projects now number 27 with an installed capacity of $10,485,900$ kilowatts. These projects and authorized new projects and additions at existing projects will have, when completed, an installed capacity of approximately $21,335,900$ kilowatts. Bonneville's transmission facilities include over 12,000 miles of 115 kV to 500 kV ac and 800 kV dc transmission lines. These transmission facilities together with the hydroelec:ric projects mentioned above comprise the Fedieral Columbia River Power System.

Bonneville Revenue by Major Classification of Customers ${ }^{1}$

| Fiscal Year Ended June 30 | Preference Customers | Other <br> Electric <br> Utilities | Industrial | Transmission Service and Other | Total |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1968 | \$49,134,719 | \$12,515,810 | \$39,498,338 | \$16,739,045 | \$117,887,912 |
| 1969 | 55,752,314 | 16,967,117 | 46,204,161 | 18,353,608 | 137,277,200 |
| 1970. | 58,419,581 | 20,319,033 | 50,063,203 | 13,878,209 | 147,680,026 |
| 1971 | 64,078,043 | 25,120,610 | 45,418,745 ${ }^{2}$ | 21,060,576 | 155,677,974 |
| 1972. | 69,452,035 | 37,918,589 | 45,733,067² | 22,990,720 | 176,094,411 |

(1) From Bonneville Summary Financis! Data.
(2) The decline in industrial revenues was primarily due to shutdown of aluminum potlines in the area and to curtailment by Bonneville of interruptible power to certain of its industrial customers.

The major part of the 500 kV and 230 kV backbone transmission system in the Pacific Northwest is owned by Bonneville as a result of its role in constructing transmission facilities as part of the Federal Columbia River Power System. Bonneville transmits cver the Federal Columbia River Power System the major portion of the power from 11 nonfederal projects to various private and public utilities in the Pacific Northwest. This system represents approximately $80 \%$ of the bulk power transmission capacity for the Pacific Northwest.

The Federal Columbia River Power System has interconnections with other regions in the United States and Canada. Three high voltage transmission line interconnections (two 500 kV ac, one 800 kV dc) of the Pacific Northwest-Pacific Southwest Intertie have been completed and are now in operation. One existing 500 kV ac and one future 500 kV ac line sill interconnect the Federal Columbia River Power System with British Columbia, Canada, and several 230 kV ac lines interconnect the eastern portion of the system with utilities in the Mountain States and adjacent Canadian provinces. These interconnections provide, in addition to mutual support in the event of a breakdown or emergency, the means to carry capacity and energy which is surplus to the Pacific Northwest needs to these areas, and conversely to carry surplus capacity and energy from these areas into the Pacific Northwest.

## Additional Power Supply

In addition to the federal hydroelectric projects, Bonneville has acquired additional power supply and hydro storage to enable it to continue to meet its customers' requirements. Under agreements executed in 1963 by Bonneville, 76 utility customers of Bonneville and the Supply System, Bonneville exchanges firm power from its system for the output of the Hanford Project of the Supply System. In 1964 Bonneville, acting jointly with the U. S. Army Corps of Engineers as the United States Entity, pursuant to the Treaty Between the United States and Canada Relating to the Cooperative Development of Water Resources of the Columbia River Basin, and pursuant to certain agreements executed in connection with such Treaty, obtained certain rights to $15,500,000$ acre-feet of hydro storage on the Columbia River in Canada.

Under the Hydro Thermal Power Program, Bonneville will obtain through the Net Billing Agreements the Supply System's Ownership Share of the Project capability upon its completion and through similar agreements the capability of the Supply System's Nuclear Project No. 1 and Nuclear Project No. 2 and the City of Eugene, Oregon's $30 \%$ share of the Trojan Nuclear Project.

## Bonneville Contracts

Bonneville and each of the Participants have entered into one or more contracts requiring payments to Bonneville for the purchase or exchange of power, the operation and mainteanance of facilities or the tiansmission of power over the Federal Columbia River Power System.

Bonneville markets power to 149 customers, including 105 statutory preference customers in the Pacific Northwest (public bodies and cooperatives which have preference and priority upon power from the Federal Columbia River Power System pursuant to the Bonne ville Project Act, as amended) under the terms of various power sales contracts. Each of the Participants is a preference customer and is a party to at least one such power sales contract. These contracts generally provide for the sale and delivery of firm power to a Participant in the amount of its requirements for power over and above the generating resources, if any, that the Participant has available to serve its own loads. Bonneville's obligation to meet a preference customer's requirements is effective for the term of the contract uniess B onneville gives the Participant at least eight years' prior notice of insufficiency of supply.

These power sales contracts with preference customers are usually for a term of twenty years and contain provisions for a rate review once each five years, the next rate review date being December 20, 1974. In the past Bonneville has rumally replaced these power sales contracts on or prior to their expiration with new power sales contacts.

## THE HYDRO THERMAL POWER PROGRAM AND POWER SUPPLY IN THE PACIFIC NORTHWEST

The Hydro Thermal Power Program was conceived by the Joint Power Planning Council, consisting of 110 electric cooperatives, public utilities and private utilities in the Paciîc Northwest and Bonneville, in order to plan the coordination of existing and future thermal and hydroelectric resources in the Pacific Northwest. The major part of the power supply in the region has been historically from hydroelectric resources, but the remaining hydro projects to be developed will be essentially for peaking power rather than for base load. Thermal power will provide an increasing portion of the base load resuurces in the future. The combination of hydro peaking and large scale thermal generating plants was found by the Council to be the soundest plan to achieve the aims of the Hydro Thermal Power Program. The principles of this Program and the federal government's participation through Bonneville, the Army Corps of Engineers and the Bureau of Reclamation have been endorsed by current and previous administrations and by the Congress.

The members of the Joint Power Planning Council have concluded that the Hydro Thermal Power Program will:

1. Best preserve the environment and natural beauties of the Pacific Northwest.
2. Make efficient and economic use of the Federal Columbia River Power System.
3. Obtain the economies of scale from large thermal generating plants.
4. Meld the large thermal generating plants with existing hydro generating units and the peaking generation units which will be installed at existing dams, to achieve the most economic and reliable power supply to meet the power requirements of the Pacific Northwest.

The prescit Hydro Thermal Power Program of thermal generating plants for installation through 1981 is tabulated below:

| Plant Number | Principal Sponsor | Location | Type | Rated Capacity (MW) | Scheduled Date of Commercial Operation |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | Pacific Power \& Light Company and The Washington Water Power Company (Centralia Project) | Centralia, Washington | Coal-fired | 1,400 | (1) |
| 2 | Portland General Electric Company (Trojan Project) | St. Helens, Oregon | Nuclear | 1,130 | Tuly 1975 |
| 3 | Pacific Power \& Light Company (Jim Bridger Project) | Rock Springs, Wyoming | Coal-fired | $\begin{aligned} & 500 \\ & 500 \end{aligned}$ | Sept. 1975 <br> Sept. 1976 |
| 4 | Washington Public Power Supply System (Nuclear Project No. 2) | Hanford, Washington | Nuclear | 1,100 | Sept. 1977 |
| 5 | Portland General Electric Company (Boardman Project) .... | Boardman, Oregon | Nuclear | 1,200 | Sept. 1980 |
| 6 | Washington Public Power Supply System (Nuclear Project No. 1) | Hanford, Washington | Nuclear | 1,220 | Sept. 1980 |
| 7 | Washington Public Power Supply System (Nuclear Project No. 3) | Satsop, Washington | Nuclear | 1,200 | Sept. 1981 |

(1) Currently in operation at reduced capacity.

The Centralia Project is owned by Pacific Power \& Light Company, The Washington Water Power Company, Portland General Electric Company, Puget Sound Power \& Light Company, the Cities of Seattle and Tacoma and the Public Utility Districts of Grays Harbor and Snohomish Counties. The Trojan Project is owned by the Portland General Electric Company, the City of Eugene, Oregon, and Pacific Power \& Light Company. In accordance with present plans the Boardman Project will be a jointly owned project.

In addition to the foregoing major projects in the Pacific Northwest, The Montana Power Company and Puget Sound Power \& Light Company are constructing a coal-fired steam electric generating plant at Colstrip, Montana. A portion of the output of this project will be used outside of the Pacific Northwest coordinated system and the balance of the output will be used by Puget Sound Power \& Light Company to assist in meeting its needs within the Pacific Northwest. Under present plans, 350,000 kilowatts are to be available to Puget Sound Power \& Light Company by 1976. Planning is proceeding on two additional 700,000 kilowatt blocks of power from additional units to be installed at the Colstrip site, presently scheduled for initial operation in September 1978 and September 1979. The Puget Sound Power \& Light Company has also announced plans to construct a $1,100,000$ kilowatt nuclear plant on the Skagit River near Sedro Woolley, Washington, to come on line in the eariy 1980's.

The Joint Power Planning Council is now considering further installations to meet the power requirements of the Pacific Northwest during the 1980's. Recently the Public Power Council requested the Supply System to investigate the financing and construction of an additional $1,200,000$ kilowatt nuclear project for operation in 1984.

## Power Requirements and Resources

Long-range planning of resources in the Pacific Northwest is based on annual forecasts of loads and resources for the area prepared by the Pacific Northwest Utilities Conference Committee. An analysis of the most recent forecast by that committee, dated April 9, 1973, is shown in the following table:

## Firm Loads and Resources Northwest Power Pool, West Group(1)

| Year Ending June 30 | Estimated Requirements | Estimated Resources(2) | Additional <br> Resources <br> Required(3) | The Project | Balance of Resources Required (3) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Peak Capability-Kilowatts (000) - - - |  |  |  |  |  |
| 1974 | 21,939 | $22,519$ | (580) |  |  |
| 1975. | 23,979 | $22,840$ | 1,139 | - | (580) |
| 1976 | 24,783 | 24,433 |  | - | 1,139 |
| 1977. | 25,859 | 27,473 | 350 $(1,614)$ | - | 350 |
| 1978. | 27,343 | 27,473 28,009 | $(1,614)$ | - | $(1,614)$ |
| 1979. | 28,479 | 30,210 | (666) | - | (666) |
| 1980. | 29,754 | 32,317 | (1,731) | - | $(1,731)$ |
| 1981. | 31,263 | 32,317 34,293 | $(2,563)$ | - | $(2,563)$ |
| 1982. | 32,669 | 34,293 35,522 | $(3,030)$ | - | $(3,030)$ |
| 1983. | 34,564 |  | $(2,853)$ | 306(4) | $(3,159)$ |
| 1984. |  | 36,567 | $(2,003)$ | 994 (4) | $(2,997)$ |
|  | 36,373 | 36,813 | (440) | 994(4) | $(1,434)$ |


| 1974 | 13,877 | 14 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1975 | 14,696 | 14, | (432) | - | (432) (5) |
| 1976 | 14,999 | 14,453 15,470 | 243 | - | 243 (5) |
| 1977 | 15,669 | 15,470 16,184 | (471) | - | (471) |
| 1978 | 16,489 | 16,184 16,719 | (515) | - | (515) |
| 1979 | 17,239 | 16,785 18.48 | (230) | - | (230) |
| 1980. | 18,064 | 18.298 | (246) | - | (246) |
| 1981. | 19,021 | 19,782 | (234) | - | (234) |
| 1982. | 19,926 | 20,276 | (761) | - | (761) |
| 1983. | 20,871 | 20,511 | (350) | 615 | (965) |
| 1984. | 21,934 | 20,609 | +360 | 878 | (518) |
| 1) Ar |  | 20,609 | 1,325 | 1,012 | 312 |

(2) Not including the Project
(3) Parenthesis denotes surplus.
(4) After deduzing $15 \%$ for reserves and $3 \%$ for realization factor (under the Pacific Northwest Utility Con ference Coramittee Planning Guidelines)
5) Current estimates by Bonneville based upon reservoir levels on September 1, 1973 and a $201 / 2$ month critical period now indicate a 900,000 kilowatt average energy deficit in the years ending June 30,1974 and June 30 ,
1975 .

## THE NET BILLING AGREEMENTS

The Supply System, Bonneville and each Participant have entered into a Net Billing Agreement. These Agr cements provide for the sale by the Supply System to the Participants and the assignment to Bonneville by the Participants of the Supply System's Ownershin Share of the capability of the Project, less the output sold pursuant to the Power Sales Agreement. The Participants will pay the Supply System all of the Supply System's costs associated with its Ownership Share of the Project, less amounts payable
from other sources, including amounts payable under the Power Sales Agreement. In consideration of such assignment Bonneville will offset or credit the amounts paid by the Participants to the Supply System against amounts owed Bonneville by the Participants for power purchased and certain services under Bonneville Contracts. This system of offsets or credits is termed "net billing". An abbreviated summary of certain provisions of the Net Billing Agreements follows; however, reference should be made to full text of the form of Agreements attached hereto as Exhibit IV.

The capitalization of any word or words which is not conventionally capitalized (e.g. Project, Participants) indicates that such words are defined in the Net Billing Agreements (Exhibit IV). (The same practice is followed in the summaries of the Ownership Agreement, Project Agreement and Resolution which follow.)

## Term of the Agreement

Each Agreement became effective upon execution and delivery. Net billing will begin on January 1, 1981, or the Date of Commercial Operation, whichever is earlier, or at some earlier date if the Net Billing Agreements are terminated prior to such dates, as hereinafter described under the caption "Termination".

Although the Net Billing Agreements may be terminated prior to the maturity of any notes or bonds, the obligation of each of the Participants thereunder to pay its proportionate share of debt service on any notes or bonds shall continue until the notes or bonds have been retired, and Bonneville will continue to be obligated to offset or credit these payments against the bills rendered pursuant to the Participant's Bonneville Contracts.

## Ownership and Operation

The Supply System will perform its duties, exercise its rights under the Ownership Agreement and use its best efforts to construct, operate and maintain the Project and finance its interest therein, in accordance with Prudent Utility Practice.

## Sale, Purchase and Assigrment

The Supply System sells and each Participant purchases its Participant's Share and in turn assigns its Participant's Share to Bonneville.

In each Contract Year, the Participant's Share is the percentage of the Supply System's Ownership Share of Project Capability specified for such year in Exhibit A to the Net Billing Agreements. During the period from July 1, 1981 through June 30, 1984, the amount of power made available to each Participant from the Supply System's Ownership Share of Project Capability is reduced by sales of output under the Power Sales Agreement. The purchase price to be paic by each Participant in each Contract Year will be the amount specified in the Billing Statement rendered to the Participant by the Supply System. The amount of the Billing Statement is determined by multiplying the Annual Budget or any amended Annual Budget, less any other funds, including amounts payable under the Power Sales Agreement, specified in the Annual Budget as being payable from sources other than payments under the Net Billing Agreements, by the Participant's Share. The Annual Budget shall provide for all of the Supply System's costs with respect to the Project in the Contract Year, including debt service. The Participant is obligated to pay the Supply System whether or not the Project is completed, operable or operating and notwithstanding the suspension, interrupuon, interference, reduction or curtailment of the Project output, and such payments shall not be subject to reduction and shall not be conditioned upon the performance or nonperformance by the SL, ply System or any other Project Cwner or Bonneville or any other Participant under the Net Billing Agreements or any other agreement or instrument.

The Participant assigns and Bonneville accepts the assignment of the Participant's Share. In consideration of such assignment, Bonneville will offset or credit the amounts paid by the Participant to the Supply System under the Net Billing Agreement against amounts owed Bonneville for power purchased and certain services rendered under the Participant's Bonneville Contracts.

Bonneville is obligated to make the offsets and credits specified in the Net Billing Agreements whether or not the Project is completed, operable, or operating and notwithstanding the suspension, interruption, interference, reduction or curtailment of the Project output. Such offsets and credits shall not be subject to reduction and shall not be conditioned upon the performance or nonperformance by the Supply System or any other Project Owner or any Participant under the Net Billing Agreements or any other agreement or instrument.

## Payment

Each Participant is obligated to pay the Supply System on a monthly basis its Participant's Share of the Supply System's annual costs associated with its Ownership Share of the Project as specified in its Billing Statement. Each month's payments will be based on the amount of net billing credit received from Bonneville by the Participant during the preceding month on its Bonneville billings. If the credits received from Bonneville are less than the Participant's Share of costs for a Contract Year, the Participant is nevertheless obligaied to pay its sh re of such costs.

Bonneville may enter into net billing agreements with any or all of the Participants in connection with the construction and operation of other thermal generating plants, and has entered into such agreements with all of the Participants in connection with one or more of the Supply System's Nuclear Projects No. 1 and No. 2 and the Trojan Project. Pursuant to the Net Billing Agreements, Bonneville will offset the amounts it owes under the Net Billing Agreement and all other net billing agreements which it may have in effect with each Participant against the sum of the amounts that such Participant may owe Bonneville for power and certain services in the proportion that the amount specified in the current Billing Statement bears to the sum of the amounts to be paid by Bonneville under all such agreemehis for that Contract Year. Each Net Billing Agreement provides that Bonneville and the Participant shall not enter into any agreements providing for payments to the Participant which Bonneville estimates will cause the aggregate of its billings to the Participant to be less than 115 percent of the Bonneville net billing obligations to the Participant under all agrtements providing for net billing.

Two or more Participants may agree to a reallocation of their Participant's Shares so long as, among other requirements, the aggregate of the increases is equal to the aggregate of the decreases and the reallocation does not cause Bonneville's estimate of the payments to be made by a Participant to the Supply System to exceed $86.95 \%$ of Bonneville's estimate of its billings to the Participant.

If Bonneville is unable to net bill the amounts to be $i d$ to the Supply System because the dollar obligations due Bonneville from a Participant are, or arc expected to be, insufficient to offset Bonneville's dollar obligations to such Participant, Bonneville will use its best efforts to arrange for a voluntary assignment of such amounts which cannot be net billed and the Participant shall make any such assignment so arranged. The other Participants will have the first right to accept such assignment, pro rata among those exercising such right, before such an assignment is made to a customer who is not one of the Participants. If Bonneville is unable to arrange for such an assignment, the Participant will make such assignment to the other Participants, who are obligated to accept it, pro rata, provided that the sum of such assignments to a Participant shall not, without its consent, exceed either $25 \%$ of its Participant's Share or its estimated net billing capability.

If all or a portion of the Participant's Share is assigned as described above, the Participant will remain liable to pay the purchase price for its Share in accordance with its Agreement as if such assignment had not been made. Such liability of the Participant will be discharged only to the extent that the assignee of all or a portion of the Participant's Share pays to the Supply System the purchase price for the portion of the Participant's Share so assigned.

If assignments cannot be made in amounts sufficient to bring into balance the respective dollar obligations of Bonneville and the Participant and an accumulated balance in favor of the Participant from a previous Contract Year is expected by Bonneville to be carried for an additional year, such balance and
any subsequent monthly net balances that cannot be net billed will be paid in cash to the Participant b Bonneville, subject to the availability of appropriations for such purpose.

If Bonneville is unable to satisfy its obligation to an affected Participant by net billing, assignment Supply System for the Partion of the energy associated with its Participant's Share be delivered by the period of such inability or the remainder at a specified point of delivery either for the expected by the Participant when it elects to have sue term of the Net Billing Agreement, whichever is specified delivery will be limited to the amount of power and energy delivered to it. The amount of such cannot be made. The Participant's obligation to Participant's Share for which payment by Bonneville obligation to make payments to the Participo assign its Participant's Share to Bonneville and Eonneville's

## Termination

The Net Billing Agreements will terminate if the Supply System is unable to participate in ownership, construction, or operation of the Project Jue to licensing, financing, construction or operAgreement and has are beyond its control, or if the Supply System is in default under the Ownership the Project invoke the procedure to end the Project to give notice of termination, or if the owners of System shall give notice of termination of the Net forth in the Ownership Agreement. The Supply notice. The Supply System shall then terminate its Billing Agreements effective on the date of such of the Project and sball undertake the salvage, discontintivities relating to construction and operation of its ownership interest in the Project, all in accordinuance, decommissioning and disposition or sale termination, the Supply System will make monthly Participant of all costs associated with such termination accounting statements to Bonneville and each against such costs all amounts received by the Supply Sy. The monthly accounting statements will credit Ownership Share of the Project assets. Such monthly from the disposition of the Supply System's until all Bonds have been paid or funds arc set aside for accounting statements will continue at least ments show that such costs exceed such credits, the Particir payment. If the monthly accounting statethe Supply System. The payments will be made at times will pay its portion of such excess costs to current basis the Participant's Share of the amount which and in amounts sufficient to discharge on a various funds provided in the Bond Resolutiont which the Supply System is required to pay into the

## Event of Default

The Participant's Share purchased by the Participant from the Supply System and assigned to Bonneville under each Net Billing Agreement will be automatically increased for the remaining term of the Agreement pro rata with that of other nondefaulting Participants if, and to the extent that, one or Net Billing Agreement; provided however, reruses for any reason to perform its obligations under its its consent, may not exceed an accumulated maxim sum of such increases for each Participant, without such increase cause the estimate of the payments to be $25 \%$ of its Participant's Share nor shall any to exceed the estimate of Bonneville's billings to the Pemade by the Participant to the Supply System the period of such increase.

## Participant's Rate Covenant

No Participant will be required to make payments to the Supply Systern under its Net Billing Agreement except from revenues derived from the ownership and operation of its electric utility properties and from payments by Bonneville under such Agreement. The Participant covenants that it will establish, maintain and collect rates or charges for power and energy and other services, facilities and commodities sold, furnished or supplied by it through any of its electric utility properties which shall be adequate to
provide revenues sufficient to enable the Participant to make the payments to the Supply System pursuant to its Net Billing Agreement and to pay all other charges and obligations payable from or constituting a charge and lien upon such revenues.

## Applicability of Other Instruments

The Net Billing Agreements are made subject to the terms and provisions of the Ownership Agreement, the Bond Resolution and all licenses, permits and regulatory approvals necessary for the ownership, construction and operation of the Project.

## Exhibits

The Exhibits described below are a part of the Net Billing Agreements and are attached to the form of Net Billing Agreement appended to this Official Statement as Exhibit IV.

Exhibit A-A list of the Participants and their respective Participant's Shares.
Exhibit B-Project Characteristics.
Exhibit C-Contractual provision required by Satute or Executive Order. Under the provisions of Executive Order 11246 of September 24, 1965 and the Rules and Regulations and relevant Orders of the Secretary of Labor thereunder, the Supply System has been granted a limited exemption from the cancellation, termination, and suspension provisions contained in Section 3(f) of Exhibit C to the Net Billing Agreements in the event of non-compliance with the Equal Opportunity clause contained in said Agreements by the Director, Office of Federal Contract Compliance, U.S. Department of Labor.

## THE PROJECT AGREEMENT

The Supply System and Bonneville have entered into the Project Agreement. That Agreement, among other things, contains provisions with respect to the financing, construction, operation and maintenance of the Project, and the making of any replacements, repairs or capital additions thereto, and budgeting under the Net Billing Agreements. An abbreviated summary of some of the provisions of the Project Agreement follows; bowever, reference should be made to the full text of the Agreement attached hereto as E=hibit V .

## Term

The Agreement became effective upon its execution and delivery and will terminate when the Net Billing Agreements terminate.

## Design, Construction, Operation and Maintenance of the Project

The Supply System agrees among other things (i) to perform its duties and exercise its rights under the Ownership Agreement and the Project Agreement in accordance with Prudent Utility Practice; and (ii) to keep Bonneville informed of all significant matters with respect to construction or operation of the Project, where practicable in time for Bonneville to comment thereon before decisions are made, and (iii) to confer with Bonneville during the development of the Supply System's proposals for such matters when practical to do so.

Bonneville will use its best efforts to construct, operate and maintain necessary facilities to interconnect the Project with the Federal Columbia River Power System so as to be ready to receive Project generation on or before the initial test and operation of the Project.

## Financing

The Supply System shall use its best efforts to issue and sell Bonds to finance its share of the Project costs and the completion thereof, as such costs are defined in the Bond Resolution, and to finance its share of the cost of any capital additions, renewals, repairs, replacements or modifications to the Project; provided, however, that such Bonds may then be legally issued and sold.

Prior to its adoption, the Bond Resolution shall be subject to the approval of Bonneville.

## Representation by Bonneville on the Committee Established Pursuant to the Ownership Agreement

The Supply System will appoint a member designated by Bonneville to the Committee established pursuant to the Ownership Agreement, who shall have the right to vote the lesser of $50 \%$ of the Supply System's Ownership Share or the sum of the Participant's Shares assigned to Bonneville under the Net Billing Agreements at the beginning of the Contract Year.

The Surnly System will not proceed with the following elective items under the Ownership Agreement without the concurrence of Bonneville's representative on the Committee: (i) notice to repair the Project if the cost of repair is in excess of $20 \%$ of the depreciated value of the Project, (ii) renewals and replacements not necessary to assure design capability and additions not required by governmental agencies, (iii) construction of the Project if any other party to the Ownership Agreement does not participate, for the reasons set forth in the Ownership Agreement.

## Budgets

Bonneville has reviewed the Supply System's Construction Budget. Promptly after the approval of any revised construction budget pursuant to the Ownership Agreement, the Supply System shall submit to Bonneville a revised Construction Budget. The budget shall include the Supply System's share of construction costs pursuant to the Ownership Agreement and all of the Supply System's other costs related to construction and financing of the Project. The updated Construction Budget for the succeeding calendar year and revised Construction Budgets for the current calendar year shall become effective unless disapproved by Bonneville within 30 days, and 7 days, respectively.

Prior to the Date of Commercial Operation and each succeeding Contract Year, the Supply System shall submit an Annual Budget showing the Supply System's Ownership Share of operating costs under the operating budget adopted pursuant to the Ownership Agreement, its cost of fuel and all its other costs related to its Ov/nership Share of the Project. The Annual Budget shall be revised during the Contract Year if necessary. The Annual Budget and any revised Annual Budget shall become effective unless disapproved by Bonneville within 30 days and 7 days, respectively.

## Bonds for Replacements, Repairs and Capital Additions

If in any Contract Year the amounts in the Annual Budget for renewals, repairs, replacements and betterments and for capital additions necessary to achieve design capability or required by governmental agencies ("Amounts for Extraordinary Costs"), whether or not such amounts are sosts of operation or costs of construction, exceed the amount of reserves, if any, maintained for such purpose pursuant to the Bond Resolution plus the proceeds of insurance, if any, available by reason of loss or damage to the Project, by the lesser of:
(1) $\$ 3,000,000$ or
(2) an amount by which the amount of Bonneville's estimate of the total of the net billing credits available in such Contract Year to the Participants and the amounts of such reserves and insurance proceeds, if any, exceeds the Annual Budget for such Contract Year, exclusive of Amounts for Extraordinary Costs;
the Supply System will, in good faith, use its best efforts to issue and sell Bonds to pay such excess.

## Applicability of Other Instruments

The Project Agreement is made subject to the terms and provisions of the Bond Resolution and all licenses, permits and regulatory approvals necessary for the ownership, construction and operation of the Project.

## Exhibits

The Exhibits described below are an integral part of the Project Agreement. Exhibits A and B are attached to the copy of the Project Agreement appended to this Official Statement as Exhibit V. Exhibit C, the Ownership Agreement, is attached hereto as Exhibit III.

## Exhibit A-Project Characteristics.

Exhibit B-Ccntractual provisions required by Statute or Executive Order. Under the provisions of Executive Order 11246 of September 24, 1965 and the Rules and Regulations and relevant Orders of the Secretary of Labor thereunder, the Supply System has been granted a limited exemption from the cancellation, termination, and suspension provisions contained in Section 3(f) of Exhibit B to the Project Agreement in the event of non-compliance with the Equal Opportunity clause contained in said Agreement by the Director, Office of Federal Contract Compliance, U. S. Department of Labor.

Exhibit C-The Ownership Agreement.

## THE OWNERSHIP AGREEMENT

The following is a summary of certain provisions of the Ownership Agreement and does not purport to be complete. Reference should be made to the full text of the Ownership Agreement attached hereto as Exhibit III.

Ownership of the Project. The Project shall be owned by the Parties as tenants in common. The Supply System has an undivided interest of $70 \%$ and Pacific Power \& Light Company, Portland General Electric Company, Puget Sound Power \& Light Company and The Washington Water Power Company have undivided interests of $10 \%, 10 \%, 5 \%$ and $5 \%$ respectively. A Party's Ownership Share may be adjusted upon the occurrence of certain events, as described below.

Each Party promptly and with due diligence shall take all necessary actions and seek all regulatory approvals, licenses and permits to carry out its obligations under the Ownership Agreement.

The Parties waive the right to partition of the Project.
The duties, obligations and liabilities of the Parties are several and not joint or collective, and none of the Parties shall be jointly or severally liable for the acts, omissions, or obligations of any of the other Parties.

The Supply System shall construct, operate and maintain the Project and shall have possession and control of the Project for all the Parties.

Committee. There shall be a Committee composed of seven members, three to be appointed by Supply System (one of whom will be designated by Bonneville pursuant to the Project Agreement), and one member to be appointed by each other Party. Eech Committee member shall have the right to vote that part of the Ownership Share of the Party appointing him as designated in the notice of appointment, and the member appointed by Bonneville shall have the right to vote the portion of the Supply System's Ownership Share provided in the Project Agreement. The total voting rights of the members of the Committee appointed by each Party shall be equal to such Party's Ownership Share.

The Supply System shall keep all members of the Committee informed of all significant matters with respect to planning, construction, operation or maintenance of the Project, and when practicable, in time for members to comment thereon before decisions are made, and shall confer with the Committee, or separately with members thereof, during the development of the Supply System's proposals regarding such matters when practicable to do so. Upon request of any Committee member, the Supply System shall
furnish or make available to all members of the Committee, with reasonable promptness and at reasonable times, any and all other information relating to the planning, construction, operation or maintenance of the Project.

The Supply System shall submit each of the matters listed below to the Committee for approval, which approval must be by a vote of Committee members having combined Ownership Share voting rights of more than $80 \%$;

## Determination of the Minimum Capability of the Project

Any p.oposal made by Committee members, appointed by Parties other than Supply System, having Ownership Share voting rights of $20 \%$ or more, or by the Committee member designated by Bonneville
Construction budgets and budgets of Annual Costs and changes therein
Any increase in the working fund in the Construction Trust Account or the Operating Trust Account described below

Award of any contract or approval of any change order, in either case in excess of $\$ 500,000$
Fuel Plan, changes therein and determinations relating thereto

## Scheduled outages

Insurance coverage, including limits and choice of insurers
Estimate of cost of repair or damage to the Project if in excess of $\$ 1,000,000$, and estimate of the value of the Project without repair
Sales of salvage materials in excess of such minimum amount as is established by the Committee.
If any of the above matters cannot be resolved by the required vote of the Committee, procedures have been established to resolve the issue in accordance with Prudent Utility Practice.
"Prudent Utility Practice" means any of the practices, methods and acts, which, in the exercise of reasonable judgment in the light of the facts (including practices, methods and acts engaged in or approved by a significant portion of the electrical utility industry prior thereto) known at the time the decision was made, would have been expected to accomplish the desired result at the lowest reasonable cost consistent with reliability, safety and expedition. Piudent Utility Practice is not limited to the optimum practice, method or act, but rather a spectrum of possible practices, methods or acts. In evaluating whether any matter conforms to Prudent Utility Practice there shall be taken into account (i) the fact that Supply System is a municipal corporation and operating agency under the laws of the State of Washington; and (ii) the objective to integrate the Project Capability with the generating resources of the Federal Columbia River Power System and the generating resources of other systems operated by the Parties to achieve optimum utilization of the resources of such systems.

Supply System shall submit the following additional matters to the Committee and shall proceed on such matters only upon unanimous approval of the Committee:
(i) Selection of the site of the Project
(ii) Selection of the type of nuclear steam supply system
(iii) Selection of the method of heat disposition
(iv) Award of contracts for nuclear steam supply system and turbine-generators
(v) Selection of an architect engineer
(vi) Extension of insurance to any additional unit or generating project
(vii) Capital additions to the Project after the Date of Commercial Operation which are not necessary to assure design capability, or are not required by governmental agencies.

If the Committee is unable to reach unanimous agreement within sixty days after submission by Supply System of any of the matters (i) through (v) listed above, then unless the Committee unanimously agrees otherwise, Supply System shall notify the Parties in writing and they shall then terminate the Project, or one or more of the Parties may elect to proceed with the Project upon reimbursing the nonelecting Parties for their Costs of Construction and Fuel. Upon such reimbursement, the interest of the non-electing Parties in the Project shall vest in the electing Parties. Each of the Parties has agreed to the Supply System's de:ermination of the matters listed in (i), (ii), (iv) and (v) above.

## Construction, Licensing, Operation and Maintenance

The Supply System shall (a) take whatever action is necessary or appropriate to seek and obtain all licenses, permits and other rights and regulatory approvals necessary for the construction, operation and maintenance of the Project; (b) prosecute construction of the Project in accordance with Prudent Utility Practice, AEC licensing requirements, any applicable Federal or State laws and regulations thereunder, and plans and specifications for the Project prepared or recommended by the Project architectengineer, and so as to schedule the Date of Commercial Operation as near as may be to September 1, 1981; (c) operate and maintain the Project in accordance with Prudent Utility Practice, giving due consideration to the recommendations of the Committee and the manufacturer's warranty requirements and in such a manner as to meet the requirements of the AEC and other government agencies having jurisdiction, to safeguard the health and safety of persons and safety of property, and, as necessary in the normal course of business, to assure the continued operation and maintenance of the Project.

## Construction and Operating Payments

Construction Budgets and budgets of Annual Costs, except Fuel costs, and revisions thereof shall be submitted to the Committee for approval at the times specified in the Ownership Agreement.

Costs of Construction and Annual Costs, including Fuel costs, shall be paid from the Construction Trust Account aind Operating Trust Account, respectively, which the Supply System is required to establish and maintain as separate accounts in a bank located in Washington meeting all requirements imposed upon depositories for any of the Parties. All moneys received by the Supply System under the Ownership Agreement shall be deposited in the appropriate Tiust Account. Payments by the Parties shall be made at the times specified in the Ownership Agreement.

The Supply System shall keep up-to-date books and records of all financial transactions and other arrangements in carrying out the terms of the Ownership Agreement. All accounts shall be so kept as to permit conversion to the system of accounts prescribed for electric utilities by the Federal Power Commission. The Supply System shall cause all books and records to be audited by independent certified public accountants of national reputation acceptable to all the Parties at approximately annual intervals and when such accounts are closed. Copies of such audits shall be supplied to each Party. Each Party shall have the right to examine and copy all plans, specifications, bids and contracts relating to the Project.

## Fuel and Scheduling

The Supply System shall arrange for Fuel in amounts so that each Party may utilize its Ownership Share of the Project in a manner which such Party estimates is best suited to its individual system needs. Each year the Supply System will propare and submit to the Committee for approval a ten-year fuel management plan, which shall be revised as reasonably required to reflect changes in condition. Each Party shall furnish to the Supply System forecasts of its generation requirements from the Project to be used in preparing each Fuel Plan.

At the time of each fueling, the Supply System shall submit to the Committee for approval its determination of the next fueling date (the "Forecast Refueling Date"), the kilowatt-hours of net energy available to each Party to such Date (the "Energy Entitlement") and the cost per kilowatt-hour of its

Generally each Party shall be entitled to receive, as scheduled by it, its Ownership Share of the Project Capability, and each Party shall schedule energy from the Project in such a manner that its Energy Entitlement is adequate to maintain such Party's Ownership Share of Minimum Capability until the next Forecast Refueling Date.

Each Party shall order at least its Ownership Share of the Fuel necessary to insure operation at Minimum Capability to the Forecast Refueling Date.

Any Party may (i) order less than its Ownership Share of the Fuel necessary to insure operation at Minimum Capability to the Forecast Refueling Date, (ii) require that such Date be advanced or delayed, (iii) use the Energy Entitlement of other Parties, or (iv) require that the Project not be operated, upon arranging for equivalent alternate capacity and energy for the other Parties, but any such action shall not adversely affect the availability of capacity and energy to which any other Party is entitled from the Project or any other Party's costs for such capacity and energy.

The Supply System shall schedule Project outages, other than fueling outages, and submit them to the Committee for approval as far in advance as practicable, but may shut down the Project to meet governmental requirements or to avoid hazard to the Project or any person or property.

## Insurance

Supply System shall procure at the earliest practicable time and thereafter maintain in force for the bencfit of the Parties such insurance coverage for the construction, operation, maintenance and repair of the Project as the Committee may determine, but not less than shall be required under the contract to be executed with the Project Architect Engineer, and not less than will satisfy the requirements of the AEC, and conform $\%$ Prudent Utility Practice.

## Liabilities; Waiver of Subrogation

Each of the Parties releases each of the other Parties from any claim for loss or damage,including consequential loss or damage, arising out of the construction, operation, maintenance, reconstruction, and repair of the Project due to negligence, including gross negligence, but not any claim for loss or damage resulting from breach of any contract relating to the Project, including the Ownership Agreement, or for willful or wanton misconduct. Any loss or expense to the Parties or any Party, other than damages to any Party resulting from loss of use and occupancy of the Project or any part thereof, resuiting from the Project and based upon injury to or death of persons or damage to or loss of Project property and property of other parties, to the extent not covered by collectible insurance, shall be charged to Costs of Construction or Annual Costs, whichever may be appropriate.

Each Party shall cause its insurers to waive any rights of subrogation against each of the other Parties, its agents and employees, for losses, costs, damages or expenses arising out of the construction, operation, maintenance, reconstruction or repair of the Project.

## Uncontrollable Forces

No Party shall be considered to be in default in the performance of any of the obligations under the Ownership Agreement other than the obligation to pay its Ownership Share of costs and expenses, if failure of performance shall be due to uncontrollable forces, defined in the Ownership Agreement as any cause beyond the control of the Party affected and which, by the exercise of reasonable diligence, the Party is unable to overcome. Any Party rendered unable to fulfill any obligation by reason of uncontrollable forces shall exercise due diligence to remove such inability with all reasonable dispatch.

## Damage to the Project

If the Project suffers damage resulting from causes other than ordinary wear, tear or deterioration to - extent that Supply System's estimate of the cost of repair is less than $20 \%$ of the then depreciated sue of the Project, and if the Parties do not unanimously agree that the Project shall be ended (see the
caption "Enc of Project" below), Supply System shall promptly submit a revised Construction Budget or budget of Annual Costs, as appropriate, and shall proceed to repair the Project, and each Party shall pay its Ownership Share of the cost of such repair.

If the Project suffers damage to the extent that Supply System's estimate of the cost of repair exceeds $20 \%$ of the then depreciated value of the Project, computed according to the Ownership Agreement, Supply System shall determine the estimated fair market value of the Project if it is then terminated without repair. Thereafter, each Party which gives notice in writing to each of the other Parties of its desire that the Project be repaired, shall pay a part of the total cost of repair in the proportion that its Ownership Share bears to the total of the Ownership Shares of all Parties giving such notice. If any Party has given such notice, the Ownership Share of each Party which has not given notice shall be reduced at the end of each month to an Ownership Share determined by multiplying such Party's Ownership Share prior to such loss by a fraction the numerator of which is the estimated fair market value of the Project if it is terminated without repair, and the denominator of which is said fair market value plus the actual expenditures for repair. The amount of such reduction shall be proportionately added to the Ownership Share of each Party giving such notice.

If the Project suffers damage to the extent that Supply System's estimated cost of repair exceeds $20 \%$ of the then depreciated value of the Project and no Party gives the notice referred to above, the Project shall be ended.

## Default

Upon failure of a Party to make any payment when due, or to perform any obligation herein, any other Party may make written demand upon said Party, and if said failure is not cured within 10 days from the date of such demand, it shall constitute a default at the expiration of such period. Any nondefaulting Party may take any action, in law or equity, including an action for specific performance, to enforce the Ownership Agreement and to recover for any loss, damage or payment advances incurred by reason of such default.

## Assignment

This agreement shall be binding upon and shall inure to the benefit of successors and assigns of the Parties; provided, however, that no transfer or assignment of other than all of a Party's interest in the Project to a single entity shall operate to give the assignee or transferee the status or rights of a Party under the Ownership Agreement, and no transfer or assignment hereunder shall operate to increase the number of members on the Committee. Transfer or assignment shall not relieve a Party of any obligation under the Ownership Agreement except to the extent agreed to in writing by the other Parties.

## End of Project

When the Project can no longer be made capable of producing electricity consistent with Prudent Utility Practice or the requirements of governmental agencies having jurisdiction or is no longer licensed by the AEC, or when the Project is ended as a result of damage thereto as described above, Supply System shall sell for removal all saleable parts of the Project, exclusive of Fuel, to the highest bidders. After deducting all costs of ending the Project, Supply System shall close the appropriate Trust Account and, if there are net proceeds, distribute to each Party its Ownership Share of such proceeds. Supply System shall liquidate the Fuel, and after making all required payments and receiving all due receipts, shall disburse the proceeds to the owners as their interests appear. In the event the costs of ending the Project exceed available funds, each Party shall pay its Ownership Share of such excess as incurred.

If one or more of the Parties is rendered incapable of proceeding with its obligations under the Ownership Agreement by reason of (i) inability to finance or (ii) failure to obtain necessary legal authorizations, including regulatory approvals, which condition is beyond the ability of such Party to remedy by reasonable means within a reasonable time, one or more of the other Parties may elect to
proceed with the Project without the disabled Party. The Parties so electing shall promptly reimburse each non-electing Party for its Costs of Construction and costs of Fuel, if any, incurred under the Ownership Agreement. Upon such reimbursement, the non-electing Parties' interest in the Project shall forthwith vest in the electing Parties in such proportion as the electing Parties may agree.

## THE RESOLUTION

The following is a summary of certain provisions of the Resolution authorizing the issuance of the Notes and does not purport to be complete. Reference should be made to the Resolution for full and complete information about the Notes. Copies of the Resolution are available on request either at the office of the Supply System in Richland, Washington, or Blyth Eastman Dillon \& Co. Incorporated, Seattle, Washington, or New York, New York.

## Use of the Proceeds

The Resolution authorizes the issuance of the Notes for the purpose of paying a part of the cost to the Supply System of constructing and acquiring its ownership interest in the Project and placing it into operation, including the cost of acquiring land and rights in land, acquiring nuclear fuel, preiminary work and expenses incurred in connection with the Project, engineering and other professional services, making site and other studies and surveys for the Project, obbaining necessary permits, licenses and approvals, preparing detailed plans and specifications for the construction of the Project, paying the principal of and interest on the outstanding $\$ 2,000,000$ note issue which was issued for the Project, the expenses of issuing and selling the Notes and the fees and charges of the trustee and depositaries appointed pursuant to the Resolution and the paying agents for the Notes and the $\$ 2,000,000$ note issue and paying interest on the Notes from their date to the date of maturity thereof.

## Description of the Notes

The Notes are to be issued in the form of coupon notes in a single denomination of $\$ 25,000$ or any multiple thereof, (as may be requested by the purchaser or purciasers), numbered from 1 upwards, and saie thereof, payable on December 15, 1973 and semi-annually on each December 15 and June 15 thereafter, and shall mature without option of prior redemption on June 15, 1976.

## Sources from Which Notes Payable

The Notes, together with the interest thereon, will be payable from any monies of the Supply System ownership interest in the Project and the proceeds of the Supply System's revenue bonds or refunding
notes.

## Creation of Funds and Accounts

The Resolution authorizes the creation of two special funds of the Supply System: one, known as the "Nuclear Project No. 3-Preliminary Construction Fund" (the "Preliminary Construction Fund"), will be held in trust and administered by the Supply System, and the other, known as the "Nuclear Project No. 3-Note Interest Fund" (the "Note Interest Fund"), will be held in trust and administered by the Note Interest Fund Trustee (the "Note Interest Fund Trustee"). The Supply System will appoint one of the Paying Agents for the Notes as Note Interest Fund Trustee.

## Disposition of the Proceeds of the Notes

From the proceeds of the sale of the Notes there shall be deposited:

1. With the paying agent for the $\$ 2,000,000$ principal amount of notes beretofore issued by the Supply System, a sum sufficient to pay the principal of and interest on said notes.
2. With the Note Interest Fund Trustee for credit to the Note Interest Fund an amount equal to the interest to accrue on the Notes from the date thereof to June 15, 1976, which shall be used to pay interest on the Notes during such period.
3. With the Supply System for credit to the Preliminary Construction Fund the balance of such Note proceeds, which will be applied for the purposes noted above under the caption "Use of the Proceeds".

Monies in the Note Interest Fund will be used solely for the purpose of paying interest on the Notes. On or before the fourteenth (14th) day of each month in which an installment of interest falls due on the Notes, the Note Interest Fund Trustee will transfer from the Note Interest Fund to the Paying Agents an amount which, together with any monies theretofore received or held by the Paying Agents for the purpose, will be sufficient to pay the installment of interest then falling due on the Notes. If at any time monies in the Note Interest Fund and other available monies are inadequate for payment of interest, the Supply System will transfer from the Preliminary Construction Fund to the Note Interest Fund any additional amounts of money required.

All monies held or set aside by the Supply System in the Preliminary Construction Fund will, until invested or applied as provided in the Resolution, be deposited by the Supply System for the account of the Preliminary Construction Fund in such depositary or depositaries (hereinafter referred to as the "Construction Fund Depositary" or "Construction Fund Depositaries") as the Supply System may appoint. Each Construction Fund Depositary will be a state bank or trust company or national banking association located in the State of Washington and qualified under the laws of said State to receive deposits of public monies, having a capital stock and surplus in excess of $\$ 7,500,000$. All monies so deposited shall be continuously secured for the benefit of the Supply System and the holders of the Notes to the extent permitted by applicable state or federal laws for the securing of deposits of public monies.

## Investment of Monies Held in Funds

Monies held for the credit of the Preliminary Construction Fund and Note Interest Fund are to be invested in the following:

1. Direct obligations of, or obligations the principal of and interest on which are unconditionally guaranteed by, the United States of America;
2. General obligation bonds of any state of the United States of America rated by a nationally recognized bond rating agency in either of the two highest rating categories assigned by such rating agency;
3. Bonds, debentures, notes or participation certificates issued by the Bank for Cooperatives, the Federal Intermediate Credit Bank, the Federal Home Loan Bank System, the Export-Import Bank of the United States, Federal Land Banks, the Federal National Mortgage Association or any other agency of the United States of America or any corporation wholly owned by the United States;
4. Public Housing Bonds or Project Notes issued by Public Housing Authorities and fully secured as to the payment of both principal and interest by a pledge of annual contributions to be paid by the United States of America or any agency thereof; or
5. Bank time deposits evidenced by certificates of deposit issued by any bank, trust company, or national banking association located in the State of Washington which is a member of the Federal Reserve System, is a qualified public depositary under the laws of the State of Washington and has capital stock and surplus of at least $\$ 7,500,000$. Such time deposits will mature not later than the time when the funds invested are required for the purpose iniended and will be secured at all times in the manner provided by the laws of the State of Washington, provided, that the funds
invested in bank time deposits issued by any one bank, trust company or national banking association will not exceed at any one time $50 \%$ of the total of the capital stock and surplus of such bank, trust company or national banking association.

All interest earned by reason of investment of monies in either fund shall accrue to the Preliminary Construction Fund. In the event monies that are invested are needed in the Preliminary Construction Fund or Note Interest Fund to meet obligations for which funds are not otherwise available, then the Supply System shall sell or present for redemption any part of the investments to the extent required to provide the necessary funds.

## Particular Covenants of the System

The Supply System covenants and agrees with the purchasers and holders of the Notes as follows:
A. The Supply System will pay the principal of and interest on each and every Note issued by the Supply System pursuant to the Resolution on the dates and at the places provided for in the Notes from any monies of the Supply System that may be lawfully applied to the payment thereof, including revenues derived from the Supply System's ownership interest in the Project and the proceeds of revenue bonds or refunding notes of the Supply System.
B. So long as any of the Notes are outstanding and unpaid, the Supply System will not, (i) voluntarily consent to or permit any rescission of, nor will it consent to any amendment to, nor otherwise take any action under or in connection with any of the Net Billing Agreements which will reduce the payments provided for therein or which will release any party thereto from its obligations thereunder, or which will in any manner impair or adversely affect the rights of the Supply System or of the holders of the Notes, and the Supply System will perform all of its obligations under the Net Billing Agreements and take such action and proceedings as shall be necessary to protect and safeguard the security for the payment of the Notes afforded by the provisions of the Net Billing Agreements; or (ii) voluntarily consent to or permit any rescission of, nor will it consent to any amendment to or modification of, nor otherwise take any action under or in connecticn with the Ownership Agreement or the Project Agreement which will in any manner impair or adversely affect the rights of the Supply Systeni or of the holders from time to time of the Notes. The Supply System will perform all of its obligations under the Ownership Agreement and the Project Agreement and will take such actions and proceedings as shall be necessary to protect and safeguard the security for the payment of the Notes afforded by the provisions of such Agreements.
C. The Supply System will proceed as promptly as is reasonably possible and practicable to obtain all necessary permits, licenses and approvals, to prepare detailed plans and specifications for the construction of the Project and to do other necessary preliminary work so that the construction of the Project can be commenced and financing of the Supply System's ownership interest therein provided for through the sale of revenue bonds of the Supply System.
D. As soon as it is reasonably practicable the Supply System will issue and sell its revenue bonds for the purpose of providing funds to pay the cost of construction and acquisition of the Supply System's ownership interest in the Project, which cost shall include, among other things, the fayment of the principal and interest not paid from the principal of the Notes authorized pursuant to the Resolution. If for any reason the Supply System is unable to issue and sell bonds or refunding notes to obtain funds to pay the principal of the Notes when due, or is unable to proceed with the financing of the Project for any reason, the Supply System will terminate the Net Billing Agreements as provided in sub-paragraph (a) of Section 10 of each of the Net Billing Agreements and will invoke the provisions of such Section. Thereafter the Supply System shall in each month make monthly accounting statements under the Net Billing Agreements which shall show as the amounts due from the Participants in such month the maximum amount which can be stated therein for payment by the Participants in such month without causing the amount due from any Participant to exceed the
ability of Bonneville to allow net billing credits to said Participant in such month in the manner provided in the Net Billing Agreements, taking into account all assignments which can be made pursuant to the Net Billing Agreemeris, and shall deposit into a special fund which is created in the Resolution so much of the amount so collected as is required to provide for the payment of the principal of and interest on the Notes and any additional notes hereafter issued to pay the Supply System's share of the costs of acquiring and constructing the Froject.
E. The Supply System reserves the right to issue additional notes to pay a part of the Supply System's share of the cost of acquiring and constructing the Project payable on a parity with the Notes from the proceeds of revenue bonds or notes or any other monies available therefor, including revenues to be received pursuant to the provisions of the Resolution summarized in the preceding
paragraph.

## Severability

If any one or more provisions of the Resolution shall be declared by any court of competent jurisdiction to be contrary to law, then the affected provisions shall be deemed separable from, and shall in no way affect the validity of, any of the other provisions of the Resolution or the Notes issued thereunder.

## REGISTRATION OF THE NOTES BY STATE AUDITOR

The Notes will be registered by the State Auditor of the State of Washington, and a certificate of such registration signed by the State Auditor or a Deputy State Auditor will be endorsed upon each Note in accordance with the provisions of Section 54.24 .070 of the Revised Code of Washington, made applicable to the Supply System by the Revised Code of Washington, Section 43.52.3411. Such section shall be held in every action, suit, or proceediafter having been so registered and bearing such certificate, prima facie valid and binding obligations in according their validity is or may be brought into question

## TRUSTEE

## Fund Trustee.

## NEGOTIABLE INSTRUMENTS

The Notes and interest coupons attached thereto are negotiable instruments in accordance with the provisions of Section 54.24 .120 of the Revised Code of Washington.

## LITIGATION

There is no litigation pending, nor to the knowledge of the Supply System, any threatened, questioning the corporate existence of the Supply System, or the title of the officers of the Supply System to their respective offices, or the validity of the Notes, or the power and authority of the Supply System to issue the Notes, or the validity of the Net Billing Agreements, the Project Agreement, the Ownership Agreerelated to the Project, or the power and authority of the Supply System to fix, charge and collect rates for provided in the Resolutiot

## APPROVAL OF LEGAL PROCEEDINGS

All legal matters incident to the Net Billing Agreements, the Ownership Agreement, the Project Agreement and the authorization and issuance of the Notes are subject to the approval of Messrs. Wood Dawson Love \& Sabatine, Bond Counsel to the Supply System, and Messrs. Houghton Cluck Coughlin \& Riley, Special Counsel to the Supply System. Copies of the opinions they propose to render are appended hereto as Exhibits VI and VII.

## TAX EXEMPTION

In the opinion of the above named Counsel, the interest on the Notes will be exempt from Federal income taxation under existing laws and regulations and a specific ruling issued by the Internal Revenue Service with respect to the Notes.

## MISCELLANEOUS

The references, excerpts, and summaries contained herein of the Net Billing Agreements, the Project Agreement, the Ownership Agreement, and the Resolution do not purport to be complete statements of the provisions of such documents and reference should be made to such documents for a full and complete statement of all matters relating to the Notes, the rights and obligations of the holders thereof and said agreements.

The authorizations, agreements and covenants of the Supply System are set forth in the Resolution, and neither this Official Statement nor any advertisement of the Notes is to be construed as a contract with the holders of the Notes. Any statements made in this Official Statement involving matters of opinion or of estimates, whether or not expressly so identified, are intended merely as such and not as representations of fact.

All of the information relative to the Pacific Northwest, Bonneville, Joint Power Planning Council and Pacific Northwest Utilities Conference Committee has been taken from sources deemed to be reliable but is not guaranteed as to completeness or accuracy.

The deiivery of this Official Statement has been duly authorized by the Supply System.

# Washington Public Power Supply System 

## By E. Victor Rhodes

Secretary
Dated October 10, 1973

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## EXHIBIT I

## WASHINGTON PUBLIC POWER SUPPLY SYSTEM

## Nuclear Project No. 3

Columns (1) and (2) in the following table show the number of customers and the gross revenues of each Participant and Company for fiscal 1972.

Column (3) shows the decimal fraction of the Supply Systern's Ownership Share of Project Capability that has been purchased by each Participant and assigned to Bonneville and the ownership shares of each Company.

Column (4) shows the amount of the bilings for power and certain services, after deducting any amounts previously committed under other net billing or exchange agreements, that Bonneville estimates each Participant will be obligated to pay in the fiscal year ending June 30, 1983.

Based upon an estimated average annual cost to the Supply System, Column (5) shows the estimated annual Project costs as they are allocated to each Participant for fiscal year 1982-1983 to be offset or credited against the anticipated billings to the Participant shown in Column (4).

## WASHINGTON PUBLIC POWER SUPPLY SYSTEM

## PARTICIPANTS



## WASHINGTON PUBLIC POWER SUPPLY' SYSTEM

Nuclear Project No. 3 - (continued)

## PARTICIPANTS



| Fiscal 1972 Statistics |  | (3) <br> Decimal Fraction of Supply System's nership $\begin{gathered} \text { Share } \\ 1982-1983 \end{gathered}$ <br> 1982-1983(A) | Estimated |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | Antictpated | Participant's Share of |
| Customers | Revenues |  |  | $\begin{gathered} \text { Project } \\ \text { Annual Cost } \\ 1982-1983 \text { (E) } \end{gathered}$ |
| 4,102 | \$ 922,296 |  | 96.0025c | 142,100 |  |
| 183 | 18,079 | (0.00021 | 12,900 | $8,600$ |
| 1,502 | 476,510 | $0 \quad 0.00116$ | 70,400 |  |
| 3,939 | 788,284 | $4 \quad 0.00355$ | $186,200$ |  |
| 4,045 | 938,707 | $7 \quad 0.00000$ (B) | ) 375,600 | 145,400 0 |
| 9,990 | 2,928,955 | $5 \quad 0.01251$ | 796,000 | 512,500 |
| 19,500 | 6,935,552 | 20.00589 | 250,200 | 241,300 |
| 28,007 | 6,355,467 | 70.02040 | 1,791 |  |
| 1,527 | 875,562 | -0.00263 | $169,700$ | $835,700$ |
| 686 | 391,556 | - 0.00173 | $122,600$ | $\begin{array}{r} 107,700 \\ 70,900 \end{array}$ |
| 2,132 | 639,192 | 0.00436 | 293,000 | 178,600 |
| 1,543 | 346,106 | 0.60111 | 63,200 |  |
| 12,967 | 3,208,038 | 0.00797 | 568,000 | 45,500 |
| 11,575 | 2,814,575 | 0.02029 | 1,000,900 | $\begin{aligned} & 326,500 \\ & 831,200 \end{aligned}$ |
| 1,162 | 300,98. ${ }^{2}$ | 0.00205 | 118,600 | 84,000 |
| 5,881 | 1,704,287 | 0.00565 |  |  |
| 4,360 | 944,530 | 0.00515 | 355,500 260,100 | $231,500$ |
| 7,320 | 1,902,374 | 0.01114 | 260,100 743,200 | $\begin{aligned} & 211,000 \\ & 456,400 \end{aligned}$ |
| 15,166 | 3,501,978 | 0.01249 | 788,100 |  |
| 1,655 | 536,898 | 0.00225 | 120,100 | 92,200 |
| 1,486 | 595,268 | 0.00119 |  |  |
| 1,288 | 307,481 | 0.00120 | $69,100$ |  |
| 6,122 | 1,634,136 | 0.00671 | 69,100 360,800 | $\begin{array}{r} 49,200 \\ 274,900 \end{array}$ |
| 2,356 | 409,976 | 0.00171 | 102,500 | 70,100 |
| 11.826 | 2,776,718 | 0.01419 |  |  |
| 626 | 215,454 0 | 0.00075 | 815,000 54,400 | 581,300 |
| 5,185 | 1,559,912 | 0.00102 | 54,400 498,400 | 30,700 |
| 3,625 | 988,747 0 | 0.00590 | 498,400 410,500 | 41,800 |
| 2,916 | 625,527 0 | 0.00000 (C) | 410,500 339,700 | 241,700 |
| 50 | 8,979 0 | 0.00001 | 339,700 1,300 | 0 |
| 3,437 | 775,496 0 | 0.00412 | 1,300 206,700 | 400 168.800 |
| 1,812 \$ | 395,850 0 | 0.00352 \$ | 206,700 325,600 | 168,800 144,200 |

## Nuclear Project No. 3 - (continued)

PARTICIPANTS

| Nespelem Valley Electric Cooperative, Inc. | Fiscal 1972 Statistics |  | System's | Anticipated Bonneville | Participant's share of |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Customers | Revenues |  | Billings <br> $1982-1983(\mathrm{D})$ |  |
|  | 989 |  |  |  |  |
| Northern Lights, Inc. | 5,503 | 274,951 $1.219,293$ | 10.00146 | 76,800 | 59,800 |
| Northern Wasco County People's Utility District . . . | 2,503 | 1,219,293 | 30.00547 | 278,900 | 224,100 |
| Public Utility District No. 1 of Okanogan County, | 2,458 | 515,977 | 70.00142 | 197,300 | 58,200 |
| Okanogan County Electric Cooperative, Inc. | 11,437 | 2,852,454 | 40.00299 | 200,400 | 122,500 |
| Orcas Power \& Light Company | 982 3,208 | 194,031 | 10.00092 | 55,300 | 37,700 |
| Public Utility District No. 2 of Pacific County, Washington | 3,208 | 932,971 | 10.00728 | 379,700 | 298,200 |
| Public Utility District No. 1 of Pend Oreille County, Was | 32 | 1,928,811 | 0.00941 | 578,900 | 385,500 |
| City of Port Angeles, Washington | 2,771 | 865,990 | 0.00064 | 27,800 | 26,200 |
| Prairie Power Cooperative, Inc. . |  | 1,970,504 | 0.00754 | 549,500 | 308,900 |
| Raft River Rural Electric Cooperative, Inc. . . . . . . . |  | 78,217 | 0.00026 | 13,500 | 10,700 |
| Ravalli County Electric Cooperative, Inc. | 1,645 | 1,015,079 | 0.00533 | 300,700 | 218,400 |
| City of Richland, Washington | 2,027 | 547.786 | 0.00455 | 226,700 | 186,400 |
| Riverside Electric Company, Lt | 9,061 | 2,551,518 | 0.01479 | 938,100 | 605,900 |
| City of Rupert, Idaho . . . . . . . | . 205 | 37,847 | 0.00025 | 13,100 | 10,200 |
| Rural Electric Company | 1,972 1.764 | 471,793 | 0.00121 | 85,700 | 49,600 |
| Salem Electric . . . . . | 1,764 | 472,445 | 0.00443 | 218,300 | 181,500 |
| Salmon River Electric Cooperative, Inc | 6,745 | 1,313,349 | 0.01025 | 752,000 | 419,900 |
| City of Seattle, Washington . . . . . . | 255,651 | 309,683 | 0.00104 | 59,300 | 42,500 |
| Public Utility District No. 1 of Skamania County, Wa | 255,651 | 60,443,753 | 0.09930 | 5,011,100 | 4,068,100 |
| Public Utility District No. 1 of Snohomish County, | 2,561 | 774,612 | 0.00291 | 185,100 | 119,200 |
| South Side Electric Lines, Inc. . . . . . | 103,736 | 24,320,282 | 0.197671 | 10,726,500 |  |
| City of Springfield, Oregon . . | 374 5,735 | 125,736 | 0.00085 | r 43,700 | 8,098,10 |
| Town of Sumas, Washington | 5,735 | 1,377,068 | 0.00145 | 203,200 | 34,800 59,400 |
| Surprise Valley Electrification Corporation | 321 2,652 | 75,851 | 0.00019 | 13,400 | 59,400 7,800 |
| City of Tacoma, Washington | 2,652 | 764,747 | 0.00163 | 96,200 |  |
| Tanner Electric . . . . . . . | 62,84 6 | 30,587,028 | 0.02309 | 1,873,100 | 646,800 |
| Tillamook People's Utility District | 658 | 152,145 | 0.00109 | r 58,000 | 946,00 |
| Umatilla Electric Cooperative | 10,921 | 2,811,835 | 0.00746 | 708,600 | 305,600 |
| Unity Light \& Power Company | 4,472 | 1,466,520 | 0.014871 | 1,226,800 | 609,200 |
| Vera Irrigation District No. 15 | 1,083 | 241,686 | 0.00278 | 139,800 | 113,900 |
| Vigilante Electric Cooperative, Inc. | 1,196 2,929 | 603,229 | 0.00378 | 239,700 | 113,900 |
| Public Utility District No. 1 of Wahkiakum County, Washingto | 2,929 | 726,325 0.0 | 0.00136 | 82,600 | 154,900 55,700 |
| Wasco Electric Cooperative, Inc. | 1,941 | 383,874 0 | 0.00203 | 125,500 |  |
|  | 2,273 | 719,014 0 | 0.00271 | 191,400 |  |

PARTICIPANTS

| Wells Rural Electric Company | (1) | (2) |  | (3) <br> Decimal Fraction of supply system's Shaship 1982-1983(A) | (4) | (5) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Fiscal 1972 Statistics |  |  |  |  | Participant's Share of ProjectAnnual Cost <br> $1982-1983(\mathrm{E})$ |
|  | Customers | \$ | Revenues |  |  |  |
| West Oregon Electric Cooperative, Inc, | 1,370 |  | 681,336 | 0.00270 | \$ 122,300 | \$ 110,600 |
| Public Utility District No. 1 | 2,544 |  | 628,305 | 0.00238 | 175,300 | + 97,500 |
| of Whatcom County, Washington ... Total Participants (103) | 1 |  | 285,388 | 0.00459 | 231,200 | 188,000 |
| COMPANIES |  |  | ,154,118 | 1.00000 | \$72,248,300 | \$40,968,000 |


| Pacific Power \& Light Company | (1) | (2) | (3) <br> Ownership Share ofProject Capablity <br> $1982-1983$ |
| :---: | :---: | :---: | :---: |
|  | Fliscal 1972 Statistics |  |  |
|  | Customers | Revenues |  |
| Portland General Electric Comp | 507,746 | \$197,950,424 | . 10000 |
| Puget Sound Power \& Light | 365,415 | 112,442,578 | .10000 |
| The Washington Water Power | 379,726 | 108,146,204 | . 05000 |
| Total Companies (4) ... | 178,037 | 55,618,482 | . 05000 |
|  | $\underline{\underline{1,430,924}}$ | \$474,157,688 | . 30000 |

(A) F:rticipants' Shares are not the same in all years. See Exhibit A to the Net Billing Agreements.
(B) Has .00C00 Participant's Share until July 1, 1986, and .00091 Participant's Share thereafter.
(C) Has .00000 Participant's Share until July 1, 1986 and . 00002 Participant's Share thereafter.
(D) Based upon current Bonneville rate , chedules plus $40 \%$, less estimatec amounts of the Participants' net billing capability committed to the purchase of a portion of the capability of the City of Eugene, Oregon's $30 \%$ share of the Trojan Nuclear Project, the $20 \%$ share of the Centralia Project now proposed for net billing by the City of Tacoma, Washington, and the Public Utility Districts of Grays Harbor and Snohomish Counties, Washington, and the Supply System's Nuclear Projects No. 1 and No. 2. The annual cost estimates for the individual projects upon which the estimated Participants' commitments are based, vary from year to year and certain elements of those costs estimates have been structured to accommodate the operation of the net billing program as a whole, including all net billed projects and services. In addition, an assignment agreement between Bonneville and certain participants in the Supply System's Nuclear Project No, 1 permits Bonneville to reassign those participants' shares of that project in the years 1981 through 1987. The cost estimates for Project No. 2 assume that 1980, thereby increasing the amounts available to 1987 would be net billed in the years 1977 through to 1987.
(E) Estimated average annual cost to Participants based upon level average annual debt service over a 35 year period beginning September 1, 1982 and assuming 1982-1983 cost levels after deducting projected revenues of $\$ 11,250,000$ unde the Power Sales Agreement for the year 1982-1983. The annual costs for the Project may be structured by deferring principal payments or by some other means to reduce costs in the early years of the Project's operation. Such reduction would increase costs in later years. Revenues under the Power Sales Agreement are anticipated in the following amounts:

$$
\begin{array}{lr}
198 i-82 \ldots \ldots \ldots & \$ 11,250,000 \\
1982-83 \ldots \ldots & 11,250,000 \\
1983-84 \ldots \ldots & 5,625,000
\end{array}
$$

## EXHIBIT II

## R. W. Beck and Associates

ANALYTICAL AND CONSULTING ENGINEERS

## DESIGN

## RATES

ANALYSES
EVALUATIONS
MANAGEMENT

200 TOWER BUILDING
SEATTLE, WASHINGTON $9810 T$ TELEPHONE 206-622-5000

SEATTLE, WASHINCTON DENVER, COLORADO PHOENIX, ARIZONA ORLANDO, FLORIDA COLUMBUS, NEBRASKA BOSTON, MASSACHUSET

## FILE NO. SS-1117-NF1-TA

Board of Directors
October 10, 1973
Washington Public Power Supply System
Post Office Box 968
Richland, Washington 99352

## Gentlemen:

## Subject: Summary Engineering Report Washington Public Power Supply System Nuclear Project No. 3

Presented herewith is a summary of our analyses, investigations and studies with respect to the proposal by the Washington Public Power Supply System (the "Supply System") to issue $\$ 29,000,000$ of its Washington Public Power Supply System Nuclear Project No. 3 Revenue Notes, Series 1973A (the "Notes") which will mature on June 15, 1976 for the purpose of paying the Supply System's share of certain initial costs of acquiring, constructing and placing into operation a nuclear-fueled electric generatWashington, and known as Washingtilowatts and related facilities to be located in the vicinity of Satsop, ect"). The Supply System's present finablic Power Supply System Nuclear Project No. 3 (the "Projproceeds of long-term bonds issued to provide program provides that the Notes will be retired from Share of the Project.

The Supply
\& Light Company, Portland The Washington Water Power Company (the "Company, Puget Sound Power \& Light Company and struction, ope "ion, and ownership, as tenants in Companies") which provides for the acquisition, conment each party will be responsible for providing its Ow, of the Project. Under the Ownership Agreeoperation and will be entitled to its Ownership Sh Ownership Share of the costs of construction and Ownership Agreement have designated the Supply Syst of the Project's capability. The parties to the and maintain the Project. Under the Owrership Agreem to act as their agent to construct, operate follows:

| Supply System Party | Percentage Ownership Share |
| :---: | :---: |
| Pacific Power \& Ligh | 70\% |
| Portland General Electric Com | 10\% |
| Puget Sound Power \& Light Comp | 10\% |
| The Washington Water Power Company | $5 \%$ |

The costs to be financed from the proceeds of the Notes include the Supply System's Ownership Share of the cost of preliminary work and expenses incurred in connection with the Project such as (a) engineering and other professional services; (b) obtaining the necessary permits, licenses and approvals required for construction of the Project; and (c) preparing detailed plans, specifications and reports for the Project; together with the cost of issuing the Notes and interest on the Notes to maturity (collectively referred to herein as "Initial Work"). A portion of the proceeds of the Notes will be used to retire $\$ 2,000,000$ of revenue notes previously issued for such purposes.

The Initial Work will include that necessary to obtain a certification of the site for the Project by the Washington State Thermal Power Plant Site Evaluation Council, to obtain a construction permit from the United States Atomic Energy Commission (the "AEC") and, in general, to accomplish any other work to be undertaken prior to the issuance of long-term bonds to provide permanent financing for the Supply System's Ownership Share of the Project.

## The Supply System

The Supply System is a municipal corporation and a joint operating agency organized under the laws of the State of Washington and has 21 members consisting of 18 public utility districts and three municipalities all located within the State of Washington. The Supply System owns and operates the Packwood Lake Hydroelectric Project with a 27,500 kilowatt capacity, located in Levis County, Washington, and the steam-electric generating plant with a capacity of approximately 860,000 kilowatts iocated in Benton County, Washington, known as the Hanford Project. Steam is provided to the Hanford Project from a nuclear reactor that is swned and operated by the AEC on its Hanford Reservation near Richland, Washington.

The Supply System presently plans to continue operation of the Hanford Project until the fall of 1977, when the operation of the AEC's reactor that supplies steam to the Hanford Project is scheduled to be terminated. The Hanford Project generating facilities will then be incorporated into the proposed Washington Public Power Supply System Nuclear Project No. 1, which will include in addition to the Hanford Project generating facilities, a nuclear steam supply system and topping turbine-generator equipment. Total generating capacity of Project No. 1 is estimated to be approximately $1,220,000$ kilowatts. Project No. 1 is presently scheduled for commercial operation in September, 1980.

The Supply System has begun construction of a $1,100,00$ r kilowatt nuclear power generating station on the Hanford Reservation of the AEC, known as Washington Public Power Supply System Nuclear Project No. 2, presently scheduled for commercial operation in September, 1977.

The Supply System issued $\$ 13,700,000$ of Packwood Lake Hydroelectric Project Revenue Bonds, Serie of 1962 and 1965, to finance the construction of the Packwood Lake Hydroelectric Project and $\$ 122,000,000$ of Hanford Project Electric Revenue Bonds, Series of 1963, to finance construction of the Hanford Project. The Supply System has also issued $\$ 150,000,000$ of Nuclear Project No. 2 Revenue Bonds, Series 1973, to finance part of the cost of the construction of Nuclear Project No. 2. In addition, the Supply System has issued $\$ 25,000,000$ of revenue notes to finance certain initial costs for Nuclear Project No. 1 .

Each of the foregoing projects is a separate utility system and the revenues of each are pledged to the respective systems.

## Proposal

The Project will consist of a nuclear steam supply system, turbine-generating unit, associated auxiliary equipment and facilities, and transformation and transmission equipment. The Supply System has entered into contracts for certain items for the Project that required long delivery times and is pro-
ceeding with the engineering and investigations necessary to obtain certification of the site by the Washington State Thermal Power Plant Site Evaluation Council and a construction permit from the AEC The Project is scheduled for commercial operation in September, 1981.

The Supply System proposes to finance its Ownership Share of the costs of the Initial Work through issuance of the Notes. The Notes will be retired from proceeds of long-term bonds expected to be issued to finance the Supply System's Ownership Share of the costs of construction for the Project, or from any other funds available to the Supply System. The Supply System expects to issue the long-term bonds in several series, beginning shortly after receiving a construction permit for the Project from the AEC,

The Sapply System's Ownership Share "the Project will be owned and operated as a separate system from other Supply System projects, and the revenues from the Supply System's Ownership Share of the Project will be pledged to said system.

## Description of the Project

The Project will be located about three miles south of the community of Satsop in Grays Harbor County, Washington, approximately 16 miles east from the City of Aberceen, and 66 miles southwest

The nuclear steam supply system, to be supplied by Combustion Engineering, Inc., is rated at approximately 3,817 megawatts thermal and includes reactor control systems, steam generators, and other auxiliary systems. The waste heat from the turbine condenser will be dissipated in a closed cycle supplied by Westinghouse Electric utilize evaporative cooling towers. The turbine-generator unit to be The Project is expected to have a net be rated at $1,460,500$ kilovolt amperes at 0.95 power factor. Project's output will be delivered into the the vicinity of the Project.

## Permits and Licenses

Prior to construction of the Project, the Supply System must obtain certification of the site from the Washington State Thermal Power Plant Site Evaluation Council and a construction permit from the AEC

## Construction Program

The Supply System has employed the firm of Ebasco Services, Inc. ("Ebasco") as Architect-Engineer to design and supervise the construction of the Project.

The construction schedule for the Project prepared by Ebasco calls for continued work on the design of the major components and structures of the Project until receipt of the AEC construction permit which is expected by the sumner of 1975. The major Project construction work is scheduled to begin in the fall of 1975 after the receipt of the construction permit. The initial fuel work is scheduled scheduled for the spring of 1981 and commercial operation for Septeme initial fuel loading is currently
1981. for the Project totaling approximased into contracts for the supply of major equipment and material tracts until after Ialy 1, 1976. These $\$ 125,862,567$. No payments are anticipated under these connuclear steam supply system, including the fabrice for the delivery of the turbine-generator unit, the fabrication of the initial nuclear fuel core, and for the reload
nuclear fuel. The following table shows those major equipment and material contracts that have been ay arded for the Project as of August 20, 1973.

| Contractor | Item | Contract Award Date | Contract Amount |
| :---: | :---: | :---: | :---: |
| Combustion Engineering, Inc. | Nuclear Steam Supply System | 7/19/73 | \$54,271,000(1) |
| Westinghouse Electric Co. | Turbine-Generator | 8/20/73 | \$39,138,236 |
| Exxon Nuclear Company | Reload Nuclear Fuel | 7/25/73 | \$32,453,331 |

## Initial Financing Program

The proceeds from the Notes are estimated to provide the necessary funds to pay for the Supply System's Ownership Share of the Initial Work, that will be accomplished prior to June, 1976.

The estimated disposition of the proceeds of the Notes, based on an interest rate of $43 / 8 \%$, is given in the following table:

| Engineering and Construction Management | \$12,957,000 |
| :---: | :---: |
| Escalation and Contingencies | 7,140,000 |
| Nuclear Fuel | 2,772,000 |
| Supply System's Direct Cost(1) | 5,166,000 |
| Financing Expenses | 232,000 |
| Capitalized Interest | 3,489,000 |
| Gross Costs | \$31,756,000 |
| Less: Investment Earnings | 2,756,000 |
| Principal Amount of Note Issue | \$29,000,000 |

(1) Includes funds for the retirement of $\$ 2,000,000$ of revenue notes used for preliminary work on the Project.
The Supply System covenants in the resolution adopted in connection with sale of the Notes that it will terminate the Net Billing Agreements as provided in such Agreements if the Supply System determines it is unable to construct, operate or proceed as owner of the Project due to licensing, financing or operating conditions or other causes which are beyond its control. In the event that the Supply System terminates the Net Billing Agreements such Agreements will provide the mechanism by which the Supply System's obligations will be discharged. We estimate that under current Bonneville rates there will be in excess of $\$ 60,000,000$ of net billing capability available to the Participants during the fiscal year ending June $30,1976$.

## Permanent Financing Program

The current Supply System program anticipates that permanent financing for its Ownership Share of the costs of construction for the Project will be initiated after the construction permit is received from the AEC through the issuance of long-term bonds to be retired from revenues derived from the sale of the Supply System's Ownership Share of the Project capability. These bonds are proposed to be issued to provide funds to retire the Notes and to pay the balance of the Supply System's Ownership Share of the costs associated with the construction of the Project and placing it into operation. The Supply System expects to issue the long-term bonds in several series.

The construction costs for the entire Project have been estimated by Ebasco and the Supply System to be $\$ 581,366,000$, including engineering and construction management, escalation and contingencies to a 1981 operating date, initial nuclear fuel core, sales tax and owner's costs, but exclusive of financing expenses and interest during construction. The Supply System's Ownership Share of these costs is estimated to be $\$ 406,957,000$.

The Supply System's current program anticipates that funds necessary to provide one-half year's interest in a reserve account in the bond fund, working capital and an initial reserve and contingency fund associated with its Ownership Share of the Project will be obtained under the Net Billing Agreements in advance of the expected date of commercial operation,

Based on the foregoing and further assuming permanent financing through the sale of four issues of bunds of approximately equal size a $a \sigma \%$ interest rate, the estimated total amount of bonds to be issued to finance the Supply System's Ownership Share of the Project is shown in the following table:

## Estimated Permanent Financing Required for the Supply System's Ownership Share of the Project


(1) -Includes escalation to projected date of commercial operation, September 1, 1981.
(3)-Estimated by the Supply System.
(4) -Includes sales tax on nuclear fuel
(5) -Includes estimated cost of issuing the Notes.
(7)-Includes incone from temporary in to June 15, 1976 and interest on bonds at $6 \%$ to September 1, 1982
from the Notes.
anticipates that the Net Billing Agreements the following amounts:

Reserve Account in the Bond Fund
Working Capital(1)
\$15,900,000
Reserve and Contingency Fund
10,100,000
Total
2,100,000
$\$ 28,100,000$
(1) Includes $\$ 8,000,000$ to be provided from advanced net billing to permit leveling annual

## Project Output

The Project is estimated by Ebasco to have a nominal net peaking capability of approximately $1,200,000$ kilowatts. Operating at an $85 \%$ annual plant factor, it would be capable of producing about $9,000,000,000$ kilowatt-hours annuaily with the Supply System's share being $6,300,000,000$ kilowattbours. During a critical period of power supply in the Pacific Northwest, caused by water shortage, it is expected the Project would be operated to produce nearly its full energy capability. During other periods, however, there will be times when surplus water will be available to generate power at existing hydroelectric projects thereby permitting a reduction in the total amount of energy produced by the thermal-electric projects to be constructed under the Hydro Thermal Power Program, including the Project. Studies prepared by Bonneville indicate that the average output required from the Project will be in the order of 750,000 to 850,000 average kilowatts. Annual generation would, therefore, average between $6,500,000,000$ and $7,500,000,000$ kilowatt-hours.

## Annual Costs

Preliminary estimates of the annual costs of the Project, exclusive of interest and amortization of the capital investment, have been prepared based on 1973 cost levels escalated to 1982-1983 cost levels. The estimated costs to the Supply System for its Ownership Share of the Project's output on the basis of estimated 1982-1983 cost levels, assuming total annual generation of $6,500,000,000$ kilowatt-hours are as follows:

|  | Total Project | Suppiy System Ownership Share |
| :---: | :---: | :---: |
| Annual Costs: |  |  |
| Operation and Maintenance (1) | \$ 5,464,000 | \$ 3,825,000 |
| Administrative ard Gieneral(1) | 1,461,000 | 1,023,000 |
| Insurance | 2,000,000 | 1,400,000 |
| Fuel | 13,000,000 | 9,100,000 |
| Subtotal | \$21,925,000 | \$15,348,000 |
| Taxes |  | 910,000 |
| Interest and Amortization(2) |  | 36,485,000 |
| Payments to Reserve and Contingency Fund ( $10 \%$ of Annual |  |  |
| Subtotal |  | \$56,392,000 |
| I ess: |  |  |
| Surplus of Prior Year's Payment to Reserve and Contingency Fund (3) |  | 2,809,000 |
| Interest Earnings on Reserve Funds(4) |  | 1,365,000 |
| Net Annual Cost |  | \$52,218,000 |
| Net Annual Cost per kilowatt-hour |  | 11.5 mills (5) |
| (1) Labor and materials escalated at 4\% per year to 1982. |  |  |
| (2) Based on level debt service and a 35 -year amortization. |  |  |
| (3) Computed as follows: |  |  |
| Payment to Reserve for Contingency Fund ( $10 \%$ of annual debt service) .. $\$ 3,649,000$ Less: Amount Required for Renewals, Replacements and Additions ........ 840,000 |  |  |
|  |  |  |
| Net Surplus . ...................................................... $\frac{\text {. }}{\text { \$2,809,000 }}$ |  |  |
| (4) Computed at $5.25 \%$ interest earnings. |  |  |
| (5) Net annual cost per kilowatt-hour to the Supply System is estimated to annual generation of $9,000,000,000$ kilowatt-hours during critical periods. | average 8.93 | ils assuming total |

## Sale of Power

Each of the owners of the Project will control its Ownership Share of Project capability and will pay the costs associated with its Ownership Share. Except as noted below the Supply System's Ownership Share of Project capability has been sold to 103 statutory preference customers of Bonneville (the "Participants"), which have executed Net Billing Agreements with the Supply System and Bonneville that provide for such sale. (Summary statistical information on the Participants and the Companies is given in Table 1 at the end of this report.)

The Supply System, Bonneville, and 15 industrial companies that purchase electrical power from Bonneville have entered into a Power Sales Agree nent under which such companies will purchase a portion of the energy from the Supply System's Ownership Share during the period from July 1, 1981 to Jane 30, 1984. The payments made to the Supply System for such sale of power to the industrial companies will serve to reduce the Participants' and Bonneville's payments under the Net Billing Agreements. It is anticipated that the energy sold to and the payments made by the industrial customers will be as shown in the following table:

| Contract Year | Energy Ssles | Amount Paid |
| :---: | :---: | :---: |
|  | (Thousands of $\mathbf{k W b}$ ) |  |
| 1981-82 | 1,500,000 | \$11,250,000 |
| 1982-83 | 1,500,000 | \$11,250,000 |
| 1983-84 | 750,000 | \$ 5,625,000 |

## Agreements

The Net Billing Agreements provide that the Participants pay the Supply System the annual costs the Supply System incurs for its Ownership Share of the Project less amounts payable under the Power Sales Agreement. The Participants, in turn, assign their interest in the Project capability to Bonneville. Bonneville pays the Participants in the form of credits on their power bills from Bonneville, amounts equal to the Participants' payments to the Supply System.

The Supply System and Bonneville have entered into a Project Agreement, which, among other things, provides standards for the design, construction and operation of the Project.

Summaries of the Ownership Agreement, the Net Billing Agreements and the Project Agreement are included in the Official Statement to which this Summary Report is attached. Reference is made to such summaries and to the full text of the Agreements which are appended to the Official Statement as Exhibits.

## Conclusions

Based on our studies and analyses of the Supply System's proposal to construct the Project, we are of the opinion that:

1. The output of the Project is required to meet the load growth of the utility systems of the Pacific Northwest under the Hydro Thermal Power Program and can be absorbed at an early date by the Participa:ts, the Companies and the industrial companies that are parties to the Power Sales Agreement.
2. The Supply System's program for financing its share of the Initial Work is sound and provides a sound basis for proceeding with the Project prior to permanent financing.
3. The Ownership Agreement, the Net Billing Agreements, the Power Sales Agreement and the Project Agreement provide a sound foundation for proceeding with the Project.
4. The estimated costs of the Project are rcasonable and comparable to costs expected from similar projects to be developed within the same time frame.

Respectfully submitted,

R. W. Beck and Associates

# Table 1 <br> WASHINGTON PUBLIC POWER SUFSLY SYSTEM <br> Nuclear Project No. 3 <br> Summary of Participants and Companies <br> Financial and Statistical Data 

| Statistics | 1971 |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Partiel pants | Companies | Participants | 1972 |
| Customers: |  |  |  |  |
| Residential | 800,548 |  |  |  |
|  | 917,145 | $511,214,675$ | $\begin{array}{ll}675 & 835,398 \\ 7 & 961318\end{array}$ | 8 1,262,037 |
| Energy Sales: $\mathrm{kWh}(000) \ldots$ Energy Purchases: | 27,639,931 | 1 37,654,504 | 4 $\begin{array}{r}961,318 \\ \hline 0,823,055\end{array}$ | $\begin{array}{lr}8 & 1,430,924 \\ 5 & 44,021,777\end{array}$ |
| Eonneville (Hanford ProjectExchange) |  |  |  |  |
| Bonneville | 2,341,231 | 1 1,569,971 | 1 5,953,230 | 0 2,600,720 |
| Other | $17,537,556$ $1,280,268$ | 8 8,697,626 | 16,682,943 | 3 8,689,838 |
| $\begin{array}{lrrrr}\text { Total Energy Purchases } & 1,280,268 & 18,047,104 & 1,241,055 & 20,690,824\end{array}$ |  |  |  |  |
| kWh (000) | 21,159,055 | 28,314,701 | 23,877,228 |  |
| Total Energy Require- | 8,809,551 | 14,767,352 | $23,877,228$ $9,380,417$ | $31,981,382$ <br> $16,178,204$ |
| ments $\mathrm{kWh}(000)$ | 29,968,606 | 43,082,053 | 33,257,645 |  |
| Operations | 6,469,166 | 6,053,100 | 7,165,289 | $\begin{array}{r} 48,159,586 \\ 9,018,283 \end{array}$ |
| Income: 9 |  |  |  |  |
| Total Operating Revenues... \$ 234,424,723 \$ 423 |  |  |  |  |
| Other Income(Non-Operating) |  |  |  |  |
| Total Income | \$ $240,375,517$ | 15,034,818 | 6,276,342 | 17,465,171 |
| perating Expenses: | \$ 240,375,517 | 438,311,210 | \$ $265,430,460$ | \$ 491,622,859 |
| rchased Power |  |  |  |  |
| Bonneville (Hanford Project |  |  |  |  |
| Bonneville. | $7,473,570$ $51,829,198$ | \$ 3,219,330 | \$ 17,558,138 | \$ 5,535.128 |
| Other ............ | $51,829,198$ $5,239,645$ | 18,371,713 | 50,733,178 | 2,535,128 $21,871,730$ |
| $\begin{array}{llll}\text { Total Purchased Power } & 5,239,645 & 54,035,003 & 4,933,972\end{array}$ |  |  |  |  |
| Expense <br> Generating Expense <br> Total Power Supply | \$ $64,542,413$ | \$ 75,626,046 | $73,225,288$ |  |
|  | 6,011,286 | 13,342,527 | $\begin{array}{r} 73,225,288 \\ 5,946,656 \end{array}$ | $83,875,142$ |
| Expense | \$ 70553,699 |  |  |  |
|  |  |  |  |  |
| $\begin{array}{llllll}\text { Total Operating } & \text { 117,441,078 } & 220,491,074 & 131,572,445 & 272,3\end{array}$ |  |  |  |  |
| Condensed Balance Sheet |  |  |  | \$ 375,957,521 |
| Assets: |  |  |  |  |
| Net Utility Plant ........ \$1,087,589,545 \$2,168,575,513 |  |  |  |  |
| Other Property and $\ldots \ldots \ldots$, |  |  |  |  |
| Current Assets | $59,367,890$ 115,229862 | 36,466,005 | 99,035,720 | 33,604,402 |
| Deferred Debits | $19,329,862$ $19,399,279$ | $91,836,966$ $24,235,818$ | 134,437,921 | 108,362,176 |
| Total Assets . . . . . .Liabilities: |  |  |  |  |
|  |  |  |  |  |
| Long-Term Debt ......... \$ 637,625,280 \$1,275,115,250 \$ 723,469,313 \$1,399,43, |  |  |  |  |
| Deferred Credits | $49,527,798$ $4,921,100$ | 150,330,026 | 53,573,953 | $\$ 1,339,431,023$ $163,531,190$ |
| Reserves Contributions in Aid of | 8,018,740 | 8,139,201 | 10,566,136 | 66,798,522 |
| $\begin{array}{lllll}\text { Contributions in Aid of } & 8,018,740 & 46,097,723 & 7,928,872 & 5,164,942\end{array}$ |  |  |  |  |
| tained Earnings | 21,638,721 | 21,173,459 |  |  |
|  | 559,854,937 | ¢20,258,643 | 591,715,848 | 23,901,393 |
|  | \$1,281,586,576 \$ | \$2,321,114,302 \$ | \$1,413,836,405 \$2, | 2,559,513,930 |

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# WASHINGTON PUBLIC POWER SUPPLY SYSTEM NUCLEAR PROJECT NO. 3 AGREEMENT executed by <br> PACIFIC POWER \& LIGHT COMPANY PORTLAND GENERAL ELECTRIC COMPANY PUGET SOUND POWER \& LIGHT COMPANY THE WASHINGTON WATER POWER COMPANY and <br> WASHINGTON PUBLIC PCWER SUPPLY SYSTEM <br> (Ownership Agreement) 

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this is an agreement among Washington Public Power Supply System, a municipal corporation of Washington, herein called Supply System; Pacific Power \& Light Company, a Maine corporation, herein called Pacific; Portland General Electric Company, an Oregon corporation, herein called Portland; Puget Sound Power \& Light Company, a Washington corporation, herein called Puget; and The Washington Water Power Company, a Washington corporation, herein called Water Power; each individually called Party, and collectively called the Parties.

## Recitals

In order to achieve the economies of scale, the Parties enter into this agreement, pursuant to RCW 54.44 as amended, for the undivided ownership of a nuclear plant for the generation of electricity of approximately 1,100 megawatts net electric capacity and related facilities and property, all comprising the Project, hereinafter defined, and for the planning, financing, acquisition, construction, operation and maintenance thereof.

Supply System intends to acquire a site in the State of Washington for such Project, to be known as the Washington Public Power Supply System Nuclear Project No. 3 and Supply System, in connection therewith, intends to enter into certain contracts relating to said Project, and to file applications for the required licenses and permits to construct, operate and maintain the Project.

Suppiy System is organized under the laws of the State of Washington (RCW 43.52) and authorized by law to construct, acquire, operate and maintain works, plants and facilities for the generation and/or transmission of electric power and energy. Pacific, Portland, Puget, and Water Power are investor-owned electric utility corporations subject to regulation by either the State of Washington or the State of Oregon, or by both.

All as hereinafter provided: Each Party shall own a percentage of the Project, hereinafter defined, and shall furnish money or the value of property equal to such percentage for the acquisition and construction of the Project and shall own and control a like percentage of the electrical output thereof. Each Party shall defray its own interest and other payments required to be made or deposited in connection with any financing undertaken by it to pay its percentage of the money furnished or value of property supplied by it for the planning, acquisition, construction and operation of the Project, or any additions or betterments thereto, a uniform method being provided for determining and allocating operation and maintenance expense of the Project.

Now, Therefore, the Parties mutually agree as follows:

1. Definitions. The singular of any term in this Agreement shall encompass the plural, and the plural the singular, unless the context otherwise indicates.
(a) "AEC" means the United States Atomic Energy Commission and such successor agencies as shall have responsibility for licensing or regulating nuclear power generating plants.
(b) "Annual Costs" means all Project costs except Fuel costs included in any budget or revised budget of Annual Costs which has been approved, or Projects costs incurred under Section 8(b), allocable to (1) Operation and Maintenance Expense Accounts as such accounts are described in the Uniform System of Accounts, (2) elective capital additions made pursuant to Section 18, and (3) beginning on the Date of Commercial Operation, repairs, renewals and replacements necessary to assure design capability, and modifications, betterments and additions required by governmental agencies. Credits relating to such costs shall be applied to Annual Costs when received.
(c) "Bonneville" means the Bonneville Power Administration, a bureau of the Department of the Interior of the United States of America acting by and through the Bonneville Power Administrator, or such successor entity as shall be assigned the responsibilities of the Bonneville Power Administrator under Contract No. 14-03-39100.
(d) "Committee" means the Committee established pursuant to Section 3 hereof.
(e) "Contract Year" means the period commencing on the Date of Commercial Operation, and ending at $12 \mathrm{p} . \mathrm{m}$. on the following June 30 , and thereafter means the 12 -month period commencing each year at 12 p.m. on June 30, except that the last Contract Year shall end on the date of termination of this agreement.
(f) "Costs of Construction" means all costs allocable to the planning, acquisition and construction of the Project and of making it ready for operation (excluding the cost of Fuel and interest during construction), after giving appropriate consideration to credits relating to costs of construction, sales of salvage materials and interest received on monies deposited in the Construction Trust Account referred to in Section 6 hereof. Without limiting the generality of the foregoing such costs shall include:
(1) Preliminary investigation and development costs, engineering, contractors' fees, labor, materials, equipment and supplies, operator and other personnel traininल, testing, legal costs and all other costs properly allocable to construction.
(2) All costs of insurance obtained pursuant to Section 13(a) hereof and applicable to the period of construction.
(3) All costs relating to injury and damage ciaims arising out of the construction of the Project less proceeds of insurance maintained in accordance with Section 13(a) hereof.
(4) All Federal, state and local taxes and payments in lieu of taxes legally required to be paid in connection with the construction of the Project, except any tax or payment in lieu of taxes assessed or charged directly against any individual Party unless such tax or payment was assessed or charged to the individual Party on behalf of the Project.
(5) The cost of all services performed by or at the request of Supply System which are directly applicable to Project construction.
(6) An appropriate allocation of administrative and general costs of Supply System applicable to Project construction to the extent such costs are not chargeable pursuant to the foregoing subsection (5).
(g) "Date of Commercial Operation" means the date fixed by Supply System as the point in time when the Project is ready to be operated and its output scheduled on a commercial basis.
(h) "Fuel" means nuclear fuel and rights relating thereto.
(i) "Matter" means any subject, or any aspect thereof, arising out of or relating to the interpretation or performance of this Agreement, including any proposal that may be made by any Committee member.
(j) "Minimum Capability" means the capability of the Project determined by Supply System but not less than the minimum generation permitted by the manufacturer's recommendations or by the terms of the AEC operating license, whichever is higher.
(k) "Ownership Share" of a Party means the percentage specified in Section 2 or as may be adjusted pursuant to Sections 16 (b) and 22 (b).
(1) "Plant Real Property" means the real property to be acquired by the Parues as the site for the Project. A description of the Plant Real Property will be attached as Exhibit A when determined pursuant to Section $3(\mathrm{j})$ (i).
(m) "Project" means the nuclear generating plant and related property as described in attached Exhibit B. Exhibit B may be revised from time to time by mutual agreement of the Parties.
(n) "Project Capability" at any time means the actual net electrical generating capability of the Project at such time.
(o) "Prudent Utility Practice" at a particular time means any of the practices, methods and acts, which, in the exercise of reasonable judgment in the light of the facts (including but not limited to the practices, methods and acts engaged in or approved by a significant portion of the electrical utility industry prior thereto) known at the time the decision was made, would have been expected to accomplish the desired result at the lowest reasonable cost consistent with reliability, safety and expedition. Prudent Utility Practice shall apply not oniy to functional parts of the Project, but also to appropriate structures, landscaping, painting, signs, lighting, other facilities and public relations programs reasonably designed to promote public enjoyment, understanding, and acceptance of the Project. Prudent Utility Practice is not intended to be limited to the optimum practice, method or act, to the exclusion of all others, but rather to be a spectrum of possible practices, methods or acts. In evaluating whether any Matter conforms to Prudent Utility Practice, Supply System, the Committee and ar special board established pursuant to Section 4 hereof shall take into account:
(i) The fact that Supply System is a municipal corporation and operating agency under the laws of the State of Washington, with prescribed statutory duties and responsibilities; and (ii) the objective to integrate the Project Capability with the generating resources of the Federal Columbia River Power System and the generating resources of other systems operated by the Parties to achieve optimum utilization of the resources of such systems.
(p) "Uniform System of Accounts" means the Federal Power Commission Uniform System of Accounts prescribed for public utilities and licensees in effect on January 1, 1970 as amended to date of this Agreement.
2. Ownership and Waiver of Partition (a) The Project shall be owned by the Parties as tenants in common, with each Party's respective undivided interest being in the following percentage (Ownership Share), except as modified pursuant to Sections 16(b) and 22:

| Party | Percentage Ownership Share |
| :---: | :---: |
| Supply System | 70\% |
| Pacific | 10\% |
| Portland | 10\% |
| Puget | 5\% |
| Water Power | 5\% |

(b) Each Party promptly and with all due diligence shall take all necessary actions and seek all regulatory approvals, licenses and permits necessary to carry out its obligations under this agreement.
(c) So long as the Project or any part thereof as originally constructed, reconstructed or added to is used or useful for the generation of electric power and energy, or to the end of the period permitted by applicable law, whichever first occurs, the Parties waive the right to partition whether by partition in kind or sale and division of the proceeds thereof and agree that during said time they will not resort to any action at law or in equity to partition and further that for said time they waive the benefit of all laws that may now or hereafter authorize such partition of the properties comprising the Project.
(d) The duties, obligations and liabilities of the Parties are intended to be several and not joint or collective, and none of the Parties shali be jointly or severall; liable for the acts, omissions, or obligations of any of the other Parties. No provision of this agreement shall be construed to create an association, joint venture, partnership, or impose a partnership duty, obligation or liability, on or with regard to any one or more of the Parties. No Party shall have a right or power to bind any other Party without its or their express written consent, except as expressly provided in this agreement.
(e) Each Party and its designees shall have the right to go upon and into the Project at any time subject to the rules and regulations of public authorities having jurisdiction thereof and to the necessity of efficient and safe construction and uperation of the Project, but Supply System shall have possestion and control of the Project for all the Parties.
(f) In order to provide unified management of the Project, the other Parties authorize and designate Supply System, and Supply System agrees to act, as their agent, to construct, operate and maintain the Project under the terms of this agreement. The Parties agree that such agency relationship shall not be changed without unanimous written consent of ail Parties.
(g) In the construction and operation of the Project, each Party shall act without compensation other than reimbursement of costs and expenses as provided herein.
3. Committee (a) The Parties hereby establish a Committee to facilitate effective cooperation, interchange of information and efficient management of the Project, on a prompt and orderly basis. The Committee shall be composed of seven members, three to be appointed by Supply System (one of whom will be designated by Bonneville pursuant to Contract No. 14-03-39100), and one member to be appointed by each other Party.
(b) Upon execution of this agreement each of the Parties shall notify all other Parties of the Committee member it appoints, and, thereafter, of any change in its appointment. Any Party by written notice to the other Parties may appoint an alternate or alternates to serve on the Committee in the absence of the regular Committee member which it has appointed, or to act on specified occasions or with respect to specified matters.
(c) The Committee shall meet regularly, but not less often than once in each calendar quarter, as may be agreed upon, and at such other times as requested by any Committee member upon three days' written notice. Supply System shall prepare written minutes of all meetings and distribute them to each Committee member within a reasonable time after each meeting.
(d) Each Committee member shall have the right to vote that part of the Ownership Share of the Party appointing him as designated in the notice of appointment. The total voting rights of the members of the Committee appointed by each Party shall be equal to such Party's Ownership Share.
(c) Any action which may be taken at a meeting of the Committee may be taken without a meeting by individual action taken in writing by all members of the Committee.
(f) Supply System shall keep all members of the Committee informed of all significant Matters with respect to planning, construction, operation or maintenance of the Project (including, without limitation, plans, specifications, engineering studies, environmental reports, budgets, Fuel Plans, estimates and schedules), and when practicable, in time for members to comment thereon before decisions are made, and shall confer with the Committee, or separately with members thereof, during the development of any of Supply System's proposals regarding such Matters when practicable to do so. Upon request of any Committee member, Supply System shall furnish or make available to all members of the Committee, with reasonable promptness and at reasonable times, any and all other information relating to the planning, construction, operation or maintenance of the Project.
(g) Supply System shall submit each of the Matters listed below to the Committee for approval, which approval must be by a vote of Committee members having combined Ownership Share voting rights of more than eighty percent.

Determination of Minimum Capability (Section $1(\mathrm{j})$ )
Any proposal made by Committee members, appointed by Parties other than Supply System, having Ownership Share voting rights of 20 percent or more, or by the Committee member designated by Bonneville pursuant to Section 3(a) (Section 4(e))

Construction budgets and changes therein (Section 5 )
Any increase in the working fund in the Construction Trust Account (Section 6(b))
Award of any contract or approval of any change order, in either case in excess of $\$ 500,000$ (Section 7(e))

Budgets of Annual Costs (Section 8(a)) and revisions thereof (Section 8(b))
Any increase in the working fund in the Operating Trust Account (Section 9(b)) Fuel Plan, changes therein and determinations relating thereto as provided in Section 10

Scheduled outages as provided in Section 11 (c)
Insurance coverage, including limits and choice of insurers (Section 13)
Estimate of cost of repair or damage to the Project (Section 16(a)) if in excess of $\$ 1,000,000$, and estimate of the value of the Project without repair (Section 16(b))

Sales of salvage materials in excess of such minimum amount as is established by the

## Committee.

(h) All proposals of Supply System relating to any Matters regarding the planning, construction, operation or maintenance of the Project submitted to the Committee under any provisions of this agreement shall include itemized cost estimates and other detail sufficient to support a comprehensive review, including, but not limited to, a copy of all supporting reports, analyses, recommundations or other documents pertaining thereto.
(i) If any Matter submitted to the Committee under subsection (g) above is not approved by the vote within 30 days after the original submittal to the Committee, or within such longer time as the Committee may decide upon unanimously, then each member of the Committee whal shall also state therein what shall specify in a written statement his reasons for declining approted to the other Committee members alternative is acceptable to him. Such statem (i) such 30-day period, or (ii) such longer period as the within 10 days after expiration of the later of (i) member who has not submitted such written statement Committee may decide upon unanimously. Each me shall be deemed to have approved the Matter as within the time provided in the
submitted by Supply System.

Immediately after receipt of the written statement pursuant to the preceding paragraph from Committee members having 20 percent or more Ownership Share voting rights, Supply System may refer the disputed Matter to a special board for a decision pursuant to section 4 of this agreement. If Supply System elects not to do so and does not submit an alternative proposal, or if pursuanul Costs, members Supply System continues to operate the Project without an approved bay refer such matter to the special of the Committee having 20 percent or more of said voting rights may refer such board for decision pursuant to section 4.
(j) Supply System shall submit the following additional Matters to the Committee and shall proceed on such Matters only upon unanimous approval of the Committee:
(i) Selection of the site of the Project
(ii) Selection of the type of nuclear steam supply system
(iii) Selection of the method of heat disposition
(iv) Award of contracts for nuclear steam supply system and turbine generators
(v) Selection of an architect engineer
(vi) Extension of insurance to any additional unit or generating project
(vii) Elective capital additions to the Project

If the Committee is unable to reach unanimous agreement within sixty days after submission by Supply System oi any of the Matters (i) through (v) listed in this subsection, then unless the Committee unanimously agrees otherwise, Supply System shall notify the Parties in writing and they shall then terminate the Project in accordance with Section 22(a) or proceed pursuant to Section 22(b).
4. Proceedings of Special Board. (a) Supply System may refer any Matter which fails to receive the required vote of more than eighty percent under Section 3 hereof to a board of three members for decision by serving notice on all members of the Committee. Such notice shall specify in reasonable detail the Matter to be submitted to the board. Within 10 days after giving such notice, Supply System shall serve on all Committee members writen notice naming a member of the board and stating Supply System's position on the Matter to be submitted to the board. Supply System shall obtain the concurrence Committee member designated Board member appointed by it except as to any Matter on which the the serving of said notice of submission the Cshall have declined to vote approval. Within 10 days atter of the Matter submitted to the Committee shall Committee member exercising his voting rights for thpoint the second member of the board, each such to agree upon the selection of the second board voting rights held by all of them, then any such member by vote of the majority of the Ownership Share other Committee members may apply to the Chief Judge member afte: three days notice to each of the judicial district of Washington in which the project is member. Promptly after the second board member is located, for appointment by him of such board members or by said judge, such Committee mber is appointed, either by said vote of such Committee written notice which shall name the boardee members shall serve upon all other Committee members the matter submitted to the board. Within ten days appointed and state their position or positions on above nentioned shall appoint the third member days after their appointment, the two board members A copy of this instrument together with a meticr by an instrument in writing signed by each of them. all Parties to this agieement and upon Bonneville of the time and place of hearing shall be served upon
(b) If the two board specified above, any Committee member, after three upon the appointment of the third within the time the other Committee members, may apply to three days' notice to the board members and to each of $f$ - the judicial district of Washington in which Chief Judge of the United States District Court ute third board member. Such judge shall be request Project is located, for appointment by him of having demonstrated expertise in the field of the Matter appoint an individual of national reputation
(c) If any board member so of the board is rendered, his successorpointed fails, or is unable, to act or to serve until a decision board members, or by said Judge, as the case may beinted by the same Committee members, the other
(d) Unless otherwise stipulated in writig be, who made the original appointment. commence a hearing within ten days after the appoine parties to the proceeding, the board shall proceeding expeditiously and render its decision within thity its third member, shall conduct the The board may receive any evidence that in their opinio thirty days after the close of such hearing. correct decision. The board shall decide whether the will enable them to arrive at a fair and accordance with Prudent Utility Practice. If the the Matter proposed by Supply System is in shall proceed as proposed by it; if in the negative, Supply System in the affirmative, Supply System of the majority of the board shall be final and conclusive.
(e) Committee members appointed by Parties, other than Supply System, having combined Ownership Share voting rights of 20 percent or more (Percentage Votes herein shall refer to Ownership Shares) or the Committee member designated by Bonneville pursuant to Section 3(a) may submit any proposal to the Committee which conforms with Prudent Utility Practice and the requirements imposed on Supply System under subparagraph 3(h) by serving a copy of it on all other

Committee members. Within 15 days after receipt of such proposal, Supply System may submit one or more written alternative proposals. Such an alternative proposal may be that the Project continue to be constructed, operated and maintained, as the case may be, as previously planned; failure of Supply System to submit a written proposal to the Committee or to the board shall be treated for all purposes of this section 4(e) as if Supply System had submitted a written alternative proposal to such effect. The Committee shall meet with reasonable promptness and vote on such proposals. If Committee members by a vote of more than 80 percent approve any of Supply System's proposals, the proposal of the other Committee members shall be dismissed and Supply System shall implement its approved proposal. If the Committee does not approve any of Supply System's proposals, as they may be amended, the Committee shall vote on the proposal or proposals of the Committee members, and if the Committee approves any proposal by a vote of more than 80 percent, Supply System shall proceed with the approved proposals. If the Committee does not approve any of the proposals submitted, it may require submission of further proposals, or dismiss all proposals by a vote of more than 80 percent.

If the Committee does not require further proposals or dismisses all proposals by a vote of more than 80 percent, any Committee member appointed by Supply System or the Committee members submitting any such proposal having 20 percent or more of the Committee votes may submit its proposal to the board for review within 15 days after the Committee vote. Such board shall then consider Supply System's proposal and determine if its proposal is in accordance with Prudent Utility Practice. If the board so determines Supply System shall proceed accordingly and the proposal of the other Committee members shall be dismissed. If the board determines Supply System's proposal is not in accordance with Prudent Utility Practice it shall then consider the proposal of such other Committee members and determine if such proposal is in accordance with Prudent Utility Practice. If the board determines such proposal is in accordance with Prudent Utility Practice, Supply System shall proceed with the proposal. If the board determines that none of the proposals conform with Prudent Utility Practice, it shall dismiss all proposals and dissolve.

If, pursuant to section 3(i) or this section 4(e), Committee members initiate board review of a Matter, they shall serve on all other Committee members written notice naming a member of the board and stating their position on the Matter to be submitted. Thereafter the procedure shall be followed insofar as applicable, as set forth in subsections (a) through (d) and subsection (f) of this section 4. The Committee may adopt rules designed to implement the intent of this section.
(f) The board members shall determine the costs of the proceeding hereunder, including reasonable compensation for the board members and the reasonable costs incurred by each Party in connection with the proceeding, all of which costs shall be Costs of Construction or Annual Costs, as appropriate.
5. Construction Budget. An initial budget setting forth the preliminary estimate of amounts expected to be expended for Costs of Construction in each quarter hereafter to the completion of construction has been submitted by Supply System to each of the other Parties together with an estimated cash flow schedule for each of said quarters; said initial budget and schedule are hereby approved. By October 1 of each year rntil completion of construction, Supply System shall submit to the Committee for approval an updated budget and cash flow schedule, supported by detail adequate for the purpose of comprehensive review, describing the items of Costs of Construction and of the amounts expected to be expended therefor in each month during the next twenty-four months and in each quarter thereafter until completion of construction. Construction budget and cash flow schedules shall be changed by Supply System from time to time as necessary to reflect substantial changes in construction schedules, plans, specifications or costs, and when so changed shall be submitted to the Committee for approval.
6. Construction Payments. (a) Supply System shall establish a separate trust account (Construction Trust Account) in a bank located in the State of Washington and having qualifications
meeting all requirements imposed upon depositories for any of the Parties. Moneys for Costs of Construction of the Project shall be deposited therein and, except as provided in section 19, Supply System shall withdraw and apply funds therefrom only as necessary to pay Costs of Construction.
(b) Upon execution of this agreement each Party shall pay into the Construction Trust Account its Ownership Share of a working fund of $\$ 100,000$; if Supply System proposes any larger amount it shall submit its proposal to the Committee for approval. Thereafter each Party shall continue to maintain its Ownership Share of such Fund in the amount stated, or in stich larger amount as may be approved by the Committee.
(c) Except as otherwise agreed to by the Parties, Supply System will at least seven days prior to the date set for a meeting of its Board of Directors or Executive Committee give each of the other Parties a schedule of the Costs of Construction and reimbursement of the working fund expected to be paid on the Monday following such meeting if held on Friday, or on the next business day if such meeting is held on any other day, and each Party shall deposit its Ownership Share of such amounts in the Construction Trust Account on the day of such payment, whether or not such amounts are specified in the budget.
(d) Upon completion of the Project, acceptance thereof by Supply System and settlement of all the obligations relating to construction, Supply System shall close the Construction Trust Account and distribute to each Party its Ownership Share of any balance remaining.
7. Construction, Licensing, Operation and Maintenance. (a) Supply System shall take whatever action is necessary or appropriate to seek and obtain all licenses, permits and other rights and regulatory approvals necessary for the construction, operation and maintenance of the Project, on behalf of itself and the other Parties.
(b) Supply System shall prosecute construction of the Project in accordance with Prudent Utility Practice, AEC licensing requirements, any applicable Federal or State laws and regulations thereunder, and plans and specifications for the Project prepared or recommended by the Project architect-engineer and so as to schedule the Date of Commercial Operation as near as may be on September 1, 1981.
(c) Supply System shall operate and maintain the Project in accordance with Prudent Utility Practice, giving due consideration to the recommendations of the Committee and the manufacturer's warranty requirements.
(d) Supply System shall operate and maintain the Project in such a manner as to meet the requirements of the AEC and other government agencies having jurisdiction in any given Matter, to safeguard the health and safety of persons and safety of property, and, as necessary in the normal course of business, to assure the continued operation and maintenance of the Project.
(e) Supply System shall award contracts for the construction, operation and maintenance of the Project in a manner designed to result in the least over-all cost consistent with standards of high quality. Contracts may be lump sum or unit price, and may also contain incentive and liquidated damages clauses. Supply System shall advertise for bids and award contracts or reject all bids after appropriate evaluation and review in accordance with applicable laws of the State of Washington; provided, however, that prior to making co.nmitments thereon Supply System shall submit to the Committee for approval each proposed contract award or change order, in either case, for any amount in excess of $\$ 500,000$.
8. Annual Costs-Budgets. (a) At least four months prior to the expected Date of Commercial Operation, Supply System shall submit to the Committee for approval a budget of the Annual Costs, except Fuel costs, but including administrative and general expenses relating to operation and Fuel, for each month from the expected Date of Commercial Operation to the end of the next succeeding Contract Year. Thereafter, by March 1 of each year, Supply System shall submit to the Committee for approval a similar budget for the next two succeeding Contract Years, which budget shall take into account the
cumulative difference between payments into and expenditures from the Operating Trust Account established pursuant to Section 9 hereof up to the preceding March 1 and provide for restoration, as necessary, of the working fund. Each budget of Annual Costs shall be supported by detail adequate for the purpose of comprehensive review and shall show, among other things, staffing allocations and Supply System services.
(b) The effective budget of Annual Costs shall be changed as necessary to reflect changed circumstances, and when such changed circumstances become known, and prior to expenditure of any funds not contemplated in the effective budget of Annual Costs (except as otherwise provided hereafter in this subsection), Supply System shall submit promptly a revised budget to the Committee for approval. Unbudgeted expenditures made by Supply System in an emergency or to protect the safety of persons or property shall be Annual Costs as incurred. Other expenditures necessary in the normal course of business for the continued safe operation and maintenance of the Project, which are made by Supply System prior to the Committee's approval of a budget of Annual Costs, or a revision thereof shall be Annual Costs as incurred.
9. Operating Trust Account. (a) Prior to the date of the first payment required on account of Fuel, Supply System shall establish an Operating Trust Account in a bank located in the State of Washington and having qualifications meeting all requirements imposed upon a depository for any of the Parties. Each Party shall deposit therein its payments on account of Fuel, determined pursuant to Scution 10 hereof, not less than 24 hours prior to the time payments are to be made by Supply System for Fuel.
(b) Prior to the Date of Commercial Operation each Party shall deposit in such Account its Ownership Share of a working fund in the amount of $\$ 100,000.00$. If Supply System proposes any larger amount it shall submit its proposal to the Committee for approval. All moneys received by Supply System under terms of this Agreement, except Costs of Construction and receipts related to Construction, shall be deposiied in such Account.
(c) No later than Thursday of each week, each Party shall deposit in the Operating Trust Account such Party's Ownership Share of the portion of Annual Costs to be paid by Supply System in the succeeding week; provided, however, that if such portion of the Annual Costs increases during a week, each Party at the request of Supply System shall immediately deposit in the Operating Trust Account such Party's Ownership Share of any such increase for that week.
10. Fuel. (a) Supply System shall arrange for Fuel in amounts so that each Party may utilize its Ownership Share of the Project in a manner which such Party estimates will be best suited to its individual system needs.
(b) Not later than 90 days in advance of the first commitment for Fuel and annually thereafter by each July 1 until the Date of Commercial Operation, Supply System shall prepare and subnit to the Committee for approval a ten-year Fuel management plan (Fuel Plan). Each year thereafter, the Fuel Plan shall be submitted with each budget of Annual Costs beginning with the first such budget.

Supply System shall consult with the Committee, and shall prepare the Fuel Plan consistent with section 10(a). The first Fuel Plan shall describe the proposed Fuel contract arrangements; each succeeding Fuel Plan shall describe in detail each contemplated action and payment and the dates thereof, as well as core usage and design burnup, and estimated fueling dates. It shall include a cash flow analysis of forecasted expenditures and credits for each Party for each major component of the Fuel cycle by years, for the entire period, and cash flow by months, for the first five years of the period.

Each Party shall furnish to Supply System, as requested, forecasts of its generation requirements from the Project. Supply System shall use such forecasts in preparing each Fuel Plan. Supply System shall amend the Fuel Plan as reasonably required to reflect changes in conditions unforeseen at the time the



Fuel Plan was prepared, and shall submit such amended Fuel Plan to the Committee for approval. Supply System shall secure Fuel and refuel the Project in a manner which implements the Fuel Plan to the extent reasonably practicable.
(c) At the time of each fueling, Supply System shall submit to the Committee for approval its determination of (i) the next fueling date (Forecast Refueling Date), (ii) the kilowatt-hours of net energy available to each Party to the Forecast Refueling Date (Energy Entitlement), and (iii) the cost per kilowatt-hour of its Energy Entitiement. Each Party's Energy Entitlement shall equal as nearly as practicable such Party's forecasted generation requirements. Supply System shall periodically review such determinations with the Committee, revise such determinations as necessary and submit them to the Committee for approval.
(d) Each Party shall order at least its Ownership Share of the Fuel necessary to insure operation at Minimum Capability to the Forecast Refueling Date; provided, however, that a Party may order less than such Ownership Share, to the extent that such Party has arranged, pursuant to section 11(d), for the delivery of alternative capacity and energy to the Parties requesting operation.
(e) Each Party shall pay or cause to be paid into the Operating Trust Account its share of the amounts for Fuel as and when determined by Supply System and appropriate to the Fuel Plan.

Each Party shall have the right to make whatever arrangement it may desire, whether by lease, security transaction, or otherwise, for the discharge of its Fuel payment obligation so long as such arrangements do not impair the rights of any other Party. Supply System shall disburse each payment relating to Fuel, when due, from the Operating Trust Account.
(f) Each Party shall receive appropriate net Fuel recovery credits, as determined by Supply System.
(g) Any Party may require that the Forecast Refueling Date be advanced or delayed and/or may use the Energy Entitlement of the other Parties if such Party (1) makes arrangement for delivery of alternative capacity and energy at the Project point of delivery equivalent to the amount of capacity and energy which would have been available to such other Parties from their Ownership Shares of Project Capability if the Forecast Refueling Date had not been advanced or delayed or such Energy Entitlement had not been used by the requiring Party, or (2) makes other arrangements acceptable to the affected Parties, including, but not limited to, payments for Fuel used or making a portion of such Party's Ownership Share of Project Capability available for use by such other Parties; provided, however, that neither the advancing or delaying of the Forecast Refueling Date nor the use of another Party's Energy Entitlement shall (i) adversely affect the availability of capacity and energy to which any other Party otherwise would have been entitled from the Project, or (ii) adversely affect any other Party's costs for such capacity and energy.
(h) After reprocessing of a Fuel batch removed from the core, Supply System shall make a detailed final accounting of all costs, payments and energy allocable to each Party. Such final accounting shall stipulate any credits or deficits due any Party, including any provisional settlements made. Supply System shall submit such data to the Committee for approval, after which the Parties will settle accounts within 30 days or as otherwise agreed.
11. Scheduling. (a) Within the constraints of section 10 and this section 11 each Party shall be entitled to receive, as scheduled by it, all or any part of its Ownership Share of the Project Capability. Supply System's dispatcher promptly shall notify each Party of any significant change in Project Capability.
(b) By $4: 00 \mathrm{p} . \mathrm{m}$. on each regular working day, each Party shall submit its hourly schedule for the following day to Supply System's dispatcher except that each Party shall submit its hourly schedule for a holiday, Saturday, Sunday, and for the first following regular working day by $4: 00 \mathrm{p} . \mathrm{m}$. on the regular working day immediately preceding. Each party submitting such hourly schedules may make changes therein at any time; provided, however, that if the total requested changes in the level of operation of the
generating plant requires a rate of change in excess of that prescribed either by the manufacturer's warranty or in the AEC operating license, each Party whose scheduled rate of change is in excess of its Ownership Share of the prescribed limit shall be limited proportionately so that the total rate of change does not exceed the prescribed rate of change.
(c) Supply System shail schedule generating plant outages other than fueling outages and submit same to the Committee for approval as to the time and duration thereof as far in advance as practicable. Notwithstanding the foregoing, Supply System may shut the generating plant down to meet requirements of AEC or other governmental agency having jurisdiction or to avoid hazard to the Project or to any person or property.
(d) Except as otherwise provided herein, each Party shall schedule energy from the Project in such a manner that its Energy Entitlement is adequate to maintain such Party's Ownership Share of Minimum Capability until the next Forecast Refueling Date; provided, however, that a party may require that the Project not be operated during any period by arranging for delivery of alternative capacity and energy at the Project point of delivery to the Parties requesting operation equivalent to the amount of capacity and energy which would have been available to such Parties from their Ownership Shares of Project Capability during such period, and such requesting Parties shall pay the supplying Party a percentage of the amount of incremental savings which the requesting Parties realize from the displacement of energy from the Project, which percentage and amount of savings shall be as agreed by the Parties involved; provided further, that requiring non-operation of the Project will not (i) adversely affect the availability of capacity and energy to which any other Party otherwise would have been entitled from the Project, or (ii) adversely affect any other Party's costs for such capacity and energy.

If fulfilling the schedules submitted by the Parties would require operation of the Project at an operating level below the Minimum Capability, Supply System's dispatcher shall immediately notify all Parties. Unless otherwise agreed by the Parties as provided in the preceding paragraph, the Parties whose schedules are greater than their Ownership Share of such Minimum Capability shall take such schedules, and the other Parties shall schedule and take (proportional to their Ownership Share) the remainder of such Minimum Capabiiity.
(e) When testing of plant facilities requires generation, each Party shall make provision for acceptance of its Ownership Share of such generation. Supply System will notify Parties of test schedules as far ir advance as practicable.
(f) During any hour in which the Project does not generate its station use and losses, Supply System's dispatcher shall notify the Parties and each Party shall arrange for delivery of its Ownership Share of such energy to the Project.
12. Accounting. Supply System shall keep up-to-date books and records showing all financial transactions and other arrangements in cariying out the terms of this agreement. Such books and records shall contain information supporting the allocation of Supply System's indirect costs associated with the Project. Such books and records shall be retained by Supply System for ten years and shall be made available for inspection and audit by the Parties at any reasonable time.

Any contract with any consultant or contractor of Supply System providing for reimbursement of costs or expenses of any kind shall require the keeping and maintenance of books, records, documents, and other evidence pertaining to the costs and expenses incurred or claimed under such contract to the extent and in such detail as will properly reflect all costs related to this agreement and shall require such books, records, documents and evidence to be made available to the Parties at all reasonable times for review and audit for a period of three years after final settlement of the applicable contracts. Each of the Parties shall have the right to examine and copy all plans, specifications, bids and contracts relating to the Project.
(b) All accounts shall be kept so as to permit conversion to the system of accounts prescribed for electric utilities by the Federal Power Commission, and the allocation of costs by Supply System between Costs of Construction and Annual Costs pursuant to this agreement shall be binding on the Parties for purposes of this agreement, but the manner in which accounts are kept pursuant to this agreement is not intended to be determinative of the manner in which they are treated in the books of account of the Parties.
(c) Supply System shall by the 15 th of each month supply to each Party a complete, itemized account of all deposits in and withdrawals from the trust accounts during the previous month, together with an itemization of the basis for reimbursement made to Supply System from such account during such month. Supply System shall cause all books and records to be audited by independent Certified Public Accountants of national reputation acceptable to all the Parties at approximately annual intervals and at such time as such accounts are closed. Copies of such audits shall be supplied to each Party.
13. Insurance. (a) Supply System shall procure at the earliest practicable time and thereafter maintain in force for the benefit of the Parties as named insured and with losses payable to the Parties as their respective interests shall appear, such insurance coverage for the construction, operation, maintenance and repair of the Project as the Committee may determine pursuant to Section $3(\mathrm{~g})$, but not less than shall be required under the contract to be executed with the Project Architect Engineer, and not less than will satisfy the requirements of the Atomic Energy Act of 1954 (as amerded), (including all AEC regulations in effect from time to time thereunder), and conform to Prudent Utility Practice.
(b) Any Party may request additional insurance to the extent available, and Supply System shall purchase such requested insurance at the expense of such Party. The Proceeds from such requested insurance shall be disbursed as directed by such Party.
14. Liabilities; Waiver of Subrogation. (a) Each of the Parties releases each of the other Parties, its agents and employees from any claim for loss or damage, including consequential loss or damage, arising out of 'he construction, operation, maintenance, reconstruction, and repair of the Project due to negligence, it ding gross negligence, but aot any claim for loss or damage resulting from breach of any contract relating to the Project, including this Agreement, or for willful or wanton misconduct.
(b) Any loss, cost, liability, damage and expense to the Parties or any Party, other than damages to any Party resulting from loss of use and occupancy of the Project or any part thereof, resulting from the construction, operation, maintenance, reconstruction or repair of the Project and based upon injury to or death of persons or damage to or loss of Project property and property of other parties, to the extent not covered by collectible insurance, shall be charged to Cost of Construction or Annual Costs, whichever may be appropriate.
(c) Each Party shall cause its insurers to waive any rights of subrogation against each of the other Parties, its agents and employees, for losses, costs, damages or expenses arising out of the construction, operation, maintenance, reconstruction or repair of the Project.
15. Uncontrollable Forces. No Party shall be considered to be in default in the performance of any of the obligations hereunder, other than obligations of any Party to pay its Ownership Share of costs and expenses, if failure of performance shall be due to uncontrollable forces. The term "uncontrollable forces" shail mean any cause beyond the control of the Party affected and which, by the exercise of reasonable dililigence, the Party is unable to overcome, and shall include but not be limited to an act of God, fire, flood, explosion, strike, sabotage, an act of the public enemy, civil or military authority, including court orders, injunctions, and orders of government agencies with proper jurisdiction prohibiting acts necessary to performance hereunder or permitting any such act only subject to unreasonable conditions, insurrection or riot, an act of the elements, failure of equipment, or inability to obtain or ship materials or equipment because of the effect of similar causes on suppliers or carriers. Nothing contained herein
shall be construed so as to require a Party to settle any strike or labor đispute in which it may be involved. Any Party rendered unable to fulfill any obligation by reason of uncontrollable forces shall exercise due diligence te remove such inability with all reasonable dispatch.
16. Damage tu the Project. (a) If the Project suffers damage resulting from causes other than ordinary wear, tear or deterioration to the extent that Supply System's estimate of the cost of repair is less than $20 \%$ of the then depreciated value of the Project, and if the Parties do not unanimously agree that the Project shall be ended pursuant to Section 22, Supply System shall promptly submit a revised construction budget or budget of Annual Costs, as appropriate, and stball proceed to repair the Project, and each Party shall pay as budgeted, into the appropriate Trust Account, its Ownership Share of the cost of such repair.
(b) If the Project suffers damage to the extent that Supply System's estimate of the cost of repair exceeds $20 \%$ of the then depreciated value of the Project, Supply System shall determine the estimated fair market value of the Project if it is then terminated without repair. Thereafter, each Party which, within a reasonable time to be determined by the Committee, gives notice in writing to each of the other Parties of its desire that the Project be repaired, shall pay into the appropriate Trust Account, as budgeted in a revised budget, that part of the total cost of repair in the proportion that its Ownership Share bears to the total of the Ownership Shares of all Parties giving such notice. If any Party has given such notice, the Ownership Share of each Party which has not given notice shall be reduced at the end of each month thereafte; to the extent determined by the following formula:

$$
\mathrm{S}_{\mathrm{r}}=\mathrm{S}_{\mathrm{o}}\left[\frac{\mathrm{v}}{\mathrm{~V}+\mathrm{C}}\right]
$$

where
$V=$ Estimated fair market value of the Project if it is terminated without repair
C $=$ Actual expenditures for Repair
$\mathrm{S}_{\mathrm{o}}=$ Ownership Share prior to loss
$\mathrm{S}_{\mathrm{r}}=$ Reduced Ownership Share
At the same time, the amount of such reduction shall be added to the Ownership Share of each Party giving such notice in the proportion that its Ownership Share bears to the total of the Ownership Shares of all Parties giving such notice.
(c) If the Project suffers damage to the extent that Supply System's estimated cost of repair exceeds $20 \%$ of the then depreciated value of the Project and no Party gives the notice provided in Section 16(b), the Project shall be ended pursuant to Section 22.
(d) For the purposes of this section 16, the depreciated value of the Project at any time shall be based on the original cost of the Project, plus additions and less retirements, depreciated on a straightline basis using a composite life of 35 , ears.
(e) Supply System shall submit each of the estimates referred to in this section hereinabove to the Committee for its approval pursuant to Section 3(g).
17. Default. (a) Upon failure of a Party to make any pcyment when due, or to perform any obligation herein, any other Party may make written demand upon said Party, and if said failure is not cured within 10 days from the date of such demand it shall constitute a default at the expiration of such period.
(b) If a Party in good faith disputes the legal validity of said written demand, it shall make such payment or perform such obligation within said 10 day period under written protest directed to each of the other Parties. Such protest shall be in writing and shall specify the reasons upon which the
protest is based. Payments not made by the defaulting Party pursuant to said written demand may be advanced by the other Parties and, if so advanced, shall bear interest until paid, at the highest lawful rate. Upon resolution of such dispute, then any payments advanced or made between the Parties, as in this section provided, shall be adjusted appropriately.
(c) In addition to the rights granted in this Section 17, any nondefaulting Party may take any action, in law or equity, including an action for specific performance, to enforce this Agreement and to recover for any loss, damage or payment advances, including attorneys' fees in all trial and appellate coufts and collection costs incurred by reason of such default.
18. Elective Capital Additions. Renewals and replacements not necessary to assure design capability, and betterments and additions not required by governmental agencies, shall be made after the Date of Commercial Operation only upon unanimous approval of the Committee.
19. Investment. Supply System shall use its best efforts to invest funds in the Construction Trust Account or in the Operating Trust Account in legally issued obligations of the United States or the State of Washington, or in other obligations in which Supply System is authorized to invest. The net proceeds iom such investments shall be deposited in the Account from which it came and credited to the Parties in their respective Ownership Shares.
20. Assignments. This agreement shali be binding upon and shall inure to the benefit of successors and assigns of the Parties; provided, however, that no transfer or assignment of other than all of a Party's interest in the Project and under this agreement to a single entity shall operate to give the assignee or transferee the status or rights of a Party hereunder and no transfer or assignment hereuader shall operate to increase the number of members on the Committee. Except as provided in Section 16 of this agreement, the undivided interest (or a portion thereof) of any Party in the Project, the property, real or personal, related thereto, and under this agreement may be transferred and assigned as set out below but not otherwise, provided that so long as Supply System retains its Ownership Share in the Project, no interest, except as a security interest, in the Project shall be sold or assigne pursuant to subsections (b) through (f) to an entity not authorized by RCW 54.44, as amended, to participate and enter into agreements with an operating agency for the undivided ownership of common facilities:
(a) To any mortgagee, trustee, or secured Party, as security for bonds or other indebtedness of such Party, present or future; such mortgagee, trustee or secured Party may realize upon such security in foreclosure or other suitable proceedings, and succeed to all right, title and interests of such Party;
(b) To any corporation or other entity acquiring all or substantially all the property of the Party making the transfer;
(c) To any corporation or entity into which or with which the Party making the transfer may be merged or consolidated;
(d) To any corporation or eatity, the stock or ownership of which is wholly owned by the Party making the transfer;
(e) To any corporation or entity in a single transaction constituting a sale and lease back to the transferor or assignor;
(f) To any other person, provided that the Party shall first offer to transfer or assign such interest to the other Parties in proportion to their respective Ownership Shares in the amount of and on terms and conditions not less advantageous than those which it is willing to accept for a transfer or assignment to such other person. Such offer shall remain open for a reasonable period but not less than three months and, if the offer of the selling Party's interest is not accepted by
the orher Parties proportionately, the entire offer may be accepted by one of the other Parties or in difierent proportions among the other Parties as such Parties may mutually agree.
(g) Transfer or assignment shall not relieve a Party of any obligation hereunder except to the extent agreed to in writing by ail the other Parties. Any interest or assignment permitted by subsections (b) through (f) of this section 20 is expressly conditioned upon the transferee or assignee assuming the obligations of the transferring or assigning Party under this agreement.
21. Training. Supply System shail carry out a familiarization and training program to maintain adequate staffing in connection with the construction, operation and maintenance of the Project and the expenses thereof shall be part of the Costs of Construction or Annual Costs as appropriate. Each Party shall be entitled to have employees present at the Project for purposes of training, subject to reasonable rules to be established by Supply System. Any increase in the Costs of Construction or Annual Costs resulting from such training shall be borne by the Parties employing such trainees.
22. End of Project. (a) When the Project can no longer be made capable of producing electricity consistent with Prudent Utility Practice or the requirements of governmental agencies having jurisdiction or is no longer licensed by the AEC, or when the Project is ended pursuant to Section 16, Supply System shall sell for removal all salable parts of the Project exclusive of Fuel to the highest bidders. After deducting all costs of ending the Project, including, without limiting the generality of the foregoing, the cost of decommissioning, razing all structures and disposing of the debris and meeting all applicable requirements of law, Supply S jstem shall close the appropriate Trust Account and, if there are net proceeds, distribute to each Party its Ownership Share of such proceeds. Supply System shall liquidate the Fuel, and after making all required payments and receiving all due receipts, shall disburse the proceeds to the Owners as their interests appear. In the event such costs of ending the Project exceed available funds, each Party shall pay its Ownership Share of such excess as incurred.
(b) (i) If the Parties are unable to reach agreement to any of the items (i) through (v) described in Section 3(j), one or more of the Parties may, within ninety (90) days after the date of the notice to the Parties provided for in Section 3(j), elect to proceed with the Project.
(ii) If one or more of the Parties is rendered incapable of proceeding with its obligations hereunder by reason of one or more of the conditions listed below, which condition is beyond the ability of such party to remedy by reasonable means within a reasonable time, one or more of the other Parties may, within ninety ( 90 ) days after notice by a Party of the occurrence of the condition, elect to proceed with the projecr without the disabled Party; provided, kowever, that if such disabled Party is proceeding with all due diligence to remove such disability, the election shall not be made until 90 days after final order or other final disposition of the matter; provided further, that if delay would cause substantial additional costs to be incurred if the election were so postponed, the electing Parties may proceed as necessary to avoid or minimize delay, preserving the rights of the disabled Party until final order or other final disposition. The conditions are:

## 1. Inability to finance.

2. Failure to obtain necessary legal authorizations, including regulatory approvals.
(iii) Upon the election for any of the zeasons set forth in (i) and (ii) ab:ve, the Parties so electing shall promptly reimburse each non-electing Party for its Costs of Construction and costs of Fuel, if any, incurred hereunder; provided, however, that such reimbursement shall not occur with regard to a disabled Party until final order or other final disposition in the Matter confirming the disability. Upon such reimbursement, the non-electing Parties' interest in the Project and in this Agreement, and any related rights or interest acquired by them hereunder, shall forthwith vest in the electing Parties in such proportion as the electing Parties may agree.
3. Notices. Any notice, demand or request provided for in this Agreement served, given or made in connection therewith shall be deemed properly served, givea or made if given in person or sent by registered or certified mail, postage prepaid, addressed to the person and at the address designated in writing by the respective Party or by Bonneville, as the case may be. Any Party and Bonneville may at any time, and from time to time, change its designation of the person to whom notice shall be given by giving notice to all other Parties as herein above provided.
4. Provisions Relating to Delivery. Deliveries of electric power and energy to the Parties and to Bonneville shall be made at the point of delivery and at the approximate voltage described below. Such electric power and energy shall be in the form of three-phase current, alternating at a frequency of approximately 60 hertz. Amounts so delivered at such point during each month shall be determined from measurements made by the meters, adjusted for losses as agreed upon by the Parties, installed to record such deliveries at the place and in the circuits bereinafter specified:

## Project Point of Delivery:

Location: the point where the 230 k k or higher voltage facilities of the Project and those of Bonneville or of a Party are connected;

Voltage: 230 kv or higher;
Metering: in the circuits over which such electric po ver and energy will flow;
Adjustment: for losses between the point of metering and the point of delivery.
25. Additional Generating Units and Facilities. (a) Each Party shall have the right to install and operate on the Plant Real Property such facilities as are reasnnably required to enable it to deliver to its own system its Ownership Share of the Project Capability; provided, however, that the facilities of such Party shall be so inst tlled and operated as not to burden or interfere with those of any other Party, or the Project, or the construction on the Plant Real Property of generating units in addition to the first unit. In the event of construction on the Plant Real Property of generating units in addition to the first unit, the Party who installs such facilities, if necessary to avoid interference with such new generating units, shall relocate such facilities at its own expense. If a Party proposes to install or operate facilities which would require the relocation of previously installed facilities of any other Party, or of the Project, but would otherwise meet the requirements of this subsection, the Party desiring to install or operate such facilities shall have the right to call for such relocation if it bears all costs resulting therefrom.
(b) Supply Svstem, either individually or jointly with other entities, shall have the right $\omega$ construct and operate on Plant Real Property (subject to the provisions of subsection (c), below, giving each of the other Parties a right to participate therein) additional nuclear generating units and necessary appurtenances thereto. If Supply System individually or jointly with any other entity decides to construct and operate an additional generating unit or units and appartenances which would require the relocation of previously installed facilities of the Project, it shall have the right to call for or accomplish such relocation, as the case may be, if it bears all costs resulting therefrom. In connection with any such addition? units, Supply System individually or jointly with other entities shall have the right to use any facil: tes installed as part of the Project and to modify such facilities for use in connection with the instailation or operation of such additional generating units and appurtenances; provided, however, that such use of Project facilities shall not burden or unreasonably interfere with the Project, that the cost of any modification shall be borne by Supply System, and that Supply System shall pay to the Parties a reasonable monthly facilities charge based on the portion of the Project facilities devoted to the use of the additional units as compared to the portion devoted to the generating unit of the Project, which charge shall take into account such costs as capital and other carryirg charges, depreciation, operation and maintenance expense, taxes, insurance and return on investment.
(c) To the extent Supply System individually or jointly with any other entity decides to construct and operate additional nuclear generating units on the Plant Real Property, each of the othe: Parties shall have the right to participate in the ownership of such units to the extent it elects but not to exceed its Ownership Share of the total ownership of each unit under terms and conditions substantially similar to this Agreement, takong into account intervening ct.anges in construction, ownership and operating costs and conditions. Such right shall be exercised with respect to each individual additional generating unit at the time that Supply System makes a firm decision to construct said additional unit and may not be cumulated for application against later generating units.
(d) All of the rights of the Parties described in subsection (c) above shall be subject to the following limitations:
(1) If a Party elects to participate pursuant to subsection (c) above, it will so advise Supply System in writing within ninety (90) days of the receipt by it of written notice from Supply System that it has made a firm decision. Prior to sending such notice, Supply System shall make available to each of the Parties any relevant information it has concerning the proposed additional generating unit;
(2) Such rights are zot assignable by a Party to any other entity without the consent of Supply System except to a corporation whose stock or other ownership is wholly owned by the Party or except to a successor corporation to a Party resulting from a corporate reorganization in which there is no substantial change in beneficial ownership;
(3) No assignment shall be made except to a corporation authorized by RCW 54.44 as amended to participate and enter into agreements with an operating agency for the undivided ownership of common facilities.
(4) Supply System, unless otherwise mutually agreed, shall be the Operator of any generating plants constructed under the terms of this section.
26. Personal Covenants; Rule Against Restrictions on Alienation. (a) Except for the Parties' mutual waiver of the right to partition set forth in. Section 2(c), all of the covenants and conditions herein shall be personal to the respective Parties and not covenants running with the land and shall be binding upon any Party which acquires any right, title or interest of any Party in or to the Project or under this Agreemert, iy assignment or in any other way.
(b) If the duration of any term or condition of this Agreement shall be subject to the rule against restrictions on alienation or to a similar or related ruie, then the effectiveness of such term or condition shall not extend beyond (i) the maximum period of time permitted under such rule or (ii) the specific applicable period of time expressed in this Agreement, whichever is shorter. For purposes of applying the rule against restrictions on alienation, or any similar or reiated rule, the measuring lives in being shall be those of the officers and members of the board of directors of Supply System listed by name on pages 6-7, Exhibit B entitled "Directory of Officials" of the "Report of Examination" of Supply System made by the State of Washington, Office of the State Auditor, Division of Municipal Corporations, for the year ended December 21, 1972 (Exaraination No. 39548), together with all such listed persons' children who are living on the date of execution of this Agreement. As used in this paragraph, the word "children" shall have its generally accepted meaning of descendants of the first degree.
27. Construction of Agreement. This Agreement shall be construed in acco: $\boldsymbol{i}$ ance with the law of the State of Washington.
28. Additional Documents. Each Party, upon request by the other Parties, shall make, execute and deliver any and all documents reasonably required to implement the terms of this Agreement.

In Witness Whereof, the Parties hereto have caused this Agreemont to be executed this 17th day of September, 1973.
(seal) Washington Public Powek Supply System

## Attest:

Ed Fischer
Secretary
By J. J. Stein
Managing Director
(seal) Pacific Power \& Light Company
L. Bennett

Secretary
By George L. Beard Senior Vice President
(seal) Portland General Electric Company
H. H. Phillips

Secretary
By Robert H. Short Senior Vice President
(seal) Puget Sound Power \& Light Company

W. E. Watson

Secretary

By D. H. Knight<br>Vice President

(seal) The Washington Water Power Company

J. P. BUCKLEY Secretary

By H. W. Harding<br>Vice Presideni

## WASHINGTON PUBLIC POWER SUPPLY SYSTEM

## NUCLEAR PROJECT NC. 3

The Washington Public Power Supply System's Nuclear Project No. 3 is expected to have a net electrical plant capability of approximately $1,200 \mathrm{MW}$.

It will be located on a site in the State of Washington acceptable to the Project Owners and Bonneville, such site to be described more particularly in Exhibit A.

The plant and associated facilities will include the site referred to, a nuclear steam supply system. fuel and reactor coolant system with all related containment structures, safety features. instrumentation, control and auxiliary systems; turbine-generator, condensers and circulating water cooling systems, facilities and piping; electrical and mechanical systems and other related equipment and facilities; electrical facilities required to deliver the output of the Project to the point of delivery described in Section 24; and other structures, shops, warehouses, construction facilities, offices, equipment or facilities required in the construction, maintenance and operation of the Project.

## EXHIBIT B

## EXHIBIT IV

FORM OF NET BILLING AGREEMENT
CONTRACT NO. 14-03-11-27-72

WASHINGTON PUBLIC POWER SUPPLY SYSTEM NUCLEAR PROJECT NO. 3

AGREEMENT
executed by the
UNITED STATES OF AMERICA
DEPARTMENT OF THE INTERIOR
acting by and ihrough the
BONNEVILLE POWER ADMINISTRATOR and

WASHINGTON PUBLIC POWER SUPPLY SYSTEM

and<br>(THE PARTICIPANT)<br>(Net Billing Agreement)

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'This AGREEMENT, executed September 25, 1973, by the United States of America (Government), Department of the Interior acting by and through the Bonneville Power Administrator (Administrator), and Washington Public Power Supply System (Supply System), a municipal corporation of the State of Washington, and a corporation of the State of
(Participant)

## Witnesseth:

Whereas in order to achieve the economies of size for the benefit of Supply System's members, the Participants and the other Project Owners, the Project Owners have entered into an agreement simultaneously with this agreement providing that the Project Owners will finance and own the Project and that Supply System will design, construct, operate and maintain the Project on behalf of the Project Owners; and

Whereas Supply Systera and the Companies have entered into short-term Power Sales Agreements simultaneously with this agreement providing for purchase by the Companies of output from Supply System's Ownership Share of the Project; and

Whereas the Particieant proposes to purchase the Participant's Share from Supply System for assignment to the Administrator hereunder and the Administrator proposes to acquire such Participant's Share; and

Whereas Supply System and the Participant have each determined that the sale by Supply System to the Participant of the Participant's Share and assignment thereof to the Administrator as herein provided will be beneficial to it by reducing the cost of and increasing the amounts of firm power and energy which will be available to serve its members or customers in the future; and

Whereas the Administrator has determined that the acquisition of the Participant's Share as herein provided will assist in attaining the objectives of the Bonneville Project Act and other statutes which pertain to the disposition of electric power and energy from Government projects in the Pacific Northwest by enabling the Government to make optimum use of the Federal Columbia River Power System, and that the integration of capability of the Project acquired hereunder with the generating resources of the Federal Columbia River Power System as provided herein will enable the Administrator to make available additional firm power and energy to meet the needs of his customers; and

Whereas the construction of the Project is a part of the Hydro Thermal Power Program for the Pacific Northwest and this agreement is one of a series of agreements implementing such programs; and

Whereas the Administrator will pool electric power and energy acquired hereunder with other electric power and energy available to the तiministrator from the Federal Columbia River Power System so that any costs or losses associated with acquiring such electric power and energy will be borne by the Administrator's ratepayers through rate adjustments if necessary; and

Whereas the Administrator and the Participant are parties to agreements which require payments by the Participant to the Administrator which may be used to offset payments by the Administrator to the Participant hereunder under a net billing procedure; and

Whereas Supply System and the Administrator propose to enter into the Project Agreement simultaneously with this agreement which will provide among other things for reiationships between Supply System and the Administrator with respect to Project construction, operation, maintenance and budgets; and

Whereas Supply System and the Administrator propose to enter into agreements with the other Participants containing terms and conditions substantially identical to those specified herein; and

Whereas Supply System is organized under the laws of the State of Washington (Rev. Code of Washington, Ch. 43.52) and is authorized by law jointly to construct, own, acquire and operate works, plants, and facilities for the generation and/or transmission of electric power and energy and to enter into contracts for such purposes and with the Administrator and public and private organizations for the disposition and distribution of electric power and energy produced thereby; and

Whereas the Administrator is authorized pursuant to law to dispose of electric power and energy generated at various federal hydroelectric projects in the Pacific Northwest and to enter into related agreements;

Now, Therefcre, the parties hereto mutually agree as follows:

## 1. Definition and Explanation of Terms.

(a) "Annual Budget" means the budget adopted by Supply System not less than 45 days prior to the beginning of each Contract Year which itemizes the projected costs of Supply System's Ownership Share of the Project applicable to such Contract Year, or, in the case of an amended Annual Budget, applicable to the remainder of such Contract Year. The Annual Budget, as amended from time to time, shall make provision for all such Supply System's costs, including accruals and amortizations, resulting from the wnership, operation (including cost of fuel), and maintenance of the Project and repairs, renewals, replacements, and additions to the Project, including, but not limited to, the amounts which Supply System is required under the Bond Resolution to pay in each Contract Year into the various funds provided for in the Bond Resolution for debt service and all other purposes and shall include the source of funds proposed to be used; provided, however, that the Annual Budget for any portion of a Contract Year prior to the Date of Commercial Operation or September 1, 1981, whichever occurs first, shail include only such amounts as may be agreed upon by Supply System and the Administrator.

All taxes imposed and required by law to be paid with respect to Supply System's Ownership Share, and which are due and payable in a Contract Year, shall be included in the Annual budget for that Contract Year as a Project cost. To the extent Supply Syster: is permitted by law to negotiate for payments in licu of taxes or other negotiated payments to state or lucal taxing entities, the Annual Budget shall also include the amounts of such negstiated payments; provided, however, that Supply System shall not agree to such negotiated payment if in any Contract Year the sum of such negotiated payments and taxes imposed by law would exceed the total amount of ad valorem taxes that Supply System would have paid in that year to such taxing entities if Supply System's Ownership Share of the Project or portion thereof within the boundaries of each such taxing entity, were subject to ad valorem taxes and its valuation tor tax purposes were added to the valuation of the property subject to ad valorem taxes by suck taxing entity, but with its millage rate reduced so that the amount of ad valorem taxes raised would be unchanged.
(b) "Billing Statement" means the written statement prepared by Supply System that shows the amount to be paid to Supply System by the Participant for the Participant's Share for a Contract Year or, in the case of an amended Billing Statement, for the remainder of such Contract Year. Such amount shall be derermined as to the Participant by multiplying the amount of the Annual Budget or the amended Annual Budget, as the case may be, less any ether funds (including but not limited to amounts payable under the Power Sales Agreements) which shall be specified in the Annual Budget as being payable from sources other than the payments to be made under the Net Billing Agreements, by the Participant's Share. At the end of each Contract Year any amount over or under billed during such year will be reflected in the Billing Statement for the following Contract Year.
(c) "Bonds" means any bond, bonds or other evidences of indebtedness issued in connection with the Project pursuant to the Bond Resolution (1) to finance or refinance Supply System's Owner-
ship Share of the costs associated with planning, designing, financing, acquiring and constructing the Project pursuant to the Bond Resolution and (2) for any other purpose authorized thereby.
(d) "Bond Resolution" means the resolution or resolutions adopted or supplemented by Supply System, as the same may be amended or supplemented, to authorize the Bonds.
(e) "Companies" means the eiectric utilities or other entities, other than Supply System, that execute and are party to a Power Sales Agreement.
(f) "Contract Year" (1) means the peried commencing on the Date of Commercial Operation, or on January 1, 1981, whichever occurs first, and ending at 12 p.m. on the following Jur: 30, and (2) thereafter means the 12 month period commencing each year at 12 p.m. on June 30, except that the last Contract Year shall end on the date of termination of this agreement.
(g) "Date of Commercial Operation" means the date fixed pursuant to section $1(\mathrm{~g})$ of the Project Agreement.
(h) "Net Billing Agreements" means this agreement and all other agreements for the Project similar to this agreement entered into by Supply System, the Administrator and each of the Participants (Contracts No. 14-03-39101 through 14-03-39203, inclusive).
(i) "Ownership Agreement" means the Agreement for construction, ownership, and operation of the Project, as the same may be amended, and as executed by the Project Owners.
(j) "Participants" means those entities which are specified in Exhibit A or which become assignees of all or part of any Participant's Share pursuant to sections 7(b) or 15 .
(k) "Participant's Share" means the decimal fraction share of Supply System's Ownership Share of Project Capability, reduced by short-term sales of output from Supply System's Ownership Share of the Project under the Power Sales Agreements, purchased by the Participant hereunder as specified in Exhibit A, plus, during any period in which a decimal fraction is assigned to the Participant pursuant to sections $7(\mathrm{f})$ or 12 hereof or pursuant to section 7(b) in the other Net Billing Agreements the decimal fraction share or shares so assigned, and minus any reductions under section 12 hereef or under the assignment by the Participant under section 7(b) hereof during any period in which such reductions or assignments are in effect; provided, however, that such short-term sales from the Supply System's Ownership Share shall not exceed a total of 1,000 megawatt-years and shall not extend beyond June 30, 1984.
(i) "Power Sales Agreements" means the agreements for the short-term sale and purchase of output from Supply System's Ownership Share of the Project entered into simultaneously with this agreement by Supply System and each of the Companies.
(m) "Project" means the nuclear generating plant and related property as described in Exhibit B. Exhibit B may be revised from time to time by mutual agreement of Supply System and the Administrator, after consultation with the Participant, but in any event shall conform to the description of the Project in the Bond Resolution which authorizes the issuance of Bonds in an amount su'scient to pay the costs of acquiring and constructing Supply System's Ownership Share of the Project.
(n) "Project Agreement" means the agreement for the financing, construction and operation of Supply System's Ownership Share as the same may be amended, executed by Supply System and the Administrator (Contract No. 14-03-39100).
(o) "Project Capability" means the actual electrical generating capability, if any, of the Project at any particular time (including times when the Project is not operable or operating or the operation thereof s suspended, interrupted, interfered with, reduced or curtailed, in each case in whole or in part), less Froject station use and losses.
(p) "Project Consultant" means an individual or firm, of national reputation having demonstrated expertise in the field of the matter or item referred to it, appointed among other things, for the resolution of a difference regarding a matter or item referred by Supply System. A different Project Consultant may be appointed for each matter or item referred.
(q) "Project Owners" means Supply System and the electric utilities that execute and are party to the Ownership Agreement.
(r) "Prudent Utility Practice" at a particular time means any of the practices, methods and acts, which in the exercise of reasonable judgment in light of the facts (incluring but not limited to the practices, methods and acts engaged in or approved by a signif.ant portion of the electrical utility industry prior thereto) known at the time the decision was made, would have been expected to accomplish the desired result at the lowest reasonable cost consistent with reliability, safety and expedition. Prudent Utility Practice shall apply not only to functional parts of the Project but also to appropriate structures, landscaping, painting, signs, lighting, other facilities and public relations programs reasonably designed to promote public enjoyment, understanding and acceptance of the Project. Prudent Utility Practice is not intended to be limitsd to the optimum practice, method or act, to the exclusion of all others, but rather to be a spectrum of possibie practices, methods or acts. In evaluating whether any matter conforms to Prudent Utility Practice, the parties and any Project Consultant shall take into account (1) the fact that Supply Syster is a municipal corporation and operating agency under the laws of the State of Washington with the statutory duties and responsibilities thereof and (2) the objective to integrate the entire Project Capability with the generating resources of the Federal Columbia River Power System, the Project Owners (except Supply System) ar.d the Companies, to achieve optimum utilization of the resources of such systems taken as a whole, and to achieve efficient and economical operation of such systems. Any practice, method or act which pursuant to the Ownership Agreement is determined to be Prudent Utility Practice shall be deemed to be Prudent Utility Practice hereunder.
(s) "Supply System's Ownership Share" means 0.70 or such other decimal fraction as may be determined under the Owncrship Agreement.
2. Exhibits. Exhibits A through C are by this reference incorporated herein and made a part of this agreement. Supply System and the Participant shall each be the "Contractor" as that term is used in Exhibit C.
3. Term of Agreement. This agreement shall be effective upon execution and delivery and, except as provided in section 10 (c) and except as to accrued obligations and liabilities, shall terminate on the date of written notice by Supply System pursuant to section 10(a).
4. Financing, Design, Construction, Operating and Maintenance of the Project. Supply System shall perform its duties and exercise its rights under the Ownership Agreement in accordance with Prudent Utility Practice, and shall, in good faith and in accordance with Prudent Utility Practice, use its best efforts to construct, operate and maintain the Project and to finance its interest therein.

## 5. Sale, Purchase and Assignment of Participant's Share.

(a) Sale of Participant's Share. Supply System hereby sells, and the Participant hereby purchases, the Participant's Share. The purchase price to be paid for each Contract Year by the Participant to Supply System for the Participant's Share shall be the amount specified in the Billing Statement. The Participant shall make the payment to be made to Supply System under sections 5, 6 and 10, whether or not the Project is completed, operable or operating and notwithstanding the suspension, interruption, interference, reduction or curtailment of the Project output, and such payments shall not be subject to any reduction whether by offset or otherwise, and shall not be conditioned upon the performance or nonperformance by Supply System or any other Project Owner or the Administrator or any other Participant under this or any other agreement or instrument.
(b) Assignment of Participanr's Share to the Administrator. The Participant hereby assigns, and the Administrator hereby accepts the assignment of, the Participant's Share. In consideration of such assignment, the Administrator shall provide to the Participant the payments, olisets and credits specified in sections 7 and 10 in the manner provided therein, whether or not the Project is completed, operable or operating and notwithstanding the suspension, interruption, interference, reduction or curtailment of the Project output. Such payments, offsets or credits to be made by the Administrator under this agreement shall not be reduced by offset or otherwise, except as specifically provided in section 7, and shall not be conditioned upon the performance or nonperformance by Supply System, or any other Project Owner, the Participant or any Participant under this or any other agreement or instrument.

## 6. Payment by the Participant.

(a) Not less than 45 days prior to each Contract Year, or whenever the Annual Budget for such Contract Year is amended, Supply System shall prepare and deliver to the Participant and the Administrator a Billing Statement showing the amount to be paid by the Participant for such Contract Year.

Whenever during a Contract Year the Participant's Share changes from that used in preparing the Billing Statement for that Contract Year, an amended Billing Statement shall be prepared for the remainder of that Contract Year reflecting such change and shall be submitted to the Participant and the Administrator.
(b) The Participant shall pay to Supply System each Contract Year the amount specified in the Billing Statement submitted under subsection (a) above. Such payments shall be made as specified below.

The Participant shall pay to Supply System each month in a Contract Year the amount by which the net billing credits and cash payments theretofore received from the Administrator by the Participant for that Contract Year under section 7 exceed the sum of the Participant's previous payment, to Supply System for that Contract Year until the amount of the Billing Statement has been paid; provided, however, that in any event the Participant shall pay by the end of the last month in that Contract Year the amount by which the amount in the Billing Statement exceeds the total of the monthly amounts previously paid to Supply System by the Participant in such Contract Year.

Each such payment shall be made on or before the thirtieth day after (1) the date on each of the Administrator's bills to the Participant which reflects a credit to the Participant for such Contract Year pursuant to section 7(a) or (2) the date that payment is received from the Administrator pursuant to section 7(c). Amounts due and not paid by the Participant on or before the close of business of such thirtieth day shall bear an additional charge of two percent of the unpaid amount. Thereafter, a further charge of one-half percent of the initial amount remaining unpaid shall be added on the last day of each succeeding 30 day period unti! the amount due is paid in full. Remittances received by mail will be accepted without assessment of the delayed payment charges referred to above provided the postmark indicates the payment was mailed on or before the thirtieth day after the date of the bill. If the thirtieth day after the date of the bill is a Sunday or other nonbusiness day of the Participant, the next following business day shall be the last day on which payment may be mailed without addition of the delayed payment charge.
(c) In the event that Supply System bears any cost under section 8(e) of the Project Agreement the Participant will pay to Supply System an amount equal to the amount of such cost multiplied by the Participant's Share, in addition to the payments specified in section 6(b) hereof. Payments under this section 6(c) hereof shall be made within 30 days from the date of mailing of the statement stating the amount of the payments.

## 7. Payment by the Administrator.

(a) For each Contract Year, the Administrator shall pay to the Participant an amount equal to that set forth in the Billing Statement for that Contract Year. The Administrator's payments shall be effected
by means of credits against the Administrator's monthly billings to the Participant under the Participant's Bonneville Contracts, as follows:
(1) For Contract Years in which this is the only agreement requiring the Administrator to make payments to the Participant: In the month preceding each such Contract Year the Administrator shall allow a billing credit in the form of an offset to the Participant in the full amount of the Administrator's billings in that month under the Participant's Bonneville Contracts. A billing credit computed in the same mannet shall be allowed in each of the succeeding months (except the last) in that Contract Year until the full amount owed by the Administrator for that Contract Year has been offset against the Administrator's billings to the Participant.
(2) For Contract Years in which there are two or more agreements requiring the Administrator to make payments to the Participant: In the month preceding each such Contract Year and in each of the succeeding months (except the last) in that Contract Year the Participant's billing credits under this agreement shall be offset in the manner specified in (1) above against the payments due from the Administrator under all agreements of the Participant requiring the Administrator to make payments to the Participant, in the proportion that the amount specified in the Billing Statement bears to the sum of the amounts to be paid by the Administrator under all such agreements for that Contract Year.

The total offsets allowed to the Participant hereunder for a Contract Year shall not exceed the sum of (1) the amount specified in the Billing Statement for that year and (2) any amount paid by the Participant for a prior Contract Year which remains unpaid by the Administrator to the Participant under this agreement.
"Participant's Bonineville Contracts" as used in this section means all contracts or agreements between the Participant and the Administrator which require payments by the Participant to the Administrator for sale and exchange of electric power and energy, operation and maintenance of facilities, use of transmission facilities, and emergency and standby power.
(b) If for any Contract Year, the Administrator determines that the dollar obligations due the Administrator from the Participant, referred to in subsection (a) above, are or are expected to be insufficient to offset the Administrator's dollar obligations to such Participant under subsection (a) above, and, in the opinion of the Administratcr and the Participant, are expected to remain insufficient for a significant period, the Administrator shall use his best efforts to arrange for assignment of all or a portion of the Participant's Share and the associated benefits and obligations (subject to the prior assignment of the Participant's Share to the Administrator hereunder) to another customer or customers of the Administrator for all or a portion of the remaining term of this agreement to the extent required to eliminate the insufficiency, and the Participant shall make the assignment so arranged. The other Participants shall have first right to accept such assignment, pro rata among those exercising such right, before an assignment is made to a customer who is not one of the Participants. If the Administrator is unable to arrange for such assignment, the Participant shall make such assignment to the other Participants pro rata pursuant to the counterparis of subsection (f) of this section in the other Net Billing Agreements.
(c) If (1) assignments under subsection (b) above cannot be made in amounts sufficient to bring into balance the respective dollar obiigations of the Administrator and (2) an accumulated balance in favor of the Participant from a previous Contract Year is expected by the Administrator to be carried for an additional Contract Year, such balance and any subsequent monthly net balances that cannot be net billed shall be paid in cash to the Participant by the Administrator, subject to the availability of appropriations for such purposes.
(d) The Administrator and the Participant shall not enter into any agreements providing ivr payments to the Participant which the Administrator estimates will cause the aggregate of his billings to the Participant to be less than 115 percent of the Administrator's net billing obligations to the Participant under all agreements providing for net billing.
(e) If all or a portion of the Participant's Share is assigned under this section, the Participant shall nevertheless remain liable to Supply System to pay the purchase price for the Participant's Share in accordance with section 5 (a) as if such assignment had not been made, and such liability of the Participant shall be discharged oniy to the extent that the assignee of the portion of the Participant's Share so assigned shall pay to Supply System the purchase price for the portion of the Participant's Share so assigned in accordance with the provisions of this agreement. Supply System may commence such suits, actions or proceedings, at law or in equity, including suits for specific performance, as may be necessary or appropriate to enforce the obligations of the Participant with respect to such liability.
(f) If assignments pursuant to section 7(b) of the other Net Biiling Agreements cannot be made in amounts sufficient to balance dollar obligations of the Administrator and any other Participant, the Participant shall accept on a pro rata basis with other Participants assignment of a portion of such other Participant's Share, to the extent required to eliminate such insufficiency; provided, however, that the sum of such assignments to the Participant under this subsection shall not without the consent of the Participant exceed an accumulated maximum of 25 percent of the Participant's Share specified in Exhibit A, nor shall any such assignment under this subsection cause the estimate of the payments to be made by the Participant to Supply System under this agreement to exceed the estimate of the Administrator's billings to the Participant for each Contract Year during the period of such assignment, both such estimates to be made by the Administrator.
(g) The estimates by the Administrator under this agreement of billing credits and of payments to be made by the Participant and the Administrator giving rise to such billing credits shall be conclusive.
8. Scheduling. Prior to 4 p.m. on each work day beginning on the day preceding the Date of Commercial Operation (work day meaning a day which the Administrator and Supply System observe as a regular work day) the Administrator shall notify Supply System of the amounts of energy from the Participant's Share he will require for each hour of the following day or days; provided, however, that the Administrator may during any hour request delivery of other amounts of such energy. Supply System's dispatcher, within the capability of the Participant's Share and in accordance with Prudent Utility Practice, shall schedule for delivery to the Administrator at the point of delivery specified in section 11 for each hour in the term hereof the amounts of energy so requested by the Administrator.

## 9. Participant's Right to Use Project Capability.

(a) If the Administrator is unable to satisfy his obligation to the Participant by net billing, assignment or cash payment under section 7, and determines, in consultation with the Participant, that this inability will continue for a significant period, the Participant may direct that all or a portion of the energy associated with the Participant's Share be delivered by Supply System for the Participant's account at the point of delivery specified in section 11, for either the expected period of such inability or the remainder of the term hereof, whichever is specified by the Participant when it elects to have such energy delivered to it. The amount of such delivery shall be limited to the amount of the Participant's Share for which payment cannot be made, at the time the Participant elects to have such delivery made to it, by net billing with the Participant or assignees or by direct payment by the Administrator hereunder. The Participant's obligations to assign its Participant's Share to the Administrator and the Administrator's obligations to acquire such share and make payments to the Participant under this agreement shall then be appropriately modified. The Administrator's prior obligations to the Participant not previously liquidated pursuant to the terms of section 7 shall be preserved until satisfied.
(b) If the Participant elects to withdraw all or a portion of its Participant's Share as provided in this section, the Administrator will transmit such share to any point(s) of delivery on the Federal Columbia River Power System designated by the Participant where the Administrator determines such share can be made available, will supply station service and losses related to such share during shutdown
of the Project and will provide forced-outage reserves for such share, under the same terms and conditions as provided in contracts for similar service then being offered to other utilities in the Pacific Northwest owning interests in large thermal projects.
(c) Upon withdrawal of any portion of the Participant's Share under this sectien, the Participant shall schedule such portion in the same manner as provided for the Administrator in section 8, and the Administrator's rights under section 8 shall be correspondingly reduced.

Whenever the Participant schedules any portion of its Participant's Share, the Participant and the Administrater shall (1) schedule at least their respective proportionate shares of the minimum capability of the Project, as determined by Supply System, unless all Participants with similar obligations to schedule and the Project Owners and the Administrator agree to a shutdown of the Project; provided, however, that the Administrator may, at his election, and in accordance with section 11(d) of the Ownership Agreement, require shutdown of the Project if he supplies through exchange arrangements the power and energy the Participant otherwise would schedule from the Project during such period of shutdown, and (2) supply to Supply System all necessary forecasts of their generation requirements from the Project for ensuing periods as necessary to enable Supply System to prepare the fuel management plan pursuant to section 10 of the Ownership Agreement.

## 10. Termination Settlements.

(a) If Supply System is unable to participate in ownership, construction, or operation of the Project due to licensing, financing, construction or operating conditions which are beyond its control, or if Supply System is in default as defined in the Ownership Agreement and has been requested by the Administrator to give notice of termination, or if the Project Owners invoke the End of the Project procedure in section 22 of the Ownership Agreement, Supply System shall give notice of termination of this agreement effective on the date of such notice. Supply System shall terminate its activities related to construction and operation of the Project, and shall undertake the salvage, discontinuance, decommissioning and disposition or sale of Supply System ownership interest in the Project, all in accordance with the Ownership Agreement. Thereafter Supply System shall provide monthly accounting statements to the Administrator and the Participant of all costs associated therewith. Such monthly accounting statements shall continue until all Bonds have been paid or funds set aside for the payment or retirement thereof in accordance with the Bond Resolution or the final disposition of the Project whichever is later, at which time a final accounting statement shall be prepared by Supply System at the earliest reasonable time. Such costs of salvage, discontinuance, decommissioning and disposition or sale shall include, but shall not be limited to, all of Supply System's accrued costs and iiabilities resulting from Supply System's ownership, construction, operation (including cost of fuel) and maintenance of and renewals and replacements to the Project, all other Supply System costs resulting from its ownership of the Project and the salvage, discontinuance, decommissioning and disposition thereof, and all amounts which Supply System is required under the Bond Resolution to pay in each year into the various funds provided in the Bond Resolution for debt service and all other purposes until the date that all of the Bonds have been paid or funds set aside for the payment or retirement thereof in accordance with the Bond Resolution.

The monthly accounting statements shall credit against such costs all amounts received by Supply System from the disposition of Supply System's Ownership Share of Project assets. The final accounting statement shall credit the fair market value of any assets related to the Project than retained by Supply System. If the monthly or final accounting statements show that such costs exceed such credits, the Participant shall pay Supply System at times reasonably agreed upon the sum determined by multiplying the amounts shown to be due in such statements by the Participant's Share. In any case such payments shall be made at times and in amounts sufficient to cover on a current basis the Participant's Share of the amount which Supnly System is required under the Bond Resolution to pay in each year into the various funds provided in the Bond Resolution for debt service and all other purposes. If the final accounting statement shows that such credits exceed such costs, Supply System shall pay at times reasonably agreed
upon an amount determined by multiplying such excess by the Participant's Share, such amount to be divided between the Administrator and the Participant as their interests may appear. Such excess credits shall bear interest from the date of such final accounting statement to the date of payment, at the average of the annual intersst rates for each month during such time for three-to-five year issues, United States Government securities (taxable), Money Market Rates, as published by the Board of Governors of the Federal Reserve System in the "Federal Reserve Builetin" or equivalent publication or the maximum rate lawfully payable by Supply System, whichever is less.
(b) To the extent of the Participant's Share then assigned to the Administrator, the Administrator shall pay the Participant the amounts, if any, paid by the Participant to Supply System pursuant to this section. Such amounts shall be paid in the manner specifed in Section 7 and at such times as the parties agree upon.
(c) The provisions of this section and the provisions of sections 5 (a) and 5 (b) describing the circumstances under which payments are to be made in this section and the provisions of section 13 shall remain in effect notwithstanding termination of this agreement pursuant to section 3 .
11. Provisions Relating to Delivery. Deliveries of electric power and energy to the Administrator shall be made at the point of delivery and at the approximate voltage described in the exhibit specified below. Such electric power and energy shall be in the form of three-phase current, alternating at a frequency of approximately 60 hertz. Amounts so delivered at such point during each month shall be determined from measurements made by Project meters, adjusted for losses, if any, as agreed upon by the parties hereto, installed to record such deliveries at the place and in the circuit agreed upon by Supply System and the Administrator. Such point of delivery shall be described in a suitable exhibit to this agreement when the location, voltage, and metering details of the point of delivery are so agreed.
12. Obligations in the Evert of Default. The Participant's Share purchased by the Participant from Supply System and assigned by the Participant to the Administrator under this agreeme.at shall be automativilly increased for the remaining term of this agreement pro rata with that of other nondefaulting Participants if, and to the extent that, one or more of the Participants is unable, or fails or refuses for any reason, to perform its obligations under its Net Billing Agreement, and the Participant's Share of the defaulting Participant shall be reduced correspondingly; provided, however, increases for the Participant pursuant 25 percent of the Participant's Share specified in Exhibit A, nor exceed an accumulated maximum of 25 perion cause the estimate of the payments to be made by the Parshall any such increase under the this agreement to exceed the estimate of the Administrator's billings to the Participant during the period of such increase, which estimates shall be made by the Administrator and shall be conclusive.

If the Participant shall fail or refuse to pay any amounts due to Supply System hereunder, the fact that the other Participants have assumed the obligation to make such payments shall not relieve the Participant of its liability for such payments, and the Participants assuming such obligation, either individually or as a member of a group, shall have a right of recovery from the Participant. Supply System or any Participant as their interests may appear, jointly , s severally, may commence such suits, actions or proceedings, at law or in equity, including suits for specific performance, as may be necessaiy or appropriaie to enforce the obligations of this agreement against the Participant under this subsection.
13. Sources of Participant's Payments. The Participant shall not be required to make the payments to Supply System under this agreement except from the revenues derived by the Participant from the ownership and operation of its electric utility properties and from payments by the Administrator under this agreement.

The Participant covenants and agrees that it will establish, maintain and cellect rates or charges for power and energy and other services, facilities and commodities sold, furnished or supplici by it through
any of its electric utility properties which shall be adequate to provide revenues susicient to enable the Paticipant to make the payments to be made by it to Supply System under this agreement and to pay all other charges and obiigations payable from or constituting a charge and lien upon such revenues.
14. Modi,ccation and Uniformity of Agreement.
(a) This agreement shall not be binding upon any of the parties hereto if it is not binding upon all of the parties hereto, but this agreement shall not be subject to termination by any party under any circumstances, whether based upon the default of any other party under this agreement, or any other instrument, or otherwise, except as specifically provided in this agreement.
(b) This agreement shall not be anended, modified, or otherwise changed by agreement of the parties in any manner that will impair or adversely affect the security afforded by the provisions of this agreement for the payment of the principal, interest, and premium, if any, on the Bonds as they respectively become payable so long as any of the Bonds are outstanding and unpaid or funds are not set aside for the payment or retirement thereof in accordance with the Bond Resolution.
(c) If any Net Billing Agreement is amended or replaced so that it contains terms and conditions different from those contained in this agreement, the Administrator shall notify the Participant and upon timely request by the Participant shall amend this agreement to include similar terms and conditions.
15. Assignment of Agreement. This agreement shall inure to the benefit of and shall be binding 15. Apsig the respective successors and assigns of the parties to this agreement; provided, hewever, that except as provided in sections 7,9 and 12 hereof, neither this agreement nor any interest therein shall be transferred or assigned by any one of the parties hereto except with the mutual consent in writing of the other two parties hereto, to any other entity except the United States or an agency thereof. Such conseri: will not be unreasonably withheld. No assignment or transfer of this agreement shall relieve the parties of any obligation hereunder.
16. Approval by Rural Electrification Administrator. If the Participant is a party to an agreement 16. Approval by Rural Electrificat approval of this agreement by the Administrator of the Rural Electrification Administration is required as listed in Exhibit A, this agreement shall not be binding upon any of the parties until it shall have been approved by him or his delegate.

## 17. Participants' Review Board.

(a) Composition; election. Not more than 30 days after the execution of this agreement, and times prior to June 30, 1981, as the Participants' Review Board may determine, the Participants shall elect a Participants' Review Board consisting of nine members. Supply System shall give each Participant not less than 15 days' written notice stating the time and place at which a meeting of representatives of the Participants shall be held for the purpose of holding such election. Each Pan), to cast its vote(s) nate the person and an alternate (to serve in the absence or disability of such personalf of each Particip for Board members by written notice filed with Supply System. The vote cast in behal filled by vote of the shall be pr' portional to its Participant's Share. Any vacancy on the Board shall be filled by vote of the remaining Board members pending the next Board election.
(b) Board meetings; voting; and rules. Meetings of the Participants' Review Board shall be held at least quarterly during the construction of the Project and at least semiannually thereafter. Timely written notice of the time and place of such meeting shall be given to the parties. Each member of the Board shall be entitled to one vote, to be cast in person and not by proxy. A majority of the Board shall constitute a quorum, and the majority of those present shall be necessary and sufficient foll meetings ado of any motion or resolution except as otkerwise provided in subsection (e) below. All Earticipants. Except as Board shall be open to attendance by any person autborized by any of the Participants. Except as herein provided, the calling and holding of meetings of the Board, and all of membership of the Board which governed by rules adopted from time to time by two-thirds of the entire membership of
rules may provide that the Board shall have the right to appoint persons of technical, legal, auditing or other special qualifications to committees to carry out reviews and investigations.
(c) Except in the event of an emergency requiring immediate action, copies of all proposed Construction and Annual Budgets and fuel management plans, including amendments thereto, and plans for refinancing the Project shall be submitted by Supply System to the Participants' Review Board within a reasonable time, prior to the time such proposed budgets and plans are to be adopted by Supply System. Such copies shall be submitted to the Participant upon its request.
(d) Except in the event of an emergency requiring immediate action, all bids, bid evaluations and proposed contract awards for amounts in excess of $\$ 500,000$ shall be submitted to the Participants' Review Board at least seven days prior to award.
(e) Supply System will consider the recommendations of the Participan's' Review Board, giving due regard to utilizing the Project consistent with Prudent Utility Practice and the Supply System's statutory duties. Written recommendations may be made to Supply System whenever such recommendation is approved by the majority of the members of the Participants' Review Board. Such written recommendations shall be forwarded to Supply System within a reasonable time along with supporting data, which time shall not exceed the comparable time, if any, prescribed in the Project Agreement. Supply System shall take action on such recommendations within a reasonable time for adoption, modification or rejection. Supply System, upon taking action, shall notify the Participants' Review Board promptly of such action, and if it modifies or rejects a recommendation, shall give the reason therefor.
(f) If Supply System modifies or rejects a written recommendation of the Participants' Review Board concerning a matter submitted for review under subsections (c) or (d) above, the Participants' Review Board may refer the matter to the Project Consultant in the manner described in section 8 of the Project Agreement for his written decision and his decision shall be binding upon the parties. Pending any decision by the Project Consultant under this subsection, Supply System shall proceed in accordance with the Project Agreement. Nothing in this subsection shall affect the procedure for the settlement of any dispute between the Administrator and the Supply System under this agreement or the Project Agreement.
(g) Except as specifically provided in section 8(e) of the Project Agreement Supply System shall not proceed with any itens as proposed by it and not concurred in by the Administrator without approval of the Participants' Review Board.
(h) Supply System shall not, withoet the consent of the Administrator and the Participants' Review Board, cause the insurance en the Project to be extended to any additional units or generating projects or to lapse to permit the extension of such coverage.
18. Applicability of Other Instruments. It is recognized by the parties hereto that Supply System in the ownership, construction and operation of the Project must comply with the requirements of the Bond Resolution and all licenses, permits, and regulatory approvals necessary for such ownership, construction and operation, and it is, therefore, agreed that this agreement is made, and referrals to the Project Consultant hereunder shall be, subject to the terms and provisions of the Ownership Agreement, the Bond Resolution and all such licenses, permits, and regulatory approvals.

In Witness Whereof, the parties hereto have executed this agreement in several counterparts.


## TABLE OF PARTICIPANTS AND PARTICIPANT'S SHARE

| Participant | Reference |
| :---: | :---: |
| City of Albion, Idaho | Albion |
| City of Bandon, Oregon | Bandon |
| Public Utility District No. 1 of Benton County, Washington | Benton PUD |
| *Benton Rural Electric Association | Benton REA |
| ${ }^{*}$ Big Bend Elecizic Cooperative, Inc. | Big Bend |
| *Blachly-Lane County Cooperative Electric Association | Blachly-Lane |
| The City of Blaine, Washington | Blaine |
| The City of Bonners Fe.ty, Idaho | Bonners Ferry |
| City of Burley, Idaho | Burley |
| The City of Canby, Oregon | Canby |
| City of Cascade Locks, Oregon | Cascade Locks |
| *Central Electric Cooperative, Inc. | Central Elec. |
| The City of Centralia, Washington | Centralia |
| The Central Lincoln Peoples' Utility District | Central Linc. |
| Public Utility District No. 1 of Chelan County, Washington | Chelan |
| The City of Cheney, Washington | Cheney |
| Public Utility District No. 1 of Clallam County, Washington | Clallam |
| Public Utility District No. 1 of Clark County, Washington | Clark |
| Clatskanie Peoples' Utility District | Clatskanie |
| *Clearwater Power Company | Clearwater |
| *Columbia Basin Electric Cooperative, Inc. | Columbia Basin |
| *Columbia Power Cooperative Association, Inc. | Columbia Power |
| *Columbia Rural Electric Association, Inc. . . | Columbia Rural |
| Consolidated Irrigation District No. 19 | Cons. Irrig. |
| *Consumers Power, Inc. . . . . . . . . . . | Consumers |
| *Coos-Curry Electric Cooperative, Inc. |  |
| City of Coulee Dam, Washington . . | Coulee Dam |
| Public Utility District No. 1 of Cowlitz County, Washington | Cowlitz |
| The City of Declo, Idaho | Declo |
| Public Utility District No. 1 of Douglas County, Washington | Douglas PUD |
| *Douglas Electric Cooperative, Inc. | Douglas Elec. |
| The City of Drain, Oregon | Drain |
| East End Mutual Electric Co., Ltd. | East End |
| The City of Ellensburg, Washington | Ellensburg |
| *Fall River Rural Electric Cooperative, Inc. | Fall River |
| Farmers Electric Co., Ltd. | Farmers |
| *Public Utility District No. 1 of Ferry County, Washington | Ferry |
| *Flathead Electric Cooperative, Inc. | Flathead |
| The City of Forest Grove, Oregon | Forest Grove |
| Public Utility District No. 1 of Franklin County, Washington | Franklin |

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## TABLE OF PARTICIPANTS AND PARTICIPANT'S SHARE-(Continued)

## Participant

Public Utility District No. 2 of Grant County, Washington
Public Utility District No. 1 of Grays Harbor County, Washington
*Harney Electric Cooperative, Inc.
City of Heyburn, Idaho
Hood River Electric Cooperative of Hood River County, Oregon
*Idaho County Light \& Power Cooperative Association, Inc. City of Idaho Falls, Idaho
*Inland Power \& Light Company
*Public Utility District No. 1 of Kittitas County, Washington
*Public Utility District No. 1 of Klickitat County, Washington
*Kootenai Electric Cooperative, Inc.
${ }^{\circ}$ Lane County Electric Cooperative, Inc.
Public Utility District No. 1 of Lewis County, Washington
*Lincoln Electric Cooperative, Inc. (Montana)
*Lincoln Electric Cooperative, Inc. (Washington)
*Lost River Electric Cooperative, Inc.
*Lower Valley Power \& Light, Inc.
*Public Utility District No. 1 of Mason County, Washington
Public Utility District No. 3 of Mason County, Washington
Town of McCleary, Washington
City of McMinnville, Oregon
*Midstate Electric Cooperative, Inc. City of Milton-Freewater, Oregon City of Minidoka, Idaho
*Missoula Electric Cooperative, Inc. City of Monmouth, Oregon
*Nespelem Valley Electric Cooperative, Inc.
*Northern Lights, Inc. Northern Wasco County People's Utility District
*Okanogan County Electric Cooperative, Inc.
Public Utility District No. 1 of Okanogan County, Washington
*Orcas Power and Light Company
Public Utility District No. 2 of Pacific County, Washington Public Utility District No. 1 of Pend Oreille County, Washington City of Port Angeles, Washington
*Prairie Power Cooperative, Inc.
*Raft River Rural Electric Cooperative, Inc.
*Ravalli County Electric Cooperative, Inc.
City of Richland, Washington
Riverside Electric Company, Ltd.
City of Rupert, Idaho
$\qquad$

Rural Electric Company


City of Seattle, Washington

- Approval of Agreement by Rural Electrification Administration required.

Rupert
Reference
Grant
Grays Harbor
Harney
Heyburn
Hood River
Idaho Co.
Idaho Falls
Inland
Kittitas
Klickitat
Kootenai
Lane
Lewis Lincoln (M)
Lincoln (W)
Lost River
Lower Valley
Mason 1
Mason 3
McCleary
McMinnville
Midstate
Milton-F.
Minidoka
Missoula
Monmouth
Nespelem
Northern Lts.
Northern Wasco
Okanogan Elec.
Okanogan PUD
Orcas
Pacific
Pend Oreille
Port Angeles
Prairie
Raft River
Ravalli
Richland
Riverside

Rural

Seattle

# TABLE OF PARTICIPANTS AND PARTICIPANT'S SHARE-(Continued) 

## Participant

Reference

|  | Reference |
| :---: | :---: |
| Public Utility District No, 1 of Skamania County, Washington | Skamania |
| th Side Electric Lines, 1 of Snohomish County, Washington | Snohomish |
| The City of Springfi | South Side |
| The Town of Sumas, Washington | Springfield |
| *Surprise Valley Eiectrification Corporation |  |
| City of Tacoma, Washington . . . . . . . . . |  |
| *Tanner Electric | acoma |
| *Tillamook Peoples' Utility District | Tanner |
| *Umatilla Electric Cooperative Association | Tillamook <br> Umatilla |
| Unity Light and Power Company |  |
| Vera Irrigation District No. 15. | Unity |
| *Vigilante Electric Cooperative, In | Vera <br> Vigilante |
| Public Utility District No. 1 of Wahkiakum County, Washingt | Vigilante |
| *Wasco Electric Cooperative, Inc. | Wahkiakum Wasco |
| *Wells Rural Electric Company |  |
| *West Oregon Electric Cooperative, Inc |  |
| Public Utility District No. 1 of Whatcom County, Washington | West Oregon |

*Approval of Agreement by Rural Electrification Administration required.
Upon prior written notice to Supply System, the Administrator and all of the other Participants, this Exhibit A may be amended from time to time upon mutual agreement of two or more Participants so as to provide revised Participants' Shares for such Participants so long as the aggregate of the increases in Participants' Shares is equal to the aggregate of the decreases in Participants' Shares; provided, however, that the sum of any such decreases for any Participant pursuant to this paragraph shall not exceed an accumulated maximum of 25 percent of the Participant's Share specified in this Exhibit on the date of execution of this agreement nor shall any such increase under this paragraph cause the estimate of the payments to be made by a Participant to Supply System under this agreement to exceed 86.95 percent of the estimate of the Administrator's billings to such Participant during the period of such increase, which estimates shall be made by the Administrator and shall be conclusive; provided, further, that any such increase or decrease shall not affect or impair the tax exempt status of the Bonds. The Administrator shall then prepare a revised Exhibit A which shall be substituted for this Exhibit A and become a part of this agreement.

## PARTICIPANT'S SHARE

| Participant | 1980-81 | 1981-82 | 1982-83 | 1983.84 | 1984.85 | 1985.86 | $\frac{1986.87}{(1)}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 0.00004 | 0.00004 | 0.00006 | 0.00006 | 0.00005 | 0.00004 | 0.00003 |
|  | 0.00094 | 0.00094 | 0.00132 | 0.00140 | 0.00143 | 0.001 |  |
| Benton PU | 0.03604 | 0.03604 | 0.04160 | 0.04308 | 0.04174 | 0.04158 0.00673 | 0.006 |
| Benton REA | 0.00573 | 0.00748 | 0.00783 | 0.00741 | 0.00699 | 0.00673 0.00332 | 0.00374 |
| Big Bend | 0.00074 | 0.00074 | 0.00528 | 0.00507 0.00436 | 0.00484 0.00452 | 0.00470 | 0.00491 |
| Blachly-L | 0.00388 | 0.00388 0.00092 | 0.00116 | 0.00107 | 0.00103 | 0.00102 | 0.00101 |
| Blaine | 0.00084 | 0.00084 | 0.00108 | 0.00109 | 0.00105 | 0.00104 | 0.00099 |
| Bonners F | ${ }^{0} 0.00081$ | 0.00081 | 0.00198 | 0.00198 | 0.00188 | 0.00121 | 0.00155 |
| Burley | 0.00081 0.00139 | 0.00139 | $0.00164$ | 0.00193 | 0.00211 | 0.00231 |  |
| Canby |  |  |  |  |  | 0.00061 | 64 |
| Cascade Locks | $0.00042$ | 0.00042 <br> 0.01243 | $\begin{aligned} & 0.00049 \\ & 0.01183 \end{aligned}$ | 0.01157 | 0.01079 | 0.01010 | 0.00966 |
| Central Elec. | 0.00148 | 0.00148 | $0.01183$ | 0.00284 | 0.00278 | 0.00246 | 0.00258 |
| Centralia | 0.00148 | 0.02763 | 0.03236 | 0.03432 | 0.03476 | 0.03569 | 0.03607 |
| Central | 0.02747 | 0.00478 | 0.00606 | 0.00562 | 0.00496 | 0.00451 | 0.00433 |
| Chelan | 0.00431 | 0.00431 | 0.00479 | 0.00481 | 0.00460 | 0.00451 | 0.00442 |
| Cheney | 0.00738 | 0.00738 | 0.01006 | 0.01040 | 0.01020 | 0.01025 | 0.01001 |
|  | 0.13903 | 0.13764 | 0.15228 | 0.14715 | 0.14467 | 0.14576 | 0.13633 |
|  | 0.00492 | 0.00492 | 0.00763 | 0.00731 | 0.00670 | 0.006 | 0.00530 |
| Clearwater | 0.00584 | 0.00604 | 0.00703 | 0.00667 | 0.00631 |  | 0.005 |
| umbia Basin | 0.00217 | 0.00217 | 0.00382 | 0.0 | 0.00368 | 0.00 |  |
| Columbia Power | 0.00078 | 0.00078 |  |  | 0.00096 |  |  |
| Columbia Rura | 0.01058 | 0.01330 | 0.0 | 0.00006 | 0.01272 | 0.00005 | 0.00005 |
| Cons. Irrig. | 0.00008 | 0.00008 | 0.00007 | 0.01794 | 0.01923 | 0.02049 | 0. $¢ \sim 242$ |
| Consumers | 538 | 0.01751 | 0.00880 | 0.00869 | 0.00852 | 0.00844 | 0.00781 |
| Coos-Curry | 0.00481 | 0.00032 | 0.00052 | 0.00052 | 0.00049 | 0.00040 | 0.00041 |
| Coulee | 0.03296 | 0.04227 | 0.02370 | 0.01984 | 0.03146 | 0.02896 | 0.03461 |
| itz | , | 0.00013 | 0.00017 | 0.00019 | 0.00020 | 0.00021 | 0.03023 |
| Declo |  | 0.00097 | 0.00085 | 0.00070 | 0.00057 | 7 | 0.00049 |
| uglas |  |  |  |  | 0.00 |  |  |
| Douglas E | 0057 | $\begin{aligned} & 0.00638 \\ & 0.00051 \end{aligned}$ | $\begin{aligned} & 0.00617 \\ & 0.00085 \end{aligned}$ | $\begin{aligned} & 0.00634 \\ & 0.00089 \end{aligned}$ | 0.00088 | 0.00082 | 0.00083 |
| Drain | 0.00028 | 0.00028 | 0.00032 | 0.00029 | 0.00027 | 0.00026 | 0.00023 |
| East End | 0.00584 | 0.00584 | 0.00712 | 0.00723 | 0.00699 | 0.00693 | 0.00675 |
| Ellensburg | 0.00095 | 0.00099 | 0.00250 | 0.00288 | 0.00321 | 0.00359 | 0.00393 |
| Fall River | 0.00014 | 0.00014 | 0.00021 | 0.00019 | 0.00016 | 0.00011 | 0.00011 |
|  | 0.00100 | 0.00100 | 0.00116 | 0.00112 | 0.00104 | 0.00099 | 0.000 |
| Flathe | 0.00291 | 0.00327 | 0.00355 | 0.00327 | 0.00300 | 0.00282 | 0. |
| Forest Grove | 0.00000 | 0.00000 | 0.00000 | 0.00000 | 0.0000 | . 0.01212 |  |
| Franklin | 98 | 8 | 0.0125 |  |  |  |  |
|  | 0.00725 | 0.00464 | 0.00589 | 0.00545 | 0.00482 | 0.00438 | $20$ |
| Grays Harbor | 0.03090 | 0.03090 | 0.02040 | 0.02209 | 0.02251 | . 0.0233310 | . 002221 |
| Harney | 0.00055 | 0.00055 | 0.00263 | 0.00261 | 0.00166 | 0.00131 | 0.00145 |
| Heyburn | . 000340 | ${ }^{0} 0.00340$ | 0.00436 | 0.00448 | 0.00457 | 0.00469 | 0.00469 |
| Hood River | 0.00067 | 0.00067 | 0.00111 | 0.00109 | 0.00106 | 0.00105 | 0.00098 |
| Idaho C | 0.00363 | 0.00363 | 0.00797 | 0.00836 | 0.00831 | 0.00722 | 0.00787 |
| Idaho F | 0.01735 | 0.02076 | 0.02029 | 0.01946 | 0.01857 | 0.01811 | 0.01798 |
|  | 0.00180 | 0.00180 | 0.00205 | 0.00210 | 0.00205 | 0.00205 | 0.00206 |
| 年itas | 0.00442 | 0.00442 | 0.00565 | 0.0053 | 0.00503 | 0.00486 | 0.00448 |

[^14]PARTICIPANTS SHARE-(Continued)

| Pariticipant | 1980-81 | 1981-82 | 1982-83 | 1983-84 | 1984-85 | 1985.86 | $\frac{1986.87}{(1)}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Kooterai |  | 0.00502 | 0.00515 | 0.00492 | 0.00468 | 0.00454 | 0.00443 |
| Kooten | 0.00832 | 0.00832 | 0.01114 | 0.01125 | 0.01133 | 0.01150 | 0.01123 |
| Lewis | 0.00944 | 0.00944 | 0.01249 | 0.01253 | 0.01197 | 0.01173 | 0. |
| Lincoln (M) | 0.00187 | 0.00192 | 0.00225 | 0.00214 | 0.00202 | 0.00194 | 0.00182 |
| Lincoln (W) | 0.00143 | 0.00143 | 0.00119 | 0.00116 | 0.00113 | 0.00 | 0.00 |
| Lost River | 0.00069 | 0.00069 | 0.00120 | 0.00121 | 0.00121 | 0.00594 | 0.00557 |
| Lower Valley | 0.00540 | 0.00542 | 0.00671 | 0.00642 | 0.00167 | 0.00165 | 0.00 |
| Mason | 0.00144 | 0.00 | 0.001719 | 0.01411 | 0.01336 | 0.01299 | 0.01265 |
| Mason | . 01326 | 0.01326 | 0.01419 0.00075 | 0.01411 | 0.01336 | 0.00050 | 0.00059 |
| McCleary | 0.00036 |  |  |  |  |  |  |
| McMinnville | 0.000 | 0.00394 | $\begin{aligned} & 0.00102 \\ & 0.00590 \end{aligned}$ | 0.00276 <br> 0.00620 | 0.00469 <br> 0.00648 | $0.00678$ | 0.00547 0.00704 |
| Midstate | 0.00475 | 0.00524 | 0.00590 | 0.00000 | 0.00000 | 0.00000 | 0.00002 |
| Milton F . | 0.00000 | 0.00000 | 0.00001 | 0.00001 | 0.00001 | 0.00001 | 0.00001 |
| Minidoka | 0.00001 | 0.000411 | 0.00412 | 0.00392 | 0.00372 | 0.00360 | 0.00352 |
| Missoula | 0.00346 | 0.00292 | 0.00352 | 0.00423 | 0.00473 | 0.00525 | 0.00588 |
| Monmouth | 0.00120 | 0.00129 | 0.00146 | 0.00140 | 0.00133 | 0.00129 | 0.00123 |
| thern | 0.00446 | 0.00512 | 0.00547 | 0.00530 | 0.00509 | 0.00499 | 0.00489 |
| Northern Wasco | 0.00147 | 0.00147 | 0.00142 | 0.00165 | 0.00182 | 0.00197 | 0.00213 0.00079 |
| Okanogan Elec. | 0.00033 | 0.00033 | 0.00092 | 0.00086 | 0.00085 | 0.00081 |  |
| Okanogan PUD | 0.00253 | 0.00253 | $0.00299$ | $0.00272$ | $0.00266$ | $\begin{aligned} & 0.00066 \\ & 0.00730 \end{aligned}$ | $\begin{aligned} & 0.00143 \\ & 0.00733 \end{aligned}$ |
| Orcas | 0.00537 |  |  | 0.00958 | 0.00916 | 0.00905 | 0.00870 |
| Pacific | 0.00746 | 0.00746 | 0.00064 | 0.00060 | 0.00053 | 0.00049 | 0.00047 |
| Pend Oreille | 0.00078 | 0.00366 | 0.00754 | 0.00746 | 0.00702 | 0.00481 | 0.00576 |
| Port Angeles | 0.00024 | 0.00029 | 0.00026 | 0.00023 | 0.00020 | 0.00018 | 0.00016 |
| Prairie | 0.00341 | 0.00341 | 0.00533 | 0.00522 | 0.00507 | 0.00501 | 0.00468 |
| ft | 0.00377 | 0.00455 | 0.00455 | 0.00438 | 0.00420 | 0.00412 | 0.00409 |
| Ravaland | 0.01006 | 0.01006 | 0.01479 | 0.01559 | 0.01556 | 0.01589 | 0.01576 |
| Riverside | 25 | 0.00027 | 0.00025 | 0.00022 | 0.00019 | 0.00017 |  |
| Rupert | 0.00062 | 0.00062 | 0.00121 | 0.00123 | 0.00119 | 0.00098 | $0.00106$ $0.00435$ |
| Rural | 0.00355 | 0.00442 | 0.00443 | 0.00436 | 0.00427 | 0.00426 | 0.0138 |
| Salem | 0.00988 | 0.00988 | 0.01025 | 0.01119 0.00104 | 0.01200 | 0.00102 | 0.00097 |
| Salmon | 0.00063 | 0.11740 | 0.09930 | 0.08236 | 0.08079 | 0.07475 | 0.07206 |
| Seattle | 0.12024 | 0.00207 | 0.00291 | 0.00298 | 0.00290 | 0.00289 | 0.00278 |
| Skamania | . 222212 | 0.24072 | 0.19767 | 0.20948 | 0.19085 | 0.19308 | 0.19334 |
| Snohomish | 0.22212 0.00074 | 0.00081 | 0.00085 | 0.00080 | 0.00074 | 0.00071 | 0.00067 |
| South Side |  | 0.00040 | 0.00145 | 0.00180 | 0.00202 | 0.00224 | 0.00238 |
| Springfield | 0.000010 | 0.00010 | 0.00019 | 0.00019 | 0.00019 | 0.00019 | 8 |
|  |  | 0.00097 | 0.00163 | 0.00148 | 0.00135 | 0.00108 | 0.00102 |
| Surprise | 0.06858 | 0.03044 | 0.02309 | 0.02792 | 0.04456 | 0.05865 | 0.05803 |
| Tacoma | 0.00078 | 0.00084 | 0.00109 | 0.00108 | 0.00106 | 0.00106 | 0.00104 |
| Tanner | 0.00464 | 0.00464 | 0.00746 | 0.00804 | 0.00827 | 0.00857 | 0.00833 |
| Umatilla | 0.01473 | 0.01467 | 0.01487 | 0.01651 | 0.01794 | 0.00242 | 0.00235 |
| Unity | 0.00239 | 0.00275 | 0.00278 | 0.00398 | 0.00397 | 0.00405 | 0.00401 |
| Vera | . 00256 | c.00259 0.00066 | 0.00136 | 0.00126 | 0.00115 | 0.00090 | 0.00088 |
| Vigilante | 0.00066 0.00156 | 0.00156 | 0.00203 | 0.00208 | 0.00203 | 0.00203 | 0.00198 |
| Wahkiakum | 0.00156 0.00225 |  | 0.00271 | 0.00265 | 0.00260 | 0.00258 |  |
| Was |  |  |  | 0.00248 | 0.00228 | 0.00214 | 0.00214 |
| Wells | 0.00262 |  | $0.00238$ | 0.00241 | 0.00246 | 0.00250 | 0.00252 |
| West Oregon | 0.00229 | 0.00482 | 0.00459 | 0.004 | 0.0038 | 0.00347 | . 00335 |
| Whatc |  | 0.004 | 0.00459 | 0.0042 | 0.008 |  |  |

[^15]
## EXHIBIT B

## PROJECT CHARACTERISTICS

## WASHINGTON PUBLIC. POWER SUPPLY SYSTEM

## NUCLEAR PROJECT NO. 3

The Washington Public Power Supply System's Nuclear Project No. 3 is expected to have a net electrical plant capabiity of approximately $1,100 \mathrm{MW}$.

It will be located on a site in the State of Washington acceptable to the Project Owners and the Administrator.

The plant and associated facilities will include a nuclear steam supply system, fuel and reactor coolant system with all related containmenc structures, safety features, instrumentation, control and auxiliary systems; turbine-generator, condensers and circulating water cooling systems, facilities and piping; electrical and mechanical systems and other related equipment and facirities; electrical facilities required to deliver the output of the Project to the BPA iranss ission system a a oint to be determined by the Supply System and the Administrator; and other structures, shops, warehouses, construction facilities, offices, equipment or facilities required in the construction, maintenance and operation of the Project.

A complete description of the Project will be prepared after bids have been received and evaluated and awards have been made for majјr plant components.

## EXHIBIT C

## PROVISIONS REQUIRED RY STATUTE OR EXECUTTVE ORDER

## 1. Contract Work Hours and Safety Standards.

This contract, to the extent that it is of a character specified in the Contract Work Hours and Safety Standards Act (Public Law 87-581, 76 Stat. 357-360, as amended) and is not covered by the WalshHealey Public Contracts Act ( 41 U. S. C. $35-45$ ), is subject to the following provisions and to all other provisioas and exceptions of said Contract Work Hours and Safety Standards Act.
(a) No Contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any laborer or m.chanic in any workweek in which he is employed on such work, to work in excess of eight hours in any calendar day or in ezcess of forty hours in any workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times his basic rate of pay for all hours worked in excess of eight hours in any calendar day or in excess of forty hours in such n...nweek, whichever is the greater number of overtime hours.
(b) In the event of any violation of the provisions of subsection (a), the Contractor and any subcontractor responsible for such violation shall be liable to any affected employee for his unpaid wages. In addition, such Contractor or subcontractor shall be liable to the United States for liquidated damages. Such liquidated damages shall be computed, with respect to each individual laborer or mechanic employed in vioiation of the provisions of subsection (a), in the sum of $\$ 10$ for each calendar day on which such employee was required or permitted to work in excess of eight hours or in excess of forty hours in a workweek without payment of the required overtime wages.
(c) The Administrator may withhold, or cause to be withheld, from any moneys payable on account of work performe. 1 by the Contractor or subcontractor, the full amount of wages required by this contract and such sums as may administratively be determined to be necessary to satisfy any liabilities of such Contractor or subcontractor for liquidated damages as provided in subsection (b).
(d) No contractor or subcontractor contracting for any part of the contract work shall require any laborer or mechanic employed in the performance of the contract to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his health or safety, as determined under construction safety and health standards promulgated by the Secretary of Labor by regulation based on proceeding: pursuant to section 553 of title 5, United States Code, provioed that such proceedings include a hearing of the nature authorized by said section.
(e) The Contractor shall require the foregoing subsections (a), (b), (c), (d) and this subsection (e) to be inserted in all subcontracts.
(f) The Contractor shall keep and maintain for a period of three (3) years from the completion of this contract the information required by 29 CFR $\S 516.2$ (a). Such material shall be made zvailable for inspection by authorized representatives of the Government, upon their request, at reasonable times during the normal work day.

## 2. Convict Lat Jr.

The Contractor shall not employ any person undergoing sentence of imprisonment at hard labor.

## 3. Equal Opportunity.

Unless exempted pursuant to the provisions of Executive Order 11246 of September 24, 1965 and the rules, regulations and relevant orders of the Secretary of Labor thereunder, during the performance of this contract, the Contractor agrees as follows:
(a) The Contractor will not discriminate against any employee or applicant for empioyment because of race, color, religion, sex, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layofi or termination; rates of pay or other forms of compensation and selection for training, including apprenticeship. The Contractor agrees to post in conspicious places, available to employees and applicants for employment, notices to be provided by the Administrator setting forth the provisions of this equal opportunity clause.
(b) The Contractor will, ir all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.
(c) The Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the Administrator, advising the labor union or worker's representative of the Contractor's commitments under this equal opportunity clause and shall post copies of the r.atice in conspicious places available to employees and applicants for eroployment.
(d) The Contractor will comply with all provisions of Executive Order No. 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
(e) The Contractor will furnish all information and reports required by Executive Order No. 11246 of September 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the Administrator and the Secretary of Labor for purposes of investigations to ascertain compliance with such rules, regulations and orders.
(f) In the event of the Contractor's noncompliance with the equal opportunity clause of this contract or with any of such rules, regulations, or orders, this contract may be cancelled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order No. 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order No. 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.
(g) The Contractor will include the provisions of paragraphs (a) through (g) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order No. 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as the Administrator may direct as a means of enforcing such provisions including sanctions for noncompliance; provided, however, that in the event the Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the Administrator, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

## 4. Interest of Member of Congress.

No Member of or Delegate to Congress, or Resident Commissioner shall be admitted to any share or part of this contract or to any benefit that may arise therefrom. Nothing, however, herein contained shall be construed to extend to such contract if made with a corporation for its general benefit.
EXHIBIT V
CONTRACT NO. 14-03-391001-26.73
WASHINGTON PUBLIC POWER SUPPLY SYSTEMNUCLEAR PROJECT NO. 3AGREEMENIexecuted by theUNITED STATES OF AMERICADEPARTMENT OF THE INTERIORacting by and through the
BONNEVILLE POWER ADMINISTRATORand
WASHINGTON PUBLIC POWER SUPPLY SYSTEM
(Project Agreement)

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Exhibit C (Ownership Agreement)

This AGREEMENT, executed September 25, 1973, by the United States of America (Government), Department of the Interior, acting by and through the Bonneville Power Administrator (Administrator), and Washington Public Power System (Supply Sjstem), a municipal corporation of the State of Washington,

## Witnesseth:

Whereas in order to achieve the economies of size ior the benefit of Supply System's members, the Perticipants and the other Project Owners, the Project Owners have entered into an agreement simultaneously with this agreement providing that the Project Owners will finance and own the Project and that Supply System will design, construct, operate and maintain the Project on behalf of the Project Owners; and

Whereas the Administrator has determined that acquisition of up to 70 percent of Project Capability will assist in attaining the objectives of the Bonneville Project Act, and other statutes which pertain to the disposition of electric power and energy from Government projects in the Pacific Northwest by enabling the Government to make optimum use of the Federal Columbia River Power Systein, and that the integration of capability of the Project with the generating resources of the Federal Columbia River Power System as provided herein will enable the Administrator to make avai. able additional firm power and energy to meet the needs of his customers; and

Whereas the construction of the Project is a part of the Hydro-Thermal Power Program for the Pacific Northwest and this agreement is one of a series of agreements implementing such program; and

Whereas Supply System plans to acquire a site for the Project in the State of Washington, acceptable to the Project Owners and the Administrator, and plans, in connection therewith, to enter into certain contracts for the financing, planning, engineering, construction and operation of said plant; and

Whereas Supply System and the Companies have entered into short-term Power Sales Agreements simultaneously with this agreement providing for purchase by the Companies of output from the Supply System's Ownership Share of the Project; and

Whereas Supply System, the Administrator and the Participants are parties to Net Billing Agreements under which Supply System sells Project Cepability to the Participants and under which the Administrator will acquire such Project Capability; and

Whereas Supply System is organized under the laws of the State of Washington (Rev. Code of Washington, Ch .43 .52 ) and is authorized by law to jointly construct, own, acquire and operate works, plants, and facilities for the generation and/or transmission of eiectric power and energy and to enter into contracts for such purposes and with the Administrator and public and private organizations for the disposition and distribution of electric power and energy produced thereby; and

Whereas the Administrator is authorized pursuant to law to dispose of electric power and energy generated at various federal hydroelectric projects in the Pacific Northwest and to enter into related agreements;

Now, Therefore, the parties hereto mutually agree as follows:

## 1. Definiaion and Explanation of Terms.

(a) "Annual Budget" means the budget adopted by Supply System not less than 45 days prior to the beginning of each Contract Year which itemizes the projected costs of Supply System's Ownership applicable to thie remainder of zuch Contract Year. The Annual Budget, as amended from time to time, Share of the Project applicable to such Contract Year, or, in the case of an amended Annual Budget,
shall make provision for all such Supply System's costs, including accruals and amortizations, resulting from the ownership, operation (including cost of fuel), and maintenance of the Project and repairs, renewals, replacements, and additions to the Project, including, but not limited to, the amounts which Supply System i required under the Bond Resolution to pay in each Contract Year into the various funds provided for in the Bond Resolution for debt service and all other purposes and shall include the source of funds proposed to be used; provided, however, that the Annual Budget for any portion of a Contract Year prior to the Date of Commercial Operation or September 1,1981, whichever occurs firsi, shall include only such amounts as may be agreed upon by Supply System and the Administrator.
(b) "Bonds" means any bond, bonds, or other evidences of indebtedness issued in connection with the Project pursuant to the Bond Resolution (1) to finance or refinance Supply System's Ownership Share of costs associated with planning, designing, financing, acquiring and constructing the Project pursuant to the Bond Resolution and (2) for any other purpose authorized thereby.
(c) "Bond Resolution" means the resolution or resolutions adopted or supplemented by Supply System, as the same may be amended or supplemented, to authorize the Bonds.
(d) "Companies" means the electric utilities, other than Supply System, that execute and are party to a Fower Sales Agreement.
(e) "Construction Budget" means the budget adopted by Supply System which sets forth an estimated schedule of construction expenditures and itemizes all costs related to ownershi; design, planning, construction and financing of Supply System's Ownership Share of the Project, as well as any revision or updating thereof during the course of construction.
(f) "Contract Year" (1) means the period commencing on the D.te of Commercial Operation, or on January 1, 1981, whichever occurs first, and ending at 12 p.m. on the following June 30, and (2) thereafter means the 12 mosth period commencing each year at 12 p.m. on June 30 , except that the last Contract Year shall end on the date of termination of this agreement.
(g) "Date of Commercial Operation" means the date determined pursuant to Section 1 of the Ownership Agreement.
(h) "Net Billing Agreements" means the agreements for the Project entered into by Supply System, the Administrator and each of the Participants (Contracts No. 14-03-39101 through 14-03-39203, inclusive).
(i) "Ownership Agreement" means the Agreement for construction, ownership, and operation of the Project, attached hereto as Exhibit C, as the same may be amended, as executed by the Project Owners. Any amendment thereto which may affect rights, duties, or costs of the Administrator under the Net Billing Agreements shall require approval by him pricr to execution by Supply System.
(j) "Participants" means those entities which are specified in Exhibit A of the Net Billing Agreements, or which become assignees of all or part of any Participant's Share pursuant to such agreements.
(k) "Power Sales Agreements" means the agreements for the short-term sale and purchase of output from Supply System's Ownership Share of the Project, entered into simultaneously with this agreement by Supply System and each of the Companies.
(1) "Project" means the nuclear generating plant and related properties as described in Exhibit A. Exhibit A may be revised from time to time by mutual agreement of the parties, but in any event shall conform to the description of the Project in the Bond Resolution which authorizes the issuance of Bonds in an amount sufficient to pay the costs of acquiring and constructing Supply System's Ownership Share of the Project.
(m) "Project Capability" means the actual electrical generating capability, if any, of the Project at any particular time (including times when the Project is not operable or operating or the operation
thereof is suspended, interrupted, interfered with, reduced or curtailed, in each case in whole or in part), less Project station use and losses.
(n) "Project Consultant" means an individual or firm, of national reputation having demonstrated expertise in the field of the matter or item referred to it, appointed among other things, for the resolution of a difference regarding a matter or item referred by Supply System. A different Project Consultant may be appointed for eacin matter or item referred.
(o) "Project Owners" means Supply System and the electric utilities that execute and are party to the Ownership Agreement.
(p) "Prudent Utility Practice" at a particular time means any of the practices methods and acts, which in the exercise of reasonable judgment in light of the facts (including but not limited to the practices, methods and acts engaged in or approved by a significant portion of the electrical utility industry prior thereto) known at the time the decision was made, would have been expected to accomplish the desired result at the lowest reasonable cost consistent with reliability, safety and expedition. Prudent Utility Practice shall apply not only to functional parts of the Project but also to appropriate structures, landscaping, painting, signs, lighting, ether facilities and public relations programs reasonably designed to promote public enjoyment, understanding and acceptance of the Project. Prudent Utility Practice is not intended to be limited to the optimum practice, inethod or act, to the exclusion of all others, but rather to be a spectrum of possible practices, methods or acts. In evaluating whether any matter conforms to Prudent Utility Practice he parties and any Project Consultant shall take into account (1) the fact that Supply System is a municipal corporation and operating agency under the laws of the State of Washington with the statutory duties and responsibilities thereof and (2) the objective to integrate the entire Project Capability with the generating resources of the Federal Columbia River Power System, the Project Owners (except Supply System) and the Companies, to achieve optimum utilization of the resources of such systems taken as a whole, and to achieve efficient and economical operation of such
(b) Supply System shall keep the Administrator informed of all significant matters with respect to construction or operation of the Project (including without limitation, plans, specifications, engineering studies, environmental reports, budgets, fuel plans, estimates and schedules) where practicable in time for the Administrator to comment thereon before decisions are made, and shall confer with him during the development of Supply System's proposals for such matters when practical to do so. Upon request by the Administrator, Supply System shall furnish or make available to him with reasonable promptness, and at reasonable times, any and all other information relating to the planning, construction, operation or maintenance of the Project.
(c) Subject to provisions of section 2(e) of the Ownership Agreement, the Administrator may, at his option and at Government expense, maintain a representative at the Project site during the construction of the Project. Such representative shall have no authority regarding administiution or inspection of the Project construction.
(d) The Administrator shall use his best efforts to construct, operate and mainta in necessary facilities to interconnect the Project with the Federal Columbia River Power System so as to be ready to receive Project generation on or before the initial test and operation of the Project, presently scheduled for April 1, 1981.
(e) The Administrator shall have the right to purchase upon reasonable terms and conditions energy produced during any test operation of the generating unit of the Project, upon reasonable notice to Supply System of his intention to do so, given prior to the commencement of such test operation. If the Administrator does not exercise such right, he shall accept delivery into the Federal Columbia River Power System and, upon reasonable terms and conditions, shall deliver any such energy not purchased by him to Supply System or its assignee at mutually agreed points.
(f) During any hour in which the Pryject does not generate lectric power and energy for station use and for losses to the high-voitage terminals of the Project substation, the Administrator shall furnish his pro rata share of such electric power and energy, based on the sum of decimal fraction shares then assigned to him under the Net Billing Agreements, to the Supply Syam at the point of delivery specified in the Net Billing Agreements; provided, however, that deliveries of such electric power and energy may be interrupted or reduced in the case of system emergencies, or in order to make repairs, replacements or necessary additions to or perform maintenance on that portion of the Federal Columbia River Power System necessary to provide such e'ectric power and energy.

## 6. Financing of the Project.

(a) Supply System shall, in good faith and with due diligence, use its best efforts to issue and sell Bonds to finance Supply Sys.am's Or nership Share of the costs of the Project and the completion thereof, as such costs are defined in the Bond Resolution and, subject to the provisions of section 7(b), to finance Supply System's Ownership Share of costs of any capital additions, renewals, repairs, replacements or modifications to the Project which Supply System is required to pay pursuant to the Ownership Agreement; provided, however, that in each such case such Bonds may then be legally issued and sold.

Supply System may, after submitting its financing proposal to the Administrator, or shall, whenever requested by the Administrator, adopt proceedings to authorize the issuance and sale of additional Bonds to refund outstanding Bonds prior to maturity in accordance with the Bond Resolution; provided, however, that if in the judgment of Supply System or the Administrator no substantial benefits or economies will be achieved by such refunding, the matter shall be referred to the Project Consultant as provided in section 8.
(b) Notwithstanding any other provisions of this agreement, the Bond Resolution shall be subject to approval of the Administrator.

## 7. Budget and Accounting Procedures.

(a) Consiruction Budgei. The Administrator has heretofore reviewed Supply System's Construction Budget in connection with the Project. Promptly after approval of an updated or revised construction budget pursuant to the Ownership Agreement, Supply System shall submit to the Administrator its revised Construction Budget. Such budget shall include Supply System's share of construction costs pursuant to the Ownership Agreement and shall separately itemize all Supply System's other costs related to construction and financing of Supply System's Ownership Share of the Project. Updated Construction Budgets for the succeeding calendar year and revised Construction Budgets for the current calendar year shall become effective unless disapproved by the Administrator within thirty days, and seven days, respectic 'y, after submittal. Any item disapproved shall be referred to the Project Consultant as provided in section 8.

A monthly Construction Budget report shall be prepared by Supply System and filed with the Administrator showirg by major plant accounts or contracts, the cumulative amounts committed and the cumulative expenditures to date of each such report.
(b) Annual Budget. At least 90 days prior to the expected Date of Commercial Operation, Supply System shall submit to the Administrator a proposed Annual Budget for the period from the er jected Date of Commercial Operation to the next succeeding July 1, and if the Date of Commercial Operation occurs subsequent to April 1 in a calendar year, a similar Annual Budget for the next succeeding Contract Year. Thereafter, on or before April 1 of each year Supply System shall submit to the Adininistrator a similar Annual Budget for the next succeeding Contract Year, which budget shall take into account the cumulative difference between total moneys received and expenditures for the prior Contract Year and provide for adjustment, as necessary, of the appropriate working cash fund.

The Annual Budget shall include Supply System's Ownership Share of operating costs according to the operating budget adopted pursuant to the Ownership Agreement, and Supply System's share of anticipated fuel and other costs pursuant to the Ownership Agreement and shall separately itemize all of Supply System's other costs related to the Supply System's Ownership Share of the Project. All taxes imposed and required by law to be paid with respect to Supply System's Ownership Share, and which are due and payable in a Contract Year, shall be included in the Annual Budget for that Contraci Year as a Project cost. To the extent Supply System is permitted by law to negotiate for payments i: lieu $0^{\circ}$ taxes or other negotiated payments to state or local taxing entities, the Annual Budget shall also include the amounts of such negotiated payments; provided, however, that Supply System shall not agree to such negotiated payment if in any Contract Year the sum of such negotiated payments and taxes imposed by law would exceed the total amount of ad valorem taxes that Supply System would have paid in that year to such taxing entities if Supply System's Ownership Share of the Project or portion thereof, within the boundaries of each such taxing entity, were subject to ad valorem taxes and its valuation for tax purposes were added to the valuation of the property subject to ad valorem taxes by such taxing entity, but with its millage rate reduced so that the amount of ad valorem taxes raised would be unchanged.

If in any Contract Year the amounts in the Annual Budget for renewals, repairs, replacements, and betterments, and for capital additions necessary to achieve design capability or required by governmental agencies (Amounts for Extraordinary Costs), whether or not such amounts are Costs of Operation or Costs of Construction as defined in the Ownership Agreement, exceed the amount of reserves, if any, maintained for such purpose pursuant to the Bond Resolution plus the proceeds of insurance, if any, available by reason of loss or damage to the Project, by the lesser of:
(1) an amount of $\$ 3,000,000$ or
(2) an amount by which the amount of the Administrator's estimate of the total of the Administrator's net billing credits available in such Contract Year to Participants pursuant to section 7 (a) of the Net Billing Agreements and the amounts of such reserves and insurance, if any, exceeds the Anaual Budget for such Contract Year exclusive of Amounts for Extraordinary Costs.

Supply System shall, in good faith, use its best efforts to issue and sell Bonds to pay such excess in accordance with section 6(a).

Notwithstanding any other provision of this agreement, Supply System's Ownership Share of costs incurred by Suppiy System in an emergency or to protect the safety of the Project or the public, and unbudgeted expenditures necessary in the normal course of business for the continued safe operation and maintenance of the Project prior to approval of the Annual Budget or revised Annual Budget, shall be added to the Annual Budget as incurred. Promptly after any such occurrence, and prior to expenditures of any other funds not contemplated in the effective Annual Budget, Supply System shall submit a revised Annual Budget to the Adm instrator.

The Annual Budget and revised Annual Budget shall become effective unless disapproved by the Administrator within thirty days, and seven days, respectively, after submittal. Any item disapproved shall be referred to the Project Consultant as provided in section 8.
(c) Accounting. Supply System shall keep up-to-date books and records showing all financial transactions and other arrangements made in carrying out the terms of this agreement. Such boohs and records shall contain information supporting the allocation of Supply System's indirect costs associated with the Project. Such books and records shall be retained by Supply System for three years and shall be made available for inspection and audit by the Administrator at any reasonable time.

All accounts shall be kept so as to permit conversion to the applicable system of accounts prescribed for electric utilities by the Federal Power Commission.

Any contract with any consultant or contractor of Supply System providing for reimbursement of costs or expenses of any kind shall require the keeping and maintenance of books, records, documents, and other evidence pertaining to the costs and expenses incurred or claimed under such contract to the extent and in such detail as will properly reflect all costs related to this agreement and shall require such books, records, documents and evidence to be made available to the Administrator at all reasonable times for review and audit for a period of three years after final settlement of the applicable contracts.
(d) All moneys received on account of Supply System's Ownership Share of the Project which are surplus to a current year's operating and capital expenses and Bond Resolution requirements shall be invested by Supply System in accordance with the Bond Resolution until such surplus moneys can be appropriately applied in a future Contract Year.

## 8. Administrator's Approval and Project Consultant.

(a) All proposals of Supply System, including but not limited to, budgets, plans, actions, activities .. matters submitted to the Administrator under any provisions of this agreement shall include itemized cost estimates and other detail sufficient to support a comprehensive review, including but not limited to, a copy of all supporting reports, analyses, recommendations, or other documents pertaining thereto. If the Administrator does not disapprove the proposal within the time specified, or if no time is specified, within seven days after receipt, the proposal shall ve deemed approved. Any proposal disapproved shall be segregated so that the exact items of difference are identified and shail become effective immediately as to items not disapproved.
(b) Disapproval by the Administrator shall be given in writing and, except as provided in section 6(b), shall be based solely on whether the proposal or item is consistent with Prudent Utility Practice. Such disapproval shall describe in what particular the proposal or item is not consistent with Prudent Utility Practice and shall at the same time recommend what would meet that standard.

When any proposal or item is so disapproved by the Administrator, Supply System shall adopt the suggestion of the Administrator or within seven days after receipt of such disapproval, shall appoint a Project Consultant acceptable to the Administrator to review the proposal or item in the manner de-
scribed in this section. If the parties shall not agr . upon the seiection of the Project Consultant, Supply System shall promptly request the Chief Judge of the United States District Court for the judicial district of Washington in which the Project is located to appoint the Project Consultant.
(c) The Project consultant shall consider all written arguments and factual materials which have been submitted to it by either party within the ten days following its appointment, and as promptly as possible after the expiration of such period, make a written determination as to whether the proposal or item disapproved by the Administrator referred to it by Supply Syst -m would or would not have been consistent with Prudent Utility Practice. If the Project Consultant determines that the proposal or item referred to it was not consistent with Prudent Utility Practice it shail, at the same time, recommend what would, under the same circumstances, have met such test.

Proposals or items found by the Project Consultant to be consistent with Prudent Utility Practice shall become immediately effective. Proposals or items found by the Project Consultant to be inconsistent wich Prudent Utility Practice shall be modified to conform to the recommendation of the Project Consultant or as the parties otherwise agree and shall become effective as and when modified.
(d) All costs incurred by Supply System for or by reason of employing a Project Consultant under this agreement and the Net Billing Agreements and all reasonable costs of Supply System related to presentations to the special board which may be convened pursuant to the Ownership Agreement, shall be a cost of the Project.
(e) If any proposal or item referred to the Project Consultant has not been resolved and will affect the continuous operatin, of the Project, Suppiy System shall continue to operate the Project. Supply System may proceed with the item (1) as proposed by it, or (2) as proposed by the Administrator, or (3) as modified by mutual agreement by Supply System and the Administrator prior to the time such item affects operation of the Project; provided, however, that if Supply System proceeds with a disapproved item reviewable under this agreement and if the determiration made by the Project Consultant is that the item is not consistent with Prudent Utility Practice, Supply System shall bear any net increase in the cost of construction or operation of the Project resulting from such item without charge to Supply System's Ownership Share of the Project in the Annual Budget to the extent such item was inconsistent with what the Project Consultant determined would under such circumstances have met such test. Notwithstanding other provisions of this section 8(e), whenever a proposal has been referred to the Project Consultant, Supply System shall operate in accordance with Supply System's proposals until such proposal has been resolved by the Project Consultant, whenever Supply System determines that the Administrator's proposals would create an immediate danger to the safe operation of the Project.
(f) The Administrator's approval or failure to disapprove any plan, proposal or item pursuant to the terms of this agreement shall not render the Government, its officers, agents, or employees, liable or responsible for any injury, loss, damage, or accident resulting from ownership, design, construction, operation, or maintenance of the Project.
(g) Supply System shall not proceed with the following elective items under the Ownership Agreement without the concurrence of the Administrator's representative on the Co..mittee; (1) notice to repair damage to the Project, pursuant to section 16(b), (2) a capital addition to the Project pursuant to section 18, and (3) construction of the Project pursuant to section 22(b). The Administrator shall evidence his approval of any such items in writing and Supply System's share of costs associated with any item so approved shall become Project costs related to Supply System's Ownership Share.
(h) Items subject to review by the Committee under the Ownership Agreement shall not be reviewable hereunder.
(i) The word "item" as used in this section means the item described including the cost specified therefore.
9. Insurance. Supply System shall keep the Administrator informed of the insurance carried pursuant to the Ownership Agreement and shall purchase additional insurance requested by the Administrator, at the Adminisirator's expense, to the extent insurance may be available. The proceeds from such requested insurance shall be disbursed as directed by the Administrator.
10. Permits. Subject to any regulations of the Atomic Energy Commission pertaining to the Project, if by the terms of this Agreenent any equipment or facility of either party is, or is to be, located on the property of the other, a permit to install, test, maintain, inspect, replace, and repair during the term of this agreement and to ren.ove at the expiration of said term such equipment and facility, together with the right of ingress to and egress from the location thereof at all reasonable times in such term, is hereby granted to the other party.
11. Ownership of Facilities.
(a) Ownership of any and all equipment, and all salvable facilities, installed by the Administrator or the Project Owners on the property of the other, shall be and remain in the installing party.
(b) Each party shall identify all movable equipment and to the extent agreed upon by the parties, all other salvable faciliiies which are installed by such party on the property of the other by permanently affixing thereto suitable tags, stencils, stamps, or other markers piainly stating the name of the owner of the equipment and facilities so identified.
12. Inspection of Project Facilities. The Administrator may, but shall not be obligated to, inspect the Project at any reasonable time, but such inspection, or failure to inspect, shall not render the Government, its officers, agents, or employees, liable or responsible for any injury, loss, damage, or accident resulting from defects in the Project.
13. Assignment of Agreement. This agreement shall inure to the benefit of, and shall be binding upon, the respective successors and assigns of the paries to this agreement; provided, however, that neither this agre ement, nor any interest therein shall be transferred or assigned by (a) Supply System to any entity othe than the United States or an agency thereof, without written consent of the Administrator, or (b) the Administrator to any party other than the United States, or an agency thereof, without written consent of Supply System.
14. Applicability of Other Instruments. It is recognized by the parties hereto that Supply System in the ownership, construction and operation of the Project must comply with the requirements of the Ownership Agreement, the Bond Resolution and all licenses, permits and regulatory approvals necessary for such ownership, construction and operation, and it is, therefore, agreed that this agreement is made, and referrals to the Project Consultant hereunder shall be, subject to the terms and provisions of the Bond Resolution and all such licenses, permits, and regulatory approvals.

In Witness Whereof, the parties hereto have executed this agreement in several counterparts.

## United States of America <br> Department of the Interior

[seal]

By Donald Paul Hodel Bonneville Power Administrator

Washington rublic Power Supply System
[SEAL]

## Attest:

By Ed Fischer<br>Chairman, Executive Board

## EXHIBIT A

## PROJECT CHARACTERISTICS

## WASHINGTON PUBLIC POWER SUPPLY SYSTEM

## Nuclear Project No. 3

The Washington Public Power Supply System's Nuclear Project No. 3 is expected to have a net eiectrical plant capability of approximately $1,100 \mathrm{MW}$.

It will be located on a site in the State of Washington acceptable to the Project Owners and the Administrator.

The piant and associated facilities will include a nuclear steam supply sver an, fuel and reactor coolant system with all related containment structures, safety features, instrumentation, control and auxiliary systems; turbine-generator, condensers and circulating water cooling systems, facilities and piping; electrical and mechanical systems and other related equipment and facilities; electrical facilities required to deliver the output of the Project to the BPA transmission system at a point to be determized by the Supply System and the Administrator; and other structures, shops, warehouses, construction facilities, offices, equipment or facilities required in the construction, maintenance and operation of the Project.

A complete description of the Project will be prepared after bids have been received and evaluated and awards have been made for major plant components.

## EXHIBIT B

## PROVISIONS REQUIRED BY STATUTE OR EXECUTIVE ORDER

## 1. Contract Work Hours and Sajety Standards.

This contract, to the extent that it is of a character specified in the Contract Work. Mours and Safety Standards Act (Public Law 87-581, 76 Stat. 357-360, as amended) and is not covered by the WalshHealey Public Contracts Act ( 41 U. S. C. 35-45) , is subject to the following provisions and to all other provisions and exceptions of said Contract Work Hours and Safety Standards Act.
(a) No Contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any laborer or mechanic in any workweek in which he is employed on such work, to work in excess of eight hours in any calendar day or in excess of forty hours in any workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times his basic rate of pay for all hours worked in excess of eight hours in any calendar day or in excess of forty hours in such workweek, whichever is the greater number of overtime hours.
(b) In the event of any violation of the provisions of subsection (a), the Contractor and any subcontractor responsible for such violation shall be liable to any affected employee for his unpaid wages. In addition, such Contractor or subcontractor shall be liable to the United States for liquidated damages. Such liquidated damages shall be computed, with respect to each individual laborer or mechanic employed in violation of the provisions of subsection (a), in the sum of $\$ 10$ for each calendar day on which such employee was required or permitted to work in excess of eight hours or in excess of forty hours it a work week without payment of the required overtime wages.
(c) The Administrator may withhold, or cause to be withheld, from any moneys payable on account of work performed by the Contractor or subcontractor, the full amount of wages required by this contract and such sums as may administratively be determined to be necessary to satisfy any liabilities of such Contractor or subcontractor for liquidated damages as provided in subsection (b).
(d) No Ce tractor or subcontractor contracting for any part of the contract work shall require any laborer or mechanic employed in the performance of the contract to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his health or safety, as determined under construction safety and health standards promulgated by the Secretary of Labor by regulation based on proctedings pursuani to section 553 of tite 5, United States Code, provided that such proceedings include a hearing of the nature authorized by said section.
(e) The Contractor shall require the foregoing subsections (a), (b), (c), (d) and this subsection (e) to be inserted in all subcontracts.
(f) The Contractor shall keep and maintain for a period of three (3) years from the completion of this contract the information required by 29 CFR $\$ 516.2$ (a). Such material shall be made available for inspection by authorized representatives of the Government, upon their request, at reasonable times during the normal work day.
2. Convict Labor. The Contractor shall not employ any person undergoing sentence of imprisonment at hard labor.
3. Equal Opportunity. Unless exempted pursuant to the provisions of Executive Order 11246 of September 24, 1965 and the rules, regulations and relevant orders of the Secretary of Labor thereunder, during the performance of this contract, the Contractor agrees as follows:
(a) The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Contractor will take affirmative action
to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the Administrator setting forth the provisions of this equal opportunity clause.
(b) The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for exployment without regard to race, color, religion, sex, or national origin.
(c) The Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the Administrator, advising the labor union or worker's representative of the Contractor's commitments under this equal opportunity clause and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
(d) The Contractor will comply with all provisions of Executive Order No. 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
(e) The Contractor will furnish all information and reports requir d by Executive Order No. 11246 of September 24, 1965, and by the rules, reguiations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the Administrator and the Secretary of Labor for purposes of investigations to ascertain compliance with such rules, regulations and orders.
(f) In the event of the Contractor's noncompliance with the equal opportunity clause of this contract or with any of such rules, regulations, or orders, this contract may be cancelled, terminated, or suspended in whole or in part and the Contractor may be doclared ineligible iur further Government contracts in accordance with procedures authorized in Executive Order No. 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order No. 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.
(g) The Contractor will include the provisions of paragraphs (a) through (g) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order No, 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as the Administrator may direct as a means of enforcing such provisions including sanctions for noncompliance; provided, however, that in the event the Contractor becomes involved in, or is threatened with, litigation witl a subcontractor or vendor as a result of such direction by the Administrator, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.
4. Interest of Member of Congress. No Member of or Delegate to Congress, or Resident Commissioner shail be admitted to any share or part of this contract or to any benefit that may arise therefrom. Nothing, however, herein contained shall be construed to extend to such contract if made with a corporation for its general benefit.

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EDWAND, MCLMAN
SAMUEL H. HELLMAN

Board of Directors
Washington Public Power Supply System
301 Fifth Avenue
Richland，Washington

## Dear Sirs：

## WASHINGTON PUBLIC POWER SUPPLY SYSTEM <br> NUCLEAR PROJECT NO． 3 REVENUE NOTES，SERIES 1973A，$\$ \mathbf{2 9}, 000,000$

At your request we have examined into the validity of an issue of $\$ 29,000,000$ Washington Public Power Supply System Nuclear Project No． 3 Revenue Notes，Series 1973A，of Washington Publ：：Power Supply System（the＂System＂），a municioal corporation and joint operating agency of the State of Washington．Said notes are issuable in coupon form，are dated October 1，1973，mature without option of prior redemption on June 15，1976，are of the denomination of $\$ 25,000$ each，numbered 1 to 1160，inclusive，and bear interest at the rate of $43 / 8$ per centum per annum，payable semi－a．inually June 15 and December 15 commencing December 15，1973．Said notes recite that they are issued under and pursuant to Resolution No．673，adopted by the Board of Directors of the System on the 10th day of October， 1973 （the＂Note Resolution＂），and under the authority of and in full compliance with the Constitution and statutes of the State of Washington，including Titles 43 and 54 of the Revised Code of Washington，and proceedings of the Board of Directors of the System duly adopted，for the purpose of paying a part of the cost to the System of construction，and acquisition of an undivided ownership intertst in，the Project（as such Project is defined in the Note Resolution）．

We have examined the Constitution and statutes of the State of Washington，and certified copies of proceedings of the Board of Directors of the System authorizing the issuance of said notes，including the Note Resolution，and other proofs relating to the issuance of said notes，also an executed note of said issue．

In our opinion the Note Resolution has been duly adopted，the provisıons thereof are valid and binding upon the System and said notes have been duly authorized and issued in accordance with the Constitution and statutes of the State of Washington，and constitute valid and legally binding ubligations of the System，payable from any moneys of the System that may be lawfully applied to the payment thereof，including revenues derived from the System＇s ownership interest in the Project，and the proceeds of revenue bonds or refunding notes of the System．

It is also our opinion that the interest on said notes is exempt from taxation by the United States of America under existing laws and regulations and a specific ruling issued by the Internal Revenue Service with respect to said notes．

Very truly yours，<br>Wood Dawson Love \＆Sabatine

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JOMN OAWSON
LK月OY bOUE
LEOE.SABATINE
BHENDAN O'BRILN
EOWAMO, MECORMICK
48 WALL STREET
NEW YORK, N. Y. 10005
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SAMUEL I. HELLMAN
STEVEN I. TUANEA

Board of Directors
Washington Public Power Supply System
301 Fifth Avenue
Richland, Washington

Dear Sirs:

## WASHINGTON PUBLIC POWER SUPPLY SYSTEM

 NUCLEAR PROJECT NO. 3 REVENUE NOTES, SERIES 1973A, $\mathbf{\$ 2 9 , 0 0 0 , 0 0 0}$Under date of
, 1973, we rendered an opinion approving the validity of tt. above notes (the "Notes") issued pursuant to a resolution adopted by the Board of Directors of the Wasi "gton Public Power Supply System (the "System") on October 10, 1973 (the "Note Resolution").

We have examined into the validity of of the Net Billing Agreements referred $o$ on page 14 of the Official Statement of the System, dated October 10, 1973, relating to the Notes, mong the United States of America, Department of the Interior, acting by and through the Bonneville Power Administrator, the System, and certain of the Participants referred to in Exhibit I of said Official Statement, which than $\quad \%$ of the Systretaents provide for the purchase and assignment of an aggregate of not less Agreements and reduced in the period July 1, 1981 through June 30, 1984 by certain short-term sales of output) of the Project (as defined in the Note Resolution) in any Contract Year (as defined in the Net Billing Agreements). With respect to the authorization, execution and delivery of said Net Billing Agreements, we have examined certified copies of proceedings of the System and of the Participants which are parties thereto, authorizing the execution and delivery of said Net Billing Agreements, and such other documents, proceedings and matters relating to the authorization, execution and delivery of said relevant. In our opinion, each of said Net Billing Agreements has been duly authorized, executed and delivered by each of the parties thereto and constitutes a valid and binding agreement, enforceable in accordance with its terms.

We have also examined into the validity of the Ownership Agreement referred to on page 20 of said Official Statement, among the System and Pacific Power \& Light Company, Portland General Electric Company, Puget Sound Power \& Light Company and The Washington Water Power Company. With respect to the authorization, execution and delivery of said Or nership Agreement, we have examined certified copies of proceedings of the System and of the Companies which are parties thereto, authorizing the execution and delivery of said Ownership Agreement, and such other documents, proceedings and matters relating to the authorization, execution and delivery of said Ownership Agreement by each of the parties thereto as we deemed relevant. In our opinion, said Ownership Agreement has been duly authorized, executed and delivered by each of the parties thereto and constitutes a valid and binding agreement, enforceable in accordance with its terms.

We have also examined into the validity of the Project Agreement (Contract No. 14-03-39100) between the United States of America, Depariment of the Interior, acting by and through the Bonneville

Power Administrator, and the System, referred to on page 18 of said Official Statement. With respect to the authorization, execution and delivery of said agreement, we have examined certified copies of proceedings of the Board of Directors of the System authorizing the execution and delivery of said agreement, and such other documents, proceedings and matters relating to the authorization, execution and delivery of said agreement by each of the parties thereto as we deemed relevant. In our opinion, said agreement has been duly authorized, executed and delivered by each of the parties thereto and constitutes a valid and binding agreement enforceable in accordance with its .erms.

In rendering this opinion, we have relied upon the opinion of counsel for each of the Participants and aforesaid Companies that the Net Billing Agreement or Ownership Agreement to which such Participant or Company is a party has been duly executed and delivered by said Participant or Company and is not in conflict with, or in violation of, and will not be a breach of, or constitute a default under, the terms and conditions of any other agreement or cormmitment by which such Participant or Company is bound.

Very truly yours,
Wood Dawson Love \& Sabatine

## EXHIBIT VII

LAW OFFICES OF
HOUGHTON CLUCK COUGHLIN \& RILEY

AOLLA V HCUGHTISN (I9TO)
ACK A CLUCK
PAUL COUOHLIN JOHN W. RILEY EMIL P SCHUBAT DAVID SKELLENGITR ERRT L. METZGEA. JA. JOEL HAGGARD WILLIAM N. MATHIAS. II NOHN B. CATHEY

900 HOOE BUILDING
SEATTLE, WASHINGTON 98104

TELEPHONE (206)623-6501

Board of Directors
Washington Public Power Supply System
301 Fifth A venue
Richland, Washington

## Dear Sirs:

## WASHINGTON PUBLIC POWER SUPPLY SYSTEM NUCLEAR PROJECT NO. 3 REVENUE NOTES, SERIES 1973A, $\$ 29,000,000$

At your request we have examined into the validity of an issue of $\$ 29,000,000$ Washington Public Power Supply System Nuclear Project No. 3 Revenue Notes, Series 1973A, of Washington Public Power Supply System (the "System"), a municipal corporation and joint operating agency of the State of Washington. Said notes are issuabie in coupon form, are dated October 1,1973, mature without option of prior redemption on June 15,1976 , are of the denomination of $\$ 25,000$ each, numbered 1 to 1160 , inclusive, and bear interest at the rate of $43 / 8$ per centum per annum, payable semi-annually June 15 and December 15 commencing December 15, 1973. Said notes recite that they are issued under and pursuant to Resolution No. 673, adopted by the Board of Directors of the System on the 10th day of October, 1973 (the "Note Resolution"), and under the authority of and in full compiance with the Constitution and statutes of the State of Washingon, including Titles 43 and 54 of the Revised Code of Washington, and proceedings of the Board of Directors of the System duly adopted, for the purpose of paying a part of the cost to the Sysiem of construction, and acquisition of an undivided ownership interest in, the Project (as such Project is defined in the Note Resolution).

We have examined the Constitution and statutes of the State of Washington, and certified copies of proceedings of the Board of Directors of tha System authorizing the issuance of said notes, including the Note Resolution, and other proofs relating to the issuance of said notes, also an executed note of said issue.

In our opinion the Note Resolution has been duly adopted, the provisions thereof are valid and binding upon the System and said notes have been duly authorized and issued in accordance with the Constitution and statutes of the State of Washington, and constitute valid and legally binding obligations of the System, payable from any moneys of the System that may be lawfully applied to the payment thereof, including revenues derived from the System's ownership interest in the Project, and the proceeds of revenue bonds or refunding notes of the System.

It is also our opinion that the interest on said notes is exempt from taxation by the United States of America under existing laws and regulations and a specific ruling issued by the Internal Revenue Service with respect to said notes.

Very truly yours,
Houghton Cluck Coughlin \& Riley

ROLLA V. HOUGHTON (I970)
JACK R. CLUCK PAUL COUGHLIN JOHN W RILEY EMIL P BCHUBAT DAVID SKELLENGER BERT L METZGER. JR. JOEL HAGOARD WILLIAM N MATHIAS, II JOHN B. CATHEY

QOO HOOE BUILDINO
SEATTLE, WASHINGTON 98104

TELEPHONE (206) 523-650

Board of Directors
Washington Public Power Supply System
301 Fifth Avenue
Richland, Washington
Dear Sirs:

## WASHINGTON PUBLIC POWER SUPPLY SYSTEM NUCLEAR PROJECT NO. 3 REVENUE NOTES, SERIES 1973A, $\$ 29,000,000$

Under date of of the above notes (the "Notes") issued pursuant to a resolution adopted by the Board of Directors of the Washington Public Power Supply System (the "System") on October 10, 1973 (the "Note Resolution").

We have examined into the validity of of the Net Billing Agreements reforred to on page 14 of the Official Statement of the System, dated October 10, 1973, relating to the Notes, among the United States of America, Department of the Interior, acting by and wrough the Bonneville Power Administrator, the System, and certain of the Participants referred to in Exhibit I of said Official Statement which agreements provide for the purchase and assignment of an aggregate of not less than
\% of the System's Ownership Share of the Project Capability (as defined in the Net Billing Agreements and reduced in the period July 1, 1981 through June 30, 1984 by cerain short-term sales of output) of the Project (as defined in the Note Resolution) in any Contract Year (as defined in the Net Billing Agreements). With respect to the authorization, execution and delivery of said Net Billing Agreements, we have examined certified copies of proceedings of the System and of the Participants which are parties thereto, authorizing the execution and delivery of said Net Billing Agreements, and such other documents, proceedings and matters relating to the authorization, execution and delivery of saic Net Billing Agreements by each of the Parties thereto as we deemed relevant. In our opinion, each of said Net Billing Agreements has been duly authorized, executed and delivered by each of the parties thereto and constitutes a valid and tinding agreement, enforceable in accordance with its terms.

We have also examined into the validity of the Ownership Agreement referred to on page 20 of said Official Statement, among the System and Pacific Power \& Light Company, Portland General Electric Company, Puget Sound Power \& Light Company and The Washington Water Power Company. With respect to the authorization, execution and delivery of said Ownership Agreement, we have examined certified copies of procedings of the System and of the Companies which are parties thereto, authorizing the execution and delivery of said Ownership Agreemint, and such other documents, proceedings and matters relating to the authorization, execution and delivery of said Ownership Agreement by each of the parties thereto as we deemed relevant. It our opinion, said Ownership Agreement has been duly authorized, executed and delivered by each of the parties thereto and constitutes a valid and binding agreement, enforceable in accordance with its terms.

We have also examined into the validity of the Project Agreement (Contract No. 14-03-39100), between the United States of America, Department of the Interior, acting by and through the Bonneville Power Administrator, and the System, referred to on page 18 of said Official Statement. With respect to the authorization, execution and delivery of said acreement, we have examined certified copies of proceedings of the Board of Directors of the System authorizing the execution and delivery of said agreement, and such other documents, proceedings and matters relating to the authorization, execution and delivery of said agreement by each of the parties thereto as we deemed relevant. In our opinion, said agreement has been duly authorized, executed and delivered by each of the parties thereto and constitutes a valid and binding agreement enforceable in accordance with its terms.

In rendering this opinion, we have relied upon the opinion of counsel for each of the Participants and aforesaid Companies that the Net Billing Agreement or Ownership Agreement to which such Participant or Company is a party has been duly executed and delivered by said Participant or Company and is not in conflict with, or in violation of, and will not be a breach of, or constitute a default under, the terms and conditions of any other agreement or commitment by which such Participant or Company is bound.

Very truly yours,
Houghton Cluck Coughlin \& Riley

## THE MONTANA POWFR CODEANY AND CHBLDHRES CONSOLDDAED STAHLILNE OH INCO:IE

ber 30 , and as iditional

## expected

scribed by wes of the rred stock

The following comseliduted statument of income, insofar as it relates to the five years ended Decenber 31,1973 , b.es been examincal by Price Whterhouse \& Co, independent accountants, whose report thereon appoats whewhere in thes Prospectus. In the opimion of the Company, all adjusiments, consisting only of normal recurring aceruals, necessary for a fair swatment of the results of oper ations for the umaudited twelve manths ended S. piember 30, 1974, have been made. The statement should be read in conjunction with the other consolidated francial statements and notes thereto included cicowhore in this Prospectus.


| 1973 | 1972 | 1971 | 1970 | 1969 |
| :---: | :---: | :---: | :---: | :---: |
| Tiomsr to cf Dollars |  |  |  |  |
| \$ 69,897 | \$ 62,452 | \$ 57,714 | \$ 56.539 | \$ 52.882 |
| $\begin{array}{r}17,126 \\ \hline 7.5\end{array}$ | 32,741 | 29,842 671 | 29,517 619 | 27.001 |
| 10:048 | 6,5,67] | 88,227 | 86.675 | 80,925 |
| 39,320 | 32.268 | 27,349 | 25,054 | 21,486 |
| 4,796 | 4,120 | 3,306 | 3,408 6,959 | 3,522 |
| 7,612 | 7,162 | 6.927 | 6.959 | $6,6+5$ |
| 12,155 | 7,552 | 13,171 | 13,828 | 14,518 |
| (3) | 1 | 13 | 5 | 89 |Operatioy Revenucs:

Notural ह:\$ 72,77941,20,6$\begin{array}{r}7.40 \\ 114,785 \\ \hline\end{array}$(Unradited)
Canadian ..eferted taxes en income
Provinutas for
(Nute 1)
(Nute 1):
Aceclerated depreciation and amorti-
zition
kerr Vogout charpes
net
$\begin{array}{r}1 \\ -13 \\ \hline-80,58\end{array}$

| Opecationg income <br> Oiky hiweme and Deductions: <br> Nomegcratige monam -ric! <br> Allawance for fumbl used daring con <br> struction (Note 1) |
| :---: |
|  |  |
|  |  |
|  |  |
|  |  |

    Income Aefote luterest Clames .......
    Interest Charges:
        Interest on long:term deht
        Other interest
            Total Intereat Chatges
    Net Income
    Mivitends Applicalle to Preferred Stock
    Net lowome Avalable for Common Stiob
    | Average Number of Common Shate |  | 2.509 | 7.517 | 7.515 | 7,512 | $7.4 \times 9$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Gomstandin: (thationts of thaten) <br> Net Incenor Per shats of ( ommons Siob | S2.87 | 52.85 | \$ 2.67 | \$ 2.49 | \$2.45 | $\$ 2.29$ |
| Dioknds lectued ons (ommons | \$ 1.80 | \$ 1.80 | 51.695 | \$ 1.68 | \$ 1.68 | \$ 1.65 |
| atio of Eanings to lixed Charges | 3.79 | 4.59 | 5.48 | 5.95 | 5.60 | 5.73 |

## ( ) Denotes red fipure.

The num thal mete referenes rifer to the Notes to Consoliditid Financial Statements appoaring elsewhere in this Prowpectus.

## NOHS TO CONSOI IDATED STATHMENT OF INCOME

Nore A.-The Consolidated Statement of Theome for the twelve montis ended Soptember 30, 1974, and the five years ended December 31, 1973, is presenteit on the base of acenunts preseribed by the Public Serviec Commission of Montana and the Federal Power Commistion, between which there are no differenees, as explained in Note 1 to the Consolidated 1 inancial Statements.

Note B - For the purpose of computing this ratio, cernings have been calculated by adding to not income (i) provisions for current and deferred taxes on income, and (ii) fixed charges. Fixed charges include inferest and related amortization on long-term debt and interest on short-term borrowings. Fixed charges also inclurt one-third of all rentals, excluding delay rentals subseguent to 1970 , and rentals on joint-use properiy for the 12 months ended September $30,1^{n-1} 4$.

The unaudited pro forma ratio of carnings to fixed charges for the twelve months ended September 30,1974 , is 2.62 after giving effect to the annual reguirements on outstanding debt at September 30 , 1974, issuance of the New Bunds at an assumed interet rate of $91 / 2 \mathrm{se}$ and application of the estimated proceds from the proposed sales of the New Bonds and Additional Shares to the payment of shert-term borrowings (excluding thase of Western Fhergy Company) to be outstanuing at the timy of such sale. Interest in the amount of $\$ 2,799,000$ was exciuded from the fixed charges for the pro fotma ratio as it related to the $8 \% / 4$ first mortgage bonds t-fonded Aprii 1, 1974, and to short-term borrowings during the twelve nonths ended September 30, 1974, to be paif from proceds of the New 13onds. Without givirg effect to the proposed sale of the Additional Shares, the pro forma ratio of carnimgs to fixed charges would be 2.33. For this later computation interest in the net amount of $\$ 445,000$ was excluded fom the fixed charges fior the pro forma ratio affer giving effect to the alditional interest oa short-tern) borrowines due to the unas ailability of the praceeds from the sale of Additional Shares. A difference of $1 / 6$ of $1 \%$ from the assumed interest tato will change thes. ratios approximately .01 .

The annual interest requirement on the New Bonds will amount to $\$ 2,625,000$.
For the twelve months ended Oetwher 31, 1974, operating revenues were $\$ 115,758,000$ and net income, before deducting: prefered stak dividend wequirements, wa is $\$ 22.900,000$. Net income after deducting sweh dividend requirements was $\$ 21,691,000$, or $\$ 2.8 \$$ por share of common stock These amounts afe mazolited but, in the epinion of the Company, inctod all adjustments, comisting only of mormal recurring secruals, necosary to a fair presentation therof. The unaudited pro forma ratio of carnings to fixed changes for the twetwe menthe ended Ottober 31, 1974, compated on a basis equivalent to that used in Note B, is 2.57 , and without giving effect to the proposed sale of the Additional Shares, is 2.26 .
1.1974, by the are no to net charges Fixed itals on

September 30, timated uft-term ch sale. io as it during Without to fixed xcluded urt-term ffernnce

100 and income n stock.
unsisting o forma
I a basis
deditional

Twelve Vountes Vinded september 30, 1974: Operating revenues for the twelve months unded September 30, 1974, compareal with the twel momis endid! December 31, 1973, increased $\$ 6,737,000$, principally dhe to incrased cletric sales to mher utilites, $\$ 2,232$ 000, inereased natural gas rates to offest the increased cost of purdrated Canadian natural gas, approximately $\$ 3,933,000$ ( Sec Business-R R gulation); and sy:tem frowith, but were adversely affected by weather conditions and the effect of energy conservation by customers.

Compared with the twelve months ended December 31, 1973, the increase in operating expenses for the twelve months endeal $\$$ ptember 30,1974 , of $\$ 7,622,000$ is attributable principally to increased costs of thermat genctation and purchased prower, $51,27.4000$; gis exploration and development, $\$ 773,000$, and purchacel natural gas and royalies, $\$ 4,378,000$ (Sec Business-Regulation).

Income tax expense decteased principally due to changes in operating revenucs, expensers and interest chargss revalting in a lower taxable income. Allowsance for funds used during construction, which is a noufaxabte component of other ineome, and imterex charges increased as a result of the Company's construction program, and higher rates on borrowid money.

Year 1973: The increase in oporating revenues of $\$ 12,401,000$ for the year 1973 is attrihutable principally to increaved elostric and natural pas rates granted in Otober, 1972 , approximately $\$ 9,600,000$, increased natural gas rates gramted in July, 1973, to ofset the inoreased cost of purchased Canadian natural gas, approximately $\$ 1,387,000$, and system growh.

The increase in eperating erpense for the 3 ,ar 1973 of $\$ 7,052,000$ is attributable princinglly io increased costs of tharmal gencriton and vurchased power, $\$ 2.397,000$; gas exploration and develp.pment. $\$ 927,000$, and purchased natia.al gas $\$ 2.111,000$

The increase ill allowance for fonds usal during constotation, which is a nontaxable component of other income, and interet charges results principally from the Comprany's construction proaram, and higher rates on borrowed money

Year 1972: 11 : inctomes in operating: revemes of $\$ 7,420,000$ and net income of $\$ 1,322.000$ :anc attributable principally to coreased thotric and untaral gas rates granted October, 1972, appromimetely
 frsmaption of normal weratoms by a major industrial cabtomer following a wrike in the copper indratry be-


The decrase in Federat insome t.xes of $\$ 5,619,000$ thd the inequas in the provision for deferred taxes on income of $\$ 4,949,000$ resuh from the payment of bowk rentals for the use of Indian lands at the Kerr hydrodectic projet, as more tully deseribed in Note I to the Consolidated Financial Statements.

## 

| 12 Monl 9 |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $1974$ | 1973 | 1972 | 1971 | 1970 | 1969 |
| Electric Inetgy Cienctafod and Purchased (M Kwlu): |  |  |  |  |  |  |
| Ste.mm | $9666,75,6$ | 1,136,072 | 818,618 | 6.54,13? | *69.49\% | 6,40,926 |
| Hydro and Intermal ( amblytum | 3,6,54, 7, 6 | $3,15 \times, 6,17$ | $3,6.29,470$ | 3,764,702 | 3, 514, 395 | $3,470,685$ |
| Iow Jotel Gremerat d, Net Station Output. | $4,6 \geq 1,512$ | 4.21 .6 , 7 | $4.512,588$ | $4,418.435$ | $4,403,807$ | 4.111.611 |
| Furchascd atid Net frierchange. ............ | 1.11\%,617 | 9.46.427 | 9n?,056 | 638,574 | 804,110 | $967,494$ |
| Complal Comerated and Iburchaved ..... | 5,738,927 | $5.241,6.18$ | 5,416,644 | 5,057,007 | $5,208,003$ | $5,019,105$ |
|  |  |  |  |  |  |  |
| Total Eneryy Sales to Irublic | $5,161,424$ | 4,710,681 | 4,890,656 | 4,570,285 | 4,681,155 | 4,557,202 |
| Elcalioc sales ( M Kwh): |  |  |  |  |  |  |
| Ke, fentrat | 1,67.4,545 | 1,016,702 | 984,849 | 912,860 | 850,321 | 820,609 |
| Commurial amil small Industral | $1,489,164$ | 1.478 .6 .4 | 1,3710 096 | 1,247,263 | 1,117,140 | 1,042,788 |
| Inhombal I mive ( ir tomacts | 1,56,5,K14 | 1,553,4×2 | 1,741,381 | 1,727,698 | 1,932,239 | 1,919,103 |
| Puhlic Srteet ahal If taway I ishting | 46,570 | 45,253 | 47,801 | 43,180 | 42,692 | 42,687 |
| Other Sthe to fuhlas Amberties. | 87.015 | 90,094 | 86,426 | 89,146 | 93,092 | 95,229 |
| Sakes to Other Itouttic (thitios. | $906.6,18$ | 474,345 | 583.537 | 470,196 | 573,279 | 580.371 |
| Siles to Kult suts aid İntways (a) | 31.7 ms | 51.570 | 80,593 | 79.942 | 72,3:? | 56.734 |
| Iotal L. erpy Siles to Public | 5,161,42.4 | 4,710,0k0 | 4,890,, 86 | 4,570,285 | $\overline{4,681,155}$ | 4,557,202 |
| Interdepartmental | 12,959 | 12,6:15 | -12.739 | 9,517 | 8,329 | 7,5570 |
|  | 5,174,383 | 4,722,695 | 4,503,425 | 4,579,802 | 4,689,484 | $4,564,832$ |
| Namier of (ustomels 1/ivcrape for Period): |  |  |  |  |  |  |
| Combercial arism It Industiat | 16,4,391 | 160,758 | 156,157 | 151,3,4 | 147,325 | 144,816 |
| (ommetcial and Sm Il Industrial | 26,179 | 25,567 | 24,960 | 24,466 | 23.900 | 23,683 |
| Puhhe sicel and li mais 1 iphting | 826 | 801 | 762 | 738 | 699 | 6.62 |
| Other Soke tis Matho. Autherties | 109 | 108 | 109 | 110 | 110 | 112 |
| Sales to Other Plesti Utildies | 54 | 53 | 53 | 50 | 5) | 50 |
| S.ale tor Railronds ant Ranlways | 1 | 1 | 1 | 1 | 1 | 1 |
| Intert. Partimentat | 257 | 254 | 254 | 251 | 249 | 247 |
| Total Nimbut of Cowtomets | 191,8:4 | 187,559 | 182,314 | 176,908 | 172,352 | 169,580 |
| Operating Revenuss ( 1 himamds of Dollars): |  |  |  |  |  |  |
| Revutintial . . . . . ... . . . ..... | \$ 25,437 | \$ 24,922 | \$ 22,173 | \$ 20,421 | \$ 19.254 | \$ 18,147 |
| Commacioal and Smail Imhastrial | 28,205 | 27,807 | 24,000 | 21,818 | 20.232 | $18.7 \in 3$ |
| Inturtrial - I ithe Cumemtes (Analysis |  |  |  |  |  |  |
| Hetow) .... | 10,4: | 10,707 | 10.215 | 10,123 | 11, 1947 | 10,706 |
| Public viret and lhata ay Ithting | 1,5,3 | 1.557 | 1,439 | 1,390 | 1.333 | 1,25? |
| Other bales to Puhtr Atriovsitw | 60.4 | 608 | 596 | 647 | 677 | 681 |
| Sales fo oftuct trectre (intities | 4,519 | 2,287 | 1,849 | 1,503 | 2.177 | 1.948 |
| Saks to Kationds an. Railways | 170 | 276 | 432 | 429 | 388 | 314 |
| Iotal | 70.961 | 68,16: | ( $0,8,80$; | 56,731 | 55.158 | 51,816 |
| Olici Operatim: Resermes | 1.8:8 | 1.723 | 1.645 | 1,78? | 1.781 | 1.006 |
| Total Operatim: Revenmes (Excludere Intendepatmechal) | 72,779 | 69,887 | 62.452 | 57,714 | 56,539 | 52.882 |
| Interdepurimunat | 211 | 216 | 189 | 157 | 141 | 130 |
| Total I Revtie (190tatioy Reventes | 5-72 715 | \% 70.103 | $5 \quad 6.2 .611$ | \$ 57.871 | \$ 56,6801 | \$ 53,012 |
| Analosis of Indestrial -1 , ufe fustomsas Iloce tric Revenors (thousamdo of Doblas) |  |  |  |  |  |  |
| Mrining and Monstionf (b) | \$ 5,930 | \$ 6,411 | \$ 4,929 | \$ 4,112 | \$ 4,891 | ¢ 4.432 |
| Flostrotsti: Zine Redit then (c) |  | 1 | 1,4,5 | 2,221 | 2,881 | 3,147 |
| Cement IVme | 727 | 689 | 615 | 595 | 572 | 573 |
| limmiat and l'aper | 1,770 | 1,727 | 1,509 | 1.476 | 1,739 | 1.237 |
| Oit Indimity | 2.020 | 1.880 | 1.827 | 1.719 | 1.414 | 1.317 |
| Tonal | \$ 10.4.4? | 10,707 | $5 \quad 10.15$ | $5 \quad 10.123$ | \$ 11.097 | \$ 10, 706 |
| Avetape Ammath Reswlental tle (Kwh) | 6,24: | 6.324 | 6.307 | 6.032 | 5.772 | 5.667 |
| Averase Ammal Kevodenmal Kevenuc per Kıh | 2.405 | 2.45 c | 2256 | 2.24 c | 2.20 c | 2.216 |

(a) Sales to railtonde and raitu, we we diseontinted in July, 1974, as a result of the conversion from electric to diesel beco , thon by the Chisage, Milwaber, St. Paul \& Pacific Railtoad company.
 customer of Bannevill Fower Admimistation, due fo adverse water conditions in the Pacific Nonthwest.
(c) In August 1972, The Anscond.a Company discontinned its zinc operations at Great Falls, Montana.

## NAHERAL GAC GMIRATING SEATLIICS


＊＇1．velume ef natural gas purchased and protheed is stated at a fixed basis，while the whame of natural gas whid is stated at varying pressure bases．The defferom standards of moasurement iesult in figures makung it appar that more gas was sold and stored than was purchaned and producat，even theugh there is a small loss between points of mput and sate．


## BUSNESS

General: The Company's service area comprises 96,000 square miles or approximately $65 \%$ of the land area of the State of Montana. The estimated 1974 population of the Company's service arca is 587,000 or $82.4 \%$ of the total population of the State.

The Company provides electric service in 184 communities and the rural areas surrounding them and in Xellowstone Nat. nal Park; natural gas service in 90 communities at retail and 6 at wholesale, and water service in 2 communitics. The Company also sells firm power at wholesale, supplying the partial requirments of 9 rural electric co-operatives and the total requirements of 3 rural electric co-op-ratives. The Company sells gas at wholesale to distributing companice at (ireat Falls, Cut Bank and Shelby, Montana; to a pipeline company in northern Montana, and to Canadian distribution systems serving the comrnunities of Couts and Milk River, Alberta.

The sources of (1) operating revenues, and (2) operating income before income tuxes, attributable to each line of business accounting for $10 \%$ or more of the consolidated operating revenuss and operating income during the 12 months ended September 30, 1974 and the years 1969 through 1973, were as follows:

|  | $\begin{aligned} & 12 \text { Montha } \\ & \text { Ended } \end{aligned}$ |  | Year | ded Dec | er 31, |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | September 1974 | 1973 | 1972 | 1971 | 1970 | 1969 |
| Electric Operations: | $63 \%$ | 65\% | 65\% | $65 \%$ | 65\% | 65\% |
| Operating Revenues Operating Income Before Income Taxes | 80\% | 76\% | 76\% | 76\% | 75\% | 73\% |
| Natural Gas Operations: |  | 35\% | 34\% | 34\% | 34\% | 34\% |
| Operating Revenues | 19\% | 24\% | 23\% | $23 \%$ | 24\% | 26\% |

The economy of Montana is diversified. Agriculture and livestoch account for approximately one half the annual value of production. Other major factors in the ceonomy include nonferrous metal mining, smetting and refining; coal mining; forest products; perfoleum refining, and tourism. For the 12 months ended S.ptember 30, 1974, industrial customers atcanted for $29 \%$ of the Company's total operating revenues, including $10.4 \%$ accounted for by the operations of The Anaconda Company.

Regulation: The Company's vublic utility business in tis State of Montana is subject to the jurisdiction of the Public Service Coumis icn of Montama ("PSC") as to sates, services, issuanee of sccurities and accounting. The Fedent Power Commission ( $\mathrm{FPC}^{\circ}$ ) has jurisdiction pursuant to the Federal Power Act over the Company as a licensec of hydro. lectric developments. (Sic "Electric Propertics") and as a public mitity ongagat in the transmission and sale of clectric powser in imterstate commeree. The FPC has no juricdiction over the Company's natural gas or water sales or over the sale of eleetric power at retail. The importation of matural gas from Camada requires approwal by ine Alberta Enetgy Resourees Corservation Board, the National Energy Board of Canada and the 1PC: The PSC, on January 6, 1975, will be reconstituted, the present thric-member commission, stected statewide, boing replaced by a five-mumber commission, with each member clected from one of tive districts in the State of Montana.

The Company's experience has been that the cont of purchased Montana gas has increased from 13.75 ; por Mif in 1972 to 40 e per Md at the presem time and that the cost of purchased Canadian gas, which constitutes more than sof of the Comp.mis gas suply, has increased from approximately 24 द per Mef in 1972, to appoximatsly 64; per Mof at the presemt time.

The Companys basic clotric and pas mate wh duter wo salut al in Octoker, 1972. In July, 1973, the PSC authonized a procedure for adjustine gas rates to mompthble industrial comtrow customes on a mombly base and to obler non-residental customer on a quarterly basis, to offect the increased cost of purchased Canadian gas.

In April, 1974, the Company applied to the PSC for further authorization to adjust in rates to flow through to all customes the increated unt of purchened pas and the incrowed royaty expenee of produced pas, beth in Canada and Montana, which increaned cont was propected at that time by the Company to be at least $\$ 12,0010,000 \mathrm{on}$ an ambual basis commencing Juty 1, "974. On Ausesi 30, 1074, the PSC; by majurity vote, granted the Company's application and authorized a continuing atce aljust-
 on a monthly baris begeming with gas dhavties in Joly, 1974, and the rates of all othet customers ar: increased or decreased on a quarterly basis eflective with meter readings on and aftir Octak or $1,1974$. to flew throurh its acthal incrases or decrases in purchand gas costs and royaty expenses. This adjustment prokuture supcteded that authoriz. I by the Jals, 1973, orvicr. For the three monthe ended September 30, 1974, the Company collected approximately $\$ 1,800,000$ from its interruptabt industria! contract customers and for tho month of Octuber, 1974, approximately $\$ 1.020,000$ from aif customers by these rate widjusments.

Separate 1-al actions by the Momtana Consumer Counsel, astate ageney, and the diwentine member of the P'se; challenging the vi 'Jity of the PSC order, have been tited in a State District Court. The Company satervencel as a defendant in buth eases in suppent of the PSC decision. Femporary restraining ordors preventing the Company from placing the now rates in effect were dissolved at a hearing on October 11, 1974, by the presuling judge, who allowed the rates to become effective immediately, subject to refund by the Cumpany if directed to do so by fimal court order. Funtber trial proceedings are being conducted by the prosiding julge. The Company connot predict the outsome of this litigation, bul anticipates prompt disporition of these casc. If the Commission's order should not be sustained, it woutd materially atteet the Compony's rewentes and eurnings.

The Canadian Govenmont has ordered that the price of natural gas imported from Canada, currently costing the Company about 64 c po Mc\%, incras. I to $\$ 1$ per million Btu (approximately $\$ 1$ per Mef), effective Jamury 1, 1975. (See "iberit Natural (ias".) Unkss the PSC otder should be invalidated, the Comprony expects to flow through this increasal ges expense to its customis by PSC approval of incecaud rate shoduks pursumt to the rate adjustment procedure establistiod by the
 would have a material adouse cflut on thic company's commeng.

The Compan's electric revenue for the 12 months endal Scpicmber 30, 19,4, ateraged 2.46 f
 service.

For the 12 months ended September 30, 1974, the Cempany's average revenue from the sale of natural gas was $\$ 1.03$ per Mof for residential service, 84 c per Mef for commercial senice and 56 e per Mef for industrial service.

Electric Propertics: The Company's fully integratid and interconnet col cleatic system extends through the western two-thirds of Monsana. Relability of sersice is inhane dy the lecation of hydroelectric gencration on four sepatate watershods with differem protipitaion charateristics, augenented by thermal gencration.

The maximum demand on the Compran's stectric system for the 12 months ended Spember 30 , 1974, was 897,000 kw on January 10, 1974. Total capability of the Company's electrie system on that
date wa, $1,025,000 \mathrm{kw}$, including $769,000 \mathrm{kw}$ provided by the Company's penerating facilities and 256,000 tw from firm pow purchases, exchanre arrang ments and whe lemp payments in power. The Company's P"werating capabihty is provided principally by 13 hydroclectric projects with tatal capability of 520,000 kw and two thermat gencrating plants with total capability of $246,60 \mathrm{~h} \mathrm{k}$. The hydroclectric projects ree licensed by the 1P(: The license for the My tie Lahe project ( $11,500 \mathrm{kw}$ ) expired in 1969 . Since then, it has been ren wed annually pending action on the Company's application for rencwal. The license for the Thompsan Falls project ( $40,000 \mathrm{kw}$ ) expites in 1975 , and the (ompany has applied for tenewal Buder the Federal Power Act. The license for the Kerr project ( $180,000 \mathrm{kw}$ ) expires in 1980. All other licenses expire subsequent to 1988. (Sec Note 6 to the Consolidated Fimancia! Siatements.)

Through constmetion of additional generatine facilities, replacement and exchange agreenents and firm power purchases, the Company expects to have sufficient oc ability to meet the projected demands of its customers and maintain reserves of at least $15 \%$ of fim demand. (See "Future Generation") Western Encrgy his adequate supplies of low-sulfur coal to supply the Company's projected thermal penseration requirements. (Sec "Coal Propertics.")

During the 12 months ended September 30, 1974, the sources of the Company's generation were: hydro $79.1 \%$, coal $18.7 \%$, gas $1.5 \%$, and oil $0.7 \%$. The Conpany's coal costs have been as follows.

|  | 12 Months Fnded Scptembier io, 1974 | 1973 | 1972 | 1971 | 1970 | 1969 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Average cost per million btu's | 23.3 ¢ | 19.68 | 18.36 | 17.4 ¢ | 17.2 C | 18.2 e |
| Average cost per ton (dielivered) | \$4.07 | \$3.38 | \$3.16 | \$3.01 | 2.97 | \$3.16 |

The Company participates with Pacific Potvor \& Light Conpany, Portland General Electric Company and The Washington Water Power Company in the ownervip of Pacific Northwest Pow r Compzny, which, with the Washington Public Power Supply System, has appli d for an IPC lieense to lvaild and uperate a hydroelectric project on the Middle Smake River betweon Idaho and Orezon. An FPC aitninistralive law judee has issucd a decision and order granting the appheates a heense to constract the $2,700,000-\mathrm{kw}$ Pleasant Valky-Mountain Shesp Project on or aver Suptember 11. 1975, unkes L-sivation has been enacted prior to that time, classifying the Middle Snake Rixer as a wild or scenic river of declaring a moratorium on dam construction in that streth of the river. The matter is pending before the IPC on exceptions fo the oniginal decision and the outcome is not presently detemminable. Legislation to preclude any project on this portion of the Srabke River is pending in Congres.

Fufure Ceneration: The Company and Puget Sound Powor \& Light Company ("Puget") ane jointly constructing two $330,000-\mathrm{hw}$ mine-mouth generating units at Colstrip, in southoatern Montama. Applications are pendimg before the Montana Board of Natural Revourcieg for licenses required is comstract transmission lines mecesary to the operation of these units. The Company and Poget will hate cegal ownership of amb cat upon the oufput of these unis. Ine Company will operate the umits, ated Western Energy will supply their wal coal reyaimments. Die Company and Pupt, together with The thashington Wator Powet Company, Portand Genoral Elivtric Company and Pasific Power \& Light Compans, propose to construct two addtional $700,000-\mathrm{kw}$ getherating units at th. Cohstip site. With associated tramemission facilities. It is anticipated that Western Favter will akso supply the total coal requirements of these units. Western lenergy has dedicated to all four units resertes whish it believes to be sulficilt for their operation during their uscful lives. These companies have applications pending before appropriate

State and Federal agencics for permits to construct and operate the units and associated facilitics. Information with respect to the new generation is sel forth in the following table:

|  |  |  |  |  | Company Share |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Fuel | Estimated <br> Date of <br> Operation | $\begin{aligned} & \text { Nct } \\ & \text { Capathity } \\ & \text { Miv } \end{aligned}$ | Percent | $\begin{aligned} & \text { Fstimated } \\ & \text { Cosit } \end{aligned}$ | $\begin{gathered} \text { Cost } \\ \text { perkw } \end{gathered}$ |
| Colstrip No. $1^{*}$ | Coal | July, 1975 | 330 | $50 \%$ ) | \$111,009,000 | \$336 |
| Colstrip No. 2** | Coal | July, 1976 | 330 | 50\% | \$11100, |  |
| Culstrip No. $3^{* *}$ | Coal | 1978 | 700 | 30\%) | \$156,162,000 | \$372 |
| Colstrip No. $4^{* *}$ | Coal | 1979 | 700 | 30\%i | \$156,162,000 |  |

Regional Interconmections: The Company's electric system forms an integral part of the Northwest Power Pool consisting of the major clectric suppliers in the Unite: States Pacific Northwest and British Columbia, Conada. The Company also is a party to the Pacific Northwest Coordination Agreement integrating electric and hydraulic operations of the 16 parties associated with pencrating facilities in the Pacific Northwest; is a member of the Western Systems Coordinating Council organized by 38 electric systems in the 13 western states and British Columbia to assure reliability of operations and service to their customers, and is a party to the Intcreompany Pool Agreement for the coordiaation of load and resouree planning, allocation of energy and thansmission operations among seven utilitics in Washington, Oregon, Idaho, Montana, Wyoming and Utah. The Company participates in an interconnection agrecment with The Washington Water Power Company; Idaho Power Company, Utah Power \& Light Company and Pacific Power \& Light Company, providing for the sharing of transmission capacity of certain lines on their respective interconnected systems and emergency standby power for each company. The Company and the United States Burcau of Reclamation have agreements which provide for the use of excess capacity of certain lines on each party's system for the transmission of power east of the Continental Divide in Montana and for the firm use of the Company's transmision lines to deliver Government power from the Canyon Ferry hydrocketric project to the Govermmants northern Montana transmission system and from Great Fals to Cut Bank, Montana. The Compony also has agreements for the mutual uee of excess capacity of eertain lines of the Company and Bonneville Power Admimistation for the transmission of power wist of the Continental Divide.

Natural Gas: More than $80 \%$ of the Company's gas supply com's from Canada and is subject to export permits granted by the Provincial and Federal gencraments in Canada and import parmits granted by the FPC. As of December 31, 1973, the Company's total gas reserves were 962.000,000 Mcf. Of this amoum, 144,000,000 Mff, located in Montama. were what by the Company; 254,000,000 Mcf, located in Alberta, Canada, were owned by Camadam-Montana Gas; $46,000,000$ Mcf, located in Montana, were ownct by others and dedicated to the Company, and $518,000,000$ Mcf. located in Alberta, were owned by others and dedicated to Camadian Stomtanat Pipe 1 ine. Gas requinements fo: the 12 monthe soded september 30, 1974, totaled $56,800,000$ Mof, of which the Company and CanadunMontana Gas produced 3.45 and purshased the balance:

Ammal purchans from Aberta \& Southem Gas Company, Lidl, are authorized at 29,200,000 Mef under National Emogy Board of Canadn ("NEEB") licenses which have expiration dates from 1985 to 1993.

Canadian-Muntana Pipe Line has : oplied to N: B for authority to export an additional $20,000 \mathrm{Mcf}$ daily, to be purchased from Alberta \& Southorn Gas Company. The Company cannot predict the cutcome of this application. An Alberta permit for the exposi, and an FPC autherization for the import, of this gas have becn obtained.

Canadian-Montana Pipe Line is exporting to the Company a maximum of 99.460 Mcf per day and $19,892,000 \mathrm{Mcf}$ annually of gas purchaxa! from Canadian-Montana Gas in snuthcastern Alberta at Aden, Alberta, pursuant to aethosizations from th. NEB and the Alberta Energy Resources (onservation Board ("ERCB') which will expire May 14, 1975. Import authorization for this gas, issued by the 11'C, will expire on May 10, 1975. The Compayy in January, 1974, applied to the FPC for a new authorization to continue the importation of gess at Adon for a period ending December 31, 1992. Hearings have been completed and a decision by the FPC is expected within a reasonably brief peried. In 1972, Canadian-Montena Pipe line appled to the ERCB for a permit to continue the exportation of gas at Ad-n for a peried ending: Decembor 31, 1992. In March, 1973, the ERCB recommended a new permit be isuad as applicd for, bu: the licutenant Governor in Council to date has not acted on this recommendation. On May 14. 19 the 1:RCB, with the spproval of the Licutenant Govenor in Council, istued a temporify pormit horizing a continuation of the Aden export for one year ending May 14, 1975. Canadia-Montana ípe Line, in November, 1973, applied to the NEB for a new license authorizing the continuation of the exportation of gas at Aden for a puried ending December 31, 194 .. This application has not been set for bearing. The NE1s, in May, 1974, with the approval of the Governor in Council, issucd a temporary lieense authorizing a continuation of the Aden export until May 14, 1975.

The Company anticipates its cost of gas purehased from Canadian sources will increase matarially in the future. The Canadian Government has amonded matural gas export licenses, raising the Company's border price for natural gas imported from Canada io $\$ 1$ por million Bia (approximately $\$ 1$ por Mof), effective January 1, 1975. The Company currently p.is approximately 64 e per Mef for the gas it imports from Canada. Unkess the PSC rate adjutment order of Ausust 30,1974 , should be invalidated, the Company expects to flow through thix increased gas expense to its customers by PSC approval of increased rate schedoles pursuant to procedures establishod by such order. (S:e "Business-Regulation".)

The NEB began harings in Calgaty, Alberm, Noxomber 13, 1974, to determine Camadian ges requirements, supply and deliserability and amounts availabl: for export, if any. The NE:B his indicated that it will the no section op export applations pending before it until then hearings hate been completed and a report issued. The Comp.ay comot prodict the outcome of the prowedings before the NEB, the IRCIS or the FPC. If any of these applications should ultimately be demied, the Company's ability to meet the needs of some of its customers weuld bs impared.

Approximately $96 r^{\prime}$ of the Company's naturat gis customers are served from the Company's main integrated transmiscion bystem. The remainder are served from a separate sytem. Gas storage facilities ars located in depleted production areas in four regioms of Montana. These facilities enable the Company during the summer months to the and stere gas in cxeess of system hoad requirenemts and to distribute such gas during winter poriods of poak demand.

Coal Properties: Wostern Energy has enal mining Ieases covering approximately 610 millon recoverable tons of low sulphur (averaging 0.74 hi hy whigh) coat resowes at Colstrip in soublocasem Montama where Western Einergy conducts surface mining opstations. Approsimately 490 million twos of these reserves are committed to present contracts, inclading those for the Company's cxisting coul-find








 to more than satify the Companys homgrange gen ratio mydiremonts. In adition, Numbetam
 and Tcxas which ane in wious shags of explotation, stady and analy is.

At Cobstrip, Watem Enurgy mins coal and, afker crushinge sells it without further preparation, principally for use by deatric uthitios, incledine th. Compans in stam-clectse generating plants. Woorm
 further estimates that its production dining 1975 will $\mathrm{b}=$ move than $5,000,600$ tons as delnerice troder
 $13,000,600$ tons per yoar. New mining nachinery, including two 60 -cubie-, ard draglonsa and unit-tram
 engaged in mining operatine at Colstrip are foprocented by the Operatin: Engincers Union, pu suant to a contract exkending to : Warch of 1975. Weat mh Energy ameicipato that this contract will be renowed for a period of mere than one year at incoased wage levels.

Westorn Finery's mining operations are subject to, and in substantial compliame with cxisting State and Iederal covirommental and hathe and safey lims and regulations. Westem Encer whains annual promits to conduct miung upetations an riquiral by Moatama haw. Legislation to requlats surface mining is being comsidered by a joint S matu-Htouse conference comntitec of the Congress. The senate has passed a bill which, in addition to regulating surface mining. contaits a provision which would
 also owns the related land' suffece. The Hones of Reprosemmeses has posed a hill whith ako regulates

 provisions is acoppable te a majonity e the commaties The Company camot protict what, if any, how

 almose 30 of of the Cobnrip tevernes prosemtly under hase would be suhjeet to withdrawal and the cost of miniug the remaind a would be mathially imerased, and if the flowse provision, allowing the surface owner to crercie comtrol onet the minimy of coal underoseth his land is acospled and such provisson is applicable to Westem Inorge, it, too, would have a smilar advere eflet upon long-term oforations at





The Company's mestment in Weaten Foregy is leas tham 10\% of the comsolidated not aseots of tie Company and its subnutinics. Lihiwise, the sales and income of Western Energy are less than 10 g

If conseldated sales and incom of the Company and its sub ablaties. While increased future pro6. on will require additomal investmon by We +ht Largy (Sec "Ww of roceds and construction Protam"), the Comprany does not anticipate, that it investant in Westom langey will excedt $10 \%$ if ine conselidated net assets of the Company "and its subsidarics in the foresceable future.

Environment: The Company is subject to envirommental regulations by Federal and State authorities, i:- Ading regulations under the Foderal Clean Air Act and the Foderal Weter Pollution Control Act A. adments of 1972. The Company does not believe that material expenditures will be required under (.) at interpretation of applicable covisonmental laws and regulations for a ditional pollution control ', apment for eristing facilitics. All of the Company's curcont construction projects have been designed to estpily with corrent interpectations of the envirommental laws and rewulations applicable to them and the Un of pollution control facilities, which is subatantisl, is included in the construction budgeis for the eprojects. (See "Use of Proceeds and Construction Program.")

Air quality stomlark adopted by the Slate of Nomana have been diapproved by the Environmental Protection Agency ( $11 \cdot \mathrm{~N}$ ) to the extent that they lich prowedures of requlations for preventing siguificuit d wioration of air guality in portiens of the State where air qualicy is now better than the national s'andards promulgatal hy the EPA. Neither the Clean Ait Act mor current resulations of the EPA contain ahi/ definition of "significant deterioration" or any standards by which it may be determined to have whurred. The IPS has proposed new regulations with respect to this matter. The Company cannot praliet the impact of these regulations of other future pollution control regulations on the Coltrip $r$-herating complex or on its existing facilities.

Legal and administrative procectings, have bren instituted involving, the Colstrip generating complex anul the opsrations of Western Energy. In Junc, 1973, the Sierra Club fand others instituted a suit in the Ufinted States District Court for the District of Columbia against the Sucretary of the Interios and ether Ieferal oflicials whing that coal development in a four-state aree, incluving Montana, be susponded Preting a comprehnsive study and cnvitonmental impuct report. The Company has intervened in the care. In February, 1974, the Court entered a summary judgmem in favor of the defendans, and an appeal has heell tal en by plaintiffs to the Court of Apprals for the District of Columbia. The Court of Appeals has remambal the case to the District Court for a fumther evidentiary hearing which was held (13) November 6, 1974. In July, 1973, Buffalo Rapits Imigation District and others imstitutod a procoding before the F'C contending that FPC hotms are required for the Colsth. ' $^{\prime}$ generating wits. A mution to dismise his leen filed by the Company and the other respondents and the matter is still Irnding. A lawsoft is pending in the United Statos Suprome Cont involviag simior issurs, and the Company and some of it associato in the Colstrip umits have petitioned the Courn to file a brif as amicus curiac. Nome of these proceredings has reached the point where the Company can predue its outcome of offect upon the Company.

Fnergy Conservation: Various measures are under consideration by governmental bodies to refure energy demand. Although the extent camon be detennaded, the company bsifises that the energy Comervation movement has had a retarding dfeat upen the vee of energy by some of its customers. (See "Electric Oporating Statistics" and "Natur,1 Gas Oporating: Statistics.") While the Company expects to have sufficiont capability to meet the prosent and projectod ctectric demands of its customers and mantain an atiquate reserve, it cannot predict the impact ypoll its operations of future governmental actions. (S.e "Business--Llectric Propottios" and "Coal Phoperties.")

## DESCRITHON OF NLS BONDS

General: The New Bonds will be issued under the Con pany's Morterge and 1)eed of Trust, dated as of Outoler 1, 1945, 10 Ciuaranty Trust Company of Now Youk. (mow Mongan Guaranty Tru: Company of New Yorl) and Arthur L. Burhe (K, Amamlen, succesoos), as Trustees, as supplemented by seven supplemental indentures, herein oferred to as the "Moseqage". Th: Compaily mathains normal banking and borrowing telationships with Morgan Gustanty Trust Company of Now York which is the trustee for its phincipal retirement plan. The statements herein concerning the New Boads and the Mortgage are merely an culline and do not purport to he complute. They make uss of ferms defined in the Mortgage and are qualifict in their entirty by express rifirence to the cited Scetions and Articles. The New Bonds are not subject to a sinking or improvement fund or other prowions for amortization prior to maturity.

Interest and Payment: The New Bonds will be due December 1, 1981 and will bear interest at the rate shown on the cover page payable June 1 and December 1.

The New Bends will be is sucd as fully registered bunds in denominations of $\$ 1,000$ and multiples thereof and will be transferable and exchangeable without charge (except for stamp taxes, if any, and other governmental charges) at the efice of Morgan Guaranty Irust Company of New Yorh in New York City.

Sccurity: The New Bonds, together with all other Bonds now or hereafter issued under the Mortgage, will be secured hy the Mortgape, which conctitut s, in the opimion of the General Counsel of the Company, a first morty stated below , subject to excepted encumbrances. The are exeepted from the lion all cash and securities; certain merehambise, cyuipment, apparstus, mat. receivables, contricts, leaso and operating agn supplies; aircraft, automohiles, and oticr vehides; s; timber, minerals, mineral rights and royaltics, and all gas and nil production property. The liw the Mortgees does not extend to the Cumpany's subsidiaries or their stock or to the Company's ciectric or gas supply contracts.

The Mortpage contains provisions for subjecting affor-acquired properly (subject to pro-existing liens) to the hea therof, subject to limitations in the case of consolidation, merger or salk of whbstantially alt of the Company's assets. (Sir Morigate, Sec. 87.)

The Mortgage provides that the Trustecs shall have a lizn upon the mortgaged propery prior to the Bonds for the payment of their reasomable comprasation and exponses and for indemnity against certain liabilities. (Soc Mortgage, Sce. 96.)

Replacement Fend; No Simhing Fuad: The New Bemsk, as such, are not entitcd to the lvenefit of a replacement fund However, wo long as any 1975, 1984 or 1989 Serics bonds are ountanding, in adfition to actual expenditures for maintenance and repairs, the Company is required to expond or deposit each yoar, for replacement and improvements in respect of the mortgesed clectric. gas, stean and or water utility properly and antomative equipm.nt, $\$ 1.300,000$ plus. 2se of n.4 additions to the depreciable utility property of sueth ch mracter, made ofter luly 31, 19:55, and prior to the heginning of the var. Such requirement may be met by depositing cash or by eertifying pross property additions or expenditures for automotive equipment or by taking eridit for Band and yualified lien bonds retired. Mowt of the net property additions certified to mect this requirment may bcome unfunded when 1975, 19,4 and 1989

Serics Bonds are iow longer outstanding. Any efeess in such credits may be applied again: future requirements. Such cash may be withdrawn ayanst pross prop aty additions of on waiver of the right to issue Bunds, of he appliad to the retirement of Boads. The Monterae may be amended vithout any approval hy holdets of the New Bonds so as to exclade natural gas transmiseion property from the base under this requirement or so as to subslitute for the foregoing provision a requirement that there shall be expended $121, \%$ of adjusted pross operating ict nues from the mortgaced and pledged property tother than natural fis thammissum revenues, as altocat dor detemined by the Company) for maintenance and replacements in reypet of the mortgayed property and amomotive equipment (other than natural gas tran:mixwim property). Reventes from oil and natural gas production progertics are not induded in such adjusted prow merating revenucs. (Sce Mortgage, Sce. 39, 1irst Supplumental, Sec. 4 and Second Supplemental, sec 4.)

There is no sinking: fund for the Now Bonds.
Special Prmisions for Retirememt of Ronds, If, during any 12 -month period, property is di posed of by the order of or to any powermental authotity, resulting in the receipt of $\$ 5,0$ on 0,000 or more as proceeds therefor, the Company (sothect to certain condtions and deductions) must apply such procecds to the retirement of Bumb. Whe New Bonk are relesmable at the special redemption price equal to 10050 of their principal amount for this purpuke. Such $\$ 5.000,060$ figure may be increased to an amount not in exece of $515,006,000$ by amendment to the Mortgag. without any approval by the holders of the Now Bond. The Mortgere may abo be amended, withom any approval by holders of the New Bonds, to climinate the foregoing special provisions for retir.ment of Bonds. (Sie Mortgage, Secs. 64 and 87, Firy Supplememtal, Scc. 11 and Fourth Supplemental. Sce. 8.)

Issuance of Additional Boads: The maximum principal annount of Bond, which may be issued under the Mongage is man limited. Bonds of any scriv may be issued from time to time on the basis of (1) $60 \%$ of property additions after adjustments to offs: retirements; (2) retirement of Bonds or qualified lien bonds; and (3) deposit of cash:

The Mortyare may be amended without any approval by holders of the Now Bonds, so that $\$ 25,000$, 000 of Biands mar: he isucd without compliance with (1), (2) or (3) above, but only upon the showing of net carming , forel to in the next semtence. With cottan exeeptions in the cas: of (2) above, the issuance of timuly is sulject to adjusted net caming before insome taxes for 12 out of the preceding 15 months being: at last twice the annual moterest icyuitenents on all Bonsk at the time outstanding plus the additional iswe and all indehtolness of priour ramk. Such adjusted net cormings "re compated after expenses for mame name and prowivion for ratirement and deprediation of properiy, provided that, in lieu of the actual pratiduaf for tetirctury and depreviation of cortain mortgaged utility property and automotive equipment, the re shall be wod an amome cqual to the currondy existing replacement fund requirements for such period, hof the Mortgege may be amonded, without any apporal by holders of the New Bonds, to usc only such attuat provision.

Property adhitions penerally include clectrie, pas, stem or water properly acepured after July 31 . 1945, but may not includ property used principally for the trancmission of natural gas (exiept for the furpose of credit under the 198 : and 1989 Sinkins: or Improwement Funds or exeopt for the purpose of credits against certain netirements or teleaves) or pas and oil preducton propety. It is anticipated that the New Bonds will te issmal apamet unfunded het propely addrions and that, following the isounce of the New Bonds, the company will have remainimg unfunded net property additions as of S.prember 30, 1974 of approsimately $\$ 4,570,4 \mathrm{~m})$. (S.c ako Kaplacement Fund above.)

The Montgape restricts the isuance of Bonls against prop rly additions subje to prior liens. The amount of the oblyations scand by prior lens om mortgag. d propety may be increased, provided that, if any property suly. ct to such hen shall have bean made the bass of a credk under the Mon wee $b$, the Company, all the whltuonat olfgethoms are depo ited. (Soc Mortgage, Sces. 4 to 7,20 to 32, athd 46 and Fourth Supplenemtal, Secs. 2, 3 and 7.)

Refease and Substifution of Property: Proparty may be released upon the basis of (1) dep sit of esth or, to a limited extemt, purchace moncy mongeses, (2) properly addtions. :ffer adjustment in certain cases to offeet retiements and after making adjustnonts for qualifiat licn bonds outstand ing agemst property additions, and (3) waiver of the right to isue Bonds, without app/aing any carnings ics. There is no requirement to oflset relirements of natural gas transnission property oxeept to the exten: that such properiy has been und as a credit under the Morteape. Cash may be withdrawn upon the baxis stated in (2) and (3) above. When propoty released or cash withdraw: consists or represents proceed of preperty which was not funded property, property additions made the basis of the release or withdrawal may in certain cases remain or become available as a crodit under the Morigage, and the waiver of the right to issue Bonds made the basis of the refease or withidrawal may in certain cases c.ase to be effective as such a waiver. The Mongage contains special provivions with respect to qualifid lien bonds phaded and disposition of moncys received on pledgud prios lien bonds. No prior notice to Bondholders is required in connection with releases, but subsequent repors are required in certain cases. (S e Mortgage, S.es. 5, 31, $32,37,46,57$ to 63, 100 and 118.)

Dividend Limitations: Cash dividends on common stock are restricted by the amount, if amy, by which (a) replaement fund requirements, if any, from Octuber 1, 1945, excedd (b) provisions for depreciation from that date phus the excess of current earnad surplus over carned surplus at September 30, 1945, less certain deductions. (See Mortgage, Sec. 39, and Note 3 to Financial Statements.)

Medification: The rights of the Bondholders may be modified with the consent of 70e of the Bonds, and, if less than all series of Ronds are affected, the consent also of $70 \%$ of the Bonds of cach series affected. The Company has teverved the right to amend the Mortgage without any approval by bolders of the New Bonds $w$ as to subslitute for the foregoing provision a provision to the effect that the rights of the
 Bends are affected, the consent ator of $66^{2}$ 's of the Bonds of each seri:c affeeted In general, no modification of the tems of prement of principed of interest and no modification of the Company's obligat tions under Section of or atfecting the lien or roduing the potw ntate requirest for moxiffestion is eflestive against any Bondhlder withont his consem. (See Montgase, Article XIX and Fourth Surpkmeatal, Sec. 9.)

Deffulf amel Notiee Thereof: Defaults ace defined as being: ditalt in payment of principal; defauth for 60 days in payment of interst of of imstallmests of funds for retiremsitt of Bonds, certain defauls with
 90 days after notice in other conenatus. The Inwese maiy withhedd notice of defauls (exeept in payment of principal, interst or fund for retiement of lhonds) if they thinh it in the interests of the Bondholders. (Soc Montgage, Sves. 65 and 60 .)

The holders of $25 \%$ of the Bends may delaee the pritneipal and interest due on defoult, but a majority may ammul such declaration if such defaul has bect cured. No holder of Bonds may enforee the
lien of the Montyare withont piving: to the The: atitten notice of a defarlt and mhlos $25 \%$ of the Bonds have requoved the Irates to act and othe of them romonable oppostamity 10 act and the Foustes
 if there is reasomable pround for thelswin: that repayment is not reasomably is sured. A mapority of the Bonds may dine: the time, method and phec. at conducting any proceedinge for any remedy available to the Trustees of crercising any trust of power conferred upron ith Trustees. (see Mortgage, Sic. 67, 71, 80 ath 95.)


If at the time the notice is given the redemption moness are not on deposit with the Copotate Trustec, the redemption may be made subject to their wectipt befone the date fived for retempionk and
 Seventh Supplemental, S.e. 1.)

Cash deposifed under ally provisions of the Mongage (with ecrtain exceptions) may be applicd to the purchase of Bonds of any series, (Sce Mortgage, Sec. 55.)

## LIG: OH OPNO*:

The legality of the New Roud will be pasod on for the Company by William H. Coldiron. Fe, Vice President and Cemeral Counsel of the Compraty, 40 last Bromiway, Butte, Montana, and by MI asts. Reid
 It, but a force the
 New Bonds for the Underwrikes. The inwoperation of the Company, its fitles, framehises, permits and
lieenses, the lien and enforccability of the Mortap and all other motters poverned by Montana law, will be passed upon only by William II. Coldiron, lisy. As of September 30,1974 , William H. Culdiron, Esq. owned 2,400, and he ld uptions on 4,400, shares of the Company's common stock.

## EXPLETS

The financial statements includ d in this Prospectur, except as they relate to the unauditd twelve month periont ended September 30, 1974, have been so included in ruliance on the report of Price Waterhouse \& Co., indepcudent accountims, and on thoir authority as eyperts in auditing and accounting.

The statements made as to matters of law and legal conclusions under "Business-Reculation", "Business-Coal Propertics", "Busimece-Lavironment" and "D cription of New Donds-Sccurity" have been reviewed by William 11. Coldiron, Eseg, Viee I'resident and Gensral Counsel of the Company, and are sct forth hercin upon the authority of such Counsel.

## REPORT OF INDIPINDENT ACCOUNTANTS

## To the Board of Directurs of The Montana Power Company

We have examined the conselidated balanee shects of The Montana Power Company and its subsidiaries as of December 31, 1973, the consolidated siatement of changes in financial position and consolidated statements of earnings ratained for use in the business for the five years ended Deeumber 31, 1973, together with the consoldatell statement of income for the five years ended Decumber 31, 1973 appearims elsewhere in this Pruppectus. As exphinimel in No: 1 to the financial statements, the Company maintains accounts to conform to the accountion 1equirements of both the Public Service Commission of Montana and the Feseral Power Commission; fimancia: statements based on the accounts preseribed by both Commissions are presented in this Prospectus. Our examinations, which were directed to beth sets of financial statements, were made in accordanee with generally accepted auditing standards and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

As described more fully in Note 1, the differences between these two sets of financial statements arise from a decision of the Federal Power Commission which has resulted in the exclusion of some $\$ 21,600,000$ of Company's costs from the property accounts with a corresponding reduction in stockholders' investment. The Public Service Cemmission of Montana recognizes such amounts as legitimate costs of utility property and permits the Company to carn a roturn thercon. Because the Public Service Commission of Montana has the magor jurisdection over the affairs of the Company, including rates and securities issues, the financial statements based on its accounting requirements, in our opinon, are the more useful to the Company's stoch.holders.

In our opinion, the aforementioned statements based on the accounts preseribed by the Public Service Commission of Mentana present furrly the censoldated financial position of The Montana Power Company and its subvidiaties at December 31, 1973, the results of their operations and the changes in their financial pesition for the five years then ended, in conformity with g-nerally accepted accounting priaciphes cousistently applicd.

Also, in our opimion, the aforementioned statements based on the accounts preseribed by the Federal Powsi Commission present farly the consolidatal financial position of the Montana Power Company and its subsidaries at D.comber 31, 1973, the resuifs of their eporations and the chanjes in their tinancial position for the fie: years then ended, in confornity with the applicaice accounting regulations and onders of the Federal Powat Commission consistently applicd.

## Price Wathenouse \& Co.

Portand, Oregon<br>February 6, 1974

## THE MONTANA POWIR :OMPANY ALVD SURSDIARIES

CONGOLDATD HALANCE SHELS

## ASSETS

(Note 1) Fased on accoents pres ribed by

| Public Sv ruice of A : | $\begin{aligned} & \text { Cimmmission } \\ & \text { ef, 4a } \end{aligned}$ | Federal Comm | Pewer ission |
| :---: | :---: | :---: | :---: |
| Segtember 3is. 1974 (Thanelitel) | $\begin{gathered} \text { Decetily r } 31 \\ 1 x ; 3 \end{gathered}$ | $\begin{gathered} \text { September } 30, \\ 19 \% 4 \\ \text { (Ubuudited) } \end{gathered}$ | $\begin{gathered} \text { D. cembler 31, } \\ \underline{1973} \end{gathered}$ |
| - Thousands of Dollay |  |  |  |

Promprit and Plant in Sprvice and Uratre tember 30, 197: , and $\$ 37,18 \$ 400$ at Dexm-



| $\$ 363,076$ |
| ---: |
| 133,143 |
| 17,634 |
| 42,298 |
| 556,151 |
| 129,919 |
| 426,232 |
| 2,712 |


| 13,159 | 8,450 | 13,159 | 8,450 |
| ---: | ---: | ---: | ---: |
| 13,352 | 12,704 | 13,352 | 12,704 |
| 7,479 | 3,991 | 7,479 | 3,981 |
| 2,469 | 1,627 | 2,469 | 1,627 |
| 12,629 | 1,243 | 12,629 | 1,243 |
| 49,058 | 28,005 | 49,088 | 28,005 |

Dffirrate Charars:
Preliminary smosy and investigation charges

Headwater henefit charges (ivote 1 ).
Kerr Proiect thares (1voto-1) ...............
Deferred taxes atributable to Kerr Projet
charges.

$$
\begin{array}{rrrr}
927 & 988 & 927 & 988 \\
749 & 370 & 749 & 370 \\
417 & 471 & 417 & 471 \\
238 & 331 & 238 & 381 \\
6,787 & 7,655 & 6,987 & 7,655 \\
(4,045) & & (4,432) & (4,045) \\
\hline 5,273 & -\frac{(4,432)}{5,433} & \frac{5,273}{5,433} & \frac{5,43}{}
\end{array}
$$

$$
\overline{\$ 483,305} \quad \overline{\$ 16,263} \quad \overline{\$ 461,689} \quad \overline{\$ 394,647}
$$

[^16]
# TIII: MONTANA POWIR COMFANY AND SUBSHBARHS 

## CONSOLIIATBI: RALANCE SIELTS

## LIABILITIES

Capllathatun:
Sharcholders' investment:
Cimpital stox i $(\operatorname{Notc} 2)$ :


Capital surplas (no change during last five ytars)
Earning tetainal for use in the business
(Notes 1 and 3).

| Service Commixsion of \Iontama |  | Federal Pewor Commission |  |
| :---: | :---: | :---: | :---: |
| Septemier 3 t 1974 <br> (Unaudited) | $\begin{gathered} \text { Decepler } 31, \\ 1973 \end{gathered}$ | Septeinher 30, 1974 <br> (Voandited) | $\begin{gathered} \text { December 31, } \\ \underline{1973} \end{gathered}$ |
| Thuessamb of Dollars |  |  |  |
| $\begin{array}{r} \$ 2!, 9: 3 \\ 114,043 \\ (479) \end{array}$ | $\begin{array}{r} \$ 21,983 \\ 113,400 \\ (479) \end{array}$ | $\begin{array}{r} \$ 21,983 \\ 114,043 \\ (479) \\ (500) \end{array}$ | $\begin{array}{r} \$ 21,983 \\ 113,400 \\ (479) \\ (500) \end{array}$ |
| 16,205 | 16,205 | - | - |
| 37,135 | 31,461 | 32,224 | 26,550 |
| $\begin{array}{r} 188,887 \\ (271) \end{array}$ | $\begin{array}{r} 182,570 \\ (271) \end{array}$ | $\begin{aligned} & 167,271 \\ & (271) \end{aligned}$ | $\begin{array}{r} 160,954 \\ (271) \end{array}$ |
| $\begin{aligned} & 188,616 \\ & 184,017 \end{aligned}$ | $\begin{aligned} & 182,299 \\ & 152,939 \end{aligned}$ | $\begin{aligned} & 167,000 \\ & 184,017 \end{aligned}$ | $\begin{aligned} & 160,683 \\ & 152,939 \end{aligned}$ |
| 372,633 | 335,238 | 351,017 | 313,622 |
| 58,500 | 30,500 | 58,500 | 30,500 |
| 3,69) | 3,6:7 | 3,699 | 3,687 |
| 3,620 | 3,435 | 3,620 | 3,435 |
| 8,484 | 5,306 | 8,484 | 5,306 |
| 5,27, | 4,283 | 5,273 | 4,283 |
| 4,435 | 3,171 | 4.438 | 3,171 |
| $\begin{array}{r} 539 \\ -710 \end{array}$ | 570 2,222 | 539 2.714 | 2,222 |
| 87,267 | 53,180 | 87.267 | 53,180 |
| 2,225 | 2,115 | 2:225 | 2,115 |
| 4,6\% | 4,090 | 4,692 | 4,000 |
| 6,917 | 6,205 | 6,917 | 6,205 |
| 1,055 | 939 | 1.055 | 939 |
| - | 7,077 | - | 7,077 |
| 15,433 | 13,624 | 15.433 | 13,624 |
| \$483,305 | \$416,263 | \$161.689 | \$304,647 |

Curkfnt !namme.
Notes payable to hanks (Note 4) .............
Dividends pryable ........................
U. S. and Canadhan income taxes $\qquad$
Other taxes
Accoumis payable
Inturest acented
Customer deproxits
Other current habilitics . .....................

Datrken Crames:
Customar ado meser for comamection .........
Investment tirs ereatit (Note 1) ..............

Risimyts For Insurits, Dimages, Empleyels Proviment and Otiler
Contmintman if Cistomes for Consm vetion of Prombiy (Note 1)

| Sorvice Commision of \Iontama |  | Federal Power Commisvion |  |
| :---: | :---: | :---: | :---: |
| Septemier 3 t 1974 <br> (Unaudited) | $\begin{gathered} \text { Decepler } 31, \\ 1973 \end{gathered}$ | Septeinher 30, 1974 <br> (Vasudited) | $\begin{gathered} \text { December 31, } \\ \underline{1973} \end{gathered}$ |
| Thuessamb of Dollars |  |  |  |
| $\$ 2!, 9: 3$ 114,043 $(4479$ <br> (479) | $\begin{array}{r} \$ 21,983 \\ 113,400 \\ (479) \end{array}$ | $\begin{array}{r} \$ 21,983 \\ 114,043 \\ (479) \\ (500) \end{array}$ | $\begin{array}{r} \$ 21,983 \\ 113,400 \\ (479) \\ (500) \end{array}$ |
| 16,205 | 16,205 | - | - |
| 37,135 | 31,461 | 32,224 | 26,550 |
| $\begin{array}{r} 188,887 \\ (271) \end{array}$ | $\begin{array}{r} 182,570 \\ (271) \end{array}$ | $\begin{array}{r} 167,271 \\ (271) \end{array}$ | $\begin{aligned} & 160,954 \\ & (271) \end{aligned}$ |
| $\begin{aligned} & 188,616 \\ & 184,017 \end{aligned}$ | $\begin{aligned} & 182,299 \\ & 152,939 \end{aligned}$ | $\begin{aligned} & 167,000 \\ & 184,017 \end{aligned}$ | $\begin{aligned} & 160,653 \\ & 152,939 \end{aligned}$ |
| 372,633 | 335,238 | 351,017 | 313,622 |
| 58,500 | 30,500 | 58,500 | 30,500 |
| 3,693 | 3,6.7 | 3,699 | 3,687 |
| 3,620 | 3,435 5,306 | 3,620 8.484 | 3,435 5,306 |
| 5,27, | 4,283 | 5,273 | 4,283 |
| 4,43s | 3,171 | 4,438 | 3,171 |
| 539 | 570 | 539 | 576 |
| 2,714 | 2,222 | 2,714 | 2,222 |
| 87,267 | 53,180 | 87.267 | 53,180 |
| 2,225 | 2,115 | 2,935 | 2,115 |
| 4,6\% | 4,090 | 4,692 | 4,000 |
| 6,917 | 6,205 | 6,917 | 6,205 |
| 1,055 | 939 | 1,055 | 939 |
| - | 7,077 | - | 7,077 |
| 15,433 | 13,624 | 15.433 | 13,624 |
| \$483,305 | \$416,263 | $\$ 161.689$ | \$304,647 |

( ) Denten red figure.

## THE: MIGNIANA PGWYR COMEANY ANB SEIFSIDHARHES

## CONSO!IDATED STATEAHNIS OI EARNINGS RETAINED FOR USE IN TIEE EUSNESS

| 12 Months <br> Ended <br> Soptemher 30, <br> 1974 <br> (Unawdited) |
| :---: |



## BII: MONTANA FOWHR COUPANY AND SURSHDARIE


(Bued on accomat. Freveritedt by the Poblic sertice Fommision
of Montana sud the Iedetal Fower Commission-Note 1)

( ) Denotes rad fipure



 rechassified as a mdestiom of prose addirions lo propenty and plant Sise Note 1 to the Consolidateal Imatoial Staloments.

# THI MGNTANA PGWIR (OMIPANY AND STIGUDIARISS 

## 

For the Iive Years I med December 31, 1973 and the Unaudited I witve Montho Dinded reptember 30, 1974

## Note 1-Summaky of Sionificant Accounting Policils:

The Company's at "umting policies conform to eserally accepted accounting principles as applied in the case of regulated public utilitios and are in accordance with the accounting requiroments and ratemaking practices of the regulatory authoritics having jorisarction.

Principles of Comsulidation: The consolidated fiamencial statements include the aceounts of all whilly owned nubvidiarics. The no assets of thr- subsidiaries as shown by their hooks at December 31, 1973, and Septumber 30, 1974, exceeded the Company's cost of investment by $\$ 5,520,777$ and $\$ 6,103,797$ respectively, repreconting undistributed net income of the subsidiaries shice acquisition which is iticluded in consmbdated corming rotamed for use in the busimess. The current assets and liabilities of the subsidianies opetating in Comnda are expressed in United States dullars at the period-end rate of exchange: other assets and habilitios are expressed it rates provailing at the time of the transactions. Revenue and expense amounts for each woath are translated at the average tate of exchange in effect during the month. The exchange adiustm . Wr from thanslation of Cinadian currency are not material during the five years ended Diecember 31, 19/3, of in the aquig gate and are incloded in other reserves.

Financial Stafement l'retentation: The Company maintains accounts to conform to the accounting requirements of buth the Public Service Conmission of Montath (I'SC) and the Fcderal Power Comnission (I DC) for prupenes of complying whit the Montma statutes whit: give the PSC broad tegutatiry jarisdiction over the afiairs of the Company and for purpose of complying with federal laws which give the FPC jurisdection over hocesed projects and the transmassion and sale of fower in interstate comatace




 of the Company moness are de rived from imrastate setsioss at ates fixd by the PSC.) However,
 1964 decision of the U.S. Coutt of Apycals for the Founth Cirsuit in the case of Aypalashan Ponct Company v. the Fedetal Fower Commission which lwht that, in that was, the FPC accounts were basie accounts and must he proched in reports to stockholders, financial statiments based on the requirements of that Commission are also prosented.

It will the meted that the differemes betwent the two prosentanoms Nelate primarily to Unbity Properties, Capotat Smptos, and lammgs Retained for Use in the Bustm:ss. These differenees exist
 in 1945, as to compotate cost and "oripasil cost" of critam prypetios, and as to dispostion of amounts

## 

## NOTES TO CONSOLPDATED FINANCIAL, STATEMENAS-(Continad)

## Note 1-Summary of Sicisilicant Accounting Policies-(Continued)

cla wified as Flectric Plant Acquisition Adjustments. Since 1959, there has been no difference affecting the income statement.

Pursuant to an order from the PSC, accumulated income tax reductions resuling from accelrated depreciation and amorthation on utility property are recorded as Earnings Retained for Use in the Business-- Restricted, but in the accompanying balanee sliects, these tax reductions have been reclassified.

Depreciation and Depletion: Provisions for depreciation and depldtion are recorded at amounts substantially equivalent to calculations made on straight line and unit of production methods by application of various ratev based on useful lives of propetties determined from studics and computations made by competent inginous. Daring the five gears ended December 31, 1973, and the twelve months ended September 30, 1974, the provivions for alpreciation and depletion approsimated $2 \%$ of the depruciable and depletable property at the beginning of the year.

Maintenance and repairs of property and replacements and renewals of items determined to be less than units ef property are charged to operating expenses. The cost of units of property retired or otherwies disposed of, adjused for removal costs and salvage, is charged to the accumnlated provisions for deprediation and depletion, and the cost of related teplacements and renowals is added to utility plant. Gain or loss is fecognized upon the sale or other dipposition of land or utility plant constituting an operating unit of system.

Allowance for Funds Used During Consiruction: As provided by the applicable reculatory systems of accounts, the Comprany capitalizes into plant in service a fixed pereent on the cost of utility constration projects that exceed miminum fequirements both as to dollor expenditures and duration of the period of construction. An anmomt cqual to the amomt capitalized is shown on the Consolidated Statement of Income as "Allowance for I und Used Daring Construction," an item of Ohher Income: The allowance was computed at the rate of $61 / 25$ for the years 1969 and 1970 and 756 for the years 1971, 1972. 1973, and the twelve mombs ended Suptember 30,1974 , and equalided $25,1 \%, 15,25,5 \%$ and $14 \%$ of Net Income for the five years ended D... mber 31, 1973, and the twelve months ens id Seprember 30, 1974, respectively.

Assuming that funds used to financs construction during the five years ended December 31, 1973, and the twalve mouthe codul September 30, 1974, wore provided in the some proportion as the Company's average capitalizanom fation and using the Company's avenage actial cost of debt, after provision for income taxes, during the periosd, the conumen equity compronont of the allowance for fands used duing
 and $9.3{ }^{\circ} \mathrm{F}$ for the gear / wow through 1973 and the twatre months endal siptember 30,1974 , respeetively. The amonnt of the allowance variss from year to goar wilh the Companys construction program.

Expleration and Develepmont Costs: The Company and its subsodiariss account for exploration and development costs incornd on or related to hydtocarbon leases on the individaal property and basis.

## 

## NOHS TO CONSOLDAATH: INANCTAL STAT:MINIS-(Costinued)

## Note 1-Summaky of Srgahtrant Accounting Ponictes- (Continded) <br> This results in capita fization of cost whated to the acepie ition of leace and pradueng propertio and the

 amortization of the costs nver the productive lowe. Nomprodartive spphestan and drilling costs are charged to expense currently.Capitalization of Pollution Control 1 cecilitic: Tace Company, pursuant to an agreement dated June 1 , 1973, has umeonditimally guatantood the payman' if princyal and interot an $\$ 2.0,000,000$ County of Roscbud, Montana 53, Pollution Control Kowent Bonds due June 1, 2003. The C mpany is capitalizing the col of purthasing, acquining, contouting and instaliing the cquipment bcing acouired!
 on the deht are changil to expense currently. Unexpended proceds of the zond bsse on dypait wh the Irustee are tomperarily invested and the carnmegs are included in Other income.

Contributions in Aid of Censmuction: Effective Jantary 1, 1974, the IPC has ordered that contributions by customers for conctruction of property will be accounted for as a redustion in the original cost of the utility property rather than eccumblaing these contributions in a soparate akcount and presenting this amount on the liability side of the balanoe sheet.

At Dewember 31, 1973, the wecumulated costomer contributions ame inted $10 \$ 7.076 .760$. This amount has been transforred to the utility propertio section of the balance sheet at September 30.1974. To the cxtont the he hasorical immonts may be associated with utility properiy and plant currontly in service the origimal cost will be reduced; the remaining amounts will be tranferred to the accumulated provisions for depreciation and depletion. This change aff. is the presentaon of fimancolal statements but will have no effect on the Company's eaming as this amount has consotenly been excluded from plant investment for depreciation and ratemaking purposes.

Costs Defenci to Future Operating Periotve During 1970 management concluded that use of the

 July 1, 1970 as anthonized by the PSC:

On January 15,1971 , the PFC issuad an order aprowing it settl:ment agreement determining payments due the Uaited States for hoadwater lenefits prowidad by its Canyon Ferry hydrowhetric project for the proind 1953 through 1970 . The satement ixcod amounts aceroed by the Company through 1970 and the net addirental cxpense after applicable taxes is betig chagzed to income over a perion of five yon commencme Januaty 1,1971 as amthotized by the FPC and the PSC.

In 1967, the FPC ordered an incrase in the ammat singss for ithe us: of ladian lands at the Kert

 D comber 31, 1971 , meladng interest. Duning the peas $1967-1972$, the Compemy revordal ant



## THE MONIANA POWRK COMPANY ANO SUBSHMARES

## NOHS TO COVSOLIDATLD ENANCISL STATLAENTS-(Continued)

## : 78

to be accountut for was $\$ 3,755,000$ ). The (ompay reesived whthrization from the PSC and the IPC to athortiz: this amount to clectric op-rating exp 7 ow over a prod of ten yous commencing in August 1972. This results in a charge againct incone in 1972 of $\$ 157,000$ and 5376,600 in suhsequat years until fully amottind the restrictuon on the at .lability of retainat camings for divident purposes imposed by the Isoant of Ditectors in 1968 was ramoved by wolution in July 1972.

Interest Charged to Nomutilay Property: Interest on butrowed funds expended principhelly for the construction of asquivition of certain nonutility mining prop-rties not in service is being capitalizd in nonutility propolly. The ansount of interest cupialized was 5189.000 in 1973, the first jear in whish interest was incoutat on fund, borrowed for the consuructich or aequistion of such proporties, and $\$ 1,343,000$ in the lwatve month period ended $\$$ apember $30,1974$.

Income Ta, ! yrase: Income tax depreciation of property acquired after 1970 is based on IRS Class Liff Aswet Depreciation Keguhtions utilizige acc.lerated methods athd depreciation of property acguired pror to 1971 is based on IRS Guilelmo. Class Live utilizing ace lerated mothod for electric ut ility property ently. In accordance with the escounsing , wairements of rezulatory authoritios, the Company providus defered income taxes on th: differone betweon aciual income tax depreciation and straight lite d.preciation using IRS Guid, he Class Lises and also provides deferred inconte taxes on the difference between beome tax dipreciation and financial accounting deprociation for principal nonutility propertics.

As more fully deseribed ahove, during 1972 the Comp iny deducted for ineome tax purposes the additional annust rentals and interest paid for we of Indan lands at the K. rr Hydrostectric Project for the period May 20, 1959 theugh Decomior 31, 1971; and in 1973 b:gan capitalizing interest on borrowed fund expended principally for the comsimetion of acyusition of nonutility mining proporty not in scrvice. The firmeg diflerense rosulting intm defertal of these costs to future opzrating periods for financial ascounting porposes as well as oifar thang dfleretios in principal nemutility opstations have becen nommalized.

The remaisime defferences, sonte of which are proman int in naturs between deprectation and

 tog ther with othor difetences betwest tast Whe itwome and financial aceotnting income, are acounted for as net curront reductions in income tax provisiuns.
 propertios is heme taken into ittone based on the vatious hoes of the asoits giving rise to the crodit. In 1974 the Company adopret the flow throwht of thot of A...ounting for the investment t.is croalit on


 eredit on such propertion was insignificant in priot yats.

## THE: MONTANA POWLE CO: OPANY ANW S: NOTES TO CONSOIIDSTED FINANCTAL STATL: YNTS-(Confinucd)

Note 1-Summany of Significant Accounting Policirs-(Continued)
U. S. and Canabian income taxes charged to cu is and expenses are as follows:

|  | 12 Nor:heliodd Sequenilur 30 , 197. <br> (U, and d) |  | Yeat I | ad bece | er 31, | - |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1573 |  |  | 1970 | 1969 |
|  |  | -Ticutands of Dollers |  |  |  |  |
|  | \$8,437 | \$12,345 | \$ 7,888 | \$13,934 | \$13,975 | \$14,646 |
| Curient . . . . . . . . . . . . . . . . . . . . . . . . . $\$$ 8,* |  |  |  |  |  |  |
| Deferred | 2,250 | 1,349 | 1,201 | 928 | 938 | 859 |
| Accelerated depreiation and amotlizatio | (249) | (449) | 4,300 | - | - | - |
| Kert Project chatges | 607 | 91 | - | - | - | - |
| Interest charged to nomutility pronorty | 60 | 656 | 394 | 248 | (126) | 77 |
| Invesiment tax eredit - net | 384 | 76 | 285 | 58 | - | $\underline{-}$ |
| Miscellaneous itemi-fict | \$12.452 | 514,058 | \$14,068 | \$15,168 | \$14,787 | \$15,592 |

Actual income tax expense is reconciled to "expectid" inzom. tax expense, which is computed by applying the U. S. inconc tax rate of 52.85 c in $15.69,49.2 \%$ in 1970 and 4858 in 1971 through 1973 and the twulve monilis ended September $30,197 \%$ to income befors fax, as follows:

| 12 Mentis Faded Septembers 50 (Unguditod) | Year TudíC December 31, |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1973 | 1972 | 1971 | 1970 | 1969 |
| - Theusands of Dollus \$ \$1s |  |  |  |  |  |
| \$12,452 | \$14.068 | \$14,068 | \$15,168 | \$14,787 | \$15,592 |

Actual income tax expence
Adjustments for tax effects of:
Exerss of uthlity inconte lax depreciation utilizin:
the straight line musthod and guideline elass lives over financial actomting depreviation

| 34 | 1.638 | 2,02.4 | 1,965 | 1.881 | 2,049 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1.488 | 573 | 24. | 102 | 46 |  |
| 1,440 | 1.427 | 613 | (375) | 226 | -81 |
| 510.914 | \$17,706 | \$16.9.8 | \$16.860 | \$16.040 | \$17,41\% |

Allowance for funds used during construation.
Miscellantous items-net
Computed "expected" incume tax expense

##  

## Note 2-Capital Story

## Capital stock eotyistis of the following:

Preferred (cunulative, no par valuc):
Authorind $-3,000,000$ shares
Issucd and outstanding:

| \$6.00 scrics-159,5y0 shates | \$ 15,958,900 |
| :---: | :---: |
| \$4.20 srrics- 60,000 shares | $6,024,600$ |
|  | \$ 21,983,500 |

## Common ( 16 par value):

Authorined $-22,000,000$ shares
Issued and outwanding, including 9,900 shares held in troasury:
September $30,1974 \quad 7,547,356$ shtates $\ldots \ldots . . . . . . . . . . . . . .$.
December 31, 1973 7,521,35s shates . . . . . . . . . . . . . . . $\$ 113,399,595$

The preferred stock is redeemable at the option of the Comprany mi thirty-day notice at $\$ 110$ per share for the $\$ 6,00$ c.ties and $\$ 103$ por share for the $\$ 4.20$ scrivs, plus accumulated dividends. The liquidation price of priforrd shares is $\$ 100, \Gamma^{\prime} \mathbf{u}$ accumulated divielonds.

Th: Board of Directors amhorized an increase in the stated value of common stack of $\$ 20,000,000$ in Marsh, 1973, by a tramefor of that atmont from I atnings Retamod for Uic in the Business. The only
 issucd under the wemtane stock gpiton plath as shawn by low.
 before June 18, 1974, the grant of whines to whise and ather ov employees to purchase 110,527
 the clowing price on the Now York Stork Fixchange on the dite the optous afe granted and become exit-
 in the onder granted and expies live geas from the date of exant.
 price of $\$ 24.75$ pur shate will expies if not expteised.

##  NOHS 'iO CONSOHDDATEH INANCIAL. SIAHSMKTS-(Continued)

Noti: 2-Capiral. Srock-(Contimucd)

|  | Number of Nhares | Aserale Per than | \%ot. 1 | Alerate <br> Per ihiefe | $\frac{\text { Tutal }}{\text { (a) }}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Options outstanding: |  | \$24.75 | 93,18.4, 1138 | \$24.75 | $55,184,038$ |
| Granted in: 1969 . . . . . . . . . . | 128,046 | \$24.75 | - | - | - |
| 1970 . . . . . . . . . . | - | - | - | - | 1-145900 |
| 1971 . . . . . . . . . | 40.925 | \$28,00 | 1,145,900 | \$28.00 | $1.145,900$ |
| 1972 . . . . . . . . . . | 40, 2. | - | - | - | - |
| 1973 . . . . . . . . . . . | - | - |  |  | , |
| $\begin{aligned} & 9 \text { Monits lindod } \\ & \text { Scptember } 30 \text {, } \\ & 1974 \ldots \ldots . . . \end{aligned}$ | - | - | $\xrightarrow[+-20]{-\infty}$ | *25.53 | $\frac{-2}{54120.938}$ |
| Total at September 30, 1974. . . . . . . | 169,573 | \$25.53 | \$4,327,931 | \$25.53 | $\$ 4,329,938$ <br> (b) |
| Options which became exercis.ble during: |  |  | $5448,12.5$ | \$31.75 | \% $4,0,48.4$ |
| 1969 ............ | 13,8 | $27,88$ | $151,2: 14$ | 30.13 | 163,458 |
| 1970 . . . . . . . . . . . . | 3,4210 | 29.57 | 97,879 | 31.74 | 105,04 |
| 1971 . . . . . . . . . . . 1972 . | 10 | 24.75 | 14,8,40 | 30.94 | 12.563 |
| 1972 . . . . . . . . . . . . . 1973 | 75,513 | 24.75 | 1,565 9,947 | 30.47 | 2,300,822 |
| 9 Months Iinjed |  |  |  |  |  |
| Septembir 30. |  | 25.82 | 3, 19\%4,4.5 | 29.81 | 3.689 .42. |

(c)


(a) A dates eqptionts wefo panted.
(b) At dates eqpisises treathe vxorelsable
(c) At dates opthans wero esercised.



## TIIE MONFANA POWIE COMFANY AND SUBSDDARIES

## NOTES TO CONSOLIDATID INANCTAL STATFMI NTS-(Continued)

## Note 3-Long-Tium Dibi:

| $\text { Septemiber } 30$ $1974$ | Decomber 31 . |
| :---: | :---: |
| \$ - | \$ $29,996,438$ |
| 39,191,732 | 39,194,359 |
| 6,044,275 | 6,047,740 |
| 15,028,057 | 15,029,509 |
| 24,806,771 | 24,801,341 |
| 60,157,085 | - |
| 10,750,864 | 11,130,127 |
| 24,912,813 | $24,910,124$ |
| 19,866,222 | 19,862,929 |
| (16,741,071) | (18,033,376) |
| \$184,016,748 | $\$ 152.939,191$ |

The principat amnunt of long-krm debt is shown adjusted for unamortized debt discount and premium, whith ammmetal to a n. 1 discouns of $\$ 320,433$ and $\$ 160,181$ it December 31,1973 and Soptember 30, 1974, fypetively. The amoonts are being amortized over the poriod the related bonds are outstanding.

The agreanent scouting the 315 年 dobatures das 1979 provides that the Company must delivet








 $\$ 9,000,000,31 / 4$ sinking fund doboutures, on May 1, 1979, which are expected to be rofonded with other long-time obligations.

The Company's Morpops and IX of of Thas to Morpan Gunanty Thast Company of Now York




## TII: MONPAN POWEIt CONH: / NV AND SUESIDIARIE

## 

## Note 3-Lova-'ThM Drar-(Continusd)

book vatus of astels subject to the lien was $\$ 401, \$ 26,000$ and $\$ 447,253,000$, rospoctivaly. At Ductre
 principal anveunt of $\$ 115,185,000$ and $\$ 145,188,060$, roypctively.

Lonj: tem deht aproments impose no matcrial restrictioas on the availability of twained carning s at Scptomitur 30, 1974 for divilends. Laraings rutaind for use in the business shown by the psc

which the F.'C mipht contend are not avatatile for payment of divedend. (fvote 1).

## Notr 4-Simet-ILEs: Lonkownas




 sory notes are issuad to lading commorial banks for six-month perioit, bear interost at the lendor's pilme rato in effut fromt time to time and may ordiranly he grapad without ponaty.



 Suptember 30,1974 was $\$ 7,336,000$ and $\$ 28,520,000$, remoctively, with anf averge ammith interst rate of 9.35 and 11.0 F, isepectively.

Compenentingt balaness wore $\$ 4$ milion and $\$ 8$ milluat, respechely, at Decenher 31,1073 and





## Note \& fitmen hive Plans:





 $\$ \$ 74,361$ for the yeats 1069 thentigh 147,1 , shetively.







## THI: MONTANA POWER COMPANY AND STHSDDIARIES NOTLS LO CONSOLDDATLD FNAANCLAL STATLLSENIS-(Continued)

## Note 6-Contingincies and Commitments:

The Company 's hylroclectric projects are oparated under lieenses issued by the FPC which expire at various times through 1998. When a license expires, it may be reisued to the Company, issuad to a new licensee or the \{acility may be taken over by the United States. In either of the last two events the Company would be entitlod to compensation equivelent to its ni.t investment in the project, not to exceed fair value, plus severance damages. In determining net invetment in the project, the licenses provide that there may be deducted the amount contained in an amortization reserve which shall be accumulated from a portion of the cunome carned in excess of a specified reawnable rate of return affer twenty years of operation under the license. The amowst of these amontization reserves, if any, relating to the Company's hydrocluctric projects cannot be ascertained with accuracy at this time beeause of various uncertainties requrding method, of calculation. Howewer, m.nagemont at this time beliewes that any such amortization reserves are not material in relation to the Company's investment in property and plant or to sharcholders' equity.

Minimum annual rontals under moncancellable leaso for the year 1973 and the twelve menths ended September 30, 1974 wocc $\$ 1,4(10,000$ and $\$ 1,240,000$, respectively. These rentals consist of $\$ 975,000$ hydroelectric project remols under terms of licenses issurd by the FPC (Note 6), the largest of which is $\$ 950,000$ applicable to the Kerr hydroclectric project which license apires in 1980, and transmission line rentals amounting to $\$ 425,000$ for the year 1973 end $\$ 315,000$ for the 12 months ended September 30, 1974. Mimmum tramsmission line reatal are b ad on negotiated poreentages of physical plant costs and variable oparating costs, and do not contain renewat options. One transmission line rental agrecenent, constituting $\$ 213,000$ minimum annely revtals, cxpirci March 31, 1974. The remaining transmission line rental agreements continue to 2015. The minimum rental commitments under noncanecllable leases for each of the five succeeding !ears, each of the nist three five year periods, and the remainder based upon agrements in effect on Dreumber 31, 1973 are set forth below,


In connection with their continuing construction program, the Company and its subsidiaries have entered into purchase conmentments which amouated to apptoximattly $\$ 45,000,000$ at Dicember 31, 1973, and $\$ 40,000,000$ i.t S.ptembet $30,1974$.

# THE: M1GNTANA POWER (OMPANY AND SO:SSID:ADYES NOTES TO CONSOLIDATED FINANCIAL, SIATEMENTS-(Concluded) 

Note 7-Supplim mintary Income Statemint Information:

| 12 Montio Luted Scptember 3), 1974 |  | Year Ended Deseminer 31. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1573 | 1972 | 1971 | 1970 | 1569 |
|  |  | Thue amas of Dollars |  |  |  |  |
| Charged to coats and expenses: | \$ 5,632 | \$ 5,420 | \$ 4,672 | \$ 3,630 | \$ 3,552 | \$ 3.632 |
| Maintenance and tepairs | 9,769 | 9.624 |  | 8,392 | 7,928 | 7.513 |
| Depreciation and depletion |  |  | 8,841 |  |  |  |
| Amortization of conss deferred to futare operating period- (Note 1) | 1,155 | 1,155 | 635 | 277 | 41 | - |
| Taxes, other than income taxes: | 9,444 | 8.795 | 8,457 | 8,013 | 7,788 | 6.985 |
| Ad valorem ............... | 655 | 600 | 451 | 370 | 358 | 362 |
| Federal and state social security | 2,047 | 2,004 | 1,290 | 1,991 | 1,788 | 1,238 |
| State lieense |  |  |  |  |  |  |
| Provision for defered state cozporation lisens: -Kert Projes: | (68) | (68) | 648 | 674 | 625 | 548 |
| Stute eleatric mioss prozecds ............ | 885 | 851 | 684 |  |  |  |
| State electric pross procecds | 256 | 2.00 | 2.65 | 253 | 258 | 248 |
| Other | 1,8:2 | 1,4:7 | 977 | 992 | 372 | 200 |
| Other | \$15,051 | \$14,06, 9 | \$12,773 | \$12,293 | \$11.169 | \$ 9.581 |
|  | $\overline{53,551}$ | \$3,197 | \$ 2.990 | \$ 2,078 | \$ 1,876 | \$ 1.396 |
| Rents(a) | \$ 3,551 $\$ 2,371$ | \$ 1,576 | S 1,503 | § 1,286 | \$ 802 | ¢ 624 |
| Royalties | ,371 |  |  |  | \$ 91 |  |
| (a) Includes delay ientals of. | \$ 1,870 | \$ 1,439 | \$ 1,270 |  |  |  |
| ( ) Denotes red figure. |  |  |  |  |  |  |

## UND:KWRITING

The Underwriters named below have severally agreed, subject to the terms and conditions of the Underwriting Aprement, to purchase from the Company the respective principal amounts of New Bonds set forth opposite their numes:
PrincipalAmount
Name
Kidder, Peabody \& Co. Incorporated ..... $\$ 2,700,000$
Smith, Barney \& Co. Incorporated ..... 2,700,000
Halscy, Stuart \& Co. Inc. ..... 2,700,000
Blyth Eastman Dillon \& Co. Incorporated ..... 850,000
The First Boston Corporation ..... 850,000
Drexel Burnham \& Co. Incorporated ..... 850,000
Goldman, Sachs \& Co. ..... 850,000
Hornblower \& Weeks-Hemphill, Noyes Incorporated ..... 850,000
E. F. Ifition \& Company Inc. ..... 850,000
Lehman Brothers Incorporated ..... 850,000 ..... 850,000
Merrill Lynch, Pierce, Fenner \& Smith Incorporated ..... 850,000
Painc, Webber, Jackson \& Curtis Incorporated ..... 850,000
Salomon Brothers ..... 850,000
White, Weld \& Co. Incorporated ..... 850,000
Dean Witter \& Co. Incorporated ..... 850,000
Bear, Stcarns \& Co. ..... 850,000
L. F. Rothschild \& Co. ..... 850,000
Shields Model Roland Securities Incorporated ..... 700,000
D. A. Davidson \& Co. Incorporated ..... 700,000
ABD Securitics Corporation ..... 525,000
American Sccurities Corporation ..... 525,000
Dominick \& Dominick, Incorporated ..... 525,000
Moseley, Hallgarten \& Estabrook Inc. ..... 525,000
R. W. Pressprich \& Co. Incorporated ..... 525,0000
SoGen-Swiss International Corporation ..... 525,000
Stuart Rrothers ..... 525,000
Thomson \& McKinnon Auchincloss Kohlmeyer Inc. ..... 525,000
UBS-DB Corporation ..... 525,000
Wood, Struthers \& Winthrop Ine. ..... 525,000
Bateman Eichler, Hill Richards Incorporated ..... $325,000)$
William Blair \& Company ..... 325,000
Bocttcher and Company ..... 325,000
Bosworth, Sullivan and Company, Inc. ..... 325,000
Dain, Kalman \& Quail, Incorporated ..... 325,000

| Name | Prineipal Amount |
| :---: | :---: |
|  | \$ 325,000 |
| First of Michigan Corporation | 325,000 |
| First Mid America inc ................ | 325,000 |
| Piper, Jaffray \& Hopwood Incorporated | 150,000 |
| Cunningham, Schmertz \& Co., Inc. | 150,000 |
| Foster \& Marshall | 150,000 |
| The Illinois Company Incorporated | 150,000 |
| Kirkpatrick, Pcttis, Smith, P | 150,000 |
| Rodman \& Renshaw, Inc. | \$30,000,000 |

The several Underwriters, through their Representatives, have advised the Company that the several Underwriters propose to make a public offering of the New Bonds initially at the price to the public set forth on the cover page of this Prospectus. Any such offering and sale will be for delivery when, as and if issued and accepted by the Underwriters and subject to the right of the Underwriters to withdraw, cancel or modify the offering and to reject orders in whole or in part. On any such offering made through dealers, the Underwriters may allow a concession of not in excess of $.450 \%$ of the principal amount of the New Bonds, of which not in excess of $.250 \%$ of such principa! amount may be reallowed to certain other dealers. After the initial public offering, the price to the public, the concession and the reallowance may be changed.

The Underwriters are commited to take and pay for all of the New Bonds if any are taken. Under certain conditions involving defaults by one or more Undenwriters, the remaining Underwriters have the right, but are not obligated, to take up and pay for the New Bonds which the defaulting Underwriter or Underwriters failed to purchase or to substitute another underwriter or underwriters sativactery to the Company. If the remaining Underwriters do not take up and pay for all the New Bonds agreed to be purchased by the defaulting Underwriter or Underwriters or substitute another underwriter or undenwriters, the Company may substitute another underwriter or underwriters satisfactor: to the Representatives.

The Company has agreed to indemnify the several Underwriters against certain civil liabilities, including liabilities under the Securitics Act of 1933.

# The Washington Water Power Company 

## First Mortgage Bonds, $93 / 8 \%$ Series due 2005

Interest payable Tebruary 1 and August 1
Due Fchruary 1, 2005

The New Bonds are not refundable out of certain numies prior to Febraary 1, 1985, evecpt under certain circumstances. Othersios, thes are redecmable at any time at the option of the Company at declining redemption prices. The New Bonds will be iswable only in fully registered form and will be transferable without service charge. See "Description of New Bonds" herein.

TIIESE SECT RHTFS HAVE AOF BFEN APPRGVFD OR D!SAPMROVF! BY THE SFCURITIES


TATION TO HHE CONHRARY IS A CRIVINAL OHFENSE.

|  | $\begin{aligned} & \text { Price to } \\ & \text { Public(1) } \end{aligned}$ | Underwritin: <br> Discomats and Commissions(2) | Proceeds to Company (1)(3) |
| :---: | :---: | :---: | :---: |
| Per Bond | $101.250 \%$ | .875\% | 100.375\% |
| Total | \$25,312,500 | \$218,750 | \$25,093,750 |

(1) Plus accrued interest from February 1, 1975 to the date of payment and delivery.
(2) Tire Company has agreet in indemnify the several Underwriters against certain civil liabilities, including liabilities under the Sceurities Set of 1933
(3) Before deduction of expenses of the Company estimated at $\$ 115,000$.

The New Bonds are offered by the several Underwriters when, as and it issued by the Company and accepted by the Inderwriter and subject to their right fo reject orders in whole or in part. It is expeeted that the New Bonds will be available for delivery at the ellice of Kidder, Peabody \& Co. Incorporated, 10 Hanover Square, New Yorh. New York 10005, on or about February 2.0, 1975.

## Kidder, Peabody \& Co.

Incorjorated

## White, Weld \& Co.

Incorporated
 any representations, wher than thase containet in this S'onpectus, in connection with the wfer described hercin; and, if gieen or mado, whe informatoon or reprecomations must not be relicd upea as having
 hy any Underwriter in any jusidition to any person to whom it is undawfol hor such Underseriter to make such offer in such jurisdiction.

Neither tie delivery of this Propectus nor any sale made heremeder shall, under any circumstances, create any implication that there has not been any change in the aftais of the Company since the date bereof.

This Prospectus, with appropriate changes, will be used by separate prouts of undenvriters for the offering of $\$ 25,900,000$ principal :mount of 1 irst Mortgage Bonds, $9^{3} \mathrm{~s}^{6} / \mathrm{c}$ Senics due 2005 (the "New Bonds"), and for the offerim; of 400,000 shares of Common Stock, no par situe (the "New Common Stock"). The sale of one isue is pot contingent upon the sale of the other.

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 MAY BE DISCONIINUFD AT ANY HIMI:

## SUMMARY INFOMADTON

The foll , wing materiat is qualified in it entirety by detailed itformation and financial statements (including ne, ${ }^{-1-s}$ thereto) appearing elsewhere in this Propsitus.
THE OFFELING (see cover page, pages 2 and 4)

```
Company
Security be me gifered Expected fllering Date
Additional 'ecurities being Oifered
Use of Prieds
THE COM1'ANY (see pages 3, 4, 11 and 12)
```

The Washingten Water Power Company

## Busincss


 Octob:i 11, 1974 \$25,060,(000) Iivs Xontrage Bonds due 20,5 February 11, 1975

Source of I Wetric Generation for System Load.
Recent kat Increases
Primipally electric and gas utility

| THE COMA | Primipaly | electric and g | unily |
| :---: | :---: | :---: | :---: |
| Busincss | astern Washing | n and norther | Idaho |
| Service Ath A . . . . . . . |  | Approximately | 50,000 |
| Service An a Population ................... |  |  |  |
| Operatim: Wevenue Sources for 12 months ended October 11. 1974 | Electric 68 Hydro | Gas $30^{\circ} \% \mathrm{O}$ <br> with minor el | $\text { er } 2 \%$ ptions |
| Source of I lietric Generatmin or 5 <br> Increases | November 19 | : Gas, Decemt | 1974 |
|  | See "Busine | kates and Re |  |
| FINANCIAI, INFORMATION (see pages | 12 M | Fnded |  |
|  | $\begin{gathered} \text { December } 31, ~ \\ 1973 \end{gathered}$ | October 31. |  |
| Selected it . . |  |  |  |
| Operatioy: Revenues | \$ 13,6:6,000 | \$ 14,42+,000 |  |
| Net In whe Alcrace Share of Common Sto | \$2.04 | \$2.12 |  |
|  | \$1.44 | \$1.47 |  |
| Ratio nl I amings to Fived Charees | 2.29 | 2.46 | $226^{*}$ |
| Supplemmal Ratio of Larnings to Fixed Charges | 2.14 | 2.29 | 2.13* |
|  | October | 1,1974 |  |
|  | Actual | A Adjuted** |  |
| Capital stan ture: |  |  |  |
| L.ong-tern Debt | $137.418,000$ | $1+4,818,000$ | 36 |
| Commmil tyuity | ¢394.910,000 | S+05.310,000 | 100 |
| Iotal | S.94.0. | \%- | 。 |

- Pro fouma ratios for the twelve months ended Othber 31. 1074
* Givw, lleat to the sale of the New Bonds and New Common Siock


## GENERAL PROBIEVIS OF THE UTHIII INIHSTRY

The Wrthington Water Power Company (the "Company") has been experiencing some of the problems conmon to the electric and natural gas industries including increased wosts resulting from imflation, the thigh enst of eapital and the neal to comply with envirommental reguirements. Howeter, since, with marbexceptions, its power supply is obtained from liydtoclestic resourees, the Companys cost of poun, tor system had has not been materially atiected by inctoand fuel onsts. Alsu, the state utility comm...ons have permitted the Company promptly to pass on to cu-tomers the increased cost of its natural f o supply. Whik is cost probicons have not been as serious as the problems of many other companies of the utility business, the Comprany may require additional rate relief from regul tory commission of the near future to maintan its ghowh in carmugs which is eswential to obtaining capital for expanstow its facilties. The Company is subject to contailment with respect to its source of Canadian gas supply an ate other gas distributing companis in the Pewitic Northwest. (Sec "Businss-Rates and Regulation" ...d "Power and Gas Supply-(ias Supply".)

## THE CON: 1

The Company was incognerytid in 1889 modo the has of the state of War hington and has in principal ollices at 1 :4 $1: 41 \mathrm{M}$.
 and sale of efectric eneryy and the puchase, destribution and sale of nataral gas. To a minor extent, stam heating and water servies are also provided.

## USE OF PRGMEIDS

The net proced from the sale of the New Bond, and New Common Steck, aegregating appoxi-
 1975, expected to be out sandine at the tian of cloving ofilet the Company's exwing line of ordit with certain Washington and Waho commervial hanks, with the remainder of such net proveds to be waed to carry forward the Company' comstriction prewtan outhed below. The procest of the borrowin? due December 1, 1975 were uned to propay 518,000 ,00n of n aten due Nowember 1. 1974, with the balanto used for construction purpuses. (Sice Note 2 to Financial Statements.)

## CONSTRUCTHON FROGRAM

The Company estimates its construction program for 1975 will be approximately $\$ 29,265,000$ come sisting of:

| Colstrip Coal-firct Stema Flectric Generating Project (Company's $15 \%$ ownerslip share of Units 3 and 4) | \$ 3,283,000 |
| :---: | :---: |
| Skagit Nuckar Project <br> (Company's $5 \%$ ownership share of Units 1 and 2 ) | 1,710,000 |
| Washington Pultic Power supply System Nuckar Unit No. 3 (Company's 5\% owncrship share) | 867,000 |
| Other Flectric Generating Plant | $2.364,000$ |
| Electric Transmission Plant | 7,246,000 |
| Electric Distribution Plant | 8.233000 |
| Natual Gas Utility Plant | 2.699 .000 |
| Other Utility Plaut | 1.063,000 |
| Miscellaneous and Giencral Plant | $1.800,000$ |
| Total | $\overline{\$ 29.20 .5 .000}$ |

In addition to internally generatal fonds from retanst carmings and depreciation and amortization, the Company in 1975 experts to Fows unseured prommony motso under its asisting hime of erodt with the banks at various times and in vanions amounts mof precomfy determmable, to finanse the construction program outined above. (Sce "Propotiy" and "Power and Gas Supply".)

## CAPIAAI SHCXIIHES

|  | Amount Aulborized |  | Adiunted for Financing |
| :---: | :---: | :---: | :---: |
| Lont- 1 IRM Demt: |  |  |  |
| First Morigaze Bonds: | \$500,000,000(1) |  |  |
| $33 / 4 / \%$ Series due 1982 |  | \$ 20,370, 0000 | \$ 20,370,000 |
| $47 / \mathrm{s} / \mathrm{L}$. Scries due 1987 |  | $30,000,000$ | 30,000,000 |
| $41 / x^{\prime} / ;$ Series due 19:8 |  | $20,5000,000$ | $20,000,000$ |
| $43 / 1 /$ Series due 198is |  | 15,060,006 | 15,000,000 |
| $4 \frac{3}{4} / \mathrm{c}$ Series due 11\%? |  | $15,(0) 0,0 \times 10$ | 15,000,000 |
| $45 \%$ Series due 1994 |  | $30,0060.000$ | 30,000,000 |
| 4\%/i, Series due 1915 |  | 10,0racag) | 10,000,000 |
| 6 'f Series due 19\%\% |  | 20,500, 500 | 20,000,000 |
| $91 / 4$ 年 Sories due 20\%3) |  | 20,0.0,0\%K) | 20,000,000 |
| $7 \% / \mathrm{f} /$ \% Series due 2003 |  | 20,000,000 | 20,000,000 |
| New Bonds |  | - | 25,000,000 |
| Sinking Fund Dehentures(2) : |  |  |  |
| 41/4\% due 1978 | \$ 8,092,000 | 8,092,000 | 8,092,000 |
| 41/2\%/ due 1983 | 6,930,000 | $6,930,000$ | 6,930,000 |
| $43 / 4 \%$ due 1990 | 5,100,000 | $5.100,000$ | $5,100,000$ |
| $83 / \mathrm{x} \%$ due 1991 | 15,000,0(t) | 15,000,000 | 15,000,000 |
| Notes Payable-Banks: <br> Due December 1, 1975 (3) | \$ 35,000,000 | 22,000,000 | (4) |
| Tota! Long-Term Debt |  | \$257,472,000 | \$260,492,000 |
| Common Stock, No Par Vatur. | $10,000,000$ shs. | 6,812,051 shs. | 7,212.051 |

(1) Issuance limited by property, earnines, and other provivions of the Mortgage
 ments contan provisions which, under certain conditions, coult revtict the issuance of unsecured long-ferm indeblednevs.
(3) These notes hear interest at a rate equivalent to the prime commervial loan rate prevailing from time to time, which was $91 /{ }^{\prime}$ ic as of 1 ebruary $10,1475$.
(4) A pottion of the net proceds of the New Bonds and New Common Stock will be used to prepay outstanding notes due December 1, 1975 which ane expreted to he $\$ 27.000,000$
(5) Fixlusive of any shares iswable under the Employes' Stock Purshase Plan referted to under "Management".

## DIVIDENDS ANJ PRICE: RANG:


 the dividend was raised to its pre"ent rate of 38 cents pro hare (equivalent th all ammualiod rate of 81 . 52 ) Dividends paid and the birh and low prices of the Company's Common Stoch on the Niw York Stork Exchange for the neriods indicated were as follows:

| , |  |  | ange |
| :---: | :---: | :---: | :---: |
|  | Perbliare | Hiph | Low |
| 1970 | \$1.32 | \$22 | \$173/8 |
| 1971 | 1.36 | 24 | 201/x |
| 1972 1st Quarter | 0.34 | 231/2 | 21 |
| 2nd Quarter | 0.35 | 229/8 | 211/4 |
| 3rd Quartir | 0.35 | $221 / 4$ | 21 |
| 4th Quarter | 0.35 | 231/8 | 211/8 |
| 1973 1st Quarter | 0.36 | $223 / 4$ | 201/2 |
| 2nd Ouatter | 0.36 | $211 / 2$ | 201/2 |
| 3 rd Ouatter | 0.36 | 213/8 | 18/8 |
| 4th Quarter | 0.36 | $201 / 2$ | $173 / 4$ |
| 1974 1st Quarter | 0.37 | 21 | 19 |
| 2nd Ouarter | 0.37 | 205/8 | 171/2 |
| 3rd Quarter | 0.37 | 18 | 153/4 |
| 4th Quarter | 0.38 | 175/6 | 153/4 |
| 1975 Ist Quarter (through February 10, 1975) | - | 193/4 | $16^{1 / 2}$ |

The last reported sale price on the New York Stoch I xchange on Fehruary 10, 1975, was 51050 per share.

A quarterly dividend of 38 cents per share on the Common Stoch was devlared on Fehruary io. 1975 payahie Narch 13, 1075 fo holders of record on 1.boruary 27. 1075. This dividend will be paid on the New Common Stoch.

It is the intention of the Board of Directors to continue to pay dividends quarterly on the Common Stock, but such dividends are dependent on future earnings, financial position of the Company and other factors.

## SAIFM15 VI OH INOOM:


 The statement for the twelve monhe endel (evolot 31 , $19 / 4$ has 1 : : heen andited but in the opingon of the Company includes all adjustmonts, comprising ouly nomal recurfing acentale, necessary for a far statement of the results of operations. This statement should be considered in conjonction with the other financial statements and retated notes appearing clsewhere in this Prospectus.





 Financial Statements. A revonchlateon of Idederal income tates derined from tatutory tax rates applied to income for accombing purposes and such taxes charged to operating rapense is shown as follows:

(3) Credits to income for atlowance for funds used during construction ("AFDC") are primarily the resuli of construction related to the Company's one-third owner.hip in an underground gas storage project at Chehalis which was placed in servic: in 1970 and the Company's $15 \%$ owmership in the Centralia steam-electric generating plant which was placed it service December 31, 1972.

In accordance with the accommtis: practice descathed in Note 1 to the I inancial Statements, a composite rate of $6 \%$ vas used tor charge AIDC to constrution work in progress for jobs started prior to January 1, 1973, and $7 \frac{1}{2}$ fin for jobs stated subsequent to that date. Devermination of the componetuts of the composite rate aftributable to each source of fomds us: ' for convertion is impracticable: howeter, on the assumption that the funds used for thi purpere wete provided from sources in tix same ratto as the company's capitalization mation of $65^{\circ}$, debt and $3^{\circ}$, common colmity, with wDC attributable to debt heing hased upon embeddad interest costs (before income hets eflect). the portion of funds pro-
 available for dividends and other corporate purposes for the year ended Dewember 31, 1969 through 1973 and the twelve months ended October 31. 1474. repectively.
(4) "Earnings" concist of "Ne: Inome dablahl for Divid:nds and Other Corporate Purposes" plus "fixed charges" (interest, related amortization and interest portion of total reatals) and income tates. The proforma ratio of earnings to ficel clarges for the 12 manthe conded October 31. 1974, adjusted to give cflcet t, the amual interest reyumememt on long-term detot evpected to be outstanding upon sale of the New Bonds ( $11 \%$ rate assumed) would he 226 . A chathe of $1 / \mathrm{s}$ of $1 \%$ in the interest rate of the New Bonds would revalt in a change of approximatcly 004 in this ratio.

The Company has calculated supplemental ratios of eamings to fixed charges In this supplemental calculation "carnings" are detined as above and "fixed wares", in addition to items referred to above,




 of appoximatdy 004 in this ratio.

The annual interest requinements on the New Bonds will amonat to \$2.343.7.30
Opratin! revenues and net incone availahl for dividents and whet eorporate parpowe for the
 share (based on weightel average shares outstanding) were $5_{2} 11$.

## Management's Discmssion and Anabsis of the Statement of Income

The improvement in revermes for the patiods endine whe squent tis December 31.1972 is attributable
 natutal gas and system growth. (See "Busine s Rates and Regulation".) Inflationary factors and increase in purchased matural gas cost resulted in opprating expenses for the pocke months ended October 31,1974 increasm: at a more raped rate than aporating wotoues. Increased operating expenes in 1973 resulted primarily from phacing the Conmalia slewa Hant in service. Interest charges in 1974 increased due to increatsed interest rates on and highor levels of bank botrowings.

## 



## GAS OWIRAIING SIATISII'

|  | 4:016 | 47,591) | 51,670 | 55.49 | 58,964 | 61,346 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Restumbit | 5,355 | 5,5\% | 5,714 | 6,250 | 6,827 | 7,273 |
| Industral-firm | 221 | 232 | 238 | 26,5 | 279 | 2 |
| Indusitral-imatruptible | 26 | 24 | 22 | 20 | 20 |  |
| Tutal fias Customas | six | 13,422 | 57,44 | - $0 \cdot 675$ | $66,0 \% 4$ | 27 |
| Imanm Suls (tumands of therims: |  |  |  |  | 81.632 |  |
| Residential | 64,524 | 6n, |  | 57.589 | 58.30 .6 | 60.41 |
| Comumetrial | 41.60 |  | $10 \times 1$ | 110076 | 108.187 | 111.418 |
| Industris-firm ....... | 727159 | 815 | 78.812 | 85.143 | 81.538 | 74,774 |
| Industrial-mitcruptible Total Gas Siks |  | 301) (\%) | 322um | ถ17.142 | 329.6 ${ }^{\text {a }}$ | 328,72 |
| Total Gas Silco | 20. |  |  |  |  |  |
| Gas Opinalice ktwsers (sotel |  |  |  |  |  | 512.41 |
| Residential | 57.86 |  | 5 4.915 | $5{ }_{5} 546$ | 5.711 | 6.912 |
| Commercial | 3.744 | 3.976 | 4.938 | 5.418 | 5,745 | 7.01 |
| Industrial-firm | 4.382 | 4, 1116 | 3.176 | 3.646 | 3762 | 4.91 |
| Industral imtaruptible ... | 18, 28198 | 2010is | -22.787 | 25.586 | 26,234 | 32,165 |
| Teal from Thetros | 18,938 | 81 | 246 | 222 | 191 | 24 |
| Miscellanteus revenuts , .... Tetal Gis R.venus | <18.959 | (20)1/1 | 523.923 | E25 mix | 526.427 | 63234 |
| Tetal Gas R.wemer . . . . . . . The....... |  |  |  | - 4.42 | 5460 | 54 |
| Net Operating Resenus, Hefore Income Thee (SMP) | S 4.454 | > 4 lil: |  |  |  |  |
| Gis :tamment struct Ambats: |  |  |  |  | 1.384 | 1339 |
| Ammal 1 \% per Custenst ( 7 herms) |  |  | 12sse | 1312\% | 13.50 c | 15.14 : |
| Rentewe por therm (in arnte) | \$182.79 | \$177,65 | \$18885 | 5108.28 | 5186.82 | 520261 |

## BLSNな

General. The Company derives about $68 \%$ of its operating tevenues from supplying electric servied $30^{\circ}$ from supplying natural gas service, and the remaning $2 f i c$ from supplying stam heat and water service

Fectric service is supplied to more than 190,000 customers in 93 communities in castern Washing ton and northern ldaho. The (ompany has a sorvice areat of approximately 26,0 an sumare miles with ant cstimated population of 550,000 . The primeipal cormunnty in the alcat sorved is Spokane, Washtyeton, with a metropolitan area population estimated at 2qugno. The arca served inctudes bighly productine farm and timber lands, as well as the Cover dohem mining distriot in Shoshome County, Idahe, The
 occurred on January $9,197+$ between 6 and 7 P . M

Natural gas servace is supplied in Spokathe and 32 other commomitio in cestern Wahinmtom


Watst sevice is supplied in atad around Clathstom. Washington and in ancas immediatsly adjacent
 Coumy, Whate Statm hat sotvice is suppled in the cental protion of Spokate

Rates and Regulation. The Company, as a pultie whity, is subikt to rozulation by the Washongton










In November 1974 the Company imetavad clatric rates as appoaved hy WVIC and IPlC These
 with consumption on and atter Nowember 19. 1974 in Wathingtrots. These bates are oppeted to genctate

 will be in elfot from Nowember 19, 1974 until March 1, 1975, and is subjet to pmable reflend if the surcharge doss met result in onnervation.
 January. April and Dewember 1974 The ins reande rates ate intonded to oflow increase due to the increased cont of gas pur haced ham the Company's supphior No hlawest Pipeline Corporation.

The Company appliad tw and racest apponal from witi and IPUC fos water rate incrawes




In March and Decon her of 1074 the Compans inereawd the faci for steam hating service the

 annually. These rate increases woe primarily for wage and salary adjustments and increased costs of fuel.

For the twelve months endet O.tober 31, 1474, aterage electri reventes per kilowatt-hour sold to residential, commer ial and inderstial customers wers 120 cents, 1. is cents and 6.05 mills, respectively
 or government-owned utiliy in the natha, white the consumption of 12.814 kilowath-hours per average residential costomer duine the same period ranks annong the higheot

For the fwelve momilis ended Otmbey 31, 1974. :average pas cownte per therm was 10.73 onts
 customer. Average onsemption par teviluntial cuspomer for this pornd was 1,339 therms

Emironmental Matters. The company is subjet to envirommental regulation by federal, state and focal athhoritics.

All of the Compeny sarrent comstration pheots, indeding is share of pionly owned generating plants hate been devenest to conaply wath all envinumentat laws precotly appliable to them. and the

 Agency. The Company canmet prolict the cfiet on the Colstrip pemerating phant of future reguthons

 the Cobstri; Projet in Alomtana. (See "Power and Gas supply".)

Studies are heines comductid by the Company in conperation with the Washimeten State Deprument





 quality of the rivers whore these projests ane lowated

Other than the beme nt forth abowe there are no known material onpenditese which will be


## PRODERI

General. The Company Atotric propotio ane loated in Washington, Idaho and Montana. The properties indade hadredolti. gentatime phants with a puest capabilty of $820,200 \mathrm{kw}$. The
 in Washingon, $211,250 \mathrm{kw} \mathrm{i} .\mathrm{in} \mathrm{two} \mathrm{plant} ,\mathrm{hratal} \mathrm{in} \mathrm{Shathe} \mathrm{and}-22,$,881 h.w is in the Noxen Rapits plant located in wetern Nomana. The Company alon owns a 32.8 .09 kw capability combustion turbine gencrating unit I xated at Othell. Washington, and has a $15 \%$ inlerest in the $1,400,000$ kiv Centralia (Washingten) tham electric geterating plamt $T^{\prime}$ : plant is jointly owned by the Company, three other investor-owned utilitics and four puhblic agencies.

As of December 31. 1973, the Company hat 246 subtutions with a total insialled capacity of 3,069.696 has and 9.579 milc of cleatric trammi ion and dituibution line The transmission sytem comsists of 536 milse of $230,00 \mathrm{ow}$ - 1 l line 1.310 mates of $110,0 \mathrm{O}$-vit lime, and 170 miles of 60.600 -volt line. The Company has 7.563 mites of distribution lines.

The Company's natural gas propertion consit of apyroximately 1.883 miles of gas distribution mains and a one-thiral oumerstip in an underprount pon storee: pruted near Chishalis. Washington. In 1974 the Company at puined Cidumbias (ias Company, a small nateal gas distribution company, in a transaction reworded as a purchase. The acquistion revalied in an inctase of $\$ 882,000$ in net utility plant. The effect on op,rations during 1974 was not significant.

Steam heating propertics owned by the Company include a central generating station and 48,400 feet of distributi in mains.

Water properties owned by the Company indude reservoirs, a filtration plant, 32 wells, and 239 miles of mains.

Additions and Retirements of Utilizy Properts. For the 5-year period ended December 31, 1973. the Company mals grow property additions to utility piant of approvimately $\$ 115,283.000$ and approvimately $\$ 15.130,60$ wav stired from utity plant. Such grows aditions amounted to approximately 20.0 of total utility plant at Decomber 31. 1973

Tites. In the opinion of its cieneral Ceumed the Company arns in fee all its prinefpal plants and other important units of teal property. Overflow rishts L-- reservoirs as well as transmission and disribution lines are on propery ownel in fee, kased, of for which the Compeny has walid casements, hicenses permits or franchicus some of the tilles and riecis of the Company are subject 10 minos defore and irregularitios usally found in propertics of like nature and magnitude which is the opinion of Genctal Councel for the Company do hot impair the use of the prowerty in the operation of the Cempany's busines. The Company's acam heatiny distribution sywm ceapic the weets and atter of Spothite under the term of a rental agreentent of indermite duratom. Sabstantially all of the physizal preperties of the Company are subjet to the lien of the Morngage and 1) wot of Trust securing oustanding Fint Morlgape Boond of the Company.

Properties subject to Sederal Liscmes. Sis of the Companys eenerating sations now in service are under major FPC hiemes The lieenses are as follows:

| Project | Licence |  | I ocation | Nameplate Rating |
| :---: | :---: | :---: | :---: | :---: |
|  | Number | Hapires |  |  |
| Cabinet Gor | 2058 | 1-10.2001 | Idaho | 200.000 kw |
| Cabinet Gorge | 2075 | $5-10=005$ | Moutana | 282.880 kw |
| Spohane River (2) | 2545 | 8. 1.2007 | Washington | $99,200 \mathrm{hw}$ |

(1) Application has heen fikd with the FPre requstine an onster to permit the installation of the fifth gensatine: unit at the Company's Xixon Rapid Hyathecestric Proist lecated at Nowom. Mhutana. This additimal unit, shaduket for complotion in Nonember 1977, will increase the

(2) Comsists of 4 operating favilites: Lomg I he Nime Mike. Nomow Strect and Upper Falls stations.







As a heensee under the I cderal Power Act, the Company and in licemsed projects are subjat to the provi ioss of Pan I of that Act, imduding provision tolating to payment for hodwater benelits, condemation of licensed projists upon poymem of juy compersation and takeriver of swh profocts affer the eypration of the hecose upom paymeat of the lever of "net insestment" of "fair value" of the project, in cother talse plan severance damage

## POHER AND GAS SUPHLY

Power suphls. The company's hydrometrie menti at towether with its portion of the output from
 opinion of the Company, sutivient to supply the Compan © extimated wepurzanoms for both peak and
 requiremens thereafer, the Cimpany in dewhoping addinional soukes of supply is discussed bolow.

The majup pertion of the Company's longetem contrints fos the parchase of power are with Public
 which the Company purchon s pertions of the proget outpot as set forth in the followine tabulation.

## Projest Ownct

P(I) No 1 of Chelan County
PU1) No, 1 of Chelan County
PUD No, 2 of Grant County
P(I) No. 2 of Grant Comnty
PUD No. 1 of Dourlas County
$\quad$ Projest
Chelan
Rocky Reach
Priest Rapids
Wanapum
Wells

| Approximate Purchase |  | Espiration Date |
| :---: | :---: | :---: |
| C, of Output | Kilowati- |  |
| 100.0(a) | 56,000 | 1995 |
| 3.2 (b) | 41,000 | 2011 |
| 10.7(c) | 96.000 | 2005 |
| $12.8(\mathrm{c})$ | 117.900 | 2009 |
| 5.6(d) | 47,000 | 2018 |

(a) The Company purchases the project output and sells back to the PUD about 20 , of the output to supply local scrvice atca rejuirements.
(b) Contrats amount is wiffed to 2.9 ; in Juls $19^{\circ}$ for the remainder of the contract
(c) May he teduced in predecermined maxmum amedy is upon exotcise of withdrawal by the PLD The Company's mimmum share of Priest kopide is 6.1 ; and Wanapum is 8 ac. Notive of
 1.6ce in 1978 and 1.28 , in 1979, so that as of $x$ optember 1. 1970, the Company's shate of Prís Rapids ath! Wanapum will to 7.3 r and $4.6^{\circ}$ s. resplotivels
(d) Mar be widucel by exercose of whhdrawal by the PID within certain limits, but not behow 3.50 . Notice of withdegal will reduce the Company's shace by 0.1 co in $\# 77$ and 0.1 c e in 1.979 .

Under the powes contants with the PUD), the Company pays a share of the expenses (including debt sorvicu starges) of the related projects, whish shate is based su the properton of the project ourput fo whish the Compeny is entetiod under the bepeotive combacts.

The Company has scteral other sigmfan bong-term atrecments for the purchase sale, of exchange of power with other utilitics or agencics somstamg of:
 on the Compory's syvom and for wimter sapa its and energy or ldahers spstem. This agrecment continus indefitutely unkes terbunatad by sther party giving four wears advance notice.






 pay At f: conts In , nigmation with this cxtonsing of the opetation, the Company has agreet to
 receised for Ilanford doty service pasments. Thre contracts hate now been signed for exten ting
 reatos upration is being nepentiated

 by UPPSS to reptace the loss of power when the Hanford resetor is farally dent down. BPA is requared to deliver pencet bo the ( omynany under the es..hange agrewent, whether or not the project is completed and beomes operational.
(3) The Company recives $5 \%$ of Columhaia Sta ra"e Pown I vchanes ("CSPL") power and

 of storage on the upper Columbia Rixer The Company's share when recalled for its own usi
 CSPI: arrangements, the Company has purchawd capacity from Bonnevile which amounts to $54,0 \mathrm{k}) \mathrm{kw}$ commenk ing April 1977.
(4) Agreament with San Dieen (ias d llewh Company for the exchange of surplus firm hydrecketric capacty and energy on the Company s sysom for supplus firm off-path thermal energy on Satn Diagn's system.

The Compeny. together with various other utilitis and agemets in the Pacific Northwest hes entered into a long-term Cioordination Aurevoent extenting until 2003, This agreement provides for the coordinated operation of substantially all the powet plants and tworvoir in the area. The Company
 Idaho, Montana, Whah and Oremon and an Interonnevim Igrement with Idaho Powot Conpany and
 for firming up thusands of kilowats of atherwise scoundary power in the Northwed region


 the fall of 1971 and the scovold wnit in the smmer of 1472 , the plant has thet been able to operate
 progres to determine the modificatheme and costs nowssary for operation at full rated capacity. The Company's shane of the output is presenty $190, \mathrm{~h} / \mathrm{hw}$ and will be 210 , (0h) hw when the plam is full pperational. The Company has : wiznet a pertion of is share of the power to Central Vatley



















Nuckar Eiectric Gemeration. The Company has viand a letter of iment to omen at ${ }^{\text {b }}$; thare in Pueqt
 will consixt of two 1.250,000 h w omils with the first unit whodul.' fot operation in 1982 and the sco and unit for 1984

The Company is alus ensaned with other Nomhwev utilitios in the development of a $1,250,000$ bw
 be spomsored by WPISS and the Company will own $5 \%$ of the project and will be satitied to $5 \%$ of the power output.

Other Power Supply Activities. The Company is alas a participant in Pavific Northwest Power
 in Idaho. The future status of this dewtopment is subject to the U. S Comeress and final review by the I•PC For this feavon, the power which the Compony may have an opportunity to acquire is not presently determimahle.

Gas Supply. The Company is dependent upou Nombost Pipcline Corporation ("Nonthest").
 contracts with Nonlwest for tao type of fim gas service and one type of intermptible service. The fam
 firm gess supphicd to the Company's diserihution system is purchased uader a servie agreemens whith extendo fo O.toker 31. 1986, ath: from lear to year therafter The provent rate is appotimately 422e th at $100 \%$ loud factor and 9 ghts th at 75 ; had factor Thi wouract providev for a maximum peak demand of up to 1.279 onf 5 therms per day. Nothwes's gas supply is primarily from Camadan source




 costs to the (ompany of purshased pas. (Soe "Ravimes Rowes and Requlation".)





 capacily is ashiened.





 Company has met and oymots to med is ham that fopmoments, ant the Canadan supdy defliency
 by such chsomers.

Nonthest has roceivel If( approral to constoct ans oporate a conthally located hequctid natural
 service by Ninember 1976, and will have an imitial peak day deliserabiity of 150 it 1 ond and a storate capacity of the equivatem of 1.2 billion culvic fest of natural gas of which the Company's shate will be approximately $14 \%$ :

The inseace in the lachon Pratic thage Projet deliverability and capacity and the combruction by Northwent of the liqu-thed natural gas plant lugether wath the Companys yas wuply comeract with Northuert will, in the opiniou of the Company, provide the Company with all adequate gas supply to meet its amivipated firm requitements throwh the winter of 1978.70 if the shontage of supply in British Columbia is remedied, of whith there can be no assarmese. The Conapany is investigating additional resources to supplement future gas supply.

## 

The Condany is mat in direct competation with any investor-owned publice utilins in its corve area In sume miner insance, hwever, the Compony is in compstition in frime areas with certain rural electric conperatives whenc operations have not materially affected or threatened to affect the Company s bыsinco

Since the adophien in 1920 of the Diverici Power A.t of the Sate of Washington, P(1), have had
 or by purchase or condennation of existime facilitis. Howeres, an amendment to the Act requires the PUDs to abtain a faverathe wote of the veters in the district before condemmation of properties in that datrict P(1), prevently exit in three cotmass within the terriony laing served by the Company. namely. Scems, I inculn and lerry Countics, and in a vall rural area in Spokanc County, Existance of these detrict has not materially affested the Company: businc.

There is mo statute permituing the formation or operation of Pt DD in Whato or Montana.
The Companys gas rate are compotitive with wal and oil, the other principal fuch in the area. There is alor some competition between gas and clecrivity In areas where both services are furnished by the Company, it with the reghetive servites on the bivis of chetomer preference

## 




 entirely by cyprew rimone to the citud Seations and Artides of the Mattater Soutions 125 to 150 of the Menteges appar in the lime Supplemental hadentures

Interest and Payment. The New Bonds will matere libroary 1. 2005 and will har imetest from

 Bank in Now lork, N. Y. The Neav Bund will be isuable ouly in fully regivend form in demominations of $\$ 1,960$ and multiples theroof

 improvement fond of under the mamename and replatemem provistoms or with the procols of centain
 \&if prices for all other redemptions:

If redeemed during the twetve months perind endme danary 31.

| Year | Cenera! <br> Redempfion Price (\%) | $\begin{gathered} \text { Succial } \\ \text { Redomp- } \\ \text { finn } \\ \text { Mive } \\ (\% / 6) \end{gathered}$ | Year | Cencral Kedemp tion Price (\%) | Special <br> Keslemp- <br> fiont <br> Price <br> ( $\%$ ) | Year | Gisneral Redetmp- tion Brice ( $/ 1$ ) | $\begin{gathered} \text { Sperial } \\ \text { Redcmp- } \\ \text { tion } \\ \text { Ptise } \\ \text { (1, }, \text { ) } \\ \hline \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| "176 | 110.63 | 101.25 | 1986 | 106.97 | 101.12 | 1996 | 10330 | 100.80 |
| 1977 | 110.26 | 101.25 | 1987 | ior, 60 | 101.10 | $19 \%$ | 10294 | 160.75 |
| $1 \% 78$ | 109.90 | 101.24 | 1988 | 106.23 | 10.08 | 19.8 | [11) 57 | 160) 69 |
| $\because 1 \%$ | 109.53 | 10123 | 1989 | 10587 | 101.0\% | 1999 | 10, 20 | 10063 |
| \| 181 | 109.16 | 101.22 | $19 \% 0$ | 105.50 | 101.63 | 20 O) | 10184 | 100.57 |
| \||8| | 108.80 | 101.20 | 1991 | 105.13 | 101.00 | 20 OH | 101.47 | 1010.49 |
| 1982 | $10 \times 43$ | 101.19 | 1992 | 104.77 | 100.97 | $2 \mathrm{KH2}$ | 101.10 | 10041 |
| $17 \% 3$ | 108.87 | 101.18 | 1993 | 104.40 | 100.93 | 2003 | 10074 | 100.32 |
| \%\% | 107.70 | 101.16 | 1994 | 104.04 | 10.8 .89 | 2003 | 100.37 | 100.23 |
| f10\% | 107.33 | 101.14 | 1995 | 103.67 | 100.85 | 2005 | 10000 | 10000 |

m rach cace thether with atroed interest to the date fixed for redemption; provided that no New B ands : Inall be redeemable at the eeveral redemption prices print to lebruary 1, 1985 with borrowed funds or m indicipation of funds to be borrowed bavme an inturest onst (calculated in accordance with acceptable finsential practice) of less than $9.375 \%$ per annum.

If at the time the notice is given the redemption moneys are not on deposit with the Trustee whe falemption may be made subiect to the depe it of the redemption moneys with the Irustee on or before He shate fived for redemption and such notice shall be of no dfeat unless such moneys are so received

Cash deposited under any provisons of the Mongage (with certain exceptions) may be applied to fie: purchase (induding the purchase from the Company) of Bond of any series.

## (Mortgage, Sees. 38, 39 and 64 and A1t X: Sixteconth Supplemental, Sec. 1.)

Improvement Fund. The anmual Improvement Fund payments for each outstanding scries, which will itwlude the New Romks, are $1 / \%$ of the greatest amount of Bonds of suth cerice at any eve tmat out whathig prior to the beginumg of the gear in which such prayment is due kew serfain Bonds theretofore
 hatu-tiod (a) m cash or primignt amment of Bonds of stach series or (b) by credit for the amount of
 forkh theretofore retired the reybitement for any sear may be anticipated, hot if the date fod for ant

 1-4th under "Redemption and Purehase of Bonds"

The Company has resored the right to amend the Mortgage (without any coment or ether action I1) ams series of Bonds steated subsequent to Miareh i1. 1\%70, incindin: the New bonds) to dimimate Itw improvement fond payments with respeot to Bonds crated stiocequem to that date, including the New -1.016)
(Aloripage, Sec. 39, Tenth Supplemental, Sce 3: Fourleemth Supplemental. Sce. 5.)
Maintenamee and Retirement of Property. Subject to the orders and Fezulations of any regulatory


operatine revenues of the Company, as defined. Ixees amounts in any year may be credited against the five suceeding years' requirements. (Mongaye, Sce 38.)

Special Provisions for Retirement of Bonds. If, during any 12 monthe period, property dispowed of
 cash, the Company must apply such proceeds (subject to centain condituns and deductuns) to the retirement of Bonds. The New Bends are redemable at the Special Redenption Prices for this purpone. (Mortgape, Sec. 64; Tenth Sapplemental, Sec. 4.)

Security. The New lionds, Womether with all other bonds now or hereafler isuced under the Mortgage. will be secured by the Mortage, which constituse in the opinion of Gemeral Counsel, a firy mortgage lien on all of the present properties of the Cempany (except as stated helow). subject to (a) leases of mumor purtions of the Company's properts to athers for wes which, in the opinion of Ge ceral Counsel, do not inteffere with the Company's business, ib) leases of centain properiy of the Company not used in its utility business, (c) excepted encumbrances as defined in the Mortgage, and (d) encumbrances, defects and incgularities deemed immaterial byeneral Councel in the operation of the Companys husines. There are excepted from the lien ail cish and securities: merchandise, equipmon, materials or supplies hetd for sale or consumption in th: Company's operations; receivables, contracts, ieases and operating agreements; electric energy, and other material or produets (including gas) generated. manufactured, produced or purchased by the Company, fi s sale, distribution or use in the ordinary course of ths business.

The Mortgage contains provisions for subjecting atter-acquired property (subjet to pre-evisting liens) to the lien thereof, whout to limitations in the cawe of consolidation, merger or sale of substantially all of the Company's awets. (Mortgase Art. XI)

The Morlgage provides that the Trustee shall have a lien upon the morteseet property, prior to the Bonds, for the payment of it reasomable compensation and expenses and for indemmity. (Morteage. Secs. 92 and 97.)

Disidend Cownant. So long as any New Ronds are outstanding, dividends or distributions on the Company: common whek, other than dividends payabi; solkly is share of its common stock, are limited to nit inome applicable to common stock sine: July 1. 1057, plas $\$ 0.000,000$, and plas an amount cqual to the proveds from the sale of common toech subsequen to July 1, 1957. (Sivitenth Supplemental, S: 2)
 amount which mes be consanding unda the Mortaye Howeer, the Compans has reword the rephe to amend the Mongage (withetat any soment or other antion of any setics of Bonds ereated subsegpent to Februaty 28 . $1 \% 65$. including the New Bonds) to rembere this limitation.

Bonds of any series may be issud from time to time on the basis of: (1) $6.00^{\circ} \mathrm{c}$ of cost of fair value of property additions (whichever is lew) after adjusuments to entset retiremems: (2) retirement of Bonds or prior hen bonds: and (3) depusit of cash. Witi certain exieptions in the case of (2) abote the issuanee of Bonds is salyect to net carnings for 12 vot of the procilng 15 months before income taxe being at least twies the anmal interest requirement on all bonds at the time outstandinge including: the addituoal issue and on all indeltadnose of prior ramk. Such not carmings are computal after provision for maintenance. retiement and depreciotion of properly apal to $13^{2}$, af of gross operation: revenues of the Company for such petiod. It is expectat that the New bends will he fssued apanas mufunded property adftitom and that after the issuance therof the unfunded property additions remaining: will to appoximately $\$ 34,000,000$.



 water property and steam heat property as propety adibtims.

No Bonds may be issucd on the hasis of property addrioms sulat to prion lict , unlass the priot

 have been issued apainst property sulfint to contimung prior lien and certan ofher nem would not exceed $15 \%$ of the Bonds oustanding.

The amount of prior liens on monteaged propety acquired alter the date of delivery of the Mortgage may be increased subsequent the the acquivition of sadi propety provided that, if any propety sult. ject to such prier lien shall have heen made the basis of any applicatien under the Morteage, all the additional obligations are depusited with the Truster or the trustee of other how.er of a prior lien.
 Eleventh Supplemental, Sces. 4 and 5; Twelfh Supplemental, Sce. 1; I wanteenth Supplatinal, Sce. 4.)

Release and Substitution of Property. Property may be retatat upen the beik of (1) deporit of cash or, to a limited ammunt, purchase money morteages, (2) papperty additions and (3) wainer of the right to issue Bonds. Caslo may be withdrawn up on the bases stated in (2) and (3) ahove. When property released is not funded property, property additions used to effect the relase may again, in certain cases, become available as credits under the Mortape. and the waiser of the richat twiste konds to effect the relaase may, in certain cases, cease to be ctlocine as smb a waiver. Sinclar provisions are in effect as to cash proceds of such property. The Morteage compains spociat protitons with respet to prior lien bonds pldeded, and diypusition of momeys movived on pladed bonds socured by prior lien. (Mortgage, Secs. 5, 31, 32, 46 to $50,59,61,61,118$ and 134.)

Modiffeation. In general, the Mortgage, the rights and obligations of the Compans and the ry hes of the Bondholders may be modified only with the consent of $75{ }^{\circ} \mathrm{ce}$ of the Ronds, and if lies than all :eries of Bonds are affected, the consent aloo of $75{ }^{\circ}$; of the Bonds of each series affected. The Company bas reserved the right to amend the Mortgage (without any omsent of wher action of amy series of Bonds created subsequent to March 31. 1970, including the Now Bendy) so as to chang: 78 in the foresong sentence to 6635; Howerer, no moditication of th: Nerms of payment of principal or interest, aad no modification atlestime the hen or reducing the prowenge required for modification, is efloctive against any bondholder without his consent. The Compamy has the right to make certain vpeific amendments and amendments necosary from time for time to gualify the Mortgase under the Towt lndentere Aat of 1939 as in foree on the date of smbemendments without the comem of Thond alders. (Mortgage Art. XVIII. Secs. 120 and 149 ; I inst Supplememal, Sic. 10, Fourtionth Supplememal, Sic. 3.)

Defaults and Notice Thereof. Defauls are: default in paymem of primeipal: difault for (o) day-

 with other covenamts for ") days affer motice The Timese may withlobd notice of defoult (except in payment of primeipal. interest or funds for retitement of Bonds) if it thmks it is in the interests of the bondholders. (Mhorteages Sces 44. 65 and 135.)

In case of defaul, holders of a majority of the Bonds may dealde the primipal and interen due and payable. No holder of Bonds may confore the lien of the Moriegere unkes swelt holder shath have
given the Truster writen motice of a default and unless the hahdrs of $25 \%$ of the Brask have nequested the Truste in writing to att and have ofletad the Truser adequate scourity and ind-omity and a reasonable opportunity to act Holders of a maprity of the Hombl may dowe the time, methol an!

 $65,68,69,79,92$ and $138(\mathrm{~d})$ and An XXV.)

Evidence of Compliance with Mortyere Provisions. Compliance with Mastace provisims is evideneed by written statements of the Company's ofleers of perams stected or paid by the c'enpany In certain major matters the actountant or enginat must be independet. Vinions certitizate and wher papers are reguired to be filed anmually and upon the happening of certain events, indedime an ammal certificate with reference to compliance with the terms of the Mortgage and absence of Detauls.

## DESCRIPION OF COVNON SHOCK

The following is a brief dexcription of certain of the rights and privileges attaching to the common Stock, whout nominal or par valus, of the Company. For a complete desciption, refetone is mad: to the Company': Resated Atticles of Insorporation and to the laws of the State of Wasthagtom, The following summary, which does not purport to be comptece, is quatified in its entirety ty suth referencei*

Holders of Common Stock of the Company are entited to receive such divitends as may be lawfully declared from time to time by the Beard of Diretors of the Company.

Fach holder of Common Stock is entited to one voic for cach share held by him, and to vote cumulatively for the clestion of directors

In the event of any liquidation of the Company, the holders of Common Sow k would be cutited to share ratably in all aseets of the Company avalatle for divtribution to stockhotere

No holder of Commme Stock has any pre-emptive rights, except that if the Company effers thars of its Common Stock or any securties convertible into thares of its Cimmon Stock for money, other than
 the helder of the then oustanting Common Stok of the Compuny upon lerms not how, faverable to them than the terms upur which the new shars or comertible sestrities are to be wold to premms ether than such stocholders sabt limited pre-emptive rights are not applicable, howerer, to the promity of options to purchase, or oflerimes for sate of, shares of the Commen Sto h of the Compam to officefs and employes of the Company or majority onned subsidiarice of the Compons:

The presemly outsanting shares of Common Stoch of the Company are fully paid and nomassersable and, upon henance and sale as herein dewoubod, the shate of New Commen Soxh will be fully paid and nom-assewable

The Common Stoch of the Company is listed on the New York. Pasife and Spohane Stock Ix. changes.
 York. N. Y. 10015 and whice of the Company. P. O) Boy 3727. Spokne. Warkington 00220 The Registrats are Respitrar and Transer Compans, 34 I whange Place Jerey Ciry, N J, 17302 and The






## MANACFMENI

The names of the diectors and execotive oflicers of the Company are as follows

| Name (Agr at Octulter 31, 1974) | Positim |
| :---: | :---: |
| *K. M. Robinson (79) | Chairman of the Board and Chicf I xecutive Ofluer |
| -W. J. Satre (56) | President and Director |
| J. P. Bucklcy (50) | Vice President and Secretary |
| H. W. Harding (52) | Vice Provident |
| D. M. Ohawn (44) | Vice President |
| Wm. A. Lowry (59) | Vice President |
| D. L. Olson (49) | Awidant Vice President |
| R. T. Mdicndon (50) | Assitant Vice Prosident |
| J. M. Coombs (56) | Treasurer |
| Rodncy G. Aller (58) | Director |
| *A. L. Barnss (69) | Director |
| Duame B. Hagadone (42) | Director |
| * Roy J. Johnsom (63) | Dinctor |
| *James 13. McMonigle (69) | Diecior |
| James A. Prore, Jr. (58) | Director |
| Eugens Thampson (52) | Director |

*Member of Executive Committee
All executive offiecrs have been actively emplayed by the Company either as an officer or employee during the past five years

Remuneration of direstors and oflicers during 1973 was as follows:

| Name of Individual or Identity of Group | Capacitios in Which Reanter ation Was Rexeired | $\begin{gathered} \text { Agerepate } \\ \text { Divest } \\ \text { Renumeratom } \end{gathered}$ | Ewimated <br> Antual <br> Bencfity 1 pon <br> Retircment |
| :---: | :---: | :---: | :---: |
| K. M. Robinson | Chairman of the Board and Chisf Exceutive Oflicer | \$ 95,100 | \$ 47,216 |
| W. J. Satre | President and Dircetor | 68.433 | 35,008 |
| All Directors and as a Group . . . | Dircctors and Officers | 447,427 | 209.106 |

As of October 31, 1974, directors and officers as a proup owned $26, \mathbf{W} 5$ shares of Common Stowk of the Company.

The Company has in elfet an Employoes Stock Purchase Plan which prosides for the grantung to all tegular full-time emphowos of the Compan, during swh limitsi wilfoing poriods as may be specified from time to time by the Boad of Droctors, of the ripht th purd base a lomited number of
 basis threugh payfoll deftuthos. This phan qualitios as an "I mploree Stokk Purshase Plan" as that term is detined in the lotemat Revome Ciade of 1554, as amended it Otober 31, 1974, there were 6.183 shares remaining to be isobsd under an otlering made to comployess on Juls 2. 1973, at a prive of 51995 , which price was 955 of the manker prixe of the stack on the day the othering was made. An


For a tecent manket price of Common Stach of the Company, sio "Disidends and Prive Range"
atimated
Annual

## Name of todivictual or Identity of Group

K. M. Robinson
W. J. Satre

All Directers and Officers as a Group

Dircctors and Onicers


## 111:6A115N






 which any of their propetly is the sabject, other than sefferary poutue litigation incidental to the hiad of business comduted by the Company ant its subvednitics.

## IEGAL GPINISAS

The validity of the New Bomk and of the Nev Comamon Stock will he pazed up an foy the Conpany
 Company, and Messrs. Red \& Proest, 40 Wall Street, Now York, N Y.. and for the Underwriters by Messrs, Sullivan \& Cromucll, 48 Wall Stect, New Yosk, N. Y. Howeret, all matlors pertaining to the ergatization of the Company. titles to property. fremehises, heenses and permits ath all mattets of Washingtom. Idaho and Montana law will be pased upon only by Messrs. Paine, Lowe, Coffin, Herman \& OKelly.

## NXPIKis

The balanee sheet is of Decemley 31.1973 and the related statement of income for the five years then coded, and the statements of retained samings and whanges in financial pasition for the three ycars then coded included in this Prospecius hote been exammed by Hawhens \& Solls, indeperadent cortifist public accountants. as statud in theit optase apparing hevein and hase heen so incloded im rehance upon such opinion given upon the authority of that limen as experts in arcomting and anditing.
 "Business-Rates and Romulaton", "Proporty", "Powar and Giss Supyly", "Compstation and Publes

 made as to maters of has and legal comelovions under "I hecription of New bonds" and "Description af
 in reliance upon the opinions of sath fims, repactivels, and in reliance upon their athlority as expers.

## OPINION OF INDFPINBHV (ER\&HIFD PUBLIG: ACEOLNTANTS

The Washington Water Power Company:
We have examined the balance shot of The Warlompon Watat Power Company as of Devemher


 record and such other andimg procetures as we consideted nowsony in the chommsances.
 Company at December 31. 1973 and the results of its apctations and shanges in it financial powitiout
 except for the changes, with which we concur, in methat of accombing for imvestonents in subvidary companies as dexcribed in Note I to I mandial Statements, on a comvintent basis.

# TIIE WASIINGTON WATER POAVER GODBANY <br> <br> BALANCE SH: <br> <br> BALANCE SH: <br> ASSI:TS 

|  |  | $\begin{aligned} & \text { (ktolocs 31, } \\ & 197.4 \\ & \text { (1moudical) } \\ & \text { Eollars) } \end{aligned}$ |
| :---: | :---: | :---: |
| UTilit Piant (Notes I and 2): $\$ 371.504$ |  |  |
| Electric | \$367,278 | \$374.590 |
| Gas | 50,746 | 62.011 |
| Stam Il cating | 3.501 | 3.545 |
| Water ...... | 8,815 | 9,033 |
| Construction work in propt | 6.994 | 19,173 |
| Total | 446,334 | 408.432 |
| Accumulated depreciation and amortization | 80.325 | 86,454 |
| Utility plant-net | 3666,609 | 381,478 |
| Invistminis: |  |  |
| Subsidials companies-at equity (Note 1) | 14,802 | 15, \% 1.32 |
| Other-at cost .................... | 1.171 | 1.725 |
| Total investments | 15,973 |  |
| Cukrint Asats: |  |  |
| Cash in banks and worl ing funds | 522 | 730 |
| Temporary cash investments |  | 00 |
| Receivables: |  |  |
| Customers-net |  |  |
| Other | 1,700 | 1.528 |
| Materials and surplies-arerage ent | 2.682 | 4.04) |
|  | 246 | 527 |
| Total current assets | 13,062 | 15.2\%) |
| DItureti Dilats: |  |  |
| Unamortiosd dobt discount and expense (being anontiod orer live related debt) | - 1.28 \% | 1.34) |
| Preliminary survey and investigation charges | 873 | 922 |
| Other | 1.000 | 015 |
| Total deferred debits | 3.159 | 3.176 |
| Total ......... | 83, 8 , 803 | S417.n! |

## TIIE WASHINCION WATH: POWER COMOANY <br> BU1ANC: $\because:=1$ <br> LIABII IIH:S



Soe accompanying Notes to I inancial Statements.

## THE WASHINGTON WATEF PGHEF COMPANY

## STATMENT OF RITANED EAKVNGS

$*:$

| 1971 | 1972 | 1973 |
| :---: | :---: | :---: |

12 Mantls
1 rided
11.3.3.74
(1) in unlited)
§ $16,28 \%$
52, 258 512.987

$\$ 25,9.2$
S21,25s $\$ 12.987$
$12.765 \quad 13.646$
$42,1123 \quad 25,633$
ง) ふ04
$9.136 \quad 9.6: 9$
20 (2in)
$512987 \quad 516.984$
529258
14.42:
31.312

9ヶ~~
\$21.3.4

STATEMENT OF CHANGES IN FINANCIAI. POSHIION


Sce accompanying Notes to Financial Statements

# TIIE WASHINGTON WATER POWIR COMPANY <br> <br> NOIFS TO FINANETAI SHAHMHES 

 <br> <br> NOIFS TO FINANETAI SHAHMHES}

## Ihformation as of Ocfofer 31, 1974 and for the Tudve Months then Emed is Inaulited

## 1. Summary of Significant Accounting Policies:

## System of Accounts

The accounting records of the Company ure maintained in accordance with the uniform sydom of accounts prescribed by the Federal Power Commission ("IPC") and adopted by the appropriate state regulatory commissions.

## Unility Plant

The cost of additions to utility plant constructed by the Company, including an allowance for funds used during comserwation and repiatements of tmits of property and betterments is copitalized. Maintenance and repairs of property and soplacements determined to be less thas units of properly are charged to operating expenses. (ouss of depreciable units of propenty retired plus costs of remonal less salvage are charged to accumulated depreciation. Upon sale or disposition of propenty other than through normal retirement, the diference if material. betweon the proceeds realized and the eost less the estimated portion of the reserve for deprectation applicable thereto is recorded in ineome accounts.

## Allowane for I ionds U/sed I) tring Construction

$<$
In accordance with the uniform systen of acoumts prescribed by regulatory authorities, an allowance for funds used during comsiruction ("ADDC") is included in constraction work in progress and cred ted to incone using a composite rate, applied to consenction work in proeress, which assumes that funds used for constration were provided hy deh and common equity. This aconmting practioe resuls in the inclusion in comstruction work in progress of $A F D($ which will ultimately te included in rate base in establishing rates for wility charges.

## Depraciation

Depreviation provisions are compued by a methed of depreciation accourting wilizing emit tates for eleetric hydro production phons and compowite rates for other properties. Such tates are devenct to proside for retisomets of propertion at the expration of their sorviee lives. The rates indlade ammery and interest components, in whid the interest componemt for clectric hydur production pham is sis por cent and for other property is rero per cent. Deproctiation of tamsportation opuipment is prondeal on the basis of miles or hours of operation.

The ratios of provisions for deprectation to average depreciable property were as follows: 1971.


## Subsidiarics

In compliance with an orden of the 1T'C effoctive Janary 1. 1973, the Company changed from the "Cost" to the "Equity" methed of atoounting for imostments in subsidiary compamies. As a result of such treatment the (ompany reonenized subsidary imome of $\$ 576,0 \mathrm{0}$ ) ( $\$ .09$ a shate) in 1973. The etfert on net income of prior yoars is not material and it has met heen restated.

## THE WASHINGTON WATER POWER COMIPANY NOTES TO FINANCIAL STATFIIENTS-(Continued)

## Retirement Plan

The Company has a Trusted Retirement Plan covering its regular full-time employees. Pension costs are computed on the havis of accepted actuarial methods and include current service costs and amortization of prior service costs over 15 years. The costs of the plan are borne by the Company; total pension conts were: 1971, $51.038 .000 ; 1972, \$ 1.013 .000 ; 1973.5856,000$; and twelv: months ended October 21. 1974, 5936,0010. The Company's polity is to fund pension cost accrued.

## income Taxes

Provisions for income taxes are based generally on income and expense as reported for financial statement purpores adjusted primsipally for the allowance for funds used during construction, taves capitalized and the exces of tax deproviation (computed primarily on accelerated method)) over book depreciation. In accordance with requirements of regulatory authorities having jurisdiction over rates, the Company's tax provisions rellect the current tax reductions arising irom such timing differences.

Investment tax credits are accounted for on the "flow-through" method whereby credits on new production facihtion are amortized over a live-year period and credits on other plant placed in service are credited to Federal ineme tas eypense currently. Suh twament is in acoordanee with directives of regulatory authoritics and rewulted in a reduction of lederal inoome tax coponse of: 1971, 5300,000; 1972, 5546,000, 1973, 5882.000) and twelve month period ended October 31, 197: 5750.000.

The Company and its subsidiarice file consolidated Federal income tax returns. Subsidiaries are charged or credited with the tax effects of their operations and inventmemt credits.

Durime a 60-m.moth perind ended February 1958, provisions for Federal income taves gave effect to accelerated amortizaton, for tat purposes only. of $65 \%$ of the depreciable cost of the Cabinet Gorge Ifydraclectric Proct Acoumting for the revultant reducthons. in Federal income taxes was as prescribed by an order of the Washinglon Ltibtics and Transportation Commiswon. The order provided that durin! the $60-\mathrm{m} \cdot \mathrm{m}$ th period the reduction in taxes was to be segresated from net income and accumulated in an account entitcd Retained Earninge-Restricted. and that the amount so accumulated be transierred ( 5542.040 anmually) to retained carnings of the following 25 -year period, during which period and contimuing throughout the life of the property. Federal income taxes are expected to he greater than they would have been if accelerated amortization had not been claimed

# THE WASHINGTON WATER POWER COMPANY <br> <br> NOIES IO INAN(IU, SIA!IU11 vTS-(Contimued) 

 <br> <br> NOIES IO INAN(IU, SIA!IU11 vTS-(Contimued)}

## 2. Long-Ierm Debt:

Long-term debt comisis of the following (in thousands of dollars):

First mortgage bonds

| 33 er S.rich due 12k? | \$ 20,370 | \$ 20.370 |
| :---: | :---: | :---: |
| $4^{7 / 1 / \%}$ Scrics due 1987 | 30.000 | 30,000 |
| $41 / \mathrm{r} \%$ Series doe 19x8 | 20,000 | 20.000 |
| $4 \frac{3}{6} /$ S Series due 1988 | 15,000 | 15,000 |
| 43/4\% Scries due 1989 | 15,000 | 15,000 |
| $45 / \mathrm{x} / \mathrm{C}$ Serics due 1904 | 30,000 | 30,000 |
| 4\%/8\% Series due 1995 | 10,000 | 10,000 |
| $6 \mathrm{\%}$ Serics due 1996 | 20,000 | 20.000 |
| 91/4\%\% Series due 20 (0) | 20.000 | 20,000 |
| $77 / 8 \%$ Scries due 2003 | 20,000 | 20,000 |
| Iotal | 200.370 | 200,370 |
| king fund debenturs (1) |  |  |
| $4 \frac{1}{4} \mathrm{C} / \mathrm{n}$ due 1978 |  |  |
| $41 / 2 / 6$ due 1983 | 7,000 | 6,930 5,100 |
| 43 3\% due 1990 | 5,250 | 5,100 15,000 |
| $83 / 8 \%$ due 1991 | 15.000 | 15,000 |
| Total | 35,342 | 35,122 |

Notes prayable-banhs:


The notes due December 1. 1975 were issued under the terms and conditions of a Credit Agreement dated June 25. 1974 extendere a lane of credt under which the Company can borrow from several banks a maximum principal amount of $\$ 35.060,(00)$ at any whe time outstanding: $\$ 18.000 .000$ of the botrowings thereunder were used to prepay motes which were due November 1. 1974. Pursuant to the terms and conditions of the Agreement. these notes bear imerest at the prime commercial loan rate of the SeatteFirst National Bowh prevailing from time to time during the life of the notes ( $11.25 \%$ at October 31 , 1974). There are mo compensatmg balanee requirements. The average short-term bank berrowings outstanding during: the year ended Deeember 31. 1973 was $\$ 7.700,000$ and the average interest rate was $7.17 \%$. The avera"e outstamblus during the twelve months ended Oetober 31. 1974 was $\$ 13,300,000$ and the average interest rate was 10.24 ,

The aggregate annual siuking fund requirements for the six years from December 31, 1973 under the bonds and detentures outstanding October 31, 1974 amount to: 1974, \$2.491.700; 1975, \$2.671.700; 1976 and $1977, \$ 3,1+1,700$ and 1.778 and $1979, \$ 2,503,700$. Of these annual amounts $\$ 2,003,700$ may be met by certification of properly additions at the rate of $167 \%$ of requirements.

The maximum principal amount of Morigage Bonds which may be issued under the Mortgage is limited to $\$ 500,000,000$. However, the Company has reserved the right to amend the Mortgage, without any consent of the holders of the 1995 series or any subsequent series of bonds, to reabove this limitation.

Substantially all of the utility plant is subject to the lien of the mortgage and deed of trust underlying outstanding First Mortgige Bonds.

## THE WASHINGTON WATER GWIR COMPANY

## 

None of the long-term delt is pledged, held by or for the accoumt of the Cons? its sinking or other special funds.

## 3. Common Steck:

The Company publicty sold shares of its no par value Common Stoct during: the 3 -year period as follows: 1971, 250,000 shancs for $\$ 5,56,3,060$ and $1973,250,0$ on shares for 55112 F ) . In adthion 32,988 shates were insted to acepuice Columbia Gas Company which was mogeal inte the Complaty in 1974.
 pursuant to authorization by the Beard of Directors.

The Company has an I mphoyers' Stoch Purchase Plan which provides for the eranting to all regulat full-time emplayees of the Company, during such limited offerime periods is may be specified fron tims: to time by the Beard of Dinectres, of the right to purchaw a lamiteal number of shares of the Company s Common Stock, with the privike of paying for such shares on an installmemt bas, throtgh paytom deductions. The Company isotel the foflowing siares umber the Plom; 3.621 in 1971, 17,806 in 1972. 14,725 in 1973, and 9,528 shares during the ton menths onded Ottober 31, 1974, at prices frem $\$ 1995$ in \$21.00. At Oetober 31. 1974, hiere were 6,183 shares y t to be issuded at $\$ 19.95$ wade ath wifring madi to emphyees on July 2. 1973. On May 10, 1974, the Company's shardhoklers approted an amendment to the Plan providing that the maximum number of shares which may be issued is a result ef all effering? after May 10, 1974 shall be 150,000 shares.

As shares are issucd, proceeds are credited to the Common Stock account; no amounts are charged to income.
4. Supplemental Information:

|  | 1 Dc |  |
| :---: | :---: | :---: |
| 1971 | 1972 | 197 |

Taves, other than in ome taxes, are as follows:

| les, other than 1 | 55.242 | 55,306 | 55,5心 | S 5.764 |
| :---: | :---: | :---: | :---: | :---: |
| Ad valorem ............................ | 513 | 6 6 4 | 82\% | 91.8 |
| Federal and state sociat secturity | 15 | 23 | 20 | 6.4 |
| State of Idaho hwh | 1.533 | 1,771 | 1.035 | 2.019 |
| State excise | 1,048 | 1.202 | 1.201 | 1,413 |
| Miscellancous | 32 | 49 | 4 | 50 |
| Total | 58.383 | 50,01\% | \$9.60.0) | 510.228 |
| Charged to: | \$7,917 | \$8,385 | \$9.350 | \$ 0.922 |
| Utility plamt, clearing and othet sundry aceumbs | 466 | 630 | 340 | $306$ |

Amounts of maintenatice and repaits and depreciationg on than set wat sepatatily in the statement of income, are not materiv

Amoums of rentals, ad lisimg costs and rescarch and divehopment costs are not materiat

## 5. Commitmonts:

The Company has substantial power supply sommitments and contracts evpiring at various dates through 2018. Reforence is made to "Power and (ias Supply".

## （N以んにWに！！！くら


 to purchase，and the Company has agreed to will form ceverally；the reqeetive primipal amenns． of New Bonds set forth betow．

| Name | Principal <br> Amети |
| :---: | :---: |
| Kidder．Peahudy \＆（o）Incorporated | 52.500 .006 |
| White．Weld \＆Co．heorjorated | 2，500，00， 5 |
| Dean Witter \＆（o．lwcorporated | 2，500，000\％ |
| Drevel Burnham \＆（ia Incorporated | 725.000 |
| The First Boston Cimporation | 725，000 |
| Coldman．Sathy ${ }^{\text {c Co }}$ | 725，000 |
| Honblower \＆Wechs－1／mphill，Noyes Incormorated | 725，0019 |
| E．F．Ilution of Company lnc | 725，000 |
| I．chman Brotlict Incorporated | 725，000 |
| I ach，Rharato A Co． | 725．0（4） |
| Merrill I ymh．Pietic，I coner \＆Smuh lacoporated | 725,000 |
| Painc．Webber，Jastoun $k$ Curtis Incorpmated | 725，000 |
| Reynald Stauritis Ine | 725，000 |
| Salomon Brothers | 725，000） |
| Smith，Bamey \＆Co incorporat 1 | 725.000 |
| I．F．Rothshild \＆（o． | 625，0：00 |
| Shownon Hayden Stone In | 625，000 |
| Shists Mindet Raland Sexuritics Incouporated | $625,0 \mathrm{HH}$ |
| Weaten \＆Co．Inourpurated | 625,000 |
| D．maizis \＆Domatik．Incerpotated | 5078010 |
| Coster \＆Momball lix | Sono．64） |
| Marnis．Ipham ©（i）Imorporatul | $5(0) 3,4 \mathrm{n})$ |
| Mowtey，Hallgartor \＆I vabroak Ine | $5000,0 \mathrm{Cr})$ |
| Thomson \＆Mi，Kimmon Atwhindoss Kohtmeyer Lo | 5069007 |
| Spencer Irash \＆Cor linorpmated | 500,0005 |
| Tucher，Autavy \＆R．1．Day | $500,042)$ |
| American Sccuritios Corporation | 3 （0）， 020 |
| Bason，Whipple \＆（is） | $300,000)$ |
| Blunt Ellis \＆Simmons Incorporated | $300,0 \mathrm{~m}$ |
| Melhonald of Company | 300.604 |
| Tixe Ohis Company | $300,0.00$ |
| Piper，Jatfray \＆Itopwond limeporatid | $300,5 \mathrm{k})$ |


| Nome | Printipal <br> Amranal |
| :---: | :---: |
| 1:1kims, Stroul, Suple \& Cos. |  |
| Frecoman Souritics Company, In | 200 (120) |
| The Illinois Company Incorporated | 200.606 |
| Martin Nelson \& Co. Juc. | 2009000 |
| Wagenseller \& Durst, Inc. | 2000.000 |
| To4, 1 | $525,0(6), 0019$ |

Kidder, Peabody \& Co. Incorporated, White, Weld \& Co. Incorposated, and Dean Witter \& Co. Incorporated, as Representatives of the several Underwriters, have advised the Company as follows:

The several Underwriters are offerin: the New Bumds to the public at the public offering price set forth on the cover page of this Prospectus, and to Duters at a price which represents a concession of $.475 \%$ of the princpast amount under the public offering price. The Underwriters and such Dealers may reallow a concession of $.25 \%$ to deabess who are members of the National Ascociation of Securities Dealers, Inc: or certain foreign dealers whon agree not to make sa' of the New Bonds in the Inited States of tor nationals or residents thercof. After the intial public offering, the public olfering price and the concessions may be changed.

No person has been auth rrized to give any information or to make any representations, other than those contained in the Prospectus in connection with the offer contained in this Prospectus, and, if given or made, such information or representations must not be relied upon as having been authorized by the Company. This Prospectus does not constitute an offer to sell the securities in any state to any one to whom it is unlawful to make such offer in such state.
$\qquad$
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600,000 Shares

## PUGET SOUND F JWER \& LIGHT COMPANY

\% Preferred Stock

(Cumulative, $\$ 25$ par value)
$\qquad$

PROSPECTUS

Merrill Lynch, Pierce, Fenner \& Smith Incorporated

Dean Witter \& Co. Incorporated
$\qquad$

Dated May 29, 1975

## 600,000 Shares

# Puget Sound Power \& Light Company 

\% Preferred Stock
(Cumulative, $\$ 25$ Par Value)
Price \$ Per Share to Yield \%
Entitied to cumulative annual dividends of $\$$ per share from date of original issuance.
The New Preferred Stock may not be redeemed through certain refunding operations as more fully set forth herein prior to June 1, 1980.
THESE SECURITIES HAVE NOT BEEN APPROVED OR DISAPPROVED BY THE SECURITIES AND EXCHANGE COMMISSION NOR HAS THE COMMISSION PASSED UPON THE ACCURACY OR ADEQUACY OF THIS PROSPECTUS. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

|  | Price to Public (1) | Underwriting Commissions (2) | $\underset{\substack{\text { Proceeds to } \\ \text { Company (3) }}}{ }$ |
| :---: | :---: | :---: | :---: |
| Per Share... | \$ | \$ | \$ |
| Total | \$ | \$ | \$ |

(1) Plus accrued dividends, if any, from date of original issuance.
(2) The Company has agreed to indemnify the several Underwriters against certain civil liabilities, including liabilit es under the Securities Act of 1933.
(3) Before deducting expenses payable by the Company estimated at $\$ 88,000$.

The New Preferred Stock is offered subject to prior sale, when, as and if delivered to and accepted by the Underwriters, and subject to approval of certain legal matters by their counsel and by counse! for the Company. The Underwriters reserve the right to withdraw, cancel or modify such offer and to reject orders in whole or in part. It is expected that delivery of the shares of New Preferred Stock will be made in New HYork, N. Y., on or about June 5, 1975.

# Merrill Lynch, Pierce, Fenner \& Smith Incorporated 

The date of this Prospectus is May 29, 1975.

IN CONNECTION WITH THIS OFFERING, THE UNDERWRITERS MAY OVER-ALLO OR EFFECT TRANSACTIONS WHICH STABILIZE OR MAINTAIN THE MARKET PRICE OF THE SECURITIES OFFERED HEREBY AT A LEVEL ABOVE THAT WHICH MIGHT OTHERWISE PREVAIL IN THE OPEN MARKET. SUCH STABILIZING, IF COMMENCED, MAY BE DISCONTINUED AT ANY TIME.

The Company is subject to the informational requirements of the Securities Exchange Act of 19.34 and, in accordance therewith, files reports and other information with the Securities and Exchange Commission. Certain information as of April 11, 1975 with respect to the Company's directors, and certain other information for 1974 and prior years with respect to the remuneration paid by the Company to its directors and officers and with respect to interests of management and others in certain transactions with the Company, have been disclosed in proxy statements distributed to shareholders of the Company and filed by it with the Securities and Exchange Commission. Such reports, proxy statements and other information can be inspected at the office of the Commission at 1100 L Strcet, N.W. Washington, D.C. 20549, and copies of such material can be obtained from the Commission at prescribed rates. The Company's Common Stock, $\$ 10$ par valuc, is listed on the New York Stock Exchange where reports, proxy material and other information concerning the Company can also be inspected.

## THE COMPANY

Puget Sound Power \& Light Company (the "Company"), a Washington corporation, is an electric utility providing electric service exclusively within the State of Washington.

The Company's exccutive office is located in the Puget Power Building at 10608 N.E. 4th St., Bellevue, Washington 98009. The telephone number is 206 454-6363.

The electric utility industry in general is currently experiencing certain problems; however, the impact of these problems varies among companies and regions. Although a few of these problems affect the Company as described below, the Company's experience in relation thereto has been relati favorable.

The Company, similar to many other electric utilities, is involved in a very substantial construction program (sce "Use of Proceeds and Construction Program"). Its ability to sell additional securities to finance this construction will depend on general money market conditions and. in the case of senior securities, its ability to meet various earnings coverage requirements. The Company has been adversely affected by inflationary factors (see "Management's Discussion and Analysis of the Statements of Income"). In early 1974, the Washington Utilities and Transportation Commission gr nted interim rate relicf and effective November 1,1974 the Company received a general rate increase of approximately $20 \%$ in annual operating revenues based on a 1073 test period, which was about $98 \%$ of the original request by the Company (see "Business-Regulation and Rates"). Future earnings depend, in part, on future rate increases.

Over $96 \%$ of the Company's energy requirement for the year ended December 31, 1974 was supplied by hydro-electric generation. Accordingly the Company was not adversely affected by prices or shortages of fossil fuel (see "Business-Power Resources-Existing" and "Business-Fuel Supply"). The Company has not to date experienced significant delays in its construction program as a
result of environmental regulation or licensing problemis. The Company is unable to predict whether these factors will result in delays or additional costs in projects under construction or proposed (see
"Business-Environment" and "Business-Power Resources-Under Construction or Planned").
For a description of hearings relating to the Company's application for a construction permit for two
additional generating units at Colstrip, Montana, see "Business-Legal Proceedings."

The following material is qualified in its entirety by the detaikd information and financial statements (including the notes thereto) appearing elsewhere in this Prospectus

THE OFFERING
Puget Sound Power \& Light Company 600,000 shares of $\%$ Preferred Stock. cumulative, 825 par value May 29,1975
Company
Security Offered
Expected Offering Date Dividend Payment Dates
Use of Proceeds
February 15, May 15. August 15, November 15 ............................................ bank loans incurred for
$\qquad$ construction purposes

THE COMPANY
Production, transmission, distribution and sale of electric energy
Business $\qquad$
Sources of Generation (Year ended December 31, 1974)
Hydro $96^{\circ}$, fossil fuel $4{ }^{\circ}$,
Approximately $2,500,000$

Available Peaking Capability-kilowatts
Service Area
Approximately 3,200 square miles in the western portion of Washington State Approximately $1.000,000$

Approximately 409,000
Population Customers

## FINANCIAL INFOLMATION

## USE OF PROCEEDS AND CONSTRUCTION PROGRAM

The net proceeds (approximately $\$$ ) from the sate of the 60 ono 000 thares of 885 value preferred stock being offered hereby (the "New Preferred Stock") will be applied toward repayment of outstanding bank loans incurred for construction purposes. These bank loans are expected to aggregate approximately $\$ 48,000,000$ at the time of delivery of the New Preferred Stock

Construction expenditures for 1974 amounted to approximately $894,400,000$ and it is estimated that the Company's 1975 construction program will require the expenditure of approximately $\$ 90,700,000$ (excluding allowance for funds uwe d during con-truction) as follows: production plait additions and improvements, $\$ 61,700,000$, including approximately $\$ 43,500,000$ applicable to the Company's portion of the Colstrip generating plant in Rosebud County, Montana and approximatels $\$ 16,000,000$ applicable to the Company's portion of the Skagit Nuclear Project (see "Busines-Powet Resources-Under Construction or Planned"): transmission plant improvements and extensions. $\$ 7,700,000$; distribution plant improvements, $\$ 10,200,000$; new services and extensions, $\$ 9,200,000$ and general plant improvements, $\$ 1,900,000$.

The Company expects to finance the balance of its 1975 construction program with fund obtained from internal sources and from short-term borrowings. Such borrowings will be refunded throuph the sale of debt and equity securities which are expected to approximate $845,000,000$ durin 2 the remainder of 1975 . The Company's construction program for the sears 1976 and 1977 , subject to continuing reviow and adjustment, is estimated at $\$ 300,000,000$ (excluding allowance for fumb used during construction) of which approximately $75 \%_{6}$ is expected to be raised through the sale of securities. The amount, character and timing of future financing will be determined in the lipht of then existing conditions. Sce "Business--Power Resources-Under Construction or Planned,"

Gross electric utility plant at December 31, 1974 amounted to $\$ 672,269,000$. During the five years ended December 31, 1974 the Company made gross property additions (excluding allowance for funds used during construction) in the amount of $\$ 264,335,000$.

## CAPITALIZATION

The capitalization of the Company as of December 31, 1974 (see Balance Sheets), and as adjusied to reflect the issuance and sale of the New Preferred Stock, is as follows:

| Long-Term Debt: | (The |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | \$303,147 |  | \$303,147 |  |
| First Mortgage Bonds | 8,486 |  | 8,486 |  |
| Debentures. | 525 |  | 525 |  |
| Notes payable |  |  |  |  |
| $5.90 \%$ pollution control revenue bonds, series 1973, due 1998 | $\begin{gathered} 20,000 \\ (13,409) \end{gathered}$ |  | $\begin{gathered} 20,000 \\ (13,409) \end{gathered}$ |  |
| Less funds on deposit with trustee Total Long-Term Debt | 318,749 | 59.4\% | 318,749 | 57.8\% |
| Preferred Stock, $\$ 100$ par value, $1,000,000$ shares authorized, 371.222 shares outstanding. | 37,122 |  | 37,122 |  |
| New Preferred Stock, $\$ 25$ par value, $3,000,000$ shares authorized (b), 600,000 shares to be issued. | 37.122 |  | $\begin{array}{r} 15,000 \\ \hline 52,122 \end{array}$ | 9.4 |
| Total Preferred Stock .................. | 37,122 | 6.9 |  |  |
| Preference Stock, $\$ 50$ par value, 700,000 shares authorized, 296,290 convertible shares outstanding | 14,814 | 2.8 | 14,814 | 2.7 |
| Common Stock, $\$ 10$ par value, $10,000,000$ shares authorized (b), $4,997,852$ shares outstanding | 49,979 |  | 49,979 |  |
| Additional paid-in capital | 34,689 |  |  |  |
| Earnings reinvested in the business | $\begin{array}{r}81,391 \\ \hline 166,059\end{array}$ | 30.9 | 166,059 | 30.1 |
| Total Common Equity ... | 166,059 $\$ 536,744$ | 100.0\% | \$551.744 | $100.0{ }^{5}$ |
| Total Capitalization | \$ 46,200 |  | (c) |  |

(a) Assuming full conversion of the Convertible Preference Stock into Common Stock of the Company, the adjusted capitalization ratios would be: Long.Term Debt $57.8 \%$; Freferred Stock $9.4 \%$; and Common Equity $32.8 \%$.
(b) Subject to shareholder approval, which is expected on May 13, 1975.
(c) See "Use of Proceeds and Construction Program" with respect to repayment of bank loans. Bank loans and commercial paper are expected to aggrgate approximately $\$ 48,000,000$ and $\$ 18,000,000$, respectively, at the time of delivery of the New Preferred Stock.
Reference is made to the Balance Sheets and Notes 4, 5, 6, 7 and 8 of the Notes to Financial Statements, appearing elsewhere in this Prospectus.

## STATEMENTS OF INCOME

The following statements of income for the five years ended December 31, 1974 have bec... examined by Coopers \& Lybrand, independent certified public accountants, whose opinion thereon is inciuded elsewhere in this Prospectus. The statements should be read in conjunction with the

OPERATING REVENUFS (Note 1)
OPERATING EXPENSES:
Operation:
Other
Maintenance (Note 1)
Depreciation (Note 1)
Taxes other than Federal income taxe
Federal income tuxey
Payable currently.
Deferred investment wix eredits-net
Deferred-other
Total operating expenses
OPERATING INCOME:
OTHER INCOMF:-NFT
Income from property siles-net
Allowance for funds used during
construction (Note 1)
Miscellaneous-net
Total other income-net
INCOME BEFOTE INTEREST CHARGES
INTEREST CHARGES
Interest on long term debt
Other interest
Amortization of debt expense, net of premium (Note 1)

Total interest charges

## NET INCOME

LESS DIVIDEND ACCRUALS
Preferred stock
Convertible proference stock
Total dividend accruals
NET INCOME FOR COMMON STOCK
Common shares-weighted average
Outstandine
Assuming full conversion of preference stor $k$
Earnings per common share (Note 1):
Assuming full conversion
Dividends per common share
Ratio of earniniss to rombined fixed charkes and preferred dividend requirements
Note references are to the Notes to Financial Statements included elsewhere in this Prospectus.

For the purpose of computing the ratio of earnings to combined fixed charges and prefered
dividend requirements, "earnings" are defined as income before income taxes and fixed charges
(adjusted for undistributed income or loss of uncom-alidated sub-idiaries): "fixed charges" consi-t
of interest on debt, amortization of deht discount and expenee net of premium and such portion of
rentals as are estimated to be representative of the intere 1 factor in the particular case, and "pre-
ferred dividend requirements" consist of the requirement - for dividends on the Company's prefurred
stock multiplied by the ratio that pre-tax income bear- to net income.
The Company has calculated supp'emental ratios of earnings to combined fixed charges and preferred dividend requirements pursuant to Accounting Series Release No. 122 issued August 10. 1971 by the Securities and Exchange Commission. In this supplemental calculation "eamink," and "preferred dividend requirements" are defined as ahove and "fived charges." in addition to itemp referred to above, include the Company s allocable portion of interest included in the cost- of powet purchased from Wa-hington public utility districts under long-term contracts (see "Busine=- Power Resources Existing"). Such allocable portion of interest relates only to those power purchaves not subject to future reduction under the contracts. The supplemental ratios of earnings to combined fixed charges and preferrel dividend requirements for the vears 1970 through 1974 were $1.51,1.58$, $1.73,1.59$ and 1.71 , respectively.

Assuming a dividend rate of 11 C ; on the Now Preferred Stock, the pro-forma ratio of earnings to combined fixed charges and preferred dividend requirements for the year 1974 , after giving effect to the sale of the New Proferred Stock and repayment of notes payable to banks, would have been 1.92. The pro-forma supplemental ratio defined above for the year 1974, after giving effect to the sale of the New Preferred Stock at an assumed dividend rate of $11^{\prime}$ 'c and the repayment of notes payable to banks, would be 1.68 . A difference of ${ }^{\prime}$; of 1 ', in the actual dividend rate from the as. sumed rate on the New Preferred Stock would change the pro-forma ratio of earnings to combined fixed charges and preferred dividend requirements by less than 0.01 in both of the above cases.

The annual dividend requirement on the New Preferred Stock will be $\$$
Operating Revenues, Net Income, and Net Income for Common Stock for the 12 months ended March 31, 1975 were $8149,660,000,-22,950,060$, and $819,625,067$, respectively. Earnings per common share (based on the average number of shares outstanding during the period) were 81.24. Assuming full conversion of the Preference Stock, earnings per common share were 84.08 . These amounts are unaudited hut in the opinion of the Company reflect all aljustments (consisting of only nomal recurring adjustments) necessary for a fair statement of such amounts.

## Management's Discussion and Analysis of the Statements of Ineome

An interim and peneral rate increase accounted for about 811.3 million of the increase in oper. ating revenues for 1974. See "Business-Regulation and Rates," The general rate inerease was in effect only during the last two months of 1954 and the full effet of such increase will ber reflected in 1975 revenues, Sales to other utilities accounted for 511.1 milline of increased 1974 operating revenues. Although the Company expects to sell power to other utilities in the future. the amount of such sales depends on the factors discussed under "Business-Salis to Other Utilities,"

The increase in operating expenses for 1974 is due to incpeased power costs to cover increased
power sales and for 1974 and 1973 is due to inflationary factors resulting in increased wage rates and material and supply costs. The increase in depreciation expense for 1974 and 1973 is due to increased denreciable electric plant and to an increase in depreciation rates in 1974. Taxes other th Federal income taxes increased in 1974 and 1973 due to increased revenues, property valuations and salaries and wages upon which the other taxes are based, together with increased tax rates. Federal income taxes were significantly higher in 1974 primarily due to the increase in taxable income.

The increases in other income for 1974 and 1973 were due to (1) increases in the allowance for funds used during construction which are attributable to higher levels of construction expenditureand (2) an increase in interest income from lunds invested by the trustee of the $5.90 \%$ pollution control bonds.

The higher interest charges in 1974 and 1973 are due to the issuance of additional bonds in 1972, 1973 and 1974 and higher levels of short-term debt at interest rates in exces: of prior averaf. rates.

## BUSINESS

## General

The Company is an investor-owned public utility furnishing electric service in the westem portion Puget Sound region of western Washington, and includes part of Kittitas County in the central portion over one million. On December 31, 1974 the Company had 408,56 customers, consing of 365,017 residential, 38,938 commercial, 462 industrial and 1,439 other customers. During the year ended December 31, 1974 over $96 \%$ of the Company's energy requirement was supphed hy hydro-tiecthe generation. In the future an increasing percentage of the Company's energy requirements will be derived from projects using coal and nuclear fuel.

The basic economic activities in the Company's service area include manufacturing. lumbering farming, shipping and those connected with various branches of national defense. Major industric. include the manufacture of commercial aircraft and aero-pace products (including The Boeing pany), ships, freight cars, trucks and logging equipment; oil refining; the manufacture of pulp, papes and other wond products, chemicals, light metals, steel and iron products and cement; and the processing of food products.

For the year ended December 31, 1974, the Company's revenues were derived $51.1{ }^{\circ}$, fron residential service, $25.4 \%$ from commercial users, $10.6 \%$ from industrial users, and $12.9 \%$ from otherprincipally sales to other utilities. During this period, no single customer accounted for more that $2.2 \%$ of the Company's operating revenues.

For the year ended December 31, 1974 the average kilowatt-hour use per residential custome served by the Company was 13,856 kilowatt hours, almost twice the national average, and the averay rate for electricity sold to all home users was 1.44 cents per kilowatt-hour compared with the nat - n . average for investor owned utilities of 2.09 cents. At December 31, 1974 the available peaking caps bility o! the Company was approximately $2,500,000 \mathrm{KW}$. The Company's historical peak load 2,115,200 KW occurred December 7, 1972. tributing electricity, except from the Cities of Tocoma and Seattle which border on outside of thy service area and whose municipal electric system operation ecreated by a public vote, have had t city limits. Since 1930, public utility districts, which may be created by a public vote, have had t)
power by statute to condemn properties of privately owned public utilities under certain circumstance and subject to certnin limitation : Prior to 1969, such power of eminent domain could he exerci-ed pursuant to a resolution of the district commision without a public vote on such condemnation.
In 1969 the Washinston legi-lature qualified such power of eminent domain by requiring, except under certain circumstances, a public vote on proposals by a di-trict to construct or acquire any electric
facilities for the generation, transmission or distribution of electric power. The Company has no
knowledge of any proceedings of this nature pending or threatened.
The Company has approximately 1.820 regular emplovees, of which approximately 1,350 are memhers of the International Brotherhood of Electrical Workers.

## Sales to Other Utilities

The Company has begun to sell increased amounts of power to other utilities as a result of increased use by utilitios in the Southwest portion of the United States of power to displace their own generation from high cost oil-fired sources.

Firm power is generally avalable for sale to other utilitics (1) if the demand for power by the Company's retail customer is less than the Company's projections of such demand or (2) if the timing of new resources creates a temporary firm power surplus.

Nonfirm power is available for sale to other utilities during periods when stream flows for hydrogenerating plants supplying the Company are above the minimum expected levels, based on the recorded conditions over a 30 -year historical period. The Company has sufficient firm resources to be able to meet its firm load under minimum expected water conditions. During periods when stream flows are above the minimum expected levels, surplus power is produced at hydro-generating plants and such power is u-ed to displace power from the Company's higher-cost thermal generating plants. This displaced thermal generation is then available for sale to other utilities. To the extent that the Company has surplus power from hydro-electric sources which is in excess of power reqcired for displacement of the Company's thermal generation, such power is also available for sale to other utilities.

In 1974, revenue from such sales by the Company amounted to approximately 811.1 million of which $\$ 3.2$ million ( 581 million $k w h$ ) was sales of firm power and $\$ 7.9$ million ( 1.783 million liwh) of nonfirm power. The Company expects to continue to male sales of power to other utilities in the future and, on the hasis of the average of 30 vears water conditions, it would annually have approximately 1,500 million kwh of nonfirm power available to displace its own thermal generation and to sell to other utilities if average water conditions prevail for a given vear. Water conditions were above average in 1974 and below average in 1973. The amount of such sales in the future will depend primarily on the availability of power in excess of the Company's requirements. The Company's ability to market this power is dependent on the availability of transmission facilities and is affected by the amount of surplus power of other Northwest utilities and the Bonneville Power Administration which is available for sale to other utilities.

## Regulation and Rates

The Company is subject to the regulatory authority of (1) the Washington Utilities and Transportation Commission ("WUTC") as to rates, accounting, the issuance of securities and certain other matters, (2) the Federal Power Commission ("FPC") in the transmission of electric energy in interstate commerce, in the sale of electric energy at wholesale for retail, in the licensing of hydroelectric projects and in certain other matters and (3) the Montana Public Service Commission as to accounting and certain other matters in connection with the Colstrip generating plant. Under Wash-
ington law the WUTC is requirel to act upon rate filings within cleven months of the date of filing
Effective November 1,1974 the WL"C granted a general rate increase which would produce an increase in annual revenues of appoximately $\$ 22.577 .000$, or $20 \%$ in annual operating revenu the basis of the Company's operations for the 12 months , whed June 30, 1973. The amount granted was about 98 ; of the original request by the Company. The WITC had granted the Company an interim rate increase representing approximatels $\$ 12,000.000$ of increased annual revenues, which wont into effect on February 9.1974 and continued until the general rate increase became effective.

The WUTC's order also required the Company to impose a $5 \%$ surcharge in addition to the general rate increase on all electric power delivered to commercial and industrial cu-tomer- durita the four month periol November 1, 1974 through February 28, 1975, the winter peak demand pernol for electrical energy in the Pacific Northwest. The WUTC stated that the surcharge was desient to provide an coonomic incentive for businesses to eliminate energs waste in their conmercial at industrial operations. The WUTC reserved the right to order refunds of the surcharge, in whole ef in part, to such customers if experience with this surcharge indicates that the surcharse ha. "merel resulted in substantial increased revenue to the Company with no measurable reduction in demasa for energy attributable to the surcharge." Revenue from the surcharge amounted to approximatels $\$ 1,000,000$ and has been deferred by the Company:

The Company's previous general rate increase became effective April 18,1972 and representeid an increase in electric rates of $111 / 2 \%$.

The WUTC has also granted a rate increase to he applied as a surcharge on rates to allow ther Company to recover certain research and development expenves. The increase became effective on August 13, 1973 and as a result of an extension runs through December 31, 1975. Revenues from this surcharge amounted to approximately $\$ 750,000$ in 197 it and are anticipated to approximate $\$ 980,000$ in 1975.

## Power Resources-Existing

Of the Company's present electric requirements approximately $80 \%$ is obtained through longes term contracts with several of the Washington public utility districts owning hydro-electric pr ife on the Columbia River at a cost in 1974 of ahout 3 mills per kwh. The balance is supplied by the Company's own generation, purchase and interchange, which are primarily from hydro-electric sources

The purchase of power from these projects is generally on a "cost-of-service" basis under which the Company pays a proportionate part of the annual cost of each project in direct ratio to the amoun: of power allocated to it. These projects are financed through substantially level debt service payments and their annual costs should not vary substantially over the teim of the contracts. Appropriate amounts of all-risk insurance are in effect.

The Company is currently entitled to purchase portions of the power output of the district: projects as set forth in the following tabulation:

## Prolect Owner

PUD No. 1 of Chelan County
PUD No. 1 of Chelan County
PUD No. 1 of Douglas County
PUD No. 2 of Girant County
PUD No. 2 of Grant County

## Project

Rock Island Rocky Reach Wells
Priest Rapids Wanapum

## Current Annual

Amount Purchasable
(Approximately)

| co of Output | Kilowatt <br> Capacity |
| :--- | :--- |
| $87.1 \%$ | 217,000 |
| $59.7 \%$ | 768,000 |
| $50.3 \%$ | 424,000 |
| $14.5 \%$ | 130,000 |
| $16.9 \%$ | 152,000 |

Contraes Expiration Date 2012 2011 2018 2005 2009

The Company's share of the output of the existing Rock Island Project will be $87.1 \%$ through June 30, 1983, and will decrease gradually commencing July 1, 198.3, to a minimum of $50 \%$ for the period from July 1, 1999 until expiration of the contract. (For the expansion of the Rock 1-land Project see "Power Resources-Under Construction or Planned".) The Company's share of the output of the Rocky Reach Project may be reduced over a period of years to $38.9{ }^{\circ} \mathrm{c}$ upon exercise of withdrawal rights by the District for use within its local service area and by Colockum Transmission Company (a subsidiary of Alcoa). The Company's share of the output of the Wells Project may be reduced over a period of years to $31.3 \%$ upon the exercise of withdrawal rights by the District for use within its local service area. The Company's shares of the output of the Priest Rapids and Wanapum Projects may be reduced over a period of years to $8 \%$ and $10.8 \%$, respectively, upon exercise of withdrawal rights by the District.

Certain United States utilities are obtaining the benefits of over $1.000,000 \mathrm{KW}$ of additional capacity as the result of the ratification of a Treaty between the United States and Canada by which Canada is providing approximately $15,500,000$ acre-feet of storage on the upper Columbia River. The Company is obtaining a portion. (estimated at $160,000 \mathrm{KW}$ in 1975 ) of this power by virtue of its existing contracts to receive power from Columbia River plants. In addition the Company has contracted for $17.5 \%$ of both capacity and average energy $(240,000 \mathrm{KW}$ and 130.000 KW , respectively, in 1975) of Canada's share of the power resulting from such storage (Columbia Storage Power Exchange). These amounts decrease gradually until expiration of the contract in 2003. This power has been assigned to other utilities subject to future withdrawal by the Company. Notice has been given that the Company is withdrawing a portion of such power ( $84,247 \mathrm{KW}$ of capacity and $45,147 \mathrm{KW}$ of average energy) effective April, 1975.

The Company has also contracted to purchase from other utilities Columbia Storage Power Exchange power in the approximate amount of $300,000 \mathrm{KW}$ of capacity and $161,000 \mathrm{KW}$ of average energy. This power became available in April, 1975 and is subject to rights of withdrawal by the other utilities in future vears. Certain of these utilities have withdrawn their power effective March 31, 1976. Therefore, the Company will have available commencing April 1, 1976, approximately $186,000 \mathrm{KW}$ of capacity and $98,000 \mathrm{KW}$ of average energy.

The Company owns a $7 \%$ interest in the $1.400,000 \mathrm{KW}$ coal-fired steam-electric plant near Centralia, Washington, built joirtly by a group of four investor-owned utilities and four public agencies. Unit No. 1 was declared to be commercially operable on July 11, 19:3, and Unit No. 2 on September 1 . 1973. The present rated capability of $1,274,000 \mathrm{KW}$ is expected to be increased to approximately $1,400,000 \mathrm{KW}$ (the design capability) when additional tests and possible modifications are completed.

The Company has leased a $67,500 \mathrm{KW}$ combustion turbine which has been installed on a site near Ferndale, Washington. This unit became operational on December 13, 1974 for standby and peaking capability:

Other Company-owned plants have a generating capability of $426,950 \mathrm{KW}$.
The Company also has a contract to receive power from the Bonneville Power Administration through September, 1977 equivalent to approximately $14 \%$ of the annual output of Hanford Atomic Power Plant No, 1. Starting on July 1, 1980 the Company will be entitled to receive $80,000 \mathrm{KW}$ of capacity and 68.000 KW of average energy from Washington Public Power Supply System ("WPPSS") Nuclear Project No. 1 until July 1, 1996.

The Company, the Bonneville Power Administration and various other utilities and agencies in the
area have entered into a long-term Coordination Agreement extending until June 20, 2003. Th agreement provides for the coordinated operation of substantially all of the power plant- and re-ervo in the Pacific Northwest. Among other things, it materially increases the ability of the Company to carry load with its existing resources during periods of insufficient stream flows or forced outages of equipment.

(a) Excluding allowance for funds used during construction and transmission facility costs.
(b) The Company will receive, under a power contract with Chelan County Public Utility Distric: No. 1, the owner of the facility, $100 \%$ of the output through the year 2012 , subject to reduction after July 1, 2000, as described below.

## (c) Approximately.

Colstrip Project - The Company is jointly constructing with The Montana Power Comp : ("Montana Power") two coal-fired, mine-mouth thermal generating units at Colstrip, Montana ("Colstrip Project"), 100 miles east of Billings. The two units will each have a net capability of $330,000 \mathrm{KW}$ and will burn coal controlled by Western Energy Company, a subsidiary of Montana Power. A related transmission line and other associated facilities may require approval of the Bureat of Land Management and other Federal agencies, and environmental impact statements may be required in conjunction with such approvals. See "Environment."

The Company has joined with four other utilities in determining the feasibilits of constructing two additional 700.000 KW units at the Colstrip site. In June, 1973 the five utilities applied for a certificate for the two additional units under the Montana Utility Siting Act of 1973. This matter has been set for hearing as a contested case before the Montana Board of Natural Resources and Conser. vation following an unfavorahle departmental report. See "Environment" and "Legal Proceedings." In the event that the additional units are constructed, the entire project output, less a portion of Montana Power's share, would be transmitted over two 500 KV transmission lines to be constructed from Colstrip to a point of interconnection with the main northwest transmission grid near Hot Springs. Montana. Costs of these transmission facilities are estimated to be approximately $8185,000,000$; the Company's portion of these costs has not been determined. Additional permits from Federal and state agencies, together with environmental impact statements, may be required for the two additional units, transmission lines and related facilities.

Rock Island Project-Construction commenced in 1974 on eight additional generating units at the Rock Island Project. The additional units will produce approximately $410,000 \mathrm{KW}$ of capacits and $150,000 \mathrm{KW}$ of average energy. The Company has signed a contract whereby the Company will purchase the entire output of the additional units on a "cost-of-cervice" basis until the year 2012 . which may he reduced not in excess of $10 \%$ per year beginnin $*$ July 1,2000 to $500^{\circ} \mathrm{c}$ upon the exercise rights of withdrawal by Chelan County PLD for use in its socal service area.

Skagit Project-The Company has proposed the construction of a nuclear power project on a site near Sedro Wonlley, Washington ("Skapit Project"), about 60 miles north of Seattle. The project is expected to consi-t of two nuclear generating units, each with an expected net plant capability of $1,288,000 \mathrm{KW}$. Bechtel Power Corporation has been retained to act as architect-engineer and construction manager for the project. Contracts have been entered into with General Electric Company for the nuclear steam supply systems and initial nuclear fuel for the project and Westinghouse Electric Corporation for the turbine-generating units. The proposed project will be a regional resource. Necessary contracts for joint ownership with other utilities are being negotiated.

The Company has applied to the State of Washington Thermal Power Plant Site Evaluation Council ("TPPSEC") for site certification, which must he obtained before construction may begin TPPSEC has scheduled hearings on the Skagit Froject commencing May 22, 1975. Several groups and individuals have intervened in opposition to the project. The final decision on site certification will be made by the Governor after receipt of TPPSE:C's recommendation; the Governor's decision is subject to judicial review. The Company has applied to the Nuclear Regulatory Commission ("NRC") (formmerly the Atomic Energy Commission) for a limited work authorization permitting preliminary site preparation and for construction permits for the Skagit Project. One organization opposing the project has been admitted in the NRC proceedings as an intervenor. A hearing on the limited work authorization is scheduled to commence July 15,1975 . Hearings on the construction permits are expected to be held in 1976. The Company will also eventually apply to the NRC for licenses to operate the project upon completion of construction.

WPPSS No. 3 Project-The Company has executed an ownership agreement to acquire a $5 \%$; undivided share of WPPSS Nuclear Project No. 3 near Satsop, Washington. This plant is expected to have a net electrical capability of approximately $1,240,000 \mathrm{KW}$ and is currently scheduled to be in operation by September, 1982.

## Fuel Supply

For the year ended December 31, 1974, over $96 \%$; of the Company's energy requirement was supplied by hydro-electric generation. Fer the 1974-75 operating year (July 1, 1974.June 30, 1975) less than $1 \%$ of the Company's energy requirements will be derived from projects burning oil and natural gas and less than $4 \%$; from projects burning coal, if average water conditions prevail for such year. The Company does not own or lease coal lands or reserves, but purchases the coal required for each of its coal-fired plants under long-term contracts. In the future an increasing percentage of the Company's energy requirements will he derived from projectsusing coal and nuclear fuel.

Coal Projcets. The Company and Montana Power, as joint owners of Colstrip Units 1 and 2. will purchase the coal requirements for the units from Western Erergy Company, a subsidiary of Montana Power, under the terms of a long-term coal supply agreement providing for a fixed cost per ton, with escalation provisions to cover actual mining cost increases. Under the terms of this agreement. Western: Energy Company has agreed to supply 85 million tons of coal which is expected to be the require-
ments for Units 1 and 2 over the project's anticipated useful life. The coal supply agreement specifica maximum sulfur content in delivered subbituminous coal of 1.5 F , and an average content of 0.71
There are no current or known future regulatory limitations on the sulfur content of such coal. bur "Legal Procecdings" for discussion of air quality regulations limiting emissions. A long-term coal supply agreement for Colstrip Units 3 and 4 is under negotiation. It is anticipated that coal supply arrange ments for Units 3 and 4 will be similar to those obtained for Units 1 and 2.

The Company and the other seven joint owners of the Ceniralia Project have entered into a long term coal supply agreement with Washington Irrigation and Development Company ("W1DCO") and Pacific Power \& Light Company ("Pacific"), who jointly own and lease certain coal lands in Lewis and Thurston Counties, Washington. WIDCO and Pacific have agreed to supply up to 125 million tons of subbituminous coal which is estimated to be the coal requirement of the Centralia Project over it. anticipated useful life. The sulfur content of the coal is approximately $0.7 \%$ and there are no current or known future regulatory limitations on the sulfur content of such coal. The Centralia Projec: has made major additions to its electrostatic precipitators to limit emissions to meet local air qualits standards at full plant output, and air quality standards have been met at a plant output of $1.274,000$ KW. Additional plant modifications may be required to increa-e the plant capability above its current level. Coal costs are presently running at approximately $\$ 9.00$ per ton ( $56 \mathrm{c} / \mathrm{MBTU}$ ).

Nuclear Projects. Generally, the supply of fuel for nuclear generating units involves the acquisition of uranium concentrate, its conver-ion to uranium hexafluoride, enrichment, fabrication of the nuclear fuel assemblies and reprocessing of the spent fuel. The Company has contracted for sufficient uranium concentrate for the initial core loading and one reload for each of the two units planned at its Skagit Project. Although the Company has not entered into an agreement for conversion, it does not anticipate any difficulty in obtaining such an agreement. In June, 1974 the Company and the NRC entered into a contract to provide enrichment services by NRC for the Skagit Project for 30 years at prices subject to change by the NRC from time to time. The Company has also entered into an agreement providing for the fabrication of the fuel for initial core loading and first reload. The following table shows estimated uranium concentrate requirements and commitments.

| Year Required | -nt |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Required | Committed | Required | Committed |
| 1980-1981 | 1,457 | 1,457 | - | - |
| 1982 | 699 | 699 | 1,457 | 1,457 |
| 1983 | 668 | 0 | 0 | 0 |
| 1984 | 553 | 0 | 0 | 0 |
| 1985 | 600 | 0 | 699 | 699 |
| 1986 | 600 | 0 | 668 | 0 |
| 1987 | 600 | 0 | 553 | 0 |
|  | 600 | - 0 | 600 | 0 |

Annually thereafter ................. 600 conversion and fabrication will be required for
Additional contracts for uranium concentrate, conversion and fabricatilability, prices and terms
operation of the plant after initial core loading and first reload; however, availater cannot now be predicted.

The Company, as a $5 \rho_{c}^{c}$ owner of WPPSS Project No. 3, has with other owners contracted for sufficient uranium concentrate, enrichment and fabrication for fifteen years of operation of the project.
better than national standards. They utilize an area classification plan and initially designate al clean-air areas in the country as Class 11, in which moderate air quality deterioration is permissibi to provide for some industrial growth. Any area may be reclas-ified by a state, Federal land managot or independ-nt Indian reservation after public hearings, but Federal lands may be reclassified onl; to Class 1, which permits virtually no increases in pollutant concentrations. The Company believes tha: its existing generating units and the two generating units presently under construction at Colstrit Montana operate or will operate in compliance with current interpretations of these regulations. Thic Company cannot now estimate the impact upon it of any future reclassification of one or more of the areas in which its generating units are then located, of future interpretations of these regulations, or the effect of the regulations upon the proposed additional units at Colstrip. The Company and other particupants in the Colstrip. Project are seeking judicial review of these regulations befort the United State Court of Appeals for the Sisth Circuit.

The Company has anticipated financing its share of certain pollution control equipment at the Skagit Project and the WPl'SS No. 3 Project through the issuance of pollution control revenue honds, The Boards of County Commissionors of Skagit County and of Grays Harbor County have agreed to authorize the issnance of such bonds on terms and conditions to be negotiated. On May 22. 1974. an association and two individuals filed an action against Skagit County in the County Superior Court challenging the valdity under the Washington Constitution of the Washington statute authorizing the issuance of suth honds and se cking to prevent the Company from financing certain types of equipment at the Skazit Project with such bonds. On October 17, 1974, the Washington Supreme Court. in Port of Longview : Taxpayer: of the Port of Longview, held the statute at issue to be unconstitutional As a result it appear likely that unless the Washington legislature and voters adopt a constitut amendment, the Company will be unable to finance pollution control equipment for the Skagit .ha WPPSS No. 3 Projects, and other projects located in Washungton State, through sales of pollution control revenue bonds. This will result in increased financing costs.

In June 1973, the Company and four other utilities filed an application with the Montana De partment of Natural Resources and Conservation ("Department") for a certificate of environmenta compatibility and public need under the Montana Utility Siting Act of 1973 in order to censtruct two additional esenerating: unit- at Colstrip, Montana. The Company woukd have a $255^{5}$ owner-hit interest in the two units. In January, 1975 the Department advised the Montana Board of Naturat Resources and Corservation ("Buard") that the Department was not persuaded that the proposem. additional units represent the "minimum adverse environmental impact" or that there is a "need for the project in Montana, as those terms are used under the Siting Act. Final authority to dsem the certificate or to deny the application rusts with the Board, subject to judicial review. The Boar has set the matter for hearing as a contested cave, with hearings to commence April 21, 1975. Sowet. groups and individuals have appeared in the procedings in opposition to the project. In the eveth the Company is unable to obtain the necessary certificate, it may have to charge operations wit cancellation charges and construction expenditures. Such cancellation charges were approximatel $\$ 1,600,000$ as of December 31, 1974 and are not expected to increase materially in 1975 . Constructio expenditures by the Company as of December 31,1974 were approximately $\$ 2.400,000$ and an add! tional $81.100,000$ is expected to be expended prior to the anticipated date of decision by the Boars Should charges to operations become necessary, the Company will request the approval of the Wa-l ington Utilities and Transportation Commission to amortize the charges over a period of years

## Environment

The Company is subject to environmental and other regulation by Federal authoritics induding the Environmental Protection Agency ("EPA") and state and local authorities. The Company docs not believe that material expenditures will be required under applicable environmental laws for additional pollution control equipment for existing facilities of the Companv. All of the Company's current construction projects have been designed to comply with environmental laws and regulations currently applicable to them, and the cost of pollution control facilities is included in the construction budgets for those projects.

To date the Company has expended or become contractually committed for approximately $\$ 18$ million for the equipment required to bring existing facilities and those under construction into compliance with environmental controls and regulations. The future cost to the Company related to environmental controls for particulates and sulfur cixides for the two additional generating units at the Colstrip Project is extimated to be approximately s30 million. Mining of the coal for these projects is subject to state or Federal regulations respecting land reclamation. Legislation to repulate strip mining is pending in Congress, but the Company eannot predict at this time the impact on the cost of coal for its projects if such legislation be comes law.

On June 13, 1973 various plaintifls filed suit in the U.S. District Court for the District of Columbia against certain Federal agencies alleging that they are making decisions concerning the development of coal resources of the No: them Great Plains Region without making ruquisite environmental impact statements in violation of the National Environmental Policy Act. On February 14, 1974 the Court granted the Federal and intervening defendants' motions for summary judgment and the intervening defendants' motion for julyment on the pleadinss. The plaintiffs have appealed to the United States Court of Appeals for the District of Columbia.

On October 16, 1973 varicus plaintiffs filed a complaint in the United States District Court for the District of Montana at Billings against various Federal agencies. The original complaint was dismissed and an amended complaint was filed seeling injunctive and declaratory relief in regard to the disposition of water rights to certain hodies of water in Montana. The Colstrip Project will probably utilize water to be withdrawn from one of these bodies of water.

The Company is unable to predict the ultimate effects of these proceedings and of other a-pects of the developing environmental laws and regulations upos the Colstrip or Skagit Projects or upon any other projects which the Company may undertake in the future. However, it is possible that they may delay or impede the Company's construction and operation of such projects and require the Company to make substantial additional expenditures.

## Legal Proceedings

The Muckleshoot Indian Tribe filed a complaint against the Company on July 18, 1972 in the United States District Court for the Westem District of Washington requesting damages of $\$ 45,000,000$ for alleged wrongful diversion and conversion of water from the White-Stuck River and an injunction against further diversions. This complaint relates to the Company's 63.400 KW White River Generating Plant which was constructed in 1910. In the opinion of general counsel, the Company has suhstantial defenses in this litigation and there is little likelihood of significant recovery against the Company.

EPA regulations, adopted effective January 6, 1975, require the air quality implementation plan of each state to prevent significant deterioration of ambient air in areas where air quality is

## OPERATING STATISTICS


${ }^{+}$Prior to 1974 s.iles to other utilities wore awemented for by a redits to purchised and interchanged power. Revenues from surh s.iles wore not sigmitioant see "Businese-S.tes to Other Utilities
 tion of additonal testing and possible moditications (see "Busines--Power Resources-Existing").

Puget's Service Area/Major Power Resources In Washington State


## MANAGEMENT

## Directors

# Winston D. Brown <br> Chairman of the Board (Retired), Howard S. Wright Construction Co., Seattle 

Ralph M. Davis
President of the Company, Bellevue
John W. Ellis
Executive Vice President of the Company, Bellevue

F. J. Herb<br>Chairman of the Board, The Bellingham National Bank, Bellingham

J. H. King

Vice President and Treasurer of the Company, Bellevue
Lowell P. Mickelwait
Director Emertius, The Bocing Company, Seattle
Robert D. O'Brien
Chairman of the Board, PACCAR Inc, Bellevue
Irvine B. Rabel.
Chairman of the Board, Star Machinery Company, Seattle

## Ralph Stormans

Chairman of the Board, Associated Grocers, Inc, and President, Ralph's Thrijtway Stores, Olympia

## Officers

| Ralph M. Davis | President |
| :---: | :---: |
| John W. Ellis | Executive Vice President |
| J. H. Abramson | Vice President-Administration |
| W. J. Ferguson | Vice President-Major Projects |
| L. E. Hall | Vice President-Public Affairs |
| J. H. King | Vice President-Finance and Treasurer |
| D. H. Knight | Vice President-Power Supply |
| R. F. Whaley | Vice President ãnd Controller |
| R. C. Wing | Vice President |
| W. E. Watson | Secretary |

## DESCRIPTION OF THE NEW PREFERRED STOCK

## General

The following statements inclufe summaries of certain provisions relating to the New Preferre Stock contained in the Company's Articles of Incorporation (the "Articles"), Mortgaze Indentur Debenture Indenture, and Statement of the Relative Rights and Preferences of the New Prefers Stock, all of which are Exhibits to the Registration Statement of which this Prospectus is a pals Reference is male to the pertinent Exhibits for a full and complete statement of such provisions, an. the following statements are qualified in their entirety by such reference.

The Artioles at present authorize three classes of capital stock: $\$ 100$ par value Preferred Stoct $\$ 50$ per value Convertible Preference Stock, and $\$ 10$ par value Common Stock. It is anticipated thas the shareholders of the Company will, on May 13, 1975, approve a proposal to authorize 3.000 .018 shares of $\$ 25$ par value Preferred Stock; the 600,000 shares of New Preferred Stock being offerod hereby will constitute the first series of the $\$ 25$ par value Preferred Stock.

The remaining 2,400,000 shares of $\$ 25$ par value Preferred Stock may in the future be issucd a: additional series of $\$ 25$ par value Preferred Stock without further approval by the shareholders. in cluding such terms as the Board of Directors may fix according to law.

## Dividend Rights

The holders of the New Preferred Stock, together and on a parity with the holders of the $\$ 100$ par value Preferred Stock, will be entitled to receive, when and as declared by the Board of Director cumulative dividends at the annual rate fixed for each particular series, before the Company may pay dividends on, make any other distributions on, or make any expenditures for the acquisition of shares of the Preference Stock or the Common Stock.

Dividends on the 600,000 shares of New. Preferred Stock will be payable at the annual rate c cified on the cover page of this Prospectus on the fifteenth days of February, May, August and Ni h. ber. The first dividend on the New Preferred Stock will accrue from the date of original issue and will be payable on August 15, 1975.

## Liquidation Rights

In the event of any involuntary liquidation, dissolution or winding up of the Company, holder of the New Preferred Stock, together and on a parity with holders of the $\$ 100$ par value Preferred Stock, will be entitled to receive, before any distribution is made on the Common Stock or the Preference Stock, the par value of such shares ( $\$ 25$ or $\$ 100$, as the case may be) plus accrued dividends, or, if such liquidation, dissolution or winding up is voluntary, such holders will be entitlec to receive the applicable optional redemption prices.

## Redemption Provisions

The Company may, at its sption, redeem, on not less than 30 nor more than 90 days' notice, the New Preferred Stock in whole or in part at the applicable optional redemption prices, including it
each case accrued dividends. The optional redemption prices for the New Preferred Stock are \$ per shari if redeemed on or prior to June 1, 1980: \$ if redeemed thereafter and on or prior to June 1, 1985; \$ if redeemed thereafter and on or prior to June 1,1990; and s if redeemed thereafter, including in each case accrued dividends; provided, however, that the Company w:ll not, prior to June 1, 1980, redeem any shares of the New Preferred Stock in any refunding operation involving funds (other than the proceeds of an issue of junior stock) having an effective cost to the Company below that of the New Preferred Stock.

## Voting Rights

The holders of the Common Stock have exclusive voting rights except as referred to below under "Restrictions on Corporate Action," except when holders of $\$ 100$ par valuc Preferred Stock. 825 par value Preferred Stock or Preference Stock are entitled to vote under the Articles as a result of an arrearage in dividends, and except as otherwise required by the laws of the State of Washington.

Whenever dividends payable on any $\$ 100$ par value Preferred Stock or $\$ 25$ par value Preferred Stock are in arrears in an amount equivalent to or exceeding four quarterly dividends, holder: of $\$ 100$ par value Preferred Stock have the right to elect the smallest number of directors necessary to constitute a majority of the Board of Directors and holders of $\$ 25$ par value Preferred Stock have the right to elect tw.o directors. Such rights shall continue until no dividends are in arrears and the current dividend has been set apart.

## Restrictions on Corporate Action

The Company may not, without the consent of two-thirds of each outstanding class of Preferred Stock: (i) authorize any prior ranking stock; (ii) change the terms of the Preferred Stock- in any prejudicial manner; provided, however, if such change would be prejudicial to the holders of one class, or any series thereof, alone, only the like consent of holders of such class or series of stock is required; (iii) dispose of substantially all of its property (i)ut $n o$ consent is required to mortpage assets of the Company); or (iv) dispose of any shares of either class of Preferred Stock unless certain earnings and other tests are complied with.

The Company may not, without the consent of a majority of each outstanding class of Preferred Stock (or such greater proportion as may be required by the laws of the State of Washington), in certain instances (i) merge with any corporation or (ii) incur unsecured indebtedness.

Under the Articles, the voting rights of each class of Preferred Stock described ahove in this section are not effective if, in connection with any of the matters specified, provision is made for the redemption or other retirement of all such class of Preferred Stock at the time outstanding.

## Preemptive Rights

No holder of shares of stock of any class has preemptive or $e^{\text {ther rights to subscribe for or pur- }}$ chase any stock of the Company of any class, or securities convertible into stock.

Liebility for Further Calls or Assessments
The New Preferred Stock, when issucd, will be fully paid and nonassessable.

Transfer Agents and Registrars
Rainier National Bank, Seattle, Washington and Manufacturers Hanover Trust Company, New York, New York will both be Transfer Agents and Registrars for the New Preferred Stock.

## LEGAL OPINIONS AND EXPERTS

The validity of the New Preferred Stock offered hereby is being paced upon for the Company by Messrs. Perkins, Coic, Stone. Olsen \& Williams, 1900 Washington Building. Seattle, Washington, general counsel, and for the Underwriters by Messrs. Mudge Rose (iuthric \& Alexander. 20 Broad Street, New York, New York. All matter- pertaining to the laws of the States of Washington and Montana are being passed upon only by Messrs. Perkins, Coie, Stone, Oteen \& Williams.

Messrs. Perkins, Coie, Stone, Olsen \& Williams have reviewed the statements made herein as to matters of law and legal conclusions under "Business" with respect to "Regulation and Rates," "Fuel Supply," "Environment" and "Legal Proceedings," and under "Description of the New Preferred Stock" and those statements are set forth herein on the authority of such firm as experts. At April 15, 1975, attorneys in that firm were the beneficial owners, directly or indirectly, of approximately 600 shares of the Company's comnion stock and $\$ 40,000$ in principal amount of its first mortgage bonds.

The financial statements of Puget Sound Power \& Light Company as of December 31, 1974 and for the five years then ended have been examined by Coopers \& Lybrand, independent certified public accountants, and are included in this Pro-pectus in reliance upon the accompanying report of said firm, which report is given upon their authority as experts in accounting and auditing.

## Puget Sound Power $\&$ Light Company

## BALANCE SHEETS

## ASSETS

|  | $\begin{gathered} \text { December } 31 \\ \quad 1974 \\ \hline \end{gathered}$ | December 3: $19: 3$ |
| :---: | :---: | :---: |
| UTILITY PLANT: (Thousands of Dollars) |  |  |
|  |  |  |
| Electric plant, at original cost (Notes 1, 2, 7 and 13). | \$672,269 | \$576,912 |
| Less accumulated depreciation (Note 1) | 92,766 | 81.074 |
| Net utility plant. | 579,503 | 495,8w |
| OTHER PROPERTY AND INVESTMENTS: |  |  |
| Nonutility property, at cost. | 879 | 796 |
| Investment in and advances to subsidiaries (Note 1) | 2,843 | 2,700 |
| Other investments, at cost (Note 3) | 880 | 1,465 |
| Total other property and investments | 4,602 | 4,961 |
| CURRENT ASSETS: |  |  |
| Cash (Note 8) | 3,701 | 1,294 |
| Accounts receivable: |  |  |
| Customers | 13,769 | 9,861 |
| Miscellaneous | 4,543 | 3,651 |
| Less allowance for doubtful accounts | (408) | (340) |
|  | 17,904 | $13 \cdots ?$ |
| Materials and supplies, at average cost | 9,433 | 5,0.6 |
| Current portion of deferred income taxes (Note 1) | 900 | - |
| Prepayments ........................................ | 1,326 | 1,195 |
| Total current assets | 33,264 | 21,25: |
| DEFERRED CHARGES: |  |  |
| Advance under power contract | 906 | 937 |
| Unamortized debt expense (Note 1) | 1,069 | 772 |
| Accumulated income taxes (Note 1) | 829 | 703 |
| Thermal plant feasibility costs. | - | 707 |
| Prepaid power costs | - | 2,573 |
| Other | 1,104 | 1,524 |
| Total deferred charges | 3,908 | 7,216 |
|  | \$621,277 | \$529,27: |

The accompanying notes are a part of the financial statements.

## Puget Sound Power \& Lipht Company

## BALANCE SHEETS

## LIABILITIES AND CAPITAL

| LIABILITIES A Coble | $\begin{aligned} & \text { December } 31 \\ & 1974 \end{aligned}$ | $\begin{gathered} \text { December } 31 \\ 1973 \end{gathered}$ |
| :---: | :---: | :---: |
|  | (Thousan | Dollars) |
| CAPITALIZATION: |  |  |
| Shareholders' investment: | \$ 49,979 | \$ 43,850 |
| Common stock (Notes 4 and 12). | 34,689 | 26,976 |
| Additional paid-in capital (Notes 5 and 12) | 81,391 | 73,202 |
| Earnings reinvested in the business (Note 6) | 166,059 | 144,028 |
| Total common equity | 37,122 | 39,345 |
| Preferred stock (Note 4). | 14,814 | 14,814 |
| Convertible preference stock (Note | 217,995 | 198,187 |
| Total sharcholders' investment | 318,749 | 256,116 |
| Long-term debt (Note 7) | 536,744 | 454,303 |
| Total capitalization | 30,500 | 41,000 |
| NOTES PAYABLE TO BANKS (Note 8) |  |  |
| CURRENT LIABILITIES: | 15,700 | 6,000 |
| Commercial paper (Note 8) | 4,704 | 4,679 |
| Accounts payable |  |  |
| Accrued expenses: | 12,457 | 9,649 |
| Taxes | 1,667 | 1,547 |
| Salaries and wages | 4,226 | 2,175 |
| Interest | 2,441 | 653 |
| Other .... Total murent linhilities | 41,195 | 24,703 |
| Total current lisbilities |  |  |
| DEFERRED TAX CREDITS (Note 1): |  |  |
| Accumulated investment tax credits. Accumulated income tax credits | 1,223 | 833 |
| Accumulated income tax credits Total deferred tax credits | 4,977 | 3,282 |
| OTHER DEFERRED CREDITS: | 3,213 | 2,942 |
| Customer advances for construction (Note 1) | 2,572 | 1,230 |
| Other ........................... | 5,785 | 4.172 |
| Total other deferred credits | 2,076 | 1,812 |
| ACCUMULATED PROVISION FOR SELF |  |  |
| COMMITMENTS AND CONTINGENCIES (Notes 2 and 14) | \$621,277 | \$529,272 |

The accompanying notes are a part of the financial statements.

## Puget Sound Power \& Lipht Company STATEMENTS OF EARNINGS REINVESTED in THE BUSINESS



- See Statements of Income for dividends per common share.

The accompanying notes are a part of the financial statements.

## Puget Sound Power \& Light Company STATEMENTS OF CHANGES IN FINANCIAL POSITION



The accompanying notes are a part of the financial statements.

## Puget Sound Power \& Light Company

## NOTES TO FINANCIAL STATEMENTS

## 1. Summary of Accounting Policies

The Company's accounting policies conform to generally accepted accounting principles and to accounting requirements of regulatory authorities. Significant policies are described below.

Utility Plant-Utility plant includes taxes incurred and allowances for funds used during construction. It is the general policy of the Company to charge the cost of maintenance and repairs to operating expenses and other appropriate accounts. The cost of renewals and betterments is charged to appropriate utility plant accounts, except the cost of minor replacements which is charged to maintenance expense. The original cost of operating property retired or otherwise disposed of and the cost of removal, less salvage, is charged to accumulated depreciation. However, in the case of the sale of a significant operating unit or system, the original cost is removed from the utility plant accountaccumulated depreciation is charged with the accumulated depreciation related to the property sold and the net gain or loss on disposition is credited or charged to incorne.

Investment in Subsidiaries-The investment in subsidianes is stated on an equity basis. The assets, revenues, carnings, and earnings reinvested in the business of the subsidiaries are not material in rolation to those of the Company.

Accounts Receivable and Operaing Revenues-The Company bills its customers on a monthly and bi-monthly cyclical basis. Accounts receivable and operating revenues include only amountbilled. They do not include an estimated accrual for service between the last cyclical billing and the end of the year.

Customer Advances for Construction-Customer advances for construction may be refunde.. in whole or in part or may be transferred to utility plant. Such credits represent amounts paid by cur. tome's and others toward utility plant improvements, principally underground distribution facilitic:

Depreciation and Amortization-The Company provides for depreciation on a straight-line basis for all depreciable property, except for $15.6 \%$ of such property (principally hydro-electric production property) which is depreciated on a 6 percent compound-interest method.

The annual depreciation provisions recorded in the Company's accounts were equivalent to the following percentages of the original cost of depreciable utility plant:
g percentages of the original cost of depreciable utility plant:

Straight-line method $(\%)$
Compound-interest method $(\%)$

Automobiles, trucks, power operated equipment and tools are depreciated by the straight-lin method and such depreciation is charged to fixed asset and maintenance or other expense account

Debt expense is being amortized ratably over the periods of outstanding long-term debt.
Federal Income Taxes-In computing depreciation for Federal income tax purposes, the Compan uses depreciation methods and estimated asset lives which differ from those used in its financia statements. In addition, the allowance for funds used during construction and certain taxes durin construction are treated differently for income tax and financial statement purposes. Principally as

## Puget Sound Power \& Lizht Company

## NOTES TO FINANCIAL STATEMENTS, Continued

result of these factors, the Company's effective tax rate varies from the statutory Federal income tax rate (See Note 10).

The Company normalizes, with the approval of the Washington Utilities and Transportation Commission, the tax effects of (1) liberalized and asset depreciation zange depreciation on production property additions after 1969 and 1970, respectively; (2) job development investment credits; (3) the provision for self-insurance in excess of deductible losses; and (4) certain accrued property taxes.

Allowance for Funds l'sed During Construction-The allowance for funds used during construction ("AFDC") represents capitalization of the estimated portion of interest and equity costs of capital funds which are applicable to utility plant while under construction. AFDC is included in other income with a corresponding charge to utility plant, in accordance with accounting requirements of regulatory authorities. The Company, in the rates used to bill customers for costs and a servire, is permitted, under established regulatory rate practices, to recover these capitalized after the a fair return thereon through their inclusion in rate base and the provision for depreciation atter the related utility plant has been placed in service.

The composite rate used by the Company to capitalize the cost of funds devoted to construction was $7.8 \%$ for the five years ended December 31, 1974. Such rate was determined on the basis of the estimated cost of capital employed to finance the Company's construction program, without giving effect to income taxes related to interest on debt.

A substantial portion of AFDC represents, in effect, the capitalization of a portion of the interest charges shown as an expense in the statements of income. The amount of AFDC, which directly affects net income for common stock, varies from year to year. depending principally upon the level of construction work in progress. The portion of AFDC attributable to funds provided by common stock equity amounted to $2.31 \%, 3.47 \%^{\circ}, 3.26 \%, 4.15 \%$ and $6.91 \%$ of net income for common stock for the five years ended December 31, 1974, respectively. The foregoing percentages are based on the assumptions that (1) funds required for construction were supplied $60 \%$ from funded debt, $10 \%$ from preferred and preference stock, and $30 \%$ from common stock equity, and (2) the incremental cost rates for funded debt and preferred and preference stock were $8 \%_{\%}$. For the five years ended December 31, 1974, AFDC amounted to $8.21 \%, 12.31 \%, 11.56 \%, 14.73 \%$ and $24.48 \%$, respectively; of net income for common stock. Cash inflow related to AFDC does not occur until the related utility plant is placed in service.

Earnings per Common Share-Earnings per common share for each of the five years ended December 31, 1974 have been computed as follows:

Earnings per common share assuming no conversion of preference stock: the net income for commen stock is divided by the weighted average number of common shares outstanding.

Earnings per common share assuming full conversion: the aggregate of the net income for common stock plus the dividends accrued on convertible preference stock is divided by the aggregate of the weighted average number of common shares outstanding plus the number of shares that would be outstanding if the convertible preference stock were fully converted.

## Puget Sound Power \& Lizht Company

## NOTES TO FINANCIAL STATEMENTS, Continued

## 2. Utility Plant Expenditures

Expenditures for utility plant during 1975 are expected to approximate $\$ 90,700,000$. The Com pany's construction program for the years 1976 through 1977 , subject to continuing review and adjustment, is estimated to be $\$ 304,000,000$. Certain purchase commitments have been made in connection with. the construction program.

## 3. Other Investments

Other investments consist principally of (1) mortgages receivable resulting from sale of certain non-operating properties which are collateralized by such property but have no ready marketability. and (2) long-term notes receivable deemed fully realizable.
4. Capital Stock

| $\substack{\text { Preference } \\ \text { Stock } \\ \text { (700,000 } \\ \text { shares } \\ \text { authorized) } \\ \text { Common } \\ \text { Stoch }}$ |
| :--- | :--- | :--- | :--- |

## Puget Sound I'ower \& Light Company fotes to financial statements, Continued

The preferred stock may be redeemed by the Company at the following redemption prices per share plus accrued dividends:
4.84\% Series- $\$ 103$ prior to May 15, 1977 and $\$ 102$ thereafter.
$4.70 \%$ Series- $\$ 102$ prior to May 15, 1979 and $\$ 101$ thereafter.
$8 \%$ Series- $\$ 108, \$ 105$ and $\$ 103$ prior to February 15, 1978, 1983 and 1988, respectively, and $\$ 101$ thereaifer.
The Company is required to deposit funds annually in a sinking fund sufficient to redeem the following number of shares of each series at $\$ 100$ per share plus accrued dividends: $4.84 \%$ series and $4.70 \%$ scries, 3,000 shares each; $8 \%$ series, 4,000 shares from 1975 through 1984 and $5.000,6,000$. and 1,000 shares through 1959,2003, and 2004, respectively. These requirements may be satisfied by delivery of reacquired shares.

The convertible preference stock may be redeemed at par plus accrued dividends. The Company must keep available for conversion of this preference stock 448.924 shares of its authorized and unissued $\$ 10$ par value common stock, based on conversion values for preference stock and common stock of $\$ 50$ and $\$ 33$, respectively.

## 5. Additional Paid-in Capital

Balance at beginning of year
Excess of proceeds over par value of common stock sold to public
Excess of par value over cost of preferred stock reacquired for annual sinhing fund requirements
Excess of prorects over par value of common stock issued to trustee of employce investment plan
Excess of conversion price over par value of common stock
issued in exchange for convertible preference stock
Barance at end of year

| 1970 | Years E 1971 | nded Dece 1972 | ber 31 $1973$ | 1974 |
| :---: | :---: | :---: | :---: | :---: |
| (Thousands of Dollars) |  |  |  |  |
| \$16.929 | \$17.276 | \$26,043 | \$26,590 | \$26,976 |
| S16.929 | 8,350 | - | - | 6,900 |
| 317 | 273 | 271 | 200 | 657 |
| 30 | 133 | 158 | 186 | 156 |
| - | 11 | 118 | - | - |
| \$17.276 | 826.043 | 826.590 | \$26,976 |  |

## 6. Earnings Reinvested in the Business

Earnings reinvested in the business unrestricted as to pavment of cash dividends on common stock amounted to approximately $\$ 51,100,000$ at December $3 \mathbb{F}, 1974$, under provisions of the most restrictive covenants applicable to the preferred and preference stock and long-term debt.

# Puget Sound Power \& Li;ht Company <br> NOTES TO FINANCIAL STATEMENTS, Continued 

## 7. Long-Term Debt

|  | Amount Outstanding <br> December 31 <br> 1973 |  |
| ---: | ---: | ---: | ---: |

The effective interest cost approximates the coupon rate during the life of the bonds and the discount or premium applicable to individual issues is not material.

The Company is required to make annual sinking and improvement fund payments to the trustee equal to one percent of the aggregate principal amount of each series of first mortage bond outstanding as provided in the respective indentures, except for the $10^{3}{ }_{4}$ 5 series, due 1983 , which has no sinking fund provision. The aggregate amount of such requirements for 1975 is $82,447,000$ and for each of the years 1976 through 1979 is $\$ 2,747,000$. This requirement may be met by the substitution of certain credits as provided in the indentures. a

The Company is also required to make an annual sinking fund payment sufficient to redeem (at special redemption prices not to exceed 100.75 percent of principal) $\$ 375.000$ principal amount of debentures on November 1 of each year through 19s2. This requirement may be satisfied by delivery of reacquired dehentures. At December 31, 1974, $\$ 889,000$ of reacquired debentures were available to meet future sinking fund requirements.

## Puget Sound Power \& Lizht Company <br> NOTES TO FINANCIAL STATEMENTS, Continued

The $5.90 \%$ pollution control revenue bonds were issued by Rosebud County, Montana. The Company has guaranteed the payment of principal and interest on the bonds.

On March 7, 1974, the Company issued $\$ 30,000,000$ of first mortgage bonds, 83 ; $\%$ series, due March 1, 2004. On November 14, 1974, the Company issued $\$ 30,000,000$ of first mortgage bonds, $103 / 4 \%$ series, due November 1, 1983. The proceeds of these issues were used to retire a like amount of notes payable to banks.

Substantially all properties of the Company are subject to the lien of the first mortgage bonds.

## 8. Notes Payable

Notes payable to banks represent borrowings under a credit agreement with 21 banks, which provided for a maximum commitmert of $550,000,000$ with interest on borrowings at $105{ }^{\circ}$ of the prime rate. The agreement also provided for a fee of 1, of $1 \%$ per annum on the unused commitment. The borrowings carried an average interest rate of $12 \%$ at December 31, 1974 and matured April 1. 1975. It wes informally urderstond that the Company would maintain compensating balances on a yearly average hasis equal to $5 \%$ of the total line of credit based on monthly bank statement halances. The normal delay in check clearances through the depository banks substantially met this compensating balance requirement.

On April 1, 1975 notes payable to banks were refinanced with notes due April 1, 1976 under a new credit agreement with 22 banks which provides for a maximum commitment of $\$ 75,000,000$. The new agreement provides for interest on borrowings at $114 \%$ of the prime rate and a commitment fee of $1 / 2$ of $1 \%$. The Company has informally agreed to maintain compensating balances of $71 / 2 \%$.

The average interest rate on commercial paper outstanding at December 31, 1974 was $10.75 \%$. A $\$ 15,000,000$ supplemental credit agreement which expired December 31, 1974, a $\$ 5,000,000$ supplemental credit agreement which expired March 31, 1975, and the unused portion of the regular credit line were used to support the issuance of commercial paper.

The maximum aggregate balance of notes payable to banks and commercial paper outstanding at any month end during the year 1974 was $\$ 66,800,000$ at October 31 . The approximate average balance of borrowings outstanding during 1974 was $\$ 42,560,000$ and the approximate weighted average interest rate was $11.25 \%$, calculated on a daily average basis.

## Puget Sound Power \& Light Company NOTES TO FINANCIAL STATEMENTS, Continued

| 9. Supplementary Income Statement Information | Years Ended December 31 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1970 | 1971 | 1972 | 1973 | 1974 |
|  | (Thousands of Dollars) |  |  |  |  |
| 'Taxes: | \$ 6,092 | \$ 5,609 | \$ 7,396 | \$ 7.808 | 8 9.4.- |
| Real estate and personal property | 3.094 | 3.361 | 3,853 | 4.229 | 4,651 |
| State business | 1.219 | 1,379 | 1,347 | 1.479 | 2.056 |
| Municipal, occupational and other | 989 | 1.084 | 1.157 | 1.353 | 1,61: |
| State sales and use. | 756 | 848 | 1.128 | 1.477 | 1.0 |
| Payroll | 281 | 302 | 353 | 354 | (301 |
| Other | \$12.431 | \$12.583 | \$15,231 | \$16,730 | \$197- |
| Charged to: | \$10.R89 | \$10.851 | \$13.257 | \$14.-31 | \$15.0. |
| Tax expense | 1,542 | 1.732 | 1.977 | 1.N69 |  |
| Other accounts, incluting construction | \$12.431 | \$12.583 | 815,234 | \$16,730 | $\$ 1^{\prime \prime}$ |

See the Statements of Income for maintenance and depreciation.
Rentals, advertising, research and development expenses and amortization of intangibles are nos considered to be significant. The Company pays no royalties.

## 10. Federal Income Taxes

The Company's effective Federal income tax rates for the five years ended December 31, 1971 were $3.3 \%, 10.9 \%, 19.7 \%, 21.1 \%$ and $27.2 \%$, respectively. The difference between these effective rates and the $48 \%_{0}$ Federal income tax statutory rate comprises:

Items on which the tax effect has not been deferred in accordance with regulatory requirements
Depreciation expense deducted for income tax purposes in excess of depreciation expense included in the finamial statements, net of liberalized depreciation treated as a timing difference
Allowance for funds used during construction included as income in the financial statements and excluded from taxable income
Certain taxes included in the cost of utility plant in the financial statements and deducted for income tax purposes
Certain general and administrative expenses included in the cost of utility plant in the financial statements and deducted for income tax purposes
Flow through of investment tax credits . . . . . . . . . . . . . . . . . Other

| 1970 | 1971 | 1972 | 1973 |  |
| :---: | :---: | :---: | :---: | :---: |
| $25.4 \%$ | $18.7 \%$ | $16.4{ }^{\circ}$ | $16.4 \%$ | 11.15 |
| 3.1 | 4.4 | 3.8 | 4.7 | 7.2 |
| 48 | 4.1 | 3.3 | 3.5 | 2.7 |
| 3.9 | 2.6 | - | - | - |
| - | 4.2 | 1.6 | 1.3 |  |
| 7.5 | 3.1 | 3.2 | 1.0 | (.2) |
| 44.7\% | 37.10 | $2 \mathrm{~S} \cdot 3^{\circ} \mathrm{c}$ | $\underline{\underline{26.9 \%}}$ |  |

## Puget Sound Power \& Light Company

Deferred tax amounts in the Statements of Income for the years ended December 31, 1973 and 1974 result from timing differences in the recognition of expenses for tax and financial statement purposes (See Note 1). The source of these differences and the tax effect of each were as follows:

Excess of deductible liberalized and asset depreciation range depreciation on production property additions after 1969 and 1970, respertively, over related depreciation in the financial statements


## 11. Employee Pension Plan

The Company has a noncontributory pension plan covering substantially all of its employees. The total cost of this plan for each of the years 19:0, 1971 and 1972 was $\$ 1,620,000$ and for 1973 and 1974 was $\$ 1,800,000$ and $\$ 2,300,000$, respectively, including $\$ 526,000, \$ 503,000, \$ 502.000, \$ 587,000$ and $\$ 725,000$, respectively, charged to construction. Eflective January 1, 1974 the plan was amended to increase plan benefits which had no material effect on net income. Unfunded prior service costs are being amortized over a period of approximately thirty years. The Company's policy is to fund pension cost accrued. At December 31, 1974, unfunded past service costs were approximately $\$ 10,392,000$. The actuarially computed value of vested benefits exceeds the value (based primarily on market) of the pension fund by approximately $\$ 8,600,000$.

## 12. Employee Investment Plan

The Company has a qualified employee investment plan under which prescribed payroll deductions as designated by the employees are deposited monthly with a trustee and are used to purchase a diversified investment portfolio. The Company makes a monthly contribution to the trust fund equal to $35 \%$ of the basic contribution of each participating employee. The basic contribution is limited to $6 \%$ of the employee's regular earnings. Under the investment plen agreement, all Company contributions are used by the trustee to purchave common stock directly from the Company at a value established by sales at specified dates on the New York Stock Exchange.

For the years 1970 through 1974 the Company contributed $\$ 65,000, \$ 200,000, \$ 224,000, \$ 253,000$ and $\$ 240,000$, respectively, in cash to the plan and the trustee purchased from such contributions $1,752,6,723,7,750,9,706$ and 12,802 shares of Company commen stock. Proceeds from such sales were credited to the common stock and additional paid-in capital accounts on the books of the Company.

## Puget Sound Power $\mathcal{E}$ Light Company

NOTES TO FINANCIAL STATEMENTS, Continued

## 13. Restatements

In accordance with regulatory requirements effective January 1, 1974, contributions in aid of construction have been reclassified as a reduction of utility plant. Utility plant as of December 31 1973 has been restated to reflect this change resulting in a reduction of $\$ 12,954,000$. Previously such contributions were shown separately among the liabilities. In addition, certain other restatement: have been made to conform previously reported amounts to 1974 classifications.

## 14. Contingencies

See "Business-Legal Proceedings" for details of a complaint filed against the Company by the Muckleshoot Indian Tribe requesting damages of $\$ 45,000,000$ and a contested case before the Montana Board of Naturai Resources and Conservation regarding the application for a construction permit for two additional generating units at Colstrip, Montana.

# Puget Sound Power \& Liyht Company RERORT OF INDEPENDENT CERTIFIED PUBLIC ACCOUNTANTS 

## Puget Sound Power \& Light Company

We have examined the balance sheets of Puget Sound Power \& Light Company as of December 31, 1974 and 1973 and the related statements of income, earnings reinvested in the business and changes in financial position for the five years ended December 31, 1974. Our examinations were made in accordance with generally accepted auditing standards and, accordingly, included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, the aforementioned financial statements present fairly the financial position of Puget Sound Power \& Light Company at December 31, 1974 and 1973 and its results of operations and changes in financial po-ition for the five years ended December 31, 1974, in conformity with generally accepted accounting principles applied on a consistent basis.

Coopers \& Lybrand

## Seattle, Washington

February 12, 1975, except as to Note 8 with respect to which the date of this report is April 1, 1975.

No dealer, salesman or other person has been authorlzed to give any information or to make any representations, other than those contalned in thls Prospcctus, in connection with the offer made by this Prospectus, and, If glven or made, ouch Information or representations must not be relled voon as having been authorized by the Compeny or by any of the Underwriters. Nolther the delivery of this Prospectus nor any sale made hereunder shall, under any circumstances, creaie any Implication that there has been no change in the affalrs of the Company slnce the date hereof. Thls Prospecius does not consiltuite an offer or sollcitation by anyone in any Jurisdiction in which such offer or voilcitation is not authorized or in which the person making such offer or sollicitation is not quallfied to do 80 or to anyone to whom it is unlawful to make such offer or solicitation.

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## \$50,000,000

## Pacific Power \& Light Company

First mortgage Bonds, $103 / 4 \%$ Series due 1990

## Salomon Brathers

Elyth Eastman Dillon \& Co. incopporated

## The First Eosion Corporation

Kidder, Peabody \& Co. Incorporeted

## Prospectus

## Prospectus

## \$60,000,000

## Pacific Power \& Light Company

## First Mortgage Bonds, $103 / 4 \%$ Series due 1930

## Interset is payable May 1 and November 1

Upon exerclse by the holder of the New Bonds of an election descrijod hereln, the maturlty date of the New Bonds shall bo May 1, 1985 Instead of thay 1, 1990.
The New Bonds are redeemable at the option of the Company as a whole or in part at any time upon not less than 30 days' notice, at the applicable redemption prices set forth herein, with accrued interest to the date fixed for redemption, except that prior to May 1, 1980 no redemption of the New Bonds may be made at a General Redemption Price for the purpose, or in anticipation, of refunding such New Bonds through the use, directly or indirectly, of funds borrowed by the Company at an effective interest cost to the Company of less than $10.9456 \%$ per annum. The initial General and Special Redemption Prices are $110.45 \%$ and $100.00 \%$, respectively. See "Description of New Bonds".
THESE SECURITIES HAVE NOT BEEN APPROVED OR DISAPPRROVED BY THE SECURITIES AND EXCHANGE COBMISSION NOR HAS THE COMMISSION PASSED UPON THE ACCURACY OR adequacy of this prospectus. , NY REPRESENTATIOR TO THE CONTRARY IS A CRIMINAL OFFENSE.

| Per Bond $\qquad$ <br> Total $\qquad$ | Price to Publle(1) 89.70\% $\$ 59,820,000$ | Underwriting Discounts and Commissions (2) 1.125\% $\$ 675,000$ | Proceeds to Company (1) (3) 88.575\% $\$ 59,145,000$ |
| :---: | :---: | :---: | :---: |

(1) Plus accrued interest from May 1, 1975 to date of payment and delivery.
(2) The Company has agreed to indemnity the several Underwriters against certain liabilities, including liabilities under the Securities Act of 1933.
(3) Before deduction of expenses payable by the Company estimated at $\$ 135,000$.

The New Bonds are offered when, as and if issued and accepted by the Underwriters named within, and subject to approval of legal matters by counsel, prior sale or withawal, cancellation or modification of the offer without notice. It is expected that delivery of the New Bonds will be made in New York City on May 8, 1975.

## Salomon Brothers

# Blyth Eastman Dillon \& Co. 

## The First Boston Corporation <br> KIdder, Peabody \& Co. ineorporated

The date of this Prospectus is May 1, 1975
 EFFECT TRANGACIIONS WHICHSIABH.IZI OH MAINIAIN THF. MARKII PRICI OH IHI
 PREVAII. IN THI: OPIN MARKIT. SUCH SIABHIIING, IF COMMENCED, MAI BI. DIS CONTINUED AT ANY IIME.

## AVAILABIE INFORMATION

The Company is subject to the informational requirements of the Securities Exchange Act of 1934 and in accordance therewith files reports and ofler information with the Securities and I.xchange Commistion. Information as of particular dates, coacerning directors and oflicers, their remunctation. the principal bolders of securities of the Company and any material interest of such persons in transactions with the Company, is diselosed in prosy statements distributed to shareholders of the Company and filed with the Commission. Such reports, proxy statements and other information may be inspected at the office of the Commission at 1100 I. Street. N. W.. Washington, D.C. 200as, and copies of such material may be obtained from the Commission at prescribed atas. The Company's common stoch is listed on the New Yorh and the Pacific Stoch Ex, banges where reports, proxy material and other information concerning the Company may also be inspected.

## THF COMPANY

Pacific Power \& light Company (Company) is an operating puhlic mility, incorporated under the laws of Maine on June 16,1910. The principal executive offices of the Company are located in the Public Service Building. Portland. Oregon 47204: the telephone number is (503) 243-1122. It is engaged primarily in gencrating, purchasing, tranvmitting and distrihuting electricity in more than 240 communitics (the largest of which is Portland, Oregun) in the St, ies of Oregon. Wyoming. Washington, California, Montana and Idathe. The Company provides customer services through four division offices and thirty district offices located throughout its service area.

## PROBLEMS OF THE ELLCTRIC UTILITY INDUSTRY

The Company has been experiencing some of the probiems generally common to the electric utility industry, such as increased costs resulting from intlation, the high cost of capital, the need to comply wath environmental requirements (see "Business-Regulatoon"), the effect of encrgy conservation on electric operating revenues and, in some of the states in which the Company operates, obtaining rate relief within a reasonable time after the filing of applecations therefor (see "business-Rates").

## USE OF PROCEIDS, CONSTRU CTION PROGRAM AND FINANCING PLANS

Company construction costs in 1975 are expected to aggregate approximately $\$ 225,000.000$, of which approximately $\$ 37,000,000$ has been incurred through Febriar 28,1475 , and the construction progr im in 1976 is expected to equal of exceed the 1975 program. The 1975 and 1976 construction progatams cyclude costs relating to the Wyodak. Project (see "Busince-Properyy and Power Supply"). The Company is estimate of construction cobts and timing of constration projects is subject to continuing review and adjustment.

The Company issued $3,500,000$ shares of commoa stoch for approximately $\$ 55,580,000$ in sanuary, 1975 to retire short-ferm deht issued in connection with the 1974 consiruction program.

In addition to the use of internally generated funds, the Compans expects to finance the 1975 construction program through the use of shorterm borrowings and permanent finanoing. The Company intends to issue, in addition to the Furs Mortage Bonds offered hereby (New Bonds), $\$ 70,000,000$ of additional long-term detht and equity sccurties proor to the end of 1975. Within the next year, the Company may also guarantec approximately $\$ 78,000,000$ of pollutwon control revenue bonds. in addtion to $\$ 15,001,000$ of such bouds sold in April 1975. The construction and financing planned for periods subsequent to 1975 will depend upon the cost and avalability of eapital, the timelmess and adequacy of rate relief, and other economic factors

The Company's regulatory and corporate short-term horrowing uthority consists of a $865,000,000$ line of credit with fourteen banks a $\$ 35.000,000$ loan facility in the Furodollar market and authority to sell commereiai paper up to $\$ 00,000,000$ outsatsding at any one time. At the time of the sale of the Now Bonds, the Company estumates that it will hate outwanding $\$ 30,000$ ook of hank loans under is line of er2dit, $\$ 55,000,000$ of commerchal paper and $\$ 39,(4) 0,000$ under its Eurodollar ho.tn favitity. The proceeds from the sale of the Now Bonds will he uned to letie porthons of the se shert-term borrowings outstandeng in types and amounts that will result in the lowest cflective interest cost on amounts remaining outstanding after such retiements, con-istent with the interest rates and matanties of such short-term debt.

## CAPITAI.IZATION

The capitalation of the Company and its comonlidated subsidiaries as of February 28, 1975. and as - adjusted to reflet the Company's puaranty related to the wuance of $\$ 15,000,000$ principal amount of $8 \frac{1}{2}$ 'he Series, due 2015 , pullution control revenue bonds by Sweetwater County. Wyoming and the ksuance of $\$ 60,000,000$ prancipal amount of New Bonds is as follows:

Februar) 28, 1975

|  | (1) |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Outstanding |  | A) Adjuwted |  |
|  | Shares | Ammunt | Amount | Natio |
|  |  | -Thousands of Dollar- - |  |  |
| Long-Term Debi (Note 6): <br> First mortgape bonds (A) |  | \$ 667,788 | \$ 727.788 |  |
| Guaranty of pollution control revenue honds.. |  | 25,000 | 40,000 |  |
| Less funds on deposit with trustee (B) ....... |  |  | (3,000) |  |
| Long-term debt of consolidated subsidiarics... |  | 58.085 | 58,085 |  |
| Miscellaneous long-term debt .................... |  | 1,034 |  |  |
| Unamortized premium and discount on longtcrm debt |  | $(3,239)$ | (3.239) |  |
| Total Long-Term Debt .................. |  | 748,668 | 820.668 | 56.98 |
| Preferred Stock (Note 4) | 1,172,360 | 117,236 | 117.236 | 8.1 |
| Common Equity (Note 4): | 26,686,268 | $\begin{array}{r} 86,730 \\ 279,449 \end{array}$ |  |  |
| Common stock ( $\$ 3.25$ par valuc) <br> Premium on canial stoch |  |  | 279,449196 |  |
| Installments received on common stock .......... |  | 196 |  |  |
| Capital stoch expense............................. |  | $\begin{aligned} & (11,228) \\ & 149,455 \end{aligned}$ | $(11,228)$ |  |
| Retained Earnings (Note 5) ..................... |  |  |  |  |
| Total Common Equity. |  | 504,602 | 504.602 | 35.0 |
| Total Capitalization.. |  | \$1,370,506 | \$1,442.506 | $100.05$ |

Notes 4, 5 and 6 refer to Notes to Consolidated Financial Statements.
(A) Additional first mortgage bonds may he iswed without limitation as to principal amount upon satisfaction of the requirements of the Company's Mortgage and Deed of Trust dated as of July 1. 1947, as supplemented (see "Description of New Bonds--lssuance of Additional Bonds"). For information as to short-term borrowings. see " lse of Proceeds, Construction Program and Financing Plans" and Note 10 tw Consoldated Financaal Statements.
(B) Under terms of the indenture of trust relating to the $8^{1} \times$ Series, due 2005 , pollution control retenue bonds, the proceeds from the issue will be deposited with the trustee. Disbursemens will be made by the trustee as the pollution control fatilties for the Jim ithedee Project are construted (see "Business--Property and Power Supply"). As such distursements are made the amoum of funds on deposit with the trustee will be reduced. In the Company's accounts, the total amount of bonds oustanding under the indenture less the funds on deposit with the trustee will be reflected as a liability. As of the date the $8^{\prime} \mathbf{s}^{\prime}$. Series, due 2005, pollution conerol revenue bonds were issued, after disbursemens for such pollution conerol facilites were made, appreximately $\$ 3,000,000$ remained on deposit with the trustee.

## STATIMIT (O) (ON- H.HATHI) INCOMI

The followine statement of consolidated incom, for t.e five years ended December 31, 1974 has been exar uned by Haskins \& Sells, independent Certified Puble Acome ar, whose opimion with respet thereto appe ins else shere opinion of the Company includes all adjewtments (convtluting only mormal recurring accruals) necessary to a fair statement of the results of operations for such period. Tis statement chould be considered in conjunction with its notes and the other consolidated financial statements and notes thereto appearing elsewhere in this Prospectus and with the information under "Business-Rates".


## NOTIS TOSIATH M1 N OF (ONGOH.IDAHIIIVCOMF

A. The statement of consolidated income include the operations of the Company and it subsedane majority-owned, since dates of organization or acquestom. All signiftamt intercompany transactions have bee eliminated.

The statement of concolidated income for the four years ended December 31, 1973, which previously include subsidary operations on the equity basis of accounting, has been restated to the consolidated basis of presentativ: This restatement had no eflect on previously reported net income.
B. In accordance with the accounting practice described in Note I to Consolidated Financial Statements allowance for funds used during consuruction (AFDC) was determined on the hasis of a composite rate of 7 throw. June 30, 1974, and at a composite rate of $8 \%$ heginning July 1, 1974. The "Allowance for fund used dutal construction", an item of non-operating "Other Income", is defined in the Uniform Sywem of Accounts preserthed be the Federal Power Commistion as including the net cost for the period of construction of borrowed funds used to construction purposes and a reawonable rate on other funds when so used

Determination of the components of the composite rate attributable to each source of funds used for constructions is impracticable; however, on the assumption that the funds used for this purpose were provided from soutces in the same ratios as the Company's capitalization ratios during the applicable periods ( $56 \%-61 \%$ debt, 8 e 6 - 2 F preferred) stock and $30 \% 33 \%$ common equity), with AFDC attributable to debt and preferred stock being baved upon incremental coss (with interest on debt computed on a pre-tax basis), the portion of AFDC atributable to fonds provided by common equity would anmount to $0.8 \%, 64 \%, 64 \%, 4.1 \%, 6.9 \%$ and $5.5 \%$ of earnings apylicable to common slock for the years ended December 31, 1970 through 1974 and the tweive months ended February 28, 1975. respectively.
C. As of February 1, 1974, the Company has included as other income a non-recurring payment in the amount of $\$ 3,800$, (100 received from Idahn Power Company for the transfer of an undivided one-third interest in coal reserves at the Jim Bnidger plant, resulting in an increase of $\$ 1,976,000$ ( $\$ .09$ per common share) in "Other income (deductions) . Net" after provisions for income taxes.

D "Farnings" represem the ageregate of (a) cunsolidated net income, less equity in undistributed earning: joint ventures. (h) taxes tased on meome and (c) 'ixed charges. "Fixed charges" represent interest charges ath estimated amount renresentug the inisest factor in rents. The pro forma ratio of earnings to fixed charges for the twelve menths ended February 28 . 1975, adjusted to give effect to annual inierest requirements on outstanding debt and on $\$ 15,000,000$ of the $8 \%$ Series, due 2005 , pollution control revenue bonds sold by Sweetwater County, Wjoming. $\$ 60,000,000$ principal amount of the New Bonds at an assumed interest rate of $10 \%$, and $\$ 78,000,000$ of additional pollution control tevenue bonds, which may be sold during the twelve months ended Fehruary 29, 1970, at an estimated interest rate of 8 and the elimination of interest on short-term and long-term debt heretofore retired. or to be retired with the proceeds from the sale of such pollution control revenue bonds and the Ncu Bonds, would be 1.65: a change of $1 / 8$ of $1^{\prime \prime}$, in the interest fate on the New Ronds would result in a change of approximately 002 in this pre format thith 7 pro forma ratio does not take into consideration the annual effect of electric rate increases discussed under "Busines: - Rates" of the ellect of antuepated additional permanent finanang, other than pollutios control revenue honds. (Sec "Use of Proceeds, Construction Program and Financing Plans".)
E. Pursuant to Accounting Series Release No. 122 of the Securities and Exchange Commission, in the supplemental calculation of the ratio of earmings to fixed charges, in ad won to tems included in the calculation of fixed charees in D ahove, fixed charges include the Company's allocable portion of interest expenee of Washingtoas public utility districts relatmg to honds isued to finance certain generating faciltues from which. under long-term arrangements, the Company is purchaving power. Such atlocable portion of interest expenve relates only to thoce power purchases not subject to withdrawal upon notice. (Sec Note 7 to Consoldated Financial Statements) The suppleniental pro forma ratio of earnines to tived charges for the twelve monthe ended February 28 , 1975, adjusted as in Note D abote, would be 1.61; a change of $1 / 8$ of 1's in the interest rate on the New Bunds would result in a change of approximately. 002 in tho supplemental pro formas ratio.
F. Numbered note references are to Notes tw Consoldated Financial Statements appearing elsewhere herein
liaries, all have been

## $y$ included

 esentation.itatements, 1\% through sed during :ccribed by is used for

 respectively, as compared with $\$ 237,107,(065)$, $\$ 46.403$ mit) and $\$ 2.29$ for the twetve monthe ended $M$ and 31,1474 The ratio of earnings to fixed chasees for the twelve months ended "arch 31.1975 was 2112 and the prof forat tate was 1.71 (see Note 1) to Statement of Consoldated Inwme). The vepplemental ratio of earmin w to bect chatan fous the twelve months ended March 31, 1975 was 1.96 and the pro forma ratio was 167 (wee Note F th. Staten ont at Consolidated Income). In the opimion of the Company all adjustment ( constituting only normal recurning actro.t.) necessary to a far statement of such amounts for such periods have heen included

The earning: coverage provisions of the Monte.tee covering the Company ' Firt Mortgage Rond mopme fo:th issuance of addtional morteage bond, except for centan refundeny purposes, that minimum e. fminge indudang that Allowance for Funds Used During Construction, hefore income taxes he cqual to at least two time pro tomanaly interest charges on bonds. On the basis of this fornula. the pro forma coverage (assuming the thtumbe of $\$ 60,000,000$ of New Bonds at an assumed interest rate of $10 \%$ ) for 12 consecutive months out of the 15 m mothe immediately preceding the iswance of the New Bonds would be at least 2.10 times as compared with the requremen: of at least two times.

The annual interest requirement on the New Rond will be $\$ 6.450 .000$
MANAGEMHNT'S DLSCUSOION ADD ANALSSS OF THE STATEMINT
OF CONSOLIDATFD INCONE:
The decline in electric operating revenues for the seat ended December 31, 1974 as compared wath the yoar
the amount
oal reserves her income
e. ngs of
rges and an
rges for the
anding debt
ler County,
$\{, 000,000$ of
29, 1976, at
e retired, or
is, would be
ately .002 in
the increases
an pollution
son, in this
alculation of
Washington
st long-term
nly to those
ments.) The
adjusted as
$t$ in a change
here herein
ended December 31, 1973 is primupally the result of reduced kilowatt-hour sales to "Public Uulities and Other" (astes
for resale) and inadequate levels of clectric rates in relation to continuing increases in operating costs and interett costs. Such increases were substantialy offset by related reductions in income taxes, additional equity in earninge of joint ventures, and increaved allowance for funds used during construction with the result that net income increaced slightly for 1974 as compared to 1973. The decline in industrial kilowatt-hour sales (see "Flectric Oper ne Statistics") between the year ended December 31, 1974 and the twelve montlis ended February 28.1975 is pring, pally the result of energy conservation and general coonomic condituons in the Pacitic Northwest. The dedine in governmental and municipal encrey sales from the year ended December 31.1473 through the welwe months ended February 28, 1975 resulis principally from the transfer of a larze povernmental customer to a commercoll dhasification. Although electric operating revenues declined hetween the years ended December 31. 1973 and December 31, 1974. for the twelve months ended Fehruary 28.1975 electric operating revenue incteased, primarly reflecting the effect of increased electric fates which became eflective in the fall of 1974 . See "Duanes-R Rates" for informatoon regarding electic rate increases recently put into elfect. The decrease in consolidated carning- per common share for the year ended December 31. 1974 and the lwelve monthe ended Febrary 28.1975 as compared with the year ended Decombet 31.1973 reflects an increase in the number of commen shares outsanding The ancrease in electric uriby opetatug expense. including fuel and other production expense. for the geats ended December 31. 1973 and 1974 and the twelve months ended Febroan 28. 1975 over the respectere phor pernd. fewults from the Company i mecaong steam clectric pencration in relation to the portion of energe generated and purthased from hydroclectric sources (see "Fletric Operating Statistics" and "Business-Property and Power Supply"). Operameg expences alwe increased due to invease in depreciden, maintenance and admumbtration and feneral expense which are related to increased uthey plant put moto service, as well as to hegher conts of hather and
 of Telsphone Uwhites. Inc in O,wher 1973. The redunton in adminitrative and general expense hetween 1972 and 1473 tevals primeipally from a reduction in emplonee benctit propram msurane premums. The incteased amounts
 "Buaners"). See Notes to Statement of Consoludated Inome ahowe and Note to Consolidated Finameai Statemems for information relating to acounting for mowne tates, allowathe for fund used darmg constructions. equity in eanings of joint ventures, teleplane operatoms and a mon-recturning credth to wher income.


## ELECIRIC OPI: ATING SIAIIS:IC


(a) Includes temporary sales under certain contracts, the lave of which expired in 1974

## BUSINESS

General. During each of the last five fiscal years, more than $87 \%$ of the Company's consolidated operating revenue has heen derived from the electric husiness and the femainder from steam heath telephone and water operations. Thee geographical distribution of its electric operatine revenues for the twelve months ended February 28, 1975 was: Orcgon, $61.0 \%$; Woming, $18.0 \%$; Washington, 125 California, $5.2 \%$; Montana, $2.5 \%$; and Idaho, $0.8 \%$.

Telephone operations contributed approximately $2 \%, 3 \%, 2 \%, 6 \%, 13 \%$ and $13 \%$ of consolidated net utility operating income, before income taxes, for the five years ended December 31, 1974 and the twelice months ended February 28, 1975, respectively, with electric operations contributing substanually all of the remainder (see Note 2 to Consclidated Financial Statements regarding acquisition of Telephone Utilties, Inc.).

Business activities in the Company's electnc scrice areas are highly diversified it the agricultural, extractive. recreational and industrial fields. Among the important types of businesses using the Company's service are lumber, plywood, pulp. paper, hard'ward and partucleboard plants; oil wells. refineries and pipeline compressor stations; iron ore min and beneficiation; trona, bentonite and gypsum extraction and processing: recreation complexes, swa: as ski lodges and resorts, zirconiunh ato titanium processing and machining: transportation equipnoent and mobile home fectories; seafood processing plants; beet sugar factories; flour milis; creamerics; meat packing plants; fruit, vegetable, hop. berry and nut processing plants: and irrication pumping installations.

Regulation. The Company is subject to the jurisdiction of public utility regulatory authorities of eath of the states in which it operates as to its rates. services, accounting, the issuance of securtites and other matters. The Company is both a "licensec" and a "public utility" as those terms are esed in the Federal Power Act and is, therefore, suhject to regulation by the Federal Power Commission (FPC) as to the issuance of securities, accounting, certain rates and other matters. Certain of the Company's hydroelecati: projects are lieensed under the Oregon 1 H droelectric Act and are subject to its provisions. As a participant in a nuclear generating, facility under construstion, the Company is subject to the jurisdetion of the Nuclear Regulatory Commission. which has broad supervisory and regulatory jurisdiction oter the construction and operation of nuclear reactors. particularly with regard to public health and safety (sec "Property and Power Supply").

In addition to zoning and other regulation by local mathorities, the Company is subject to environmental regulation by federal, state and local authonstes. Costs incurred by the Company in connection with compliance with existiry and anticipated environmental standards and controls have increased and are expected to continue to inctease in the future. Such costs have been approximately $\$ 15,000,000, \$ 29,000,000$ and $\$ 44,000,000$ for the years 1972,1973 and 1974, respectively, and are estimated to be approximately $\$ 50,000,3000, \$ 71,000,000$ and $\$ 64.000,000$, respectively, for the !ears 1975 1976 and 1977. The amounts for 1975 and $19^{\circ} 0$ ars included in the 1975 and 1976 construction program (sec "Use of Proceeds, Construction Program and Financing Plans"). Fxeept with respect to the recentl) adopted Wyoming sulfur oxide emission standards, in the Company's opinion its curient construction
projects have been designed to comply with applicable enviroumental laws and regulatione and the estimated cost of pollution control facilites such as electrostatio prespuators. scrubber, cooling towers and settling pond is included in the consurection hudgets for thowe prosels (see "Property and Powet Supply" and "Coal Sales and Reserves").

Rates. On S-pteniber 3. November 12 and November 20, 1974, the Oregon Publu Luilits
 portation Commesom, respectively, ssaed orders permatung the Company to ina rease retal ela mo rates in Orggon, Idaho and Washimgton in the aggregate amount of approxmately 533.0600000 annuah, hated upon estimated 1474 operations. Pursuant to an order issued on March 25 , 1975 by the Califormat Publics
 annually. The Company alow has on file a rate application in the Srate of Muntana to inerewe retail electric rates by an agprepate of approximately $\$ 1$, TuG,000 annually. On January 31,1975 and April 18. 1975, respectively, applications were hiled in the States of Orepon and Wathingen to increate fentil clectrie rates in the agerepate hy approximately $\$ 21$.000,000 annually. The Company cannot anticip.te if or to what extent these applicatoms, of other applications the Company expects to file later in 1975, will be granted. Mijuor fators in the Company's need for increased rates are the increase in power production costs resulting: from increased steam electric generation, higher costs of construction of new gencrating facilities and the current high cote of capual.

Ten of the Company' largest industrial customers in Oregon have filed suit challenging the September 3, 1974 order of the Oryeon Public U whity Commistioner on the eround that too muth of the overall revenue increase allowed, which they do not challenęe is imposed upon them. Thes sech a reduction of approxmately $\$ 2,300,000$ annually in the increase charged them. One residential ewonmer of the Company in Oregon has filed sut, in bis individual capacity, seching to 'revole or modiry" the sanie order, alleging that the Company's restental rates permuted by that order are "diseriminatory anone customers of the same clas" and that the Company "failed to ewablish a need for the various monetary increases in residential servies." The court has denied the motions of the industrial customers and the residential customer that the Commisioner's order, to the extent challeneded by them, be ctayed or that the Company he required to undertale to provide a refund to them of amounts the) clam to be in excess of a law ful inctease. The City of Portand has abso tiled suit on behalf of itself and all other custoners of the Company within the City alleging that wh order is unjust and unreatonable in placing Fontand rates on the same level as elvewhere in Orezon. The daference imvolved is approximately $\$ 2.000,0 \mathrm{0}$, annually. The Company cannot predict the outcome of thee vuits on the merits. The Company is advised, hewever, that if any of these plantiffs prevail on the ments, the wall sech ar wiund fore any anounts pard by wem or, in the case of the suit brought by the City of Portand, paid by the Company's customers in the City on and after September 3, 1974 in excess of the tates the court or the commewoner. on remand to him. masy finally set. Counsel have advised the Company that plaintitf' neght to refund under weth cercumstance- is not settled under Oregon law.

Property and Power Supply. The Company owas 33 bydroelectric generating plants wath a rated capacity of 863,393 kilowatts. It also owns thece steam-clectric generating plants and has ownerslup interests in one other, the ageregate rated steam-dectric cap, aty ownod by the Company heine: 1.433,086 halowatts. In addition it bas minor internal combestion erotaraing capacity. Daring the sear ended December 31, 1974, approxmately 59, of the Company scayey requitement was supplied by its phans.
 and the balanee of $14 \%$ through imerdhane and other pusthae arranzements (see "Electric Operatime Statistics"). The Company has replated substantally ath of the enerey purshased under Bonneville Power

Authority (BP'A) contracts which expired Augut 31, 1973 with output from its Centralia (Washington) Steam Electric Gencratine Plant and the fourth unit at the Dave Johnston Plant and the balance from a number of other purchase contracts. The Company also has contracts to purchate firm peabing capacty from BPA and expects to purchate non-firm energy from BI'A to the extent available (see Note 7 to Consolidated Financial Statements).

Most of the Company's hydroelectric plants are lieensed as major projects under the Federal Power Act. The first of these licences (for a 1,100 kw plant) expired June 26, 1974 and was renewed: and the second (for a $136,000 \mathrm{kw}$ plant) expires in 1979. The remaining licenses expire on dates from 1997 through 2006 . Upon expuation of a license the project may be re-licensed to the Company or, upon payment to the Company of its net investment therein, not to exeeed fair value, plus severance damages, the project may be taken over by the United States or licensed to a new lisensee. Each of these licenses also provides that after the firs 20 years of operation, out of surplus earnings thereafter, if any, accumulated in excess of a specified rate of return upon net investment in the licensed project the licensee shall establish and maintain amortzation reserves which, in the discretion of the FPC, shall he held until the termination of the lieense or applied from time to time in reduction of net investment in the project. In the opinion of the Company 's management, any such excess earnings realized from those projects which have been in operation for 20 years have not been materal but may be material in the future-

The Company's generating facilities are interconnected through its own lines or the lines of ethers. and, along with substantially all other generating facilities and reservoirs located within the region in which the Company operates, ate operated on a coordinated basis to obtain maximum load-carrying capability and eflictency. On December 31, 1974, the Compariy owned 5,910 circuit miles of transmission lines, including 49 miles of $500 \mathrm{kv}, 1,733$ miles of $230 \mathrm{kv}, 271$ miles of $161 \mathrm{kv}, 1,222$ miles of 115 kv and 2,635 miles of 69 kv capacity or less.

Near Roch. Springs, Wioming, the Company and Idatho Power Company are constructing the Jim Bridger coal-fied gencrating plant. consisting of four $500,000 \mathrm{LW}$ coal-fired units. The first unit has been placed in commerial operation and the second, third and fourth units are scheduled for operation in 1976, 1977 and 1979, respectively. The Company's share of the total cost of the plant and associated transmission facoltues and coal mine is estimated to be approximately $\$ 700.000 .000$ of which approximately $\$ 103,000,060$ will be for ar and water pollution contel facilites. Idaho Power Company will receive the entife output of the first unit until completion of the second unit. The Company's share of the output of the phant will be sut beginning with completion of the second unit and 6635 upon completion of the third and fourth units

Additional air quahty whtrol cquipment to conform to Wyoming and federal ait quality standards is being installed for the tirst three units at the Company's Dave Johnston coal-fired generating plant at an estumated cost of approximately $\$ 00,0000,000$. Of this total. $\$ 3,400,000$ has been expended throush 1974 and approximataly $\$ 20,000,000$ has been or will be expended io 1975 and is included in the estimated construction conts for 1975 set forth under "the of Proceds. Construction Pweram and Finanang Plans" These units are exempt from federal thermal eftluent discharge standards. Cooling towers whith meet Wyoming water quality standards, to the extent currently determmed, have been instathed at a out of approximately $\$ 7,000,000$. Studics now in preseress will determine whether additional water cooling will be required to meet Wyoming water qualty standards.

The Company and Blath Hills Power and Light Company are constucting a 330,000 kilowath dircooled, coal-fired plant (the Wyod,th Project) east of Gillete. Wyoming, near coal deposits controlled thy

## al Power and the <br> om 1997 <br> or, upon <br> damages, <br> e licenses <br> ; if any. s licensee neld until oject. In cts which

 of others, region in 1-carrying nsmission

Black Hills. The Company share of the Wyodat. Project is fir: and 1 . expected to cot approximately $\$ 130,000,000$. Whe Company and Black Hilh. Puace and Leqhe Company intend to sell and ieasel wh the Project. The estimated wot of con-tructam, appoximately $\$ 25,000,006$ in 1975 , is not included in the Company's constrution program discussed under "Use of Procecels. Consuructuan Program and I inancing Plans".

On January 31. 1975, the Wyoming Invimonmental Qualty Coumal adupted air quality standards. much stricter than fedetal standards, himitung potmissible eniswions of sulfur dioxide from fowil fuel burning equipment I mhoreement of these regulatens wall require the installatern of subhbers at the Jim Bridger plant and at the Wyodiak Project. Studics by the Company indicate that compliance with these regulations may also require installation of sorubbers on Uni: 1,2 and 3 at the Dave Johnston plant; however, the Deparment of I nvironmental (Guality has stated that the new sulfur oxide emission standards were deverned to permit operatton of these unit of the plant without scrubbets The Department has not yet entablathed any comphance schedule under which the standards must be met at the Company's eenerating fathes

The Company entimate that is , hare of the cost of seruhbers on the first three units at the Jim Bridger plant and at the Wyodak Promet w:ll require eapital expenditure of approximately $\$ 150,000,000$ and will result in additional expenses of approximately $\$ 30,060,000$ per year. The sulfur dioxide emisson standards applicable to the prophoed Jim Brideer Unit No. 4 are stricter than those applicable to the other plants. Studies are beme made to determene whether available technology wou'd enable that unit to meet those standards. The decowen to proceed with construction of Unit No. 4 will depend on the outcome of those studies of of the hagation referred to helow. The Company's share of capital expendiures and additional operating expenes for a cerubher for I init No. 4 r csumatied at $\$ 45000,000$ and $\$ 9,000,000$, respectively. If scrubhers must alow he invalled on the firt three units of the Dave Johnston plant,
 expenses will be required. The foregoing capital cost estimates are based en completion of scrubher installation at the Dave Johmeton plant and at Jim Brideer L miv 1.2, and 3 by 1979, and at Jita Bridger Unit No. 4 and Wyodah concurreally with the completien of those units. These amounts are not corrently included in the Company s forecast of contructuon expenditutes

The Company and haho Power Company have filed suit for judical review of these standards on the grounds, amony others. that the Invirommem.a! Quality Courcil exteeded its authority, that the Council's action was arhitrany and capricions and that me need was show for wh stringent wandards. Sumilar suits have been filed by whers. Whe Company cantor predh the outcome of thi hagathon.

 outcome is not presemly determinable. I englation to predude any project on this portwion : the stane River between Orepon and Idaho of perrding in Comgress.

Since 1973, the Company has had in eflet throughout its servo. area a program to enowerae eners conservation and has filed energy curtailment proprams with the approprate requlaters, mides if. five states. Because of nationwide energy hortages and possible shorta;es in the Pacific Northwet in the next several years, the Company expect to continue to encrurage enerzy conservation.

On August 1, 1974 the Portiand Cily Council. after receivin: a report from a consulterg firm recommending further study into the question of benefits that mupht he derived from a merger of the Company and Portland General Electric Company, requested the two companies, hoth of which werve customers within the City, to study separately the advantages and disadvantages of a merger and weach submit to the Council either a plan of merger or a statement of the reasons why a merger would nos the in the hest interests of the respective company's eustumets or investor. The Company and Portland cieneral Electric Compapy filed increer feawhility studics with the Ce neil in early $\$$ 1arch. 1975 and each onmpany has been requested to evaluate the other's study. Based upon the study it submitred in the Councal, the Company has concluded that a mereer is not fearihle at this time. One of the five mensher of the Putaland City Council has stated that, if he in not satisfied with the companis' good faith in the merger stadies of the results thereof, he may propose a study of the feasibility of pultic ou nership of the utilities projerties within the City or that the City's potser to eet electric rates in the City be invoked. Approximately 6.6 of the Company's electric operating revenues were derived from customers within the City of Porland for the year ented December 31, 1974.

The following tables summarize the Company's existing and planned generating plants:

|  |  | Energy Source | Inatallition Date. | $\begin{aligned} & \text { Nameplate } \\ & \text { Rath, } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | (Mcriwatts) |
|  | Copeo. Californa | Klamath Riser | 1218.1925 |  |
| COPCOPLANTS | Portiand Orczan | Oil/Gas Ste.m. Flesth | 1923.1924 | 35.5 |
| 112CO! | Prospest. Oregu? | Ropue River | 1926. | 32 |
| PROSPI Cl MFRWIS | Aficl, Widungion | Lewi- Ruver | 1431-1985 | 136 |
| MFRWIN EIGHII NOK III I MPOUA PIANTS | Toketes lalls, Ofepen | N 1 mpqua Rever. Fish Crech |  |  |
| ElGII NokIt |  | \& Clearwater Kiow | 1940.1426 |  |
| - YAlt | Anibuy. Wawherton | Lew- River | 1985 | 80 |
| BO) 11 | Keno, Oiegon | domath Ruct | 1954 | 204 |
| SWII: | Cougat Wather that | Lewr-Rivet | $19 \times 4.197 \%$ | 2503 |
| Davi johnston | Gilenresk. Wy wine | Co,d-t wed Sicam- I cotry | 196? | 18 |
| IRONGITE. | Hornhtowh Cas fornia | Klamath Row <br> Oi. Gir Ste an-leathe | 1408 | 15\%. |
| TRONA | Green Rewtr Wsomalig | Combustio Jarbine | 197? | 23.8 |
| L.IAB) | Centraha, Watargton | Conitiredsuam-l leatic | 1972 | 6317 |
| CFNIRAIIA (Ciompamy Potten) | Centraha, Watamgan |  |  |  |
| JY BRIDGER UNII NO I (Compan Portion)* | Rock Springs, Wyoming | Coat Fired Sieam Flectric | 1974 <br> 1903.1957 | $\begin{gathered} 339 \\ 52.9 \end{gathered}$ |
| 17 miscellaneous manot hydracleatic units. |  |  |  | 2.859 .3 |

Note: Hydreelectric pioject lowations are stated by localify and river waterhed. - See text above for schedule of Company , partiopation in ourput.

## HURRE. GIV AlING, PI.ANI



Surface mining regulatoon hill, substantially identical to a bill vetoed by the President at the end ef the 93 rd Congres, pasted both houses of Congests and were reforred to a conference onmites A conference commitiee compromise hill has been reported bath. to thatin hruse. Neither the so white. Iheres nor the conference committee bill, if enacted, would prevent the Company from being able the wine all a: its coal reserves hut each would result in net increased mining costs of approximately $\$ 3,000$, mpor peat at present levels of operation.

The State of Wyoming passed legislation in early 1975 which will require the consent of the surfice owner or a waiver of consent prior to the issuance of a State mining permit. The validity of this in: fiotirs to the extent it restricts access to coal held under federal coal leases is, in the opinion of counse to the Company, questomable. This lepislation may affect approximately $65,000,000$ tons of the Compans: coal held under federal leases, but will not affect any reserves currently dedicated to plants in operation or under construction.
The following table describes the Company's recoverable coal reserves as of February 28, 1975:


- Recoverable coal reserves represent the portion of total reserve estimates whith. in thie opition of the Company, is sulstantated by adequate information, including that derived from exphosatuo minne operations (in some cases), outerop data, qualhy testing and howledge of mining condana Reserve estimates are subject odjustment as a result of continuing enginecring evatuation of adomonat exploratory and development intormation and as a tesult of changes in cononic factors antecting the marketability or utilization by the Company of such reserves.
${ }^{2}$ See "Property and Power Supply".
${ }^{3}$ The Company considers that the respective reserves assigned to the named plants are sufficient to
provide fuel to these plants for their cconomially useful lives.
${ }^{4}$ Excludes reserves controlled by other participant in project.
${ }^{5}$ Nine non-conliguous reserve areas.
- Controlled by Decker Coal Company, but not subject to contract for sale

In June, 1973 the Sicrea Club and other phamofls. Wled a complaint for dedatatory gudement apatist


 impact statement regarding enal development in that regon. On Fehoasy 14, 1974, the Unite staks District Court for the District of Columbas granted the defendents' ard intervenors' mothons for summars judgment and judgment on the pleadings and domised the lougaton. Plantils have apperided this decision and the Count of Appeals has issued a temporary injouction pending a decison on the appeal The Company is unable to predel the outcome of the lingathon the Company own asal reacrese in the region subject to the litgation; however wath the purwble exceptom of coal supplies for the Wye and Colstrip projects (sec "Property and Powes Supply") and any addtiontl controis for the sale of coal hy Decher Coal Company, the Company does not believe that this litgation will affect its currently contemplated activities.

Telephone Operations. The Company own indirectly, through a suh-adary, over $80^{\circ}$; of the currently outstanding voting stoch of Telephone Ualtte inc. s Washington telephone holding company Telephone Utilites operates telephone properties through 23 subudtaries, principally in Widatheton. Oregon. Montana, Idaho and Nevada. Ielephome (hilties' sub-idaries hase approximately ! (G, (ka) telephone stations in service.

## DFSCRIPTIOV OF NFW BONDS

General. The New Bonds ate to he immed under a Mortgage and Deed of Trust, dated as of Juls 1. 1947, 10 Guaranty Thas Company of New Yorl ( now Morgan Guaranty Trust Company of Nex Yous) ("Corporate Trustee") and Otiver K. Branh, (R. L. Sparrow, nuctesoor), as Trustecs, as suppl, nented. heresnafter referred to as thie "Mortgage". The statements herein concerning the vew Bond . at the Mortgage are merely an outline and do mot purpon to be complete They male we of terms detinctil in the Mortgage and are quabfied in then enurety by express reference to the cited sections and Artiche of the Mortgage

The New Bonds are not subject to a smhing or improvement fund or other provision for ammerazath prior to maturity (soc "Maturty D.tes")

The New Bonds will be ksuable in the form of registered honds without coupons. in denommations of $\$ 1,000$ and any muluple thereof. The New Boods afe exthangeable at the offex or agense of the Company in New York (ity without payment of ans charege wher than as sum suffient to fermivife the Company for ans t.a or tases of other governmentat sharge invident therete.







 TRUSIEE. 23 WAII. SIREFI, NIW IORK, NFW YORK I H I S ATHNTION: CORFORII


 WHHOUT CHAR(IL. A NIW BONI) OR BONDS IN PRIN(IPAL AMOUNI IQL AL IO IHF

## PORTION OI THI: NI W BONIOSDILIVIRID IOTHE (ORPOKATE TRLSIFEFOR WHICH NO

 ELECIION IIAS BI LN MAD)I.Interest and Payment. The New Bonds will hear interest at the rate shown in their title, payable semiannually on Maty I and November I, beginning November 1. 1975. Interest will be paid to the persons in whose names the New Bonds are registered at the close of business on the 1 Sth day of the calendar momt next preceding each semi-annual interest payment date (with certain exceptions, as provided for in the Mortgage). Proncipal and interest are payable at Morgan (iaranty Trust Company of New York

Redemption and Purchase of Bonds. The New Bonds will be redeemahle in whole or in part on 30 days' notice (a) at the special redemption price set forth below for the replacement fund or with certain deposits and proceeds of property, and (b) at the general redempuon prices set forth below for all other redemptions; provided, however, that no New Bonds shall he redeemed prior to May 1. 198.1), if such redemption is for the purpose, or in anticipation. of refunding such New Bond through the unce ditectly or indirectly, of funds horrowed by the Company at an effective interest cost to the Company (calculated in accordance with acceptable financial practices) (f less than $10.9456 \%$ per annum.

If, at the time the notice in given, the redemption money, are not held by the Corporate Trustee, the redemption may be made subject to their receapt by the Corporate Trustee before the date fixed for redemption and such notice shall be of no effect unless such moneys are so received.

Cash deposited under any provisions of the Hortgage (with certain exceptions) may be applied to the purchase of Bonds of any serics. (Sec Mortgage. Art. X, and Twenty-eighth Supplemental, Sci 1.)

|  | General Redemption | Special Redemption |
| :---: | :---: | :---: |
| Year | Price (') | Price ( 5 ) |

If redeencel during the twelve months period ending April 30.

|  | 110.45 | 100.00 | 1984 | 102.05 | 100.00 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1976. | 110.45 | 100.0n | 19 | 101.00 | 10000 |
| 1977. | 109.40 | 10 |  | 100.00 | 100 (1) |
| 1978. | 108.35 | 100.00 |  | 100.00 |  |
| 1979 | 107.30 | 100.00 |  | 10000 | If(1)09) |
| 1980 | 10625 | 100.00 | 1989 | 100.00 | $\left.10(1)^{4}\right)$ |
| 1981 | 105.20 | 100.00 |  | 100.00 |  |
| 1982 | 10415 | loo.0t | 1990 |  |  |

in each case, together with accrued interest to the date fixed for redemption
 maintenance and replacements in respeet of the mongeaged property and automotise eywpment. Such requirement may be met be depositing cash or certifying grose property additions or autometive cquipment expenditures or by whing credit for Bonds and qualified hen bonds rethed Any excess in such oredits imay be appled ageanst future requirements. Such cash may be whidrawn on the basis of grose property additions of watrer of the fight to jsene Bends or maty be appled to the fetirement of Bond (Soe Nineternth Supplemental, Sec I and Twenty-cyghth Supplement.1, See. 2.)

Special Provicions for R，tirement of Bemols．If durmpan， 12 months perioul，properity in di pored of by the order of of to any governmental authonty，resulting in the receipt of \＄loghothet of mote as proceds therefor，the（ompany（subject to centan condutions and deductions）must apply wach proneeds to the retirement of Bonds．The New Bonds are redeemable at the vectal redemplion price tore this purpose．If the Company is conswlidated with，meeped into，or conveys all it property to，any wher corporation having a plant account of not lew 1 h．an $S(9,000,900$ ，of if a governmental or publice body acquires $70^{\circ}$ \％，of the C＇ompany＇s common stoch towards it dissolution．．Il outstanding Bonds indy he redeemed at the spectal redemption prices any wime within 12 months．（See Muftages，Secs． 64 and s． 7 ．）

Security．The New Bonds，together with all other Bonds now or hereafter isoued undet the Mortgage，will be secured hy the Mortgage，whish constitutes，in the opmion of General Coutach to the Company，a first mortpage lien on all of the eletric generating plant and other materially impottant physical properties of the Company（exeept as stated below），subject in（a）leaves of minor portions of the Company＇s property to others for uses which，in the opinion of counsel，do not interfere with the Company＇s husiness，（b）leases of eertain property ot the Company not used in its electric utility business． （c）excepted encumbrances，as defoned in the Moryatec，and（d）as to certain property stuated pumaraly

Irving Trust Company，as Trustee，dated as of Ovwher 1，1941，as supplemented．There are excepted from
the lien all cash and securities，cortan equipment．apparatus，materials and supplies；aircraft，automobiles and other vehicles；receivables，contracts，feases and operating aftrements；timber，minerals，mineral rights and royaltien and all natural gas and oil production property．

The Mortgage contains provisions for subjecting after－acquired property（subject to pre－existing liens）to the lien thereof，suhject to limitations in the case of consolidation，merger or sale of sub－tantially all of the Company s assects．（Sec Mortgage，See 87．）

The Mortgage provides that the Trustees shall have a lien upon the mortgaged property，pries to the Bonds，for the payment of their reasonable compensation and expenses and for indemnity ag．urat certain liabilities．（See Mortyate．Sec 96．）

Issuance of Additional Bonds．Bonds of any series may be issued from time to time on the havis of （1） $60 \%$ of Property Additions after adjustments to offset retirements，（2）retitement of Bonds oi qualificd lien bonds otherwiee than with Funded Cash and（3）deposit of cash．With certain excepuons in the case of $(2)$ above，the istatance of Bonds is subject to adjusted net earnings before income taxes for 12 out of the preceding 15 months heing at least twice the annual interest requirement on all Bonds at the time outstanding and on all indebtedness of proor ramk．Inchading the addrional isame．Such adjested net carnings are computed affer expenee for mambename and phovision for retrement and depredithon of property：provided that，in liew of the atwal proviswn for seltement and deprewation of wham mortfaged utility property and automotise equipment．there shall be used an amount equal to sh，isobhet
 prior to the beginning of the year for which catculated

Propery Addetons generally include electre，gas，steam or water uthly property，acquited after Aperl
 lines or natural gas and oil productorn propety．It is expected that the New Bonds will be iseted gazanct unfunded Propery Addtions and that ater the issuance thereof unfunded Propery Additions remainmg： will be approximately $\$ 234.000,000$ ．In adenthon，when the Bonds of all series issued prior to $19(0)$ h．ive been retired．Property Addwions theretofore findied to sathsty simhing or improvement funds for such serics will revert to untunded status．

The Montgage restriots the issuance of Bonds atsams Praperty Additions subject to prine liens
The amount of the if gatoons secured hy pror lion on motgaged property may be moteased provided that, if any property subject to such lien shall have been made the bask of a credit under the Mortgage by the (ompany, all the addtimat oblipations ate deponsted.
(See Montgage, Secs. 4 to 7,20 10 30 , and 46 , Sixpeenth Supplemental, Sec 5, Twentieth Supplemental, Secs. 2, 3 and 4 and Twenty-cighth Supplemental, Soc 2.)

Release and Substitution of Property. Properyy may be r teased against (1) depost of casth of, to a limited extent, purchase moncy mortgages, (2) Property Additions, and (3) waiver of the fight to istue
Bonds, without applying any earnings test. (ash may be withdrawn upon the bases stated in (2) and (3)
above. The Mortgage contains special provisions with respect to qualified lien bonds pledged and disposition of moneys feceived on pledged prior lien bonds. (See Mortgage, Secs. 5, 31, 32, 37, 46 to 511. 57 to 63 and 100.$)$

Dividend Covenants. All retained earnings as of June 30,1947 ( $\$ 3,560,311$ ), excent $\$ 130,000$, uas initially restricted as to payment of eash dividends on common stock. - amount of restricted retained carnings was subject to being incteased or decreased and restricted retalied earnings could be used for various purposes. As of Febroary 28. 1975 none of the retain-d earnings was restricted under the Mortgage. (Sec Mortgage, Sec 39; and Iwenty-eighth Supplemental, Sec. 2.)

Reference is also made to Note 5 to Consolidated Fuancial Statement, appearing el ewhore herem
The Trustees. Morpan Guaranty Irust Campany of New Yoth owns certain unsecured promissor) notes issued by the Company and is Truste for the Company's Retirement Plan for Emplaywes

Modification. The rights of the Bondholdets may be modified with the consent of the holdets of 70 .h of the Bonds, and. if less than all series of Bonds are affected, the consent also of the holders of 707e of the Bonds of each series affected. The Company has reserved the right without any consent of other actoon hy holders of the New Bonds or any other series of Bonds created since 1969 to substitute for the forezons: provision a provision to the effect that the rights of the Bondholders may be modified with the consent of holders of $6(63,9$ of the Bonds, and, if lear than all series of Bonds are affected, the consent also of holders of $66 \frac{2}{3} \%$ of the Bonds of each sernes sffected. In Eeneral. no modification of the terns of patyment of principal or interest and no modification aticcting the lien or reducing the pereentage required for: modification is effective against any Bondholder without his consent. (See Morigage, Art. XIX and Twenty-second Supplemental. Sec. 3.)

Defauls. Defaults are defined as: default in payment of prineipal: default for 60 days in payment of interest or of installments of funds for retirement of Bonds; certain events in bank ruptey, incolvency of reorganization; certain defaulis with respect to qualified lien bonds; and detault for 90 day, diter notise in other eovenants (See Mortgage. Sees. 65 and n6.)

The holders of $25^{t_{2}}$ of the Bonds may declare the principal and interest due on default, hut a magority may annul such declaration if such default has heen cured No holder of Bonds may enforee the lien of the Mortgage without giving the Irustees written notlec of a defanls and unles the holders of 256 of the Bonds have requested the Irusteen to att and offered indemnity satafactory to them agathst whe wow expenses and liabilities to be incurred therebs and reasomable opportunity to act. and the Irastes shall have fasled to act. The holders of a mapority of the Bonds ins direct the time. method and place of conducting any proceding, for any remedy available to the Trustees or exereising ans trast of power confered upon the Trustees. The Trustes are not required to rish their funds of incur personal hability if there is reasonable ground for helieving that repayment is not reasonably assured. (See Mortgaye. Sace 67, 71, 80 and 95.)

The Company must file with the Corporste Trustee amnually an Oilieers' Certificate with reterence to complance with the ternis of the Mortgage and the absence of defauls. (See Mortgage, Sic 44.)

## 1.IGAIIIY

The legality of the securities to which the Prospectus relates will he passed upon for the Company by Rives, Bonyhadi \& Drommond, General Coumal to the Company, Puhlic Service Babding. Portland. Oregon 97264, and for the underwriters by Wimthrop, Stimson. Putnam \& Ruberts, 40 Wall Sircti. New York, N. Y. 10005. However, all matters pertaining to the organization of the Company, and all matters of Oregon, Wyoming. Washington, Cahtornia, Montans, Utah and Idaho law will be passed upon only by Rives, Bonyhadi \& Drummond. Cieorge D. Rives, a pariner in the firm of Rives, Bonyhadid Drummond is a director of the Company and at March 1. 1975 members of the firm owned 4,566 shates of the Company's Common Siock.

## EXPERTS

The consolidated balance sheet as of December 31, 1974 and the related statements of consolidated income, retained carnings and changes in litiancial position for the five years then ended contained in this Prospectus have been examined by Haskins of Sells, independent Certified Public Accountants, as stated in their opinion appearing herein, and have heen so included in reliance upon such opinion given upon the authority of that firm as experts in accounting and auditing

The statements made as to matters of law and legal conclusions under "Business", and "Description of New Bonds" have icen reviewed by Rives, Bonyhadi \& Drummond and all such statements are set forth herein upon the authority of such counsel.

## OPINION OF INDEPINDENT CERTIFIFD PUBLIC ACCOUNTANTS

## Pacific Power \& Light Company:

We have examined the consolidated halance sheet of Pacific Powet \& Light Company and subsidaties as of December 31,1974 and the related statements of consolidated inceme, retained carnings. and changes in financial position for the five years then ended. Our examination was made in accordance with generally accepted auditing standards, and acoordingly induded such tewts of the accounting records and such other auditing procedure as we considered newwaty in the eremmstances.

In our opinion, the above-montioned sonsolidated financtal statements presem fatly the financial position of the companich at Deve her 31. 1974 and the festle of their operations and the shangev in their financial pesition for the fise years then ended, in conformit! with generally acopted ascounting prinsupler applied on a consistent hasis after restatement for the shames, with whish we concur, to the consolidated basis of presentation as explained in the scoond paragraph of Note 1 to Consolidated Financial Statements.

Hashins \& Sllis

Poriland, Oregon<br>Fobruary 28, 1975

## PACIFTC POWFR \& I.IGII CONHPANY ANI) SIBSIDIARII';

## CONSOI.IDATHD BAL.ANCE SHELI

ASSIIS
December 31.

| 1974 |
| :---: | | Februats 2 n |
| :---: |
| 1975 |
| (I naudited) |


| Util tiy Piant (Notes I and 6): |  |  |
| :---: | :---: | :---: |
| Utiby plant in servies | \$1.247,998 | \$1.24,1,144 |
| Electur | 2.765 | 2.76 |
| Steam heatine | 1060.563 | 191.1125 |
| Telsplion | 24,020 | 24,424 |
|  | 136.8333 | 1.371 45: |
| Total unhty plant in serwise <br> Accumulated provicions for deprecostion and amoratalaw. | (228, 202 ) |  |
|  | 1174471 | 1.135.20 |
| Utitity plant in sorvee E:3 | 325.639 | 353,16. |
| Construction work in proyerss | 4.757 | 4.757 |
| Uulity plam hish for future Use | 3,720 | 3.688 |
| Electric plant aratmstum adjustmens | 1.473 .547 | $1.449 . \times 98$ |
| Unilty plant-net | 1,473,547 |  |
| Othir Promirty and Invistments | 3.034 | 3.033 |
| Nonutility property (at cost) .a. | (21:) | (215) |
| Accumulated provisions for deproctation | 14.214 | 21.387 |
| Investment in print ventuter (Noter 1 and | 5.761 | 5.748 |
| Total other property and invostments | 22.798 | 29.453 |
|  |  |  |
| Currint Assh iv: | 7.347 | 3.723 |
| Cash (Note 10) | 1,461 | 4.227 |
| Working fordvand depouts | 2,840 | 3.928 |
| Temporary cath investments. |  |  |
| Accounk ferso thle | 16.951 | 17.347 |
| Custumet | 11.038 | 16, 26.6 |
| Other | (566) | 154 |
| Accumulited provemen for uncallevahk | 211.470 | 21) $\times 11$ |
| Materialsand supples (at aterage wost of hes | 1.40: | $1 \times 54$ |
| Prepayment | 61.053 | 6: $2: 1.2$ |
| Total current assers. |  |  |
| Ditmatin Dintis | 2.341 | 2.313 |
| Unamothed dely expense | 7.665 | 7,848 |
| Prelimmany survey and mesetesatoin charge | 8.888 | $\times 485$ |
| Jobhing and other work in proyers | 12.135 | 10.6029 |
| Total deferied deher- | 31,032 | 24.8 .46 |
|  | \$1. 585.480 | \$1.671.841 |
| Total ................ | - + - |  |

The accompanying Notes to Conoldalated timancial Statemems should be convidered in conjunction with the above statement

## PACIFIC POWIR \& L.ICIII (ONPANI ANI) SI BSHIIARIFS

## CONSOI.IDATID BAI.ANCF SHIET

## I.IABILITIS

|  | December 31, 1974 | Fehruary 28 . 1975 <br> (Unaudited) |
| :---: | :---: | :---: |
|  | -Thousan | Dullars - .-. |
| Captal 17 alos |  |  |
| Propnctary capual (Nute 4). | \$ 117,236 | 5117,236 |
|  |  |  |
|  | 75,350 232,179 | 81,730 279,449 |
| Premium oncaplat shenk .-. - | 11 | 196 |
| Installments rectecd on wrmmon that | (8,104) | (11.228) |
| Capital stock caprote | $135,1 \times 7$ | 149.455 |
| Relained cathan, ( Note : | 551.859 | 621.878 |
| Lotal propratary capatil | 749.164 | 748.60 k |
| Long term debt ( wite b) ...... | 1,301,028 | 1,370,506 |
| Total capualıation ................................... |  |  |
| Currant Liabis itils | 13,878 | 13.878 |
| Long-ierm deter cuncmil naturing | 69,400 | 40.419 |
| Noter payahle tio hank : *-th int | 43.665 | 56.110 |
| Commercial paper ( vote 10) | 35,49] | 22,986 |
| Acounts payable | 24,253 | 25.033 |
| Taxes actrued | 14,975 | 13,81] |
| Interest accrued ... | 11.379 | - |
| Dividende declares. | 6.916 | 10,319 |
| Other current hatiotio | 219.956 | 182.537 |
| Total sutsent lishilties |  |  |
| Difirrmid Catimis |  | 4.220 |
| Customer advanu for whatminet | 7.954 | 8,487 |
|  |  |  |
|  | 27.36 ${ }^{\circ}$ | 27,089 |
| Auclerated amerrostam | 10.2000 | 10.831 |
| Liberalized depreathath | 7.184 | 7.377 |
| Rep.ars, allow, atoce | 974 | 1.234 |
| Oiher deferted wistirs | $5792 ?$ | 59.2 .41 |
|  | 4702\% |  |
| Tonal dicterdetedio | 1.146 | 1.040 |
| Optrating. Ristrvis <br>  | * 8. 8,378 | 8.50 S |
|  |  |  |
|  | $51.5 \times 8.430$ | \$1.621.840 |

The acompansin: Vetc w Cinwoldated Finamalal Statements should be considered in wombethen with the abote statement.


The acompanying Notes to Consolidated Financial Statements should be considered in comyuntion with the above statement

PACHIC POWFR \& I.IGHT (OMPANY AND SI BSHDIARIFS
STAIIMFNT OF GIIANGIS IN (UNSOIIDATEDIINAN(IAI. POSITION

| Twelve <br> Aonths <br> Ended <br> aruary 28. <br> 1975 <br> naublited) |
| :---: |
| .137,803 |
| 56,078 |
| 193,881 |


| SOUKCE OI FUNDS |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| From Operations: | 5 31,051 | 5 38,884 | \$ 47, 88: | \$ 53,542 | \$ 54,129 | \$ 56,078 |
| Nel incomic Non-cash charges (credir)) to income |  |  | 21.097 | 26,062 | 30.901 | 31,692 |
| Depreciatuon ...................... |  | 1.230 | 1,546 | 2,662 | 4,536 | 4,397 |
| Deferred income taxes Net | (1,667) | 1.21 | 7.015 | 2,277 | (2,097) | ( 2.246 ) |
| Investinent tax credit athustments- Nel | (5,357) | ( 10,447 ) | (12, 324) | (7.887) | (16,744) | (18,942) |
| Allowance for foud used diving cunstruction ......... | (5,35) | (10,4a7) | (525) | (462) | (2,095) | (2) ${ }^{-8} \times 1$ ) |
| Undsinhuted eatninco af punt ventuter Minority interest in net income of subudiaties | 5 $\begin{array}{r}3 \\ 5.353\end{array}$ | 3 1.670 | 201 857 | 167 421 | $\begin{array}{r} 805 \\ (419) \end{array}$ | $\begin{gathered} 1.4 \\ (64 \div) \end{gathered}$ |
| Other-Net .......... ......................................... | 5.353 | 1,670 |  |  |  |  |
| Total from operation | 47,317 | 51,461 | 65,55x | 76,762 | 68.9 | $6 x$ |
| From Outside Sources | 24.746 | 73,95 | 39.423 | 45,593 | 137,155 | 74,737 |
| Long-term debt | 24,746 | 29,930 | 25,042 | 45,593 | - | 10-618 |
| Preferred stock | 23,927 | 1,019 | 37,077 | 37.107 | 51.94 .4 | $10^{-2515}$ |
| Common stock | 2, 5,000 | 1.019 | - | 57.081 | 56.266 | 76.10 |
| Net increase in short term det | 2,025 | 150 | - | 8.810 | -- |  |
| crase in icmpor | 75,698 | 105.054 | 101.842 | 148,591 | 245,401 | 256.32 .4 |
| Decrease (Increase) in working capital (excluding short- |  |  | 9,234 | 18.857 | (7,185) | (11.832) |
| term debr and temporary investments) | $\begin{aligned} & 3,245 \\ & 1,660 \end{aligned}$ | 3,582 $(9.314)$ | 5,053 | (5.975) | 6.684 | 11035 |
| Other sourses-Net |  | \$150.763 | S181.32 | 5 5238.255 | 5313 kr 5 | \$325.644 |
| Total source of fu | 812792 | $\underline{\text { sitanem }}$ |  |  |  |  |
| Appiication or Funds |  |  |  |  |  |  |
| Construction Expenditures | \$106.547 | \$120,670 | \$111.618 | \$173.010 | 8258,99? | \$274. 27.9 |
| Uulity plant | $\begin{array}{r}5106547 \\ \hline 974\end{array}$ | \$120,670 | ${ }_{27}$ | -128 | 213 | 189 |
|  | 107,521 | 120.750 | 111.6 .4 | 173.138 | 259 ? 18 | $274^{2} 16$ |
| Total construation expendrures Less allow ance for funds used during const | 5,367 | 10.447 | 12.724 | 7.887 | 16.794 | 18.6.2? |
| Consifuction expendituts Net | 102.164 | 110.303 | 49.321 | 165.251 | 24. 40\% | 25546 |
| Purchase of Telephone Uhlote Inc, Iest working caphel |  |  |  |  |  |  |
| acquirsd |  | * | - | 61.653 | - |  |
| Property ..- Net . | - | - | - | (2.573) | ** |  |
| Other asests and hathinger |  | $=$ | - | (31.492) | - |  |
| Lonf-terin deht awumied. |  |  |  |  |  |  |
| Dividends | 3,003 | 5.115 | 6,815 | 8.407 |  |  |
| Prefurtied stock | 20.791 | 21.919 | 27,131 | 31.143 | 30.019 | 16. ${ }^{25} \times 17$ |
| Commion stock ..... | 1,272 | 10.436 | * 10.161 | $7 \times 66$ | 25.856 | 25,317 |
| Long term deht returement | 1.27 | 1.000 | 8.8.156 | - | 1.179 | , |
| Net decte ise in shert-term drat Net increase in tempran investments............................ |  | , | 9.6013 | - | 1.177 | A |
| Netincrease in mempral | 5127.420 | \$1,96, 73 | \$181.397 | \$235.255 | \$313.86\% | 832 218 |
| Total applisaten orf funds | 31306 | marten as | aramer | -mates |  | Ratheram |

The accompanying Notes to Conolidated Finanoal Statements should be considered in conjuntion with the above statement.

## PACIFIC POWTR \& L.IGHI (OMPAN AND SUBSIHHARHS NOTESTO CONSOHIDAIED HNANCIAL SIATESENTS <br> For the Five I cars Finded December 31. 1974 and (Unatedited) the Twelve Months Finled February <br> 2K. 1975

## 1. Summary of Siginilicani Accounting. Poile lis:

## Basis of Presentation

The consoldated fimancial statements include the accounts of the Company and its subvidanes all majority-owned, smese datev of organizatuon of acquistion. The Company and such subsidaritare herein sometimes referfed to as the "Companies." Ail ssemificant intercompany tratsactions and beances have been eliminated.

Financial statements for periods, prior to 1974, which previonsly included the subsiduries on the equity basis of accounting, have heen revated to the consoldated basiv of pesentation. This restatement had no effect on previsusly repotted net inowe

Investments in unmeorporated joint vemures are included in the finanoval statements on the equity

## basis.

## Regulatory Auhoritics-

Federal ancrathens of the Companics the public regulatory anemes of the various states in which the Compathes onerate

## Ucility Plant

Utibty plant in service is stated substamially at original cost. Additions to uthity plant rapresent the original cost of contracted ervices, difect lahor and material allowance for funds used during anstruction and indireet drarges for enpmeering. supervaton and similat overhead item. Mamtenanco eded repars of property, and replatements and renewabs of itoms determined to be less than units of propets. are charged to operating expense- maintenance. The wost of units of property replived of rencwed. plua temovel costs. les salvages is chatged to accumblited prowision for depreciaton, and the cost of related replacements and remewits kadded to utility plant. Betterments are charged to uthlity plant Lpon sale of disposition of property other than through nowmal retiement. the difference netween the preved realized
 recorded in theoms
Allowance for tuads l wed Durine Convruction
 for funds used during construction is insladed in construstorn work in pregrese and weth ad to incents using a composite rate, applied to constrictonn work in progeros, which assumes that foind used for construction were prosided by horrowings, preferred stoch, and common csiuity. This akorming practies
 appropriate cost of funds for the purpose of extablishing tates for utility charges to custom. is

## Depreciation-

Depreciation of utilety plant is computad under the straght-line thethod based on the estumated service lives of the vamous classes of property.

 twelve monthe ended Febraary 28,1975 , wepretively

## NOTHS TO (ONOOHIDAIHDHNANCIAL SIATHMENTS-(Continued)

## Income Taxes-

The Company includes the operations of its subsidiaries in a consolidated Federal income tax reurn. Income tax provisoons of the andividual companes ate computed on a separate return basis.

For income tax purpowe , the Companies generally compute depreciation under the liberalized
aries, all te herein ces have

## $s$ on the catemert

se equity
: rates by - operate.
esent the estruction er irs of ; removal if related un sale or - sealized thercto, is
allowance as income s used for 4 practice zues as an
: estimated
aged) was
$\therefore t$ and the methods allowed by the Awet I) eptetattom Kange System (AD) which betame effective in 1971. Fin electric, steam heatigg, and water uthly proportiex, deferred income taxes ate provided for the excess of the :ax reductions attributahle to the uwe of ADR over the we of liberalized depreciation methods and guideline lives used prior to the adoption of AD R. The tax reductions relating to the difference hetw.een such prior liberalized methods and both deprectation are flowed throu;h to net income. For telephone utility properties, deferred inume taxes are provided for the total tax reduction fesulting from the excess of the ADR method wer bowh depretation.

Federal income tax reductions resulting from the investment tax credit relating to utility plant other than telep,ione are deferred and amortized to inwome over five year periods for those related to mass property additions and ten-ycat petiods for those related to major additions. Investment tax credits relating to telephone plant are deferred and amortized to income over the estimated useful life of the property.

Deferred income taxes atcumulated prior to 1964 resuluing from accelerated amortization of certain properties under Necewity Cernticates are being amortized to income.

## Retirement Plans-

Substantally all employeco of the Companics are covered under sarious retirement plans. Current service coste are funded as the hathilty acorues, hased on actuarial determinations. Prior service costs are being amortized over penods tanging up to 30 years.

## 2. Sursidiarits and Jomi Vivteris

The operations of Teleplome ( frlitice Inc (T.U.) are include in the consolidated finanowal statenents sine Otwher I. W7: at whit tine the Compans had acquired by purchase appownately $66^{\circ} \mathrm{c}$ of the oustanding common stisk of 1.1 . a Washneton ompany operatugg telephone propertes, through subsidaries. primeytalls in II whmeton. Oiegon, Idaho and Nexada. On Novemher 30. 1473, the Company exchamed atl of the ourvomden" womon stoch of its sphidiary. Northwestern Tetephone
 Company's ownersiip of apptot:mately xire of the oustanding comnon stock of TU.

Insesiments in joint ceness indtude the $50^{\circ} \mathrm{E}$ equity interest in Decher Co-' Company, an

 \$3,313, and $\$ 13,918$, ropectivels. at theamber 31, 1974)

## NOTES TO CONSOLIHATED FINANCIALSTATEMINTS-(Continued)

The Company's equity in operations of the joint venture for the three year ended December 31, 1474 and the twelve monthe ended February 28,1975 is summarized as follows (in thousands):


## 3. Income taxis

Provisions for income taxes 'or the five years ended December 31, 1974 and the twelve months ended February 28, 1975 were less than the amounts computed by applying the statutory Federal income tax. fate of $48 \%$ to income before tax. The reasons for these differences are as follows (in thousands):

|  | 1970 | 1971 | 1972 | 1973 | 1974 | Februart 28 . 1975 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Computed meome lax hased on Statwory Feder- <br> al inconic tax fate: | \$17,77 | \$22.775 | \$27,555 | \$29.398 | \$26.904 | \$27,0t6 |
| Reduction in las revitung fromr Allowance for funds used during construc- tion | (2,627) | (5.014) | $(5,916)$ | (3.897) | (8.061) | $(9.116)$ $(10.147)$ |
| Facess of tax ower book depictalion ffowthrough hases) | $(6,492)$ | ( 5,578 ) | (7,36.3) | $(10.262)$ | (10.208) | $(2.420)$ |
| Ad valorem, payroll and sales taxev sapuatized | (1.374) | $\begin{array}{r} (1.575) \\ (49) \end{array}$ | $\begin{aligned} & (1.467) \\ & (737) \end{aligned}$ | $\begin{aligned} & (1.647) \\ & (1.573) \end{aligned}$ | $\begin{aligned} & (2.237) \\ & (1.570) \end{aligned}$ | $\begin{aligned} & (2.420) \\ & (1.594) \end{aligned}$ |
|  | (1.381) | (1.591) | (1.760) | (3.494) | $(3,437)$ | $\frac{(3.914)}{(25)}$ |
| timing differstiss <br> Total income tax cxpente (eredit) | 5.750 169 | 8.968 483 | $\begin{aligned} & 10,312 \\ & (62) \end{aligned}$ | $\begin{aligned} & 8.525 \\ & (1.053) \end{aligned}$ | $\begin{array}{r} 1.38 y \\ 14.124 \end{array}$ | $\left(\begin{array}{r} (25) \\ (2,744) \end{array}\right.$ |
| Ameunt eredited (slsarged) to other moome. | 169 | 483 |  |  |  |  |
| Federal and state income tax expenoc (crede) included in opesating expenses | \$ 5.919 | $\$ 9.451$ | \$10.250 | \$ 7.472 | $\$(2.740)$ | $\begin{aligned} & \$(2.769) \\ & =1 \end{aligned}$ |

Income tax expense consivs of the following (in thousands):


Deferred income taxes relate primarily to timing differenes between book and tax deprectation amounts.

## NOTISTO (ONS()IIDAIEI) IINAN(IALSIAIINIINIS-(Continued)

## 4. Proprhtary Cablial:

Under an Impleneec' Stank Purchase Plan. 26.929 thatev of eommon stoch were held by the
 of the participants in the Plan at February 28, 1975 (28.397 and 109,706, respectively, at Decenher 31. 1974). In addition. 255,37 , shates were reverved for future offerings under the Plan (253,943 at December 31, 1974)

At December 31, 1974 and Februai) 28, 1975 the Company had outstanding the following share of cumulative Preferrel Stoch. The redemption and liquidation price shown would he increased by any unpaid aceumulated dividends to date of redemption or hiquidation.

|  | Redemption <br> Price Per Sharefl) |
| :--- | :--- | :--- | :--- | :--- |


| Twelve |
| :---: |
| Months |
| Ended |
| February |
| 1975 |

$\mathbf{S ( 2 . 6 3 0 )} 454$
454
6.469
$(2.072)$
$\frac{(2.246)}{5(25)}$
depreciation
 $\$ 100$ per share and the remanme wastandengeseris are entuled to an: amosemt cqual
 higudation atl pefered stoch is entated of par or stated value per shate
(2) The 908 'a and 796 efres are not redeemable pror to July 1.1976 and Nowember


 liquidation. if the interest wh stidh mdebtedness of the divadends on shares of ams such prefersed steck would result in eflectise ebst to the Company of less that $9.0746^{\circ}$ and $7.9315^{\circ}$. espertesly per annum

## NOTESTO CONGOI.DATED FINANCIAL.STATEAINTS-(Continued)

Changes in capital stock and related premiums (im thousands):

|  | Total Premium | Shafes | Premium | Slares | Premium |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 597943 | 15.415 | 5 94,86.6 | 622 | \$ 77 |
| Balance, January 1, 1470.....ay | 747 | 53 | 747 |  |  |
| 1970 - On vales twemployecs ................ | 23 | 1 | 23 |  |  |
| On conversan of deheatures ........ On wiles to public..................... | 19,326 | 1,546 | 19.326 |  |  |
| On wies to publie ..................... | 780 | 55 | 780 |  |  |
| 1971- On sales to emplayes On conversion of detwotures ........ | 343 | 21 | 343 |  |  |
| On conversion of dethet On sales to public... | 18 |  |  |  | 18 |
| 1972 Ons salev to empligers | 1.254 | 76 | 1,254 |  |  |
| On conveiswon of det-sntures ....... | 137 | 8 | 851 | 250 | 89 |
| On sales to public ma.................. | 30.440 | 1,714 | 1.291 |  |  |
| 1973. On sales to employecs ............... | 1.241 85 | 5 | 85 |  |  |
| On conversion of | 31.600 | 1,600 | 31.600 |  |  |
| On sales to public ...... | 1.283 | 87 | 1.283 |  |  |
| 1974- On sales to emplayees | 34 | 2 | 34 |  |  |
| On conversion of di On sales so public.. | 44,375 | 2.500 | 44,375 |  |  |
|  | 232.179 | 23,185 | 231.995 | 1.172 | 184 |
| Balance, December 31. 1974 | 232,179 |  |  |  |  |
| 1975 (fol Febrwaty 28.1975 ) | 20 | 1 | 20 |  |  |
| On sales to employed <br> On sales io public | 47,250 | 3.500 | 47.250 |  | - |
|  | \$279.449 | 26,686 | \$779,26.5 | 1.172 | \$184 |
| Balance, February 28, 1975 | \$27,44 | $2 \mathrm{~m} .2 \cdot \mathrm{=}$ | ¢ $+2 \times \mathrm{cos}$ | Fusar | \#um |

## 5. Restrictions on Consolidatid Ritainid Farningis

Total consolidated retained earninge not avalable for the payment of dividenda agpregate $59,659,000$


Under an order of the Sceuritios and texthange Commission, dated tpril 24. 1047, it womeston with the merger of Northwestern Heethi Company mbe the Compony, no dividends mas he didated of paid on the common stock of the Company (other than dividends pay.dble in sommon stok ) etwept out of earnings accumblated subwequent to the eflective date of the merger and affer deduetwe theretfom the dividend requirement on the Company's prefered stock from such date: at eesh of the batane sheet dates there was $\$ 3,953,000$ of retained earnings so restreted. Althoug the Company s mortape telating to its First Mortgape Bonds contams restrictive plowsoms relatmg wommon stoch dividends none of the retained earnugs at such date w, is restricted theteunder.

The loan agreements covering oustanding: debt of ceriain subsidaaries impose, among other covenants, limitations on the p.yment of dividends. Under the moxt mestrictive merpretation of these covenants, $\$ 5,706,000$ and $\$ 5,944,000$ of retained canmings of such subsdatics w, is restroted al Devember 31, 1974 and Fehruary 28, 1975, eepectively

## NOTLS 10 CONSOLIDAHD HNANCBA.STATEMENTS-(Contimed)

6. Long-Tirm Dim:
long-term deht istued or assumed by the Company and its subsidiatic and outstan diny at December 31, 1974 and February 28, 1975 was as follows (in thousatid):

1874
1975
Pacific Power \& L.ipht Company:
First Morgate Bond.


3\%'. Sene dae April 1. 1978 ........................................ 4.509 4, 4.501
3\%': Sener due August I, 1979...............................................4, 4, 451 4,951
3 Si Series due 1980) .................................................... 9, 900 9,000
41\%': Series duc June 1.1981........................................ $\quad 5.849 \quad 5.849$

3\%: Serne due September 1. 1482 ...................................... $\quad 7,500 \quad 7,500$
4\%': Series due Octuher I. 1982 ........................................... 6.157 6.157
314. Sorie due Marth 1, 1984..............................................59 $\quad 8.659$


4) \& ' Series due May I. 1986 ................................................... 14.454 14,454

4\%'s Series due July 1. 1988 ................................... $\quad 20.000 \quad 20,000$
51/2k Series due 1990 ........................................................... $20,000 \quad 20,000$

4/2: Scries due December 1. 1492 ................................... $32,000 \quad 32.000$
4). Series due 1993 .............................................. $30,000 \quad 30,000$

8 © Scrics due 1999 .......................................................... 25,000 25,000
8\%e Series duc Noventher 1. 1999 ............................. 20.000
$9 \%$ fir Series due 2000 .......................................................000 25.0 ml


301000 - 20 men

Rawlins Electuc Compan)
First Mortzage Bionds

6 F Series due 1977 . $\quad 128 \quad 128$
$\begin{array}{llrr}\text { Guaranty of Pollution Contall Revenue Bonds, fó Serses due } 20003 & 25,000 & 25,060 \\ \text { Miscellaneous } & 1,060 & 1,034\end{array}$
Unamortized premum and disorumt e, hong-term deht................ (3.262) (3.239)


## NOTE TO (ONSOLIDATLD FINANCIAL SIATHMINTS-(Contimed)

|  | 1974 | 1975 |
| :---: | :---: | :---: |
| Subsidiarics: |  |  |
| 'Teiephone Utilats, Inc: |  |  |
| 2\%. Firse Morfay Vetes due 1590-1999. | 919 |  |
| 41/2'r-101/ \% I int Sartexe Notes due 1975-1998 | 20,163 | 20.092 |
| 7\%\% Serond Mong.age Sote due 19:5.... | $\begin{aligned} & 11,006 \\ & 12,875 \end{aligned}$ | $\begin{aligned} & 11,600 \\ & 12,8,31 \end{aligned}$ |
| 51400.9\%\% Uncoured N tes due 1978-1940 |  |  |
| Total Telephone Uulities, Inc. | 44.947 | 44,824 |
| Other Subudiaries |  | 1.453 |
| $7 \%$-8\% U/nsectured Noter due in insallments through 1997 | 4.683 | 4.308 |
| $10 \%^{*}$ Note due in mstallinents through 1978 $714 \%$ Now due 1950 | $4,6 \times 3$ 7,000 | 7,000 |
| Total lone-term debt of subvinaties | $58,58,3$ | $5 \times .085$ |
| Total long-term debt | \$749.169 | $74 \times .668$ |

- Interest rate at December 31, 1974 and Fehruary 28, 1975; 12 ate is based on prime rate plus 3"6 such rate to be not less than 6'a nor more than 10 'a,
In April, 1975 the Company expects to guarantee $\$ 15,000,000,8$ 1ks Series, due 2005, pollution control revenue bonds to be isuued by Sweetwatter County. Wyoming.

Substantially all of the assets of the Company and its subsidiaries are subject to liens of mortgages or security agreements. Additurnal First Morigage Bonds of the Company may be issued in amounts limited by property, earnings and other provisions of the mongage indenture.

Maturity and sinking fund iequirements for the years 1975 to 1979 on the total lonjeterm debs outstanding amount to $\$ 19,087,000$ for $1975,89,047,000$ for 1976, $\$ 38,032$, who for 1977, $810,910,000$ for 1978 and $\$ 11,183,000$ for 1979 Or these requirements $\$ 11.139,000$ in 1975, $\$ 1.099,0010$ in 1976 $\$ 30,084,000$ in 1977, $\$ 3,670,000$ in 1978, and $\$ 4,060,000$ in 1979, are p.yyable in eash: the remainder mas be satisfied by certification of properly additions as follows: 1975, $\$ 7,948$ m00; 1976, $87.948,060,1977$, $\$ 7,948,000 ; 1978, \$ 7.2409 \mathrm{~mm}$, and 1979. $\$ 7.123,000$

## 7. Commitminis anid Contingisotis

Reference is made to "L se of Proceck, Comemetion P'agham and Iimansug Plams" and "Busines Property and Power Supph" for information relating to the Company's construction progeram. The Company has substantal commitments in comectan thetewilh.

Substantial amounts of power are being purchased under horterm artageements with "11 whimetort
 "cost of service" bavis, with the Company huying a sated percenage of provet output and paying a like pereentage of probed annual cooss (opetating expentes ant deht serviee) which are induded in "Powet
 for firm power to stet deter and most of them aloo provide for addhonal power, wihdraw. able by the

## NOTFS IO (ONSOIIDATEDFINAN(IAI.SIATINIVIS-( (ontimed)

owner upon two to five year' notice. For the gear 1974 purchave whid these arrangement ap proximated $27^{\circ} \mathrm{m}$ of the Company's energy requatements: $14^{\circ}$. Was whtaned through other purathat athe net interchange arrangements. The Company has recened fottee of withdrewal efective 1976 , thomeh 1979 to withdraw up to approximately $159,000 \mathrm{kw}$ capacity from there plamts.

Reference is made to information under "Business - Property and I'ower Supply" relating to heaners on hydroclectric planis.

The Companies have incurred expenses related to lease commatm. mis for the penods inchated as follows:

Rental payments are calculated upon the basis of elapoed time Substamball all aptom: for fensw existing leases provide for negothathon of the atmount of rental at the tome of exerotsing shath opte is
 Companies are also committed to p.at all tates and expernse of operation (other than depeetition) and emaintenance applababe to the leased properts. except for the properts under several relathely namot leases.

## NOTES TO (ONSOLIDATHD FINANCIAL. SIATEMINIS-(Continued)

## 8. Employits Ritirimlint Pians:

For the years ended December 31, 1970 through 1974, respectively, returement plan costs were
 $\$ \$ 44,000$ and $\$ 311,000$ were for prior sentee Of these costs. $\$ 908.6 \%), \$ 1,179,000$, $\$ 1,187,000$ $\$ 1,206,000$ and $\$ 1,399,000$, respectively, were eppleatle to conctretion. payroll and were chay, ad tophent accounts. For the twelve months ended Februen 28 , 1975 reurement plan costs were \$3.916.0 eh
 charged to plant accounts. Unfunded piot service cost at January 1. 1974 (exclusive of interest) was approxumately $\$ 6,250,600$. Of this total liability upproximately $\$ 2,998,000$ represented the anount hy which vested benefits exeeeded the pension find awets. In Suptember 1974, the Fuderal 10:4 Pensunt Reform Act was enacted and will hecone applicalie to the Companies, in perturent part, in 1975. The Companies have estimated that retirement plan costs will increase approximately $\$ 300,00 \%$ to 5700,000 annually as a result of such Act
9. Supplementary Income Statiment Intormation:


| Federai and shate socizl securit | 51.371 | \$ 1.511 | \$1.816 | 5 2.478 | 5 3,225 | \$ $3.36,4$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Federal and state soctil securi) Properiy. | 5 | $13655$ | 16,990 | 18.201 | 20.99 te | 21.428 |
|  |  | 877 | 913 | 9.4 | $1.45 \%$ | 1 5he |
| State gross ieseipts tax on pulblic utilities ... | 792 | 877 |  | 904 |  |  |
| Ocrupation and franclise | 2,2k: | 2.436 | 2.78 3 | 2.6 |  |  |
| Regulatur) sommissuon foss | $1: 4$ | 109 | 204 | 255 | 26 | \% |
| Stame saler and use | 2.215 | 2.537 | 1,570 | 2.1149 | 2.278 |  |
| Miscellaneors | $2:$ ? | 235 | 261 | 3.4 | 5.4 | 413 |
| Total | 520515 : | $5: 13 \times 1$ | 5) $4.56,1$ | 820483 $8: 84$ | 811.404 | 8.17850 |
| Charged to |  |  |  | \$22. 1 n 4 | \$24.08* | $5: 17414$ |
| Operatuge expenses-. Taxys | $\$ 16$ |  |  |  | 200 | \% Wh |
| Other incone accounts | 23. |  |  |  |  |  |
| Utility plant, clearing and sundry dowsunts. | $3.6: 4$ | $3 \text { net }$ | $\begin{array}{r} 4,544 \\ \text { newurn } \end{array}$ |  |  | = |

Maintenance and depreciation, other than amaunts set out sepatately in the Statement of Consolsdated Income, are not material

Amounts of adverising costs and feseath and development costs are not material.
For further information regarding lease commitments and rentals see Note 7 .

## NOTES TO (ONSOIIDATED IINANCIAL SIAIFMENTS-(Concluded)

## 10. Complinsating Bai anets and Short-Tiru Boprowing:

Substantially all of the funds included in eash are in the form of demand deposits and include compensating balanees informally required by banks under a credu agrecment and hnes of credre with respect to outsanding shorf-evmi loans and unused lines of credt. Theee balances may be withdrawn without restretion for we as peneral oferating funds on is day-fo-d.s) bass, provided the Compary maintains average hanh halances ontaling lt': of the hanks' ommitment under the eredit agreement and lines of credit or $15 \%$ of the oustanding borrowings, whichever is ereater.

At December 31, 1974 and Fehruary 28, 1975, and during the twelve month period then ended, total bank commitments under the credn agreement and lines of credit were $\$ 65,000,000$ and average compensating balance requirements were $\$ 6,500,000$. The lines of eredit are periodically reviewed by the various banks and may be renewed or cancelled. Commitment fees charped in connection with the credit agreement and Eurodollar loan facihty are not significant: no commitment fee is charged in connection with maintaining the lines of eredit. On July 1, 1974 the Company replaced the credit agreement with lines of credit.

At December 31, 1974, outstanding notes payable to banks under the lines of credit tntaled $\$ 43,000,000$ representing short-term rotes with an average interest rate of $1026 \%$, during the yeat then ended, such notes payable averaged (on a monthly weighted basis) $\$ 25,167,000$ with an average interest rate of $11.03 \%$. During the same period, maxinum month-end aggregate shor-term notes payable under such lines were $\$ 43,000,000$.

On February 28, 1975, there were no notes payable under the lines of credit: duting the twelve months then ended, notes payable te banks averaged (on a monthly weighted hasis) $\$ 22,416,667$ with an average interest rate of 11.27 . Maximum month end aggreqate short-term motes payable to banks during the twelve monthe ended Fehruary 28.1975 were $\$ 43,000,000$

At December 31, 1974, there was $\$ 43,665,000$ of commercial paper oustanding with an average interest rate of 10.73 ; during the year then ended. commercial paper outstanding averaged $\$ 19.820 .000$ with an average inturet tate of 12 n9\%. Maximum menth-end ageregate commercial paper outstanding: during the year ended December 31, 1974, was $\$ 52.150,000$.

On February 28, 1975, there was $\$ 56,110,000$ of commeroal paper eutstanding with an average interest tate of 7.23 zat duting the twelve month then ended, commercal paper outatandine averaged \$28.838.000 with an arerage interest rate of 1103 ;. Maximum month-end ayeregate commeroal paper outstanding during the twelve months ended tebruan 28, 1975 was $\$ 56.1$ to., (4t).

At December 31, 1974, there was $\$ 21.000,000$ of outstanding notes payable under the Eurodellat loan facility representing short-term notes with an average interest rate of 10.91 es during the year then ended. notes payable under this Ioan fachity averaged $\$ 7.583,000$ with ag average interest rate of 10.978 Maximum month-end ageregate shor-serm motes payahle under this wowdollar loan facelity during the year ended December 31, 1974, were $\$ 35,000,000$.
 Loan Facility representing short-term notes with an aterage interest fate of $7+1$ é during the pear then
 Maximum month end ageregate short-term notes payable under the I urodollar Loan Favity for the twelve months ended February $2 \mathrm{~S}, 1975$ were sis, $0(4), 0(0)$

Reference is made to "Use of Proceede, Concrution Program and Fimaning Plans" for information felating to the Company's shon-term borrowing suthority

## UNDIRN:RITING,

Subject to the terms and condrions set forth in the Lnderwnting: Agreement, the Compans hes agreed to sell to each of the Underwmers named bstow and each of the Underw riters, for whom Salum as Brothers, Blyth Eastman Dillon \& Co. Incorporated, The First Bostun Corporation and Kidder, Peabody \& Co. Incorporated are acting as Representatives, has severally agreed to purchase the principal amount of the New Bonds, if any are purchased, set forth opposite its name below:

| Name | Principal <br> Amount |
| :---: | :---: |
| Salomon Brothers | \$ $4,750,000$ |
| Blyth Ea iuman Dilion \& Co. Incorpora | 4,750,000 |
| The First Boston Corpotation | 4,750,000 |
| Kidder, Peabody \& Co. Incorpotated | 4,750,000 |
| Dillon, Read \& Co Inc | 1,000,000 |
| Drexel Burnham A Co. I | 1,000,000 |
| Goidmari. Sachs \& Co | 1,000,000 |
| Halsey, Stuart \& Co. Inc | 1.0 |
| Hornblower \& Weeks-Hemphill, Noyes incorporated | 1,000,000 |
| E. F. Hutton \& Company Inc.......................... | 1,000,000 |
| Kuhn, Loeb \& Co. | 1,000,000 |
| Lazard Freres de Co. | $1,000.000$ |
| Lehinan Brothers Incorporated | 1,000,000 |
| Loeb, Rhoades \& Co | 1,000,000 |
| Merrill Lyach. Pierce. Fenner \& Smath Incorperaled | 1.000,000 |
| Paine. Webber, Jackson \& Curus Incorporated | 1.000 .000 |
| Reynolds Secunties Ing | 1.000.000 |
| Smith. Barney \& Cu Incouporated | 1,000,000 |
| Werthe.m \& Co. Inc. | $1,000,000$ |
| Whute. Weid \& Co. Inco | 1,000,000 |
| Dean Witter \& Co. Incor | 1,000,000 |
| Bear, Stearns $k$ Co. | 690,000 |
| L. F. Rothschild \& Co | 690.000 |
| Sirsarson Hayden Stone lac | 690,000 |
| Shields Model Reland Secuntues | 690,000 |
| Weeden \& Co. Incorporated | 690,000 |
| Basle Securities Corporation | 500,000 |
| Alex. Brown d Sons. | 500,000 |
| Daiwa Securives Americy Inc | 500,000 |
| F. Eherstadt \& Co, Inc | 500,000 |
| Harris. Upham \& Co. Inoorporated | 500,000 |
| Nomura Securiues International, Inc................ | - 500,000 |
| Wm E Pollock \& Co. Ins | 500,000 |
| R.W. Pressprich \& Co Incorporated | 500,000 |
| SoGen-Swiss Incernatienal Corporaturn | 500,000 |
| Thenison \& Mckinnon Auchincloss Kohimeye: Ins $\qquad$ | 1500,000 |
| Spencer Trasi \& Co. Incornorated | 500.0070 |
| Tucker, Anthony \& R L Das | 500.044 |
| UBS.DB Corporation | 00 |
| Wood. Siruthers \& Wiuthrop Ins | 500,0010 |
| Adies Co | $350,00 \mathrm{l}$ |
| Baron, Whipple \& Co | 350,000 |
|  | 350,000 |



The several Unilerwerters propose initially to offer the New Borde to the public at the puble eflemeg price set forth on the cover paze of thi Prospectus, and to certain dealers at such price test a conce mon not in excess of .7 of $1 \%$ of tive principal amount of the New Bond. The Inderv niter maly allow a d w. h dealers may reallow a concession not in excess of . 5 of $1 \%$ of the principal amount of the New B and to certain other dealers. Some or all of the Underwriters may be metuded amory such deaters. Ather the initial public offcring, the public offering price and concessions to dealers mas) be changed from time to time hy the Representatives of the Underwriters.

## $\$ 40,000,000$

## Portland General Electric Company

## First Mortgage Bonds, 10\% Series due April 1, 1982

The New Bonds will be redeemable at the option of the Company at prices set forth herein, provided that no redemption may be made prior to April 1, 1980 through refunding by the issuance of indebtedness having an interest cost of less than $10.0 \%$ per annum. See "Description of New Boads" herein.

The Company will make application for the listing of the New Bonds on the New York Stock Exchange. Listing will be subject to meeting the requirements of the Exchange, including those relating io distribution.

THESE SECURITIES HAVE NOT BEEN APPROVED OR DISAPPROVED BY THE SECURITIES AND EXCHANGE COMMISSION NOR HAS THE COMMISSION PASSED UPON THE ACCURACY OR ADEQUACY OF THIS PROSPECTUS. ANY REPRESENTATION TO THE CONTRAKY IS A CRIMINAL OFFENSE.

|  | Price to Public (1) | Underwriting <br> Discounts and Commissions (2) | Procceds to Company (1) (s) |
| :---: | :---: | :---: | :---: |
| Per Bond . . . . . . . . . . . . . . . . . . | 100.00\% | 1.30\% | 98.70\% |
| Total . . . . . | \$40,000,000 | \$520,000 | \$39,480,000 |

(1) Plus accrued interest from April 1, 1975 to date of delivery and payment.
(2) The Company has agreed to indemnify the severai Underwriters against certain civil liabilities, including liabilities under the Securities Act of 1933.
(3) Before deducting expenses payable by the Company estimated at $\$ 95,000$.

The New Bonds, which will be issued in fully registered form only, are offered by the several Underwriters thereof as set forth under "Underwriting" herein. It is expecied that delivery of the New Bonds will be made in New York, N. Y. on or about April 10, 1975.

# Blyth Eastman Dillon \& Co. INCORPORATED 

The date of this Prospectus is April 3, 1975.

IN CONNECTION WITH THIS OFFERING, THE UNDERWRITERS MAY OVL: ALLOT OR ZFFECT TRANSACTIONS WHICH STABILIZE OR MAINTAIN THF MARKET PKICE OF THE NEW BONDS AT A LEVEL ABOVE THAT WHICH MIGHI OTHERWISE PREVAIL IN THE OPEN MARKET. SUCH STABILIZING, IF CO: MENCED, MAY BE DISCONTINUED AT ANY TIME.

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No person has been authorized to give any information or to make any representation not contained in this Prospectus and, if given or made, such information or representation must not be relied upon as having been authorized. This Prospectus does not constitute an offer of an' securities other than those to which it relates or an offer of those sccurities to which it relat to any person in any jurisdiction where such offer would be unlawful. The delivery of this Prospectus at any time does not imply that the information herein is correct as of any time subsequent to its date.

## AVAILABLE INFORMATION

Portland General Electric Company (the "Company") is subject to the informational requirements of the Securities Exchange Act of 1934 and in accordance therewith files reports and other information with the Securities and Exchange Commission. Information, as of particula: dates, concerning directors and officers, their remuneration, and any material interest of such persons in transactions with the Company, is disclosed in proxy statements of the Company distributed to shareholders of the Company and filed with the Commission. Such reports proxy statements and other information can be inspected at the Public Reference Room of the Commission, 1100 L Street, Washington, D. C. and copies of such material can be obtained from the Commission at prescribed rates. Shares of the Company's Common Stock are listed on the New York and Pacific Stock Exchanges where reports, proxy material and other information concerning the Company may also be inspected.

## SUMMARY OF PROSPECTUS

The following material is qualified in ins entirety the the of atied information and financial state ments (inclurling the notes thereto) apleaning elsewhere in this I'rospectus

## THE OFFERING

Portland General Electric Company
First Mortgage Dends
Company
Type of Security
Kedemption I'rovisions
Not refundable at lower interest cost prior to April 1, 1900
Redemption
Offering Date
April 3. 1975
........................... April
Principal Armount Offered.
To reduce short-term debt of the Company which
Maturity
Use of Proceeds was incurred in connection with the Company's construction program

THE COMPANY
Generation, purchase, transmission, distribution and sale of electric energy
Business.
3,350 square mile area within the State of Oregon.
Service Area. including 54 incorporated cities of which Portland and Salem are the largest

972,000
Estimated Service Area Population
Approximately 393,000
Customers (December 31, 1974)
. $\$ 152,000,000$
Estiniated 1975 Constraction Expenditures
FINANCIAL INFORMATION


Capital Structure: (including long-term debt maturing Long-Term Debt car and current sinking fund requirements) (......................... Cumulative Preierred Stock Actual As Adjusted* Capitalization Common Stock Equity

Total
$\$ 680,097$

| $\$ 364,929$ | $\$ 403,927$ | 53.5 |
| ---: | ---: | ---: |
| 80,000 | 110,000 | 14.6 |
| 241,965 | 240,985 | $\underline{31.9}$ |
| $\$ 686,894$ | $\underline{\$ 754,912}$ | $\underline{=}$ |

* Adjusted to give effect to the sale of the New Bonds offered hereby, to the sale of 300.000 shares of Cumulative Preferred Stock on January 23, 1975 and the other adjustments set forth under "Capital Structure".


## General

THE COMPANY
Portland Genera! Electric Company, incorpotated in Oregon in 1930 as successor 10 Pertiand Ele.:
 Oregon 97205 (teleqhone nuraber: $503220-7181$ ). The Company is an electric uthly cugged in generation, purchase, transmission, distribution and saie of eiectricity in the State of Oregun. Ingethe with its predecesors, the Company has been furnishing electric serviie for 85 years, Its service area $\%$ : 3,350 square mile area within a state approved service area allocation of 4,250 square mice- inciuding: incorporated cities of which Porland and Salem are the largest. The Company estmates that population of the service area at the end of 1974 was approximately 972,000 . At December 31 , 1974 the Company served 393,411 customers, constituting about $42 \%$ of the state's electric customers.

## Recent Developments in Finarsial Considerations

During 1974 approximately $96 \%$ of the Company's clectric energy input was obtained from had.o. electric facilities, including Company hydroelectric plants, the Bunneville Power Administration ("Buma) ville") and Washington Public Litility Districts, and $\psi \%$ from thermal generation, including perchose Until September 1,1973, Bomeville was contractually obligated to supply all of the Compay : fits power requirements in excess of its other power resources and had, for some years, accountel approximately 40 \% of total energy requirements. The Company is currently entitled to some firm powe non-firm energy and additional peaking capacity from Bonnevilie.

To enable the Company to mee: the capaci:y and energy demands of its system between the time of termination of Bonneville's firm power commitment and the commencement of operations of the Compan Trojan Nuclear Plant, presently scheduled for late 1975 or early 1976, the Company entered into purdis and exchange agreements with Bomeville and other utilities and in 1973 instalied jet-engine type es bustion turbives. The Company added $439,000 \mathrm{kw}$ of industrial type combustion turbme capacity i: August 1974.

Need for operation of the combustion turbines during the fall and winter of $197+1975$ has been virtually non-existent because of the availability of energy purchases, favorable hydro conditions, reduced usage by customers due to energy conservation measures and warmer than normal winter weather anf the acquisition of 1.5 billion kilowatt-hours from Bonneville pursuant to an Exchange Agreement enteral into on June 12, 1974 (see "Bonneville Power Administration" under "Business-Power Supply") In the event of further delay in completion of the Trojan Plant (see "Future Resources-Trojan Pant coupled with poorer than normal hydro and weather conditions and the unavailability of power for purchas need for operation of the combustion turbines during the fall and winter of $1975-1976$ conid be substath which could materially increase the Company's cost of power. Operation of the combustion turlines requires permits from emirommental authorities relating to air quality and noise control and, while the Company presently has such permits, the Company's ability to operate its six jet-engine type turbines is limited (see "Construction Program" and "Regulation-Environmental Matters").

The Company estmates that following completion oi the Trojan Nuclear Plant, approximately $60 \%$ of its energy input will be from hydroelectric facilities, $32 \%$ irum nuclear facilities and the balance from fossil fuel generation and purchases.

In order to meet the additional costs of operation and the capital costs of its construction program. including providing suffient carnings to meet interest and dividend coverage requirements for the issuance of additional bonds and preierred stock, the Company has aggressively sough: rate increases. On September 3, 1974 the Public Utility Commissioner of Oregon (the "Commissioner") issued an Order which permited the Company to recover the cost of poter in excess of 48 mills per hwh during the $1974-1975$ winter. On December 23, 197- the Commissioner granted the Company a rate increaze of $9.7 \%$ for service rendered on and after that date. On Xarch 11, 1975, the Company filed an apphcation for a $25 \%$ increase in all rates to be effective in September 1975 and requested that the Commis-
sioner grant as interim relief an increase of at leavt $15 \%$ effective in April 1975 . In addition, wueh filing requests a cost of pewer adjustment clause de-igned to permit the Company to recover the cont of ponet in excess of 5.2 mills fer kwh thring the 1975.76 , winter. The Commavoner, by order dase-t A. al 2 1975, granted the Company interim relief to the extent of a $10 \%$ incrave effedive wath hatitgen and after April 4. 1975 for service renderet on and after March 12, 1475. The Company expect itial an additional rate increase of approximately $10 \%$ to $15 \%$ will be required in 1976 (see "Regutation-inie increases").

## General Problems of the Industry

The Company has been experiencing, in varying degrees, certain problems which are general in the electric utility induasy, including the difficulty in obtaining an adequate return on inves:ed cupual see "Regulation-Kate increases"), the difficulty in financing a large construction program (see "Canstruction Program"), the difficulty of the capital markets in absorbing utility debt and equity securities the restrictions on operations and increased costs and delays attributable to environmenal consifectitnos (see "Regulation-Environmental Matters"), the necessity of expending substantial sums on studies and other preliminary work with respect to, and in some cases for the purchase of sites for, furure iacilize: prior to the determination of their feasibility, and the necessity of making substantial inves:ment, in facilities prior to the completion of licensing and other proceedings by regulatory bodies necessary for the construction and/or operation of such facilities (see "Business-Future Resources"), the effects of energy conservation (sce "Business-Energy Curtailment"), and the difficulty of obtaining atiequate supplies of fuel at reasonable prices (see "Business-Company Generation" and "Business-Futare Gencration").

## APPLICATION OF PROCEEDS

The net proceeds from the sale of the New Bonds offered hereby (estimated at $\$ 30.385 .000$ ) will be used to reimburse in part the Company's general funds for past construction e:penditures. Out of its general funds the Company will repay a like aniount of its short-term bank loans and commercial paper (estimated to aggregate $\$ 55,000,000$ at the time of such sale). Such obligations were incurred in connection with the Company's construction program.

## CONSTRUCTION PROGRAM

To meet the requirements of irs consumers, the Company is continually extending and enlarging its facilitics. During the years 1970 through 1974, gross property additions approximated $\$ 501.100 .000$ and gross property retirements approximated $\$ 23,000.000$. Estimated construction costs (including allowance for funds used during construction and nuclear cores) during 1975 are $\$ 152.000,000$, of which $\$ 111,600,000$ will be incurred to construct generating plant facilities. $\$ 33,600.000$ for iransmis-ion and distribution facilities and $\$ 6.800 .000$ for general construction and equipment. In addition, the Company may increase its 1975 construction program by approximately $\$ 12.150 .000$ for the purchase oi a surfly tranium hexaftuoride, with respect to which negatiations were commenced in late Februcry 1975 (see "Business-Future Resources-Trojan Plant"). At February 28, 1975, $\$ 20,963,000$ of the 1975 construction costs had been incurred.

The Company estimates that, in addition to the prozeeds from the sale of 300.000 shares of Cummlative Freferred Stock in January 1975 and from the sale of the New Bonds offered hereby, approximately $\$ 105,000,000$ of extermal permanent financing will be required during the balance of 1975 (1) to compleie its construction program referred to above. (2) to refinance $\$ 27.199 .000$ of its First Mortgage Bonds due July 1. 1975 and (3) to refirance up to $\$ 18.875 .000$ of short-term refunding pollution control bonds (see Note $9(\mathrm{~d})$ of Notes to Financial Statements). The Com wly presenty anticipates that such $\$ 105.000 .000$ of external permanent financing will consist of approximately $\$ 30.000 .000$ additional Common Stock, $\$ 5.000 .000$ of additional First Mortgage Ronds and $\$ .30 .000 .000$ in pollution control bend. In addition, the Company might under certain circumstances be required to purchase and refinance approximately $\$ 18,175,000$ of leased turbines (see "Regulation-Environmental Matters" and Note $14(\mathrm{~d})$ of Notes to Financial Statements).

The Company's construction programs, which are subject to continuing review and adju:men: aestimated in the range of $\$ 900,100,000$ to $\$ 1,000,000000$ total for the years 1976.1978 (incluthg all for funds used during construction and nuclear cores). Approximately $80 \%$ of the aggregate of estimates is for generating plant facilities and the remainder for transmission, distribution and gene:a facilities (see "Business-1 uture Resources" and "Kegruation"). The Complany expects tha: on the aw. during the three years $1976-1978,80 \%$ of its construction costs will require externai financing thet the sale of securities or other financial arrangements. In addition to such financings, the Compan; w. refund $\$ 28,160,000$ of its First Mortgage Bonds in 1977

Under the terms of the Company's Mortgage, the issuance of additional first mortgnge bonds subject to net earnings available for interest for 12 con-ecutive months within the preceding 15 moll being at least twice the annual interest requirements on all bonds to be outstanding. The tern. Agreement, under which the Company's outstanding Sinking Fund Debentures due 1983 were is,oce as amended, re-tricts the issuance of additional iunded debt (long-term debt) unless the net earn) available for interest for 12 consecutive months within the preceding 15 months is at least $175 \%$ of : annual interest requirements on all indebtedness to be outstanding. Pro forma net earnings available is interest for the 12 months ended February 28. 1975 on the a-sumptions set forth ander "A djusted" in "Capital Strncture" were 2.18 times annual interest requirements under the Mortgage and 1.79 times annual interest requirements under the Agreement, as amended

Under the most restrictive computation of net earnings available for interest the Company estimate. that, on the assumptions set forth under "Adjusted" in "Capital Structure", at the dare of issuance ef the New Bonds, in addition to the New Bonds it could issue approximately $\$ 19,000,000$ of long-term ¿e! at an assumed interest rate of $10 \%$. Such computation is hased upon net earnings availabie for inte:es: for the 12 months ended February 28, 1975.

## CAPITAL STRUCTURE

The following tabulation sets forth the capial structure and short-term borrowings of the Company at December 31, 1974 and adjusted as of that date to give effect to the issuance and sale of the New Ro-d offered hereby, to the issuance of 300,000 shares of Cumulative Preferred Stock on January 23, 1975 :. net procceds of $\$ 29,020,000$, to the incurring and payment of additional short-term bank loans and ti: issuance of commercial paper, to the retirememt of $\$ 1,002.000$ of long-tern debt for sinking fund purpoee. prior to the date of issuance of the New Ronds offered herchy and to the payment of approxim: it $\$ 40,000,000$ of the $\$ 5,000,000$ of the Cumpany's short-term bank loans and commercial paper experaed to be outstanding at the time of the sale of the New Bonds.

| Long-Term Debt (including long-term debt | Issued and Outstanding December 31, 1974 | Adjusted |  |
| :---: | :---: | :---: | :---: |
|  |  | Arount | Per |
|  | (Thousands of Dollars) |  |  |
| maturing within one year and curfent sinking fund requirements) | \$364,929 | \$403,927 | , |
| Cumulative Preferred Stock | 80,000 | 110,000 | 析 |
| Common Stock Equity | 241,965 | 240.985 | 31.9 |
| Total Capitalization | \$ 5686894 | \$754.912 | 1000 |
| Short-Term Bank Loans and Commercial Paper | \$ 52.100 | \$ 15.000 |  |
| Other Short-Term Borrowings | 43,691 | + 44,600 |  |
| Total Short-Term Borrowings | \$05,791 | \$ 59.600 |  |
| See "Financial Statemens-Statement of Capizalization" for details concerming |  |  |  |
| Equity. See Note 9 of Notes to Financial satmens for details concerning the (can- |  |  |  |
| pany's Short-Term Borrowings and $\$ 150,000,000$ Cretht Agreement. <br> For information with respect to obligations under leases, see Note 14(d) of Notes |  |  |  |
|  |  |  |  |

## STATEMENTS OF INCOME

The statements of income for the five years ended December 31, 1972 have been examined by Arthur Andersen \& Co. independent public accountants, as stated in their report included elsewhere in this Prospectus. Reference is made to said report which calls attention to a change in accounting principies with respect to the method of accounting for investment tax credits. These statements should be read in conjunction with (i) the Ratios of Earnings to Fixed Charges on the following page, (ii) Notes to Statements of Incomc on the two following pages and (iii) Financial Statements and Notes to Financial Statements included elsewhere in this. Prospectus, all of which are an integral part of these statements Numerical notes refer to Notes to Financial Statements.

## Ratios of Earnings to Fixed Charges

For the purposes of computing the ration of earnings to fixed charges, "earnings" are inche net income leciore income taxes and fixed charges. "Fixed charge." consist of interest and amos
 years 1973 and 1974, the interest factor in the long-term combustion turbine leases and on th: annual rentals under other long-term leases and for the years 1970, 1971 and 1972 one-itird of ant: rentals unfler long-term leases. The Complany has calculatel the supplemental ration of earnmen : charges pursuant to Accounting Series Release No. 122 issued August 10. 1971 by the secartite Exchange Commission. In the computations "earnings" are defined as net income before iacome and fixed charges, and "fixed charges" include, in addition to the items referred to above, the Comp allocable protion of interest expense included in the eosts of power purchased from Washingten I?
 Hydro" and Note $14(b)$ of Notes to Financial Statements). Such allocable portion of meten: exp relates only to power purchases not subject to fiture relluction under the contracts.

The umatulited pro forma ratio of earnings to fixed charges for 1974 would be approximatel: after adjustment of fixed charges to reflect (i) the annual interest requirement on the Xew Bondthe annual interest requirements on long-term debt outstanding at December 31, 1974 refluced by estimated annual interest requirements on long-term debt to be retired through the operation of sit funds in the ensining twelve months and increased by the estimated interest relating to the reiund: long-term deht maturing within one year, (iii) the annual interest requirements on the shor:-term bus. ings expected in he outstanding at the date of issuance of the New Bonds after the retirement of shor:borrowing, from the net proceds from the sale of 300.000 shares of Preferred Stock on January 2.3. : and from the net proceeds from the sale of the New Bonds offered hereby, (iv) the interest factor in. annual rental charges in the combustion turbine leases entered into during 1974 and (v) the cstima annual interest requirements relating to the proposed rennancing of $\$ 27,000,000$ short-term reim ; pollution control bonds. The unaudite! pro forma supplemental ratio defined above for 1974, after give effect to the ransactions referred to in the preceding sentence, would be approximateiy 1.63

## NOTES TO STATEMENTS OF INCOME

(A) For a description of accomnting policy and rate used for allowance for funds w-ed during struction (ADC) refer to Note 5 of Notes to Financial Statements. Construction funds used are ase to have been derived from capital sources in the same proportions as the average capialization ratithe respective years. On this basis the ADC atributable to funds provided by common equity anm to $0.8 \%, 2.6 \%, 6.8 \%, 9.6 \%$ and $3.4 \%$ of Income Available for Common Stock for the years 1970 thr 1974, respectively. Interest on debt utilized in calculating such percentages is on a pre-tax basis amount of $A D C$ varied from year to year depending principally upon the amount of construction prog expenditures.
(B) For the Company's accounting policies relating to income taxes see Notes 2.3 and 4 of Nic to Financial Statements. The following table shows the detail of taxes on income and the items use? computing the differences between the statutory Federal income tax rate and the Company's effective ::

# PORTLAND GENERAL ELECTRIC COMPANY NOTES TO STATEMENTS OF INCOME-(Continued) 

| State Income Taxes: <br> Charged to Operating Expenses and Taxes: Currently payable | $\begin{array}{r} \text { (91) } \\ \quad(8) \\ \hline \end{array}$ | $\begin{gathered} \$ 289 \\ \quad(8) \\ \hline \end{gathered}$ | $\begin{aligned} & \$ 730 \\ & \quad(8) \\ & \hline \end{aligned}$ | $\begin{gathered} \$ 929 \\ \quad(8) \\ \hline \$ 921 \end{gathered}$ | $\begin{aligned} & \$ 442 \\ & \frac{(8)}{\$ 434} \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Deierred in prior years | \$ (99) | \$ 281 | \$ 722 |  |  |
| Charged to Other Income and Deductions-Net | \$ 34 | \$ 25 | \$ 18 | \$ | 14 |
| Federal Income Taxes: |  |  |  |  | \$3.87 |
| Charged to Operating Expenses and Taxes: Currentiy payable | $\$(2,203)$ (533) | $\begin{aligned} & 1,121 \\ & (533) \end{aligned}$ | (533) | (533) | (533) |
| Deferred in prior years | 2.004 | 1,350 | 1,063 | - |  |
| Investment tax credit ad | (732) | 1,938 | 5,408 | 6,749 | 3,160 |
| Charged to Other Income and | 219 | 67 | 10 | (20) | 21 |
| Charged to Other $\begin{gathered}\text { Deductions-Net ......... }\end{gathered}$ | \$ (513) | \$2,005 | \$5,418 | \$6.729 | \$3,181 |
| Total .............................. |  |  | \$13,789 | 12,450 | \$8,333 |
| Computed Feleral income taves applying statutory rate ( 8 ..... to inconie befure meome taxes | \$15,523 | \$13,885 | \$13,89 |  |  |
| Reductions in taxes re-ulting irom: | 4,662 | 3,668 | 3,276 | 2,911 | 404 |
| Excess wax over book depreciation ........ | 1,968 | ${ }_{5}^{1,537}$ | 2,213 | 859 | 380 |
| Costs capitalized for books and expensed ${ }^{\text {Allowance for furids used during construction }}$ ( | 8,162 | 5,323 80 | 2,213 | 423 | 184 |
| Allowance for funds used durng ............. | ${ }_{5}^{156}$ | 80 533 | 533 | 533 | 533 |
| Investment tax creut Income taxes deierred in pr | (19) | 158 | 400 | 452 | 229 |
| State income taxes ......... | (277) | 86 | 608 | (137) | 37 |
| Adjustments of prior years accrued income taxes ................ | 516 | 16 | 130 | 219 | 60 |
| Property taxes expensed-excess tax over | 335 | 479 | 223 | 67 | 137 |
| Other minor items | 16,036 | 11,880 | 8,371 | 5,721 | 187 |
|  | \$ (513) | \$2,005 | \$5,418 | \$ 6.729 | \$3.181 |
| Federal income taxes | (1.6\%) | 6.9\% | 18.9\%0 | 25.9\% | 18 |

Company's effective rate
The Company does not anticipate that the cash outlay for income taxes will subsiantially exceed the amounts to be accrued as income tax expense for the next three years.

## Interim Results of Operations

Operating revenues, net income and earnings per average common share for the 12 months ended February 28, 1975 were $\$ 149,758,000, \$ 29,454,000$ and $\$ 1.78$, as compared with $\$ 146,001,000, \$ 32,91,000$ and $\$ 2.17$ for the year $197+$ and $\$ 1+2.233 .000, \$ 35.738 .000$ and $\$ 2.56$ for the 12 months ended September 30, 1974. The amounts for the 12 month periods ended February 28,1975 and September 30, 1974 are unaudited but in the opinion of the Company reflect all adjustments (consisting, except for the adjustment of operating revenues for the 12 months ended February 28. 197 reierred to in the next sentence. only of normal recurring accruals) necessary for a fair presentation. With the approval of the Conmissioner the Company has transierred to "Operating Kevenues" for the months of February and March 1975, in equal amounts, a $\$ 1,959,000$ reserve ior "Possible additional income taxes and other contingencies
which had been provided from income in years prior to 1970 (see Note 10 of Notes to Financial ments). Although Operating Revenue (inclualing $\$(y) 5$ ayn on transierred) for the 12 mowis of February 28, 1975 were approximately $\$ 7,525,000$ greatet than for the 12 mothe ented Segath. 1974 and $\$ 3,757,000$ greater than for the year 1974, such increased revenues, were more than ofw increased operating expenses, which were approximateiy $\$ 10,8.32,000$ and $\$ 5.01 \mathrm{~S}, 000$ greater, re-fee than for the two earlier periods. Of such increased operating expenses $\$ 10.058 .000$ and \&:- 2 respectively, were attributable to the higher cost of power purchased and interchange-ne:. Earm: average common share were further affected by increased average numbers of conmon shares ou: and increased preferred dividend requirements. For the 12 month periods ended September
December 31, 1974 and February 28, 1975, the average numbers of common shares out:and 1 an $11,375,000,12,125,000$ and $12,625,000$, respectively. The ratio of earnings to fixed charge and .... mental ratio of earnings to fixed charges for the 12 months ended February 28,1975 were 1.86 and respectively. The pro forma ratios for the 12 months ended February 28, 1975, determined as decer on page 8 , would be approximately 1.67 and 1.59 , respectively.

The Company anticipates that while operating revenues and allowance for funds useel dur $\boldsymbol{H}_{2}$ struction will increase, at least until receipt of additional rate increases, net income, ratios of earm.... fixed charges and earnings per average common share for 12 month periods ending subsequen: to Fe ary 28,1975 may be less than net income, ratios of earnings to fixed charges and earnings per ave: common share for the 12 months ended February 28, 1975 and that for periods commencing as February 28, 1975 they may be less than those for comparable periods ended in 1974, due prima to increased operating costs and interest costs on borrowings. Earnings per average common shate periods ending subsequent to February 28. 1975 will be further affected by increased average numben common shares outstanding and increased preferred dividend requirement (see "Regulation-1) Increases").

In prior years, the Company followed flow through accounting for the income tax reductions result: from the deduction for tax purposes of interest expense included in construction work in progrs Effective January 1, 1975 , the Commissioner required the Company to normalize income taxes with reas to such deductions. This accounting change decreased reported earnings per average common share $\$ .08$ for the 12 months ended February 28, 1975 (see "Regulation-Rate Increases"). The transfer : operating revenues from the reserve for possible additional income taxes and other contingencies rei ; to above increased reported earnings per average common share by $\$ 08$ for the 12 months ended FeL 28, 1975

Annual interes: requirements on the Company's First Mortgage Bonds and sinking fund deben:urs to be outstanding after the issuance of the New Bonds (including currem maturitics) will amount : $\$ 28,445,348$, including annual interest requirements of $\$ 4,000,000$ on the New Bonds.

## Management's Discussion and Analysis of Statements of Income

## (a) Operating Revenues.

Total operating revemes increased $\$ 7,524.09$ during 1972, \$12.390.000 during 1973 and $\$ 21.1680$ during 1974. The 1972 increase was primarily due to an increase in total kilowatt-hour sales in 1972 ore 1971. Energy conservation measures resulted in lower than anticipated usage by ultimate customers 1973 and 1974, and the increases in operating revenues in such years are primarily due to general ras: increases. To the extent that the reduction in anticipated usage occurred during the winter months 1973-1974 and reduced the necessity to operate the Compan*s combustion turbines, the result was a lone cost of power per kwh. In October 1973, the Company was granted a rate increase of $22.5 ; \%$, includins an $11 \%$ interim increase in April 1973. Commencing in September 1974 the Company was permitted :
add 2.0 mills per kwh th all bills in order to recoter the cost of power in excess of 48 mills per kw! duting
 all of which is incluted in $197+$ revenues. The $9.7 \%$ rate increase granted the Company in iate Dectaner
1974 had no efiect on 1974 revenues.
(b) Power Purchased and Intcrchange-Net and Production Luring 1973 and $\$ 8321.000$ during 1.74
 The incerease in 1972 was primarily due to the related increase in ene fater, Until September $:, 1973$, the (a) above. The increace in 1973 and 1974 resuits from stroctually obligated to supply all of the comBonneville Power Administration ("Bonneville") was comer resources. Since that dase, this reource pany's firm power requiremems in excess of its other power in excess of Bonneville rates. During $1 / 73$ has been replacell hy wher energy sources, generally at costing capacity. The combustion turi,ine were and 1974 the Company added combustion turbme generare included as protuction expenses. Alhough acquired under long-term leases and the lease paymativel- minor periols, such operation together with the combustion turtheve lave been nueratel for relatively miner expenses.
the lease payments have increased the Company's
(c) Ollicr Operation ond Maintciance Lixponses
Expenses in these categories have increased due to the effect of inflation and the increase in the number ni custumers and the number of Company employees.
(d) Tares Other Than Income Taxes.

These taxes have increased in all periods, primarily because of additions to electric utility plam and increased operating revenues.
(e) Taxes on Income.

Taxes on income decreased $\$ 1,540,000$ during 1972, $\$ 3,911,000$ during 1973 and $\$ 3,050,000$ during 1974. Changes in Feleral and state income taxes are generally related to changes in income beiore income taxes ; however, the Company ; income tax accounting policies do mut utilize full interperiad income tax allocation. The two most significant items resulting in differences between book and tax income are excess tax over hook depreciation and allowance for funds used during construction (ADC) which is not taxable for income tax purposes. During 19\%2. 1973 and 1974, ADC resulted in a significant pertion of the decrease in taxes on income. See Notes 2.3 and 4 of Netes to Financial Statements for the Company's income tax accounting policies and Note (13) of Notes to Statements of Income for detalls of taxes on income. Reference is also made to Note 3 of Notes to Financial Statements for the change. effective Janury 1. 1072, in the accounting principles with respect to the method of accounting for investment tax credits.
(f) Allowance for Funds l'sed During Construction (ADC). 1973 and $\$ 5.914 .000$ during 197;
 The increases are related to the sinl Statements
Sec Note 5 of Notes to Financial
(g) Intercst Charges on Lony-Tcrm Debt and Short-Torm Notes Payabic and Preferred Disidend Requircmonts.
The Company's anmual construction expenditures have increased significantly since 1970. This has required substantial external financings through the sale of low-term debt and equity securitics and the use of short-term notes payable. These financing requirement- resulted in increased incerest charges on borrowing of $\$ 1,055,000$ during 1972 . $\$ 5.80000$ during 15,3 and $\$ 8.352 .000$ during $197+$ and resulted in increased preierred dividend requiremems of $\$ 1,220,000, \$ 3,051,000$ and $\$ 1,330,000$ during such years. A part of these increases has beetl capitalized. See (i) above


## BUSINESS

## General

Electric energy sales for the twelve months ended December 31, 19:4 amounted to 11.4020 CA mesa watt-hours including 599,723 megawath-hours of sales for resale. In such period $50 \%$ of the Company's operating revenue, was derived from residential service. $29 \%$ from commercial and small industial users, $14 \%$ from large industrial users and $7 \%$ from others. The average use per residential customer served by the Company during this period was 13.73 .3 kilowatt-hours. approximately 1.8 times the 19.3 national average, and the average revenue per kilowatt-hour sold to all residential customers was 1.50 g compared with the 1973 national average of 2.54 f .

The basic economic activities in the Company's service area are lumbering, wood products, pulp and paper manufacturing, diversified agriculture, food processing, primary and fabricated metal pro jucing, and the manufacture of clothing, machinery and electronics equipment. Portland is the major dizeribution and retailing center for Oregon, southern Washington and most of Idaho, in addition to being a major West Coast shipping port.

The Company has approximately 1,930 regular employees of whom about $43 \%$ are represented by labor unions under working agreements which expired on March 1, 1975 and are presently being renegotiated. The Company has group life insurance, pension, stock purchase, sick benefit and medical plans for its employes. The employes and the Company share in the cost of these plan- excep, the pension and sick benefit plans, the cost of which is borne by the Company. The Company considers its employee relations satisfactory.

The City Council of the City of Portland requested the Company and Pacific Power \& Light Company ("Pacific") to make separate studies of the advantages or disadvantages of a merger of the two companies The Company submitted its report on March 7, 1975. which indicated that a merger or combination of the companies would not be in the best imerest of either company's customers. The Company has been advised by counsel that the City Council is without jurisdiction to require the two companies to take action with respect to a merger. One of the five Portland City Commissioners has stated that if he is not satisfied with the companies' good faith in the merger study or the results thereof, he may propuse a study of the feasibility of public take-over of the utilities or seek is question the Company's City franchise or to invoke the City's power to set rates (see "Regulation-General").

Various candidates for elective office and certain "consumer interest" organizations have proposed that cerain investor-owned utilities be acquired by governmental agencies in the areas they serve. Voters in the City of Porland, Oregon. in a referendum on November 5. 1974, defeated by a vote of 3 -to-1 a proposal that the City purchase the properties of Pacific located in the City of Portland as provided in the franchise from the City to that utility. Except as noted in the preceding paragraph, the Company is not aware of any proposals for public ownership of its properties or public operation of its system.

## Power Supply

## General

The Company's energy input in 1974 was $12,369,695$ megawatt-hours: its maximum hunf $\quad$. to date occurred in January 1973 and was 2,492 negawa:ts. The following tabulation shows the : of energy for 1974.

|  | Energy Generated and Purchased 1974 |  |
| :---: | :---: | :---: |
|  | Megawatthours | \% |
| Company generation (net) | 2,904,455 | 23.48 |
| Bonneville Power Administration: |  |  |
| Firm Power | 925,208 | 7.48 |
| Other | 1,501,477 | 12.14 |
| Public Utility District Hydro (net) | 5,374,546 | 43.45 |
| Purchases and other (net) | 1,664,009 | 13.45 |
| Total | 12,369,695 | 100.00 |

## Company Gencration

The Company owns eight hydroelectric generating plants with net pealing capalility of 65:. 8 kw . It also has six jet-engine type combution turbine-generator units, having a cold weather caphbll: of $385,000 \mathrm{kw}$, and industrial type combustion turbine-generator capability of $439,000 \mathrm{kw}$. All turbines and generators are leased, with the balance of the installations being owned b". the Cor Four of the jet-engine type units are located in the Harborton area in Portland and two at the Company ? Bethel Substation near Salem. The industrial type units are located at Beaver on the Columisia have approximately 60 miles northwest of Portland. The jet-engine type units can operate on either perrolean distillates or natural gas, while the industrial type units can operate on crude oil, a variety of petrolew. distillates or natural gas. The Company presently plans to convert the industrial type units to cm . bined cycle operation by 1977 at an estimated cost of $\$ 56,000,000$.

The Company does not presently anticipate that extended operation of any of its turbines will be required prior to the fall of 1975. The turbines are expected to be used primarily to meet peaking requirements, but can be used at other times as required. The Company has storage capacity of $1,500,000$ barreis and has approximately $1,300,000$ barrels of petroleum distillates in storage, which it believes to be adequate to meet its anticipated requirements at least until the fall of 1975. The Company does no: anticipate that supplies of natural gas will be available for eration of the turbines for the foresecalie future. Future availability of fuels is subject to shortages of supplies associated with the national energy situation, whether by reason of the allocation of available supplies among various categories of consumer s
or otherwise. Operation of the combustion turbines reçuires permits from environmental awhorities relating to air quality and noise control and, while the Company presently has such permuts, the C mands ability to operate its six jet-engine type turbines is limited (sec "Regulation-Environmental Matter")

## Bonnevillc Power Administration

Bonneville acts as the marketing agent for power generated at federal projects. Lintil Septemler 1. 1973 Bonneville was obligated to supply all of the Company's firm power requirements in excess o: other power resources. Since that date, under agreements with Bonneville and other ut 'ities, the Compary has received and will receive approximately 262 megawatts of firm power at Bonneville rates until April 1 . 1974, 129 megawatts until September 1, 1974, and thereafter approximately 20 negawatts until Juiy 1, 1980, at which time this amount of power will increase to 80 megawatts peak ( 68 megawatts average) until June 30, 1990.

On June 12, 1974, the Company entered into an Exchange Agreement with Bonneville under which the Company received 1.5 billion kwh during the period August 1974 through February 1975 . On August 1, 1976, if Bonneville's reservoirs have been substantially filled, the Company will pay $\$ 13,500.000$ for the energy. If they are not substantially fillied, the Company must return the energy in equal mon:lly amounts until April 30, 1977, except that to the extent the Trojan Plant is not then operable at full capacity there will be a pro rata reduction in the Company's obligation to return the energy in kind, with the amount of the reduction being paid for in cash at 9 mills per kwh.

## Public Utility Districts Hydro

The Company has long-term contracts with Washington Public Utility Districts ("Districts") owning hydroelectric projects on the Columbia River. The Company has agreed to purchase portions of the output of these projects and to pay a proportionate part of the annual cost (including deb: service) and is entitled to the same proportion of the output. The Company's obligation to pay under these conracts continues whether or not the project is operabic. In the event that a District's facilities were to beerme inoperable, the Company's recovery of insurance proceeds would not reimburse it fully for its charges under the contracts with the Districts. The Company has agreements with Bonnevilie for the transmms. sion of power to the Company's system for the duration of the power purchase contracts with the Districts.

The projects and significant statistics relating thereto are as follows:

|  | Hydroelectric Projects |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Rocky Reach | Priest Rapids | Wanapum | Wells |
| Amount of revenue bonds sold to finance the projects . . . . . . . . . . . | \$313,100,000 | \$166,000,000 | \$197,000,000 | \$202.600.000 |
| Company's current slate of output, <br> capacity and cost : <br> Percentage of output . . . . . . . . | 13.3\% | $25.75 \%$ | $30.85 \%$ | 32.8\% |
| Capacity in hw, based on nameplate rating | 161,349 | $203,007$ | 256,407 | 253,954 |
| Estimated current annual cost, including debt service (1) ... | \$ 2,600,000 | \$ 2,800,000 | \$ 3,800,000 | \$ 4,300,000 |


|  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Rocky Reach | Priest Kapids | Wanapum | Wells |
| Completion date | 1971 | 1961 | 1964 | 1. |
| Date of long-term contract expiration | 2011 | 2005 | 2009 | 2 |

(1) Annual cost will change in proportion to the percentage of output allocated to the C yans particular year.
The Company's percentage of the output of the Rochy Reach Project decreases th 12 June 30, 1977, and its percentage of the output of the Priest Rapids and Wanapum Projec , reduced, at the option of the District and from time to time atter advance notice and in accordanse is a predeterminetl schedule, so that atter August $31,19 \div 3$ thic Company's percentage of the enspe . be as low as $139 \%$ and $18.7 \%$, respectively. The Company's percentage of the outpa: of the $\$$ Project may be reduced afier advance notice and in accordance with a predetermined schedule. w. by 1988 could reduce the Cumpany's percentage to $20.3 \%$ fur the remainder of the comract term.

## Other Resources

As a result of construction of storage dams in Canada pursuant to a treaty hetween that comn and the Limitel States, the Company is receiving as part of its share of tiecoutpu: of District p: substantial firm power bencfis from storage release-. The last of the storage facilitics which prose these benefits was completed in 19;3. In addition, the Company under a setios of purchase ant exias agreement, became emtited to additional amounts of "Canadian Entitlemen" power equalug $\mathrm{a}_{\text {a }}$ : mately 242.000 tw of capacity and 133.000 kw oi average energy in $1974-1975$ and 241,000 kw capacity and $120,100 \mathrm{hw}$ of averaze energy in 1975-1976. Thereafter the amounts decrease gradua)
$29,000 \mathrm{kw}$.
 Company has alvised the California utilities, in accordance with the terms of the contract, the assignment is to be terminated effective April 1, 1975.

## Coordination and Pooling

The Company is a member of the "orthwest Power Poul operates under a long-term Coordina: Agreement with is other partie- in the Pacific Northwest and is also a memher of the Western Sysee Coordinating Cinmeil repreeonting some 57 electric syems in 1.3 western state and Leritish Coinh The general parpme of the e amkiations, is to promete the relablie operation of the inseromected f power sytetar by the comedmation of planuing and operation. The Company is obe ef seven inve owned utilite that have recently entered into and are implementing an Intercompany Pool Agree: to provide sharing of surphas energy available to the members. reserves, and planning activities.

The Company, together with Bomeville, several ublic agencies and investor-owned elect utilities, participates in the extra high voltage intertic hetween the Pacific Norihwest and Paut Southwest. An agreement with Bonneville provides for the use of capacity in each otier's lines a: establishes procedures for the delivery and sale of energy by both parties Among ohicr benef. the Company from the imertie are payments for its use by other utilities, diversity and econos exchanges with southwest utilities and system support during emergencies.

## Future Resnurces

Information with respect to generating facilitics currently under construction or planned is set forth in the following table

| forth in the |  |  |  |  |  |  | Estimated <br> Cost of | E.tum | ${ }^{\text {cat }}$ a |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Units Under <br> Construction <br> or Plarned | Location | $\begin{aligned} & \text { Net } \\ & \text { Cungility } \\ & \text { MW } \end{aligned}$ | $\begin{aligned} & \text { \% of } \\ & \text { Company, } \\ & \text { Inceies } \end{aligned}$ | Fuel |  | Date of <br> Daperation | $\begin{aligned} & \text { Invercst } \\ & \text { cocos) } \\ & \hline \end{aligned}$ | Tual | 5 Kw |
| T-ojan | Rainier. Oregon | 1130 | $671 / 2$ | Nuclear | \$221,500 | 1975-76 | \$273,375 | \$405,000 | \$3:8 |
| Carty | Boardman. Oregon | 500 | 100 | Coal | 2.900 | 1980 | 320,000 | 320,000 | 640 794 |
| Pebble Springs first unit | Arlington, Oregon | 1260 | $65 *$ | Nuclear | 28,000 | 1982 | $\begin{gathered} 650,000 \\ \text { to } \\ 715,000 \end{gathered}$ | $\begin{gathered} \text { to } \\ 1,100,000 \end{gathered}$ | $\begin{aligned} & \text { to } \\ & 813 \end{aligned}$ |
| Pebble Springs second unit | Arlington, Oregon | 1260 | $65^{*}$ | Nuclear | 200 | 1985 | $\dagger$ | $\dagger$ | $\dagger$ |
| Colstrip first unit | Colstrip. Montana | 700 | $20^{*}$ | Coal | 820 | 1979 | 63,500 | 317,500 | 454 |
| Colstip second wit | Colstrip. Montana | 700 | $20^{*}$ | Coal | 820 | 1980 | 63,500 | 317,500 | 454 |
| wPPSS No. 3 | Montesano. Washington | 1300 | 10 | Nuclear | 1,450 | 1982 | 105,000 | 1,050,000 | 808 |

* Estimated. Ownership arrangements have not yet been concluded.
$\dagger$ No estimate presently a vailable.


## Trojon Plant

The Company is constructing an 1130 megawatt nuclear plant ("Trojan Piant") on a site 42 miles northwest of Portland near the City of Rainier on the Oregon side of the Columbia River. A construction permit was issued by the Atomic Energy Commission ("AEC") on February 8, 1971 and all other presently required permits and certificates have been granted by other federal and state ageacies.

The Trojan Plant is owned jointly by the Company ( $67 / 2 \%$ ). Engene Water \& Electric Board $(30 \%)$ and Pacific Power \& Light Company ( $21 / 2 \%$ ) pursuant to an agreement for the construction, ownership and operation of the plant executed on October 5, 1970.

The Trojan Plant is approximately Es $5_{i}$ complete and is presently expected to commence commercial operation at at least partial capability by late 1975 or early 1976 , having originally been sctheduled for commercial operation in September 1974. The estimated total cost of the Trojan Plant has increased from $\$ 235,000,000 \mathrm{in} 1909$ to $\$ 205,000,000$ including allowances for funds used during consiruction and escalation, but exclusive of $\$ 34,500.000$ for the initial nuclear cores. The principal increases are for additional interest during construction, labor and engineering and design changes. Costs of approximately $\$ 224,400,000$ (excluding approximately $\$ 26,500,000$ for nuclear cores) had been incurred by the Company through Feloruary 28, 1975

On February 4, 1974 an Atomic Safety and Licensing Board made findings and issued an order authorizing the Director of Regulation of the AEC. after making requisite findings, to issue an operating license for the Trojan Plant for a term of 40 years. No further public hearings are now required. The Company expects that the requisite findings will ie made and that the license as requested will be granted prio to the presently anticipated date of fuel loading.

In order to fuel a nuclear generating stativn, four distinct stages are involved, eath of wher contracted for separately. Stage I concerns the minng and millug of the natural uramitat ofe io i a concentrate; Stage II deals with the conversion of uranium concentrate into uranimm icant Stage 111 involves the enrichment process of such uranium hexafluoride ; and Stage 1 V entails the iubsic of the enriched uranium hexafluoride into usable fuel assemblies.

Contracts have been entered into for nuclear fuel adequate to meet the needs of the Trom through 1980. The uranium hexafluoride for the first core and first four reload bat hes hav iern olta from Kerr-McGee Corporation ("hM"). A requirements type enrichment contract with the Luthe: \&Energy Research and Development Administration ("ERDA") will provide all needed enriclment act for uranium for the plant for 30 years. The Company has contracted with Westinghouse Elecric C : tion for fabrication services for the first core and nine reload batches and with Allied Gencra: X: Services ("AGNS") for spent fuel reprocessing and transportation for the first four region- ot dhe. fuel. (A region represents approximately one-third of the nuclear cores in the reactor a: any :an Although AGiNS does not presently have reprocessing facilitics in operation. it is expected that facilities will be in operation by 1978 . The Company will not require reprocessing of spent the to 1977, and will have facilities for the storage of spent fuel in its spent fuel pool until 1981. In the (s) that AGNS is not ready to reprocess spent fuel when expected, the Company may ship spent inel th . .his for storage, or may modify its storage facilities to accommodate spent fuel for another three year Sina reprocessing not be available to the extent necessary, the anticipated long term cost of nuclear itac be increased and the problems and cost of storage and disposing of larger amounts of spent iucl be greater. The following table summarizes the Company's contract commitments for the stagenuclear fuel assemblies for the Trojan Plant.

Estimated
$\frac{\text { Commitment }}{\text { Uranium concentrate }}$

Conversion
Earichment

Fabrication
Reprocessing

## Contractor KM KM ERDA <br> Contractor <br> KM <br> ERDA

Westinghouse
AGNS

Regions
1-7
$1-7$
Requirements Contract

1-12
1-4

Operating Year:

1975-1980
1975-1930
1975-2002

1975-198.
1978-1982

The Company is negotiating for the purchase of one million pounds of uranium concentrate a: (U.S.) per pound from Rio Algom Mines Ltd. ("Rio"). Canada, subject to execution of a come: contract with Eldorado Nuclear Ltd. ("Eldorado"), Canada; approval of the Rio contrac: is Atomic Energy Control Board of Canada ("AECB") and approval, if necessary, of the E1/.0 contract by the AECB. The Company has stated that it will pay Rio approximately $\$ 12,150,000$ : share ( $671 / 2 \%$ ) of the uranium concentrate 30 days aiter AECB approval of the Rio contract and Enics. contract, if such approval is necessary, or June 30, 1975, whichever is later. The Company has obtai verbal approval from ERDA for storage of the uranium hexafluoride at federal facilities in the tnis States. If such contracts become effective. little or no further procurements will be required to provide it supply for the Trojan Plant through 1982

The Company is currently investigating possible sources of the fuel supply for the periods $10 \times 2-1005$ While the Company understands that uranium concentrate for such fuel supply is presently availabic io



## Other

The Company is plaming additiomal themal power plant adhlitoms for completion durm: itice laing
 lave hoen devignatel as "Carty" and "Pehble Splings". The Carty site is appoximately tw in ank southwest of Boardmun and the I'cbble Springs site is approximately three miles sutubeast of Al:tingt an

It is presently contemplater? that the Company will constrwet a 500.000 kw coal-fire 1 cencratine unit at the Carty site scleduled for completion in 1980 at an estinated cost of $\$ 320.000400$. T.es Company i curt catly negotinting a long-terin contract for a supply of low-sulfur coal for the Carty fiam.
 enit les than the presen E1'S allowathe timit of 1.2 pounds of suliur dioxide per million ITLE Th:
 state and local regulations as to restoration of the surface subsequent to remuval of the coal. The fant is estimated to require 50 million tons of coai over its estimated liie of 30 years. Nlequate supquie of cos: for fueling the Carty onal flant will he assured prior to commitment of the project. The Company has received the necessary ste certificate from the Oregon Nuclear and Thermal Energy Council.

The Company lias receivel coal penspecting permits from the State of Alaska enbracing ab at forion acres located about 100 miles, nonth of Anchorage. If core drilling indicates there is a significant amount of cconomically recoveralile coal, the Company woull probably periect lease arrangements and twhe action necessary to commence surfice mining activity, hat there can be no assurance that economically recoseraile coal will be developed. The tentative plan calls for rail transportation from the surface mines to Seward. some 200 miles south, and water transportation to Oregon.

The Company also comemplates constriction of two muclear plants of the 1200 megawan claw at the I'ebile Spring stic, currently selas lated for cosipletion in traz and 1285 . A preliminnry ectimate of the total cost for the first nuclear plan: is in the range of $\$ 1,00,000,000$ to $\$ 1,100$, $000,0 \times 0$, exciusive of transmissiun factities, but the actual cost could be suhstantially in excess of such estimate. The projest is expected to be jointl: ownel by the Company and other northwest utilitie under arrangemerits simatar to those made in connection with the Trojan Ptant, with the Company's ownersinip sharc preventy expected to be 65 ; . Applications have begn fled with the appopriate state and federal agencics fir the necessary licenses an! certificates for the two proposed nuclear plants.

Negotiations are being conducted with state and federal agencies with respect to obtaining ownershin? and easements ant other matters, so that both sttes can ultmately be developed. Use of the Conty site for a nuclear plant is dependent on relocation of a weapons systen training facility operated in the area by the United States Navy.

The Company has contracted for sufficient uranium concentrate for the initial nuclear core at Pebble Spring' Lint $\# 1$, which will cover the first two years of yperation. It has aiso contracted for enrichment services and fabrication for this and addirional core- int not for conversion or reprocessing. No * uranium has yet been procured for Pebble Springs L'nit \#2, although the Company has cuntracts for
 ments for the stages of nucler fitel assemblies for the firet and second units.

|  | Unit \#1 |  |  |
| :---: | :---: | :---: | :---: |
| Commitment | Contractor | Regions |  |
| Uranium concentrate | Anaconia | 1-3 | 1982-15: |
| Conversion | None | - | - |
| Enrichment | ERDA | Fixed commitment | 1982-\% |
| Fabrication | Babcock \& Wilcox | 1-6 or 9 (option) | $\begin{aligned} & 1982-10: \\ & \text { (or } 1 \end{aligned}$ |
| Reprocessing | None | - | - |
|  | Unit \#2 |  |  |
| Uranium concentrate | None | - | - |
| Conversion | None | - | - |
| Enrichment | ERDA | Fixed commitment | 1085-20: |
| Fabrication | Babcock \& Wilcox | 1-6 or 9 (option) | 1085.1C23 <br> (or 1991) |
| Reprocessing | None | - | - |

The Company is currently investigating possible sources of the fuel supply for the period thr: $:=$ 1985. Whilc the Company understands that uranium concentrate for such fuel supply is presently araitat for contract, there can be no assurance thet the Company will be able to acquire such supplies at a later ca: and, in any event, it will undoubtedly be faced with higher fuel prices in obtaining such fuel suphties

The Company expects to acquire a $20^{\circ}$ : interest in the ownership and construction of two coal-fired generating units at Colstrip, Montana. The Company's estima:ed sbare of the total cas: $\$ 127,000,000$ for the generating units and $\$ 40,000,000$ for the transmission facilitics. The first uns: presently s.heduled to be operational in 1979 and the second in 1980. An application has heen summit: to the Montana Department of Natural Resources and Conservation (the "Department") for a certitos: to construct the two generating units and the transmissiun lines. The Department has heli hearings ath issued recommendations to the Montana Board of National Resources and Conservation the "Euct: that the requisise certificate not be issued. The Board will decide whether to issue the centificite on : basis of the recommendations of the Department and based on its own hearings, which are expected : end in mid-1975.

Several actions have been commenced which, if successiul, would delay or prevent the construction c the plant. Such actiuns are basel on environmental considerations and possible requirements for licenins, by regulatury agencies. The Company anticipates that coal fur these units will be provided under a fr: commitment conract with Western Fnergy Company ("Western"), a wholly-owned subsidiary of The Montana Power Company: Western controls coal reserves in the Colstrip area having an average sulpici:




 districts and muricipatities which owns and opestace generatit; and tonsmioson fathites ant marters the power thereirom. The plant bemg sponsured. knewn as WY'l's Xuclear I'roject Xio. 3, is planed
 Company has been advised that WPH'SS has entered into a fixed commitment contract with R.RD.t for fuel enrichnent services, and has contracts for uranium concentrate and fabrication for at least the initial nuclear cores.

The Company owns 25 \% of the vating securities of Pacific Nortiwest Poser Company ("Paciff Northwest") which was organized to undertake the construction of majur hydroelectric projects. The other participating companies are The Muntana Power Company, Pacific Power \& Light Cumpany and The Washington Water Power Company: By agrement, the Company is entited in 35 of Facific Northwest's share of the output of any projects in which Pacific Northwest participates and is required to pay $35 \%$ of Pacific Northwest's share of the enst thereof. Pacific Northwest and WPPSS as equal joint participants, are seling a license from the Feleral Power Commission " FPC ") to build a major hydroelectric project on the Snake River between Oregon and Idaho. On February 23, 1971 a hearing examiner reconmented granting a license to construct a development with a projected intial capailify of 1640 megawatts (in which the Company's interest would be $171 / 2 \%$ ), with construction of the project to be postponed until September 11.192 , apparenty to provide Congress time to de:ermine whether construction of any project in this area should be permitted. The matter is pending before the FPC on exceptions to the initial decision and the outcome is not presently determinable. Several proposals have been introduced in Congress since 1971 which would preclude any project on this portion of the Snake River and similar bills have been introduced in the 1975 session of Congress.

## requlation

## General

The Company is subject to regulation Dy the Public Utility Commissioner of Oregon (the "Commissioner"), who has the power, among other things;" to establish rates and conditions of service, to regulate security issules and to prescribe uniorm systems of accounts to be kept by public utilities.

The Company is subject to the juriatiction of the FPC in the transmission of electric energy in interstate commerce and in the sale of electric energy at wholesale for resale, as well as with respect to licensed hydroelectric projects and cerain other matters, but not with respect to the issuance of securities.

Oregon law provides that any city or town may fix for a period of not more than five years rates which may be charged by an electric utility therein. No city or town in which the Company iurnishes service has attempted to fix a schedule of rates applicable to the Company under such law.

## Rate Increases

On October 25. $19 \% 3$ the Commissioner granted the Compant a rate increase of 22.5 c , including an $11 \%$ interim increase effective on April 26. 1973. In connection with such proceeding, the Commis-

- sioner accepted the use of a future test period to determine appropriate rate levels.



 were flaced in a reerve to offict uaderbilings of such cost of power in suiserpuent months. Duris
 bills and $\$ 3,3(0), 0 \times 0$ was taken into tevenues to offeet excess power costs, resulting in aphroximas: $\$ 4,300,000$ being reserved at February 2.3, 197\%, which amount will be returned to customers c: co against billing starting in Apri! 1975. On December 23, $197+$ the Commissiuner granted the Co: a rate increase of $9.7 \%$ for service rendered on and aiter that date and required the Cougat effective January 1 1975, to deier the reduction in income taxes currently payable resulting from : deduction for tax purposes of interest expense included in construction work in progress. The incon taxes so deferred will be credited to construction work in progress and will be restored to incone or the life of the related properties through reduced provisions for depreciation.

On February 24, 1975, four of the Company's large industrial cusiomers filed suit challenging :. December 23, 1974 Order of the Commissioner on the ground that a disproportionate share of $9.7 \%$ overall revenue increase allowed, which they do nut challenge, is imposed on them. The platime seek approval of the proposed rate schedule for large industrial customets filed by the Company connection with its application for rate relief and a reiund of the excess over amounts that would ie iunder such schedules collected since January G, 1975 under the new rate schedule filed pursuan: to : Order. Plaintiffs also seek a stay of the operation of the Commissioner's Order insoiar as pernits the Company to coilect amounts in excess of those which would be due under the propose schedules filed by the Company for large industrial customers, or alternatively, ior an undertaking by : Company to refund such excess. The Company is not a party to the suit and no action has been take on the motion for stay. If the plaintiffs were to prevail, all large industrial customers, including :l plaintiffs, would receive a reduction of approximately $\$ 3,200,000$ annually in the increase charged then: Such a reduction in large industrial customer's rates would have to be offse: by increases in rates in othe classes of customers in order for the Company to receive the total increases in revenues as authorized i the Commissioner's Order. Thie Contpany caunot predict the outcone of the litigation on the $r$; and counsel has advised the Company thats the plantiffs' right to a reiund in excess of rates finally wace. by the Court or the Commissioner on remand is not settled under Oregon law.

On March 11, 1975, the Company filed an application for a $25 \%$ increase in all rates to be effectis in September 1975 and requested that the Commissioner grant as interim relief an increase of at lea: $15 \%$ effective in April 1975. The Company's application considered the appropriate revenue requitemen: associated with the accounting change discussed above. The current filing also requests inclusion it rates of a cost of power adjustment clause which would be designed to recover the cost of powe: :: excess of 5.2 mills per kwh during the 1975-1076 winter. The Conmissioner, by urder dated April 1975, granted the Company interim relief to the extent of a $10 \%$ increase effective with billings on an: after April 4, 1975 for service rendered on and after March 12, 1975.

## Energy Curtailment

The utilities of the Pacific Northwest have a continuing program of promoting voluntary conserva'io: by all customers. The Company program stresses wise and efficient use of all forms of energy.




 conservation activitics. Approximitely one-ialf of the detines in average kwh use per rewidabl customer in each of the two years was due to warmer weather. To the exent tant the reflution in wase occurred in the winter months and reated in a reduction of the necessity of operating the Cona - - ; combustion turbines, the result was lower cos: of power proluced. The Company does not antly that total kwh sales to ultinate cus:omers will contimue indetinitely without ircrease. Sales to witame customers, adjusted to normal temperature. during the perind Scptember 1974 through February 1070 were about 6 ; above sum sales during the same period one year earlier. I is likely, lowever, : a: conservation measures will continue to affect the Company's saies during the foresecable future.
 the Commissioner ordered the Company and other electric utilities to file tariffs providing for cur: $\quad$.a.at of deliveries if required. Such tariffs were made sffective November 6, 1973 and remain in effect.

## Environmental Matters

The Company is subject to regulation by federal, state and local authorities with regard to air an:l water quality control and other ensironmental iactors. Standards and procedures regarding such rez is tion have not in all cases teen fully established. The Company is also subjest to the Rivers and Harions Act of 1899, under which the Company must ditain from the U. S. Army Corps of Engineers permiss to construct facilities on navigatie waters. Oregon state agencies which have direct juriodiction over environmental matters includ the Envirommental Quality Commission ("EQCer and its Deparment of Environmental Quality ("DEQ"), the Nuciour and Thermal Energy Council and, in part of the Company's service area, the Mid-Willamette Valley Air Pollution Authority (")!11TAPA"). The DEQ lias been designated by the Governor as the sate abency aumorized to give the certification require: by Sections 401 and 402 of the Feleral Water Poiktion Control Act Amendments of 1972.

The MWVAPA has issued a new one-year permit for the Be:hel installation effective August 1. 107: The air contaminant discharge linnits in the new permit have been brought into line with the operating characteristics of the turbines. Unde: tifo terms of the permit, the Company can uperate the generatime u.an, for no more than a maxinum of $\$ 00$ hours during the year unless it can demonstrate that addicicnal operation is required for public health and safey. The Company has filed with _illVAP.A a study with respect to possible alternate sitcs. Thie Company also expects to reques: an extension of the Bethel permit.

On September 21, 19\%3 the DEQ issued the necessary air contaminant discharge pemit tor the Harborton installation. The permit approves operation of the installar:ion for a maximum of two years and imposes cetain limits on its operation during such period. The Portiond City Council has emace: an ordinance which would permit the Harborton turbines to operate for no more than a maximum of $2 \div 0$ hours up to Jamary 31, 1976 unless permited by the Mayor or Commissioner of Public Ltilities in the event that there is a clear and imminent danger of disruption of electric service. The ordinance also

- requires the Company to cease operation of the turbines aiter that date. In view of the above, it is
possible that the Company misht le reguired to retmane the turbme: athe
period of time be umble $t$, operate the e turbines of be able to perate thent ons a buace

when these turbines were not in operation or were operating onily cn a limurel Lasis, sotace : ith
tory energy curtailment might be required (sec "Construction Irogram" and "Energy Curtaliment
In 1972, 1973 and 1974 the Company's expenditures for environmental purposes amommes : 0 least $\$ 6,000), 0 \times 10, \$ 20,600,009$ and $\$ 22.000,000$, respect:vely. It is not possible for the Co... 3 . . . . .
all future costs for environmental purposes but it forecasts minimum expendiaures of s. . . . . . . $\$ 41,000,000, \$ 73,000,000$ and $\$ 62,000,000$, respectively, in $1975,1976,1977$ and 1978 for s:0h co..


## MANAGEMENT

The Company's executive officers and directors are as follows:

| Frank M. Warren.... | President and Dircetor |
| :---: | :---: |
| Robert H. Short....... | Executive Vice President and Director |
| Hilbert S. Johnson..... | Senior Vice President |
| Arthur J. Porter. . . . . . | Senior Vice President |
| H. H. Phillips. . . . . . . | Vice President. Corporate Counsel and Secretary |
| G. E. Bredemeier. . . . . | Vice President |
| C. W. Brissenden. . . . . | Vice Presidesnt |
| Estes Snedecor, Jr. . . . | Vice President |
| F. D. Wieden. . . . . . . | Vice Presideñ ${ }^{\text {- }}$ |
| E. F. Wildfong . . . . . . | Vice Presiders |
| J. L. Williams. . . . . . . | Vice President |
| James L. Staincs . . . . . . | Controller and Assistant Treasurer |
| James N. Woodcock.... | Treasurer ${ }^{\text {' }}$ |

- .
Warren W. Braley. . . . . Director
Franklin G. Drake. .... Director
Ernest II. Miller ..... Directo:
Wacie Newbegin ..... Director
Robert W. Roth Director
Eberly Thompson ..... Director
W. T. Triplett, Jr Director
James J. Walton ..... Director
Earl Wantland ..... Directos
William W. Wessinger ..... Director
Rovert J. Wilhelm ..... Direztor
Ralph E. Williams ..... Director







 scc ns and athicles of the Origmal Indenture thices otherwise inticnied.


## Form, Denominations and Exchangeability

 there . Twent--大urti Suph enemat Secticn !:01)

 2.00 and 2.10; Twenty fourth Suplemental Scction 1.01)

## Principal Amo:mnt, Interest and Maturity



 persuns in when rames the New Dou's are registered at the close of business on the March 15 of
 City at the offo or agene of the Company itr the Borougi of Mmhatann. City of New Vork (Twenty fourth Supplemental Sem a 1.01), fescrely We corporate trust office of Marine Midand Eank--Nion York, New York, N. Y.

## Security and Prierity; Bondabie Public Utility Property

The Compang's pracipal plants and appartenam generatins facilitics and storage rese vols are situatel on lam : owne! by the Compony in fee or land under the control of the Company furema :o valid existing teases, icleral or stare tienses, ensements and other azreements; in sone cases, meers
 (other than exaepot 1 roperies, are sube: :o the hen of the Indenture scouring the Firs M: spase
 irregularities and kefciencess in title, which, in the opmion of counsel for the Company, will no: imeriese with their proper operation and develu; tren:

The Company holl licenses under the Feieral Power Act for all of its hydrocieetric genorati-z
 which are coseral by licenses under the Feleral Power Act. Sec Note 14 (c) of Noses to Fuancial Statentents.



 miles of maderground catle of 6 to $12.5 \%$










 property tu the C mpany of (c, in certan: cone of propery nee: by another in a hat





 series then omstanding. incluting the hojers wi not kso than ore in pricipat amount of the lowe :








 the holfers of all New Bonds the: outvian line shat be ceemed to have so consence.
 eccion 10, simh- porisi no amencitg the d.
 in certain prior suppemenal im lentures IEgiteemh :hrugh Tweny-second Suppicmon: is, Sen....

## Sinking Furid Provisions

The New Bonds are no: subjec: :o a sinking font or ctie provisinn for amostization : : their maturity.



















 and therefore the Company has n: Leen ropuisel to foy cash or deliver bonds to the Truase. The Company expets this to continue in the foresecable future.

## Mininum Provision for Depreciation

The "minimum provision for cleqreviniog" as appied to hamlabio public utility property, as pres.




 de:emined on the Lasis of gross peratug rennues from, and maimenance expendinures upon, bontatie public utility property not at the time subject :o a pric: lien. (Section 1.10.G)

When the holkers of $75 \%$ in principal a samt of honds of all series then cutstanding inclucits the holders of not less than corc in primipal am m: of the h whe then outstanding of each serics whith is affectel by such amen tmen: slall lave convented thereo the deftutions of minimum provison to


 perisd under the existing definitions of minmam provisim for deprecistion, atier giving effeet to the atjustacents teierrei to in the paraeryh immaliarely preceling): tie minimum prowision is: deroe. ciation as appied to bundatle fulte urikity faperty slall meay for any caleu lar year subsegcen: :
 of the Company ao of Janury I ci such yeat, with respeet to which the Company was then revoce: :2







 that the property refered to in clat-es (i) and (ii) atose will be bondable public witity perser: :

 become effective it is expected that the minimuan provisions for depreciation for perioth : 1 eve.e...:
 existing defmitions Each l:older of a New Rutd, by his accepance of such Bond, shali herely canses
 such amembiont to become effective: and in devermining whetice the hoiders of not :0.s thay 7 :
 the holders of all New Bonds then outstanding shall be deemed to have so conaenied. (Tweaty-iourt supplemental Section 1.03 )

## Issuance of Additional Bonds

The principat anount of boads which may be isened under the Mortzage is antimitel. Adrabone
 of c . or (3) ailat bom retirements. With certain exceptions in the case of (3) above, the iowiones of bonds is subject to net eamings availa in for interes: for 12 consective monts within tie prece "ira 13 months bei: , at least twice the ammal interest requirements on all honds to be outsancius and pias lien indehteltens (net earmings andit the for interest include, in the opmion of comsch allowance fur fun's used during construction). (Artide FlVE) Ca-h ieposised with fi:e Truste purann: :o :



 the Company lad available ahdit in of appoximaty $\$ 160.600$. sufficient to permit the issumse of approximately $\$ 90,600,000$ princi;al amom; of addriona! bonds.

A vailable at! litions (which inclule, in the opmion of comsel, property then in the :fcess ci con straction in connec.inn witin the Trojan Plant, are determine!, at any time. by delnoting irum the ageregate amom: of property athitionis since Mareh 31, 1245 (2) the greater of the azorocate amour:
 upon bonlalle puhlic utilisy propersy not subjees to a prins lien since March 31.1045 and (2) the
 (Scetions 1.1 I, 301 and 303A) Propery addtions taken as a crellit against the re tavencnt funs requirement are not deemed to be "made the basis for action or crefit". (Section 1.10 H

In adhition to t'c restrictinns in the Mortgage goveroins the issuance of additinat bonds, the Agreemen: under whith the Company's outsanding Simkng Fond Delentures due 1-s3 wete issued



## Dividend Restrictions

So long as any of the New Ponds, of bonds of any other weries lecetotote athentisacel water this
 be declard or fat of ohler distributions made on Common Sock of the Conipany, nor may any stares of capital stock of the Company ic purchased fother than in exchanke iu: or it in the proceets ci stiges shares of capital stock of the Company), if the aggregate anmorn: is distribured or experici a aic: December 31, 19:4 would exceed the aggrezate amoumt of the Conpany's ne: incone avail.h: :a: dividends on its Comunon Stock accumulated aiter December 3:, 1/4. (Section 406; Firt: ant: Thir) $10^{\circ}$ Wenty-fourth sugl 'ementals, inclus ve. Section ; 04, At Decembice $31.19 \mathrm{~T}, ~ \leq 82.052 .000$ of the Compary's retained earnings was not restricted uncer the ioreg ing provistchs. Reference is matie io Noce 12 ? of the Notes to Financial Statements.

## Release and Substitution of Property

Property subject to the lien of the Mortage may (subject to certain exceptions and limitations ie released only upon the substitution of cash. purclase money; onligations or certain other proterty, or pon the hasis of available ad titions or available bond retirements. (Article SIX)

## Modification of the Mortgage

The rights of the bondholders may be modifed with the consent of the holders of $75 \%$ of the bonds. melu ling the consent of ibe holders of $60 \%$ of the bonds of each scries the rights of the holiers o: which a.e affected by such modification. In general, no modification of the terms of principal a:d inierest, and no modification affecting the lien of the Jorignge or reducing the percentige required for modification, is effective against any bondhoider withou: his consent. (Section 17.02)

## Defaults and Notice Thereof

Defaults ars defined as being: defaut in payment of principal; defant: for 60 days in payment of interest of of any sinking iund or replacement or improvement fund olligation; certain eveats of tarkruptcy, insolvency or restganization : or de:ault continuing for 60 days after notice in periormante or observance of cther covenants, agreemgnts or conditions. (Section 11.01) The Trustee may whthe:d notice of defauts (except in payment of primithal. interest or any sinking or purchase fund installacn:) if it in good faith determines it to be in the interests of the bandholders. (Section $1+09$ ) The halders of $25 \%$ of the bonds may dectare the primen al and imterest due on deianla, but the hoiders of a majority may annul such dechration if such cefatit has been cured. (Section 1101 ) No hoider of bontis may enforce the lien of the Mortgace whthen giving the Trustee written notice of a defant: and uhicas the
 expences and the Trume has failet to an: 60 days. (Section 1121 ) The holders of a majorms of the bonds misy direct the tume, me able to the Trustee or exercistion required to incur fessomit tiathis

- indemnified for any expendhures in connecuot, therewith. (Section 1120 )


## Evidence to be Furn hicd to the T: astee





 of delaults.

## Regarding the Trustee

The Company has borrowed and expers to continue to horrow from the Trustee pursuan: to crofis agreements.

## Redemption and Purchase of Bonds

The New Bents will be releomable at the uption of the Company as a whin'e on aty taxe . it



 (ion 1.02)

The Sperial Relemption Price, which is $100 \%$ of the principal amount together with bereres: scrmel to the redemption date, will apply to redemptions (a) by the operation of tie replacemom imai and ob) by tese of the proceels of relezed propery, The following Regular Kedemption Prites (expecsel it percentages of principal amumt) will apply to all other reciemptions:

| If redeemed during 12 mortis period beximing Apri. 1 | Regular Redemption Price ( $\%$ ) |
| :---: | :---: |
| 1975 . . . . . | 11000 |
| 1976 | 108.00 |
| 1977 | 105.00 |
| 1978. | 10400 |
| 1979. | 10200 |
| 1980. | 100.00 |
| 1981...... | 100.00 |

together in ewh ease with interest acerued to the redemption date.
Cash dep ritel under any provi-ion of the Mortgage (with cetain exceptions) many in aghticd to the purclase of bonds of any series. (Section 7.05 )

## REPORT OF INDEPENDENT PUBLIC ACCOUNTANTS

## 10 Pcitland Genlalal Electioc Company:

We have examined the th ance sheet ami statement of capitahzom of Porthand Gemeral Hectur

 iectric utility flant for the tive seats then ended. Gur examinatim was nale in accordance with femerally acceptel auding standarls, and accordinety meludel seats te is of the ascouming recond 2n: sucit other auditing dtacetures as we considesed necessary in the cifemmetanes.

In our opinion, the financid statements reierel to ahove preent harly the finncial position of
 rurces of fund investe! an eectrit mility plan iot tie five veats tion enfel. it conformity witi
 nathol of accounting for mestment tax credis as dearritod in diote 3, on a cotsistent basis curing the ;crio's

Arthur Andersen \& Co. .

Portland, Oregon,
February 14,1075 : $=$

## PORTLAND GENERAL ELECTRIC CONPANY

## BALANCE SHEET

## ASSETS

Electaic Utility Plant:
In service, at original cott (Noic 8) ..... $\$ 580.025$Less-Keserve ior ćpreciation (Note 1)97.05491,6:0
Construction work in progress, including $\$ 217,273,000$ for the Trojan Nuclear Plant at Desember 31, 1974 (Note 8 ..... 2648.4
Nuclear fuel ..... 2:,305785,312
Other Propenty and Initstmlsts:
Nonutility property, substantially at cos: lezs reserve ..... 2.202
Sales contracts receivabie and other ..... 3.0045,205
Curkent Assets:
Cash (Note 9) ..... 11,703
Receivables:
Customers' accounts ..... 925.
Other accounts and notes ..... $2.2+9$ ..... $2.2+9$
Reserve for uncollemtille accounts(355)
Materials and supplies, at average cos
Fue!$15: 112$
6.07
Other
67
67
Property taxes applicable to sul sequen periods
Property taxes applicable to sul sequen periods ..... $1,0 \div$
Prepayments52.481
Deferfro Cuakges:
Preliminary encheering and survey costs on proposed gene:ating plants ..... 4,154
Unamortized deit expen-e ..... 2.522
Other deemed charges ..... 1207

The accompanying notes are an integrn' part of this statement.

## BALANCE SHEET

## LIABILITIES

Capitalization (sce accoupanying statement):
Common stock equity$\$ 2: 1.5 \%$
Cumulative preierred stock ..... $\xi_{1} \because$
Long-term debt ..... ? $3:$ ? 4
Total capitalization ..... 65\%:3 ..... ————
Curbent Liabilities:
Long-term debt maturing within one year: ..... 25.109
Current sinking fund requit ments on long-term debt ..... $2: 85$
Short-ierm notes payable (Note 9) ..... $95: 7:$ ..... $95: 7:$
Acconts and wages payable ..... 29,253
Dividends payable ..... 6.74
Accrued general taxes ..... 10.82:
Accrued income taxes (Note 2) ..... 405
Accrued interest ..... 53417.9 .95
Othir:
7.065
De'errel income taxes-accelerated amortization (Note 4)
$4: 7$
Deferred investment tax cre lits (Note 3)
$1.5: ?$
$1.5: ?$
Possibie additional income taves and oher contingencies (Note 10)
Possibie additional income taves and oher contingencies (Note 10)
1.93"
1.93"
Deferted re ente-excess power cos:s (net of income taves)
Deferted re ente-excess power cos:s (net of income taves) ..... $3: 6$
15,667
Commitments and Contingen Liamulies (Note 14)

The accompanying notes are an imtegral part of this statement.


## 

1. .eenti.24 8.
(Tliumands
Comxu: Stock Eecity:
Common zach, 2375 par value per shate, $20,000,000$ shares atah mazed. 

s 5in, 25

Other paidin captad (Noie 11)

     103,146
    ( $1,4,32$ )
Capital stock exfense ......
Ketaimed car:
Sit?
Total common stock equity
241,55
Cunllative Prlherrin stock, slCu Par Valul Per Sharl, 2,0Cu, 000 Shares
Authomzar (Note !1)
Scries outstandmg (reteenable at the Company's option.)
$9.76 \%$ icu, 60 Shares, redeemable to November 1 , 1100 a: $\$ 110$ and atredter 1 artozats thereatier . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .10,000
$7.95 \%$ zu0, (0) Shats, redeemabie to July 1,197 a! $\$ 100$ and at rejuced
at otms theteather30,009ar ounts ticteatler20.000$7.88 ; 200,0$ Shares, relecmabic to Apsil 1, 1978 at §lUS and at relacedamounts thetentitr . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .n. . . . . . . .amounis ti, ${ }^{-2}$ catiter20.000
Total cemulative preierted stoin ..... 80.(6)
Long-Tens Debr:
First northage bonds
27.197
$3 ; 8, \%$ Series due fuly 1,195 .....
5.905 .....
5.905
$31 / 2 \%$ cerins due Noverwher 1. 1977
$31 / 2 \%$ cerins due Noverwher 1. 1977
2,708
2,708
$31 / 2 \%$ Second Sertes due Nusentiver 1, 10.7
$31 / 2 \%$ Second Sertes due Nusentiver 1, 10.7 ..... 8,183
3\%'se Serica dhe Nukember 1, 1.8.
3\%'se Serica dhe Nukember 1, 1.8.
12,160
12,160
$41 / 4 \%$ Seties due Sopenber 1 ,
$41 / 4 \%$ Seties due Sopenber 1 ,
7.800
7.800
$47 \% \%$ Sence due Juic $1,16{ }^{-}$
$47 \% \%$ Sence due Juic $1,16{ }^{-}$
12,300
12,300
$5 \frac{1}{4} \%$ Series due Junc 1, 15.)
$5 \frac{1}{4} \%$ Series due Junc 1, 15.)
10.809
10.809

13.572
13.572 ..... 16.650
$4 \frac{1}{7}$ S Sernes the lame 1. $1: 03$
$4 \frac{1}{7}$ S Sernes the lame 1. $1: 03$ ..... 16.875
430 Cenies cue ivrii 1, 1,0
430 Cenies cue ivrii 1, 1,0
$470 \%$ Ser is dute March 1. 1003 ..... 13.300
$536 \%$ Series due ;ule 1, 1:65 ..... 11.550 ..... 22,725
$660 \%$ Series due U tober 1, 1597
$660 \%$ Series due U tober 1, 1597 ..... 20,000
83 S\% Series due April 1.197
83 S\% Series due April 1.197
$9 \% \%$ Scries due Xovember 1, 200 ..... 20.000 ..... $20,(0)$
8 So Scries due Noventher 1, 2001
8 So Scries due Noventher 1, 2001
$73<$ Series dir November 1. 2002 ..... 20.000
7.95 ceries dow Anii 1, 2003 ..... 35000
E1:ch Scrins a c nowoler 1. 2003 ..... 17.(0)
10:2s Scries dos Desenther 1. 1020 ..... 40.000
$51 / 2 \pi$ Sin hing faml debentures due 1983 ..... $10:=0$

Real estave parclase contracts ..... | 606 |
| ---: |
| 365,224 |
| 17 |

namortize ! permium on lone-teran deb: ..... (312)Unamorticef discount on long-term: deht364,929
Les-Amounts incheded in curren: liatilitic (Note 13)
L. ong-term debt maturim: whth:n se year ..... (27,192)
Current sinking find requirements ..... (2.:86) ..... 335.34:
Total : mevern achTotal capitalization§65.300The accompanying notes are an integral part of this statencen:

PORT LAND GENERAL ELECTRIC CO:M1 ALY
STATEMENTS OF RETAINED EARNINGS

Balance at Beginning of Period
Ano-Net Income

| 1974 | Twelve Months Ended Deceniber |  |  | 1970 |
| :---: | :---: | :---: | :---: | :---: |
|  | 1973 |  |  |  |
|  | (Thousands of Dollars) |  |  |  |
| \$ 77.452 | \$ 71,980 | \$ 65,809 | \$ 60,933 | \$ 5 |
| 32,918 | 26,616 | 22.569 | 18,283 | 13,741 |
| 110,370 | 98,5,6 | 83,378 | 79,216 | 72,297 |

Deduct:
 On preierred stock
Write-off (over the five-year period ended 1974) of a portion of invesment in other nonutility property in complance with Federal lower Commission requirements ......

Balance at End of Pertod (Note 12) ....... $\$ 84626 \$ 77,452 \$ 71.950 \$ 65809 \$ 60.933$
The accompanying notes are an integral part of these statements.

STATEMENTTS OF SOURCES OF FUNDS INVESTED IN
ELECTRIC UTILITY PLANT

|  | Tweive Morths Ended Decemte： 31 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1974 | 1973 | 1972 | 1971 | 1970 |
|  | （Thousands of Dollars） |  |  |  |  |
| Funds Generated laternally |  |  |  |  |  |
| Income availalile for common st．ck | S $26,3+1$ | \＄ 21,363 | \＄20，373 | \＆17，307 | \＄13．383 |
| Depreciation（including amounts charged to other accounts）（Note 1） | 12，915 | 12025 | 10．6ミ1 | 9，914 | 8.73 |
| Investment tax crith idjusments（Note 3）．． | 2004 | 1，350 | 1， 063 | － | （18： |
| Incone taxes deferred in prior years i X ，e 4 ， | （5＋1） | （ミ¢1） | （541） | （5．1） | （541） |
| Allowance for funds usel daring construction | $(17,004)$ | （11．is0） | （ 4.610 ） | （1．5：） | （79） |
|  | 23,715 | $2 ? .153$ | 26.956 | 24，891 | 20．2：． |
| Less：Dividends cieclared on eommon stock | 18，810 | $15,8+1$ | 13，8： 5 | 12.075 | 10：5：5 |
| Total funds generutsd imsor：ally | 4，905 | 7.643 | 13,121 | 12，516 | 9，980 |
| Funds Provided frow Outside Solfces： |  |  |  |  |  |
| Long－term dejt ．．．．．．．．．．．．．．．．．． | 40，000 | 52,000 | 20，000 | 20，000 | 39，930 |
| Preferred stock | － | 40，000 | 30,000 | － | 10，000 |
| Common stock ．．．．．．．．．．．．．．．．．．．． | 47，213 | － | 20，0゙こ | 19，650 | 11，955 |
| Short－ierm notes payabie ．．．．．．．．．．．．．． | 122，232 | 113，284 | 79，750 | 21，230 | 1，100 |
| Refinancing of short－term notes payabie with． long－term financing | （85，555） | （ 81,370$)$ | （52 250） | $(24,48)$ ， | （56，050） |
| Total funds from outside sources | 122,870 | 124,614 | 97，575 | 36，450 | 26.905 |
| Other Fénds Pronided（U＇sed）： |  |  |  |  |  |
| Retirement of lung－term debt ．．．．．．．．．．．． | $(3,152)$ | $(3,299)$ | $(4,615)$ | （2，673） | （2，7，2） |
| Change in ne：current assets excludine long－ term debt due withm one year and short－ term notes payable | $(12,191)$ | 14，56．8 | 827 | 1，546 | （1，305） |
| Rembursement by lessor of 1973 construction expenditures | 22，800 | － | － | － | － |
| Allowance for funds used during construction | 17，004 | 11，000 | 4.610 | 1，789 | 792 |
| Other－net ．．．．．．．．．．．．．．．．．．．．．．．．．． | 1，325 | （2，418） | （1．08\％） | 3：0 | 979 |
| Total other funds provided（used）．． | 25，786 | 19.81 | （265） | 1，032 | （2．306） |
| Funds Invested in Electric Timbity Plant | \＄153．581 | \＄152，19\％ | E110，43： | \＄ 50,208 | $\$ 34,555$ |

The accomparying notes are an integral part of these statements．

## PORTI: :ND GENERAL ELECTAC COMPANY

NOTES TO FINANCIAL STATEMENTS
Votes 1 through 7 Summarize the Company's Significant Accounting Policics

1. Depreciation. Proviso, for depreciation of utility fiant (obler than trat potation equipment)

 classes of pre, eres. For iegulatery accouming purfouta the annuity protion of such provisions is


ir.

# PORTLAND GENLHAI. ELECTRIC CO:IPANY NOTES TO FINANCIAL STATEMENTS-(Continued) 

Had the Company followed deferred accounting for investment tax credits prior to 1272 , ims moth tax expen eas reported world tive heen intrease 1 by $\$ 3,0,60$ in $1970, \$ 258,000$ in 1071 and derease by $\$ 165,000$ in 1972,1973 and $19 \% 4$
4. Amortization of Defense Facilities. Prior years' tax reluctions atributal te to the extess e: f.ic-year amornization of deense facilitics over deprociation computed subsaantially on the sal of the year-digits mehod were deferrel by crediting the reluctins to Deferted Income Taxa.. Accelerated Amortization. Pursan: to an onder of the Conmisioter, the amounts cecerot at: being restored to income over the twenty-five years following the amortization petion.
5. Allowance for Funds Used During Constructicn (ADC). ADC is defined in the Federa! Powe: Commission ("1PC") Luiform System , Accoums as the net cos: for the perio! of con :ctu: of borrowel fund-usel for construction purpores and a reasomble rate on otier funds when so wse? $A D C$ is capitalized as part of the cost of whity plant and is crecited to Other Incorse. ADC is ? : capitalize i for income tax parposes. The Company io currondy using a 7 fe rate which has icmp in effect since 1908, on construction expenditures nother than maclear fuel which is capitalized os the actual interest rate of the nuclear core notes. See Note 6n. The amount of ADC copisalice. has increased substantially stubsequent to $19 \%$. reflecting the increase in the Company's conarmetion program expenditures.
6. Debt Piemium, Discount and Expenśe. Deit premium, discount and expense are being amor. tized over the lives of the respective istites."
7. Retirement Plan. The Company has 'a retirement phan fur the benefit of its employees. The Com Iany fund, pension costs accrued Prigt service costs of the phan ate being amortized over a $25-\mathrm{z}, \mathrm{F}$ period. Such unfunded prior service costs at December 31, 10,3 ithest actuarial valuation dwed which are not recorded in the accounts, fire estimated to be $\$ 1.7,3,000$ before income tax offe: This amount had not changed materially at December $31,19 \%$. Retirement plan costs were as tollows:



- 8. The Company's Inderture of Mortazge and Deed of Truet date I July 1. 1945, as suppiemene: .
 on substantially all propety and franchises, other than exprestly exsepted property, owned is the Con pany.


# PORTLAND GE:AERAL ELECTIIC COMPAVY <br> NOTES TO FINANCIAI. STATEMENTS-(Continued) 

9. Short-term borrowings consisted of the following:

(a) Bank loans. The Company has a crelit agreement with banks, maturing Augus: 31, 1975, which provides that the Company sy borrow, "prepay and rehorrow from time to time up to a maximum amount of $\$ 150,000,000$. The interest rate on the first $\$ 75,000(0)$ of the commitment is the prime commercial rate in effert from time to time and on the balance $115 \%$ of the prime commercial rate in effec: from-time to time. The eredit agreement provides for a commitmen: fee of $;=$ of 1 fher anmon, on the unused commimeat and a service fee determine 1 by multiphitg $\$ 1875,00$ at the ena of each quarter by the average daily prime commercial rate perounag in eficat during such quarter. The unused conmitment was $\$ 97,900,000$ at Desember 31, 1974.

It is understood that the Company will naintain compensating each balances under the credit agreement; however, there are no leghl restictions to the withidrawal of such balances. The compensating balances were calculated as follows:

|  | December 31 1974 |
| :---: | :---: |
|  | (Thousands of Dollars) |
| Compensaing cash balance requirements | \$10,500 |
| Less-Float* | 3,119 |
|  | \$ 7,381 |

December 31,
1974
of Dollars)
Compensating' cash balance requirements ...................... $\$ 10,500$
Less-Float*
3,119
$\$ 7,381$
: "Floa:" is the differemee between the balances recarded on the Company's books and the balurees shown on the bank statements.

## PONTLAND GIONRHAL ELECTRIC CO:HPANY

## NOTLS TO FINANCIAL STATEMENTS-(Continued)







 tarn sulicase the fachities fomit.e i'o:




 ment panding completion of the factities.


 refused to review the deciatur of an atiomedinte aplelitie court confinting the rifi: of the



 pensate the bank for the tavalie siatus of f... interest therests.
(d) Nucleer core notes. The Conyany las enterel intw an agreement, which may be terminases


 nucieat cores are comsamal The imetest rate on the matert core rotes is the curtent rate in efect for the trut's short-iem: mics. he addition she company must pay a fee of is of lfe per anmum on the averaje daily utitun ting amom of sathaotes.
In June $190^{-4}$ the Company enteret the an agreenem to fanance nutiear cores for a sesond
 stantial': identical to thase in tic P*ojan agreement. The ©rst thanting under this agreemen: took place in Augus: $10^{7}$ -
(e) Aggroute shordern: lat mand The weighted averace imetest rate for the oustanding




## nOTES TO FINANCIAL STATEMENTS-(Continued)

calculated by using the rates of such borrowings bat excluding the fees discussed above and the effect of the compensating cash ' balances.

Provisions for Possible Additional Income Taxes and Oiler Contingencies were provided from income in yeats prior to 1970 as directed by the Commisuber. The Commissioner has assumed jurisdiction over this item and has ordered that no portion of it shall be disposed of without his permission, but has indicated tat he will permit it to le :.... 1 for additional income taxes or for any other purpose from which the Company's customers. n: y derive benefit.

The following changes occurred! in the Common Stock, Cumulative Preferred Stock and Other Paidin Capital accounts (Dollar Amounts in Thousands):


## PORTLAND GL:NERAL LLECTRIC COMPANY

## NOTES TO FHNANCIAL STATLMENTS-(Continued)

13. Under the term, of the indenture serurimg the Company's first mortuage bonds and debomures, the following princiat amounts of bonds and delentures become due $f$ - redemption through sinking fund and maturities during the years 1975 through 19\%9:

Sinking Fund Requirements

|  | Agercgate Requirements | Bonds <br> Reacquired as of <br> December 31 , <br> 19-4 <br> (Thousan | $\begin{aligned} & \text { Net Penaining } \\ & \text { Sitherung } \\ & \text { R(aqitmemnts } \\ & \text { is of Doliats) } \end{aligned}$ | $\begin{gathered} \text { First } \\ \text { Mortgage } \\ \text { Rond } \\ \text { Maturities } \\ \hline \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: |
| 1975. | \$3,468 | \$1082 | \$2.386 | \$27,199 |
| 1976 | . 3,378 | 611 | 2,767* | - |
| 1977. | . 3,628 | 75 | 3.553* | 28,160 |
| 1978 | 3,598 | - | 3,598* | - |
| 1979. | .. 4,249 | - | 4,249* | - |

- Sinking funds in anmume of $\$ 2 F 0.000$ in 107i, $\$ 725.000$ in 197, . $\$ 1,050,000$ in 1078 and $\$ 1,701,000$ in 1979 may be satiffed by pledging anathie atditions equal to $166 \%$ of the sinking fund repurement.

14. (a) New construction for the yeat $1975^{\circ}$ is 'estimate! at $\$ 140.000,000$, excluding the proposed bew heatquarters complex which in expeceet. to the finaticel by a sale-cease tach arranement. Sce "Construction I'rugrm" for athatam! information concenang the 1975 construc: a prestati.

 termagrements to provide atweaz core, for its Trugas Suckar lhant and its propuret abditi mai nuclear flants. Such agreements may be temminated and wontd require payment of temination charges.
(b) The Compas: has entered into lang-term power purchave contracts, expiring from 20 O ; 10
 purchase prices are based on a proportmate share of the ofataing and debt service costs of each project whethor or not operabic. The aftemems provile that the districts insute the plams to the


Kilowatts available to the Company (mame plate tating)
874,700
Estimated curreat annual oprating and debt service costs ............ $\$ 13,500,000$
(c) All of the Company's hedroclectic phams ate licensed by the FPC. Upon the exptration if a

- mi jor license. a new license may te gramed to the Compray or upan parment to the Compais o: its "net insestmen" therein, not th exceel "fien valte", phins reverance danazes, the proyests may be taken over by the t'uited states of hicensed to a new lifensee. The lieen-es provale that aiter
 anortization reserse which may relece the "net invertment" in the projects.


## PORTLAND GENERAL ELECTE:C COM1MAY NOTES TO FIN/RNCIAL STATEME::TS-(Cuntinucd)






 a sigulifant effert on tifc finmeill pusition of the Coapons
The remaining major lieenses expire from $2001 ; 0$ 2066. The minor part lieense on the Bull Rr , Hydroeiectric Mant-hisense 47 -expited in Novemier 1974 An annual license has been issut on the same tern:s and conditims as the Griginal lisense.
The Company holds stare lieenoes covering all or portions of cetrain hyylrociestric proiects whith are also covered ly licen e, undor the Federal Power Act. Such lisenses expire hetw.... 2002 and 2011. Each of the sate hicenses, except one. contams prowisions simitar to the Feleral Pover Act licenses with respect to mortization reserves and audionzes the stase of Oegon to talie oser the project when it is fully amortize Under staic law, the state or any munisipality may aspuite : project subject to state hecre ufun not less then two years' notice at the fair value thereuf hot nos exceeding the then "nes investmeat", or otherwise may acquise a project by of ommation procee ings
(d) The minimum annual rental comnitments of the Company under all noncancelable leases at December 31, 1974 are as follows:

| Basic | $\begin{aligned} & \text { Non. } \\ & \text { capitalized } \\ & \text { Financing } \\ & \text { Leases } \end{aligned}$ | Sub- <br> Rentals (Credit) |
| :---: | :---: | :---: |
|  | (Thousands of Doliars) |  |


| 1975 | \$ 1:103 | § $4,30 \mathrm{~S}$ | § (50) | \$ 5.421 |
| :---: | :---: | :---: | :---: | :---: |
| 1976 | . 1,049 | 4.365 | (50) | 5,364 |
| 1977 | . 913 | 4,363 | (12) | 5,269 |
| 1978 | 85.4 | 4,363 | - | 5.217 |
| 1979 | G83 | 4,363 | - | 5.05! |
| 1980-198: | 3,4:2 | 21,812 | - | 25,2! |
| 1985-1989 | 1,973 | 21,812 | - | 23,785 |
| 1990-1984 | 1,605 | 21,713 | - | 23,319 |
| Remainde: | 7,03! | 18,442 | - | 25,473 |
| Total | \$18,604 | \$10§,001 | 8(112) | \$124.15. |

During 1973 die Congany emetel into 25 event hase of comblathon the bincs focated at two of its
 located at its Beaves fram she The toal ievec commitments far the comblution turbines represem:

 leases) implicit in the ieases $\quad .$. . a approximately $\$ 53,155,000$ at December 31, 1974.

## PORTLAND GENERAL. ELECTRIC COMPANY <br> NOTES TO FINANCIAL STATEMENTS-(Continued)

In the event of certain contingencies the Company may be required to purchase the turhines from the lessor at a maximum price of $\$ 52.2 \leqslant 1 \mathrm{NO}$ ia $: 275$ and at decreneng amounts thereafer Suth purchase would refuce the $\$ 104.126,000$ of leasc conmil aents th the exien of lease paymens then remaining At the expitation of each lesse the Company his oftions to (i) renew the lease for five years at the then iar rental value or (ii) purctiae the tmbines at the then fair market vaiuc. Substantially all other leases with options to renew provide for negotiation of the antount of romal at the time of exeresing such options. Quice leases with options to purchase are not material.
If all noncapitalzel financing leases hat heen cap,alizel during the years 1972,1973 and 197:, the effect on the Company's average ne: income womt have been less than $3 \%$ during such years. If all present noncapitalized finaneng leares were cspotalized the Conypany dous not anticipate tha: the impact on net income in future years would exceed $3 \%$ of average nct income.
15. Suppiementary Income Information:

$\frac{\text { Twelve Months Ended Decembet } 31}{$| 1974 | $\frac{1973}{}$ | $\frac{1972}{4}$ | $\frac{1971}{}$ | $\underline{1970}$ |
| :--- | :--- | :--- | :--- | :--- |}

Taxes other than income taxes, charged


- See Note 14 (d) for details concerning the Company's long-term lease commitments.
*     * Based on kwh of gross generation at certain Company hydroelectric projects.

The amounts of maintenance and repairs, depreciation and taxes ofther than income taxes included in the Statements of Income but not set out epparately therein are not material. The amounts of depreciation and amotization of intangibic assess. advertising costs and research and development costs were not material.

## LEGAL OPIIIIONS

Legal maters in comection with the foutnce ant ate of the New Benls will be passed upon for the Company by its fimmeral Councl. Mesers. Phillits. Coughlin, Buell, Suofof \& Black. Flectric

 Messts. Dechman \& Bogue will rely upon the gimiun of Messrs. Pliilips, Cou,hla, Buell, Stoluff \& Black.

The statements male unler "Dusiness", "Regulation" and "Deseription of New Ronds", as to matters of law and legal conducions, have hen prepare! or reviewed hy Slessa, Pimpos, Coughing. Baell, Stolnff \& Phack and such tatements are mate urom authority of such com el as expetts. James K Buell, Fsq., a member of such firm, is an A-sisath: Secre:ary of the Company. Perions who are members of, or of coumbel th, the law fim of Meesrs. Puilifs. Coughtim. Buell. Stoloff \& Plack own in the nggregate 3,718 shates of the Cunmany's Common Stuci: 100 shates of Preierrel Stoch and $\$ 35.000$ principal amount of its Finst Morig ce Pamps of wheh ecourities Clarence D. Plillips. Eisq a member of such
 of Fits: Mortgage Monds, Jain I. Coughtin. F-1. a nember of such firm, owns so0 shares of Common
 such firm, owns 1.513 shares of Cotumon Stock. Wailemar Seton, Esq, who is of counsel to such firm. owns 960 shares of the Company's Common Stock.

The balance sheet and statement of cappatization as of December 31, 1974 and the statements of income, retained earnings and sources of funds invesied in electric utility plant for the five years then ended incluted in this Propectus have been examined By Arthur Andersen \& Co, independent public accountants, as indicated in their report with respect theten, and are incluted herein in reliance upon the authority of said firm as experts in accomsing anl haliting in giving sald report. Reference is made to said re;prt which calls attertion to a change in : cuumting princijles with respeet to the method of accounting for investment tax credits.

## EXPERTS

$\bullet$.

## UNDERWRITING

The several Lindetwrites natued below, acting through Myth Ea man Dillon \& Co. Incorpori'e and Dean Witter \& Co. Incorporated, as Kepnesenatives, lave entered tato an Linderwriting Igreemenwith the Company whereiy they have severally agreed to purchace the respective principa! amouat: ©
 Agreement, a copy of which is filed as an cathinit to the Kegistration Statement.

| Underwriter | Principal Amcunt | Underwriter | $\begin{aligned} & \text { Princifa! } \\ & \text { Ans } \end{aligned}$ |
| :---: | :---: | :---: | :---: |
| Blyth Eastman D.ilon \& Co. Incorgorated. ... | \$4.92: 0.00 | Loeb. Rhoades \& C | \$ 4 |
| Dean Witter \& Co. Intorporated............. | 4, 42: $\times 2$ | Lowwi \& Co, iners; , rate |  |
| Auams \& Peck. | 200 (2x) | MeDonald \& Company |  |
| Adves: Co. | $300 \mathrm{~cm})$ | Mernill 1.ynch, Freece, Fenner is Smith |  |
| Atkinson and Coms | 200, 000 | lac. fyorated | 4. $2 \cdot$ |
| Bacon, Whipple \& Co | $30 \times$ (0) | Mitciman, | 2. |
| Robert W. Bair! \& Co. thonpreated | 300. 0 mos | Montes, H | 5x.(a) |
| Bateman Eichler, 11:1f Richunds heorsurate! | 3 mom |  | 3 nc |
| De:lor 1, Hammerbeek, Ine. | 100) 200 (0) | Omeka Sexuritice itio | 1000 |
| Eirs, Wikon \& Ca. Inc Black \& Company, Ine | 3+1000) | Paine, Whthier, Jachich \& Curtis |  |
| Etakely, Strand \& Whihame, Ine | 200.0. | theormatel |  |
| Bluat Ellis \& Simmats Incorprated | $3(0,0) 9$ | Fiper, Jatray \& 11 nwnod Incorporated . . . |  |
| Crowell, Weedon \& Co. ............ | $3 \mathrm{OH} 0 \times 0$ | Wm. F. Fuling \& C | Su0). |
| Dain, Kalman \& Quanl, licorgorated........ | $\sin (\sqrt{6})$ |  | 200 |
| Dasagherty, Cole ine ....................... | 100000 |  |  |
| Davis, Siages \& Co, Inc. .................. | 300.000 | 1. F Rothsoluid \& Co. | \%50.0 |
| Dillon, Read \& Cu, Thes .................... | 91010 | Satomon Brathe: | 960 |
| Diexel Eurnham \& Con Incorporsted........ | gix) $i=$ | Shieids Motri Rolard Securities Dinorporated | 7306 |
| The First Boston Corporation. . . . . . . . . . . . . . Foster \& Massha: The | 5 | Shuman, Agrev \& Co. Inc. ............... | 3005 |
| Gallazier \& Jensen, Ir | 10, 150 | Smith, Protucy \& Co. Incorporated.......... | 9 |
| Goidman, Sachs \& Cu ...................... | 9 cocom | Somers, Grove \& Co, the . . . . . . . . . . . . . . |  |
| Halscy, Stuart \& C, lac. ................... | 200,00 | Stone \& Pouncbert . . . . . . . . . . . . . . . . . . . . . . |  |
| Harris, Upham \& Co. incorgoraterf.......... | 500.000 | Sutro \& Co. Incortorated. . . . . . . . . . . . . . . . | a. |
| J. J. B. Hilliard. W. L Lyons, Ine ......... | $200,0 \times 0$ | Thomson \& Mckinnon Auchincioss Kohlreyer | (*) |
| Hinkie Northwest, Ine | 300,000 |  | (1) |
| Hornbiower \& Weeks. Hemphill, Noyes | $\because$ mome | Chas. N. Tripp Inc. Wagenseller \& Durs | 8 |
| Incorporated | 90,002 | Wagenseller \& Durst, If | 900.00 |
| June S. Jones C, | 200, ©0 | Weeden \& Co. treornorated. | 7508 |
| Kidder, Peabody \& Co Incorporate | 900.000 | L. J. Werschkul \& Suns. | 200, |
| Kutn, Loeb \& Co | 900.00 | White. Weid \& C, Incorporat |  |
| Lehman Brothers Incorgorated. | 900.00 | Wood. Struthers \& Winthrop tre. | $5 \%$ |

The New Bonds are offered subject to prior sale. when, as and if issaed by the Company ant accepted by the L'inderwriters, in part directly to the public at the mitial public offering price set forth of the cover page hereof and in part: th certain dealers at such price less a concession not exceeding of : 9 of the princigal amount of the New Donds. Underwriters and denices may reallow to certain ofthe dealers a discount mot exceeling $\&$ of 18 of ouch principal amoums. After the initial public offerit: the public offering price an concessions and discounts to dealers may be changed by the Representatives

The Underwriters will be oblhgated to purchase all of the New Bonds if any are purchased.

## ATTACHMENT 10-1

## 1974 UPDATED FINANCIAL AND OPERATING SUMMARIES

 OF THE 104 CONSUMER-OWNED PARTICIPANTSDISTRIBUTOR City of Rupert
FOR MOHTH ENDING
December 1974


Pat - 1 会 110

## ELECTRIC ENERGY STATEMENI

## City of Rupert

IONTH OF_November 19_74


Systen peak demond (30-minute

## RManss

## nectu- Audit 1974

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| Statement of Revenues and Expenditures | Page 3 |
| Statement of Changes In Fund Balances | Page 4 |
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Page 7

General Fixed Assets
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Schedule of Insurance and Surety Bonds
General Obligation Bonds and Revenue Bonds

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Page 12

DONALD E. WESTFALL

CERTIFBE PUBLIC ACCOUNTANT

TIL

Merch 8, 1975

Mayor and CIty Councll Sity of thesle evele. Ideho

I hove exalaed the belance sheets of funds and general flat eseet greup of eccounts of Declo. Idelse, ot Becember 31, 1974. and the reiated statement of changes in fund balaneas and general fixed asset group of eccoments and statement of revenues and axpenditures for the year then anded. ay axaminetion wes ade in accordance with generally eccepted auditing standerds, and accerdingly included such tests of the accounting records and aucn other auditing procedures as I cesseldered meseseary In the eifrcuastances, except as noted in the foll lavilas paragraphs.

The fity does nez meintain detalled reoerds of property and equipment. Accordingly, I do not express eny opinion concerning genserel flxed essets stated at $\$ 61,778.93$, amounts axpended for flxed essets Aovemes Shering Fund of $\$ 4,995.93$ and Cullinary Mater Systen ilxed eseets of $\$ 119,370.08$. Alce Inelubed In the genseral flxed assets are cmeunts expended on behalf of the senwer systee In the anount of $\$ 20,806,60$.

Thare wes no Inventery of electrical aupplies teken at seepter 31, 1974. Seceuse the Inventory of electrical supplies and the flxed essats of all funds enter ateterlally into the overall financlal peeition, I to net axprese apinlon of the eccompenying belance sheet for the city of Beslo.


## Declo, I daho

BALANCE SHEETS OF GENERAL FUWD, REVENUE SHARING FUND AND CULIMARY WATER BND FUND December 31. 14


Declo. I daho
STATEMENT OF REVENUES AND EXPENDITURES
Yeer anded December 31, 1974

|  | General Fund | Culinary <br> water System and Bonds | Ravenue <br> Sharing |
| :---: | :---: | :---: | :---: |
| REVEAIIES: | \$20,814.78 | \$7.586.54 |  |
| : 1 lity revenues fees | 2,140.00 |  |  |
| Grrbage collection fees | $3,141.87$ | 2,256.37 |  |
| Tayes | 1,493.71 |  |  |
| - Iquer apportlonment | 3.513 .50 |  |  |
| - I intway | 540.00 |  |  |
| biconses | 36.00 |  |  |
| Fines revenues |  |  | $\$ 3,086,00$ |
| Jiner revenues Total revenues | $34,086.59$ | 2.842.21 | $3,086,00$ |
| EXPENDITURES : |  |  |  |
| 'ji:ilty purchoses | $685.34$ |  |  |
| Electrical supplies Office expense | 178.75 |  | 33.75 |
| fifice expense colories | 6,475.35 |  |  |
| cilaries ireets and parks | 1,885.25 |  |  |
| Treets and parks ${ }^{\text {Hee dopartment and telephone }}$ | 775.21 |  |  |
| lice dopartment and | 1,121.22 |  |  |
| -isurance and oands | 7-1.16 |  |  |
| ther expenses | $935.24$ |  |  |
| ic irement | 2,405.50 |  |  |
| a, lice salary and mileaje oual | 242.10 |  |  |
| yyioll taxes | 401.42 | 2.317.15 |  |
| - Interast | 25,020.21 | 1 2.217.25 | 33.75 |
|  | \$9,065.68 | \% $\$ 7.525 .16$ | \$3.052.25 |

Declo, Idaho
STATEMENT OF CHANGES IN FUND BALANCES AND GENERAL FIXED ASSET ACCOUNTS

Year ended December 31, 1974

|  | General Fynd | Cullnary Water System and Bonds | Rovenue Sharing | $\begin{aligned} & \text { General } \\ & \text { FIxed } \\ & \text { Assots } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: |
| BAL.NCE, January I, 1974 | \$12,156.37 | \$62,254.63 | \$5,429.94 | \$57.729.63 |
| Excess revenues over expenditures ixpendltures for fixed assets | $\begin{array}{r} 9,065.68 \\ 1,355.90 \\ \hline \end{array}$ | 7.525.16 | $\begin{aligned} & 3,052.25 \\ & 4.935 .93 * \end{aligned}$ | 4.955.90 |
|  | \$16,266.15 | \$0y.779.81 | \$3,486.26 | \$62,685.53 |

Declo, Idaho

## NOTES TO FINANCIAL STATEMENTS December 31, 1974

Note 1 - Principles of accounting.
The accrual basis of accounting is used by the CIty and accordingly uses fund accounting principles. Cash and other assets are accounted for by certain accounts within each fund which balance within each group.
WOTE? - Value of General Fixed Assets and Culinary Water System Fixed Assets are the result of recorded book transactions. No detail property records are maln:alned ty the City.

NOIL - N., depreciation has been taken on fixed assets of in e culinary water system. of December 31, 1974.
NC: : - The Revenue Snaring funds are being accumulated for specific needs of the City as determined by the city Council. As of December $\$ 1,1974, \$ 2,259.53 \mathrm{lda}$, veil expended fig extensions of the electrical system: anu $\$ 2,436.40$ has bree expended for extensions of the water system.
I)ONAI.I I WESTFALL.


# T2.FP!uNF: ン11X - 678-0466 

March 5, 197\%

## OTHER FIMANCIAL INFORMATION




## Declo, Idaho <br> CASH ON HAMD AND ON DEPOSIT Year ended December 31, 1974



$$
\begin{aligned}
& \text { De In, I daho } \\
& \text { OPERATION IN TAXES RECEI VABLE } \\
& \text { Year ended D. Cumber } 31,1974
\end{aligned}
$$

```
,ENERAL INDD
    1974 -1'S
    19%) Er.o
```

| Halance $2 / 31 / 73$ | $\begin{aligned} & 1974 \\ & \text { Levi } \end{aligned}$ | $\begin{array}{r} 1974 \\ \text { iullections } \\ \hline \end{array}$ | $\begin{aligned} & \text { Balance } \\ & 12 / 31 / 2 \mathrm{~L} \\ & \hline \end{aligned}$ |
| :---: | :---: | :---: | :---: |
| 4 $5: 16$ | \$4.671.76 | 73,685.21 | $\begin{array}{r} \$ 4,471.7 t \\ -\quad 265.25 \end{array}$ |
| 51. . 31.16 | \$4,671.76 | 53. Wう. 91 | \$5,437.01 |

Declo, I daho
GENERAL FIXED ASSETS
Decenber 31. 1974

```
Iflice rulldinc and equipment
lectribnl systen.
Ire ho and proverty
anltary !and flll
+reets ., d parks
ater s, c., and irriyation
ewer pre is 1
```

vec lo, I daho
COMPARISON OF EXPENDITURES WITH BUDGET
Year onded Vecember 31, 1974

```
CENEN SIMC:
    Emy liye taxes
    Emy iny. Ictirement
    Powe: i-hases
    Elec: , I supplies
        irity fim water
    uffi. 'r, el, et
    Office. .e'y
    tle: e a'ary
    Labo sl ectin, trash
    Irrice or labor
    street ars parks
    Fire a aell and telephone
        ruilnoy © i i, ense
        ingurer. mi linus
    Mlsce sna
    Caplta eniorsivires
        Police an', ... inteaye
\(\therefore\) ilna ining fund
        \(\therefore \varepsilon\)
```

    ULINAP. AT.H SYCTEF AND BONDS:
    Re.cis. oras a interest
        -e .., , D..., a: on bonds and
        ntert
    iA. .pHt ILIES
    CENI ~ J!: '
    | 1974 <br> Budget | 1974 <br> Expenses | Over <br> Budget | Under <br> Budget |
| ---: | ---: | ---: | ---: |
| 400.00 | $\$ 401.20 .00$ | 378.71 | $\$ 1.42$ |

```
Decle, Idaho
CHEDULE OF IMSUANCE NME SURITY BONDS
Decerser 31. 1974
```


firele., I daho
CIP.LF: : GLLIGATION BONDS AND
PEVENUE BONDS December 31, 1974


 Is puid $r^{1}$ annuaily on sta-ch 1 and supterber 1 .

Po:n of the above wond issue, are quaranteed by the F.ir a rome Adminisitotion and corr) an interest rate of 3.65\% per th.1t an

## WALSTON, REINCKE \& ロSTERHOUT <br> L FHTIFIED VUBLIC ACLOUNTANTS



```
To The Bnary of Directors
Fivurside Hiec'ric Conpany, itd.
4; 's', ldaho
```

```
\(\therefore\) have exanined in: Comparative balance sheet of fiverside
ri: Company, (ai. (an idaho Tax Exempt Corporstion) as of
``` antor 3., \(1 / 4\) ani he reatud Comparative tatement of peraoris and 3'atemen: ol Ctarites in Financial Position for the \(y\) fear Mr. ended. (ur "varinat on as made in accordance with general-y acct \(F\) ed audicing starkiards, and accordingiy, included sich ies:s of the account ing records arri such other auditing procedures as we considered necessary in the circumstances.
n our opinine, he accomparying Com: arative Balance Shee. 4ild Comrara ive atement of I, rrations and Sta ement of Chariets \(\therefore\) Financia: losition presen :airly the financia. position of
fonide ti,ectric Company, ind. as of December 31, 1474 and tr. ....)'s of it:: opera ions for the year then ended in conformi' : wi:h penerally accep' ed accounting principles applied on a basis consis:ent wi'! that of the preceding year.

\title{
KIVFSIDE FLECTHIC COMPANY, LTD. Rupert, Idaho \\ COMi ifattve balance sheet
}
\begin{tabular}{cc} 
& \begin{tabular}{c} 
Year Finded \\
December 31
\end{tabular} \\
ASSETS 1973 & \begin{tabular}{c} 
Incruse \\
(Decrease)
\end{tabular}
\end{tabular}

( \(7 n+3\) )


\(\$ 123,42 \% .2\)
\$
\(\frac{15,4,44.41}{138,5}\)
\(15,041.9\)
\(\$ 123.524 .71\)
\(\begin{array}{r}1.510 .80 \\ \hline\end{array}\)
CMEN: MS:

Cast. on liand at in (heckime 'ccount:
Cash in Bank - Uavings
cinunts heceivabie - Esectricity (note 2)
Materiais
Memberships
hyen' ar. 's, q: cos: (no e 4)
Int re:: ieceivabie on Savines Certificates Dot. Current issets

TAi \(\because 1\)
\$ 2,312.96 <0,000.00 12,916.49 4,977.:1 145.00 \(27, \epsilon^{-1} \cdot 1 i\) 266.48
\(\overline{\hat{3} \quad 0,485 \cdot{ }^{3}}\)
\(\$ 1,55: 26.09\)
H ABILITIES \& MEMBERS' EQUITY
\$
750.46
\(20,000.00\)
\& \begin{tabular}{c}
2.562 .50 \\
0.
\end{tabular}
\[
2,, 129.10 \quad(13,212.61)
\]
\[
3,374.65
\]
\[
255.10
\]
\[
21,049
\]
\[
85.28
\]
\[
\text { I } 1,4+0.3:
\]

\(\$ 194,-740.0 \%\)


CRTC: TiB:LITIER:
Note Iavable :o Idaho Firs: National Bens
icco-nis Fayable
Meter i) posics
layro, Taxes withheld \& iccrued
iccrued Interest Payable
Tirt BliITlES (oll Current)


Menionership Certificates, at
\(\$ 100.00\) sch (Exhibit B)
Nembers' rquit\% (Exh1bit B)
1014. Nembers' Squi:y
( I I L LIABILITIES \& MBPBERS' EQUITY \(^{\text {E }}\)
\$ 19,600,00
\(170,707.68\)
\(\$ 190.307 .08\)
\(\$ 145.126 .07\)


> II IVERSIDE ELECTRIC COMPANY, LTD.
> Rupert, Idaho
> TATMMNT OF CHANGES IN MEMBERS' EQUITY
> For the Year Ended December 31, \(19 / 4\)
```

Norbership Ciftificates January 1, 1974 (Exhibit A)
* U.mb/rs aided during the year:
Th.e Picxering
oter', Bywe:er
Nasph Bourguin
Jamies (Holston
burorip Cer ificates December 31, 1974 (Exhibit A)
4.1`January 1, 1474 (Exhibit A)
\$ 166,831.46
1.. ons:
xC. ss of Kevenues over Costs
of peration:. (xhibit C)
Ther : ncome (Exuibi: C)
2,:2;.62
1, =0.60
'urturs' quity December 31, .4.4 (Schitit A)
FK:"'mulTH (Exriti: \)

```
\[
\begin{array}{rl}
\$ & 100.00 \\
100.00 \\
100.00 \\
& 100.00 \\
\hline
\end{array}
\]
\[
\& \quad-1,00.00
\]
\[
\$ 166,831.46
\]
ans:
\(x\) x. ss of Revenues over Costs
of peration. (xhibit C)
quits December 31, \(\quad \cdots 4\) (Sxhitit A)
Fだ! multi (Exriti: )


The Accompanying Notes to Financial Statements are an integral part of this statement.

\section*{COMFARATIVE STATEPENT OF OPERATIONS}
```

OFFKITWGG HELTNUES:
Fiec'rical Fnergy Sales - hesidential
Hluctrical thergy Sales - Irrigation
Gross Finergy Sales
Less: Dis ounts taken (Note 2)
i.et Frergy siles
Less: Cost of Energy
N.i Reverues - Electrical Energy
Ther Hevenues \& Costs:
Materials Soll
-ss: Cost of Materials Sold
\&et Revenue from Materials
tor-Sales
otal (rher Revenues

```
Tota revenues fro: operations
11 No XPFNSEX:
    4.4-- - - Manager \& Helpers
    4. -0.. Toxes
    in Maintmance \& Lepairs
    rop: r: \(\%\) : \(2 x\)
    Trucr \& Fquipment Expense a lifenses
    - "prociation
            ot a i perating Fxpense
DMMINOTH:TIVF \& GENEKAL EXPENSFS:
    insurance
    - on \& Aucit
    : 1 . c. Supplies \& Adver:isements
    in:r-:ors Fees
    Foscage
    Interest Expense
    Telephone Expense
    Travel \& Meetings
        Cotal Administrative \& General Expense
-- -s 'perating Revenue over Total Expenses
\$ 712.83
    \(\begin{array}{r}\$ 15,426.92 \\ 1,058.32 \\ 1,073.26 \\ 1,402.78 \\ 3,25.9 t \\ 1,028.70 \\ 150.0 \\ \hline 26,175.94 \\ \hline\end{array}\)
    \(\begin{array}{r}\$ 15,426.92 \\ 1,058.32 \\ 1,073.26 \\ 1,402.78 \\ 3,25.9 t \\ 1,028.70 \\ 150.0 \\ \hline 26,175.94 \\ \hline\end{array}\)
    \(\begin{array}{r}\$ 15,426.92 \\ 1,058.32 \\ 1,073.26 \\ 1,402.78 \\ 3,25.9 t \\ 1,028.70 \\ 150.0 \\ \hline 26,175.94 \\ \hline\end{array}\)
    \(\begin{array}{r}\$ 15,426.92 \\ 1,058.32 \\ 1,073.26 \\ 1,402.78 \\ 3,25.9 t \\ 1,028.70 \\ 150.0 \\ \hline 26,175.94 \\ \hline\end{array}\)
    \(\begin{array}{r}\$ 15,426.92 \\ 1,058.32 \\ 1,073.26 \\ 1,402.78 \\ 3,25.9 t \\ 1,028.70 \\ 150.0 \\ \hline 26,175.94 \\ \hline\end{array}\)
    \(\begin{array}{r}\$ 15,426.92 \\ 1,058.32 \\ 1,073.26 \\ 1,402.78 \\ 3,25.9 t \\ 1,028.70 \\ 150.0 \\ \hline 26,175.94 \\ \hline\end{array}\)
    \(\begin{array}{r}\$ 15,426.92 \\ 1,058.32 \\ 1,073.26 \\ 1,402.78 \\ 3,25.9 t \\ 1,028.70 \\ 150.0 \\ \hline 26,175.94 \\ \hline\end{array}\)
        730.00
        267.26
        305.00
        180.00
        62.50
        195.32
        \(\$ 2,452.91\)
\(\$ 2,225.62\)
\(\$ 2\)
        712.83
        §
\(\begin{array}{r}\$ 15,545.00 \\ 84.00 \\ 84.2 .97 \\ 1,283.03 \\ 1,20.2 \\ , 12.2 \\ 150.00 \\ \hline 25,531.4 \\ \hline\end{array}\)

    \(\begin{array}{r}\$ 18,414.80 \\ 13.861 .73 \\ \$ 4,553.07 \\ \hline 4,112.07 \\ \hline 8,665.07 \\ \hline\end{array}\)
            \(\begin{array}{r}\$ 12,01.02 \\ \$ 9,682.20 \\ \$ 2,218.82 \\ 2,800.83 \\ \hline 5,019.61 \\ \hline\end{array}\)
    \(\$ 30,8,4.47\)
            Year Ended
            December 3:
\(-1974 \quad\) December 3i
Increase
(Decrease)

                                    (Decreast)
    \$49,791.76
            \$4. \(4,17 t .66\)
\(\ddagger 1,615.10\)
    \(\frac{1,861.02}{\$ 51,652.78} \$ 48,774.04\)
    \(\frac{(12,066.38)}{\$ 39,586.40}\)
    \begin{tabular}{l}
\(\$ 778.04\) \\
\(\$ 48,754.70\) \\
\((8,097.31)\) \\
\(\$ 40,85.30\) \\
\((15,520.00)\) \\
\(\$ 25.337 .32\) \\
\hline
\end{tabular}
    \begin{tabular}{l}
\(\$ 778.04\) \\
\(\$ 48,454.70\) \\
\((8,097.31)\) \\
\(\$ 40,85.30\) \\
\((15,520.00)\) \\
\(\$ 25.337 .32\) \\
\hline
\end{tabular}
    \(\begin{array}{r}(17,397.00) \\ \$ 22,189.40 \\ \hline\end{array}\)
    \(\$ 30,357.04\)
\(\frac{1,082.98}{2,698.08}\)
\(\frac{3,969.07}{(2,210.99)}\)
\(-133\)
\(1,877.00\)
\(\$(3,147.99)\)
\(\begin{array}{r}\$ \quad 6,513.78 \\ 4,277.53 \\ \hline 2,334.25 \\ \begin{array}{r}1,31.17 \\ \hline\end{array} \quad 3,545.42 \\ \hline\end{array}\)
\(\$ \quad 477.43\)


Telephone Expense
Travel \& Meetings
Cotal Administrative \& General Expense -- -s operating Revenue over Total Expenses
\begin{tabular}{r}
730.00 \\
267.26 \\
305.00 \\
180.00 \\
62.50 \\
195.32 \\
\(-0-\) \\
\hline\(\$ 2,452.91\) \\
\hline\(\$ 2,225.62\) \\
\hline
\end{tabular}
\begin{tabular}{r}
\(\$ \quad 645.68\) \\
569.20 \\
193.71 \\
275.00 \\
144.00 \\
278.43 \\
\\
\\
\\
\\
\\
\hline 76.09 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|}
\hline \$ & 67.15 \\
\hline & 160.80 \\
\hline & 73.35 \\
\hline & 30.00 \\
\hline & 36.00 \\
\hline & 215.93) \\
\hline & 7.24 \\
\hline & 371.83) \\
\hline & 211.22) \\
\hline \$ & 64.12 \\
\hline
\end{tabular}
MHFR: NCOHE :
    Interest Earned on Savings
    Pole Rent
            Total ther Income
NE! EXCESS REVENJE: OVER EXPENSES
\$ 1,442.60

```

SOURCES ()F WIPKING CIPITAL:
"ror 'querations:
\because: Income from (perations \$ 2,225.62
Interest Income 1,44,2.00
Poie Rental
208.00
Net Excess of Revenues over Expenses
Idd: Depr=cis:ion expense not requiring
out isy of working cepital in current
period

```

Cos' of damaged or obsolete assets removed from service not requiring outlay of working capital in current period (net)
*orring Capita. provided from operations
nopr: ine Capital provided from new membership certificates
Total Sources of Working C3p-tal
NRKING CAPTTAL:
./s'ribu* ion lines and facilities placed in service
\$ 8,0\%6.00 229.50 \(8,305.50\) \(\$ 2,765.42\)

\section*{リME - OPEKTIONS:}

The Company was incorporated January 24, 1918 as an Idaho Corporation exemp fron federal and state income taxation. Operations consist of disfitution of electrical energy on a non-profit basis.

N TF. 2 - FOLLOWING IS A SUMMARY OF THE SIGNIFICANT ACCOUNT ING POLICIES OF THE COMPANY:
tssets and Liabilities, and revenues and expenses are recogrized on the accrual basis of accounting.

Inventories are carried at cost, on a first-in, first-ou: basis.
Fixed assets, consisting of distribution lines and facilities, motile equipment and office equipment are carried at estimated replacement cost less es imated depreciation from date of acquisition for those items placed in service prior to ilecember 31, 1971. All fixed assets put in service in \(\therefore \because 4\) are carried a: cost. Depreciation is calculated on a straight-line method.

In 1974 the Company changed from annual to quarterly billings for all ps rons who were on an annuel biliing cycle. is a result, the accoun:s receivable for elec:ricity were reduced significantly as of December 31, 1974 , and the discounts : aken during \(+{ }^{4} 4\) increased significantly. The increase in discounts taken in relation to the fris year is a non-recurrine item.
NOTE 3 - FIXED 4 SSITS AT DECEMBE 31, 1974 consisted or:
\begin{tabular}{|c|c|c|c|c|}
\hline Uescription & Book Velue & \begin{tabular}{l}
Accumulated \\
Depreciation
\end{tabular} & Net Book Value & \[
\begin{aligned}
& \text { Estimated } \\
& \text { Life } \\
& \hline
\end{aligned}
\] \\
\hline Wire & \$ 46,457.80 & \$ 5,930.56 & \$ 40, 52. . 24 & \\
\hline foles, Stubs \& \(X\)-arms & 42,088.20 & 5,325.08 & +36.763.12 & \[
30-40 \text { Yoars }
\] \\
\hline Mransformers \& Regulators & 38,302.25 & 3,764.00 & 34.538 .25 & 30 Years \\
\hline Meters & 3,805.00 & 421.31 & 3,383.66 & 30 Years \\
\hline
\end{tabular}

Total Distribution Facilities

Mobile Equipment Equipment \& Building Office Equipment
\[
\$ 130,653.25
\]
\(\$ 15,440.98\)
\(\$ 115,212.27\)
\(\begin{array}{rrrrrr}\$ 13,000.66 & \$ & 4,692.14 & \$ 8,308.52 & 5-10 \text { Iears } \\ 1,332.69 & & 511.40 & 821.29 & 5-20 \text { Years } \\ 1,040.56 & & 342.13 & & 698.43 & 5-20 \text { Years }\end{array}\)
Total 'quipment
Total Fixer Assets
\(\$ 15.373 .91\)
\(\$ 146.027 .16\)
\(\$ 5.545 .67\)
\(\$ 9.828 .24\)
\(\$ 225,040.51\)


\title{
SOUTH SIDE ELECTRIC LINES, INC. \\ DECLO, DAINO
}

\section*{COMPARATIVE PROFIT AND LOSS STATPMENT}
\begin{tabular}{lll} 
Purfose & \(12-15-73\) & \(12-15-74\) \\
\hline Energy Sales & \(\$ 149,859.45\) & \(\$ 180,604.87\) \\
Less Energy Furchases & \(55,675.00\) & 67.612 .00 \\
\cline { 2 - 4 } & \(94,184.45\) & \(112,992.87\)
\end{tabular}
Expenses
Discounts
Line Labor
Clerical Labor
Directors Fees
Legal \& Auditing
Payroll Taxes
Other Taxes
Bands, Ins. \& Licenses
Building Maintenance
Line Maintenance
Supplies \& Small Tools
Office Supplies
Heat, Power \& Telephone
Truck Expense
Radio Maintenance
Mileage
Freight Expenses
Misc. Operating Expenses
Interest R Bad Acct. Expenses
Eaployes' Health \& Retirement
Depreciation Expense

Profit or Loss
\begin{tabular}{rr}
\(10,813.16\) & \(12,052.03\) \\
\(26,482.33\) & \(36,966.86\) \\
\(5,613.70\) & \(6,267.50\) \\
760.00 & 720.00 \\
600.00 & 547.20 \\
\(2,181.57\) & \(2,799.66\) \\
\(6,305.62\) & \(4,884.39\) \\
\(2,131,20\) & \(2,260.00\) \\
55.50 & .00 \\
\(2,940.67\) & \(2,197.98\) \\
90.00 & 348.81 \\
\(1,275.21\) & \(1,379.99\) \\
\(1,230.54\) & \(1,277.07\) \\
\(3,837.21\) & \(5,823.81\) \\
229.70 & 110.31 \\
550.90 & 332.60 \\
45.64 & 63.14 \\
756.94 & 185.28 \\
.00 & 142.79 \\
\(2,835.96\) & \(1,316.98\) \\
\(5,579.77\) & 9.505 .03
\end{tabular}
\(75,322.22 \quad 89,181.43\)

Merchandise uales
Plus Closing Inventory

\section*{Lese Mdee. Purchases Opening Inventory}
\[
18,862.23 \quad 23,811.44
\]
\begin{tabular}{lr}
\(52,957.26\) & \(64,550.47\) \\
\(41,339.66\) & \(51,357.48\) \\
\hline \(94,296.94\) & \(215,907.9\)
\end{tabular}
\begin{tabular}{ll}
\(51,638.26\) & \(64,349.72\) \\
39.224 .95 & 41.339 .66 \\
\hline \(3,433.73\) & \(10,218.57\)
\end{tabular}

Summary of Incone
P \& from Power Lines
Ponalties \& Revenue
Interest \& Mise. Incone
P \& L Merchandise Seles
\begin{tabular}{rr}
\(18,862.23\) & \(23,811.44\) \\
\(7,203.18\) & \(6,984.55\) \\
\(6,829.28\) & \(8,209.46\) \\
\(3,433.73\) & \(10,218.57\) \\
\hline \(36,328.42\) & \(49,224.02\)
\end{tabular}





\section*{ANNUAL SUPFEMENT TO FINANCIAL AND STATISTICAL REPORT} instructions he mia sutition toe I




PA:I O. MEMaERSNW AND ANDEUAL MEETMNE DATA



\section*{UNITED STATES GOVERNMENT}

Memorandum
```

TTE : May 19, }297
In reply
teret to : OWI

```



To David J. Anderson
Projects Manager - EI-11
From , V. Clair Loosli, Public Utilities Specialist Idaho Palls District - OWI

SUBJECT:
Financial Data - Various Idaho District Customers
You requested what financial data we have on the Cities of Albion, Declo, and Minidoka, and the following rural cooperatives: Farmers, Riverside, South Side Lines, and Wells Rura, Electric.

In addition to the attached financial statements, the information listed below represents data received from these customers to date for their 1974 accounting year.

```

Enclosures:
Financial reports for
Farmers, Declo, Riverside,
South Side \& Wells
VC Loosl1: jJs 5-19-75
cos
A. Kler - PCGB w/encls
R. Yish1 - OWC w/o encls
Official File: OWI

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Auperth ithe.
ciperil si-1975

Tỉncrenille: Tauner idime
- rataki Tatbe, retec.






E. 2xp.

\(\rightarrow\) кripe the us unhat you ruanted,


\[
\begin{aligned}
& \because . . \quad \text { - <imets, cebef, }
\end{aligned}
\]
\begin{tabular}{|c|c|}
\hline  &  \\
\hline
\end{tabular}


ㅊN
n
2
\(n\)




 giñ


















\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline  & WALLA & & & & & & & & \\
\hline  & \(1 \pm 00\) & \(1 \pm 67\) & 1940 & 1469 & 197 & 1771 & 1972 & 1973 & 1974 \\
\hline anu＞＞rianl & \(3>1>177\) & 353）460 & Sabodig & 4＜1903） & ¢5J7！34 & 4475182 & \(42861 / 5\) & －795911 & －7き：2，2 \\
\hline  & \(175: 25\) & 1033320 & \(14 / 8>50\) & ＜．89\％． 5 & \(26095+2\) & 2331422 & 2383545 & \(20507=4\) & \[
202 \div 736
\] \\
\hline  & 1 دyy \({ }^{\text {a }}\) & 43＞0y3 & 120367 & しくくづい & 92引yo & 1 13＞06 & \(13 \pm 471\) & 13316 & 1717～0 \\
\hline  & & & & & & & & & \\
\hline  & ＜19．0 & －4908 & \(16<103\) & 251603 & 19442 & 21583 & 30478
2322 & 9147 & 3．4．79 \\
\hline Ant a ala a Surralis & 12011 & 534と7 & 2－079 & \(10 y y 2\) & \(2, \pm 06\) & くッい & 23222 & ＋49691 & \\
\hline LUNV ICAM J－dI & \(16 \geqslant 019\) & \(1 / 32977\) & 1067466 & \(10 \sim 4183\) & 1ラ503＜3 & 1743291 & 1331196
28127 & 1487050
3
3878 &  \\
\hline Cukic，कI LIANILATACS & 30223 & 3aく21 & \(1>153\) & 15493 & 30711 & ＋2371 & 28127
+895 & \＄3878 &  \\
\hline Acmz－xSraf rcis & 1く0！ & 136－9 & 13143 & 13 Cob & 1140 ？ & 11170 & ＋895 & \＄60． & －2．J \\
\hline  & 1324 & 1372.5 & 137265 & 137265
14971 & 131200
882100 & \[
\begin{aligned}
& 1372.3 \\
& 479949
\end{aligned}
\] & \[
\begin{array}{r}
183484 \\
1106242
\end{array}
\] & \[
\begin{array}{r}
231930 \\
1273.8 \%
\end{array}
\] & \\
\hline SLed－lls anulux eting＊Au－idre & 243／4 & 6） \(3 t+9\) & I＊9319 & ，14＞11 & 882100 & \[
479949
\] & \[
1106242
\] & \[
1273484
\] & 1424205 \\
\hline  & & & & & 3819 & 3534 & 4463 & 2571 & \\
\hline  & 212531 & 272053 & 26．115 & 29，36＊ & 3，1．89 & j191d？ & 3．9331 & 308042 & 3413－5 \\
\hline Custickilme b，çowich & －－93， & 4 3 3 0 & \％－9＋2 & ，13．1 & S232y & 30339 & \(6>0.4\) & 71753 & 7.965 \\
\hline it．eU－Initil acilinu＝ & 23．11） & 190333 & 2v3¢4～ & \(130<10\) & 15.657 & 146073 & 183552 & \(263<92\) & \(21155 \%\) \\
\hline Ain＋uni．Un r＝J－NU． & －ulaj & ＋ 212 & －1230 & \(4{ }^{4} 2 \mathrm{Al}\) & 59034 & 57756 & 72217 & dt 96； & 3 \\
\hline  & 0334 & 0429 & 13tw & IVdis & 11157 & \(11+36\) & 11693 & 11200 & 11319 \\
\hline  & 15111 & 12501 & \(1<3>3\) & 1244 & 12750 & 31238 & \(3<210\) & \(1 \geqslant 2\) ¢ 6 & 18189 \\
\hline  & josel & －دしゃう & －0゙＊7 & \(\cdots 3 \mathrm{CN}\) & ＋3フ0 & 2 bc 76 & 25101 & 4130 & 61293 \\
\hline  & ＜ 311 & く1） & 21724 & 2327. & 2309. & くbi22 & 27534 & 29571 & 20512 \\
\hline  & \(\therefore 302\) & \(2 i 43\) & 296） & 5631 & 3139 & －3， 5 & \(30>8\) & ＋i21 & －708 \\
\hline inilu－I＊AL SiAL Sitimil & 3）100 & 206cy & \(3.3+9\) & 18803 & \(147-1\) & 13315 & \(1901 \%\) & 21570 & 21130 \\
\hline ann＋uAtive Sta & 33＊＊ & －\({ }^{\text {c }}\) & \(\rightarrow\) しっ7 & － \(7 \times 0\) & 5790 & 2503 & \(06 \pm 7\) & 03）3 & 7005 \\
\hline Jim．n jalcsi 1．14） & ＋15 & b 53 & 597 & \(\checkmark 20\) & 6 L 7 & 006 & 675 & 717 & \(6>3\) \\
\hline －focor iorul（ 4 （－t） & 63476 & －24id & c＋9－e & ग3511 & う3」くく & \(2+114\) & 60200 & 67810 & 7 l \\
\hline Pua，Cual & \(2<0057\) & 2，1635 & \(2<1220\) & \(1 \rightarrow 3 ん 0\)－ & 100226 & 17932 c & \(2211: 6\) & 227141 & ＜34337 \\
\hline  & & & & & & & & & \\
\hline  & 14プリ & d7ews & 07322 & 07123 & & & &  & \\
\hline  & C120s & く－1d． & 40.36 & 53401 & \(335 \%\) & 22 s 43 & 5.678 & \(136>1\) & 1， 273 \\
\hline Cusiunick Senvali & C1－2y & 10.30 & 21123 & 10378 & 20.21 & 2174 & 26749 & د6269 & 3－9：5 \\
\hline Sus．s（x－－iv） & 73） & 7210 & \＄223 & 4823 & 09.0 & \(06 \rightarrow 7\) & 0 －31 & 7371 & 7712 \\
\hline  & 4－3s＊ & －oud & －5344 & 5こう3） & 37136 & 59400 & \(6+374\) & \(0327 \%\) & 43246 \\
\hline ANic－rst－Xr＝ij－ & 24220 & Su3－2 & 3う279 & 47＊） & 23252 & 20052 & 2a＞＋i & 25037 & 25173 \\
\hline IAX＝3 & しこつ」す & 1altz & 2.170 & 22.21 & 20240 & \(20>99\) & 31433 & 33035 & دe5：0 \\
\hline uTt．．．U＿illitiuns & & －Lacs & 116\％ & & & & & & \\
\hline  & 120017 & \(12<16\) & 115423 & 114313 & 124.083 & \(1232+5\) & 11.066 & 11411． & 11.613 \\
\hline  & & 4172 & \(2<61\) & ＜1／ & 2276 & 2115 & 2273 & 24.13 & 25．9 \\
\hline  & 1372 & 1030 & 1027 & 17\％ & 1433 & \(10: 0\) & 1824 & 1937 & č23 \\
\hline  & 129 & 145 & 149 & 150 & 142 & \(11 \%\) & 186 & 192 & 176 \\
\hline  & 1271 & 12， & 12.7 & 1211 & 1215 & \(1<28\) & 1240 & 1243 & 13 t \\
\hline  & & & & & & & & & \\
\hline 1axt ur，נ－1～．d）An & 15674 & 16160 & 12518 & 1－ubs & 11284 & 11205 & 10058 & 10423 & \(175^{\circ} \mathrm{d}\) \\
\hline  & 12457 & 11371 & 11778 & 1.675 & 1621＊ & 1いづ & 12621 & 12304 & \\
\hline
\end{tabular}

\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline 380 UTAIILLの－U U－ & MALLA & 1 tol & 1 tos & \(196 \%\) & 1970 & \(1 * 71\) & 1972 & 1973 & 1976 \\
\hline Gruss rlant & 1711\％＞0 & ＋3．4136 & －9， 0292 & \(53-3186\) & 2105930 & －33927， & 7－61919 & c773－17 & 127 Ftg \\
\hline  & 1233143 & 13，3416 & \(1 * 7\) ）+3 & 1 ）0，7， & 1076173 & 1542236 & 1964396 & \[
<1
\] & \\
\hline こU．，：MI assels & 081 & \(2+72,2\) & 369158 & 0.1299 & 2406id & 5231 & 1 & & 9 \\
\hline  & 11371y & 113217 & 113719 & 113719 & 1－yuくd & ＊ & 36.7633 & 517291 & 17tty6b \\
\hline  & 1917 & 20．3＊） & \(12+750\) & 24787
71360 & \[
\begin{aligned}
& 59832 \\
& 96013
\end{aligned}
\] & 138811 & \(1>3621\) & 589i＞4 & \(176 t 260\)
\(126: 369\) \\
\hline Ant＿zials \＆Suprilics & \(0>75\) & 115301 & －34D： & & & & 321／6＞6 & 443－6d5 & －093556 \\
\hline Cu＊Inituliur．th MiU GLNjTiくUCIm & 3.961 & 3 d 213 & － \(21 / 4\) & 1＜35 & \(\pm 2935\) & 929＞d & \[
53103
\] & \[
93102
\] & \\
\hline  & \(12<8706\) & \(100=897\) & \(18<7110\) & 190614 & 2116800 & \(2<8 \gg 66\) & 2312337 & 28J1915 & 3117859 \\
\hline TUmilatal［toVialnciai & & & & & 27.19 & 2970 & 53 ¢6 & 62762 & \\
\hline innauiliun uisJuusal & & & & & \(5<0962\) & ，60）－3 & ¢32665 & 712432 & 77ty32 \\
\hline く二3 U－NIIA－X＿d－NUC & 393001
\(11: 201\) & －Ligutid &  & 261＊ & 1－4670 & \(1>2595\) & 171714 & 261519 & 2 21842 \\
\hline  &  & \(11 y \% 6 d\)
\(0>60\rangle\) & 13022 & 匕らけくる & 76701 & 74.33 & － 2920 & 216013 & C57900 \\
\hline  & 62621
110612 & \[
\begin{aligned}
& 0 \geqslant<00 \\
& 1 \gg 7 y 2
\end{aligned}
\] & 22．127 & 221．03 & 243390 & 383178 & 256276 & 6741.3 & \(1193 \rightarrow+1\) \\
\hline  & \[
3107
\] & \[
3030
\] & \[
3.25
\] & \(3>17\) & 3901 & \(4{ }_{4} 18\) & 4032 & －114 & \(39>8\) \\
\hline  & 23420 & 2しっサ゚ & \(2 \mathrm{do33}\) & 26110 & 29076 & 29118 & 15973 & 18382 & 16178 \\
\hline  & \(21 / * 0\) & 17231 & 48.7 & 8引di & 17 d 66 & 16551 & 15346 & 11345 & \[
1 c_{2} 2
\] \\
\hline  & ＜s730 & 3＜bs3 & 340 ठ 0 &  & －117\％ & 3974 & 50496 & 10518 &  \\
\hline  & 3う3i & \(9<21\) & 1，690 & 17 & 11715 & 11032 & 1359. & 3.420 & 2レつこ6 \\
\hline ［ajusininl SAL＿S（int） & 43）6 & 1.603 & 11.39 & 1.703
35381 & 117
+694 & ， 71036 & \(701+6\) & 92391 & 1728：8 \\
\hline ［kn＋uAliun＞2ncj（4na） & 1u」 \({ }^{\text {c }}\) & 21204 & \(311<1\) & 33301 & 44967 & 2396 & 114 & 119 & 112 \\
\hline  & 114 & \(1<4\) & 119 & 127 & 135 & 120 & & & \\
\hline －N－uy ancul（4di） & 72．37 & 85407 & 76070 & 16.811 & 11509 & 134330
+33192 & & & \[
91 \leqslant 375
\] \\
\hline runia GuST & ＜2612\％ & c＊） 17 & 204411 & 1513209
1293 & 334200 & 土ง3192 & 4 4l6 & \[
932
\] & \[
23 / 8
\] \\
\hline  & & & & 733．8 & 71413 & 71954 & 112653 & 12．525 & \(1591-6\) \\
\hline  & 30112
\(2 i 110\) & 24636
\(3: 1<2\) & 64670
31579 & －2di＊ & －23＋9 & \(4>123\) & ． 27699 & 07622 & \(1<1537\) \\
\hline  & \(\sum_{3 i \rightarrow 0}\) & 3） 3 \％ & ＋
+2212 & \(\rightarrow\)－20う & \(52 \angle 30\) & 263.9 & －du61 & 60973 & 0149 \\
\hline いうに， & 3ivyo & 1－1v？ & 1．くッ7 & 10543 & 16329 & 8614 & 119．1 & 14.53 & \(135: 2\) \\
\hline  & br735 & 0．3i， & 1157 c & 1u2bso & 1117.0 & 145423 & 143519 & 195こう～ & 2－4610 \\
\hline  & bry 30 & دこり10 & 3）783 & －37－6 & \(\rightarrow 7572\) & \(32+91\) & 29992 & 7.117 & しいしこご \\
\hline  & 3120y
21） & \[
\begin{aligned}
& 3 \geqslant 410 \\
& 20020
\end{aligned}
\] & 3
3 & 3929\％ & \(458 \geqslant 8\) & 522.5 & \(6+3.7\) & 82677 &  \\
\hline Itacs & 2173） & 20023 & いコ43 & 」9298 & & & 2639 & 3，902 & 111302 \\
\hline \begin{tabular}{l}
vir－n u＿juutioes \\

\end{tabular} & \(11+31\)－ & 111190 & \(1<390\). & \(1+131\) & 125100 & 162737 & Idsuta & 205833 & 2こ11く3 \\
\hline  & & & & & & & & & \\
\hline Iufowlowntrj（mva） & 3．\({ }^{\text {a }}\) & 3213 & 3367 & 3.9. & 3，33 & 38.9 & ＋472 & －913 & 5320 \\
\hline  & 62ts & 2605 & \(<10 \%\) & Cnis & 2946 & 3．94 & 3549 & د895 & \(41: 2\) \\
\hline  & 231 & 2，3 & 267 & 29． & 2） & 3.4 & 304 & 393 & \(4=3\) \\
\hline  & 333 & 877 & 933 & 920 & 909 & 1．-3 & 16ts & 1115 & 1129 \\
\hline  & & & & & & & 36176 & & 8 8616 \\
\hline 4hxtmut J＿thnj Kim & 15J03 & \(153>0\) & 13612 & くしプ3 & 1ddus & 21514 & 25534 & \[
3>914
\] & \\
\hline dVE，\＆Co J＿TAN）KN & 120.7 & 13＊0． & 12912 & 1714 & 1 d & 2151 & & & \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline ，N N & 30 & \(\sim\) & －m？ & \(\cdots\)－－oon & \(\pm 0\) & \(0 m 0\) & ＋ \(0 \rightarrow \sim\) & fove & \(\square\) \\
\hline \(\therefore\) 曲二。 &  & \(\underset{\sim}{*}\) & 会N＂ & \(\cdots\) animin & \(\pm \sim\) & 心n & \(\cdots\) & \(\therefore 0^{\circ}\) & ； \\
\hline －0 & \(=-\mathrm{ra}\) & － & 2us & －n \(0-\) & 二 & \(\because 2 \mathrm{O}\) & \(\cdots \pm 0\) & & \(\bigcirc\) \\
\hline  & －Nen & ヘ & \(1 \times\) & & & & い－－－ & & \\
\hline
\end{tabular}






\begin{tabular}{|c|}
\hline \multirow[t]{3}{*}{} \\
\hline \\
\hline \\
\hline
\end{tabular}




\(n 0\)
No
0
\(\sigma=\)
\(\sigma\)
\(m=n\)
\(y=2\)
\(y\)
\(y\)
\(\cdots \underset{\sim}{\sim} \underset{\sim}{\sim} \underset{\sim}{\sim}\)
\(\vec{q}+\)
\(\sim\)
\(0 \stackrel{y}{\sigma}\)
\(=\)

\(\stackrel{\rightharpoonup}{\sim}\)
\(\underset{\sim}{\infty}\)
\(\sim\)
\(\operatorname{misin}_{n \rightarrow n}^{m i n}\)
 \(n m n\)
\(\sim\)
\(v\)
\(\sim\)
\(\sim\)
\(\sim\)


\(\begin{array}{lllll}\text { y } & \sim & \sim \\ 0 & 0 & \sim \\ \sim & n & 0\end{array}\)


\begin{tabular}{l}
\(-\infty\) \\
\multirow{1}{0}{0} \\
\multirow{1}{N}{\(=\)}
\end{tabular} \(\begin{array}{lll}m \rightarrow i n \\ n & n & n \\ n & n \\ n & 0\end{array}\) \(\infty \rightarrow N\)
\(v a n\)
0
0





\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline 380 SUnexisc vallay CAL & a MLLA & & & & & & & & \\
\hline 30. Sustaisc dackey & \[
1706
\] & 196． & ： 968 & 1969 & 1ヵ\％ & 1371 & 1972 & 1＞73 & \[
\begin{aligned}
& 1970 \\
& 724610
\end{aligned}
\] \\
\hline Gnciss ramit &  & 5－7ilis & 2018181 & －150310 & 2970025 & －212n＊＊ & bulaths & \[
\begin{aligned}
& 6861689 \\
& 2<+6927
\end{aligned}
\] & \[
72841+3
\] \\
\hline KiS＿ny：Fin J＿rhe 4 ＋ILUA & \(135-230\)
221400 & \[
1+6 \leq 2,3
\] & \[
\begin{array}{r}
1201105 \\
2+1606
\end{array}
\] & \[
\begin{array}{r}
1 c 3+267 \\
23+230
\end{array}
\] & \[
\begin{array}{r}
181-052 \\
2911>3
\end{array}
\] & \[
\begin{gathered}
1022315 \\
\text { +i.2314 }
\end{gathered}
\] & \[
\begin{array}{r}
2603767 \\
615413
\end{array}
\] & \[
\begin{array}{r}
24.6927 \\
23636
\end{array}
\] & 27＊＊is9
\[
5639.3
\] \\
\hline Gunn－aI assits & 227iod & \[
27<i s j
\] & \[
2 * 160 \%
\] & & & & & & \\
\hline  & 1stov & \(16>22\) & － 297 & －6bl & 3318 & 108731 & 7439 & & －63．3 \\
\hline पAT－AIALS S Strrritos & C2＞＞1 & －¢St4 & 57397 & 29347 & \(6 \pm 19\) & 67008 & 7.644 & 89656 & I－ 2627 \\
\hline LUA，I－ny Di， 1 & 30．7543 & 37＊9＜3 & 37440， & \(300-222\) & 3681836 & 3092634 & 3687537 & 3889314 & ＋269631 \\
\hline CUnazNT LAA3dillits & 29477 & 57172 & 345\％4 & \＄6244 & 6334 d & 69＊22 & 70167 & －326 & \[
121<08
\] \\
\hline T \＃AuckSnir tizoj & 4うJe & 183 & 7995 & 627 & 8＊） & 8 833 & \(\pm 220\) & \＄6．d & 9045 \\
\hline Cuninioutabt．ax aIU CUnSincucte suhrius anclok rmiountbe CAF． & \[
\begin{array}{r}
8>3 n 0 \\
01-8.58
\end{array}
\] & \[
\begin{aligned}
& 1=20<y \\
& 0>9>18
\end{aligned}
\] & \[
\begin{aligned}
& 402 \div 11 \\
& 7<1217
\end{aligned}
\] & \[
\begin{aligned}
& \text { Iu un } \\
& 7 \times 9787
\end{aligned}
\] & \[
\begin{aligned}
& 227823 \\
& 810261
\end{aligned}
\] & \[
\begin{aligned}
& \angle 8293 \\
& 933161
\end{aligned}
\] & \[
\begin{array}{r}
3263.9 \\
1671465
\end{array}
\] & \[
\begin{aligned}
& 337 d 46 \\
& 1229>46
\end{aligned}
\] & \(1+1 * 8 \sim 2\) \\
\hline suhrius anil Ok rhinjwabl CAF． MU．actafa＿Ehdz \(\rightarrow 1 \mathrm{r}\)－vi & －1＊856 & 039318 & & & & & & & \\
\hline  & & & & & 4522 & 4＊77 & 5931 & 0693 & \\
\hline  & 324114 & 32：61d & \(33174+\) & 240837 & \(37+1.7\) & －346＜6 & －321－2 & \(4 * 2+6\) & 46 －6こ？ \\
\hline  & 勺u＝27 & buaul & 11255 & 40.80 & 79171 & \(0.33) 4\) & 83022 & 39941 & 07248 \\
\hline  & 2733u & 41691 & 44619 & クロラ23 & 20221 & \(61+2+\) & 65485 & 39.41 & 59629 \\
\hline  & 77317 & 639.7 & 1． 2226 & 11.694 & 1293.2 & 117326 & 14.3538 & 179733 & 263723 \\
\hline  & 1315． & 12cく」 & 12007 & 13623 & 14727 & 16.05 & 16063 & \(16: 75\) & 12175 \\
\hline  & y3／1 & \(10 \sim \mid\) & 11550 & \(17<60\) & 10230 & 17335 & I a 0 O & 17366 & 218.0 \\
\hline  & \(1>0<6\) & \(19<64\) & 1360｜ & 17246 & 1647 & 18454 & 17833 & 23315 & 31799 \\
\hline  & \(1>0,3\) & 1c74 & 17208 & 14367 & \(2,1 \geqslant 6\) & 22002 & 2.273 & 23－12 &  \\
\hline CunticaCiza SALLS（1art） & ＜2＋5 & ＜694 & 3211 & 3200 & 3731 & \(3 \rightarrow-3\) & 3997 & ＋3．1 & －．\({ }^{\text {－}}\) \\
\hline ItijustkIal לalisj（1mer） & 196） & くいり． & 2301 & 20,1 & 2000 & 3．d！ & 315. & 27.2 & 2311 \\
\hline  & 27S2 & ＊いご & 0379 & －61\％ & 7215 & 64.7 & 74.4 & \(1 \times 3\) ¢ 5 & 15635 \\
\hline UIT．StLCS（itdr） & ＞33 & b．3 & 267 & oul & 74. & 8.9 & 673 & 535 & d－7 \\
\hline ctic．uy ctor Ul（．1det） & 24915 & 2ytat & \(3-2 y 5\) & \(3,7>3\) & 34290 & \(412-5\) & ＋0067 & 5u23 & 54820 \\
\hline ruwit ulsi & 9＜023 & \(9<403\) & ilboj？ & \(16^{2} 781\) & 121170 & 133403 & \(1-4105\) & 1＊039． & 10， 610 \\
\hline  & く7うく & 618 & \(1+60\) & i 731 & \(21 \pm 3\) & 4735 & 4663 & 3654 & \(3 \sim=6\) \\
\hline  & 2，2，3 & \(1 \times 250\) & 12075 & 21523 & 21011 & 219.4 & 23779 & 2 dbo 2 & 23200 \\
\hline  & 2.050 & ＜061s & \(3+130\) & 53832 & 42124 & 52657 & 5，028 & ＋ivor & 5ti27 \\
\hline GUSTuTher＞c－V1 üc & 2－33d & 2 Cov 4 & 23539 & くッコー2 & 20.19 & \(28 \sim 35\) & 32589 & 3915 & 39632 \\
\hline SALL？LXr＿Ns） & 20io & 04.3 & 3976 & 9763 & 15427 & 13318 & 15977 & 163c） & 11258 \\
\hline  & 50332 & 26079 & \(6 i 940\) & 72599 & 71 dul & 7637 & 8． \(\mathrm{c}_{6}\) & 93 dit & 1：5313 \\
\hline  & 1927 & 10301 & 70063 & \(7<2+1\) & 72355 & 73931 & 76156 & 77105 & 7 c 25 \\
\hline TAX－3 & 44204 & 4 －7．0 & ＊＋， 26 & \(\rightarrow 00 \sim 6\) & 513.7 & ち1肘 & 5 5259 & \(5993 ;\) & 632：5 \\
\hline UTH－UL JUCIIUNS & \(32 \%\) & 290 & 4＞2 & & \(7 っ 2\) & －76 & 250 & & \\
\hline Uurr＿ziataut． & \(1<30+2\) & 1.291 － & 1525al & \(1+3+14\) & \(1533<9\) & 15d\％＊＊ & 16.603 & \(17>2>5\) & \(19: 7=1\) \\
\hline  & & & & & & & & & \\
\hline JiT－k しUS！uriokS（AVu） & 2323 & CC： 3 & 23.1 & 2303 & 2472 & 2：31 & 2652 & 293： & 28，1 \\
\hline  & 130． & 1203 & 1320 & 1 d 5 － & 1920 & 2.19 & 2672 & ＜323 & 2211 \\
\hline  & 240 & \(<39\) & 2bs & ＜7． & 200 & 261 & 263 & 24， & 279 \\
\hline  & 1531 & 1304 & ifyu & 12.1 & 1230 & 12,3 & 1831 & 120 i & 1く勺7 \\
\hline  & － 123 & －0． 2 & Sbat & 乡 326 & 0502 & － \(0 \cdot 7\) &  & 1791 & \\
\hline fintilut \(u\)－Mans xk & － 917 & \(u-11\) & 7229 & 1940 & 817 & 9100 & 1.677 & 1.4992 & \(123=7\) \\
\hline  & 2412 & 20.4 & 6265 & 0080 & 724） & \(74>3\) & 3761 & 8671 & \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline  & MAbla & & & & & & & & \\
\hline 30＊Snさvin & \[
196 b
\] & 1967 & 1968 & 1909 & \[
\begin{gathered}
1470 \\
216798 j
\end{gathered}
\] & \[
\begin{gathered}
1971 \\
22>2726
\end{gathered}
\] & \[
\begin{gathered}
1972 \\
2029946
\end{gathered}
\] & \[
\begin{gathered}
1973 \\
256.891
\end{gathered}
\] & \[
\begin{gathered}
157 \% \\
20583=1
\end{gathered}
\] \\
\hline LKCSS RLANT & \(1 / 3>90 d\) & \(1 \pm 2 t i 91\) & \(1862+67\)
\(59>9>9\) & 1サゝい190
\[
د \rightarrow 366
\] & \[
\begin{array}{r}
2167981 \\
692117
\end{array}
\] & \[
\begin{array}{r}
22>2726 \\
1>2302
\end{array}
\] & \[
8.3 * 15
\] & \[
\begin{array}{r}
40 * 851 \\
00-321
\end{array}
\] & \[
t=7000
\] \\
\hline KLS．Kdr Fik Je Prz Catilloa & 36－9＋0 & ＞364
1357 & \(59>9>9\)
188411 & \[
\begin{aligned}
& 243560 \\
& 147167
\end{aligned}
\] & \[
\begin{aligned}
& 692117 \\
& 125585
\end{aligned}
\] & \[
1175 \$ 9
\] & \[
137198
\] & \[
173167
\] & \[
253> \pm 2
\] \\
\hline Gunmzt． 7 ass．T） & 114535 & 135743 & & & & & & & \\
\hline  & & & & & & & & 31303 & 7370 \\
\hline LCtasinuCIIut durk it Pruboxis & 47378 & 22723 & 15354 & 29814
47991 & 34092
-3.17 & 73921 & \[
51534
\] & \(14>011\) & 12 c 37 \\
\hline ThICKatils 5 jurrlilis & 23162 & 2161 & 40216 & 115．7．7 &  & 23421
\(1<33836\) & \[
1511+66
\] & 1341351 & 1532730 \\
\hline cunc l cny unjl & \(121>124\)
2121. & 117674
26572 & \[
\begin{array}{r}
1260489 \\
22814
\end{array}
\] & \[
\begin{array}{r}
115.7=2 \\
22831
\end{array}
\] & \[
\begin{array}{r}
116.230 \\
24343
\end{array}
\] & 1233836
\(+142 *\) & \[
33631
\] & 4253. & 340？ \\
\hline 4intiasmar Feas & 7050 & \(76 \pm\) & 61＞ & 831. & －7 \(7>0\) & \(910{ }^{1}\) & 97.4 & \％93． & \(1: 3.0\) \\
\hline  & 4.73 & 45.6 & 4536 & \(4>90^{\circ}\) & 321 & \(3>21\) & 17879 & \(196-2\) & \\
\hline  & \(23-320\) & 29＊947 & 331848 & \(3212 i 1\) & 3צ775s & －24319 & 451876 & 515656 & 531891 \\
\hline  & & & & & & & & & \\
\hline InRiuntitut uijujunl & & & & & 126375 & \[
\begin{array}{r}
10+1 \\
138>\rightarrow 1
\end{array}
\] & \[
\begin{array}{r}
1359 \\
152684
\end{array}
\] & \[
\begin{array}{r}
2826 \\
165931
\end{array}
\] & 175632 \\
\hline  & bouru & 10.922 & 160400 & 11
\(+3 \rightarrow 6 i\) & 126375
523.8 & 30304 & \[
53110
\] & \[
65.97
\] & \[
t 9274
\] \\
\hline  & 4173 & \(* 0<69\)
\(5>2<d\) & +4367
61439 & 43.461 & S2960
01572 & 34L6d & 237 o7 & 27511 & \(3+160\) \\
\hline inJUSinidl n－divuc & 2 \(63+2\)
1303 & \(5>2<d\)
1763 & 61439 & 3.430
3.771 & 26＞57 & \[
237-6
\] & 3.034 & 516 d． & 71.35 \\
\hline IkkibaIIUN rivziduz & 1303
277. & 1763
3167 & －3556 & \％70日 & 060く & 6111 & 6289 & 69.15 & 7230 \\
\hline  & \(377 \%\) & 31 & 5754 & 2625 & 4093 & －3－3 & 5403 & 9217 & 962？ \\
\hline \begin{tabular}{l}
 \\

\end{tabular} & 3714
4097 & 0933 & 3927 & 3475 & 1472 & \(2+12\) & 0191 & 3079 & 17：7 \\
\hline  & د 717 & －64＊ & －50＊ & －dis & 3446 & 6.33 & 6763 & 7521 & 1－1－3 \\
\hline  & 1717 & 1960 & \(<117\) & 4300 & 2743 & 2363 & 3683 & 3512 & \(37: 7\) \\
\hline  & 3322 & 39 c & ＊＊\({ }^{\text {c }}\) & \(\rightarrow+27\) & 435 & －112 & 4677 & 437 & 3264 \\
\hline  & 1，34 & 13．t & 16,9 & 2，2i & ＜3．3 & \(22-0\) & 2435 & \(4{ }^{47}\) & 5304 \\
\hline जT斤幺幺 SML二ว（4（त） & 217 & ＜3） & 239 & 207 & 284 & 325 & 330 & 331 & 3～3 \\
\hline cNe．GY 1／trul（ inf） & 12， 1 & 12003 & 14538 & 16.39 & 17528 & 10311 & 21130 & 22707 &  \\
\hline Pun－CuSt & 3 CO 27 & 3uc－1 & 41 Jdo & \(4 \mathrm{H}^{\text {¢ }}\) & 48777 & \[
2>9
\] & 37132 & 63357 & 710： \\
\hline  & 0.17
1.742 & 1－4．\({ }_{\text {2 }}^{22}\) & 300
\(22+25\) & 10713 & & 178.5 & 2.9959 & \(133+5\) & 210．＊ \\
\hline Uİinitutaluic－xrznis & \(1+7+3\)
\(=102\) & 14．7is & 22435
6327 & 1：3tb & 15755 & 22．73 & 14647 & 26743 & 3.1 .5 \\
\hline  & \％202
11053 & 113， & \(1<y\) 令 & 1 i 3 y & 21.36 & \(253<3\) & 27527 & 17517 & 2＊＊） 1 \\
\hline  & 11033
2102
3000 & 1950 & 2，04 & 3433 & 3937 & 33う1 & ，332 & ＜93） & 7.6 \\
\hline  & \(3-3>0\) & － 223 & \(+33 i\) & \(+<243\) & 3－ 377 & 313 Cl & 6.037 & \(762+3\) & \(0-3.7\) \\
\hline 1F\％1－．－St－xrLvic & 23113 & 22913 & 22462 & 22，21 & 22.30 & 22979 & 25937 & 20lto & 31153 \\
\hline TH \(X_{2} S\) & 4Jyl & 9713 & 10809 & llado & 12415 & 13656 & 15309 & i7Sis & 19263 \\
\hline JTm＿n CzJUCIIJNS & 1513 & & & & 13 & & & ） & \\
\hline  & \(4+32\) & ＊ \(36-2\) & 479,2 & －43，7 & 51420 & 23315 & 593.3 & b＜7i2 & 76 \\
\hline Net int．Lis AUNILItAL IVV－STA－NT & & & 975 & & \(10 ヶ 7\) & 1122 & 1223 & 1277 & \(13-3\) \\
\hline  & 332 & Y， 7 & 123 &  & 1 19 & \(4 \times 6\) & 931 & 971 & 1．．2 \\
\hline  & b3） & 1.7
109 & 101 & 163 & \(1 \pm 2\) & \(1 \rightarrow+\) & \(2 \times 6\) & 215 & 2：1 \\
\hline  & \(12 \%\) & 104 & 100 & \(37 \%\) & 383 & 3i5 & \(4 \times 5\) & 434 & 4 \\
\hline 1aL：S CF ULSI＜LJUTIUN L LNE & 315 & 406 & 1000
2157 & 2376 & 2iel & 2719 & 3635 & \(35<7\) & \\
\hline ded－Luta－N1me jasuuvidl & 1675 & 1743 & 2157 & 2376 & 33i， & 3－12 & 3953 & 475 & ＋\({ }^{1}\)－ 0 \\
\hline  & 2035 & 26 cJ & 316 & 202 & ＜ato & \(<693\) & 3223 & د＜11 & \\
\hline AVcinue ）（Mmi） KW & 17＋1 & ぐ＊） & 2360 & C20 & coto & － & & & \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline  & rJKilana 1403 & 1967 & 1768 & 136 & 157. & 1971 & 1982
\(3 \times 56198\) & \[
\begin{gathered}
4413 \\
30<9189
\end{gathered}
\] & \[
\begin{array}{r}
197= \\
+20.659
\end{array}
\] \\
\hline anuss rlani & 10yで隹 & \(10.0 t 10\) & 2.03716 & 2＊）jo & 20， 1746 & 3,17741
311645 & \(3 \rightarrow 55108\)
095461 & \[
\begin{array}{r}
30<9189 \\
48 \\
2755
\end{array}
\] & \[
\begin{aligned}
& 4206: 53 \\
& 1.5+5.5
\end{aligned}
\] \\
\hline n－3．d．Fur Fo，cclilacN & －0．1＋1 & こ2163 & 26リン3サ & cidato & 1329．6 & cile
\(<2736\) & 524728 & 245212 & うッシン－ \\
\hline Cux．．．．1 4,3 ：I & 2517.3 & 33131＊ & 51．．．3 & 176あし． & \(16031 \%\) & \(2397 \%\) & \(+279\) & \(3+5>3\) & c：2：3 \\
\hline alulisaiivi，AuJuSin＿NT & & & & & & 5723 & 2157 & －－－ & E． 3 \\
\hline Cumatavilion dumk 1 ：rnuorsios & ajod & 3001
302000 & 7103
31135 & 2063
\(\rightarrow 2<00\) & 61221 & 123－5 & 7，2＊6 & 31927 & \(963: 7\) \\
\hline ，A1Entuls 8 Suprtic） & （47） & 3． \(60 \rightarrow\) & 31135 & \(4>200\) & －121s & 12305 & 7.246 & 3 ic 30 & 2763 \\
\hline LuNO Item UL 31 & 42477 & 3－805 &  & 11032 & 12734 & \(4+103\) & 253695 & 2＜3785 & 2480．4 \\
\hline  & \(1=022\) & \[
1 \Delta u 2-d
\] & \(\begin{aligned} 111 & >7 \\ & \rightarrow 0\end{aligned}\) & 1くusis & 12730
50 & \(4+10\) & 253635 & 223783 & \\
\hline  & & & 1／3i442 & \(1+145 \geqslant 2\) & \(2<3+267\) & 230321 & 2327271 & 362．363 & 361－133 \\
\hline \begin{tabular}{l}
SUnrguS At．0／UK．PEI，INAGG CAF． \\

\end{tabular} & 1331210 & 1,19136 & 173042 & 1才プース & 223＊267 & & & & \\
\hline  & & & & & 16 & 91473 & \(0<3165\) & 82：7：3 & \(9995 \pm 5\) \\
\hline  & －5is 20 & 216くって & フ6く106 & b7．20y & 29．309 & 523J47 & 322824 & \(3 \rightarrow 3\) 31 & 4120.1 \\
\hline  & ＜20＊） & 2536 & 269318 & ＋4273 & 74.95 & － \(12+3\) & 11.241 & 1¢06－1 & 11915 \\
\hline IhuUsiniat r LV＿＊U－ & 72271 & \(1<420\) & 72576 & ＋9273 & \(76 \pm 90\) & － \(2 \rightarrow\) & & & \\
\hline  & & & \(13 ヶ 36\) & 17735 & 19561 & 24724 & 23476 & 20435 & 3.878 \\
\hline  & & 12403
\(11+1\) & 9．9 & 6．0 & 996 & 1723 & 1623 & 2125 & 1346 \\
\hline \(\checkmark\) TH．ur EnAiliout & 1171 & cobs & 1－＜li & 1－2yl & 1412 & 1）331 & 11953 & －717 & \(14+73\) \\
\hline  & bils3u & batso & \(6 \rightarrow 7 \pm 2\) & ＋1！ & 88221 & 96030 & If 2797 & 132037 & 111211 \\
\hline  & ＜033） & covos & 29710 & 31751 & 3＜3＊） & 350.7 & 33463 & 37273 & \(3 \rightarrow 3-9\) \\
\hline  & （ \(2,+0\) & 16ily & 12119 & 12140 & 1337. & 10357 & 21457 & 265is & 26）18 \\
\hline  & & & & & & & & 73. & 9－8 \\
\hline viran aulca（twri） & \(\rightarrow-y\) & 4，3 & 12.436 & 137930 & \(1+4519\) & 161891 & 171354 & 173542 & 1 n 2533 \\
\hline ¿N＿．．．ir antul（4ta） & \(1.75+2\) & ［14， 31 & \(1<26-9\) & 139
-03630 & －14） & ，3うC3s & & & \(\rightarrow 917\) l \\
\hline \(p\) a．．．iusil & Suc575 & 20－602 & \(\rightarrow 1\)－172 & －43030 & － & 」アゴッ & & & \\
\hline  & & & 30200 & \(377-3\) & \(\rightarrow\) Hod & \(4+0+3\) & 2.365 & 0u121 & t270\％ \\
\hline J1－T．isulic．－Krins： & く3104 & ＋2030 & St3lo & 3id： & －リว & － 2227 & －7328 & Se3：3 & 0154 \\
\hline  & 4.220 & 4 ¢ し & 4 youl & 30530 & \(5720^{\circ}\) & 49727 & 79921 & bolic & 1.4512 \\
\hline  & 4．23ji & ＋25， & －360 & 17．7 & 9174 & 9： 33 & 1，35」 & 2356 & 3263 \\
\hline  & c．7us & 水） & c7013 & fosyi & 70.35 & 307 －4 & 93719 & 113179 & 121018 \\
\hline  & と．700 & 1こう， & 1，2\％ & It & \(3 \rightarrow 2\) & & & & \[
2249
\] \\
\hline  & \(3<552\) & 3，703 & 37704 & 4.4 .40 & 56947 & 63329 & 71932 & 72930 & A \(10 \rightarrow 1\) \\
\hline  & \(\therefore 12 \mathrm{u}\) & & & & & & \(11 / 1>8\) &  & （د）7 \\
\hline Jこr．＜＜Lat It U．． & ＝ 516 & u2b33 & 7～177 & あッン0い & 96437 & 1.4052 & 11.180 & ハ」31 & \\
\hline  & & & & 2332 & 5944 & 0374 & 6745 & 1150 & 7567 \\
\hline  & 2727 & －4， 4 & －+20 & －313 & \(51<1\) & \(3-22\) & 2379 & 0135 & t－－\({ }^{\text {c }}\) \\
\hline NLゝLU－NIIAL CUSTUTLND（AVG） & 2914 & コ）
b \(\rightarrow\) ？ & 7112 & － 6 & \(0 \times 9\) & 310 & S49 & \(1 \sim 2\). & 1．．．＊ \\
\hline \begin{tabular}{l}
 \\

\end{tabular} & －＊ & \(\bigcirc 9\) & 112 & 1 － & 0.9 & & & & \\
\hline  & & & & & & & & & \\
\hline 1a \(x_{+}\)（U，）\(=\)（naw） Km & ＜－110 & 29620 & 24301
\(\angle \angle 721\) & \[
\begin{aligned}
& 3-122 \\
& 2+3+2
\end{aligned}
\] & \[
25+0.3
\] & \[
29.03
\] & \[
3 i!\geqslant 1
\] & \[
3 . / 90
\] & \\
\hline  & \(1 y 731\) & Cus）3 & 227 & 2 & & & & & \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline 362 AUmAL LLA6 LuÔF IDAHV & ＊ALLa
It & 1767 & 190\％ & 1909 & 1976 & 1971 & 1472 & 1973 & 197 \\
\hline OMOSS FLANT & & & & & & \(13 \pm 1426\) & 1523375 & \(166: 95\) & \(19.68>5\) \\
\hline \(x=S=n d\) Fuis J Pre Catillot． & & & & & & －3－0＞6 & ＊ 5,315 & \(3+49\) ce & －．6022 \\
\hline  & & & & & & ＜67530 & 283735 & 31574 ． & \(2 \mathrm{c}-759\) \\
\hline ACUUS＞ITIUN AUJUSTM－NI & & & & & & \(14>206\) & 1－3266 & \(1+3263\) & 145206 \\
\hline  & & & & & & & & & \\
\hline Mai－n＋2：5 i＞Urriatis & & & & & & ivous & 9，479 & 18776 & 14803 \\
\hline LUns lant 3L डT & & & & & & ＜8月 & 27 －663 & 2520：2 & \(237+2\) \\
\hline Cu．＜r＝NT LIAUALITL \(=\) S & & & & & & 0.3781 & 43569 & 206：3 &  \\
\hline  & & & & & & 11.600 & \(12.3,6\) & \(1327 \times\) & 171679 \\
\hline CLNAFADUI AUN a \(V\) ALU GUNSTRUCIN & & & & & & －57\％ & 07229 & \(6722 v\) & \(72 \times 25\) \\
\hline SUKrlUS ardje un raIr．jaAGic GAP． & & & & & & \(\bigcirc 72>18\) & 1610277 & 1130623 & 1005076 \\
\hline TUNはい1FAL Lf．d－jTraz of & & & & & & & & & \\
\hline Irarivaliua uIsíuunt & & & & & & 924 & 1456 & 2141 & \\
\hline  & & & & & & \(<381\) & 29.941 & 3.46 i & \\
\hline  & & & & & & ＋10170 & \[
1395<0
\] & & \[
1+.6 \leq 3
\] \\
\hline inuUST，14L HVENUL & & & & & & & & & \\
\hline  & & & & & & 17298 & 20317 & \(3 \pm .57\) & \＄5940 \\
\hline  & & & & & & & & & \\
\hline JTace urcastive mivetajc & & & & & & \[
12523
\] & \[
135,0
\] & 66055 & 79939 \\
\hline  & & & & & & \[
\begin{array}{r}
37-06 \\
26,926
\end{array}
\] & \[
\begin{aligned}
& 5037 \\
& 24722
\end{aligned}
\] & vi3s
20d21 & \\
\hline  & & & & & & 26.926
3.34 & 24722
13408 & 2ud2t 16357 & 283 ci
1.717 \\
\hline C6．7T－ncial SaLcsimmi） & & & & & & 6． 36 & 1,406 & \(163>\) ？ & 1.71 \\
\hline InJusinial Silujs mim i） & & & & & & & & & \\
\hline Ikrabdilun＞dL＿j（m．．1） & & & & & & 14.76 & 2306 & 2421 & －712 \\
\hline  & & & & & & 208 & 721 & 6 13 & \\
\hline anc．ur antul（Adic） & & & & & & 33218 & 41555 & \(4436+\) & 40203 \\
\hline rCWE，LCJT & & & & & & 1－4，＜2 & 1237 b & 1393：7 & \(15.6=8\) \\
\hline Trat Seissiun exaches－ & & & & & & & & & \\
\hline uasinioutiun zxrivs＿ YALITL NANLE \(=X P_{\text {：}}\) ：NS： & & & & & & 67748 & 73－63 & －2．36 & ity3yd \\
\hline GUSTOACr．Serdili－ & & & & & & & & & \\
\hline \[
5 A=S \quad-x r^{2}=N 3=
\] & & & & & & 16234 & 19624 & 212.3 & \\
\hline  & & & & & & 48636 & 2－162 & 636.9 & \(4.5 \geqslant 7\) \\
\hline INI－NCST＝Xŕgisi－ & & & & & & & & & \\
\hline 14x＜S & & & & & & 21070 & 2 bicc & & \\
\hline  & & & & & & & 47,03 & 48351 & －t＊＊ \\
\hline J＿－s＝CiAT 4 Uf & & & & & & 41742 & 416 C & \(4 y 82\) & \\
\hline neILH O．Y ruidicitul［VVLSTM＝NI rotah wusturesstava） & & & & & & & 1757 & 159 & 4 4．9 \\
\hline  & & & & & & & 14， 35 & 10.4 & 3742 \\
\hline LCATLALIGL LUSTUMミR，（AVU） & & & & & & & \(1>8\) & \(1 \rightarrow 7\) & 1061 \\
\hline Hins UF Jistndsulajn LaNe & & & & & & & & & 1255 \\
\hline  & & & & & & & & & \\
\hline Hax，tun J－man Kn & & & & & & & & 945 & 2176 \\
\hline  & & & & & & & & 7642 & 1170 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline 30：Eavhlli Llec Cujp tunt & SPOKANEZ 1夕うつ & 1760 & 1768 & 1967 & 1975 & 1371 & \[
1972
\] & \[
1973
\] & \[
\begin{array}{r}
1980 \\
= \\
=37.66
\end{array}
\] \\
\hline unuss rasill & 19473，1 & 2．2－4，7 & 222724s & \(2+20690\) & \(20 \geqslant 41-1\) & くviアうvd & \[
34455: 9
\] & \[
3+2=0: *
\] & \[
=+37.46
\] \\
\hline  & －0，3，3 & 2ッ： & 270372 & ＋6） 31 & \(7102<0\) & \[
4-3<2
\] &  & & \[
3176.9
\] \\
\hline GUarizal asscis & 14－33＊ & \(1 ヵ\) くbつ & 181278 & \(1--3=0\) & 2 & 171392 & & & \\
\hline ACunioaTaun AuJuSTti：nT & & & & 2－4．27 & 52365 & 78061 & 95943 & & \[
388 i *
\] \\
\hline  & 32400
3200 & \[
342+1
\] & \[
3315
\] & \[
+32,4
\] & \[
81>0
\] & －\(>7\)－ 8 & \[
i 2751
\] & \[
97361
\] & \[
137 *-7
\] \\
\hline 1ATANIALS A SUrraiz3 & & & & & 177.563 & \(1 \rightarrow 14>81\) & 2221655 & 2523.374 & \＄23＞658 \\
\hline LONU TCFY Dis 31 & \[
\begin{array}{r}
1+7+2+3 \\
17 \pm 29
\end{array}
\] & \[
\begin{array}{r}
15>1205 \\
8405
\end{array}
\] & \[
\begin{array}{r}
1007224 \\
10334
\end{array}
\] & \[
\begin{array}{r}
101.715 \\
2>176
\end{array}
\] & \[
791 i
\] & \[
13 j 41
\] & 113．－1 & 23313 & 260,0 \\
\hline CLnNLitT LaAsalitacs & \[
\begin{aligned}
& 17 \pm 29 \\
& 1 ; 97
\end{aligned}
\] & 8303
12193 & \[
1 j 3>6
\] & 1106 & 12036 & ＋3976 & \(134+4\) & 1672？ & 18270 \\
\hline \begin{tabular}{l}
1こMうにかSnar rcis \\
GuNiriuuliut．It alu GunSTRUCTm
\end{tabular} & 11970 & 1219 & & & & & & & \\
\hline CuNifiluuliuf if alu gunstructm sukrlus andiun ratkuathuc Gat． & 29．7＊0 &  & 397271 & －20295 & ．93634 & 558176 & \(01251 \%\) & \(06<903\) & 715069 \\
\hline HUNaLiral fievo itaze？ & & & & & & & & & \\
\hline intabataun iISCUUNT & & & & & & & & 350459 & 6595．9 \\
\hline  & 1） 3313 & 194027 & 21，299 & 33 & 262. & 17240 & \(195<6\) & 22473 & 2：476 \\
\hline  & 1177 & \(12<31\) & \(13 \sim 70\) & 1－400 & 17309 & － 963 & 91416 & －＜31） & という」4 \\
\hline 1NUJSTN1AL N－VENUC & fud9 & \(730-2\) & 106
514.2 & \(0 \rightarrow 7 \times 8\)
\(0+171\) & 6710 & 1598 & 7＊د） & 8 l 177 & 1－1500 \\
\hline  & bくうう & 23404 & \(534-2\)
\(3-1\) & －17 &  & \(1 / 29\) & 1092 & 2230 & 3670 \\
\hline UTfink ．ad－tiul Fave salzs & 32， & \(3 \geqslant 0\) & 371
477 & －473 & 2304 & 7200 & 3692 & S3is & ＞ 631 \\
\hline UTH－N UF，AT AI\％AEVV，NUL & \(302 i\)
\(+1,7\) & \(+3 \times 4\)
\(1+22)\) & 11105 & \(3 \times 03\) & 53.2 & 32：3 & －ti9 & ＋825 & 6332 \\
\hline  & \(+1 i 7\)
\(1<1+5\) & 1022
13301 & 11503 & 171） & 18 ats． & 22445 & \(20+53\) & 28163 & 3 Cos 3 \\
\hline  & 1＜1才3 & 13365
180 & 15.93
804 &  & 1001 & 1204 & 16.3 & 100\％ & \(10=0\) \\
\hline  & 711
000 & 160
0465 & 7431 & ssc 3 & 7 bHo & 3252 & 3679 & 3035 & －5＞3 \\
\hline  & 0304 & \(04<5\)
\(-3-2\) & j332 & 2965 & 6， 00 & 7205 & 59.36 & 5331 & \(83 \geqslant 5\) \\
\hline  & ンノく & － 72 & & 30 & 129 & 176 & 154 & 154． & 2：0 \\
\hline  & Ci \({ }_{3}^{25}\) & 2096j & 2 zoud & 3020\％ & 37102 & －3i5\％ & 49295 & 52226 & こャン22 \\
\hline  & ＜t310 & 20963
\(\rightarrow 4623\) &  & \(11 \geqslant 3\)－ & 123343 & 1＊＊239 & \(15 / 155\) & 103bas & \(17+607\) \\
\hline rum－7 CuSt & － 313 & & & & & & & & \\
\hline  & & & 17519 & 19411 & 31157 & 42759 & 27548 & 27140 & 35939 \\
\hline  & 13253
dis & 9312 & \(1: 7 \rightarrow 0\) & 1－3＞0 & 1961 & \(1-725\) & ＋．323 & \(37+21\) & －77：6 \\
\hline  & \(1+0.3\) & 1） \(\begin{aligned} & \text { ¢ } 22\end{aligned}\) & \(11<20\) & 132 cl & 12941 & lapt & 19649 & 21295 & ＜620う \\
\hline \begin{tabular}{l}
CuSivelan \(3=\) andick \\

\end{tabular} & ＋ \(71 \leq 7\) & Iuくul & 1： 200 & \(11+0\) & \(145>2\) & 15，3） & 14662 & iss：c & 112b＊ \\
\hline  & \(4<2+23\) & － 01 al & 3 ！dal & 35.52 & 64721 & \(73 n 33\) & 818.7 & 920 ＋3 & 142brj \\
\hline  & \(<3 /+3\) & 3．cio & \(55^{5} 51\) & \(310 \sim 5\) & \(325>6\) & 37 30 & －16－9 & \[
5.632
\] & \[
\begin{aligned}
& \text { écus } \\
& 140-0
\end{aligned}
\] \\
\hline fax \(\mathrm{I}_{\text {－}}\) & c 212 & 06.3 & 1203 & 42.22 & 16073 & 12749
519 & 1212 & & 327 \\
\hline UIm－ULJUCTIUNS & 70\％ & 743 & －し & －0， \(5>\) & 75304 & 53.57 & 9） 7 & & \(1<6757\) \\
\hline Jerailataut & 20135 & 61071 & 64445 & nosyl & 85304 & 83.37 &  & & \\
\hline 大ziuntu us & & & & リソゴ & 1001 & \(15 \cdot 3\) & \(2 \therefore<7\) & 22.3 & ＜34＊ \\
\hline TUIAL GUSiu．．．jimVit & 1532 & 176 & 1116 & 1104 & 1252 & 1355 & 1543 & 17.1 & 1841 \\
\hline  & 1）\({ }^{1}+2\) & i6so & 116 & 15 & 4 & 2） & \(\rightarrow 9\) & 0, & 76 \\
\hline  & 24 & bis & 525 & 2－1 & \(5>0\) & 27 ＋ & 611 & 61 & 7． 5 \\
\hline 11．－S UF U＋－Inluutaviolinc & 206 & 215 & 2133 & ＜－7 & 2217 & 2क．7 & Scub & 2470 & \\
\hline ULV＿Lurnzatil Jabluduat & 1330 & \(14<3\) & 2133
0979 & 4－7\％ & 8010 &  & 14らい & \(137 \rightarrow 0\) & I 4not \\
\hline  & \％030 & t217 & 0979 & ¢0．3 & 7180 & 8214 & 9140 & 9845 & \\
\hline AVL．．auc Jtifmid KW & 5254 & 2310 & 0.10 & （1） & 7180 & （1） & & & \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline  &  & 1967 & 1408 & 1909 & 197 & 1971 & 1772 & 1973 & \(1 \rightarrow 7\) \\
\hline Gx0＞）FLAvi & \＄39020） & \(41200 c y\) & \＄63＋61 6 & 43，340．0 & 5246070 & ＞ 398265 & \(568>511\) & \(61+5013\) & 9e16：2 \\
\hline ReStry Fur J＿PNECAAT10t． & 引りく3）3 & 1－25130 & 110003 ， & 1＜\＄／ot2 & 1－4＊＊＊ & \(1)^{10947}\) & 1064143 & 1772037 & \[
14>-0: 2
\] \\
\hline Cumnial assits & 596．34 & \(2+<429\) & ＞62blo & －4．3土） & －sbstil & ＋く7う－7 & \(0 \sim 1917\) & 703752 & 1039 i33 \\
\hline  & & & & & & & & & \\
\hline  & 2i39， & & 20767i &  & 116733
101795 & 22304 & 205987 & 243172 & \[
3-3: 2
\] \\
\hline yat－r．adis a Suprlizi & 1130／＊ & 2ddebsa & 12.002
\(3127 \mathrm{~A}, 1\) & \(123 d 76\)
\(3 i 0618 i\) & 101734
3229855 & 223059
\(3=-1377\) & \(343 \mathrm{JJ26}\) & \(356<7>9\) & ＊1719＊＊ \\
\hline Ludi Icen U－aI & 256－07＊ &  & 31＜7A子
\(1 i<1 才<\) & 3106181
1762 & 32298.5
722.5 & \(3-71377\)
117829 & \[
1101=6
\] & 11＞66？ & ty9－4 \\
\hline CUkncidI Lincillilis & \(03+26\)
0626 & دOt－5
\(\rightarrow>10\) & \(1 i<19\)
\(3>d a\) & 1762
3765 & 72275
3725 & \[
4110
\] & \[
4685
\] & 4 c & ＊4． 2 \\
\hline  & 4.236 & 4.294 & 4.294 & ＊．29＊ & 46294 & －J29＊ & － 2294 & \[
*>69 *
\] & \\
\hline suntlus anco Ur Hatnjnato Car． & a）i7＋1 & isu971 & 9.2892 & 1201603 & 1187119 & \(1<02093\) & 1370615 & 1297327 & 189978 \\
\hline muntcarac 1t．VZ3lacht & & & & & & & & & \\
\hline AMALUATLUN GISCULNI & & & & & 65167
171102 & － 4 20y＊ & \[
\begin{array}{r}
21900 \\
2=0965
\end{array}
\] & \[
\begin{array}{r}
50714 \\
229343
\end{array}
\] & 201573 \\
\hline  & \(\begin{array}{rr}113 \\ 3 & 21 \\ 31\end{array}\) & 129371
30770 & 147406
32830 & \(1>263\)
\(3+123\) & 171102
35274 & 192434
23631 & －3754 & \(\rightarrow>50\) & 41＊－ \\
\hline  & 3.217
3397 & 3.770
119.3 & \(1 i 036\) & 1コくざ & 21363 & 36120 & 33） 38 & 3176 & 31509 \\
\hline  & 3397
562781 & 11503
， 16.630 & 1.005
29.102 & 2083） & 65293？ & －4194＊ & 72.320 & 79：062 & 13i 4227 \\
\hline  & \(5027 \% 1\)
\(1611 \%\) & －1403 & 200 & 2183 &  & 6023 & 7． 35 & 77.3 & 41,5 \\
\hline  & \(0>0\) & ｜ibl & 1）36 & －8，3 & 699 & 29＞6 & 2211 & 1254 & 10．3 \\
\hline  & 720 & \(1>52\) & 715 & 2087 & 9.83 & \(100^{\circ}\) & 1 d 2 L & 12092 & \(220: 2\) \\
\hline  & 7339 & 9312 & 7649 & 1」11 & 11787 & 132 l & \(1+516\) & 16236 & \(17+5\) \\
\hline Cutio－kCiAL SALgatinn） & 2014 & 2433 & 2218 & 20．7 & çou & 2757 & 2955 & 3496 & ＜7h6 \\
\hline  & 457 & ל／3 & 864 & 633 & 844 & 1338 & 1225 & 1477 & 1.02 \\
\hline Innilat 1 Jt，SAL & b／\(-1+\) & bl 201 & 63305 & 731，2 & 692,0 & 47748 & 9 & 54922 & \(76+3\) \\
\hline \(31 \mathrm{H}=\mathrm{N}\)＞ALGS \((7+1)\) & 0．1 & 293 & －15 & － 2 d & ＋7 & 434 & ど & 017 & \\
\hline clionoy lirut（ 4 a才） & 6／joo & dくe1t & \(2 / 276\) & 9.091 & प5 50\％ & 93203 & 112 & 117971 & 7 \\
\hline やu＊こと Lusil & 2＜3715 & c31－40 & 235134 & 226145 & 256463 & \(253>+3\) & 267612 & S． 7750 & 3925＋1 \\
\hline Ina＊s．as5ıur．－kriasc & C93． & \(1-67\) & 129 & ＜10 & \(i+t 2\) & －250 & 1233 & 1751 & 10， \\
\hline  & －6bol & 305 ，2 & 67012 & 32351 & \(50+41\) & 76735 & 66807 & 3763 & \\
\hline  & ＜c73 & 2032． & 29.87 & －ふらち！ & \(2<713\) & 4732 & \(3+135\) & 2964， & －： 621 \\
\hline cusluten seadiol & 17234 & 160d2 & 21288 & 2217s & 23761 & 26515 & \(205+9\) & ＜3314 & 35921 \\
\hline SALここ cxr゙ztoえe & Closd & 26109 & 2.022 & 2！つい & 1とやつ4 & 22499 & 25840 & \(13>4\)－ & 21100 \\
\hline ALTAu S GLucn4L íarcosic & ל1712 & －つしっら & 0.170 & 1703 & 9－000 & צ6935 & 117096 & 144152 & 7 \\
\hline  & t Lus3 & د－t＜ & 20448 & 02125 & \(61 \pm 27\) & 65309 & 67099 & － 56 & \\
\hline \(14 \mathrm{x}-3\) & S．0．t & \(5.5<3\) & 31523 & 32257 & 35742 & 36217 & ＊1＊～｜ & & \\
\hline virnen wこJutitu．ds & ＜42） & 1470 & & & & & & & \\
\hline  & \(1 \times 4 y 3\) & IIvel3 & 1179.6 & \(126<16\) & 139793 & \(14>778\) & 131628 & \(13937 \%\) & 177316 \\
\hline \begin{tabular}{l}
Ne IUKN un mUidaciral INDESTHENT \\

\end{tabular} & \(1 \rightarrow 09\) & \(15<3\) & 1554 & 1534 & 1648 & 1685 & 1645 & 1755 & 1408 \\
\hline  & \(1 \rightarrow 2\) & 0.3 & 910 & 4－3 & 384 & 732 & 954 & \(1 \mathrm{Cl}^{4}\) & 1．20 \\
\hline こumioncian LujTure．j（6da） & 120 & 129 & 135 & 170 & \(1+3\) & 141 & 142 & \(1-3\) & i： 1 \\
\hline  & 307 & 430 & 913 & 937 & 97. & 1.36 & 1576 & 1.27 & 1．－9 \\
\hline J－d－LORN二NIAL JLSGUJNI & \(\cdots 200\) & & & & & & & & 68632 \\
\hline  & collo & 25977 & 28520 & 29＋27 & 15371 & 15229 & 17537 &  & \\
\hline Av－natac ilcithe） Km & 15718 & 141\％ & \(1 * 1 * 0\) & 1.907 & 15271 & 15229 & 17537 & 1377 & \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline  & ＊ALL A \({ }_{\text {itoo }}\) & 1フと． & 176 & 1464 & \(197 \%\) & \[
1971
\] & \[
\begin{gathered}
1972 \\
2231=6
\end{gathered}
\] & \[
\begin{gathered}
1+73 \\
0.303 * 4
\end{gathered}
\] & \[
\begin{gathered}
157 * \\
7.2 c^{*} 3
\end{gathered}
\] \\
\hline uruss r－a，T & ＊i， 331 & －928＜2 & \(21+<43\) & 24．11 & \(26 . \operatorname{ton}\) ？ & \[
3+\infty-13
\] & \[
\begin{aligned}
& 22=4+6 \\
& 27,412
\end{aligned}
\] & \(0.503 *\)＊ 24）！ \(3 f\) & \[
\begin{aligned}
& 7,: c * 3 \\
& 3:+7,5
\end{aligned}
\] \\
\hline  & 2．2．201 & ＜1＜10＊ & \(2<4603\) & くおとい！ 3435； & \[
2532 \cdot 2
\] & \[
\begin{array}{r}
4644.7 \\
3 a 720
\end{array}
\] & \[
\begin{array}{r}
27.412 \\
4.343
\end{array}
\] & 461 i？ & 4 \(+1 \rightarrow\) d \\
\hline SUn－－it dSS．Is & －d．es & \(2221\rangle\) & 432415 & 3¢35\％ & 62402 & & & & \\
\hline  & & & & 33 & \(2 \times 4>1\) & \(1<185\) & 23 & 1151 & 7096 \\
\hline Clwituctath AunX it fougsoas & \(1<1<2\) & 1.957
\(4 i>2\) & 12727
1700 & c3il & 2つコ1つ & \(11 \rightarrow 71\) & 9566 & \(200 \% 1\) & 33212 \\
\hline 1AT．．ALS i SUPrLics & \(\begin{array}{r}7303 \\ \hline 0.118\end{array}\) & 4632
\(+33=4\) & 1700
39.370 & 39ら7＞ & 41809 & & －3， 6 － 6 & －3isos & 54．215 \\
\hline Luns itky Disil & ＊－－jis & ＊－3si & \begin{tabular}{l}
\(39-374\) \\
46637
\end{tabular} & 5タン7ン & \[
\begin{array}{r}
41504 \\
62462
\end{array}
\] & \[
+57-7
\] & －\(>708\) & 4－9．7 & \％65－4 \\
\hline －Un，Liti LiAuILItas & 4036
1075 & 34b37
\(17=3\) & \[
\begin{array}{r}
4637 \\
1775
\end{array}
\] & 18．3 & 194） & 2：6） & 2115 & 2ubi & 21：6 \\
\hline  & 1037
\(12+7\) & 1201 & 11131 & 4.93 & －9，45 & \(9 .+3\) & \(965 \%\) & \(95 \cdot 3\) & C5－3 \\
\hline SUnri uS Aaur Un rmikjnalo Car． & \(-14 i+d\) & －13．910 & \(-122820\) & －12201 & －12043 & －119610 & －117672 & 122339 & \(11 * *\) \\
\hline tumilatal indzSTm＿NT & & & & & & & & & \\
\hline InRtuAltun uiscuutat & & & 40.99 & －7847 & \(482<0\) & 22139 & 3196＊ & \(\rightarrow+200\) & 6－008 \\
\hline  & 42960 & ＊－7～0 & 40.99
357 & 03．7 & \(0+<0\) & 3913 & 13876 & \(1<711\) & 1＜2is \\
\hline  & と／12 & 2 ClO & 351 & 3， 20 & 2470 & 46.8 & \＄679 & \(5>10\) & cuc3 \\
\hline 1rubjirida movanuc & 1 & Stud & 9910 & 245 & － 32 & 464 & 1174 & 1351 & 7311 \\
\hline inrabalan radistuc & \(\pm 8\) & & & & & & & & \\
\hline  & 13 ； 0 & & & & 1550 & 1717 & 1526 & 14.46 & 15：4 \\
\hline  & 13，0 & 1031 & 1062
-16 & 1390
224 & 121 & is？ & 216 & －211 & －1＞7 \\
\hline  & 5才v & 1271 & 1308 & 1589 & 1479 & 1691 & 1862 & 1ह4\％ & 2 SO 4 \\
\hline \(\alpha=S i u=\) NT（ AL SnL－S（4in） & 113
147 & 1230 & く－0 & 225 & 225 & 239 & 311 & －13 & \(3=*\) \\
\hline  & 178 & 170 & 105 & 100 & \(1 \times 1\) & 132 & 153 & \(17 \%\) & 228 \\
\hline \begin{tabular}{l}
\＆NUSIt．an \\
IKn＋umT＋ul＊ンnn＿つ（Ynt）
\end{tabular} & 173 & 17 & 10 & 100 & 7 & 16 & 48 & od & 307 \\
\hline  & & & & & & & & & ？62 3 \\
\hline  & 1010 & 1932 & 2.73 & 2410 &  &  & \[
9491
\] & \[
1+073
\] & libot \\
\hline run．uvjl & old 1 & ＊＊＊ & 7－43 & 1991 & \(7 \rightarrow 13\) & & & & \\
\hline  & & & 2605 & 4541 & 4479 & 4631 & 46.6 & －8．7 & 6772 \\
\hline  & 50\％ & Covo & ＋605 & 10 & 1257 & 6901 & 12914 & 11.42 & ＋ 523 \\
\hline 1－1NTE＊Rin＊cxr－tis＝ & \(\sim 320\) & 26c？ & 33is & ＋37＊ & 3252 & 4.233 & ＋＊＊5 & 4004 & 2．－2 \\
\hline  & 4310 & と6） & 3315 & & & & & & \\
\hline  & & 5151 & 1）204 & 11334 & 14244 & 16328 & 15354 & 18712， & 173：1 \\
\hline  & 1.231
3221 & 19， 1 & 1230 & 8122 & d3／V & dal 23 & 9987 & yこe． & Sel 3 \\
\hline  & ＜3＋d & くtas & \(27 \pm 1\) & \(330 y\) & SIt 40 & 3474 & ＋176 & 2617 & לく， \\
\hline  & & & & & & 56 & 22 & & 24） 1 \\
\hline  & \(1<1.9\) & 12359 & 127ic & 12647 & 13364 & 14530 & 15687 & Itilo & 1737 \\
\hline  & & & & & & & & 323 & 3－2 \\
\hline  & 25d & \(2 \rightarrow 1\) & 200 & 20， & & 2is & 299 & 332 & 252 \\
\hline  & 213 & \(2<4\) & 4） 17 & 271 & 200
15 & 17 & 16 & 17 & 15 \\
\hline  & 13 & 17 & 17
239 & くゝt & 237 & 223 & 255 & 23） & 235 \\
\hline  & 233 & 437 & 289 & 403 & 410 & 4－1 & 499 & 527 & \\
\hline  & 321 & jus & 39 & 42． & & & 067 & 091 & 1215 \\
\hline 1＊x & 71 & 467 & \(2 * 8\) & 454 & \(4{ }_{4}\) & 493 & \(2 \times 7\) & \(3{ }^{3} 2\) & \\
\hline  & 331 & 207 & 443 & 434 & 403 & 4 & & & \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline \multicolumn{9}{|l|}{} \\
\hline 1Y00 & 1967 & 1968 & 1909 & 197． & 1471 & 1972 & 1973 & \(197 *\) \\
\hline 3570325 & 5935313 & 4194606 & 455.3 .83 & 4954． 18 & \(2,3>7993\) & 5888375 & \(6>5132 t\) & \(7<4-920\) \\
\hline 9f5＞27 &  & 1181117 & 13.2132 & \(1+2+45\) ． & 1.21143 & 1711306 & 1086504 & 2：85723 \\
\hline 21.317 & \(22<331\) & 16720 & 222001 & 233／03 & \(2413+3\) & 222306 & 37381． & 26，1＞b \\
\hline 22301 & 22301 & 22361 & \(2<301\) & 22301 & \(2236 \%\) & 22301 & 22301 & 223 E 1 \\
\hline \(4 \rightarrow\) ¢ \(u\) & 8430 ？ & 6714. & 107227 & 2317 jo & 186368 & \(<58258\) & 3，9393 & 24：806 \\
\hline \(0<1>9\) & \(1203-3\) & 1．7628 & 107560 & 1二121； & 120941 & \(15317 \%\) & 16a77， & 3i66t． 9 \\
\hline 2349598 & 2925712 & 3472913 & 323.423 & \(3 * 80 \psi 31\) & 3726776 & －1 005＋3 & \(4543+92\) & 5161923 \\
\hline 20.373 & ＊0しくて & 62138 & 1157 bc & 10865 & 74326 & 17913 & 83637 & \(16<7+8\) \\
\hline 1－4＊） & 1.803 & 118is & 12550 & 13215 & 1＊246 & 13646 & 1649 & 17375 \\
\hline 25＊1 & 5341 & 3561 & 3541 & \(6>31\) & \(52-1\) & \(53+1\) & \(9+97\) & \\
\hline －＊aン2 & 34937 & 113166 & \(11320 y\) & 156711 & ＜ \(2 \times 213\) & 25－317 & 32.397 & －0， \(3,-2\) \\
\hline 34－117 & 3753s2 & 433719 & 48524. & 533064 & 061831 & 677839 & 11／601 & d＝．553 \\
\hline \(8 \gg .6\) & 93405 & 143264 & 1u－3 ？ & 11－1） 3 & 122－11 & 13.296 & 139163 & 1t：61＞ \\
\hline 303，7 & －12ッ3 & 42907 & \(0.3+7\) & 573.2 & 04178 & －Jder & 85927 & 93202 \\
\hline 72 & 143 & 657 & 843 & 0 04 & 816 & & & \\
\hline \(1<220\) & 137.6 & 13つs8 & 16412 & 16967 & 10020 & 196.59 & 21222 & ＜ 213 \\
\hline 3317 & 7hc， & \(\rightarrow>72\) & 27850 & 15293 & 1532＊ & 24374 & 25032 & 273ca \\
\hline 13，5 & 3693 & 3268 & 3.32 & \(33 \sim 0\) & 3511 & 3 t 22 & － 200 & \(74 \pm 7\) \\
\hline 1.234 & 21699 & \(2+918\) & codts & \(323<6\) & 33012 & －3633 & ＊－472 & － \(2>9\) \\
\hline 2317 & \(\geqslant 800\) & 1180 & Loot & 7207 & 0276 & 8519 & 3422 & 4，42 \\
\hline \(-2+2\) & 3603 & 37.4 & ， 615 & 54.9 & 6103 & 7409 & 78：7 & \(7 \cdot{ }^{2} 0\) \\
\hline 29 & \％ 0 & 4 & 20 & 56 & 25 & & & \\
\hline 011 & f23 & 5.4 & 1011 & 957 & Itc7 & 1236 & 123） & \(1+19\) \\
\hline \(3<3.7\) & 36.43 & \(423: 3\) & \(\rightarrow\) yoi & 53093 & 63.61 & 71706 & 73134 & 7－359 \\
\hline 1 ¢ 170 & \(11+467\) & 15.194 & \(19301 \%\) & 185022 & ＜1＞623 & 24.763 & \(2592+2\) & で5，引 \\
\hline 28 & \(\rightarrow 3\) & 192 & \(50<20\) & \(11+21\) & 3137 & 24938 & 122くt & 77－2 \\
\hline 2． \(3 \leq 1\) & \(236-1\) & 23103 & 31310 & －33．9 & 23952 & \(3+4 \times 1\) & 54．32\％ & 21717 \\
\hline 3． 230 & ＜Sらけ7 & 3 J 410 & 91620 & \(+124\) & 61697 & － 3234 & 8116 & \％ 2.9 \\
\hline 17110 & ＜． 152 & \(2<434\) & 28925 & 32355 & 35648 & 43505 & 4939\％ & 2－2．3 \\
\hline 19.4 & 11213 & \(1+3>2\) & 1 106） & 12619 & 17301 & 13L）8 & 21161 & 1779 \\
\hline 25234 & －＜40 & \(1166{ }^{\prime}\) & \(120<7\) & 92284 & \(103-71\) & 1.0582 & 12344 & 1－6 5 －9 \\
\hline 74157 & गせ2＞2 & batc3 & 02242 & \(68<10\) & 71351 & 74409 & 03.35 & 114133 \\
\hline \(422 \times 9\) & －2221 & 53090 & \(01<40\) & 67137 & 560 c & 54748 & 6／624 & 3．7．3 \\
\hline \(1 \rightarrow 21\) & 61 & 235 & 1293 & 90 & do 30 & 1535 & 1420 & 18－1 \\
\hline 163535 & 11.120 & 11／496 & 120392 & \(1 \rightarrow 6 ら う 2\) & 153237 & \(1690>\) ？ & \(13 \sim b\) e7 & 26c7さ。 \\
\hline 〈iつ & 2200 & 24.26 & 2071 & 2775 & 295＊ & 12．8 & 3：43 & 34， 7 \\
\hline \(18 / 3\) & 1407 & 2.84 & くくい1 & 2517， & 2：27 & 27.4 & \(<930\) & \(\therefore 2.7\) \\
\hline 22， & 230 & 229 & 29. & \(3<7\) & \(3>5\) & 392 & － 0 & 523 \\
\hline 333 & ＊ 1 & 419 & 423 & ＋31 & 449 & 397 & －15 & 3.3 \\
\hline \(t+1\) ？ & 4141 & 7886 & 3935 & 3733 & 43，9 & 4772 & 5145 & \\
\hline \(72+3\) & \(1 \times 2>0\) & 15968 & 16220 & \(14 / 84\) & 1720 & 2：3，2 & 2－5＊＊ & 2：3ッ4 \\
\hline 2935 & 67.3 & 0322 & \＄30＊ & 16128 & \(1168 d\) & 1250 & 1＊＊97 & \\
\hline
\end{tabular}

\begin{tabular}{|c|c|c|c|c|c|c|}
\hline  &  & \begin{tabular}{l}
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 \\
 ～m -
\end{tabular} &  & \[
\frac{\ddot{2}}{\stackrel{\rightharpoonup}{2}}
\] &  & \[
\stackrel{+}{+} \stackrel{7}{\pi}
\] \\
\hline  & \begin{tabular}{l}
\(N=N M\) an on \\
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 －VEN ソッ
\end{tabular} & \begin{tabular}{l}
 ○の\＆ \\
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VNN－
\end{tabular} &  & \[
\begin{aligned}
& \underset{\sim}{\mu} \\
& \stackrel{\rightharpoonup}{\sigma} \\
& \underset{\sim}{2}
\end{aligned}
\] & \(n \rightarrow 0\)
NO，
N & \[
\begin{array}{ll}
\infty \\
1 \\
2 \\
0 & 0 \\
1
\end{array}
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\hline  &  & \begin{tabular}{l}
N二心がる必 \\

\end{tabular} &  & \[
\begin{aligned}
& \underset{\sim}{v} \\
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\end{aligned}
\] & \(=0 i n\)
\(0 \rightarrow 0\) & \[
\begin{aligned}
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\end{aligned}
\] \\
\hline \[
\begin{gathered}
n \\
\hat{\sigma} \hat{n}: \frac{0}{c} \\
-0=i n
\end{gathered}
\] &  & \begin{tabular}{l}
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\end{tabular} &  & \(\xrightarrow[\sim]{n}\) & \[
\begin{aligned}
& n \\
& 2
\end{aligned}
\] & \[
\stackrel{\rightharpoonup}{\sim} \underset{\sim}{\sigma}
\] \\
\hline
\end{tabular}






\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline 3ofloisrcka valcht chel waje & Sr0xahs 1400 & 1967 & 1708 & 1409 & 1976 & 1871 & \[
\begin{gathered}
1972 \\
1>81>46
\end{gathered}
\] & \[
\begin{gathered}
1>13 \\
165=681
\end{gathered}
\] & \[
\begin{gathered}
1+7 \% \\
17:<9>1
\end{gathered}
\] \\
\hline いつ＋LANi & \＄0．426 & 1．90b）3 & 1233506 & 1344.15 & \[
14752.4
\] & \(135 \% 945\) & \[
6778>1
\] & \[
527610
\] & \[
\begin{aligned}
& 17: 2931 \\
& 27233=
\end{aligned}
\] \\
\hline  & 363ist & S31， 3 & \[
5>1>71
\] & \[
5428 \geqslant 6
\] & \[
\begin{array}{r}
1<5 d d \\
90541
\end{array}
\] & \[
\begin{array}{r}
+4646 \\
3,357
\end{array}
\] & \[
12<7 \% 2
\] & 8us2d & 1－3＋3 \\
\hline Cut w．．．1 4＞コ．Is & ¢ 431 & \(004 \% 3\) & & & & & & & \\
\hline ALuUa＞illus audusTiaz wI & & & 114223 & 150071 & 9311 d & 8776 & 43642 & 0164 ？ & Ci3）9 \\
\hline LUNSI－UCTAOn doek 1\％FnviunesS & 3： 133 & 23631 & 2＜＜32 & \(16 \pm 19\) & 17んお。 & 2－19\％ & 14957 & 154＊） & －35 30 \\
\hline  & \(<-313\)
\(+9>131\) & ，35060 & －997う？ & \(7 \gg 2>8\) & d） 1703 & 378973 & 9．721＊ & \(9+385\) & 1d61327 \\
\hline LGNs İRT O－4I & 493131
1633 & 235600
20231 & 3
3 & 2＋1－6 & 39010 & \(4 \pm 4>9\) & 41185 & ＊＊らす。 & \[
* t \omega 1 \varphi
\] \\
\hline Cunicnt litutilitics & lus）
cos & Claj & \[
3,34
\] & 2－2\％ & \[
\oplus \mathrm{C}+2
\] & ＋136 & 3885 & \[
3892
\] & \\
\hline MoturaSmif r－cs & 65011 & 65ail & 05011 & b＞0 11 & \(687 * 9\) & 63749 & 88749 & \[
7.364
\] & \[
\begin{array}{r}
76308 \\
3+2021
\end{array}
\] \\
\hline  SUnrluS A：．JAJr ratrJnab．Gar＇． & isyoda & 21.048 & 231165 & 2，22－6 & \(289 \cdot 3)\) & 287132 & 302275 & & \\
\hline mur．it．aral il．dcsitmckir & & & & & & 2353 & 32\％9 & 5579 & \\
\hline IKK．unitule uIっCuUtiI & & & & 135352 & 144320 & 169875 & 181128 & 1785 2 & 182689 \\
\hline  & 1－3．0 & \(0.3+1\) & 113503 & 10ud＝ & \(1 / 690\) & 19021 & 2， 205 & \(20+5\)－ & C367 \\
\hline  & y／5s & 16907 & 10539 & 23－10 & ＜33／4 & 23524 & 22893 & 20390 & \(35 \mathrm{u}-6\) \\
\hline in＇儿usTniAL e－d－avus & 12135 & 173．9 & 25939 & \(327<9\) & \(367 \sim 0\) & 303」4 & 3／834 & －く6il & －2＋37 \\
\hline  & 31773 & 316 & 1044 & 1044 & 1046 & 1044 & 16.7 & \(16^{4} 4\) & 2569 \\
\hline  & 1000
-509 & 1637 & 6291 & t3＞5 & 6573 & 8354 & 8123 & \(115 y 2\) & \(1: 801\) \\
\hline  & \(\rightarrow\)－ \(1<0\) & S 1.2 & \(\rightarrow 1>1\) & 11940 & 067 & 7175 & 0960 & 15171 & 1963 \\
\hline  & l＜o3 & b， 27 & ＋126 & 11364 & 12141 & 1 ¢tu＊ & \(16 \mathrm{j}+6\) & 126.7 & lin？
18： \\
\hline KESLu－NIImL SmLus（19 fic） & 6／i & 736 & 936 & 1255 & \(13>1\) & 14.4 & \[
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\hline  & 12id & \(14<3\) & 1268 & 1937 & \(197 \%\) & \(19<2\)
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-3.7 & 2491
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\hline  & 39＋1 & 2439 & 5473 & 3） & 434 & ＋247 & － 72 & is & ， 2 \\
\hline  & 11 & 13 & 10062 & 2， 300 & \(<2122\) & 24339 & 26635 & 27751 & 2 CO 3 \\
\hline  & \(15 n+1\) & 13601 & 10.0 & 15.21 & 09203 & 77－86 & 90864 & \(9 \times 2 / 8\) & －1－12 \\
\hline せu＊L－¢ & 35346 & －1仿 & 22273 & 13.28 & & & & & \\
\hline  & & & & & B＞ 73 & 7611 & 49.30 & 1321 & \\
\hline JIsfaioulat＝xrcns＝ & －61y & doct & 9432
\(1-9 y 5\) & 16545 & 13406 & 13165 & 22205 & 1564 & \[
226-5
\] \\
\hline  & luys & 1 doct & dool & 94Cs & \(1-3 t 5\) & \(11 \%>2\) & \(128 i\) & \(15 y\) & 101.3 \\
\hline  & \(3<32\) & 10．2 & 9316 & \(1140 y\) & \(11>09\) & 12209 & 11603 & 12312 & 10ヶ2＊ \\
\hline  & －2，
\(1>7) 6\) & 101．d & 21792 & 2．942 & 330 dd & －1－20 & \(41<19\) & 40223 & － 20.0 \\
\hline ＋1）： 16.4 ， & \(1>7,2\)
\(>+21\) & 1－0ノ゙ & 1 くu4＊ & 1－6く！ & \(10<36\) & 175．3 & 15030 & \(1-329\) & \(11^{<1}+1\) \\
\hline  & \(7+21\) & 1.8802 & 12031 & 1コ20） & 16252 & 21－69 & 21316 & 2164 & \(2 \sim 32 \%\) \\
\hline  & a331 & 1.002 & \[
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\] & & & \(3+1\) & & & \\
\hline JTn－1 DCuUET iuvs & ＜，32） & cob27 & 31690 & 35131 & 46739 & －3272 & － \(2<36\) & 47613 & －074 \\
\hline  & & & & & & & & & \\
\hline iui m wUSiut - es (avo) & 271 & 643 & 782 & dक2 & 84. & 409 & 483 & 1613 & \\
\hline  & －11 & \(4 \rightarrow 3\) & 237 & \(\cdots \rightarrow\) & \(1<6\) & d， 7 & \(0<1\) & 333 & \\
\hline  & \(\geqslant 0\) & 6.4 & 73 & 02 & \(6{ }^{6}\) & 56 & 91 & 41 & － \\
\hline  & 221 & ＜07 & 260 & 20． & 265 & 246 & 295 & 29. & \\
\hline J，ViLuri，Aian Jis6uval & \(7+3\) & 14. & 1：73 & 150 & 1395 & 1581 & 1773 & & \\
\hline  & 27．0 & 36.7 & 5dul & 5130 & 4692 & 5517 & 6720 & 3961 & \[
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\hline  & 23.2 & 23.4 & 2900 & ＊730 & 3J．1 & －\({ }^{\text {a }}\) & く＊1 & & \\
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\] & 171206\％ & 27039 \\
\hline  & 12ッ6ッy & 10674 & ctiles & 10.742 & c－t＋23 & 174376 & 29295 & 2ヶ2\％う & 25293 \\
\hline  & く4＜1） & ＜9 29 ； & 27295 & 2924， & 29293 & 29295 & 27.105 & 6）164 & －2136 \\
\hline dごu＊Slitur ajJJationt & \(1513>9\) & \(22-262\) & 3－209 & د645 & 19.79
\(8 \rightarrow 451\) & & Catbls & 171282 & 2028．8 \\
\hline csnsirbitic．Aunk it Fnuancos & 300．1 & 36i－2 & 102179 & 2850 & \begin{tabular}{l}
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4440357 & 4593613 & 479423＊ & －9t＋3i6 \\
\hline tat－ninils if jurrlics & 2dilsj3 & 34029＊） & 30．35，0 & 37.0047 & 4063312 & 4640357
13397 & 12 S907 & 137，75 & 12：93\％ \\
\hline con，Icm4 0 31 & 2atisj & 217－0 & 6uato & 9；927 & 136323 & 10.20 & 13.95 & 2．8．0 & 22605 \\
\hline  & ヲ95\％ & licue & \(121-3\) & 1335. & \(1+825\) & & 325911 & 39783 & \\
\hline  & 123－0 & iss－o & ＋－234 & 10－202 & 203033 & －530360 & \[
633022
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\hline SLifLUS ANJiJS Phinjublic baf． & 2900．4 & 36く1）d & 317019 & －い30， & & & & & \\
\hline Hun．Catan it＊－SImepi & & & & & 3020 & －762 & 2806 & 93963 & －197\％3 \\
\hline  & & 102317 & 193645 & 2531，3 & \(4723>6\) & 353259 & 43.722 & 174915 & 18うこう \\
\hline  & iti7，\({ }^{\text {d }}\) & 11ヶつ）？ & \(1171>6\) & 1273.7 & 139919 & 153.19 & 251593 & 24.39 .3 & cet．s3 \\
\hline cim，mbati－n－VEvue & フかャo & \(0+\ldots 5\) & 31004 & 123031 & 22.840 & 241413
039.2 & 109っj2 & 122810 & 12．33．6 \\
\hline  & 7，120 & fior & 75909 & くッゴ & 36907 & 号が， & 9，0\％ & 1i．22， & \(1-470\) \\
\hline Inv．uni，ut \％－＊＊＊ & 20－t & 2010 & 69， 0 & \(\rightarrow \geqslant 12\) & 7425 & －2SU9 & 21670 & \(1+376\) & 166.2 \\
\hline  & 14177 & 21030 & 20， & Cisso & 13303 & ［2569 & \＄652\％ & 35734 & －200＊ \\
\hline  & 3uso & \(24<0\) & 3194 & \(65 \rightarrow 1\) & 1173 & 19560 & 2319 & 310． & 30020 \\
\hline  & \％．．． 0 & 8103 & 12\％）6 & \(120>3\) & 69 & 14327 & & 10034， & 1．11． \\
\hline  & いis？ & 1く1＊ & －うプ & 0130 & 9237 & 9091 & 31127 & \(2 \rightarrow 290\) & 478．a \\
\hline  & －07） & せ－ 9 & 7－11 & 107＊） & 23031 & 27831 & 3097 & 1－＋e\％ & 16．+1 \\
\hline atozsimbit ：＋－－sidal & 20， & 26－3 & 6526 & 0710 & 0735 & － 359 & －A & 5．J & \(5>1\) \\
\hline  & 3,0 & 371 & 52 d & 212 & 372 & ＋
7.212 & Аっ2＊＊ & 920.2 & 475：2 \\
\hline  & 31.10 & j－0． 3 & 33120 & －5je & 62.53 & 7.27 & 206．79 & 669220 & 2930．5 \\
\hline craur ine Jl（1a＋） &  & 96333 & 1－4i3u & \(1-2041\) & 1812 \％ & 17029
2065 & 3403 & 3995 & 7842 \\
\hline cen－casi & 3 \(2 \rightarrow\) & くbつす & \(1>09\) & 4 ［7 & \％ 37781 & 37920 & 23，72 & 3． 250 & Sdu／l \\
\hline 1－2n－S Ti＞Stuh－XP：T6， & 42030 & S．231 & 20711 & 3172 & 34701 & 0
0.129 & 72015 & 72003 & ¢ cc． \\
\hline  & 2，273 & sciol & －1919 & －14 & 03249
\(27-19\) & － 30.08 & \(3 \rightarrow>1\) & \(4>8{ }^{\text {a }}\) & 5，37：0 \\
\hline  & 3sob， & くい31 & 22ial & 21074 & 27.75 & 11700 & －585 & 3636 & 2034 \\
\hline  & 30， 5 & \(1>0 \cdot 2\) & 12¢10 & 367！ & desta & 9.317 & 103181 & 123．3： & \(1360-2\) \\
\hline  & 7，3＞1 & －7，12 & 634 \％6 & 72510 & 12911 & & A020 \({ }^{\text {a }}\) & 122？85 & 11653 \\
\hline  & ＋ 121 & － & \(01 / 20\) & 08237 & 72671 & 3＋195 & 3 i8＞？ & －05i． & 5，9：1 \\
\hline  &  & 1－7＜1 & 10031 & 23 & 4917 & ＋1949 & 255 & 3－1 & －\({ }^{\text {a }}\) \\
\hline Tax－3 & 1 & & & & & 159233 & 17.633 & 143347 & 228\％\％ \\
\hline ulorr L．uULions & 97601 & 1．4．35d & \(11+641\) & 13.037 & 17630 & & & & \\
\hline  & & & & & 20．7 & 3163 & 36c5 & 4.96 & \\
\hline TuT：Lしった．．．j6－do） & 1723 &  & loser & 1930 & C27＊ & C） 82 & ＜900 & 3385 & 30．7 \\
\hline  & 13， & 9， & 317 & 34\％ & 344 & \(4{ }^{4}\) & 405 & －9， & \\
\hline  & d 43 & 36 & 839 & 0.1 & ＋27 & 424 & 1321 & lus） & \\
\hline  & d63 & つこら & 2075 & 7302 & ¢510 & 11396 & 3330 & 3743 & \(2 i 5=0\) \\
\hline コ．v－Luta－vion Jascuital & 293d & 4731 & 6737 & 1．1\％＊ & \(10 \rightarrow y d\) & 17373 & \(1 \rightarrow 38\) & \(1 \rightarrow 333\) & \\
\hline 16atredt Jcrates an &  & 5350 & 5009 & 3271 & 16271 & 12293 & －3s0 & & \\
\hline AV．．Au－UL．14＊＊＜n & & & & & & & & & \\
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\hline \multirow[t]{2}{*}{} & \multicolumn{9}{|l|}{Sroxatiz} \\
\hline & 1700 & 176 & \({ }^{17360}\) & 1965 & 1978 & 1971 & 4972 & 1973 & 19\％， \\
\hline unusa ramat & 3161265 & 3433043 & 57－1129 & 3，77649 & 4343195 & －4．7539 & 434.488 & 4572034 & －93Pi．7 \\
\hline  & 11.0017 & 11，c－3 & 1212092 & 12.3780 & 129t－27 & \(1301<0 \mid\) & 1397607 & 160＊＊＊ & 10.45 \\
\hline  & \(3102: 7\) & 329\％－ & 230319 & 31220） & 11330 & －3408 & 27，111 & ＋26－2d & 7a～7c7 \\
\hline \multicolumn{10}{|l|}{} \\
\hline CCrasinuclac：＊Onk iv Pr．O6x＝S3 & 3，75． & tyint & 31360 & 80，39 & 33521 & 76492 & & 64634 & 97218 \\
\hline Yaferials 8 Surelacs & 94633 & \(15<319\) & 95683 & \(7<9.7\) & 1－．0920 & 111545 & 17258 & 161.77 & 36，19\％ \\
\hline LuNG IEr．a ULdT & 17210s3 & 1才uctas & 1733057 & 2172013 & 232－4／5 & 2－65092 & 229＊641 & 2sbov2d & 32：2！こ＊ \\
\hline Cukniol Latallillis & 3utyl & \(\rightarrow 3)\) & \(6 \ddagger 023\) & 7723） & 614.2 & \(3 \rightarrow y\) a & 5.976 & －337． & 113038 \\
\hline Manamsmit tass & 270． & －162 & 3130 & 3035 & \(\rightarrow\) ）d \({ }^{\text {a }}\) & 617） & 6205 & 643. & 6525 \\
\hline Clasmasutiut iv－iv Gunztructa & 17：503 & 138427 & 196713 & c． 211 ． & 2.9187 & 215711 & 223988 & 2－0273 & \\
\hline \begin{tabular}{l}
Suritus anclon rolnjnag．Car． \\

\end{tabular} & －637）s & 226927 & ，65608 & 277898 & c16360 & 03．210 & －0．5637 & 680933 & 754633 \\
\hline  & & & & & ＜00．2 & 2150.3 & 21854 & 33351 & \\
\hline  & 243＋14 & ＜－7732 & 231700 & 23 bot？ & 24137， & 25i：62 & ＜6，731 & 262715 & \(3165: 1\) \\
\hline  & 15726 & \(11<50\) & 11：31 & \(13<03\) & \(13 / 91\) & \(12>12\) & lus \(\mathrm{Cl}^{\text {c }}\) & して1． & 1.111 \\
\hline  & 02233 & 24038 & 1コ～02 & 0030y & 0.577 & 0－3 51 & 63026 & 73617 & 79613 \\
\hline  & \(1.10{ }^{\text {a }}\) & \(1 \sim\) ¢ \({ }^{\text {a }}\) & 18.175 & 1／c7－3 & ［く63～］ & 221200 & 232238 & \(20+267\) & 3 cos 23 \\
\hline \multicolumn{10}{|l|}{} \\
\hline  & 1－35＊ & \(1>203\) & 10311 & 17299 & 16360 & 1.377 & 1／647 & 16362 & IC－s： 7 \\
\hline Alw－urinatins M，V（tals & かっこ， & 8200 & 0389 & 10.83 & 1.8 ＊6 & 127\％ & 12353 & 1 － 0 ？ & 1－د1！ \\
\hline \(\mathrm{K}=\) S（L）NTALL S＋L－\((4+m)\) & 10930 & 17603 & 18015 & 1980 & 2030＊ & \(215<0\) & 22：93 & 2＜791 & 2こ：2 \\
\hline  & \％2？ & 202 & 22. & L＞0 & 751 & 617 & 1.34 & 064 & \(8=6\) \\
\hline  & －fio & 0110 & 4762 & 3063 & 70.3 & 4912 & 15 Cob & 1．unc & Yous \\
\hline  & 10321 & 〈3，\({ }^{\text {P }}\) & \(3+212\) & 3．5त） & －0203 & 41746 & 42177 & 5.091 & －ç2l \\
\hline \multicolumn{10}{|l|}{UTr．．SALLS S（1an）} \\
\hline Etecsur latu，（14，） & 3 W 374 & 2iss： & 6d－3 & 0733. & 72019 & 80，89 & 836.8 & 41972 & 82553 \\
\hline run－s Luat & 14.3713 & loass & 192231 & 1 c 78 ， & 213.26 & \(<2<8>7\) & C32140 & 2b．347 & 2\％34， 7 \\
\hline  & & & & & \(44_{6}\) & 240 & \(90^{\circ}\) & －3\％ & \(3 \rightarrow\)－ \\
\hline  & 4.175 & 3く3） & 23647 & \(3>0<0\) & 31331 & \(1>0\) to & 12206 & 2，16， & 2075. \\
\hline  & －2／3 & 90． & 0090 & 10.54 & 15.17 & 3567 ． & 3＜33， & －u＊）？ & 516.47 \\
\hline cuslurian scr valic & 1く4？ & 12690 & 12954 & 14136 & 1535\％ & \(1 / 244\) & 22169 & 3－96， & 2． \(1 / 13\) \\
\hline SAL \(=5\)＝x－cros－ & usil & but & －¢ \({ }^{\text {a }}\) & 3．3．3 & 024. & \(22+1\) & \(\rightarrow 1>6\) & 125＊ & 1．is \\
\hline 40nan i wencric exp＿nse & \(\rightarrow 10+7\) & － 9 9i7 & 5uyoz & 229.0 & 50123 & 02.82 & 71037 & \(7>47 *\) & \(035>6\) \\
\hline  & 31030 & ussas & sa0be & －．437 & 4373 & －5icod & 41207 & \(5 C 673\) & \(530 \pm 3\) \\
\hline Tixas & 3） 300 & sscas & －31」。 & \(4.0<6\) & 36101 & －7007 & －1967 & 32617 & 51342 \\
\hline ulnan guuctiuas & \(3+1\) & & & & & & & & \(\mathrm{C9C} \mathrm{\%}\) \\
\hline  & 912，0 & 07301 & Yolal & \(1 \times \sim 0<0\) & 1.92272 & 113619 & 113926 & 123112 & \(12 \mathrm{c-47}\) \\
\hline \multicolumn{10}{|l|}{KLIJNN UN TU：ALCLFAL INVESTA－NI} \\
\hline  & 13.8 & 1327 & 1391 & 1－c． & 1＋ci & \(16>9\) & 1683 & \(15<2\) & \(15: 1\) \\
\hline  & \(1-37\) & 11 cd & 1126 & 1129 & 1150 & 11.1 & 1177 & 12，5 & 16. \\
\hline  & 03 & 20 & 11 & 31 & 00 & 35 & 95 & 9 d & 79 \\
\hline HLLis OF bist inction LaNE & 120 & \(1<12\) & 1272 & 12．3 & 120s & 12－4 & 1353 & 1290 & 1314 \\
\hline  & ＜473 & & & & & & & & \\
\hline Aixaroun Jonav）Kn & 4－3．3 & 12021 & \(1>3<6\) & 1070， & 18.372 & 130．0 & 17333 & 2139， & 222.3 \\
\hline Aveamic 9，1－vil Ka & \(0 \times 00\) & 7241 & 11324 & 11336 & 12734 & 13178 & \(136-2\) & 168.5 & \\
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\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline  & SHOKANE． & & & & & & & & \\
\hline & \(1 \rightarrow>3\) & 1才し & 1706 & 1469 & 197 & 1411 & 1372 & 1973 & 1976 \\
\hline unc゙s＊－ & 249－03 & 2－0195u & \(2>1497\) & 26－1／40 & 3． \(6 \times 302\) & 2617713 & S－4ibal & 2＜29．73 & 3： 3570 \\
\hline  & 23iくl & cis2－4 & －735－4 & 1203＋1 & Subaic & ＊\(<139\) & y \({ }^{\text {cios }}\) & \(1-5382\) & 1193\％） \\
\hline CU2．－Al \(\rightarrow\) SSt \(\mathrm{T}_{3}\) & Ivふッフ！ &  & 1－absy & 10438 & \(1943+1\) & 2．71）3 & 24.305 & 242035 & 2716,1 \\
\hline  & 2y＞il & 235－1 & ＜9＞－1 & 24，241 & 29＞－1 & ＜95＊ 1 & 295－1 & ＜9＞＊1 & 293－1 \\
\hline  & \(1 \geqslant I>1\) & －6242 & \(3>+28\) & 7.791 & －210us & \(<27>00\) & 362797 & 163812 & \(26.23 \%\) \\
\hline ART＿\＃ALLS＋SUrrLICS & 5e＊ 2 d & ＞－9io & 5，36． 8 & 290－8 & 62993 & －96b＊ & 9.911 & Sa＞71 & 120818 \\
\hline LUNW IEry O．it & \(1<91>27\) & iJog3is & \(133803 \%\) & \(136>y\) 扎 & 1649615 & \(1+3.290\) & 1626520 & 1）3763d & \[
153.055
\] \\
\hline  & 3才isi & 3otor & 46486 & 21624 & 533.7 & 64036 & \(1148>9\) & 4.785 &  \\
\hline Tcazansmar teas & 1－dod & \(1>23\) & 13036 & 1－754 & \(1 \sim 90 i\) & 14120 & 1324 & 1311 & 12912 \\
\hline Gutsin IoUtiun in ala Gunstructiv & 102320
-9.731 & Cu＋632 & ＜1＜126 & 210362
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\(0 \sim 6277\) & c 37 dob & \[
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\end{tabular} & －9，731 & － \(100+\) & －355＊＊ & －30024 & \[
0 * 6277
\] & －96－02 & \[
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\] & & \\
\hline ingatalici ulicoura & & & & & 0 od & 623 & 598 & 92\％ & \\
\hline  & \(1002 \pm 2\) & \(21 .<3\) & \(2 \rightarrow 1 \geqslant 16\) & 22.1122 & \(2625=1\) & \(2013 / 5\) & 287 t 12 & 29－293 & \(3 \div 4243\) \\
\hline  & －321 & \(2 \pm 003\) & S3010 & 2u7 \({ }^{\text {a }}\) & OIAOI & \(066-9\) & b，3a7 & th93） & 664．2 \\
\hline inlus Txamb Nidcrut & 7＞534 & 20476 & 233311 & 141265 & 99074 & 122007 & 143605 & 1323.16 & 1ら1くら3 \\
\hline  & \(5 i<3\) & 74.7 & 104lo & 1196 & 12.97 & 12.24 & 12.37 & 12213 & \(107>8\) \\
\hline  & Yus？ & 1172 & \(1 \rightarrow+0 \rightarrow\) & 1－34） & 16505 & \(107 / 6\) & 179.9 & \(1 / 300\) & iftis \\
\hline  & －730 & 06t & －uく－ & 0192 & 2960 & \(27-3\) & 2436 & \(35: 9\) & \(32: 7\) \\
\hline NON－L－Lndiato6 n－＊CNIS & 4 376 & 0202 & 1，3－3 & \(152>3\) & 112.9 & 12331 & 1 n 337 & 2 sas & \(1,3: 6\) \\
\hline  & 110く， & 1 stic & 15442 & 13しゃ & 180.6 & 14221 & 19336 & 2us7） & 217.7 \\
\hline  & 60．7 & 3723 & \(\rightarrow<>2\) & 4324 & 91：0 & 5491 & 2265 & b20 & －320 \\
\hline  & －，3y & \(1 \pm 2-2\) & 22．16 & 11003 & 7176 & 9197 & 1.961 & 1－h．l & 1100 \\
\hline  & 217 & ¢il & i53 & ［63 & 1223 & 730 & 673 & Isis & 1623 \\
\hline jimb \(3 \mathrm{~mL}=3\)（74m） & 602 & 0.14 & 1237 & 1506 & 1401 & 12 －2 & 1405 & 1390 & 1502 \\
\hline SAL orot disrut（ 4 d－t） & 23its & －3：13 & － 349 ： & － 2052 & 377.2 & 40973 & \(462-4\) & － 2330 & 463．3 \\
\hline rum．e．CuSI & 612．s & \(1-1: \leq 2\) & i6las： & i－13y & 123i」？ & 13コ） & 120546 & \(13 \pm 3\) ty & 1.1932 \\
\hline  & & & & & & & & & \\
\hline U\＆） & 32.49 & \(\rightarrow 2+6\) & 51i－2 & 7－d7t & 49365 & 53347 & 52411 & 53 al & 2t5：4 \\
\hline  & 1，＜－3 & 319， & \(\rightarrow 215\) & 5．2－3 & 23362 & 24117 & 52.32 & Stios & 274．0 \\
\hline  & 131 ， 2 & ＜． 64 & 20.249 & 3.3723 & 30323 & \(3-1+4\) & \(2: 221\) & 20931 & 51171 \\
\hline  & ＜0，\(>\) & 1907 & 67. & 6 20 & 957 & 1647 & 2115 & C0－2 & ＜／21 \\
\hline  & \(3 \sim 1 \geq 7\) & 37713 & 37214 & a43）3 & 87357 & \(439<2\) & 5.950 & 1－1542 & \(1603 .-\) \\
\hline  & 2S．．t & ＜2，92． & 2.092 & こう」く＊ & 26ii＊ & 270 － & 2utb5 & 29－31 & 24－－6 \\
\hline Itacy & 3）\({ }^{\text {l }}\) & 1く6う」 & 15322 & 1－1） & 15071 & \(1120 ?\) & 1t2al & 1.755 & 1－3．3 \\
\hline ain＿n ublucituna & くく3） & 14.2 & －210 & －730． & 226 & 504l & 198 & ＜79． & 15．0 \\
\hline  & 52037 & 0.4075 & 60263 & boidel & 76350 & 32275 & 92128 & 13．1－2 & 1－0．61 \\
\hline KLiU．V U Nid．d．ひ．rat isV－SItivT & & & & & & & & & \\
\hline i心I－Vicisici－＞（＋du） & 1.75 & 40.3 & 1775 & 1703 & 1733 & \(1 / 11\) & t6ss & ioso & 16.0 \\
\hline  & \(1<1 \%\) & 13.2 & 1400 & \(1-31\) & 4＊13 & is－1 & 1365 & \(15<0\) & \(13-3\) \\
\hline 6しni．c．Lati CuSTumina（Av0） & 172 & \(1 \pm 2\) & ＜03 & 2．2 & 2．＊ & \(<15\) & 2.5 & 212 & 2.9 \\
\hline  & ＊＊＊ & ＊＊ 6 & \(\rightarrow 23\) & － 25 & － 8 & 2 & 406 & －1i & \(\checkmark 6\) \\
\hline  &  & \(\angle 831\) & & & 2251 & \(20<3\) & 3145 & 2dう＊ & \\
\hline  & 722 l & 1－2il & 16303 & 90d！ & 9く～」 & 1－4＊ & 11ヵ3） & 109．0 & 1．7．4 \\
\hline Avgibic ULAmios KN & － 610 & \(36 \pm 7\) & do40 & 3 20 & 7.52 & 7362 & 09.4 & 7902 & \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline 35＊＊an，CO clcc One & POnillanu & 1967 & 1906 & 1969 & 1976 & 1971 & 1972 & 1973 & 197－ \\
\hline jnus 5 ri4nt & ＞295 m \({ }^{\text {2 }}\) & ＞－86347 & 3 \(6>2-3\) & 5733 L － 5 & b12029\％ & － 561930 & 6574722 & 6929.57 & 7 Iっc3－6 \\
\hline NeStwic fin krokctaliutu & \(120<334\) & i5903：＊ & \(1+81 \sim 75\) & 1つコくさ？ & 1762－y＊ & i＞3心115 & 189．3／？ & \[
26+70.7
\] & \[
29 i v 27
\] \\
\hline wjkexkT dose is & ） 5 4， 3 & 023u： 1 & 012294 & 24313t & 6 & 小， 10 ＊ & 073208 & & \\
\hline  & & & & & 52228 & 37206 & 5，537 & ＊－431 & 235016 \\
\hline Cumsla UCItut．nuxk l－PnumzSs & 12.036 & 9－131 & 1270＞1 &  & \(95+3\) d & \(11>9.2\) & 101837 & 121533 & 1゙らごう \\
\hline 4nluhts 4 Sjprlics & 0031－ & \(015 y 2\)
\(3<76211\) & 107037
316997 & 3， 41024 & 32304 bn & 2is 3 3／9 & 2706321 & \(276+1>3\) & 20：83－3 \\
\hline 二vinu i＜n＋J＝ol & 3175470 & \(5<76213\) & \(314997 \%\)
\(1-1117\) & \(120+70\) & 174998 & & 2＋1136 & 34，561 & 32 El ¢ \\
\hline  & 173035
cisios & 15ilio
2060） & 1.1117
29.77 & 120470
\(<326\). & 174993
29730 & 3116］ & 325．5 & 3429． & 369： 3 \\
\hline fíHzirsmir to－s alu consinulin & cetas &  & 71．37 & 11itic & 135.26 & 146．77 & \(<13699\) & \(2>1553\) & \\
\hline CUNIALUVIAON 1.4 AIJ COnstrulin sumplus Aitur un rairuatuc Car． & 1339273 & \(1506+24\) & 1732226 & \(1930<0\) & 2128114 & 2323691 & 19－1ta9 & 283703？ & 313.202 \\
\hline  & & & & & 335 & 329 & 361 & 41. & \\
\hline IMasumitu＊－iSCuU＋1 & & 91 －23－ & 9921 －5 &  & \(11 \geqslant 4<2\) & 1275171 & 1353599 & 1342335 & 153025 \\
\hline  & \(16 \rightarrow 2,9\) & \(1,26)\) & 40237 & \({ }_{i \rightarrow 3}\) & 495ら？ & 1．3311 & 117342 & 12 and & 197413 \\
\hline ＋NひU2ir．tan e＝de auc & 26／322 & く3．1しう & \(32+3-1\) & ＜3336． & Lつッが & 2 1． 4 & 229631 & 370273 & －16ía \\
\hline 4masudliUN べぶNUL & － 776 & 1．626 & 710 & 300 & 7 ¢3s & 03／8 & 674，9 & 1 & g4i．． \\
\hline  & 1631 & 1003s & 237＊ & 74，\({ }^{-1}\) & \(24+\) & 25649 & 25949 & 316 － 7 & 237：2 \\
\hline  & 2 stago & く32－3 & 4223 & （1） 38 ， & 3274 & \(1 / 32 \mathrm{~s}\) &  & 41835 & －7712 \\
\hline  & 14304 & 22649 & 46743 & 1－3507 & 110313 & 129323 & 137231 & \(1-1327\) & \(1-3200\) \\
\hline  & 6 S767 & 31213 & 9030 & 1.5387
4290 & 97.0 & \(1-617\) & 119.39 & 1－321 & \(1-52\)－ \\
\hline Cuyt，nCiAL 3 A & v3jd & 723 & 2300 & －26id & － 761 & 52． 39 & 573.1 & 653.4 & 72111 \\
\hline  & 403 ， & 4501 & 2203
\(j>2\) & － 4 & 542 & 5こ\％ & b 27 & 6 b & 719 \\
\hline  & 327
\(15>0\) & 203 & \(1 \gg\) & \(\left.\xrightarrow[+-)^{+}+1\right]{ }\) & 51.3 & 0\％－1 & , 776 & 2－2＊ & 1 \(62 \geqslant 1\) \\
\hline JIn－r，SALCS（atit） & 1500
140,54 & 1，3592 & 17,016 & 1080 & 182727 & 211177 & 23.733 & 243373 & ＜5－3－2 \\
\hline  & 14023
265120 & 12359
20001 & \(263 / 6\) & －25536 & 619734 & 6405＋3 & 77.787 & 823134 & 10ヶ4＊） \\
\hline  & & & & & & & & & \\
\hline コ1sit 1 duliup＝Xricis： & \(133+47\) & \(1+18<2\) & 121271 & 12156 & 1127.3 & lujus & 133155 & 15,307 & \(43+12\) \\
\hline  & －5775 & －0ts？ & tアゴも & \(21<71\) & Ís？ 36 & 142037 & 113677 & 1219.4 & \(17 r+i=\) \\
\hline  & b2300 & duとい & 92032 & 940 & 90dd & \(1+00 \cdot 3\) & 119235 & 12603 & 1ヶんめy \\
\hline  & & \(\rightarrow 3.3\) & 4010 & 2ヶップ） & \(173>0\) & 17791 & 13 & 19 & 2：\％ \\
\hline  & 1－ヒうづ & 1228io & \(1<47 \%\) & 1－1s & \(1 / 303 n\) & 147275 & （3） & 5 ， 5 & 52 \\
\hline iNTート＿S！－イratio． & 61059 & －\％ 10 & 0218 & 012．9 & & 2348 d & \(93>2\) & \(4 \rightarrow 301\) & 11 －ix 3 \\
\hline  & 41230 & 44401 & \＄2706 & bol97 & \(77 * 37\) & 3u3， & 4＊41 & － 3 ＋ & ＋1＜1 \\
\hline JTmar Jiuucliods & ＜330 & & & & 182073 &  & 19403 & 2．0325 & 2412，3 \\
\hline 0 ご．．．しゃATIU＊ & 124.50 & 10.431 & 163236 & 101723 & 18037 & 192506 & ¢9＊） & & \\
\hline  & & & b422 & 0619 & 6783 & 6945 & 7327 & \(70: 7\) & \(75=4\) \\
\hline  & 4302 & cals & & 427 & 6く－J & 0399 & UEOS & 09， 1 & 1：0 \\
\hline  & ＝021， & col & & jol & 3，3 & des & 392 & 415 & － 0 \\
\hline  & ＊ 23 & 371 & 331
032 & 80 -1 & 3－1 & 471 & col & t．7 & 957 \\
\hline tiles UF Gisl is．uTaud LI AEE & 7 为 & O1． & 032 & \(8 \cdot 1\) & & & & & \\
\hline  & 32311 & ＋ 174 & 36184 & ＊－\({ }_{\text {－}}\) & \(433<2\) & 45233 & b） 273 & F0730 & cプ8 \\
\hline －Vcismus U－Mnits Kn & 2411 & く36il & \(3<143\) & 2＋13j & \(3+373\) & 37972 & 423 う禹 & 45012 & \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline  & ゝトUKんitc 17vo & 19b？ & 1960 & 1569 & 197. & 1971 & \(i \rightarrow 72\) & 1975 & \\
\hline －nいつつ－Lス6！ & 3）9303） & 3dyyyal & \＄103431 & 4463103 & ＊97－39． & 2281782 & 5753232 & 62， 1687 & 6しシンッフ \\
\hline  & 1eこくal & \(8 / 1890\) & ＋3－718 & \(1-0.6 i 2\) & 1163456 & 128.2967 & \[
\begin{array}{r}
1+C 7918 \\
-5,82-2
\end{array}
\] & \[
\begin{array}{r}
152.714 \\
663938
\end{array}
\] & \[
\begin{array}{r}
1742523 \\
6-8677
\end{array}
\] \\
\hline  & －34 \(3+1\) & 3dels & 392749 & －\(-\ll>2\) & －43393 & － 67923 & － 582 & & \\
\hline dudulatialit a judalitat & & & & & & & & & \\
\hline  & \(96<0<\)
\(6.1 / 9\) & 196257
\(02<32\) & 111311
02911 & \(1737-3\)
2050 & 75562
\(1.5+11\) & \[
\begin{aligned}
& 1221>1 \\
& 11>1 \geqslant 1
\end{aligned}
\] & \[
12+6+6
\] & \[
19.637
\] & \[
3558=1
\] \\
\hline －AIGvatus a jufrkios & 6－1／9 & －02csj & \(0<411\) & － 2030 & 3795603 & －12322 & －303700 & ＋5327\％ & 9．961 \\
\hline  & \(30 *-0.9\)
\(712 \% 4\) & \[
\begin{array}{r}
3.00233 \\
\text { tubss }
\end{array}
\] & \[
\begin{array}{r}
3263022 \\
97420
\end{array}
\] & \[
\begin{array}{r}
3-3<7>2 \\
6+154
\end{array}
\] & \[
\begin{array}{r}
3795603 \\
1=1947
\end{array}
\] & \[
\begin{array}{r}
-12322 \\
10017+
\end{array}
\] & 1 \(1+929\) & 52.272 & －93971 \\
\hline \[
12 *+2 \times 541 r \quad r \leqslant=3
\] & & & & & & & & & \\
\hline  & 1，431 & 802，\({ }^{\text {a }}\) & \＄1137 &  & \[
\begin{array}{r}
07137 \\
2.623
\end{array}
\] & \[
87137
\] & \[
\begin{array}{r}
87137 \\
3=3957
\end{array}
\] & \(16 \pm 0\) ？
\[
\star 7<\psi d 7
\] & \\
\hline  & \(1303+2\) & \(1 / 5715\) & \(2 \times *\) ¢ix－ & \[
\angle 5733+
\] & \[
2.623=
\] & \[
26>b c^{2}
\] & & & 247842 \\
\hline UUN－LITA＊J SThinf & & & & & & & & & \\
\hline  & & & & & & 36－7 & － 29377 & \[
7: 1+11
\] & 3663：7 \\
\hline  & \(3146+d\) & 267112 & 383237 & ＊324＊＊ & & 20．3＊1 & － 4.22 & 9304 & Ysiv) \\
\hline Cu＊． & 3．142 & －1320 & りち233 & 29678 & 03367 & 734＊＊ & 6， 22 & & \\
\hline  & 41233 & 3.042 & ） \(32+1\) & －3 077 & dildy & 10く＊が & 151839 & 120612 & 530.9 \\
\hline 1hntumidut codzidu＿ & －Sa30 & ＊¢ 72 & \(3+728\) & －32－4 & －t2－0 & \(33<74\) & \(211=2\) & 6．921 & 2ithel \\
\hline  & 13212 & \(133-2\) & lods 6 & \(15 y 95\) & 17646 & ＜adc9 & 2115 & 21311 & 1く7！ \\
\hline  & \(32 \cdot 2\) & 2612 & 3171 & ＋18b & －182 & －122 & 2275 & ＋13＊ &  \\
\hline  & 4111 & －cl & 2943 & 337 & 2970 & －＊32 & 13429 & 6294 & 128－3 \\
\hline  & leady & 10780 & 22242 & \(2!+7\) & 291／7 & 35791 & 41554 & 40747 & 347：1 \\
\hline  & c， 77 & 4454 & 1293 & 4054 & \(71 \sim 9\) & ＋6／2 & 223 & いご & \\
\hline  & 3141 & 3－1く & ＋137 & \(31<2\) & \(6 / 40\) & 46.4 & 1د」！ & 130 & 129.0 \\
\hline  & 17．7 & 0714 & 4503 & － 33 & couo & －ン 20 & 202 & 9634 & ＋6＂\％ \\
\hline  & 1237 & ！3－ & 10\％ & 10.7 & \(t 1\) & く20 & 21，6 & 213. & 2109 \\
\hline  & i4532 & 37005 & 40578 & 43200 & \(5>264\) & 63545 & 73716 & 9107 & 973＞6 \\
\hline ＊＊＊wusi & f6310 & 11003 & \(131-99\) & İudis & \(1 / 2087\) & cal91 & 2＊ 7895 & 28096 & 3くこって \\
\hline  & & & & & & & 3，740 & \(17 \times 5\) & 30673 \\
\hline alSinluT，un－Xrens－ & c3s．d & 1－＜02 & \(47 \rightarrow 20\) & 52127 & \(750>5\) & 41733 & 131004 & 17ットフ & \[
164437
\] \\
\hline  & 350＜d & 35－bv & \(34+4\) & 1．775 & 75035 & －1761 & 13100 & & 7241 \\
\hline  & 37，14 & CO30？ & 5．0＜？ & 32250 & 34レヲ4 & 3769 & －1721 & \(6 \times 78\) & －コこ9 \\
\hline  & 1：350． & 2く4し2 & 25718 & 20955 & 2c23） & 43210 & 14220 & （0） & \\
\hline 90．14：\＆G－i＊k＋L ckr－idS \(=\) & i－3is & 11900 & －7211 & I－1＋1i & 141961 & 1173 do & 12．1．1 & 121.74 & 1797.7 \\
\hline  & 3asa 7 & 20－ 7 & 27006 & \(03 ゝ \mathrm{O}\) & 65322 & 7314 & A．i43 & 94605 & 12.230 \\
\hline isx－3 &  & \(1>5<1\) & 22034 & ＜ 204 & 27630 & 32－＊ & \(33 \geqslant 32\) &  & ＊ 511 \\
\hline  & & & & & & & & 11\％ & － \\
\hline  & 420，d & 1uフ2．＊ & 115075 & 121872 & 125013 & \(1 \sim 31,9\) & 1616 & 17.21, & 16 ＜ns \\
\hline  & & & & & & & & & \\
\hline 1utal buミiula a（ado） & 3.35 & 2232 & 3563 & 3260 & 3770 & 4615 & －Jot & 470. & \\
\hline  & 4326 & 49，\({ }^{\text {a }}\) & 3.76 & 32い＊ & \(3+60\) & 3034 & － 417 & －6， & \\
\hline Cu＊v－nCIAL（JjTursks（AvG） & 152 & \(1-2\) & 130 & \(10:\) & les & \(19 ?\) & 161 & 22. & 2.5 \\
\hline  & ）＋9 & ¢－3 & \(0<9\) &  & 031 & b／3 & 7.2 & 717 & 710 \\
\hline  & \(2 / 13\) & b l－3 & 6952 & 5154 & 9．07 & 4242 & \(3-5 d\) & \(280-\) & \\
\hline  & 8／24 & 03.2 & \(9+30\) & 11193 & \(1<271\) & \(1+335\) & － 160 & 14500 & 22312 \\
\hline Av：xBuc U＿，＋1．＊） Kn & 0402 & 0007 & 7,04 & \(35 \pm 6\) & 3046 & 119.0 &  & 10101 & 1693 \\
\hline
\end{tabular}
\[
\begin{aligned}
& n \\
& 0 \\
& 0 \\
& 0
\end{aligned}
\]
\[
\begin{array}{r}
1973 \\
260: 201, \\
623,3,6 \\
13+2335 \\
793652 \\
8>37>7 \\
15661607 \\
139,531 \\
9>218 \\
3368+0 \\
95 \times 690
\end{array}
\]
\[
\begin{gathered}
1972 \\
1932.890 \\
77491.6 \\
8<7037
\end{gathered}
\]
\[
\begin{gathered}
197 t \\
17<250.0 \\
2.63377 \\
636957
\end{gathered}
\]






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－v，NロNアの










ACGuisiTIUN dJJUSIminT COnSI vUGTIL．＊4JkK I．PKUGes SS


 SUnRLUS ANB／O．PATNJNAGG GNP． IRniGaTiut．UISCJUNI
 anJuSinial rovonu：

 coit－ircraiting R－V－＋i．jc
 itulsinial SAL＿ji（11m＋） anNaunitun دanca（Mn＋） Cinc－ShL－S（．14n） CNCNof iNRUI（14－d）「3N，LLS：

 TA10，I＿＊ANCic candensi


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化尼に，





 GUNGLAT LiAGILithes MJN－LirA：it keगithaitin 4nJuSinial
i \(2 n+6+1104\)





 ．．．）（avG）
\[
\begin{gathered}
1908 \\
1 \rightarrow 10912 \\
\rightarrow j 63106
\end{gathered}
\]
\[
\begin{gathered}
197: \\
1>727: 13 \\
313>+21 \\
3: 3<9
\end{gathered}
\]


\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline  & 44Ll 4 & & & & & & & & \\
\hline & 1936 & 1567 & \(1 \pm 68\) & \(1 \pm 65\) & 1978 & 1971 & 1976 & 1973 & 197. \\
\hline Gncas raini & \(72 \rightarrow 52<3\) & 7－1204 & 7576.26 & 82，－－－？ & d／でしゃ & 3－13433 & 9264722 & \(9+06191\) & \(99>27,9\) \\
\hline  & 116＊＋24 & 1 ¢\＃oct & 1 \(\rightarrow 3.42\) & \(1 / \mathrm{desas}\) & 1952－96 & \(2: 2 u 703\) & 251．136 & \(277-9.3\) & 326ts）S \\
\hline 以6h．se1 asxis & Sbatal & －36609 & \(0431>6\) & 7 －0914 & 6.1575 & ว431．7 & \(>5.367\) & cos／23 & \(6>+3+6\) \\
\hline  & & & & & & & & & \\
\hline Cuit，TnuiT a un UnK it frutincSS & 9651 & 32803 & \(3+612\)
1
8819 & 72096 & 38026 & 538,9
125628 & \[
\begin{array}{r}
7632 \\
i c^{7.17 n}
\end{array}
\] & \[
\begin{array}{r}
11530 \\
18337
\end{array}
\] & \[
\begin{array}{r}
1+9+3 \\
197634
\end{array}
\] \\
\hline 4atcaidis 4 jurials & \(74>15\) & 9537d & \(1 \times 3819\) & 122406 & \(777<3\) & \(1<4625\) & 16.173 &  &  \\
\hline LONG I－NAt DCaI & blclod？ & 6 －4う40\％ & 69.7400 & ofsisbl & 7147571 & 7：\({ }^{\text {\％}}\)－Jos & \[
7171712
\] & \[
718 / 677
\] & \[
\begin{array}{r}
71677=9 \\
1 \cos 77
\end{array}
\] \\
\hline  & 145735 & \(13-7 \times 1\) & 144436 & 177733 & 139.61 & 7）5xil & \[
\begin{array}{r}
81391 \\
5910
\end{array}
\] & \(19>2 J 6\) －573 &  \\
\hline vetachSnit Fess & －62． & babd & \(2 * 1\) こ & 527 d & ＞37＊ & SSbd & &  & \\
\hline  & & & & & & & & \[
\begin{array}{r}
* 443 \\
225036
\end{array}
\] & \\
\hline aUxrlus Atcofije watajieabl citar． & e6715 & 93207 & 137208 & 10304 & 103652 & 132420 & 12832 d & \[
225036
\] & 7167729 \\
\hline TUF＊－Caralivd－SImivI & & & & & \(221>2\) & 199.3 & 23t．b & \(3<272\) & \\
\hline  & 1845 & 171300 & 179611 & 130402 & 14d205 & 213549 & 283671 & 340975 & 334617 \\
\hline  & 30121 & －69＋3 & －754＊ & 31212 & 2403 & \(61 \pm 21\) & 6－134 & \(6+521\) & t25i？ \\
\hline  & 1：3－2） & \(1149<7\) & \(1 \sim 393 \%\) & 139736 & 13．10J & \(72+3 *\) & ＊ 794 & 215.3 & ？316 \\
\hline Imatcaliuk n－＊－tuじ & －＜66引」 &  & \(>17268\) & 3ッパロ」 & ＞60240 & －2ste3 & 63.818 & 70.272 & 878605 \\
\hline  & くッフ1＊ & －0， 015 & ct3e2 & it 35 & 0769 & 646？ & \(3 / 166\) & 37 c & \(375 \geq 1\) \\
\hline  & －162007 & －142033 & －1＞5a－3 & －1才ud2） & －13776． & \(-129+51\) & \(-184780\) & －220733 & \(2 \mathrm{2at} 30\) \\
\hline  & \(153+0\) & 1724 & 23517 & \(1987 \%\) & 23028 & 24306 & 14769 & 23563 & \(317 \times 1\) \\
\hline  & －3，1 & 3コ） & 1dゴつ &  & 12240 & 11647 & I－56？ & 1792 & 17－99 \\
\hline  & ＜3＞） & 2çs & 2703 & らlus & \(33>0\) & Solt & 3793 & Sal7 & 3243 \\
\hline  & 7121 & 1903 & 10046 & 9369 & 7100 & 2116 & 3423 & 5061 & 3 3 ＊ \\
\hline  & 3175 & 204io & 30752 & 3＜3） & \(333>2\) & د？ 2 el & ＊－27＊ & － 0902 & 5toll \\
\hline Ul \(\mathrm{H}_{-} \times \sim+L C>(\) fid） & 1630 & \(1+<2\) & Itdo & \(12 \angle 7\) & 2036 & 4310 & \(1>76\) & 1.49 & \(1-20\) \\
\hline ENz：OY［NR（1（1，4） & c6＞32 & －Suこ0 & d 4335 & （3）－4 & 71163 & 61729 & \(7 \pm 644\) & 91.05 & 99113 \\
\hline rumi．．Gusi & 1ヶSI－0 & 1つらじ8 & ＜．54．5 & 190.15 & 105.21 & 173104 & 2．4．25＊ & \(2638 \geqslant 7\) & 2＊272＊ \\
\hline 1r．ansmasSavi－KrLNS＝ & 1う」う & くuら， & 4914 & 2）d & ＊241 & 13.6 & 23.5 & \(1: 2\) ti & \(12: 76\) \\
\hline  & \(13+3\) & \(222<3\) & 27723 & 3．3．9 & 35103 & － \(\mathrm{H}_{5} 25\) & 99686 & －4317 & 56647 \\
\hline 1at．i＿NANL＿\(=\) Kr－NSC． & C－-12 & 31962 & \(\rightarrow 3300\) & ＊ \(21>9\) & 41751 & 5 SbNJ & & \(3213 \%\) & \(722^{\circ}\) \\
\hline  & 2，350 & 25065 & 26965 & 27482 & 66947 & 25330 & 22886 & 10667 & 2ゴ57 \\
\hline  & 231， & 23112 & 30327 & 31tyo & 2963j & 2066\％ & 2381 d & 2：225 & \(3+6 \leq 9\) \\
\hline Auvi．a bumata zar＿N5i & 77／13 & 1＊しこい & 72407 & 71437 & 96581 & い129＊ & 79654 & 80605 & \(0 \ll>9\) \\
\hline  & 1＜13．1 & 123740 & 132460 & 156703 & 142359 & 144773 & 104588 &  & \(1 \times 3157\) \\
\hline 14x－S & 3.010 & \(576=9\) & \(3 \gg 67\) &  & ＋1301 & ＊ \(31>0\) & －22：9 & 4 423 ？ & ＋6， 1 \\
\hline uTm－n D＿Uuciiusj & －Cd & t＊ & & & & & & & \\
\hline Dcrkictaitu入 & 2614．3 & \(21<3<3\) & ＜2＊＊ 6 & C539＊） & \(25+320\) & 249503 & cob914 & 26，327 & 27t1－2 \\
\hline  & & & & & & & & & \\
\hline  & 475 & 112 & 1232 & 116 & 1133 & 1459 & 1531 & 10.4 & 1752 \\
\hline  & － 5 & \(\rightarrow 70\) & \(\bigcirc<0\) & b） & 20 & 595 & 913 & 9 d & 16il \\
\hline  & 27 & 11. & 121 & 13. & 41 & 1－7 & 126 & \(15 ?\) & 100 \\
\hline  & \(13+3\) & 1043 & \(17>3\) & \(17-9\) & 1． 12 & 1874 & 1917 & 1917 & 1733 \\
\hline  & 8． \(3 t\) & 3te3 & 1.853 & 1.691 & 971. & 3524 & \(1, b+2\) & 11532 & \\
\hline 12a1．U＊（3）Man）Kn & 1.319 & 13Sm & 1引ついし & 2．く3） & \(10+36\) & \(1 \pm 78\). & 21335 & 25073 & ctess \\
\hline  & \(123 \% 0\) & \(71=1\) & \(1<60\) & 11530 & 1119. & 1370 & 12351 & \(13 y 79\) & \\
\hline
\end{tabular}










 1973
+252528
1284664
19.264




 \(n=\stackrel{n}{n}\)
\(n=\sim\)
\(n=0\)
\(n\)
\(n\) \(0 N\)
3
\(=\)
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\(N\)
\(N\) 30
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0
10
\(1-2\) \(i\)
\(\vdots\)
\(=\)
\(=\)





 \(19 ?\)
\(\sim\)
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\(\sim\)


 is
\(\vdots\)
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\(n\)
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\(\therefore \hat{S N}^{m}\) \(m\)
3
\(\stackrel{3}{3}\)






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\(i\) \(\sim\)
\(\sim\)
\(c\)
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\(n\)
\(n=3\)
\(n=n\)
\(=n\)
 \(\stackrel{\hat{\sim}}{ \pm}\) 313
a
3
\(y\)
\(y\)
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0
0
-1
-1 \(\begin{array}{ll}n & 3 \\ 1 & y \\ 1 & y \\ 0 & m\end{array}\) \(\stackrel{N}{N}\) \(\operatorname{cin}_{n \rightarrow n}^{n}\) \(n\)
\(n\)
\(n\)
\(N\) \(y\)
0
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\(1<20 \downarrow\)


\(1121>1\)









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 ic \(17-\cdots 6+4 \mathrm{~L}=4-3>14 \mathrm{~mol})\)

 Tr \(2,2+25+26-4 r^{2}-105\)



 \(n\)
\(\vdots\)
\(\vdots\)
\(i\)
\(n\)
\(\vdots\)
\(\vdots\)
\(\vdots\)






\[
\begin{aligned}
& n=A= \\
& \hdashline A D= \\
& \therefore A n=
\end{aligned}
\]

1976
\(122427-3\)
3761922
1241763
292023
会


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b
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\(\underset{\sim}{m} \hat{0}_{0}^{n} \hat{y}\) ※눙






 \({ }_{\text {N }}^{2}\)～


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\(\frac{\pi}{n}\) \(\stackrel{a}{y} \vec{j}=\)
 1970
1.220260
2096662


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\(\stackrel{\rightharpoonup}{\hat{c}}\)
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0 \(A\)
\(c\)
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 ： \(\begin{array}{ll}0 \\ 1 & n \\ 0 & 3 \\ 0\end{array}\)云云云云

 \(\frac{n}{5}\)
w
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3 ＂～
0
\(\vdots\)
\(\vdots\) in







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\(\frac{1}{g}:\) \\
\hdashline\(\sim\)
\end{tabular} 3
3
3
0 \(n\)
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\(n\)

 ORILLi4J
1330
\(9.3>0.7\)
1540018
\(86<0 \geqslant 0\)

 \(\frac{3}{\infty} \frac{0}{v}-\frac{1}{2}\)
 \(n=\frac{v}{3}\)
\(\vdots=0\)
0 2
\(i\)
\(n\) ＜3 \(36 \rightarrow *\)

 Cunrenflus iluuisiliun aujusiting TATAKAALS i sJrtilics CUNG Tent ULIT Mino－xSmlr tezs ain cimolzuctn SUKRLUS ANDIJK rathuatabc GAF． TUNLC＋PAL IVV＿STALNT
 rCSINKT1AL N－V－NU： inJusirlal に，ご＿NL innatoation icdinuc




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 Susictar 2 2nd GL anlob cxr－ina NT：CLSI CAR，NSO Ulnian ua Julataids









\begin{tabular}{lll}
5 & -7 \\
\hdashline-3
\end{tabular}
\(7=\)
\(\div \frac{5}{5}\)
\(n\)









\(\stackrel{N}{\hat{*}}\)

\(\stackrel{N}{N}\)
 in
2
2
0
\(i\) \(n\)
\(n\)
in
in \(v i n\)
\(n=\)
\(i=2\)
\(i=2\)
\(i v=\) \(\infty\)
0
0
\(;=0\)
\(:=0\) n
\(i\)
\(i\)
\(i n\)
 0
\(\dot{N}\)
A
\(\underset{\sim}{0}\)
0 \(n\)
\(n\)
\(\leq\)
\(\leq\)
\(\sim\) \(\frac{?}{7}\)
 \(m\)
\(n\)
\(n\)
\(n\)
\(n\)









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7
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 \(3 M\)
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y
n
\(y\)
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m
0
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0 \(u\),
\(u\)
\(n^{\prime}\),
 OnTLANO
IYoo
\(1 \approx 07,2-6\)
\(26 y+3 \geqslant 2\) \(1196+7<\)

 \(\pi\)
0
3
2 \(n a\)
\(m\)
\(\vdots\)
\(i\)
\(i\)
\(i\) \(\overrightarrow{0}\)
\(\dot{n}, ~\)
0
\(-v\) 0
0
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0 \(3=2+1\)
\(10 \geq 35 j\) \(n \mathrm{~m}\)
\(\hat{c}\)
\(\vdots\)
\(\therefore\)
40 u 3
\(7 \rightarrow 6\)
285033
－0ッNーブッ


327 CONSUMcゃS Pumin inc Onc







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 NLS．

 \(31 \mathrm{n}=\mathrm{n}\) SALES \((1+4+1)\) 1kans Tissivir－xrcits－ alsinawulaut＝xtcns


 T－x＿S OLULIONS 3IN－．OVULLIITONS






\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline  &  & \[
\begin{gathered}
1961 \\
3.49661 \\
1.04967 \\
4+4.967
\end{gathered}
\] & \[
\begin{gathered}
1>68 \\
323>427 \\
114>6=5 \\
23+96
\end{gathered}
\] & \[
\begin{gathered}
1964 \\
303-1 \pm 0 \\
1<1 \$+23 \\
2+1 d>0
\end{gathered}
\] & \[
\begin{gathered}
1976 \\
4144593 \\
1341007 \\
270+67
\end{gathered}
\] & \[
\begin{gathered}
1971 \\
424.4+9 \\
138.0 .0 \\
294+60
\end{gathered}
\] & \[
\begin{gathered}
1972 \\
* 341<37 \\
1+73233 \\
37259
\end{gathered}
\] & \[
\begin{array}{r}
1>73 \\
+85 i d 3 ? \\
1>971>1 \\
3.2498
\end{array}
\] & \[
\begin{gathered}
197 \% \\
323.5 .9 \\
17.2 .21 \\
261018
\end{gathered}
\] \\
\hline aCduisiliun a JusInzNT CONSJaUCJI JN mank 1：4 PROGRESS TAI＝のAALS 4 SUrKLAこう & 35760
2061 & －0943 & \[
\begin{array}{r}
1 \sim 39+9 \\
1+2+3
\end{array}
\] & \[
\begin{aligned}
& 25643 \\
& b \geqslant 1=2
\end{aligned}
\] & \[
\begin{aligned}
& 31577 \\
& 74+87
\end{aligned}
\] & \[
\begin{array}{r}
6767 \\
7+77+ \\
2159.22
\end{array}
\] & 23342
\(8356 i\)
2643063 & \[
\begin{array}{r}
266397 \\
95,3+1 \\
23 \mathrm{n} 1643
\end{array}
\] & \[
\begin{array}{r}
19<133 \\
172125 \\
2692525
\end{array}
\] \\
\hline LUNu Itat Jc is & \(1>33121\) & \(1>03903\)
4361 & 1042923
0669 & \(1930 / 1 \%\)
\％2－3 & \[
\begin{array}{r}
2150092 \\
23160
\end{array}
\] &  & 2640003
\(3 i 593\) & ＞36n5 & 7458 \\
\hline CUhritil 1 anotcilfos & b3id & －つンくら & \[
\geqslant 3 \mathrm{bi}
\] & \(3+45\) & 5．37 & 9205 & 5015 & 5063 & 5＊＊ \\
\hline  & \[
\begin{array}{r}
3042 b \\
0 * 0227
\end{array}
\] & \[
\begin{array}{r}
80 \div 20 \\
724005
\end{array}
\] & \[
\begin{array}{r}
80+26 \\
7 y<2>3
\end{array}
\] & \[
\begin{array}{r}
96 \div 20 \\
070415
\end{array}
\] & \[
\begin{array}{r}
80 \vee 23 \\
96 d=08
\end{array}
\] & \[
\begin{array}{r}
86+50 \\
3472.7
\end{array}
\] & \[
\begin{array}{r}
91696 \\
1131632
\end{array}
\] & \[
\begin{array}{r}
9 j 090 \\
12 b j 1=0
\end{array}
\] & 1306993 \\
\hline SUkriUS AND／LK ratnjuage CAP qu＊ICLFAL Itive STMcnI & & & & & 36C55 & 3 Tuyd & 3－655 & \(4 \times\) ti \({ }^{3}\) & \\
\hline inxabatay ulacumal & & & \(238>73\) & \(\langle\boldsymbol{+ 9} \mathbf{2} \boldsymbol{7}\) & 2－2．18 & 20＞．， 7 & CA， 173 & \(201 \geqslant 19\) & \[
255>20
\] \\
\hline ACSLE－TiIIAL \(\sim\) VcNuL & \(21,2>7\)
\(30<73\) & －36く9 & 3Y0く1 & \[
3 n+72
\] & \(536<7\) & 38032 & Subi2 & 3743 & \[
\text { Jeo. } 8
\] \\
\hline  & \(30<1+4\) & 3714 & 3 tow & －30）＊ & 63252 & 7／500 & 7u5i2 & 070．3 & \[
\begin{array}{r}
971=1 \\
494542
\end{array}
\] \\
\hline  & \(1 \leq y-27\) & 17－1：3 & 102616 & ＜76）－7 & 349162 & 341674 & \[
\Delta 71673
\] & 4 2112 & \[
913
\] \\
\hline Lanluadi ji mivcioun ja－co & 1032 & 8 8） & 802 & 9.9 & 911
9109 & 918
1493 & 917
4362 & 910
3367 & ci，e \\
\hline jlmah Ur＝－A1its m－V，thle & \(0 \rightarrow 73\) & 9142 & \(7+93\)
＋1 & oSos
utbi & 9104
6123 & 1453
1129 & 114.9 & 1185 & 12130 \\
\hline  & 42） & 7741 & 813
183 & 1ヵ8） & 19767 & 2：434 & 22542 & 2432． & 23.50 \\
\hline ncS．O＿NIAAL SALLS \((4+\mathrm{H})\) & lc3ol & \(1 / 4497\) & \(18 د 36\)
1063 & 1003 & 1469 & 2128 & 1746 & \(1>84\) & 737：2 \\
\hline  & 1030 & －6i3 & j00d & ，300 & 8） 32 & 13614 & \(1 \mathrm{~J}+6\) & \(12 v+u\) & 1t 19 \\
\hline  & 213， & 254．3 & \(2+254\) & －1233 & \(3610 \rightarrow\) & 52033 & 56447 & 7－6～3 & 13972 \\
\hline  & 213d & 235．3 & 30 & bj & 36 & b2 & 52 & 32 & \\
\hline  & \(435 \rightarrow 0\) & 40351 & 24048 & 74152 & \(9<256\) & 95．54 & 473－1 & 110023 & 117263 \\
\hline －Vovir cirul（ind） & 43370
133149 & 12.409 & 1）333u & 212043 & ＜53026 & 2562it & c71619 & 3150．t & 333204 \\
\hline POd＝a uCS！ & 123739 & 12.407 & 1）3330 & くらこ？ & 2363 & \(\rightarrow 2 \rightarrow 3\) & 2＜4\％ & 15ita & 5873 \\
\hline Ina．asilsiau＊－x＋zics： & & & & 2J54d & 3.364 & CU793 & \(1.1<7\) & 17232 &  \\
\hline IISIKtulidut cxrmis． & 220才0 & ＜6wis & 32,40 & 13962 & 49.25 & 51539 & 52972 & 3 l & \[
\begin{aligned}
& 41 \geqslant 92 \\
& 240 \% 2
\end{aligned}
\] \\
\hline  & 13633 & 1662. & \(1>+7\) ？ & 1764 & 2．32＊ & \(<2176\) & \(<1261\) & 27631 & \[
\begin{array}{r}
240 i 2 \\
11
\end{array}
\] \\
\hline  & ＜d， 7 & S3：2 & \[
2977
\] & j＜03 & \(3<64\) & 317 & 2735 & & \[
1<c 4-2
\] \\
\hline  & －1134 & \(31 . .2\) & 381.4 & 31023 & 03790 & \(03.1 y 2\) & 60278 & \(9731 \%\) &  \\
\hline  & 6＊209 & 29730 & 31219 & 31170 & 4.771 & － \(2 \times 3\) & 45329 & &  \\
\hline \[
\begin{aligned}
& \text { 1Ni. r. ST - ArLvS } \\
& \text { IAA.S }
\end{aligned}
\] & 3.99 .0 & \(3>26\) J & \(5 \rightarrow 20\) ？ & 47010 & フu252 & 29013 & \[
4<24+
\]
\[
212
\] & \[
\begin{array}{r}
7.543 \\
23 t
\end{array}
\] & \[
163
\] \\
\hline  & & 02018 & \＄3400 & 1.37 .9 & 113332 & 113463 & \(12 \mathrm{ab-2}\) & 132351 & \(1 \rightarrow 3003\) \\
\hline \(\cdots\) ral C atic． & 64130 & 02038 & & & & & & & \\
\hline n－iur＊ur＇iUNaCifal anvisim＝Ni & & & 1761 & \(1 / 61\) & 1780 & 1816 & \(16>8\) & 1325 & 19：3 \\
\hline Trial uusiu＇zxj（ixu） & d & 101 & & & 11\％ & 1213 & 1228 & 127 ， & 1200 \\
\hline  & 1 & 110 & 171 & 1ij & \(1 / 0\) & 17 d & 106 & 185 & \(1=0\) \\
\hline CuT：vid＿CuSTumzus（hvo） & 100 & 93i & ＋3i & 960 & Sob & 97. & 974 & 937 & \(4+5\) \\
\hline HIL－S UF UASIXIJUILUN ANE & 921 & 931 & & & & & & & \\
\hline UEvこLCFACNImL JiSLUUNI
Haxanur limmiu am & & & & & 2427」 & 2.724 & 261.6 & 28811 & 31014 \\
\hline thxinur icmmid akn & O & & ¢ 302 & 12502 & 14922 & 15153 & 105.7 & \(130 \%\) ， & \\
\hline  & 1047 & 80ン） & & & & & & & \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline S21 Culunsia punck ：JuF Oxz & HALLA & & & & & & & & \\
\hline & \(1 \rightarrow 60\) & \(1 \geqslant 67\) & 1 Hob & 1369 & \(197 \%\) & 1971 & 1972 & 1973 & \(197 *\) \\
\hline OnU心S PLANT & \(27+0.45\) & 2794922 & 264＊145 & 28339.5 & \(2 \rightarrow 2 i \rightarrow 32\) & 2961626 & 3 \(171>5\) & 3120931 & 3191634 \\
\hline  & 7 （i） 34 ） & \(97 \sim 173\) & 1842249 & 1117632 & 123431 ？ & 1257615 & 13＞－132 & 1435384 & \(13+32<1\) \\
\hline CUK－ictol ASSLTS & 34.258 & 312188 & S\％72\％ & \＄37415 & 363363 & 398706 & 423566 & ＋124＊0 & －724，3 \\
\hline ALQuISAIIUN isjusthenl & 10209 & \(13 \gg 7\) & 1i3vs & 8136 & 5422 & 2711 & & & \\
\hline むomsinvitavir tunk ait FauGkis & \(270\rangle\) & 4 364 & 13454 & 7392 & 1537 & \(>176\) & 15680 & 8928 & －8．5 \\
\hline 1גT－rAGL） & \(25.7+\) & 25990 & 25419 & 22001 & 21437 & 23345 & 23775 & 2007 & \(16 \sim 5\)－ \\
\hline LLNG 1 cky JESI & 184i +79 & \(1 \mathrm{dow4}\) ）d & 1957570 & \(1,7>276\) & 1737－51 & \(10 \geqslant 67=6\) & 1781744 & 1533338 & \(1 \times 74311\) \\
\hline CUKNCNI LIAJILITACS & 22675 & 2.364 & \(253 d 2\) & 26037 & \(3 こ \rightarrow 94\) & 3 d .80 & 38511 & 3579. & 372.7 \\
\hline AこhunSmit tcis & 5173 & 3110 & 2180 & \(2<25\) & 531 u & 5635 & jdus & 993 & 5845 \\
\hline こOSI．．LuUTLUFi iN ALJ zOnalnuctin & 2.233 & \(2 .<5 d\) & 2.236 & 2． 230 & 23208 & 23233 & \(2+368\) & 243 J & \\
\hline SUkriouS Aioju un atnJiak＝CAir． & ＜532＞1 & 2d＊484 & 3．769＊ & 336193 & 34c） 11 & － 36256 & 482391 & \＄59．10 & 647596 \\
\hline －UNAGITHL LI－JこSTH＿N？ & & & & & & & & & \\
\hline L．antuAILON OISCUUNT & & & & & 2926 & 5236 & 3372 & 4113 & \\
\hline KcSAL－NTAAL KCVLNU＝ & 16 udi & 165637 & 169233 & 146783 & 187266 & 266）71 & 228997 & 23，321 & \(2 * 3352\) \\
\hline  & \(4 \sim b 0\) & 5420d & 41913 & －29：1 & 40.43 & ， 096 － & 5.561 & \(51>37\) & Sttos \\
\hline INJUこT，A AL novcitu． & クロサ＊＊ & － \(50-d\) & 72423 & 7 じいす & \(6 \pm 3>1\) & \(73<37\) & 79321 & 0くすt． & \(7 \times 219\) \\
\hline  & 3us） & 36437 & 42309 & 3，3，8 & 41189 & 436.7 & 40322 & \(3 y^{3} 27\) & \(514 / 2\) \\
\hline  & Suフs & d601 & 3364 & 4317 & 9.96 & 12.84 & 11167 & 1く2＊） & \(1.3,1\) \\
\hline  & \(42 \rightarrow 31\) & 41296 & 4 ¢ \({ }^{\text {a }} 16\) & －3603 & ＊ 1378 & 41191 & \(433-1\) & 354 く0 & 5：365 \\
\hline  & د132 & \(1562+\) & \(3>926\) & －3t－ & 3264 &  & 99，46 & 7521 & 4．670 \\
\hline \(x=S 13,51\) inL SALLS（1tit） & 1320 & 1605 & 9204 & d934 & \(97+2\) & 14312 & 11 cta & 11322 & \(1<152\) \\
\hline  & 1175 & 1769 & 1 d 16 & \(2 \rightarrow 03\) & ＜u＊ & 2276 & \(23 * 2\) & 2303 & 2－17 \\
\hline  & 69\％3 & 617＊ & －4．79 & \(1 / 24\) & 8043 & 7000 & 0291 & 6945 & 17．6 \\
\hline  & \(3)^{3}\) & 260， & 4487 & コ1） & 4403 & 3917 & \(\rightarrow\)－\(\geqslant 0\) & 6132 & t 7， 7 \\
\hline OIr．n jALES（4 4H） & \(2+1\) & 632 & 583 & 364 & 630 & 732 & 766 & 650 & Lt 4 \\
\hline  & ＜321） & \(2-632\) & \(24<19\) & 21.45 & 20559 & 29965 & 32993 & 34.23 & د－5？ \\
\hline pun＝r Cust & 7ッフ3」 & －cys． & y－2 \({ }^{\text {a }}\) & ＊0500 & 99－47 & \(1-4.23\) & 111535 & 1164 & \(12: 412\) \\
\hline ihavarassiuit exrcisis & 2．d & & & & & & & & \\
\hline  & 311／7 & 35169 & \(333 / 6\) & 45442 & 45634 & 39.40 & 42157 & 45441 & 49517 \\
\hline  & \(1 \rightarrow+35\) & 1化し， & 22148 & \(1 \times 350\) & \(16 \pm 44\) & 2 2067 & 22536 & 21330 & 321.0 \\
\hline  & 12929 & 11うし & 1こちゃい & 12＞11 & 14030 & 10177 & 23301 & 20.171 & \(244: 9\) \\
\hline shl cs－xranic & & S24il & Sol76 & \(<414\) & 21117 & －133i7 & 35739 & 1253 & \\
\hline ADHLN 4 Ot NeN．AL LXPGNSE &  & 359cu & 42843 & 7．302 & \(62>35\) & 67747 & 57586 & 66771 & 67544 \\
\hline INicusl \(=X+\)－ 4 Sc & 3uもじ & 3572 & 3）¢ f & Sこuuu & \(3) 315\) & 33932 & 31302 & 3．131 & 24，5，3 \\
\hline IAx－S & \(1: 3+7\) & 1－31d & 12247 & 1 Ji＊o & 16177 & 18511 & \(1381 \sim\) & 2.111 & く1761 \\
\hline JIML．vavucisoit， & & & 36.6 & & & & & & \\
\hline Jご \(\because 6\) Latraut． & bobst & －9698 & 11 dob & 12742 & 74144 & 75435 & 73451 & 7.427 & 72212 \\
\hline  & & & & & & & & & \\
\hline  & \(11>0\) & 11，3 & \(11 / 6\) & 1195 & 126． & 1233 & 1205 & 1313 & 13 c \\
\hline n．billcatiml ̇JSTU4．iS（AVG） & \(0 \rightarrow 1\) & \(0 \times 3\) & 473 & 8 40 & 06.3 & 9.5 & 943 & \(\rightarrow 77\) & 976 \\
\hline  & 116 & 116 & 123 & 122 & 121 & 173 & 123 & 123 & 1－d \\
\hline  & ju3 & ） 3 & 303 & Sus & d93 & 9.3 & 9.0 & 420 & 9：3 \\
\hline Jedcuurmitital Jisclunt & 4 －1／d & 4327 & 1950 & ｜yil & ＜4＜9 & 2131 & 2く10 & （37） & \\
\hline  & 3170 & 2） & －） 2 & c＊ 8 & 6669 & 6797 & 7965 & 7597 & 8147 \\
\hline Avenauc Jimmidj Kn & 4016 & つい1＊ & 57.2 & 2727 & 5946 & 0319 & 5739 & 76u7 & \\
\hline
\end{tabular}

\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline uncas rlatil & \[
1900
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6071237
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\] & \[
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1972 \\
9<762 \div 9
\end{gathered}
\] & \[
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1973 \\
186.84 .7
\end{gathered}
\] & \[
\begin{gathered}
1974 \\
1313+132
\end{gathered}
\] \\
\hline dissinvo FUM J＿Patciatiun & 2Swijot & 2371102 & 2）\(<0 \rightarrow 67\) & 20，1330 & \(27377-7\) & 2060703 & 3.00693 & 3，31712 & A＋42233 \\
\hline Cun ：An M Assits & 250030 & cdytal & \(3 y .925\) & －18y＊ 3 & Si2099 & －59727 & 4.9891 & 33.0 .93 & 63771 \\
\hline aluuasition ajoustanent & & & & & & & & & \\
\hline coivs & 62019 & 7－15， & 119063 & 122573 & 146794 & 1．82：4 & 1556d＊ & 523193 & 942.7 \\
\hline Hat＿－IALS 6 SUPrLILS & 160020 & 13652． & 16.240 & 1436，4 & 222279 & ＜31225 & 191621 & 27643 & \(4 \mathrm{C}+8 \mathrm{bl}\) \\
\hline LJnu TCAT 0－31 & 4061930 & ＊－07－67 & －0dd330 & －doysor & 2100771 & 5244932 & 5435248 & 57.6912 & 533231. \\
\hline CUma \(=\) NI Limeflithes & 116707 & 66037 & 67067 & 160405 & 177761 & 2196.8 & 237406 & 19．822 & 267173 \\
\hline －Enmernjelt＋tas & 2＊30＊ & こちしく。 & 23812 & 20317 & 25115 & 25213 & 20975 & 27967 & 28970 \\
\hline Cuntaluutauis an ala cunsiructm & 7－207 & पゝ1く3 & I uoubs & \(11 \geqslant 212\) & 178329 & 10.781 & 312367 & 1357327 & \\
\hline SUAFLUS ANDIUE rAIISUNAGE CAF． & － 3300 & 71.130 & 7ヶ72－1 & 9.1843 & 97405 & 1126924 & 1247350 & & 1393.42 \\
\hline  & & & & & & & & & \\
\hline Iknagatiute wasculaid & & & & & 769 & 464 & 468 & 1337 & \\
\hline  & －3031 & \(0060<1\) & 7－1du3 & 197048 & 84， 207 & ¢1599＊ & 9633.1 & 1.22851 & 1.90171 \\
\hline  & 240） & asuis & 7－7，1 & \(8,1,2\) & d7153 & 92115 & 150544 & 169051 & 1.6745 \\
\hline bruustatal rodurue & 146431 & 160634 & 173076 & くい2．． & 23ヶi） & 250ysi & \(26 \rightarrow 2\) ¢ & 27037 & 264507 \\
\hline Imasioatijn midonuz & 119.3 & 1－23） & 13320 & 138／3 & \(1+657\) & \(119: 7\) & 11：67 & 10.31 & 1 53.1 \\
\hline Ulnor n－t－Nuc fiut jales & \(1+52\) & 1）32 & 2udd & CJOd & 2－47 & －190 & 3806 & 386 ： & 2835 \\
\hline Jlian utirailivg ilvonue & 1／390 & 17913 & 15885 & 12．2l & 17943 & 236 hs & 22661 & 258＊1 & 49253 \\
\hline Nutt－urundidiob R，VE（t） & 3.410 & 14.42 & \(1<893\) & 9764 & 11497 & \(13 \times 4\) & 19670 & 23793 & 4i3k） \\
\hline  & \(\bullet .7 \neq 0\) & －3163 & －15i4 & っくらす＊ & つち93d & 61781 & cesis & fotbl & 4 （4）3 \\
\hline SuTA，nu＊aL j \(A_{L}=S(1 m+1)\) & 35， & －\({ }^{\text {a }}\) & 3001 & 3－6） & 5633 & 0， 32 & 7.35 & 71 d & 13＞1 \\
\hline  & l＜xico & 1 l．ays & 1099： & くlub． & 25353 & 20673 & 23756 & 3．307 & 21630 \\
\hline  & 11.2 & 1st＊ & 1205 & 126 & 11 d & 762 & 96 & Cu3 3 & 15.4 \\
\hline UTri，دices \((\mathrm{faH})\) & 110 & 97 & ot & \(t 8\) & A 1 & 73 & 65 & 6） & t． \\
\hline －Ac．ur intul（1me） & e，200 & 0342 & 13324 &  & 97＊－7 & 130982 & 112694 & 119575 & 110259 \\
\hline rcara lust & 2．く0） & 23．47） & 271507 & 3，330． & \(32<721\) & 356230 & 371974 & 3873 3 & 36：173 \\
\hline Ixa＇ンiyassivit－xterts． & Coss & ＇5as & 3515 & 1467 & 4821 & 4295 & 17048 & 4143 & 7627 \\
\hline jabir．icutain cxiohs＝ & 12.15 & 7543） & 06.10 & 9bodb & 106920 & 114423 & 9：776 & 112249 & 126231 \\
\hline  & 6， 31 & －01， 0 & babel & なくら， & 09723 & 0.171 & 97975 & 1609.7 & 1－25，3 \\
\hline Cusiofar Sinvibe & 31\％19 & 365－d & －3651 & 4uyyo & 53671 & －j371 & 7 Ju＊＊ & 7－017 & 43i）3 \\
\hline 3ALES Expe．as & ＜\(\rightarrow\) ， 1 & \＄220 & 13476 & 132こo & 19473 & 13539 & \(<1355\) & 16942 & 223．6 \\
\hline  & 1．0．bis & \(11-2 \rightarrow 0\) & 1－2．40 & \(1 \mathrm{arc34}\) & 103233 & 159100 & 192847 & \(20 \mathrm{cta*}\) & 2203．2 \\
\hline  & dy， 30 & すくしい。 & 0 d318 & 91201 & 97511 & \(1-1307\) & 104909 & 16．4．317 & \(13 \mathrm{se}: 7\) \\
\hline Tix \(x_{0}\) ） & \(4-1>4\) & －د大ン0 & くいいつ & 5100 & 55264 & 23946 & 603.9 & 83827 & ；96；3 \\
\hline otncer l：Juciluns & 1 brc & & 3110 & 7000 & & 3240 & 2636 & & －2353 \\
\hline JEt．－Sítidut． & 1才ヶ／us & \(19+\) C．＊ & 19ว）34 & 19373. & \(22343 \%\) & ＜23000 & 2416．1 & 25，917 & 275703 \\
\hline  & & & & & & & & & \\
\hline （UT－L LUSTし－大＞（AvG） & － 20 & － 6.4 & －827 & ＋980 & 3272 & 2217 & 5305 & 2537 & 57：0 \\
\hline  & \(\rightarrow 12\) & 4101 & －331 & \(\rightarrow 742\) & 4537 & 4653 & 47 bo & 4437 & Sthy \\
\hline Guaianbal Custurlaj（avos & 3＜1 & د31 & \(30 \%\) & 3 CH & 37， & 383 & \(\rightarrow 1\). & 435 & 4 － \\
\hline  & 22．） & \(21<7\) & 2131 & 21.0 & 21.9 & 2215 & 6239 & 22－1 & 2278 \\
\hline  & 11021 & ．210 & 3041 & 6229 & \(\mathrm{CSO}_{4}\) & 1209 & 1509 & 7890 & \\
\hline Tuxir．jy 0.44 NJ KW & 14721 & 103c） & 17410 & 215c2 & 21172 & ＜4C12 & 24135 & 20077 & \(2+453\) \\
\hline  & 132才） & 15らご & 13319 & 17191 & \(181+1\) & culs， & 2.952 & 21000 & \\
\hline
\end{tabular}

\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline  & \(\operatorname{TrUKAN}=\) lyob & \(1 \times 67\) & 1960 & \(1 \pm 6\) & 1976 & 1771 & 1972 & 1473 & 107. \\
\hline Gnuas riant & \(896 / 0 \geq 9\) & 9201123 & \(1 \times \sim 52395\) & 10ヶ＊ヶ0） & 137.9323 & 11512000 & \(116548=0\) & \(1<28163 j\) & \(125039 \pm 1\) \\
\hline ＊S－Ny Fux M－prcGataun & \(1+6.31>\) & \(1 \sim 396 \rightarrow 7\) & 15157,6 & 17ds＊．＊ & 1925310 & \[
2 ; 3,7,2
\] & \(231=0.3\) & \[
2>21>19
\] & 272～6し1 \\
\hline Whnctit masct； & ＋62\＃17 & 60042l & 2t23y & 72＊si： & 6＞2734 & ：639．1 & t9．722 & 163.573 & \\
\hline  & & & & & & & & & \\
\hline Consinumlats du－k ati raughiss & 64J3\％ & 3166 & 78766 & －7，39 & ＞8493 & 32693 & \(2: 121\) & \(8 \times 263\) & b3316 \\
\hline 4＊T－niALS 4 Suprilis & 26.173 & \(192 y>1\) & 162102 & \(1 / 4 y 6\) & 108143 & 105133 & 170685 & 19－672 & \(34>950\) \\
\hline QUidu I－NA Dc， 3 I & 704，530 & 81940う4 & d－42335 & －olsjul & 9231849 & 343＜5／3 & 9261tis & 953 ＊923 & 9363975 \\
\hline Guxtchl－AA，ILITIES & 7yt33 & 61632 & I \(\sim 1799\) & 137615 & 29374 & 3237 ＊ & \(16973 \%\) & \(191 \pm 9\)－ & 328753 \\
\hline te Aozastir Fzas & © \(77 \%\) & 8tos & 9.25 & d99\％ & 9323 & \(\rightarrow 2+4\) & 9＞25 & & \\
\hline CUIEINLGUTIUI \＆A AIU GUNSTKULTM & Yoiss & \(1 \times 10<1\) & & \[
12+4+2
\] & & & & & \\
\hline SUKTLUS ANLIOR PAITJNAG：GAP． & －50350 & \(>3>+80\) & \[
391117
\] & \[
070079
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\text { 6. } 5164
\] & \[
949>81
\] & \[
1: 73+13
\] & \[
138203+
\] & 1660759 \\
\hline  & & & & & & & & & \\
\hline INALGATIUN JISCULNT & & & & & 8.388 & 8） \(33 y\) & 93151 & 162422 & \\
\hline KcSAv－titiAL Kıdinu & ＊＊+6.1 & －838－7 & ．79016 & つッシうid & 226360 & 299090 & －31862 & 6.1993 & 28.859 \\
\hline LOM＊－ACIAL ncdsvuc & 3－76） & S＞＜31 & 33796 & 4）\({ }^{\text {c }} 6\) & \(4{ }^{4} 76\) & 53638 & 569ul & 57495 & －Sul 16 \\
\hline  & 9.724 & Iuveds & 96う1过 & íidoj & 961＞1 & 10.092 & \(11>6<2\) & 11349 & 115d？ \\
\hline iKnauallun andciru． & 2it2．0 & ousiu3 & 787200 & 811007 & 078.69 & 47200 & ¢＞＞4＊2 & 116．8ji & \(122>169\) \\
\hline Ulmik Kedinue Fhut，hiles & 1．232 & lctl & 7072 & 11160 & 12134 & \(126>9\) & 123is & 11515 & livio \\
\hline  & 10127 & \(120 \cdot 7\) & 15212 & 1 フous & 16376 & 157 － & 17146 & \(3<431\) & 26155 \\
\hline  & 11175 & yuas & 12619 & ＞dt I & 1：262 & 12250 & 13472 & 23.55 & －772\％ \\
\hline R＝JiULNItAL SAL．．S（tant &  & ＊126＊ & 42319 & － \(0: 42\) & 49003 & 53729 & 57124 & 57990 & 61225 \\
\hline  & 二2＊0 & 2003 & 2731 &  & 3692 & ＋119 & \(4 * 13\) & －3y & －074 \\
\hline LNOUSINImL SALCS（4m\％） & 1＜33］ & 13 ¢cd & \(1+0.1\) & 1，3．3 & 14504 & 13147 & 16137 & 14562 & 14747 \\
\hline ［－A．\(-2.140 N S A L=S(16\) i） & 6.470 & 47247 & 115458 & \(11.4<8\) & 121 ＋66 & \(1<0621\) & 120.84 & \(1>2 \mathrm{~d}\) & l2olcl \\
\hline OTH－A SALES \((1 \times-1)\) & 0．3 & \(0 \leq 0\) & 017 & \(7>3\) & 322 & Soz & \(y 37\) & 012 & 76－L94 \\
\hline ctozkgi lntul（7mi） & 1ヵ1303 & 17.520 & \(19<900\) & \(1 け ん \%\)－ & \(2.718 \%\) & \(<13923\) & 229187 & 251＞－5 & 25911. \\
\hline ron－r Cusl &  & 4Seaj3 & Sutd5d & 327439 & 549745 & うlís3 & 611316 & \(6 \times 4805\) & 09.8821 \\
\hline  & 1， 2 & & & & & & & & \\
\hline M1sindwUT，UN＝ARLNS－ & 12．32） & 8 lSoy & ¢ 7233 & 316 & \(1 \sim 0322\) & 191739 & 96568 & 111331 & 113715 \\
\hline  & & 2 د4～0 & 72，79 & \(57>06\) & 78167 & 73433 & I 00987 & 94056 & 133436 \\
\hline wuStu．幺n 2－dive & cuair & \(3!30\) & －ل7－8 & －513． & 42012 & 433\％ & \(338 / 1\) & 47515 & ンtフ9＊ \\
\hline jALES－Xras． & \(2,2,9\) & 1化」 & \(12+85\) & \(1>1,8\) & 15：00 & 1440 － & 1345 s & 0651 & \(01: 2\) \\
\hline 403If a Ge N－KAL EXP＿NSE & とく， 100 & oces & 3，＜32 & 1－54， 9 & 12.912 & 104020 & \(1 \$ 3677\) & 153cul & \(1 * 463\) \\
\hline  & \(14>206\) & 1ついで & 161740 & 1 1）\({ }^{15}\) & 169302 & 173.32 & 170242 & 18716 & 269657 \\
\hline 1Ax－S & 16.751 &  & 119308 & 13356 & \(1+1309\) & 1－76y2 & 105359 & 1ヵで5\％ & 1096－3 \\
\hline JTh＿r Uk JuCTLuids & & ＜ 4 ¢ & but3 & 57／8 & 2230 & \(21 \times 7\) & 5034 & 4370 & 4013 \\
\hline  & \(23.92=\) & 23119 & 269316 & cscisy & 2723コロ & 3.0427 & 317622 & 328226 & \(3=1341\) \\
\hline  & & & & & & & & & \\
\hline  & \(\leq 33\) & 37.5 & らもうい & \(3 \rightarrow 35\) & 4.36 & 4152 & 4297 & 4435 & －5，7 \\
\hline  & ［115 & \(<103\) & ＜2－0 & 2247 & \(23>2\) & 2－0＊ & 2532 & \(<0: 2\) & ＜ \(7 \times 2\) \\
\hline  & 139 & 201 & 20， & 《1） & 2＜1 & 235 & 243 & 441 & 2，0 \\
\hline 11Lis ur Lisicisulauia LiN． & \(13 / 1\) & ［17） & 2，i 7 & \(21<1\) & 2539 & 2ub\％ & 2071 & 2.43 & 21．0 \\
\hline DeviLuFMENInL OLSCCUNT & \(0 \rightarrow 31\) & y321 & 10401 & 1.760 & 11215 & 11550 & \(1<492\) & 12070 & \\
\hline 1aximbit Unaititu Km & \(3<17<\) & 50．9． & 43024 & 41611 & buteo & う1うと 6 & \(518: 9\) & 26＊A1 & t395 \\
\hline AVc，1mu：JL 4aid）＜n & ＜30／y & ぐン方 & \(3 コ<い 6\) & 31009 & 3345 & \(3-6<3\) & 36.76 & 39.82 & \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline \(363^{\circ} \mathrm{BZNTON} n=A \quad\) A 5 A & malla & & & & & & & & \\
\hline & 1400 & 1967 & 1965 & \(1+69\) & 1474 & 1771 & 1972 & 1973 & \(1 \mathrm{c7}\) \\
\hline URU3 FLART & S＊8uxu？ & \(283.2<5\) & 5117286 & 040）\({ }^{-2}\) & 67476－＊ & 1－4203 & 75223－d & 8373） & 97t \(=929\) \\
\hline ＜aSmavi Fua Dordicididus & \(1>2 i 03\) & lo3d932 & 1730184 & \(1 / 7<t b-\) & \[
1+37+16
\] & ＜．30000 & 2166433 & \[
251+3+7
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\hline WUKr＝WT A s isits & ＜3iく1） & 333：03 & \[
311712
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27 i+4 i
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309304
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\hline ACUL．SITIUN AJJUSI \(4 \subset\) NI & & & & & & & & & \\
\hline  fATLVIALS SUPFLE：S & 2
12313 & 13067 & 21587 & 24164 & \(17>14\) & 428．3 & 12.866 & \(12=1+\) & 1647：7 \\
\hline LUNG İR＋U＿JT & 123514 & 1723 i＊ & 80736 & 15217 & \(97 \times 26\) & \(1143=5\) & \(1<. C=5\) & 15．52く & SPGSIL \\
\hline  & －i313才6 & 431164. & ＊212393 & ¢ンク入i72 & \(4 / 29917\) & －y 28 2\％\({ }^{\text {c }}\) & 2317678 & 547836d & 54， 65.3 \\
\hline ＊＊＊CNSHIt FLCS & & & 31476 & 1.141 － & 140201 & 102450 & 182229 & 2192 dt & － 1229 \\
\hline  & 1403 cd & & & & & 1717 & \(17 \% 25\) & 10.3 － & 19315 \\
\hline SUntLUS Alqu／Vik ratajishb．GAF． & ＜28）89 & でおしゃ & \[
\begin{aligned}
& 107815 \\
& 568.61
\end{aligned}
\] & 223463
393534 & 23.431 & 251118 & 273594 & 36392\％ & \\
\hline  & & 2du4 & 364． & 393535 & 475549 & 353134 & 637143 & 17182 & 917300 \\
\hline INALGATIUM IISCUUAT & & & & & \(130<3\) & 146.5 & & Ci59\％ & \\
\hline  & ＞91324 & 0200.3 & －20053 & oud9u＊ & 737734 & 172428 & \[
6213.4
\] & 84 ib31 & d9303－ \\
\hline CJ．1T，N．G\＆AL R V VeNU． & 1173） & 00101 & 88277 & 4－1，0 & 99637 & 161719 & 1 w 9914 & \(1: 7754\) & 1127.9 \\
\hline  & \(315+3\) & 31967 & \(308=3\) & \(\rightarrow 1<n d\) & 40203 & \(\bigcirc 3<41\) & ¢ \(7<83\) & 6340． & 79315 \\
\hline  & 111221 & 15ila & \(1432-7\) & \(1+2>92\) & 100202 & 178722 & \(<0>6<\) & 2723.2 & 32162 \\
\hline  & 1．3くく & －33 & \(\rightarrow 310\) & y＞15 & d． 092 & 9325 & 3359 & 5031 & 9032 \\
\hline  & 8！－ 3 & 1.400 & 126.9 & 14153 & 11101 & 13629 & \(1+3 \geqslant 3\) & 21454 & 26070 \\
\hline  & \(\rightarrow 915\) & \(11<21\) & 11542 & 1 C 7 d 4 & \(45 う \sim 2\) & 20943 & 3542d & 37903 & 41213 \\
\hline xtSaumblai Saus（14at） & \(4 \rightarrow+20\) & 23730 & bosju & \(0 \sim 9>1\) & colit & 67846 & 7－932 & 75353 & \(7 \boldsymbol{7}^{\text {3 }} 7\) \\
\hline CUArichutal SAL＿S（4vrt） & 2353 & \(02<3\) & －335 & lunl & 7376 & 7／2s & \(79+9\) & 7714 & 1932 \\
\hline  & c210 & くッコ） & 2428 & 31＜1 & \(3>12\) & －ju2 & \(+4.32\) & 3230 & 47．6 \\
\hline iरaIGmliJm Salces（1－1） & 13220 & 10202 & 14.35 & 10630 & 2ub6d & \(2<141\) & 2275 & 31 \％ 7 & उ4uol \\
\hline  & 7＋3 & bul & 464 & 3＜u） & \(7+2\) & d 23 & 826 & 6．2 & \(9-1\) \\
\hline ＝Ni．uT 1 truT（ inic） & b1 039 & 84242 & \(9+207\) & \(1 \pm 324\) & \(1488 ; 6\) & 11319 & 122817 & 13243 & 1－2239 \\
\hline 20n－Cosi & 2412：6 & 200こく & 200374 & 333531 & 319706 & 3506 & 37 56．6 & \＄9172， & 42645 \\
\hline  & \(50+0\) & \(\rightarrow 3>0\) & 2730 & 3615 & 8154 & 北 & \(3 \sim 48\) & & 41．7 \\
\hline JISII i＝UTAUN X X W－AS： & 30306 & 22413 & \(5375 月\) & \(01>11\) & 07014 & 6072 & \(7 ? 0<6\) & 192＋1 & \[
0: 2+2
\] \\
\hline  & \(405+\)＊ & コラン1゙ & うごい & \(0 ¢ 320\) & 74880 & 71127 & 93516 & 7437， & 93さis \\
\hline UUSTUMICK LEt，VIL心 & U1＞su & Suls？ & 37619 & いつ¢ & 72417 & 77734 & － 2631 & － 834.3 & 427 ic \\
\hline \(\rightarrow\) AL S CXPCNS \(=\) & 2000 & \(75<6\) & 3613 & 5344 & 11.05 & 7978 & \(184 \%\) & －2d & 9112 \\
\hline AL，sito ar－N－NAL GXRLNSE & lusss & 65193 & \(92+43\) & 917：2 & 11231. & 119915 & 12ヶしゃ3 & 137375 & 1－c3L2 \\
\hline  & 6．1， 1 & \(510: 1\) & 83126 & 1 \(3 \rightarrow 7\) l & 92373 & 94070 & Y＇，330 & 1.4433 & \(1323=2\) \\
\hline inx \(x_{-5}\) & csteo & 19132 & 63212 & \(9.7<3\) & A9340 & \(142: 75\) & 162172 & \(11 \geqslant 119\) & 122.69 \\
\hline OIm－k OcJUGIIUNS & 18,7 & 21.0 & 1101 & 726 & 34 d & 284 & 240 & 1279 & －24L \\
\hline JcFacciataui． & \(1 \mathrm{~b}=47\) & 10いう to & \(1030<4\) & \(1120 / 5\) & 1＊）\({ }^{\text {（1）}}\) & 192332 & 2．29．8 & 217324 & ＜3：12＊ \\
\hline  & 4 4，0 & \(4.2<0\) & & & 4アッ1 & － 0 － 3 & 2089 & 21832 & 23．120 \\
\hline 垁31） & 3－3 & コン， & \(3+96\) & －720 & 4341
3003 & －603 & 4894 & 20.93 & 23,5 \\
\hline  & 2.9 & 2らす & 266 & 675 & 21\％ & \[
\begin{array}{r}
5667 \\
213
\end{array}
\] & \[
\begin{array}{r}
3776 \\
291
\end{array}
\] & 3974
362 & \[
\begin{array}{r}
4.14 \\
311
\end{array}
\] \\
\hline  & 1304 & \(13<1\) & 1341 & \(13 \%\)－ & 1303 & 1314 & 1330 & \(1-22\) & \(1+51\) \\
\hline J＿－－LJrMcRTa＿ULJCUUNT & 33， & 3435 & 3601 & bduw & \(0>24\) & b3：0 & \(i 622\) & 7992 & \\
\hline  & 12356 & \(1781 \%\) & 13ヶบ1 & 20＜． 6 & 20337 & 21835 & 248：7 & 27217 & 312.7 \\
\hline  & \(1 \sim 1.9\) & －コじう & 1587 d & 1／321 & \(1 / 8>1\) & 1891. & 21230 & 22360 & \\
\hline
\end{tabular}

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\end{tabular}
63.523
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\(>37971\)\(=160 n\)
\(A 0^{n}\)
\(\rightarrow-1\)\(\xrightarrow[n]{n} \begin{aligned} & n \\ & n \\ & n\end{aligned}\)3クロ6！3
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\(\vdots\)
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4.033\(\frac{m}{2}\)\(\stackrel{ \pm}{N}\)\(\begin{array}{ll}\infty & - \\ \infty & \hat{3} \\ 0 & i\end{array}\)
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\(2-033\)
\(1-331\)
\(23<3\)
\(214<1\)\(214<8\)
\(4 /<3\)
1.1122727
\(1 \rightarrow 20\)
\(1<3\)
103\(\hat{?}\)\(\begin{array}{ll}n & \vec{y} \\ \text { in } \\ \text { A }\end{array}\)
 CLNI－UI aur．in Aio CUPıDI．KUCIN SUnelus Ar，ufus rATb．JNLG：GAF．


 anuuslraAL－－I＝NU： WH：Kivalou－Frvi，ALLS गTA＿VI，Nalivi RCV＿NUL


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\(\begin{array}{ll}y_{3} \\ \text { in } \\ 0 & 3\end{array}\)
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0 \(1+8>6>4\)
\(89 ; 277\)

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20
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\(\therefore 3+\)
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\(\stackrel{0}{\circ}\)
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\(103011<9\)
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695922 \(11204 \sigma^{4}\)
\(4 \div 2032\)

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\(n\) \(\begin{array}{rr}v m \\ \sim n \\ m & n \\ 0 & \approx \\ 0 & \sim \\ \sim\end{array}\) \(\begin{array}{ll}\overline{0} & 0 \\ 0 & 3 \\ 0 & 0 \\ 0 & 0 \\ = & 0\end{array}\) \(N\)
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 1971
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739923 \(n=\)
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a
\(m\) 00
\(i \neq A\)
\(i n\)
\(i n\)
\(m=2\) \(N\)
\(N\)
\(\cdots\)
\(\infty\)


\(\begin{array}{llll}n & \pi & n & t \\ N & 0 & 0 & 7 \\ A & -3 & 0 & - \\ i & - & \end{array}\)
\(\begin{array}{ll}n \\ n & n \\ 0 & n \\ 0 & - \\ n\end{array}\) 1969
431164, \(2131<=7\) \(=\)
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0 \(n\)
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\(\sim\) \(\begin{array}{ll}0 & N \\ x & 3 \\ = & y \\ v & 3 \\ - & 0\end{array}\)
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\(m\) \(\begin{array}{ll}a & 0 \\ y & 3 \\ n & 0 \\ 0 & 0 \\ i & 0 \\ i & 0\end{array}\) \(n \sim\)
\(M \underset{\sim}{m}\)
\(\underset{\sim}{n}+\)
 \(\begin{array}{ll}n & m \\ 0 & 0 \\ 0 & m \\ 0 & j \\ n & \end{array}\)

 \(\begin{array}{lll}0 & 0 & 0 \\ 0 & ; & 0 \\ i & ; & 0 \\ 0 & - & \end{array}\) \(\begin{array}{ll}y & N \\ 0 & 2 \\ 0 & y \\ 0 & y\end{array}\) \(1 \rightarrow 68\)
\(J>3100\)
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 \(\begin{array}{llll}0 & 0 & n & 3 \\ 0 & 0 & 3 & 0 \\ 1 & 0 & 0 & A \\ 1 & 3 & -\end{array}\)
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\(\sim N\)
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\(\sim\)
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\(v\) \(\begin{array}{ll}y & y \\ \sim & n \\ 0 & v \\ 0 & 0\end{array}\)
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\(i\) \begin{tabular}{ll}
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\end{tabular} 4
\(n\)
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\(i\) \(5934<\) \(\begin{array}{ll}0 & 0 \\ 3 & 2 \\ \lambda & 0 \\ 0 & 3 \\ 2 & 3 \\ - & 0\end{array}\) \(3-6 し 7\)
\(7501<6\) 218903
\(0 \rightarrow 1671\)
 \(\begin{array}{rl}n & 3 \\ n & 3 \\ A & A \\ - & 0 \\ 2 & = \\ n\end{array}\)

 \(0 x 1 L h N 0\)
\(1>30\)
\(59 ; 1 \geqslant-7\)
\(23350-9\)
\(2011 / 2\)
\(15 i 1070\)
\(3235+9\)
\(1144 / 6\)
6361235
\(34 \sim 613\)
\(3<7+3\) \(3 \angle 7+3\)
\(* 00 d \angle\rangle\) \(3452+1\)
 \(\begin{array}{ll}1 & n \\ = & n \\ = & n \\ & n \\ n & n\end{array}\)
 \(21>651\) \(\stackrel{0}{0} 0 \sim\)


\section*{Onc \\ 280 tillamouk co pus}
 UUn．．\(v 1\) ASS． abJUiSalauN InILmidLS



 Iri．iGuTtun UISCUUNT Nics．J．HTint mi V－NU
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\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline  & SEAIIL： 19s\％ & 1967 & 1968 & 1465 & 1971 & 1971 & 1772 & 1913 & \[
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197 \\
9+3+39
\end{gathered}
\] \\
\hline GRLDS raAirt & 28393126 & 63,2202 ＊ & 612つ37a4 & 7りゴ1～して & 9354＊）\({ }^{\text {a }}\) & \(1-7.48008\) & \(7 \times 18.3346\) & 124216000 & さて1～ぐック \\
\hline \(\mathrm{K}=\mathrm{S}_{-} \mathrm{V}\)－Fun 3．PACCatilun & 678．217 & 163くくぐ1 & 12：－1616 & 13くく1－ッ9 & 1＊＋23d．5 &  & 17631226
\(1<189715\) & 142く00：1 & 12らくfら12 \\
\hline LUk，kıNT AStcis & 910026 & 90.3190 & 605952d & －Yzujas & ＜9a & Y．06 & & & \\
\hline ALUULSIIION ADJUSTヶニNI & & & & & & & 23921316 & & 5.1233 \\
\hline GUlosinultion munk it Fkugkes & \(1363>2 d\)
497542 & \(21+u 503\)
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52.522 & \[
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41.7525 \\
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\] & & 9－00747 & \[
125+844
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\hline HATGKIALS 6 SUPMLICS & 497542 & 78：423 & 32．522 & \[
013303
\] & 1.05465 & 9，00747 & & & 48592652 \\
\hline \begin{tabular}{l}
cGNa Icnit ísol \\

\end{tabular} & 14うisson \(2 ง 7 」 246\) & \[
\begin{array}{r}
13.377 \mathrm{co} \\
364072 \mathrm{j}
\end{array}
\] & \[
\begin{array}{r}
12338766 \\
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7.95 / 36 \\
6912236
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\hline \begin{tabular}{l}
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\] & \[
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1157740 \\
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\] & \[
\begin{array}{r}
13309<1 \\
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\end{array}
\] & \(+9440=\)
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372653 i u
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3593723 \\
58337713
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\] & \[
\begin{aligned}
& +6+4+25 \\
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\end{aligned}
\] \\
\hline  & & & & & & & & & \\
\hline  & & & & & 120921 ） & 13：91707 & 14555L79 & 14652373 & \(1 ヶ 9035 i 5\) \\
\hline KLSLJ & \(83-2350\)
285435 & \(6 i 35 u y 7\)
\(3 i+4 i z 7\) & \[
3 \geqslant 209>5
\] & \[
\text { - | } \mid \rightarrow 579
\] & 12092150
\(* 22840\) & \[
+3954+6
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243218
\] & 5599936 & 5534571 \\
\hline CCHT，ALAAL r．cVinu－
inLusindtl & 2554350
\(25313+2\) & \(3144 i>7\)
\(<12 i S d\) & 3220973
3114564 & 119379
\(3<4085 t\) & ＊） \(33 \rightarrow 3\) ¢4 & \[
35120-9
\] & \[
3353555
\] & 334 フ－b） & 32－＊ジ \\
\hline  & & & & & & & & & \\
\hline OTH＿，NEV＿ItU－F．UUA SALES & 3895．4 & －04i \(\pm 2\) & －601／2 & 734034 & 26336 & と2才柯 & 043600 & 47906.1 & \(067+\cdots\) \\
\hline  & 1したで & 11ilus & \(12244 d\) & \(10>0\) d & 147469 & 100363 &  & 16573，3 & \[
1 i t+946
\] \\
\hline NGN－urctiAlilis mivond． & ）a abus &  & 342545 & 303007 & 997163 & 1774320 & 189，512 & \(19 \times 0750\) & \[
1915115
\] \\
\hline  & 1u6ivold & 1.41270 & 13020.6 & 131296 & 10395 & 177820 & 18．31710 & & \\
\hline  & 200320 &  & すらちぐく & 4.4302 & 449851 & 492910 &  & & 11：）\(=1\) \\
\hline ＋NUJSTHIAL د－L coleda） & 2＋1－3J & \(0<67<9\) & 763s3？ & 32，3，\({ }^{\text {\％}}\) & ¢3035c & 1020.4 & 730929 & 71リハ＊ & 81：321 \\
\hline  & & & 230.9 & 3＜t\％） & 3414. & ＋7－17 & 32715 & 33540 & こ2sel \\
\hline  & \(305+1\)
\(190003+\) & 219．306 & 2010000 & 2935409 & 3123379 & 3634002 & 537，190 & 3351853 & 339.536 \\
\hline  & 1900034
6113535 & \(6.3<0\) c & 3 2 2，979 & 33331＊3 & 96112.7 & 1.118265 & 1673－806 & 1く7う27Y） & 13741170 \\
\hline  & 611335 & 6.3 Cl & 1，うゝ2 & 14876 & 16717 & 40433 & 8 d 757 & \(\boldsymbol{7}\) こ74＊ & 3 3710 \\
\hline  & 4cuo．？ & 23.223 & －＊＊フ1 & 171242 & Yo2us？ & 367926 & 952141 & 223i00＊ & 11： \(6<0\) \\
\hline  & らいち」1才 &  & 7．7770 & －j99i4 & 979127 & 1.05169 & \(11 \lll 06\) & & 133115 \\
\hline  & 24＜810 & 049.5 & 6－3＞y & \(37-100\) & 1124301 & \(1<03282\) & 1315822 & 1513132 & 16 fit 3 \\
\hline jAL－S citcrace & \(1633<4\) & \(\langle 14.61\) & \(2 \rightarrow 0314\) & ＜30113 & 273756 & － & \(25 \sim 065\) & 233331 & 3，362 \\
\hline  & 5Ly．13 & 49： 232 & 100112 & 932090 & 114109 & \(13+9000\) & 1 1320015 & ¢93772 & 17：24＊ \\
\hline  &  & 3／ン407 & 3ヶ1：72 & 3a3ycl & 122.729 & 1－71107 & 1123200 & ＜ch． 78 ？ & 22cts7 \\
\hline IAx＞ & 9291；3 & \＄501．\({ }^{\text {c }}\) & 1.06075 & 122lくid & 1312535 & \(1+2 i \mid+I\) & 1214゙11 & \(1 \mathrm{Du}=271\) & ［67333 \\
\hline UTri．uc JUEI AJNS & & & & & \(4 山_{\text {－}}\) & 41205 & 27らも7 & 4 & \\
\hline Jくrticlelatius． & ｜フリ．31く & 100.6 & \(1 / 0,920\) & 192.210 & \(1 y 20 / 3<\) & 212yrous & \(2 * 1)\) ¢0 & 36し1803 & 33．2034 \\
\hline  & & & & & 97547 & 12－356 & 153647 & 16079？ & 1：－621 \\
\hline IGImL LUalu＊SSGAvol & 762： & 3.6 & 06w & 33クリ & & & & & \\
\hline  & \(\mathrm{CH}_{4} \mathrm{Cl}\) & 饤しく3 & ， 1715 & 1） 5 it & 8579 & 915.7 & 93738 & Yu33u & 吅こ \\
\hline  & 0 Soo & としく＊ & \(7 \times 74\) & 2083 & 7ヶ0゙ & 0172 & 0376 & & はコご \\
\hline  & C131 & 2くつい & 2,06 & \(4 * 1 *\) & 2300 & 2390 & 2634 & 2031 & \\
\hline  & & & & & & & & & \\
\hline  &  & 504173 & ob8620 & \(23<36\) & 02.402 & 3834 & 1803：9 & & \\
\hline AV＿wate U－Mmis nd & 31¢つ）6 & 20065 & ＋ 4 S30 & －0く2io & 233245 & －234t． & & 23432 & つとしでて \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline 279 Sxa－aisia cur wul masho & POEXLLANJ Itos & 21567 & 1908 & 1909 & \[
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\] & \[
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1972 \\
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\end{gathered}
\] & \[
\begin{gathered}
1973 \\
35.0192
\end{gathered}
\] & \[
\begin{gathered}
197 \% \\
3 \mathrm{~s}, 81 \div 6
\end{gathered}
\] \\
\hline unuis PLA＋I & \(1 \rightarrow 8<203\) & 2．3） 7 & 2214032 & \[
23: \pm \rightarrow \text { 扣 }
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\text { 2jc.0.Je } 1
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\] & \[
3: 83511
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35.0192 \\
783942
\end{array}
\] & \[
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\end{gathered}
\] \\
\hline  & 4．31？ & 404260 & 5.7606
\(-\angle 1521\) & \[
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& 5>12<7 \\
& -06206
\end{aligned}
\] & \[
\begin{aligned}
& 593781 \\
& 209117
\end{aligned}
\] & \[
\begin{aligned}
& \cos 32+1 \\
& 2+2+58
\end{aligned}
\] & \[
\begin{aligned}
& 710434 \\
& 331584
\end{aligned}
\] & \[
\begin{aligned}
& 783942 \\
& 7039 * *
\end{aligned}
\] & \[
\begin{aligned}
& 8531=0 \\
& 37220 \text { i }
\end{aligned}
\] \\
\hline Cunncmi \(4>5 \mathrm{~S} 1\) ； & ＋8171」 & －270－1 & － 21521 & & & & & & \\
\hline  & & & & & & & & & \\
\hline GunpIr．uCTac．a ark i：risuinkS & \(4{ }^{+16}\) & 193,2 & 213＊ & & 6－3761 & 4137
39737 & 6364
31657 & \[
\begin{aligned}
& 3.451 \\
& 1<3 \times 27
\end{aligned}
\] & \[
1<22+9
\] \\
\hline mitavals 4 SUrilat & 321／3 & 376：1 & \(44^{46} 8\) & 33056 & 33751 & 39737 & \[
31657
\] &  &  \\
\hline LUN，Itay U．if & \(09,7+9\)
\(922-7\) & 003717
42.62 & 043750
12996 & \[
020104
\] & \[
63570 u
\] & \[
\begin{aligned}
& x>70 u \\
& 16>0>8
\end{aligned}
\] & \[
\begin{aligned}
& 643697 \\
& 153398
\end{aligned}
\] & \[
155795
\] & I 3 5uk \\
\hline CURALN：LiAshlitas & \(922+3\) & \(12 .<62\) & \(12.9 / 6\) & 12．1＊3 & & & & & \\
\hline  & of， 1 & 93－7 & 13314 & 2.237 & \(+3759\) & 54894 & 067＞3 & 69273 & 12＊633 \\
\hline SURPLUS ANUK U HATINJAG：GAF． & 12ts1， & \(13130 .+\) & \(1+23367\) & 1500631 & 1620110 & \(1,2+332\) & 1931314 & \(1830-5\) & 225）6－3 \\
\hline MUNLLIHAL AITVESTH－4T & & & & & & & & & \\
\hline InNaGation uajciours & & & & & & & & & \(45.6-9\) \\
\hline  & 236397 & くッフてくt & \[
2 t \delta 752
\] & \[
27 / 100
\] & \[
3,0<u 3
\] & \[
3+2730
\] & \[
\begin{array}{r}
379816 \\
59216
\end{array}
\] & \[
\begin{array}{r}
884707 \\
87313
\end{array}
\] & \[
99715
\] \\
\hline  & 0）303 & 131840 & \(131>70\)
\(11 n 3<0\) & 12213
\(1 / 2982\) & \[
1 * * * 9
\]
\[
97.09
\] & \[
\begin{array}{r}
70930 \\
18 \div 323
\end{array}
\] & \[
213031
\] & 254273 & 26927 C \\
\hline Inous Ir．idt noVodUs & 16ヶくす & 11100 & 1 Ins＜0 & 172937 & ¢7009 & & & & \\
\hline Int．antion N：dLNUE & & & & & & & & & \\
\hline OTHzR mivinul Frul Salz3 & 14531 & 12473 & 16295 & \(1 / 421\)
\(30 \rightarrow 31\)
3 & 18．49 & 1114
5.242 & \[
d y_{v}+1
\] & \[
6307
\] & \[
.2542
\] \\
\hline JTh＿r L－\％A ATANG NLV－VUC & 36250 & 30242 & j 4360
\(13<16\) & 33＜id & 13780 & 5024
2075 & 13278 & －1319 & －5311 \\
\hline  & 23931
220.3 & 1,313
232.5 & lutio & 29641 & 13780
36137 & 33299 & 34368 & 39475 & 413.1 \\
\hline are Saventiul SaliS \((4,1)\) & \(224-3\)
3457 & 23265
\(116 t\) & 11790 & \(290+1\)
6026 & 12928 & 6ヶ＞6 & 7692 & 7311 & 8627 \\
\hline  &  & 17165 & 1 \(0 \rightarrow\) co & 2100． & 1391. & 23400 & 25466 & 351.9 & 31129 \\
\hline \[
A M N L U A T \& O N \quad D A-E S(M n H)
\] & & & & & & & & & \\
\hline O1h：r SALLS（ f （त） & 30\％ & 710 & 763 & 9 ¢0 & \({ }^{1} 35\) & 618 & \(7: 3\) & 090 & 613 \\
\hline －Nanor Lipul（1d \({ }^{\text {a }}\) ） & 24，3， 4 & Sosyo & 61348 & 0.717 & \(6136+\) & 63239 & 76814 & 8うす32 & 7．3 \\
\hline runir．Cust & 16340 & \(1>12\)－ & 2．アクロ & ＜1＜u12 & \(21213 \%\) & c3．332 & 26－とаठ & 3uつしい！ & 29 \\
\hline INんi＋S Ti＞jiun－Xr cidji & & & & 37198 & 136317 & 76918 & 82527 & 11837 & 157613 \\
\hline  & \[
\begin{array}{r}
7+9.5 \\
\text { c5. }
\end{array}
\] & \[
\begin{gathered}
72 t .41 \\
39 .
\end{gathered}
\] & \(0 \rightarrow 003\) & 37196 & 136317 & \％¢9\％ & 02527 & & －573 \\
\hline CuミTu゙ったSこのV＋Cく & 2.241 & LIICO & \(<337\) & 2.306 & 24723 & 26393 & 23643 & －204\％ & 40376 \\
\hline SuLis－XPGers－ & －1：＊ & － 10 & \(\rightarrow\)／\(* 6\) & 1，9 & \(62 y 7\) & 5972 & 1904 & 274 & 2，3 \\
\hline  & 21102 & ）cysd & 60353 & 0く195 & 56767 & 28269 & 00202 & 32494 & 5 \(2^{2}\) \\
\hline  & \(2<3+6\) & 211．0 & 2110 & Lu399 & 19049 & 18974 & \(132 y 9\) & \(3{ }^{3} 90\) & \(\div 4361\) \\
\hline IAx：S & 3，4， & 3）0： & 39042 & 43211 & ＊1800 & －6uつ＋ & 3188 C & 5月つ31 & \(c 826\) \\
\hline OIhit Leujuitunj & & & & & & & & 83130 & \(15: 945\) \\
\hline  & buiss & 37300 & 57768 & 65Jes & 73264 & 40730 & 6.390 & 83130 & 16.90 \\
\hline  & & & & & & 2294 & ＜5， 3 & ＜24 1 & 2712 \\
\hline TJJAL LUST：icss（AV） & 2332 & ＜3．7 & 2273 & 2213 & 2265 & & & & \\
\hline ac＞aLiviImL JUSTUAL．S（A／G） & くい，\({ }^{\text {d }}\) & 19.0 & 1960 & \(1{ }^{\text {H24 }}\) & \(2 \times 2\) & 2.20 & 2104 & 224＊ & 24
413 \\
\hline  & \(3>0\) & 344 & 310 & 22.2 & 220 & 239 & 20） & 23 & 413 \\
\hline aIns cr UlSisimuta in Linc & \(2+5\) & い0 & 20 & 346 & 416 & & & 431 & \\
\hline コV：CVFT－NT＋L DisCUUNT & & & & & & & 17479 & & 22931 \\
\hline 12＊） & 11037 & 156. & 1367 & 13647 & 1506 & 1203 & 13931 & \(139 / 4\) & 17036 \\
\hline Adcanco Ochav）KW & 10， 07 & 1494 & 11.83 & 12ン」 & 11719 & 12030 & 13931 & 13974 & －7ココ \\
\hline
\end{tabular}

\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline 27 d racital Cu rus majn & \[
\underset{i \nmid c|c|}{\substack{\text { ATIL }}}
\] & \(1 \geqslant 61\) & 1360 & 1901 & 197 & \(1 \rightarrow 71\) & 1972 & 1973 & 198. \\
\hline GxOPS FLANI & ＞2t／2－0 & \(50938<1\) & josfulu & 0ご－913 & 68t3930 & 7－21ios & 7627474 & 5616111 & 340－4－5 \\
\hline KeS＿mb－Fu\％J＿rरaCialic：4 & 2ablsis & 2223017 & 23271） & くれゝうしつ & 203．512 & 25153.3 & 29－1804 & 3196021 & ？ 336 － 5 \\
\hline vith in ass．Is & 6 或くすゝ & ップンじ & ＞91 +62 & c 2－327 & 1777241 & \(13: 5419\) & 144092i & 1.8757 d & of 69 ： 0 \\
\hline ALGUISITICT，a JJUSTT N NT & & & & & & & & & \\
\hline Gutisfkulitot dunk iv Pavieness & 13．923 & 122.30 & \(436<8\) & \(13 \rightarrow 24 \mid\) & 327684 & 432595 & \(<7+384\) & 134677 & 221357 \\
\hline tal \aALS＊auriklios & \(11 / t \rightarrow d\) & 12うv0d & \(1>9 \mathrm{~b} \geqslant 1\) & \(1>\ll b^{3}\) & 213327 & ＜4355s & c8ちラッ8 & 23J633 & 3t9＊－＊ \\
\hline LGave TCAT G．31 & 71－2．34 & ど160 & 500u63 & － 3660 & 1715663 & Ets303 & 155：CJC & 1555 us & 21とさ～－6 \\
\hline こUhn＿il LiAcILIIIcj & 20＋1， 5 & ＜032y1 & 322171 & 33i＊ & \(4<9031\) & －793）6 & －8け6こ9 & \(5: 6627\) & 4869.2 \\
\hline ALASANSMIF & \(143<0\) & ab5 2 d & 73150 & 3ら6．d & 108596 & 198309 & 2：9738 & 221963 & \(2 * 841 *\) \\
\hline \begin{tabular}{l}
SGAR LUS ac．0r Jx ralxunalog GAP． \\

\end{tabular} & 3．19．32 & 319＋つフ9 & 3380う53 & 3ップ3．4 & 3761187 & 3440330 & －152460 & 43560：3 &  \\
\hline  & & & & & & & & & \\
\hline  & 120437 & \(7645<3\) & d43198 & 14， 501 & 972170 & 1．91371 & 12．9158 & 1172924 & \(13 t^{*} 0+2\) \\
\hline  & 2036） & 30＜361 & 329497 & 349615 & 372134 & －46，21 & 21774 & 4426.19 & 2こPの－5 \\
\hline  & lulaig & \(0 \times 0,1\) & \(4,-32\) & 33500 & 112031 & \(11+2,4\) & 1.2600 & 1783う1 & 153351 \\
\hline  & 31／3 &  & 为 & 121） & 14149 & 1 ¢ Juv & 107，0 & \(10 \times 91\) & C－1 \(=0\) \\
\hline JIn＿n RCVLNU－FNUT ；A－CS & d13．8 & \(\pm 37 \geqslant 6\) & \(1 \times 3)\)－ 8 & 1.5354 & 123135 & \(14.5<31\) & 17595 & 161081 & \(15+552\) \\
\hline  & 12022 & 11 ily & 12159 & 157.5 & 16020 & \(1 \rightarrow 622\) & \(236 \rightarrow 2\) & 27ンザ & 271－6 \\
\hline  & \(11 \times 11\) & くulvo & 1 引juc & 1000. & 45118 & \(6<512\) & 43＞4＊ & 3.40 ． & 11t6S \\
\hline ＜e \(>10 \sim N I I Z L ~ S u L-S(1+r)\) & 1 \(1+2\) & 77932 & 30.19 & \(3 / 507\) & 99472 & 116325 & 123153 & 125445 & 12F．03 \\
\hline  & C14．4 & 233ul & 2，914 & 213ハ0 & ＜8975 & 32115 & \(436-1\) & 3－671 & －\(c^{*}+3\) \\
\hline  & 1，713 & 12951 & \(1+203\) & 12447 &  & \(<2299\) & 23071 & 29237 & 1ral \\
\hline 4kKastilior．＜d＿ & 3．3 & 16ヶ2 & d， 1 & \(1+13\) & 110 & 1111 & 1476 & 1263 & 1393 \\
\hline JIt＿n SALC＞（4＊त） & ＋2， 3 & biter & －1ヶ3 & t 327 & 9136 & 1：296 & 953 & 12137 & 1 19 21 \\
\hline  & 127357 & 1らうしく， & 1＋7926 & 1 \(>306\) d & 109053 & \(190<33\) & 21.192 & \(213 n+1\) & 21593＊ \\
\hline  & \(42 i>02\) & 4＋1＊1？ & －943－3 & 201627 & 285961 & 34．7745 & 71790 & 720741 & 73 ごち力 \\
\hline TヶmiasiSSiUn & 1＋6 & c22 & 1737 & 9－4 & \(58 *\) & 635 & 361i & 7 & 2u71 \\
\hline IIS．FiEUTLON KHCN3－ & 643，3 & 70．4t & フうご & 9040 & 93163 & ys 353 & 127681 & \(1<2211\) & 137761 \\
\hline  & 1ッコウつ & 11 ¢もコラ & 163411 & 1＝0，0） & 16824 & 12ら134 & \(17 \times 345\) & 17 sboc & 171992 \\
\hline GuSinden Sorvasio & b）100 & －3923 & 0076 & 71047 & 9 uи95 & 97 ¢．7 & 9 jobn & 1\％ 9843 & 1くilc＊ \\
\hline SAL－S（Xt）No－ & 1．0．2 & 10130 & 10191 & \(15 \% 22\) & 25439 & 23－36 & \(2 \angle 80^{\circ}\) & 23，it & 20224 \\
\hline WUHL L WCHLKAL LXRZNSL & \(1200=1\) & 1く6） & \(14 \times 907\) & 167822 & 18tjy & 150044 & 17125 & 171357 & 217373 \\
\hline  & 21614 & 19357 & 17らけ7 & 1475 & 563 5 & \(1.37: 3\) & 161273 & \(y C^{\text {9，}} 7\) & 1 くら764 \\
\hline TKx－s & 75115 & 7） 5 －2 & 123.3 & \(0 \rightarrow 473\) & 94713 & \(10 \sim 412\) & 131894 & 13.221 & \(1-8 i+1\) \\
\hline 01r－n U－リしCJIUNS & 1c． & cod & 5.7 & & & & & ＋1］ & 302 C \\
\hline  & \(17: 372\) & 1dらlul & \(1 \pm 4054\) & 2．303i & 214704 & 259073 & 275732 & 290154 & د16315 \\
\hline  & & & & & & & & & \\
\hline TUT－¢ GUSiU．L－＜S（Adu） & Jily & d2：3 & 3 306 & （1）2 & 9261 & 5499 & 9785 & 1－2t2 & 1：3， \\
\hline こS．K＇， & 60？ & \(01<3\) & コサ1： & 11－0 & 75\％＊ & 7010 & d 383 & 843 & 8 ）\({ }^{\text {\％}}\) \\
\hline Cuivinaliat wus Tumans（4a） & \(1 \rightarrow 35\) & 1406 & \(1>10\) & 13co & 1ouく & 16.5 & 16.31 & 1477 & 13.0 \\
\hline  & 403 & 47 & 482 & 3. & 572 & 6.3 & & 643 & \\
\hline  & & & & & & & & & \\
\hline 1ax \％－V．t B，Mmid）KW & 29233 & 529uj & －3437 & 3）3－4 & 39352 & \(45+00\) & 59277 & 53．96 & 57912 \\
\hline  & て3） & 25543 & 24591 & ＜yd） & 32.22 & Jo365 & 37642 & \(3>445\) & － \(\mathrm{Ct} \mathrm{c}^{6}\) \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline 200 Nadrusen in rus NaSN & دFOKR．d＝ 1ヶロッ & \(1 \pm 67\) & 1403 & 1．1907， & 19720 & \[
1961
\] & \[
\begin{gathered}
1972 \\
1239+5+3
\end{gathered}
\] & & \[
\begin{array}{r}
1 y i \% \\
1-232128
\end{array}
\] \\
\hline anuss rintil & a \％دlis & Y 3.0300 & \(3 i+3: 07\) & 1－1コン4．3 & \(1070363 *\) & \[
11 .-\infty 076
\] & \[
1239+5+3
\] & \[
\begin{array}{r}
13190122 \\
5834311
\end{array}
\] & \[
\begin{array}{r}
1+232123 \\
0127<30
\end{array}
\] \\
\hline  & 281つサ36 & \(3-9\) ¢ 60 & \(3361 \sim 7+\) & －1307とy & ＋iv3626 & \[
\begin{aligned}
& 4>1>331 \\
& 2 \ldots 2035
\end{aligned}
\] & \[
2112061
\] & \[
23.1 / 33
\] & \[
21 t-8.5
\] \\
\hline Lur，f．i 2as－is & 1．3j3id & \(11967 \sim 0\) & 114.122 & 16301しく & & & & & \\
\hline  & & & & & & & & 19．7．7 & 36：909 \\
\hline CuissinuCTiun muxk 1：FnuorcSS & \(633+0\) & 7c＋11 & 43004 & \(0+533\) & S4165 & 47032 &  & \[
434<10
\] & \[
\text { he ; } 42 \%
\] \\
\hline 12：．．．iALS \＆دUPrLizj & 13～＊） & \(1+0017\) & 1－2878 & \(1 / 7307\) & 26dy3\％ & \(2+363\)
\(3+800\) & \[
\begin{aligned}
& \angle 71501 \\
& 323678
\end{aligned}
\] & \[
27 \div 35
\] & \[
2: 78.6
\] \\
\hline LUNG TEn4 O－it & 36.5 ＊＊ & 533652 & 764254 & 029 n － 215 & ＋65d21 &  & －76185 & \[
20.523
\] & \[
5 i: 627
\] \\
\hline Cuparist LlasILitlos & 24，5its & \(51<0<1\) & くンずつて & ＊ 1523 & ＊＊ 0232 & \(\rightarrow 716 y 2\) & ＊76\％ & 20.523 & \\
\hline Act－mitir tcis & & & & & & & & & \\
\hline Lunirasulfut，ath als Cutisixulim SuintuS \(1: 631\) S．MATAJNAG＝CAF． & \(120<29\)
\(58 / 697\rangle\) & \[
\begin{array}{r}
13 \times 5<9 \\
b 3071=2
\end{array}
\] & \[
\begin{array}{r}
107605 \\
07971=8
\end{array}
\] & \[
\begin{array}{r}
176269 \\
12717.2
\end{array}
\] & \[
\begin{array}{r}
230105 \\
7833437
\end{array}
\] & \[
\begin{gathered}
<11171 \\
8 v 55500
\end{gathered}
\] & \[
9 \times 3,380
\] & 957 ¢ 230 & \(9812=22\) \\
\hline Suntrus dia3／dic ralnunagz Cat． & 361493） & & & & & & & & \\
\hline －hくさうがasn uISCuviri & & & & & 27380 & 24045 & 21923 & 293／4 & \\
\hline  & －06y 32 & \(72<5>3\) & 933658 & 1135007 & \(11720 u 6\) & \(1<613 \rightarrow 7\) & 1－vくフ30 & 13212 化 & － \(7 \rightarrow\)＊ \\
\hline Gu＊ & 7123i） & is31） & 10～4つ？ & dilosw & 330175 & 073272 & 7 & 41997 & \(9 \geq 0515\) \\
\hline  & 2－050 & 01703 & 29036 & \(0 \sim 43\) & 7150 & \(12+3+4\) & 103353 & 1才フコし？ &  \\
\hline 1．．．．untiun－－V v V & 23くtal & ＜140－？ & 252900 & くこうつ & 2ywil＊ & ＜92， 13 & 283243 & 533564 &  \\
\hline  & SYdis & －4U66 & 16005 & 7：7：2 & 6u」＊0 & 82131 & 53146 & －5362 & 903.5
-9770 \\
\hline  & \(197<1\) & 2．543 & \(<21 / 3\) & ご吅 & 21354 & 33791 & 27＊ &  & \(1>+200\) \\
\hline NuN－urtanlaise R－Vinje & －ob：3 & 20＜32 & 60169 & l＋369 & \(12860<\) & 79333
133458 & 1476） & 14.335 ？ & \(1>1773\) \\
\hline  & 8173l & y＜1co & 1 LCJO & 11 ¢0．0 & 119068 & 133453 & 147しち & 14335 ？ & E9373 \\
\hline  & 勺y＜00 & 6ob－2 & 7～152 & 1309＊ & 77447 & 637＊＊ & 4， \(3+7\) & 80， 3 ， 35 &  \\
\hline  & \(1<1 \%\) & 10321 & 90.9 & じう＊ & 13.21 & 29021 & 3.023 & 3.735 & － 20.7 \\
\hline  & \(3<717\) & 〈a才c］ & 32.45 & 32210 & 41503 & 37427 & 33409 & ＊udis & \(4<026\) \\
\hline O1n．．．＞uLzS（1Ar） & 1302 & 4100 & ＋51， & －726 & 4017 & －33 & 3962 & 4664 & 5346 \\
\hline Eiveur ivrul（idn） & ＜63＋1） & ＜2，303 & 235769 & 2uんu73 & 279714 & Juol27 & \(3232<8\) & \(3-9+7\) ， & 351533 \\
\hline r－x＿r uuSt & 011310 & บวว133 & プせしい3 & 6， 0029 & d＜－954 & 0.7971 & 16 1 132 & Ivjlaig & \％ 57 \\
\hline  & & & & & \(3 i\) & 7121 & 2660 & ＜6，\({ }^{\text {c }}\) & 223 \\
\hline  & \(2250 \pm 2\) & 191400 & 200800 & 200007 & 276772 & 237406 & 243031 & 3932：3 & 346） \\
\hline  & & & & & & & & & \\
\hline くusiutcx くられVí－ & 0.715 & \(030 \rightarrow+\) & 1．7，73 & 112912 & 11523 & 11. & 121008 &  &  \\
\hline コカレン3－ Xr －N2 & c70．） & 33540 & －4309 & －＜us 1 & \(30 y 35\) & 31116 & 35515 & 17307 & \\
\hline  & 17.015 & losbud & 153754 & \(11: 300\) & \(1903 \times 4\) & 4いくっ0 & 226623 & 22037 & 7 \％ \\
\hline  & 20tbo & \(2,1 i 4\) & 21753 & 14532 & 16150 & 11057 & 9327 & 1012 & 20＜2 \\
\hline Tース－ & \(1 \geqslant 3+20\) & 10yucb & 177630 & 1引ゝコンッ & 2．1189 & くIul．l & 241407 & 24， 10 &  \\
\hline  & & & & & 375912 & 2972 d4 & ＊2－3 \({ }^{\text {d }}\) & 42024 & －\({ }^{3}+16\) \\
\hline 人－t：utatavi． & 290330 & 31786 & 343240 & 306wio & 37 ¢92 & 297204 & －2， 30 & － 024 & －バく \\
\hline  & 1． 60 & 1ッごく & 4ら17 & 1－0．7 & 1031） & 11299 & 11437 & \(1<13\). & \(1<759\) \\
\hline  & loud & 774d & 1935 & 3u． & 8173 & 3477 & \(0: 7\) & 9137 & 40,1 \\
\hline G．i．ruial vusiumi is tavut & 12引3 & 1290 & 1320 & 1516 & 1312 & 1345 & 1366 & 1－37 & 171 \\
\hline  & t＋0 & リンレ & 736 & サ12 & \(1-31\) & 1170 & & 124 & \\
\hline deloura＿himl Jisioujnt & & & & & & & & & \\
\hline 4axt ive actura＜n & 37 ifd & 4 Clco & 4＊＊63 & 24353 & 51734 & 02329 & 757 &  & －75si \\
\hline AV＿ive \(\mathrm{J}_{-}+1+1 J \mathrm{Kn}\) & دら） & 3） 35 & \＄7340 & \(4 \ll 10\) & 43332 & 49225 & 23623 & コンダ1 & －7＞31 \\
\hline
\end{tabular}


\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline －125＊ & C \(20 c^{\circ}\) & 6：24＊ & 2206\％ & 26515 & Q1CA5 & C＋t－6？ & 39117 & 0 oter \\
\hline \multirow[t]{2}{*}{46ヶ\％} & 「くフๆ2 & 44929 & ¢ 19＊C & ＊ \(2^{\circ} 6 *\) & －H0C & 3＋4， & 91わが & Q¢CE？ \\
\hline & 50.5 & & 616 & IFF & 200 & \(\star \rightarrow 9\) & F1 1 & 901 \\
\hline 122 & c＝1 & QE？ & 630 & 190 & 40 & \(\angle 10\) & 76， & Cea \\
\hline 1＊\({ }^{1}\) & \(0<211\) & 2¢511 & c： & \(65 c^{4} 1\) & trok & 4ran & O4， & \(5<5)\) \\
\hline 4 ！h2 I & くLE？1 & ¢ヶッリ｜ & －5＊ 11 & a）Cll & ¢のに＊ & 4296 & 1\％たF & of＂ \\
\hline 2＂2t15 & \(e_{1}+* 62\) & 015102 & O\％¢＊ & \(1<L C 21\) & ＋100＊？ & 20500 & －15901 & FSt＞C1 \\
\hline \multicolumn{9}{|l|}{542＊1} \\
\hline c2kn 11 & ：1．it 11 & 60：421 & \(1 \times 6+11\) & E2EEE & 046 & 11961 & cei＝0 & af2ng \\
\hline 1 ¢¢ & ？CK， 5 & 10906 & －7156 & 16O5O & c．－ 4 ¢ & フワて！ & forl & 61912 \\
\hline c－r 1 2 & ？－－\％\％ & 719 ¢？ & 2hth＊2 & 24tr日 & E1L5＜1 & \(919)^{*} 1\) & SK09E1 & Elfecl \\
\hline 1．\(\rightarrow \cdots\) & ［0791 & 250\％ & 吹？ & ヶy＊？ & c＊ 6 & 912ç & \(7 ⿺ 廴 ⿻ 肀 二\) & 1 7 ch1 \\
\hline 5：20＜1 & 4t acert & द65t＊） & cit \(1^{\circ} \mathrm{Cl}\) & フECFE1 & ceql｜ & द9＊1＊1 & antif & \(1{ }^{++*}\) \\
\hline ＜－0｜ \(2 \boldsymbol{z}\) & O2＊＊＊？ & ＜45 \(1^{\sim}\) 2 & ¢¢92？ & －crerl & 6－6＋11 & ¢1\＆26 & 2＊＇K & ¢ ¢ \％1 1 \\
\hline \(21: 522\) & Frobl？ & \(b^{\text {colen }}\) & \(b^{n+2} 1\) ？ & 561481 & \＆ \(1 \rightarrow 2 \rightarrow 1\) & ＊＊\(\angle L 51\) & \％GフフF। & \＆1－21 \\
\hline c．c2＊ 1 & catal 26 & L1： 256 & ＊ \(11-2\) & \(1 \angle 98)\) & alfaln & 004r 15 & 11767e & － \(2 ? 5{ }^{\circ}\) \\
\hline cecanc & cratir & \(94+16\) ？ & \(12663 ?\) & csen 2 ？ & 610092 & 12671 & er 4？ 01 & 7rgest \\
\hline \(1 * 2\) & 「㘯＂1 & ＜ 21 & 2C11 & ¢？ 1 & 3 CLH & 2 CEI & as， 1 & 1 qa 1 \\
\hline \(6^{\circ}\) & ＊\(\% 1\) & 121 & －61 & a \(\rightarrow 1\) & \(\cdots 1\) & 111 & \＆¢ 1 & 521 \\
\hline ：\({ }^{\circ}\)－ 15 & \(55^{\circ} 26\) & 46196 & E \(¢ 0 ⿻ \mathrm{c}\) & 6 260c & 1676 & \(\cdots \mathrm{c} 2^{4}\) & 4615＊ & alees \\
\hline 9：？ E \(^{\text {¢ }}\) & 2H／C5 & 51\％E & 14＊） &  & Cの1世？ & 4npl？ & ！¢3F？ & 18c＊ \\
\hline \(\geq-2+31\) & ¢7たく1 & ह12 \(12+1\) & c＊sti & rockl & conot！ & a－05 6 & l－5Nl & aten＊ \\
\hline －弓c＊ & 26cr＊ & \(1 \angle 6 \leqslant 2\) & ytres & 65901 & §サC？ & 54505 &  & ？ 111 \\
\hline c｜¢ \(=\) c & \(1 \leq 122\) & 15442 & － 2022 & 6rGr！2 & O！612 & \(\rightarrow 1 \begin{gathered}\text { al }\end{gathered}\) & cre3？ & c＞712 \\
\hline \(1 ⿻ 丷 木^{\circ} 2\) & \(4+107\) & E1pez & \(112^{-2}\) & －4200 & \(1+1 / c\) & ！2ヵ！ & \(\mathrm{rax}^{4 \rightarrow+}\) & \(p=129\) \\
\hline 2， & ＋つ97 & E： 11 & 6541 & लoft & \(1-61\) & \(\rightarrow<91\) & ln？ & \％तe 1 \\
\hline 186714 & ：59624 & 179ヶを爯 & 1 －5260 & 26EFG2 & 2＊ 6,12 & F1¢2F1 & 6द9 cel & parpา！ \\
\hline \[
\star+111 \%
\] & ＜3／468 & \[
\text { Es : } 690
\] & porntr & 140062 & \(\therefore-6: 1 ?\) & 1द1く？？ & 2？ \(297 ?\) & Of 4 \％？ \\
\hline \(52+5-22\) & ce，＋7フ22 & \＆ \(1>5>51\) & Lloas： 1 & ＋0clsel & ＋rotal & E0＊ 171 & \(135^{* 1}\) & erg＊ht \\
\hline 929\％ 49 & ＊くy リリ & crasi＞c & 「フCO＊＊＊ & c）c9sem & －oiceor & L211cos & \(4190-8\) & ：146078 \\
\hline E11110 & c59＋95 & 10219 & 965142 & － 11625 & ？İRE1 & 2F2G¢1 & \(1<512\) & 2 ＇50\％ \\
\hline F15614 & t？\({ }^{\text {ch }}\) & \(b \operatorname{ccs} 9\) & 2＊6tc＊ & C9414？ & rlapce & ＊ 522 Of & \(1 * 2541\) & 129021 \\
\hline cresarz & ＊： 291 & 00 ¢¢51 & gnar＞at & An菫保 & ＊＊ecpt1 & 90～6．9く1 & ¢＊0\％） & ［ - ¢ ¢ ¢ \\
\hline 0313 c & 21191 & 二ral \(<91\) & \(1^{+1+p z^{\prime}}\) & 19＊\({ }^{\text {¢ ¢ ¢ }}\) & Ice6＞e & 9021て？ & zeItpi & c＊ 2101 \\
\hline \(s+c-42\) & \(5690 \sim 5\) & \(9292+1\) & E1／131 & 81155 & creol？ & \(9<211\) & ノフッグ & cesti \\
\hline 9＊「E＊ & 9：ct＊ & 隹く91 & \(0^{*}<55^{*}\) & arcet & n＝er．\({ }^{\text {c }}\) & \(7^{\circ} \mathrm{C5}\) & 9nçal & ercs＊ \\
\hline kv11191 & 20＜4 41 & 146＊＊11 & －1：2cti & の！ 0 ¢ +1 & \(5-7-6, k\) & 6 96， 6 & 4now｜11 & c こcciti \\
\hline \[
b<t<\pi
\] & 615＋24？ & \(9122 c 97\) & （tels－2 & \(9+5525 ?\) & く－62？12 & 4r日＊＊ 61 & 1＊2Cf\％ &  \\
\hline ＜＜大フ｜cil & anのblbb & 25－5 \％ 16 & c＊i2cse & 4262292 & ＊¢ ¢ \％＊＊ & 2¢？ & ＋6peprs & ＂ce766＊ \\
\hline － 261 & F 261 & 2 ） 1 & stel & & & 9961 & 896 & cat 1 \\
\hline
\end{tabular}





 vin．．．M－2stivn）

rumivhas
\begin{tabular}{l}
3 \\
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3 \\
3 \\
3
\end{tabular}
jusiof－त


1：4．．．







\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline ＜S；Lnwis Gu．rUu MA＞M． & \[
\begin{aligned}
& \text { SLAT TL } \\
& \\
&=600
\end{aligned}
\] & 19 t & 1968 & \(140 y\) & 1976 & 1471 & & \[
1973
\] & \[
197+
\] \\
\hline uKLSS radiv & Itical & 160）s）ds & \(112007 \% 9\) & 110,008 ， & \(1<\mathrm{sis}\) & 13－9，19 & \begin{tabular}{l}
\(1397<376\) \\
\(37735<6\)
\end{tabular} &  & \[
\begin{aligned}
& 59420-4 \\
& 4246,3<1
\end{aligned}
\] \\
\hline uS．＋－FGn \(\quad\)－Picceatilon & LSこCO11 & く3コく0んす & \(28-3<12\) &  & 333271 & \(3=033\)
\(1,0.937\) &  & I-sices & \[
1-192,3
\] \\
\hline iUn．ucar \(4 \gg\) ，İ & 10533）\({ }^{\text {c }}\) & 1つくい & 119372 & 11：\({ }^{\text {a }}\) & 13－1302 & 1 & & & \\
\hline ACGuas illuit AJJUSTa＿HI & & & & & & & & & \\
\hline Cuna Trulitiot durik in FKlokeas & & & & & & & 226542 & 262u5\％ & 374．15 \\
\hline AAİれ\＆ALS i SUrplics & lbs36 & 107．\({ }^{\text {a }}\) & \(19+21 *\) & \(1008<0\) & 237196 & \(<23255\) & 226542 & 26245 & 131： 25 \\
\hline \begin{tabular}{l}
LuNu Thnt J＿ 31 \\

\end{tabular} & \[
\begin{array}{r}
2710 i d 0 \\
621735
\end{array}
\] & \[
\begin{gathered}
2254644 \\
2+627
\end{gathered}
\] & \[
\begin{array}{r}
2540626 \\
212590
\end{array}
\] & \[
\begin{array}{r}
22562=0 \\
01-2-4
\end{array}
\] & \[
\begin{array}{r}
2.01300 \\
77501=
\end{array}
\] & \[
\begin{array}{r}
1005020 \\
c 73<59
\end{array}
\] & \[
\begin{array}{r}
1680606 \\
821237
\end{array}
\] & \[
\begin{aligned}
& 156306 . \\
& 91.79 .
\end{aligned}
\] & \[
9<\div \div \geqslant\rangle
\] \\
\hline  & & & & & & & 239736 & 2649＊3 & 3d＞2＞5 \\
\hline  SUKrLUS MAUI On rhThJNab：G4F． & \[
\begin{array}{r}
16500 d \\
6233021
\end{array}
\] & \[
\begin{array}{r}
163670 \\
6 i 77 i-2
\end{array}
\] & \[
\begin{array}{r}
104343 \\
7272025
\end{array}
\] & \[
\begin{array}{r}
10.0002 \\
7.5 .200
\end{array}
\] & \[
\begin{array}{r}
191207 \\
8269174
\end{array}
\] & \[
9.35 ะ 10
\] & \[
956,35.6
\] & i：35\％886 & 11196937 \\
\hline Musalital lav．Siniovl & & & & & & 99 & & 1334 & \\
\hline IRKAUKT」UN VİLuUNT & & & & & 10432.1 & 1341631 & 1989768 & 216is3d & 226146 \\
\hline ncsius MItal＜－ViNU． & \(123 i 5 i 5\)
\(38+6.3\) & 1320914
+12961 & 1403614
4 juco & 1207043
－0，iny & 1043251
+91538 & ハー1ン1？ & t1362d & Sos175 & 249032 \\
\hline  & \(38+4\)
\(\rightarrow 7503\) & －1：4 2163 & 452028 & －20316 & 42422 & ＋32211 & ＋00436 & ＞763As & \(11: 729\) \\
\hline itujulnadl mizdisum & －120，2 & 19．12 & 11190 & 10232 & 1934＊ & \(100 \%\) \％ & 17661 & 2こッフ & 17＊39 \\
\hline  & 163519 & ＜\(=0\) i4 3 & ＜6）7．6 & 29．124 & 290354 & \(3<3612\) & 330299 & 3342ヶ5 & \(334 / \sim 9\) \\
\hline jinz ursadi itio kzv＿ids & 33827 & \(3.11 \%\) & डiYu2 & \(341+5\) & 42329 & 47.7 & 79665 & 90370 & 12 yc \\
\hline  & 32231 & －Yola & ¢） 331 & りバシ & 77739 & 85 & \(9 \cup 379\) & 109107 &  \\
\hline  & \(13<619\) & 1－13この & \(12+122\) & 17190 & 17 Э66 & CU310． & 2239.4 & & \\
\hline  & 2）3＋0 & 31920 & 35566 & \(303-8\) & 30.43 & 4729 & 9 & 71537 & 1－iこi \\
\hline  & ン3らい & 2せつ1」 & －7－47 & 4＊＊ & 2126 & & 1837 & 1925 & 1079 \\
\hline 保s．uniiun Sat．os（4at） & \(1<12\) & 13il & 925 & \(1 \geqslant 02\) & 2126 & 1476 & 1839 & & \\
\hline JTmir SA－c S（ fati） & \(132+9\) & ＜as \({ }^{\text {a }}\) & 32.41 & st3．d & 38710 & －1y＊0 & C & 1 & \\
\hline －Nc ¢r diatul（9H） & 2471；7 & cl4Jis & 203237 &  & \(3<0190\) & い6071 & & & \\
\hline Pun：の LuSt & \＆とー＊くら & \(9192<0\) & 433218 &  & \(1.9043 \%\) & 1139898 & 1373064 & 4．） & －280 \\
\hline Takurias Saviv＝xrans & & & & & & & 150436 & 174．33 & \(1: 56+9\) \\
\hline  & Y0293 & 1\％） & 123410 & 1340， 13 & \[
152240
\] & \[
104012
\] & \[
182797
\] & 16.571 & 2も匂 \(\leq 2\) \\
\hline  & \(\mid j \vec{i}+31\) & 115030 & 131031 & 1） \(1 \geqslant 3-54\) & 167122 & 17 ¢ら3」 & 105 y & \(19 y 251\) & 217ヶ゚ \\
\hline  & 1＜1＞2 &  & 14itog
vubo3 & 133034 & \[
+92 \geqslant 3
\] & \[
24 y 27
\] & \[
21531
\] & 196.2 & ©bo 7 \\
\hline Shl－3 cxiciva－ & 103030 & 1－ココッつ & \(1>\) ¢001 & \(1 \rightarrow\) ¢0त & 197463 & cat 2611 & 215465 & 24064 ？ & 27 د4－2 \\
\hline  & 10．750 & 1000 & 11900 & －iクu & b3，20 & 33－29 & シ2GAL & －0．53 & 43．23 \\
\hline  & 14．7） 0 & \(12, y>0\) & 10.26 & 1ノこうし1 & 102541 & Cu1123 & 221736 & 232102 & 2619，6 \\
\hline UTA，v，UUCiisus uヒrn＿uatat． & 36ol／2 & 574520 & 590696 & 464164 & 305302 & 385003 & 4.315 & －30043 & いン9．．． \\
\hline  & & & & & 14197 & \(1+663\) & \(1>268\) & 12313 & 1Fく大 \\
\hline TuT－l charu－jifdu） & \(1231 \%\)
11124 & \(1 \leq 230\)
\(11 \rightarrow 41\) & 1348
11629 & 11500 & \(1<231\) & 1＜ul & 1516 \％ & 13054 & 14.21 \\
\hline  & 11124 & 11
1
1 & 11629
1276 & 13＜6 & 1571 & 1432 & 1496 & 1350 & 10. \\
\hline  & \(\begin{array}{lll}11 & 1 \\ 1120\end{array}\) & \(1<40\)
11 & \(11: 3\) & 1ils & 1103 & 12.2 & & & \\
\hline \begin{tabular}{l}
 \\

\end{tabular} & 1100 & & & & & & & & \\
\hline AAXLiUGM Lernic） KW & 21300 & 00619 & 04969 & 72787 & 034．C & 1925＊ & 9.909 & 9＞934 & \(11 \times 3 \pm 1\) \\
\hline  & ¢bs 1 & 2.173 & り2302 & コンゴ & 3 dos9 & c2＊）2 & \(021 / 4\) & 81 －0） & 34 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline 1400 & 1968 & 1963 & 1909 & 1976 & 1975 & 1372 & 1973 & \(197 \%\) \\
\hline 7＞8197＊ & \(71433<0\) & 6.38364 & －3らす＊ & 806210 & \(8 \rightarrow 44\)－ & 9007725 & 16327766 & \[
117<33.3
\] \\
\hline ＜d｜－2－7 & 3－1＊0bu & 31ytil & 3575610 & 3479805 & 3.3535 d & 3957366 & 417969 & 45318.5 \\
\hline B \(\rightarrow\) フ 31 & 3d）\({ }^{\text {b－9 }}\) & f－33， 9 & \(55187 \rightarrow\) & de9 9251 & 1950；＊ & f6＞013d & －2くく3 & 729737 \\
\hline ＊＊11＊ & －＊7，－ & ＊お任＊ & ＊＊隹 & ＊＊ 77 \％ & ＊ 7714 & ＊＊－18＊ & \(44.17 \%\) & いと 774 \\
\hline Ibloes & 152647 & 198496 & 2 540\％＊ & －06313 & \(278>19\) & 4.7325 & 931427 & 4 \\
\hline \(14<273\) & \(11 \times 3 / 6\) & 11358 us & 1．9964 & \(125-64\) & \(|6+45|\) & 127972 & 2325， & 3．7931 \\
\hline \(409 u y, z\)
\(1983<1\) & \(4>8+63+\) & +719943
170512 & +299.38
19.700 & \[
\begin{array}{r}
+044775 \\
225994
\end{array}
\] & \[
\begin{array}{r}
4,2<4>6 \\
273.24
\end{array}
\] & \[
\begin{array}{r}
4 \cup う+879 \\
281167
\end{array}
\] & \[
\begin{array}{r}
483571 \% \\
+16318
\end{array}
\] & \[
\begin{array}{r}
51+31 \% 0 \\
41: 210
\end{array}
\] \\
\hline 192341 & 150000 & 170512 & 19.300 & \[
22399
\] & \[
27342 d
\] & & & \\
\hline 365027
1128424 & 334130
\(1<37130\) & 467936
1301319 & \[
415513
\] & \[
\begin{aligned}
& +32016 \\
& 152690 \%
\end{aligned}
\] & \[
\begin{aligned}
& -53.21 \\
& i+40 u \mid s
\end{aligned}
\] & \begin{tabular}{l}
\[
521286
\] \\
\(|y| \ddagger 86\)
\end{tabular} & \[
\begin{array}{r}
362137 \\
2177747
\end{array}
\] & \[
\begin{array}{r}
5 t 2324 \\
2397399
\end{array}
\] \\
\hline 1128420 & \(1<371 \geqslant 0\) & \[
1301319
\] & \[
1+6848 \mid
\] & \[
1>26904
\] & ｜nyouls & ｜y｜\(\ddagger 860\) & & \\
\hline & & & & 2715 & 2513 & 0693 & 1312 & \\
\hline 062430 & いせ2ごつ & －079548 & 7219．2 & 7ちくらく3 & 062105 & 951693 & 971922 & 991091 \\
\hline 2いて21． & \(1 \ddagger\) bos & 2いち6－2 & Lutiots & \(226+\) d & 2ヶ～707 & c 39997 & \(2191 \%\) & \(22<001\) \\
\hline 23－6）3 & ＜1tics & 2－7も2つ & \(2 \sim<373\) & 2516 L & \(\langle\mathrm{Cl} 2 \mathrm{CH}\) & د．7576 & 4.26663 & \(4725-2\) \\
\hline 251， 1 & Sidel & 3サ139 & 51.51 & 65508 & 70174 & 75745 & 8337\％ & 9.591 \\
\hline －12，0 & ＋2671 & － 3118 & 9．516 & 32261 & 493 & \(506<7\) & 勺11．27 & －7904 \\
\hline 1163 & L2 17 & 7363 & c \(\pm 02\) & \(1>266\) & 1.073 & 2.249 & 12457 & \(1+0.2\) \\
\hline 3）7d & S．1i＊ & \(3+6 \pm 9\) & －00＜ & 583.3 & 57.24 & 2196 & 37711 & \({ }^{50} 37\) \\
\hline \(b<103\) & 226．2 & 3j03y & 60471 & 02.47 & 67902 & \(7>332\) & 77912 & 74248 \\
\hline 1－j21 & 13452 & 14350 & 1－＜49 & 15202 & 15123 & \(158, \mathrm{C}\) & \(1+718\) & ISuTI \\
\hline 20725 & 3．9．4 & J2019 & 31167 & 32141 & 3．811 & 44.134 & 2311． & 603 r ： \\
\hline 32.2 & 3349 & 437 J & \(62: 3\) & 75.7 & 82.5 & 7970 & 9876 & 126：4 \\
\hline 2＜，2 & 23j） & 2ちく」 & ＜8d & ＜561 & 2826 & 2899 & \(3 \mathrm{u}: 7\) & 2617 \\
\hline 11：317 & 110023 & 120009 & \(1<76\) ． & 129961 & 1.5384 & \(10+63\) & 170161 & 160279 \\
\hline \(3:<207\) & د0．731 & \(36 / 275\) & －17140 & 410644 & 471090 & ）25：32 & 502172 & 579017 \\
\hline ＋1s & 061 & 1763 & 2677 & 3035 & \(4<5\) & 1 bc & \(59+2\) & 6－31 \\
\hline \(225 ; 0\) & －obas & b，372 & －oju3 & bodb？ & 03533 & 93730 & 3）くん， & Afu．c \\
\hline bol 3 & \(2<7,1\) & \(6 / 38{ }^{\circ}\) & 7． \(8>1\) & \(1>28 \mathrm{bs}\) & b 7.34 & 93766 & 107904 & 950：1 \\
\hline b4 \(2<0\) d & 4 ¢ 6 ¢ & 47311 & 47540 & \(518<7\) & 55542 & 57258 & 61940 & 9 ¢6：3 \\
\hline 47129 & つ ¢ す＝ & 64294 & 24406 & \(630>2\) & c． 774 & 60200 & 717 \＃ & ¢63，9 \\
\hline 13．15\％ & 13 いと & 141430 & \(1+1920\) & 168412 & 103519 & \(10.9+3\) & 162303 & 219154 \\
\hline Q317\％ & debor & コおuつ & 30， 84 & \(9 \mathrm{C}+23\) & 98182 & 94392 & 146731 & 120470 \\
\hline bollis & 17312 & \(7 \rightarrow 0<3\) & d3615 & 09710 & 96401 & 112825 & 1：3373 & \(1<26: 9\) \\
\hline \(<18<3\) & 2430 & 17194 & 2د－15 & 22830 & 22150 & \(2<150\) & 7177 & \(17 \%\) \\
\hline 2．，i51 & 21．13く & \(<1 \geqslant \pm 09\) & 22116＊ & 229jou & 231159 & 241138 & \(26212 \%\) & \(<7<6,1\) \\
\hline り4つ1 & 32.3 & 52.5 & 530. & 5437 & 5634 & ग 361 & 0．ul & EI．t \\
\hline ५ 2,7 & 4.3 & ＋205 & \(\rightarrow 3+1\) & 4437 & 461 － & － 626 & \(4 \times 22\) & －7 \\
\hline دロ® & 0， & 031 & 438 & 567 & 679 & 789 & 71. & 7， \\
\hline 111 & \(111 \%\) & \(11<3\) & 1132 & 1.37 & 1141 & 1143 & 1152 & 2152 \\
\hline 7170 & 14.1 & & & & & & & \\
\hline くく2i + & \(23-03\) & ＜623n & 51130 & 28．17 & \(<9660\) & 37349 & 34695 & 417.1 \\
\hline \(10 u^{\prime}+2\) & （ 3117 & 21051 & 2234 & 2253. & 254＊7 & 26617 & 2．13＊ & \(\geq 12=6\) \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline  & دPOKAN： I Yav & 1957 & 1906 & 1907 & 157． & 1971
1221454 & \[
\begin{gathered}
1+i 2 \\
1 / i+8,6
\end{gathered}
\] & \[
\begin{gathered}
1 \geq 73 \\
192.3+2
\end{gathered}
\] & \[
\begin{gathered}
1974 \\
2+3+7.5
\end{gathered}
\] \\
\hline ＊れしさら トL4N1 &  & 1103032 & \(120+700\)
317153 & I3iddio & 1.64316
\(+371 \rightarrow 0\) & \(4.57<4.8\) & 勺u．477 & 534615 & 5e3i．5 \\
\hline  & 320031 &  & 371153
\(1-0207\) & \(13<206\) & 1530\％， & 11 ァo－b & 123313 & 3506 く & \(29 \mathrm{col2}\) \\
\hline EUnerni Asse is & 164525 & 104637 & \(1-0307\)
0.93 & \(13<206\)
004 & cobr & oug： & 27．8 & 67.3 & ti＊o \\
\hline ACuUsアiIIUN Aリmult． HI & 0,33 & 9245 & 0293
1315 & \(104 \%\)
21963 & －5902 & 2）11\％ & 27696 & 12221 & 11646 \\
\hline LUNSInUCI 4 On 40＾K＋Y FnGurizSS & \(2 C+16\) & 41729
\(3<2<9\) & －13244 & jodel & 31，73 & ＜da， 2 & 33620 & 33162 & ； 56,7 \\
\hline  & \(27-29\) & \[
\begin{array}{r}
5<2<3 \\
0361 c 5
\end{array}
\] & \(8 / 628\)－ & & & & \(116+236\) & 1521333 & 1.72094 \\
\hline \begin{tabular}{l}
L6x Tent Hz 31 \\

\end{tabular} & \[
\begin{array}{r}
625+10 \\
3 i d 12
\end{array}
\] & \[
\begin{array}{r}
0361 c 5 \\
44122
\end{array}
\] & \begin{tabular}{l}
\(8 / 6284\) \\
アJizu
\end{tabular} & \[
01476
\] & \[
923<6
\] & \[
5 y 4>8
\] & 95203 & 87249 & 1736 c 4 \\
\hline  & & & & & \(335<3\) & 70135 & b 3261 & b） 396 & \\
\hline  & \[
\begin{aligned}
& 18,4<8 \\
& 85>50
\end{aligned}
\] & \[
\begin{aligned}
& 22117 \\
& 6918+
\end{aligned}
\] & \[
963.4
\] & Iレンフレ6 & 11939. & 139716 & \(1-3 i 66\) & \(1 \mathrm{bcits2}\) & 104763 \\
\hline \begin{tabular}{l}
 \\

\end{tabular} & & & & & & & 7， 0 & 060 & \\
\hline iKkiGailua abj julnt & & & & 160才33 & 167639 & 194015 & 217351 & 24.4612 & 2754.6 \\
\hline  & 1.0123 & 11.104 & 131236
2313 & 160733
\(3.91)\) & 33＞51 & 30／4\％ & 41359 & ＋0030 & － 67,3 \\
\hline  & col 27 & 20544 & 2－111 & 2.218 & 28164 & くけ2っこ & 3 いい & －127 & ＋ 314 \\
\hline aNLIUSIrith riovinuz & 11206 & 21915 & 2711 & tot & 9303 & 1－31） & 1．37＊ & 1．94． & 14378 \\
\hline Iratuatauct－－－\％ & －32＊ & ＜202 & 201. & Sjob & \(3 う し!~\) & 2001 & 1368 & 233 & 4327 \\
\hline U1n－h nGVLNU－r－U \(\rightarrow\) A－LS & 31.8 & 2332 & \(2 \rightarrow 67\) & 43 & \(23 \rightarrow 0\) & \(3<17\) & 3279 & 3374 & \(3-22\) \\
\hline Oin－n LFExAi in＇a nuvervut & 3168 & 304， & 2329 & \(\bigcirc 200\) & \(4+60\) & 4ン2？ & ＜ 709 & 13339 & 15158 \\
\hline  & 1 & 10.4 & 1223 － & 14.27 & 12512 & 17712 & 1 tesa & \(1 \pm 920\) & Cu4 41 \\
\hline ＜－Sairnifal jaliosfonis） & 1.233 & 1.32 .9 & 2，52 & c2y2 & 2404 & 24.1 & 3636 & 3105 & 31，2 \\
\hline Cumi－ncial jilcs（4H1） & 1916
28.6 & 3254 & 3096 & 3962 & 4727 & 5150 & 5529 & 6223 & c4．6 \\
\hline  & 20.6 & 3256
035 & a
0 & 712 & \(1 \mathrm{~J}+1\) & 11.8 & 121＊ & Iuくく & 1235 \\
\hline  & 209 & & \(1+1\) & 107 & 107 & \(1+3\) & 163 & 91 & 110 \\
\hline JIH，r SAL＿St in M） & 131 & 1 \(43-1\) & 2）1， & ＜30．2 & 28154 & 3.130 & 33637 & 33 ファ & \\
\hline cincout blatul（ind） & 18163 & 57704 & 64645 & 31．7． & 89220 & 97433 & 111897 & 11.960 & 116071 \\
\hline ＋Chic iusl & 54305 & 577 & 64645
2120 & ＋12 & －うし & 7.6 & ¢11 & －3： & \(\rightarrow-2\) \\
\hline  & ＋302 & 0172 & \(1200 y\) &  & 12130 & 15601 & 14206 & \(1 \rightarrow 97\), & くヵしくう \\
\hline  & 3370
, 079 & 31 \(\mathrm{l}^{0}\) & 11774 & 15icl & 22353 & 2．43） & 35069 & 33．7， & t21－3 \\
\hline  & 1079
1351 & dity & 0312 & 4＜al & 1vos9 & 11045 & 11239 & 1560 & \(1-933\) \\
\hline  & 1351 & ＜u7） & \(4 / \mathrm{b} 2\) & ל－3s & 2142 & 2709 & －780 & －1＇3 & ぎう \\
\hline SAL＿S－Krios－ & \(\begin{array}{r}4237 \\ \hline .373\end{array}\) & 2060\％ & 24302 & コい1ンy & 293．5 & 32．13 & S．cys & د49\％） & ＊55＇，6 \\
\hline  & \(\therefore 373\) & 2060\％ & 100／6 & 10 くく & 19131 & 26， 5 & 22259 & 3） 517 & 419.1 \\
\hline I \(\geqslant \mathrm{I}\) & 1.376 &  & 12640 & 150う3 & 15.37 & \(172+9\) & \(133 \times 4\) & 2215 & 23006 \\
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\hline 4 ¢ \(5+59\) & 3.2797 ？ & 2259332 & 4121202 & 44727.2 & 52.1167 & \(40 * 2142\) & \(2314 y 23\) & 4591923 \\
\hline 53551d & bis．573 & 53.570 & 53.370 & 536576 & \(33+276\) & b3．257u & 23676 & 351570
\(59+197\) \\
\hline 12,231 & j＜＜ら90 & ＋13721 & いとい1，3 & \(=96762\) & \(566 L 32\) & b 22353 & d230： & \(159 \% 197\) \\
\hline \(33,2+4\) & \(37<40\) & 5782 bs & S！S＞ 3 & 45415 & －b 307 & 011168 & 716933 & \(11604 ? 6\) \\
\hline \(19630+d\) & 195306 & 1 17JLu＊ & \(142 \vdots d\)－ 6 & 1.33725 & 665954 & ＜6＞235 & 13493 & 5463 \\
\hline \(1+51039\) & 113 ちも & 17715 da & 1634512 & 1689297 & \(1 * 7>392\) & 1394248 & 2283064 & 931549 \\
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\hline 16360901 & \(17+2 u+1 \mathrm{~d}\) & 18505261 & \(132 ว 1\) & & & & & \\
\hline 367231 & \(36 \pm 13<9\) & 3.15603 & 3／61103 & 38332 bl & ＊192607 & ＊2957＊9 & 4392835 & ¢ ¢ ごも－ \\
\hline 91742 & \(122 b<93\) & 13.1843 & 1－237．3 & 1204171 & \(137+477\) & \(149 \cdot 174\) & 37641 & 5768－5 \\
\hline 26155，8 & 2349521 & 26309＊） & 2302763 & 20023.9 & \(<4.543\) & 3419972 & 3－bd6un & 3 \\
\hline 13.37 & \(1 \sim 7338\) & 120300 & \(1 / 1<21\) & \(13336+\) & 4.1323 & \(2 \times 7640\) & \(17 \% \sim 797\) & lout 637 \\
\hline 142333 & \(1345<1\) & 1500：1 & \(10209]\) & \(156 \pm 46\) & 175027 & 227274 & 264＊43 & 362919 \\
\hline \(|6|>+d\) & C11．04 & 239774 & ＜ 34075 & 2 J 2697 & \(2.955+\) & 22.4537 & ＜6021） & 42937 \\
\hline \(38+412\) & －いしづ＊ & ＋33475 & \(4 i 3001\) & 2u施76 & ，22184 & －62400 & 36376 & 586279 \\
\hline 8，+9 & 12.754 & \(1 د 2 \pm 18\) & \(i+2 i=3\) & 152781 & 15630 & 15,537 & 130753 & 1st921 \\
\hline 92062 & 371723 & 1」346う！ & \(1003+23\) & 1561903 & 965206 & 1293042 & 1362043 & \(14 \%\) E 10 \\
\hline 1cJ 3 d & \(13=-7\) & \(1 \rightarrow 6<3\) & 10333 & 18045 & \(2: 673\) & 22446 & \(1899+6\) & 12 c3－6 \\
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\hline \(3+40324\) & \(3+2340\) ． & 30717 l & \(42+20+1\) & 412357 & ＊＋7 177 & \(489: 306\) & c 834277 & 7264173 \\
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\(24 y\) & \(27 / \mathrm{bj}\) & 31539 & 34くり。 & 47649 & 34721 & 557 d 2 & 51043 & \(429 ; 4\) \\
\hline \(210+15\) & \(2+5154\) & \(2 i * 7 * 1\) & S－1030 & 3455 ¢7 & 30.541 & 397494 & \(72+616\) & 3¢4ว2ら \\
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\hline jbJu．d & \(572<10\) & \(0<11\)－6 & 0,0300 & \(683 y 03\) & 122637 & 791621 & 648.34 & 913541 \\
\hline & C \(=3\) & 253 & & & & & & \\
\hline \(79+u+0\) & 35.0 .4 & 160316 & 7tiv／e & 179130 & ；9：846 & \(8 \times 5317\) & 803634 & \(94<5>2\) \\
\hline & & 20330 & ＜u3 \({ }^{\text {2 }}\) & \(27 \angle 12\) & 277，0 & 24619 & 27110 & \(3:+0\) \\
\hline 2 150 & & & \(2+2=1\) & 24576 & 64904 & ＜5＞11 & 2575 & 27354 \\
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\hline 15472 & くuう12 & 223 & \(2+9193\) & \(2+364\) & 2470．3 & & & \\
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\hline  & FukILavj & 1401 & 1768 & 1469 & 197 J & 1971 & 1772 & \(197 \%\) & 1076 \\
\hline L－is 1 & 201：4フ15 & Cd \(2<2257\) & 5． 731.09 & 30．46t＊ & Sutillo 3 & ＊＊．\(<2094\) & － 270827 &  &  \\
\hline Fur J－r＜cilatau & 2．6．310 & リンすく0ら？ & －562． 17 &  & ＞－43＞ 45 & \(233+031\) & 1315231 & 7月0： \(0-3\) & \[
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\rightarrow 7<811
\] & \(\rightarrow b<72\) \\
\hline  & \[
\begin{array}{r}
+227+6 \\
14<0.720
\end{array}
\] & \[
\begin{gathered}
405+25 \\
1205: 101
\end{gathered}
\] & \[
\begin{array}{r}
.42482 \\
1 / 12<933
\end{array}
\] & \[
10 t=-4+5
\] & \[
2+48+1 y
\] & \[
2<, 3+187
\] & 2 －36－989 & 26454 & 24316：16 \\
\hline  & & & & & & 1246 & 1363 & 1722 & \\
\hline ［kat 6aitu．t uascuunI & & & & & 129292＊ & d349513 & \(918.07 \%\) & 972153 & \(1351+3=9\) \\
\hline  & Sus）0．0， & \(3+\angle 30) 1\) & 22.9075 & \[
22+0624
\] & 2321000 & 201］：23 & 2416633 & 3レ9761？ & \(33<6263\) \\
\hline  & 1037 & 1100061 & 1．,\(~ d<y 2\) & 1130） & 1283280 & 1＜6？\({ }^{\text {－}}\) 7 & 1343528 & 13976.7 & 1253323 \\
\hline  & 11.5037 & IIOueli & 1． 1 dey & & & & & & \\
\hline  & & & &  & 526721 & 535076 & \(30 \sim 375\) & －＋ 319 & －त4\％： \\
\hline  & 225430 & \(1936 \rightarrow 3\) & 2j3jcs & く4－48 & 297893 & 334720 & \(2 \mathrm{~d} / 568\) & 4－21：3 & ＊951：5 \\
\hline  & 164341
\(7+302\) &  & 115902 & \(<110<3\) & 4．7391 & 10.576 & \(3 t-398\) & \(4 \sim \sim\) & \[
\angle 7 i, 2 *
\] \\
\hline  &  &  & د34＊64 & 7 1 － 020 & \(01 \pm 242\) & \(9 \rightarrow+222\) & 1 14．4．823 & 1J9＊t3 & 1133131 \\
\hline  & 1） & 1003 co & くい1408 & clolus & \(23+4.3\) & ＜034．7 & 3u－527 & 32249 & 3510， 3 \\
\hline  & 20cJフo & 115012 & 54うが3 & 279701 & 3270b） & －20＜36 & 529334 & 56．372 & 3－2349 \\
\hline  & CokJフo & 315012 & 」4コヴ & & & & & & \\
\hline  & & & & & 21.12 & ＜ati． & 2，735 & 51946 & \(33 \sim 25\) \\
\hline  & lud． 5,3 & \(11729 \ldots\) & 1327716 & \[
139 \ldots 29
\] & 1＊dcu93 & \(10103 / 2\) & 179：8し & 16＊542． & 1 車 \(2 \rightarrow\) の 6 \\
\hline  & \(3-1 \times 213\) & 30441つ & 4103097 & 4083734 & 4 ¢ 26354 & b／311．2 & 6i19＊＊4 & 6.12137 & 6－2 ううコ！ \\
\hline Nua－r uusl & 3－1t20，4 & \(\rightarrow 40\) & 513 & c． 32 & 1ヶ2\％ & 1：t & 427 & 1361 & \\
\hline  & 34i， 4,7 & －\％\％－ & （3）1239 & ，6，3s6 & 1－2J09 & ᄂ7＊7t ： & 70うこ18 & \(1-12033\) & \(1 . .6\) \\
\hline  & si \(-3=1\) & 3716 & & & & －2542d & 62107 R & & 63i 5 \\
\hline  & s－isis d & ゴッ．－ & －2＊035 & \(4 \pm 346\) & ＞4 1 531 & つ） & L \(5+726\) & 865943 & 160t＊o \\
\hline  & \[
243113
\] & 295c． 3 & Su37d & ふう」dio & \(3122-1\) & \(32>9\) ¢9 & 2AItJs & 191013 & 1597： \\
\hline  & ，39930 & －3ッジ & 4．53） & 12105 & 0.8179 & 9132．3 & 92－9ン2 & 12711 －7 & \(1 \rightarrow 7112\) \\
\hline  &  & 23くい， & S3Cうちと & \(\checkmark 1<0 / 1\) & \(\rightarrow\) ¢くJっd & －こう7，9 & 7力つ11： & 04536.7 & 630゙ \\
\hline  & \[
j<0 \sigma_{6}
\] & 20－1．3 & a＜376s & c 90154 & 72J4．1 & いこ： 250 & 9．4．10 & 1 小－t？3． & 163522 \\
\hline \[
J_{2}+\ldots=614 i+v i
\] & 07， 23 & 173033 & 1」もうこu＊ & 1123133 & 1280021 & 1．294．3 & 1020033 & \(1350<73\) & ， \\
\hline  & & & & 4.342 & ． 7372 & 2，17 & 5． 229 & 2，672 & 591 \\
\hline  & 3116 & －20 & － 2317 & \(4, \rightarrow 45\) & & 43430 & 43090 & 3＜1－3 &  \\
\hline  & 3－532 & 301：6 & 500） \(59<0\) & +162 & 420 & \(\rightarrow+\rightarrow\) & 4799 & 3192 & ン2 \\
\hline  & 3 万50 & 3721 & 37＜0 & 1jうo & & 1524 & & 17 ju & \\
\hline  & \(1<01\) & 1270 & 1332 & 1320 & 133 & 1524 & & & \\
\hline J－v－Lur 1i，ATat dasuudivl & & & & & \(33 \rightarrow 3<6\) & ¢25923 & \(56 \times 634\) & 3123 & 21 ct \\
\hline 9ixamur 3，－4－13 K＊ & 1603） &  & 216303 & \[
220105
\] & \[
24912
\] & \[
<753>5
\] & 317604 & 319933 & 5203. \\
\hline  & 160330 & \(19+104\) & 216303 & 220105 & 24912 & & & & \\
\hline
\end{tabular}

\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline 21．Comanan co．pus mask． & sirUxAl＊ 1500 & 1 tur & 1 tod & 1709 & \(197 \%\) & 21，19， & \begin{tabular}{c}
2362 \\
234 \\
\hline 2622
\end{tabular} & \[
\begin{gathered}
1973 \\
2+76-71 \%
\end{gathered}
\] & 197\％ \\
\hline －いい」，MANI & is \(3 \times 4\) ， & 1796－96． & \(153<1898\) & 19i＊33－1 & cuostul & 21.80102 & 231：2622 & \[
2476.71 \%
\] & \[
\begin{aligned}
& 73362=3 \\
& 3466 b 56
\end{aligned}
\] \\
\hline  & \(129-815\) & \(1+30502\) & \(1>15 \sim 2\) & \(1 / 003 /\) & \(10419 \times 6\) & \(<21960\) &  &  & \[
\begin{aligned}
& 5666 b>6 \\
& 28-51-2
\end{aligned}
\] \\
\hline Cuvari a＞at Tj & 12－0．36 & 1150 ¢ \({ }^{\text {l }}\) & 123tol3 & 190003． & 1 フi6s22 & 1u0）30d & Ituく4＊s & \[
913594
\] & \\
\hline ACUUisiliun AJJuSIt MI & & & & & & & & \(170.5+5\) & 31083,1 \\
\hline winsinut Tiun．aurk it rauories －AI－NAL 4 SUPPLILS & \[
\begin{aligned}
& 2703+0 \\
& 210+12
\end{aligned}
\] & \[
\begin{array}{r}
1+417 ン 2 \\
<14375
\end{array}
\] & \[
\begin{aligned}
& 960+90 \\
& 20.909
\end{aligned}
\] & \[
\begin{aligned}
& 51.810 \\
& \angle 52659
\end{aligned}
\] & \[
313136
\] & \[
324.95
\] & \[
311289
\] & 291223 & 739873 \\
\hline －UNou ICrM ik ol & 7i10．00 & 72576．． & 69 COLV & vo190is & b3－420is & 2981しく3 & Sos3643 & 531 ucu & \(9010: 5\) \\
\hline  & 74.25 J & 12036 － & 113240 & 1v＊＊｜1 & 1532141 & 17ップしつ & 1520375 & 1582431 & てdコら4．1 \\
\hline  & & & 3j3753 & 333．61 & －2＋672 & 3．725 & 551963 & 91.478 & 1044273 \\
\hline  & \[
\begin{array}{r}
231152 \\
81913.7
\end{array}
\] & \[
127012.0
\] & \[
151<5921
\] & \[
13 / 90030
\] & 1.7332 c 9 & 1） & \(1691<372\) & 10339671 & 19133 d 76 \\
\hline ＊Uisalaril ai．V．3TALEf & & & & & & & & & \\
\hline  & & & & & 2」べぶ & 22．3329 & 2315750 & 2333576 & ＜3981．3 \\
\hline  & 1073162
\(102523>\) & \(\mid u+3-42\)
\(17+51 \mid\) & \[
\begin{aligned}
& 1357714 \\
& 1970336
\end{aligned}
\] & \[
\begin{aligned}
& c .100<0 \\
& 21167+1
\end{aligned}
\] & 2210－39 & 207603 & \[
2 \div 1+040
\] & \[
2511791
\] & 253035 \\
\hline  & \(132523>\)
iss7ja & \(17+4 / 17\)
10083 & 1970336
150536 & 13．031 & 174029 & 1，2213 & 172714 & 182901 & \(1320-1\) \\
\hline  & 135720
15171 & 100032
1010.4 & 11－22 & \[
i t 73 \mathrm{c}
\] & ＜，ious & 107003 & \(18.59 / 0\) & \(23+2\) 2 & \(2<31+3\) \\
\hline  & \(1005+3\) & 2，2354 & \(2224+4\) & S＞ild， & ＋71223 & \(382 \mathrm{st2}\) & \(40<618\) & E4tils & 739111 \\
\hline uIr＿n uriahlavo tiov＿itu＿ & bulat & －1」7？ & こ 15ヶ3 & \(\therefore\) ： \(3+4\) & 71130 & ¢ \(+\rightarrow 0\) & 43231 & 162969 & \(1421 / 8\)
1879.3 \\
\hline  & ¢＜80\％ & \(19 د 1 \% 1\) & 2u3400 & 19.334 & 174137 & 1こ32， & 1 & くく3） & \\
\hline  & Itos）3 & 1／2tcl & 191372 & く1\％205 & 214919 & 23.3674 & 2516 & & \\
\hline  & lijor＊ & \(17 \bigcirc 734\) & 11020 & （3003） & ｜yul & 4 & 8，355 & & A7，\({ }^{\text {a }}\) \\
\hline  & 7．17i & すいいつ & 0024 & 隹」 & 84プ & 20419 & \(23>39\) & 3v5d） & 33370 \\
\hline  & 23J＊） & \(<383 *\) & 237i4 & くりく1． & \(<9721\) & 2uly & 23フ39 & & \\
\hline  & 20／0） & 3，dis & 34653 & 0ヶうソ＊ & 134481 & \(4 \rightarrow\) & 4276s & \％＊く &  \\
\hline －fisnur iftrui（inc） & －tsyos & valul & ＊yolos & い136 & 1 & 10 － & & 2 & \\
\hline Md－n＇usi & 1コン1」らU & 16．7／43 & 101．150 & くッ0ン1？ & 1 & 1 Cy ¢ & 37 & 232．123 & \\
\hline  & & & & 9163． & 247ji4 & アッ＋334 & 323471 & 369205 & －2：7－9 \\
\hline  & \(21+351\)
\(1560=0\) & 123029 & 103304 & 17300 & 2く31し2 & 2こく」－9 & c－1－ 45 & 2596\％ & ＜b：591 \\
\hline  & 1360－0 & 123029 & 103504 & 18 & 2 lluby & \(\therefore 132 \mathrm{cs}\) & 231847 & 205203 & 2． 63.5 \\
\hline Gustuat servicice & 1301,3 & \(1701>2\) & 124271
\(1420+5\) & 1576.9 & \(12+310\) & 122 c 78 & 129952 & 13932 ） & 1316.3 \\
\hline دAL－s－Xronoc & \(1201 \% 3\) & 131642 & 142065
415913 & 2：7140 & 439815 & －81j75 & 510.76 & \(5910 / 6\) & \(\mathrm{Hacera}^{\text {cta }}\) \\
\hline dutian a G－r．ondl cxr－nse & 393940 & ＋1： 0 & \(2<071\). & （in） & 21uj－6 & \(19+119\) & \(1432: 9\) & 177057 & 171558 \\
\hline ＋I－－SICxtcis & Ca＊ & 3） 370514 & 39，536 & \(4+12\) ？ & \(425 \pm 96\) & \(\rightarrow 3.42\) & 211413 & 230215 & buçag \\
\hline 1ix－a & 36137 & 370314 & 33016 & ＜ 2 ， 2 & 16.43 & \(\rightarrow 304\) & ，311 & 13＊ & 2－1u\％ \\
\hline Ufrc． 12 UUCILUNS & ＊ 4 い \(1 / 2\) & －01732 & －03270 & 354332 & 276310 & 20.9362 & 617577 & 65080 & Ençis \\
\hline \begin{tabular}{l}
\[
0+r+6+1+6 \cdots
\] \\

\end{tabular} & & －017 & & & & & & & \\
\hline icia＿Gu\i心uミ．．う（Ax） & 132＋1 & 10223 & \(1+273\) & \(1 \mathrm{Ct}+5\) & \(13 \times 8\)－ & 13102 & 13.43 & 1サくさ？ & 1976 \\
\hline  & 12.69 & \(1490+\) & 1－yロ？ & \(1>2,2\) & \(13>24\) & 1，120 & 10636 & 16352 & 10.691 \\
\hline Lum：ALIAL CU；Tuncrs \(\left(\begin{array}{c}\text { ¢ }\end{array}\right.\) s） & 2122 & く16引 & C22， & くでン & \(2 \angle 74\) & 23.2 & 2325 & \(<37 \%\) & 2095 \\
\hline  & 317 & 9．d & ¢ 23 & هد3 & 6＞0 & 007 & & \(10<0\) & \\
\hline  & & & & & & & & 13.672 & \\
\hline 1Lxanu＊Jchids 人n & 73712 & d／93＊ & 110370 & 11602 & 103201 & 11347 & 13279 & 13.672 & \[
1: 3526
\] \\
\hline  & － \(6+1\) & \(12<31\) & \(10 \% \mathrm{dz}\) & d3312 & 8731 & 92691 & \(4{ }^{4} 17\) & & \\
\hline
\end{tabular}

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\(m \vdots\)
\(m\) \(i n\)
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\(2=\) 1972
\(1>4643 v 6\)
+445349
1.92471
150103
592754
.43632
2559620
823391 \(\begin{array}{ll}\sim & q \\ 0 & 0 \\ 0 & = \\ 0 & = \\ 0 & 0 \\ - \\ -\end{array}\)


 141563
112191
 259.5
9699481
 －818．2 \(\begin{array}{lll}30 & 3 \\ 0 & 0 & 1 \\ 0 & 0 & n\end{array}\) \(0 n\)
\(=1\)
\(r\)
\(n\)
in
\(=0\)

\(5133 j\)
34941

 \(\begin{array}{lll}n & 0 & \text { a } \\ n & m \\ 3 & m & 3 \\ u & y & d \\ n & =\end{array}\) \({ }_{2}^{2}\)
 \(\begin{array}{ll}\eta & 0 \\ \sim & 3 \\ \sim & 0 \\ M & \vdots \\ v & -\end{array}\) \(\begin{array}{ll}3 & 3 \\ 0 & r \\ 0 & 1 \\ + & 0 \\ 0 & 3\end{array}\)
 444701
 출










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 \(\therefore \begin{aligned} & n \\ & i\end{aligned}\) 101020
\(2<0020\) 5） \(1=3\)
\begin{tabular}{|c|}
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\hline Sunucy \({ }^{\text {a sex }}\) Is \\
\hline ACQuIsitius ajJustrizat \\
\hline  \\
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\hline －Ctuerent OL \(1 T\) \\
\hline EUnnenl Limailitlis \\
\hline  \\
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\end{tabular} Buhom IoUTiU．t at AlU COnSinu，ra Sur－－us aicufus paimunago bar． imma，ata Dio OijCuUni

 Tn＿－ur－nalivi mad＿NUL cos－Cremaill．，K－Vinilu


 UTh：PALLS（4AH） un－ㄴ․․usi Thansuisod
 ＋ationemjo－xp－ns． custr



\footnotetext{
コ：FっことーI！
}





\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline － & & & & \(\cdots\) & & & & & － \\
\hline 191＇fcka Imalúation ul Stmasm． & SPOKANC 146．3 & 1967 & 1968 & 1969 & 1976 & 1971 & 1972 & 1373 & \[
197=
\] \\
\hline MnLas rlamt & 9254； & 903676 & 1，02341 & 1167519 & 1232361 & \(12519+7\) & \(1-60413\) & \[
1937119
\] & \[
199+2.9
\] \\
\hline ReS＿rwi Fun U＿Pr．EGIatIUA & 23＜321 & 2615＜3 & 24．21） & \(3<203\)
\(11=4\) & 3＞73by
148 b 2 c & 243155
145726 & \[
\begin{array}{r}
42449 \\
9.706
\end{array}
\] & \[
\begin{aligned}
& 70012 \\
& 1>d 2<d
\end{aligned}
\] & \[
\begin{aligned}
& 3<6 y: 5 \\
& 2<1457
\end{aligned}
\] \\
\hline iUkn＿iol \(\lambda \gg \mathrm{l}\) is & \(9>82\) & 9.0 .76 & \(13<8003\) & 11566 & 148 b － & 145726 & & & \\
\hline  & 7） & & 3¢ b & 231 & 1646 & 299 & 33759 & 210297 & －8＊31 \\
\hline  & 1－3i） & 1826 & & & \(19<7 \%\) & 14053 & 2125 & 2－＊＊ & 35.59 \\
\hline HAI－r．ats a burtilicj & 1vat？ & 1.202 & 22217 & 21203
\(127<0\) & 1927 & 9481 & \[
9615
\] & & \\
\hline \begin{tabular}{l}
LCNG I＿nM O． 3 I \\

\end{tabular} & 160＊＊ & \[
12482
\] & 14697
034 & 127 co & \[
\begin{array}{r}
11551 \\
750
\end{array}
\] & \[
\begin{array}{r}
9481 \\
932
\end{array}
\] & \[
\begin{array}{r}
9613 \\
515
\end{array}
\] & \[
9031
\] & \[
A \gg 1
\] \\
\hline ficha－n \({ }_{\text {chir }}\) & & & & & & & & & \\
\hline CUial itiviaur at afu Clistrucin & & & & & & 1207687 & \(10 \sim 0 \mathrm{cos}\) & 1772155 & 19．902 \\
\hline sUkr－LiJ Anulun rmir．jnab．GAP． turnacirta hode STmerit & 10さッフン） & 1113431 & 12.3729 & 1273201 & 1374523 & \(18 \% 768\) & \(10 *\)－ & 1772135 & \\
\hline  & & & & & 1418 & 1959 & 1269 & \(1<09\) & \\
\hline  & 295210 & 31.547 & S－bijs & S30．31 & －23770 & 42094 & ；22316 & 勺ッさンク5 & ， 7 \\
\hline CCaickuial veviNue & 133＋1 & \(1>1-4\) & 15315 & \(1 ヶ 6>2\) & 16342 & \(143>2\) & 5 & \(2+370\) & 9 \\
\hline  & 23940 & \(206-d\) & 26．24 & 2923？ & －35u5 & 43357 & －3071 & \(0-937\) & 629．0 \\
\hline  & 10,5 & 154］ & 16 co & 1203 & 1370 & 007 & 1355 & 1365 & \\
\hline uTH．＊niverul F．．Ut ；ALCS & 1－＋3 &  & 14.31 & 117＊ & 1ゝつら｜ & 14763 & 7296 & \(7 \rightarrow 0\) & 1．3）3 \\
\hline JTHL？Lr－nATİ＊＊r－V＿NUL & 3875 & 34.6 & 3361 & 5352 & 5943 & 5 Sin & S399 & ＋03－ & \(58: 1\) \\
\hline  & \(79 \times 7\) & \(131: 1\) & \(1+783\) & \(1 く 1 \geqslant 7\) & 171.3 & 1 ダらリし & 2－67a & 24， 76 & 101.1 \\
\hline \(\kappa=31\) chifac Salcs（－fit） & 3）1しく & 41052 & －5960 & 2 102 & 26507 & \(6.67 *\) & \(7: 713\) & 7302 & －346 \\
\hline  & 1210 & \(14 \times 2\) & 1－61 & 14.2 & \(1>31\) & 1711 & 2031 & 2357 & 2 c 96 \\
\hline InjusInian دAL－ら（4＊い） & CTCS & 3121 & 5256 & 3361 & 5697 & 5715 & 6596 &  & \(11+15\) \\
\hline Inr．，ATivit SAL－S（mmi） & 3.1 & 471 & COL & 256 & 247 & 129 & 2.5 & 23， & \\
\hline v1r＋s＞LL－S（ tart & 213 & 203 & しつい & by． & du & nu3 & 472 & ＊） & 736 \\
\hline Le－cuar atitul（iA才） & 312\％， & 2SY1？ & 25008 & atar & \(7 \times 2+3\) & 8.295 & 9，435 & 92103 & 1：120 \\
\hline Pun－cost & 1ssoz2 & 106610 & 1，לyou & 21）它》 & 222．51 & 240673 & 203545 & 29．7．5 & 3．6343 \\
\hline  & & i4．7 & & & & & & & \\
\hline  & \(34 \rightarrow 20\) & 2843＊ & 31823 & 32109 & \(4063 \%\) & ＋4216 & 20025 & 14， 37 & 79423 \\
\hline  & & & & & & & & & 61046 \\
\hline こusici－A ゝーndicc & 21031 & く46－6 & 23040 & 23403 & 20805 & 30173 & 35646 & & 61696 \\
\hline Sacs－araiosc & \(11+75\) & 1\％んと） & 235 ¢ & 4920． & 23259 & 1／477 & \(177>2\)
\(3>006\) & 20139 & \\
\hline  & \(100 \%\) & C－53u & 27110 & 3．30＊ & 33045 & \(3018 \%\) & 32066 &  & 57392 \\
\hline  & 13426 & 16340 & 1042 & 2.273 & 23434 & 23181 & 27372 & 31203 & 367.4 \\
\hline uTw－n Ji juctions & & 142 & 18 C & 71 & 5b & 2＊5 & 474 & & \\
\hline Jctncetatavia & \(2184 *\) & \(2+202\) & 2730 it & 3＋3i＊ & 40.076 & 36\％ 31 & 41532 & －0632 & 31396 \\
\hline  & & & & & & & & 3343 & －424 \\
\hline rutal CuSiutasinko） & ＜420 & 2035
23.3 & 2394
2455 & \(27<3\)
2018 & 2004
2747 & \[
\begin{aligned}
& 3615 \\
& 2890
\end{aligned}
\] & 3865 & 3343
\(3+3\) & \(32^{6}\) \\
\hline  & 232， & 2363
83 & 2435
30 & 2018 & 274
93 & 2890
\(y 8\) & 3605
1.9 & 122 & 136 \\
\hline  & & & & & & & & & \\
\hline  & & & & & & & & & \\
\hline 14ximua Dckatis Km & 11451 & 13832 & 13300 & 18984 & 17364 & 18928 & 10212 & 10613 & \(1, \rightarrow 76\) \\
\hline  & ）Job & 9415 & 1.172 & \(11 / 13\) & 12706 & I \(3 \rightarrow 79\) & 13ヶ32 & 10013 & 1,456 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline \[
\begin{aligned}
\text { AFILc } \\
\text { i Yoo }
\end{aligned}
\] & 196. & 1908 & 1969 & 1976 & 1771 & 1472 & 1973 & 197 ＊ \\
\hline \(1+96 c-103\) & 1，دolay－d &  & 21＊ 911942 & 273＋bo689 & 2d5c7う！ 3 & 3176954yt & 3245.8516 & 351Fh43L3 \\
\hline  & －15＊＊2＋＊ & \(*+2 \pm 77+4\) & 47，318¢7 & ，1533＞07 & 2＊25＊b＊ & 595 3 c 4 & b 36.967 s & －41na7u3 \\
\hline 39b142i & \(3+33-046\) & \(3+3 i \pm 493\) & 20i＊）S S & \(5>+5+\) U I & \(22, *+54\) & \(205-20<3\) & \(2-255311\) & ＜162－9．3 \\
\hline 5350tdi2 & 136237769 & \(1174<4522\) & 11051496 & \(1267 n 263\) & 22.72428 & 24323526 & 8746147 & \(12050 i z 3\) \\
\hline \(132-3+2\) & \(2 s<22 y 1\) & \(22+20 i 7\) & 2－1＋4．4 & 2125752 & 1054466 & \(1 \geqslant * 76-7\) & \(2614+72\) & 241579 A \\
\hline \[
\begin{array}{r}
15124.3+2 \\
5604254
\end{array}
\] &  6464117 & \[
\begin{array}{r}
130+6,260 \\
6.347175
\end{array}
\] & \[
\begin{array}{r}
17+34736 \\
37449445
\end{array}
\] & \(1 \rightarrow+1 \Rightarrow 23 \mathrm{ju}\) 8183 ú50 & \[
\begin{array}{r}
171<65 j=6 \\
7,<33>3
\end{array}
\] & \[
\begin{array}{r}
138 \div 62050 \\
19 C 3478
\end{array}
\] & \[
\begin{array}{r}
209635636 \\
16119898
\end{array}
\] & \[
\begin{array}{r}
2.5536: 23 \\
920+29
\end{array}
\] \\
\hline 133170 & \(1+363 \cup 3\) & 1571049 & 1／i才6ンy & \(135+b+1\) & \(2107+35\) & \(26 i+093\) & 29976．5 & 3129408 \\
\hline 635．221 & \(73290-3\) & \(8 * 137 * 8\) & \(077<341\) & 9457262 & 1.327313 & 11700516 & 11081592 & \(12,30 b-2\) \\
\hline 21；4＊ 4 & \(2+53400\) & \(3232+26\) & Jow 781 & 3929150 & ＋．0312＊ & 4993657 & －98＜330 & \(5-191+7\) \\
\hline \(8 \mid \mathrm{blval}\) & d＜a dy \(^{\text {c }}\) & \(d+73 * 1>\) & \(8 / \sim i s d o\) & \＄940゙7 & 7270434 & 9956164 & 16567467 & 7643643 \\
\hline 1／30uつ & \(i 92+28\) & 2130335 & \(2+7>6>\) & \(2+83039\) & 29tidub & \(3+557+i\) & \(751<057\) & 138629 L \\
\hline 267230 & 27154． & \(31>516\) & 293d4＊ & 3499.1 & 3＊5949 & \(414^{2}>64\) & 440671 & －76247 \\
\hline ¢6u2， & －0．tus & ＊ 3 i－3u & \(+>0+41\) & 1074049 & 1175476 & 1294709 & 1329067 & 15めんちゴ \\
\hline \(725 d 53\) & 17103 & \(8,7+02\) & ＋＋2－1 & \(1 u 1 \sim 797\) & \(113+210\) & 1151163 & 1127369 & 1185022 \\
\hline 23ndtl & \(2121<3\) & 3.7132 & 53dido & 370952 & \(+3729 \mathrm{u}\) & \(+29036\) & 43384. & \(\rightarrow+\in<2\) \\
\hline 14207,9 & 102 LiN & \(15 / \mathrm{d}<72\) & \(1+291 * 2\) & 1953062 & \(13933+2\) & 1夕b19＞1 & 1877913 & 1855389 \\
\hline \(36<d\) 1 & ¢ \(33: 1\) & 441030 & \(\geqslant 116<6\) & 522331 & 222391 & 593654 & 89809 & vicjos \\
\hline \(3<+j)+5\) & 3～すりくら & \(37<175\) & 2，44509 & ＊＊ \(776>6\) & － \(29303+\) & ＊+2 c． 97 & 4317032 & －دここ1ヶく \\
\hline 勺＋＊u＊ 3 & b3Jン613 & 2075940 & ＊－ 506 & \(5 \rightarrow 39330\) & \(2 \times 36 j\) क7 & 3480489 & \(1021 ; 980\) & 1．148010 \\
\hline \[
\geqslant<+d /=
\] & ＊u024u & ＋3136 & 2 2，24s & 717137 & 725054 & 135744 & 907635 & \(1<5 \times 1 \mathrm{~d}\) \\
\hline \[
1 / 4 \div 1>9
\] & \(1 \sim 318<7\) & 215．840 & c．02541 & \(2=388 \pm 7\) & \(27 * 3703\) & \(3 」 6 入 こ 79\) & 3157721 & \(33612+5\) \\
\hline 201320 & 二a＊5（） & くy
\(3960 \%\) & 325017
\(53>522\) & \[
\begin{aligned}
& 3473 \div 6 \\
& 366596
\end{aligned}
\] & 110596
311137 & \[
\begin{aligned}
& 4415>8 \\
& 28+836
\end{aligned}
\] & \[
\begin{aligned}
& 3>1170 \\
& 3424.2
\end{aligned}
\] & \begin{tabular}{l}
い＊＊＊い＋ \\
17344 b
\end{tabular} \\
\hline くらy3） & 35445 & \(396 * 2\) & 537522 & 356394 & 31115 & \[
285836
\] & \[
3429.2
\] & \[
173445
\] \\
\hline \(1 * 80+32\) & 1 c 3 くらす！ & 1437189 & \(2+3-12\) & 2223.25 & 2267887 & \(2 \% 9450\) & ＜78）51」 & 316 Aun 8 \\
\hline 20159,7 & 3， 3 ， 20 & 3,31272
\(27710-7\) & \[
2-1 i 032
\] & \begin{tabular}{l}
\(09616 / 7\) \\
3243289
\end{tabular} & \[
0, G 075 y
\] & be 8 tb 84 3496224 &  & \[
\begin{aligned}
& s<1+9,2 \\
& ++^{3} 6,72
\end{aligned}
\] \\
\hline \(2+653 i\) & 2,7692 & \(27770 \% 7\) & \(3+54=20\) & 3243089 & \(33032 d 5\) & 3496224 & 4302730 & ＋＊＊） \\
\hline \(3 \sim 5 \pm 718\) & 3601959 & 3371891 & 3145170 & 4481876 & \(4 \times 3 \pm 563\) & ＊ \(3<2 \mathrm{z}\) ， & ＊423226 & ＋945119 \\
\hline しりつこ0 & く1ンしう & \(7+159\) & 77213 & 61227 & 513 A6 & 82844 & 84.692 & EF7）2 \\
\hline 61050 & 63634 & \(b 5842\) & 00212 & \[
714+1
\] & \[
73137
\] & \[
7+378
\] & \[
70131
\] & \[
87942
\] \\
\hline 01， 1 & \(01 \sim 1\) & os 20 & 7271 & 8437 & \[
6521
\] & \[
5752
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0973
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\hline
\end{tabular}
 SLRFLUS AKU／JK raltiyaba CAP．
 AES．IGNTAL \(R=V_{L} N U_{i}\)
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 INUUSintal \(>+\cos (4 n+1)\)









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3 9016.6
243493
\(\begin{array}{ll}0 & 0 \\ \pi & 0 \\ \omega & 0 \\ \pi & 0 \\ j & 0 \\ 3 & 3 \\ n & n\end{array}\)

\(n\)
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0
0
0 \(c m\)
2
3
\(3=\)
\(v\)
2

 \(n\)
\(n\)
\(j\)
\(j\)
\(n\)
-
 \(\infty\)
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\(\sim\)
\(\sim\)
\[
\begin{array}{r}
1971 \\
22+8812 \\
7+4.988 \\
31 / 906 \\
2+473 \\
1 \times 3912 \\
43241 \\
560530 \\
1>6+16
\end{array}
\]
\[
\begin{array}{r}
12197 \\
1920 \\
10<521 \\
11183 .
\end{array}
\]
\[
\left\{\begin{array}{l}
13 \\
0 \\
=0 \\
=0 \\
=5
\end{array}\right.
\]
\[
\begin{array}{r}
9 i 63 \\
19.940
\end{array}
\]
\[
\begin{aligned}
& 915093 \\
& 19.845 \\
& 262063
\end{aligned}
\]
\(19 i=\)
3983332
803552
\[
\begin{aligned}
& n \\
& \dot{F} \\
& \underset{2}{0} \\
& 0 \\
& 0
\end{aligned}
\]
\[
\begin{array}{cc}
\pi & \vdots \\
m & \vdots \\
m & n \\
3
\end{array}
\]
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\begin{aligned}
& n \\
& \begin{array}{l}
n \\
\text { ov } \\
i \\
v i
\end{array} \\
& v i
\end{aligned}
\]
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\begin{aligned}
& m \\
& m \\
& m \\
& m \\
& n \\
& n \\
& n
\end{aligned}
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\begin{aligned}
& m \\
& m \\
& m \\
& =
\end{aligned}
\]
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\begin{aligned}
& 0 \\
& 0 \\
& 0 \\
& 0
\end{aligned}
\]
\[
\begin{aligned}
& n i n \\
& n \\
& j \\
& j n \\
& n \\
& n
\end{aligned}
\]
\[
46937
\]
\[
\begin{array}{ll}
m & n \\
r & n \\
= \\
\Rightarrow & n \\
\Rightarrow & n
\end{array}
\]
\[
\begin{aligned}
& 10 \\
& i \\
& i \\
& i= \\
& 0 \\
& 0
\end{aligned}
\]
\[
\begin{array}{r}
961 \pm 3 \\
1416353
\end{array}
\]
\[
\begin{aligned}
& =334+9 \\
& 1=3203 \\
& 257532
\end{aligned}
\]
\[
\begin{aligned}
& e \\
& i \\
& i \\
& i \\
& 0
\end{aligned}
\]
\[
\begin{array}{ll}
0 & 0 \\
1 & 0 \\
3 & 0 \\
0 & 0
\end{array}
\]
\[
\begin{cases}n & 0 \\ \hat{0} & 0 \\ 0 & n \\ j\end{cases}
\]
\[
\begin{aligned}
& 0 \\
& 0 \\
& 0 \\
& 0 \\
& 0 \\
& n \\
& n
\end{aligned}
\]
\[
\begin{array}{ll}
N & 3 \\
m & y \\
\sim & n \\
m & n \\
3
\end{array}
\]
\[
\begin{array}{ll}
\quad & m \\
n & \mathrm{~m} \\
0 & \mathrm{~N} \\
\mathbf{N} & ⿵ \\
& \mathrm{~N}
\end{array}
\]
\[
\begin{gathered}
0 \\
0
\end{gathered}
\]
\[
\begin{aligned}
& =m \\
& 0 \\
& n \\
& n
\end{aligned}
\]
\[
\frac{0}{n}
\]
\[
\underset{\sim}{\underset{\sim}{c}} \underset{\sim}{3}
\]
\[
\begin{aligned}
& b i n \\
& 25 x \\
& 200 \\
& 90 \% \\
& -20 \\
& N
\end{aligned}
\]
\[
\begin{aligned}
& n= \\
& 0 \\
& 0 \\
& 0 \\
& 0 \\
& 0 \\
& 0
\end{aligned}
\]
\[
\begin{array}{ll}
3 \\
0 & 0 \\
3 \\
0 & 2 \\
n & 2
\end{array}
\]
\[
\begin{aligned}
& n \\
& 0-1 \\
& 30 \\
& 0 \\
& 0 \\
& n
\end{aligned}
\]
\[
\begin{array}{lll}
\overrightarrow{2} & 3 & u \\
\vec{n} & 3 \\
0 & 3 \\
0 & \sigma & 1 \\
v & \sigma & \\
& n
\end{array}
\]
\[
\begin{aligned}
& \text { un } \\
& 0 \\
& 0 \\
& \text { in } \\
& m \\
& -
\end{aligned}
\]
\[
\begin{array}{r}
10 \\
00 \\
N 0 \\
\sigma 0 \\
\sigma 0
\end{array}
\]
\[
\begin{aligned}
& 3 m \\
& i=1 \\
& A=0 \\
& 0
\end{aligned}
\]
\[
\begin{aligned}
& \sigma \\
& N \\
& 0 \\
& s \\
& \sigma
\end{aligned}
\]
\[
\begin{aligned}
& 0 \\
& 0 \\
& n \\
& n \\
& \boldsymbol{y} \\
& 0 \\
& 0
\end{aligned}
\]
\[
\begin{array}{ll}
3 & 3 \\
2 \\
m \\
x & \sim
\end{array}
\]
\[
\begin{aligned}
& 2322 d \\
& 23044
\end{aligned}
\]
\[
\begin{aligned}
& n \\
& \overrightarrow{0} \\
& ? \\
& ?
\end{aligned}
\]
\[
\begin{aligned}
& 0 n m \\
& \frac{n}{i n}=m
\end{aligned}
\]
\[
\begin{aligned}
& 0 \\
& 0 \\
& 0 \\
& n \\
& \infty \\
& m \\
& m
\end{aligned}
\]
 \(n\)
\(\sim\)
\(\hat{2}\)
0
0
09404
\(13.92,9\)\(\begin{array}{lll}n & v \\ v & y \\ v & n \\ 0 & ? \\ n & i & n \\ n & -\end{array}\)\(\begin{array}{ll}n & 2 \\ 0 & x \\ 0 & n \\ 0 & \\ n\end{array}\)\(\begin{array}{lll}0 & 3 \\ 0 & 3 \\ 0 & 3 \\ 0 & 0\end{array}\)
\[
\begin{aligned}
& \infty \\
& \infty \\
& 3 \\
& 3 \\
& 3 \\
& 0 \\
& 0
\end{aligned}
\]
\[
\begin{array}{r}
4 \\
0 \\
0 m \\
0 \\
0 \\
0 \\
0
\end{array}
\]
\[
\begin{aligned}
& 0 \\
& 0 \\
& 0
\end{aligned}
\]
\[
\begin{array}{llll}
n & n & \infty & n \\
t & n & n \\
A & n & 2 \\
A & N & t & n
\end{array}
\] \(c / t+2\)
\[
A F 160
\]
\[
\begin{aligned}
& n \in \\
& N 0 \\
& N 0 \\
& 10
\end{aligned}
\]
\[
\begin{array}{rr}
3 & 3 \\
0 & 3 \\
y & 0 \\
3 & 4 \\
4
\end{array}
\]


 3
3
3
3
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0
 \(\begin{array}{lll}0 & 1 \\ n & n \\ 0 & 0 \\ 0 & = \\ 0 & n \\ 0 & =v\end{array}\) \(\begin{array}{ll}\infty & 3 \\ 0 & 3 \\ 0 & 4 \\ n & n \\ 0 & n\end{array}\)
 \(\begin{array}{cc}m & F \\ 0 & 3 \\ 0 & 3 \\ 0 & n \\ - & 0\end{array}\) \(\begin{array}{rl}2 m \\ m & n \\ m & n \\ m & = \\ & =\end{array}\) \(\begin{array}{llll}0 & a & 0 & 0 \\ N & n & 3 \\ n & n & 3 \\ 2 & n & n \\ n & \cup N\end{array}\) \(u\)
0
2
2
0 \(\begin{array}{ll}0 & 0 \\ 0 & 2 \\ 0 & 0\end{array}\) \(\begin{array}{ll}N & 3 \\ \sim & 0 \\ m & N\end{array}\)
 FORTLANJ \(22416>2\) 0
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0 34130
\(10+33\)
32331
1712,0
200150 \(5<631\)
1.7 .303 \(631>27\)
1163.0
2651.4 \(\begin{array}{lll}\vec{i} n & n & n \\ n & 0 & n \\ j & 0 \\ n & j v & v \\ i & n & 0\end{array}\) \(\begin{array}{ll}-n & n \\ 20 & n \\ 0 & n \\ 0 & n\end{array}\)


\section*{Id\＆SPARNGF \＆ \(2=0\)}

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\begin{tabular}{|c|}
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\hline EUatioxt Ajscis \\
\hline aCusisitiun ajJustiant \\
\hline \multirow[t]{2}{*}{CONSIKUCTIO：WGEK IN PAUGKESS} \\
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\text { CUici }-N \text { I LIAOLLIGIES }
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 TuFaL cusfuncustares（Asia） acs，onal LUatulicaد（Avo） ALLSS UF UISTALEUTIUN LINC Je VLLUF MZNi＝L U［SCLUJNI

\(\begin{array}{cccccc}909 & 1973 & 1971 & 1972 & 1973 & 1974\end{array}\) \(\begin{array}{ll}524-99871 & 5631427,7 \\ 18+07787 n & 1 \rightarrow 462=552\end{array}\) \(\begin{array}{rr}185+77875 & 1 \rightarrow 462-552 \\ 22154433 & 2972+545\end{array}\) 552274612
\(5 \times 16159\)
\(516>6412\)

 \(10012+\infty 3\)
+511434
 \(\sigma=\)
30
0
\(m\)
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\(=0\)
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 \(1746 w=62\)
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\(n\)
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\(\vdots\)
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 \(310+4362\)
40591 30
3
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10
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0 2
\(=0\)
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0
\(=v\)
\(=0\) －3103ク54＊ \(\begin{array}{ll}i & 0 \\ i n \\ n & 3 \\ i n & 0 \\ 0 & 0 \\ i & 0 \\ n & v\end{array}\) 27805134 \(=3\)
\(N\)
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\(n\) \(150+4728\)
\(\begin{array}{ll}0 & 0 \\ n & n \\ 0 & 3 \\ 0 & 3 \\ N & 0 \\ 0 & 0 \\ 0 & n \\ n\end{array}\) 1909
+01247592
\(1+2001277\)
2.270075 \(\begin{array}{ll}n & 0 \\ \hat{n} & 0 \\ 3 & \checkmark \\ n & n \\ n & n \\ - & \end{array}\)

\(\begin{array}{ll}0 & n \\ 0 & j \\ 0 & y \\ v & n \\ 0 & \Delta \\ 0 & j \\ 0 & 0\end{array}\) \(\begin{array}{ll}\infty & 0 \\ 0 & 0 \\ 0 & 0 \\ 6 & 0 \\ -3 & = \\ n & 0 \\ n & n \\ n & 1\end{array}\)

014 13 d 2 0
\(n\)
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\(m\)
2 \(3 N\)
\(3 N\)
\(i N\)
\(i N\)
\(2 N\)

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20
20
\(i n\)
\(i n\)
\(n\)
\(\qquad\) \(6, j 7233\) \(\begin{array}{ll}n & 3 \\ u & 3 \\ v & n \\ n & A \\ n & A\end{array}\) id \(3 \gg=20\)
\(b<09: 62\) \(\begin{array}{ll}3 & 0 \\ 0 & 0 \\ 0 & 3 \\ 0 & 0 \\ r & 0 \\ A & n \\ n & n\end{array}\) SEAITLK 32417230 \(1167<2+12\)
\(+17578+3\) 71363793
\(29459+9\) \(29659+4\)
102345020 102345020
166 esj5 5303503
\(14571<+54\)
－92＊＊＊3
 \(\begin{array}{ll}3 & = \\ n & 3 \\ j & 3 \\ 2 & 3 \\ i & 0 \\ - & \end{array}\) \(0 a n\)
\(2 m=\)
\(n=0\)
\(n=0\)
\(=0 n\) \(n\)
\(n=\)
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\(-\infty\)
\(n=1\)
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\(\vdots\)
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0 \(\infty m\)
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\(n\)
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\(m\)
 \(N\)
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\(m\)
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\(m\)
\(m\)

13643447

\(277124+8\)
2,47474

3117139
767298 1433514
5610439 0
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3
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19
\(n\) \(N\)
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\(n\)
\(n\)
\(n\)
\(n\)
A

13263021
26107702
\(16,911<7\)
\(0+94213\)
4
\(r\)
0
\(v\)
\(y\)
\(i\)
\(i\)



\(2+6110.32\)
17003.40
\(n\)
\(n\)
\(n\)
\(n\)
0
0
3092540
\(\begin{array}{ll}n & 0 \\ 0 & n \\ n & 3 \\ 3 & 0 \\ 0 & n\end{array}\)
30
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3
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\(n 0\)
\(n\)
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-3
-3
3
\(\begin{array}{ll}\sim N \\ 0 & n \\ 0 & 0 \\ n & n \\ n & n \\ \sim N\end{array}\) \(\frac{n}{n}\)



 \(\begin{array}{ll}0 & 1 \\ 0 & 0 \\ n & n \\ i & 0 \\ \vec{y} & =\end{array}\)
\(\begin{array}{ll}0 \\ 0 & 7 \\ n & 0 \\ n \\ 3 & \\ 0 & n \\ 2\end{array}\) \(\begin{array}{ll}\pi & n \\ n & n \\ 0 & n \\ v & 0 \\ 0 & 3 \\ n & 0 \\ t & 0\end{array}\) \(n\)
\(v\)
0
0
\(m\)

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3
2
2
2 213117,0
13421306 13423206
7247309 \(34+0+30\)
+20200
\(2 .+1231\)
2523140
1366030
1206531 474574
\(54+6730\)
16140690
\(99 i 960\)
\(5+90639\)

\(n\)
\(n\)
\(n\)
\(\vdots\)
\(n\)
\(n\)
\(n\)

\(\pi\)
\(t\)
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0
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\(\sim\)
\(\sim\)
0

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\begin{aligned}
& 0 \\
& 2 \\
& 2 \\
& 2 \\
& 2 \\
& 0
\end{aligned}
\]

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\(=\)
\(\begin{array}{lll}0 & \sigma & 0 \\ N & n & 0 \\ N & n & n \\ A & n \\ v & N\end{array}\)
\[
\begin{array}{lll}
0 & 3 & 1 \\
0 & 3 & 0 \\
-3 & 3 & n \\
0 & 3 & \hat{n} \\
n & 1 & v \\
v & v &
\end{array}
\]
\[
\left.\begin{array}{l}
0 \\
0 \\
0
\end{array} \begin{array}{l}
1 \\
3 \\
0
\end{array}\right]
\] 2020022
1251030
2412737
3263710
\[
\begin{array}{ll}
326271 d & 3-61032 \\
4+0,3,3 & 32+3 z+3
\end{array}
\] Bed，3，4
\(n v\)
\(x\)
\(w\)
\(n\)
\(n\)
\(n\)
\(n\)
\(v\)
\(v\)
\(\begin{array}{lll}3 & 3 & n \\ \sim & 0 & 0 \\ 0 & 0 \\ n & r & v \\ \sim & v\end{array}\)
 ゝUrHLUS ANUAU，FKTNJNAGC GAP．
 4Kん－viIION LISUULNT






 UiH＿h SiLLS（Ha木）
CNz



 otnean u：jucituns


Hes ut vas



\[
\begin{aligned}
& \text { malla } \\
& 1900 \\
& 6120213 \\
& 2.611+5 \\
& 097031 \\
& 192732 \\
& 2.51 i 6 \\
& 1.3103+
\end{aligned}
\]
\[
\begin{aligned}
& 1,3103+ \\
& 3>600 j
\end{aligned}
\]

\[
\begin{aligned}
& \text { \&:172? }
\end{aligned}
\]
\[
\begin{aligned}
& \begin{array}{c}
\approx \\
0 \sim \\
0 \sim
\end{array}
\end{aligned}
\]
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline 17．＇that anozics Masat & \[
\begin{gathered}
\text { SEATILE } \\
1900
\end{gathered}
\] & \(1 \geqslant 6\) & \(1 * 5\) & 1909 & 1976 & 147 & 1972 & 1983 & 197. \\
\hline anuss rant & 3＞＊w） & 35127yl & ＊＊986／9 & ＊82sbol & 5 J 3 cic 31 & \(221>3>2\) & 56d／446 & 6648937 & 6312267 \\
\hline  & 12usd）\({ }^{\text {l }}\) & \(1306 /\) is & 1450183 & 15,4147 & 1533．80 & \(1-69534\) & 1764171 & 1905065 & 2304632 \\
\hline  & 12 bol ＊ 0 & 1－a，＜＜？ & 6． 518 － & く－ラ11ン & ＊70309 & ＋h \(4 \times 64\) & 6， 2.896 & 699 C － 1 & 71.3 .7 \\
\hline ALuUaSiIIJN A JJJaTnait & & & & & & & & & \\
\hline Cuns ThucI íute Aunk i4 Fkư̆keSs & 120035 & 111203 & 1 35506 & 124847 & 622.5 & 31174 & 27361 & 73067 & 104230 \\
\hline 411－mamb 4 SJtraics & 1．dフ？ & \(10 \sim 33 *\) & \(113>8\) d & 34154 & 161966 & 172616 & 199144 & 221453 & \(<32333\) \\
\hline －ung i－am \(0=41\) & & & & & & & & & \\
\hline CUn＊：\(=\) NT Laticitics & \(4,3,7\) & 46322 & \(1 \gg 492\) & 13236 & 139616 & \(3935>8\) & 333826 & 4878.1 & 319E） \\
\hline tcra－nSnit Itas & & & & & & & & & \\
\hline  & 2tod & \(41+4\) & 12798 & 13453 & 153＞7 & 17788 & 32212 & 45743 & \(425 \mathrm{c} \geqslant\) \\
\hline SUkrabs ANTf Ji ratr jivib－LAP． & 2039013 & 21961＞1 & 3112．49 & \(3<113+3\) & 5335，29 & 3242625 & －77，142 & \(4 \pm 63.9 \mathrm{c}\) & － 3773 ， \\
\hline  & 980035 & toobs） & Ho5uj？ & Yjobs） & Ydtos？ & 480635 & 985635 & 905630 & GPと可う \\
\hline Inめなvai」on ulSClunt & & & & & & & & & \\
\hline  & 9．71， 7 & \(0115<7\) & 67.283 & 7 70tas & 7－2， 260 & d． 192. & 853252 & 889218 & 199：72 \\
\hline  & ＜S＞＋10 & 20くu＊） & 20，280 & \＃．1137 & 331204 & －． 1721 & － \(12<2\) & 39＜3＊0 & 2449．0 \\
\hline  & －シuく1 & 235903 & \(03813 \%\) & bİ116 & 051421 & 224＊20 & 610222 & 630610 & \(0<6352\) \\
\hline  & & & & & & & & & \\
\hline  & ＜1くす？ & 2．200 & ＜．691 & 292＞9 & 29193 & 小1i\％o & 31077 & \(3134 i\) & 3：273 \\
\hline  & 173，7 & 23b－5 & 19755 & 23402 & 25145 & 24311 & 30131 & －3131 & 3 ¢j－3 \\
\hline  & 27i＊＊ & د～303 & 2932？ & \(\rightarrow 7.8\) & 46.22 & －OE26 & 43021 & －5．23 & －とi－3 \\
\hline  & b，ifo & \(0<063\) & 911.6 & 77294 & i．1697 & 112854 & \(12 i 759\) & \(1263+9\) & 1277．3 \\
\hline  & 3，530 & 3－673 & \(3 \rightarrow 788\) & ＊し い & 41224 & －9530 & 32491 & ＊） 7 ？ & 479？ \\
\hline  & I 1 ＜020 & く－30＋ & 21ナ1゙＊ & 2200．0 & 213012 & 177231 & 21，331 & 21：302 & 23，7＞6 \\
\hline  & & & & & & & & & \\
\hline  & 59，4 & 3750 & 4156 & 5873 & 5716 & 6341 & 6333 & 02 Cl & ＜9＞7 \\
\hline E＊＊Nul & 20433. & \(33 / 8 \geqslant\) & 327422 & 53178） & 376379 & 2598 －0 & ＋ \(0,4 \rightarrow 0\) & cut 7 S & 4210， \\
\hline さu＊：Cust & 77－31－ & 9らうi3） & 30－+76 & \(1+1+1,3\) & 1こち3332 & 1.33117 & 11,7301 & 1100.91 & liociol 3 \\
\hline  & － 7 & 3.3 & \(13<0\) & 2 ho & 277 & 1701 & 531 & 79 & ＜n？ 3 \\
\hline ulsiasulauit cXra＊）＝ & 160010 & 11765 & 110051 & \(13>476\) & 146047 & 1432.5 & 157338 & 163.17 & 1050：3 \\
\hline  & & & & & & & & & \\
\hline  & 21004 & 211．1 & c．u 015 & 22303 & 3.227 & 34247 & 3296 & 325,9 & 34637 \\
\hline  & 316 & ？\({ }^{\text {l }}\) & 311 & 340 & 967 & 77\％ & 842 & 27. & \(-2\) \\
\hline  & idezo & d．930 & \(571>2\) & 46103 & 73614 & 64350 & 89957 & \(11<559\) & \(16<341\) \\
\hline  & & & & & & & & & \\
\hline TLx－ & 113123 & 123t3u & 125771 & 130402 & 138099 & 13720 & \(121 \sim+1\) & ＇50444 & \(16=156\) \\
\hline 小iron L＝UUGI： & & & & & 55＋04 & & & & 7346 \\
\hline  & 1icus6 & 11640 & \(11>372\) & 1304.8 & \(1367<1\) & 149355 & 159677 & 1ivtくj & 177－21 \\
\hline  & 2 31 ¢o & 9915＊ & د4isd & 25148 & 29198 & 29136 & \(5>195\) & 5919 & 39149 \\
\hline TuTal Cujlu－is（avu） & 0＜2） & 023） & 0214 & 62.2 & 6375 & 0275 & 6036 & 64 ＋？ & \(71<3\) \\
\hline  & \(2<17\) & 207
464 & 7296
\(4<5\) & －311 & \[
\begin{array}{r}
5389 \\
y 22
\end{array}
\] & \[
\begin{array}{r}
2350 \\
978
\end{array}
\] & \[
\begin{aligned}
& 3705 \\
& 14 \mathrm{JJ}
\end{aligned}
\] & \[
\begin{array}{r}
3+27 \\
997
\end{array}
\] & cur． 969 \\
\hline  & 927 & 9 CL & \(4<5\) & 94. & y22 & 978 & \(14 J 3\) & & 969 \\
\hline TaLzS Cr uasivisuTaj tainz & & & & & － & & & & \\
\hline 3：V－Lur & & & & & & & & & \\
\hline  & 4104 & 39＜00 & \(0 j+8 \mathrm{c}\) & とつさ～い & 66920 & 65960 & 8.56 & 780 & 15610 \\
\hline Avermbi U＿4n＇tJ＜w & 41435 & 47024 & \(5<6<3\) & 53033 & 56.145 & 53603 & 01982 & \(0<100\) & t3435 \\
\hline
\end{tabular}


\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline 15\％＊Cril wnville une & PORTILANO & & & & & & & & \\
\hline & 1960 & 1467 & \(1+68\) & 1967 & 1476 & \(1 \pm 75\) & 1972 & 1973 & 1976 \\
\hline Shus r manl & 5181』23 & 336－532 & 360 \＄237 & 42．9444 & 4345535 & 4545.67 & 48720c6 & 53090 io &  \\
\hline ne＞－ave．FJn J．treci 1116 N & \(880_{0}\) & \(9 \rightarrow>22 *\) & \(1 \times 236.3\) & 1－v2u＞2 & 1－＊＊2－7 & 1367 － 6 & \(1:>+637\) & 1315732 & 1163359 \\
\hline Cu＇ 2 Hi assc．Is & 3＊＊31 & bu－9＞0 & \(61>077\) & 193100 & 2729 cs & －ロ－1 & 773672 & 79328． & \(613+0\) \\
\hline  & & & & & & & & & \\
\hline  & & 12376 & 7622 & & 16210 & 37227 & \(537 \rightarrow 2\) & 193033 & 119615 \\
\hline 1A1－vath，\＆juriat．S & 427.3 & 5173 & 23158 & －8991 & 41730 & 21433 & \＄2996 & \(731>9\) & 137799 \\
\hline LんNu IENT 3＜ 1 T & & & & & & & & & \\
\hline UUKN二AI LIAzalties & 8272＊ & 34901 & \(1<2316\) & 127631 & 1－4527 & \(1<8371\) & \(1 \mathrm{~b} / 628\) & \(2192+9\) & 2.9979 \\
\hline Acrs．5nlr Fazs & & & & & & & & & \\
\hline CLnir．aUliut in miv GLnsinuCId & 632－7 & \(0 \times 411\) & b324b & 1 16150． & 369113 & 57．3：5 & 37－6－7 & 377823 & 378989 \\
\hline SUxitus Axaf un 2eThusicio Gap． & 23＊）2， & 2407021 & \(26212+1\) & 273y．71 & \(2 \pm 5>353\) & 3200720 & 3－5，922 & 38.7505 & ＊ 60741 \\
\hline  & 4＊－6＋ & ＊＊しいい & ＊＊小い & ＊＊＊＊ & v＊＊ 40 & －4， 40 & \(44 \times 20\) & 44062 & 4462.6 \\
\hline IRNaultav uasculvil & & & & & \(0 \vee 1\) & 424 & 215 & 767 & \\
\hline  & 5＜2う＊） & 223－32 & 31コン2i & 3517.7 & 454092 & 742316 & 753694 & 77154. & 813891 \\
\hline  & 23，0＞0 & 230650 & 26．943 & 26sく， & 278320 & ¢． 0 ud & 34,045 & 31469； & 292651 \\
\hline  & 124345 & 134147 & 145294 & 179540 & S5＞diu & 2662－6 & \(45<7>1\) & 30＜926 & U 4.827 \\
\hline  & & & & & & & & & \\
\hline  & \(1+0 \pm 3\) & 13203 & fulou & 10769 & 1737＊ & 21157 & 32752 & 35433 & 33360 \\
\hline  & \(1 \cdot<\geqslant 1\) & \(1<1,2\) & \(1 \ldots 09\) & 403） & 12157 & ＋745 & \(1 \cdot 569\) &  & 11764 \\
\hline  & 1271 & bb＞s & 12342 & 044 & ¢921 & 252.2 & 23133 & 17773 & \(38 \times 27\) \\
\hline  & 0） \(3>0\) & 6u＊－9 & 73130 & \(3.3<1\) & 83313 & 45192 & 92978 & 90d17 & 1.1213 \\
\hline Cu゙にの6ifl \(>\) AL & 2u－10 & 20＜0i & c337a & 2－yで & 24う） & 2.413 & 26631 & 21234 & c09yo \\
\hline  & 1－53＊ & 10360 & \(17<17\) & C220s & 49134 & 50743 & 6 3995 & 761＊4 & 91346 \\
\hline  & & & & & & & & & \\
\hline JTH．＊SeLく5（144） & 15＊） & 1963 & 2.20 & 212. & 2254 & 6579 & ＋135 & 4055 & －356 \\
\hline  & しくてつす！ & 1119.2 & \(12<176\) & \(15 \times 9\) S & \(107+7 *\) & 187093 & 24.192 & 213210 & 23－3．0 \\
\hline 90n－1 CuSt & －13050 & \(43+235\) & \(2+<187\) & ＞3／43） & 584 I & 093114 & 8 d 445 & 731467 & A，4241 \\
\hline  & & & & & & & & & \\
\hline Ji＞la 1 butivie－XPCMS： & L \(1<10\) & Idiv1 & 43092 & 124202 & 160479 & 173012 & 187307 & 213201 & 276595 \\
\hline  & & & & & & & & & \\
\hline  & \(1 \rightarrow 8+6\) & ＜ \(23 \times\) & \(2.27 \%\) & 26957 & 20030 & 21862 & 34726 & 30315 & 47315 \\
\hline  & & & & & & & & & \\
\hline  & －5030 & 3183 & c \(7+6\) & 12460 & 8931 & \(930-3\) & 1u3998 & 137003 & 15 \({ }^{\text {cjos }}\) \\
\hline  & \(13+\) & lus & \(2+1\) & 20， & 935 & 11う2 & & & 354 \\
\hline 1ヵ入） & b． \(5+1\) & 0＜44） & 63243 & \(76 \pm 9\) & 85300 & － 455 & 92633 & 152314 & 15．4028 \\
\hline  & & & & & & & 292 & 3－i & \\
\hline 3－r ż」aT」um & Yay＞t & 1Jってく， & \(1 \times 0217\) & 110031 & 131748 & 140030 & 149959 & 15－300 & \(1050 *\) \\
\hline  & 20＊＋ & ＜00」s & 20000 & ＜070－ & 20003 & 204J2 & \(204+1\) & 204， & \(2^{6} 4.0\) \\
\hline  & \(477 \%\) & 4335 & －+13 & －6ul & 4 di？ & 2143 & 3165 & 5072 & ¢6．\({ }^{\text {d }}\) \\
\hline  & Soit & Secs & 3700 & 3921 & \(4{ }^{4}\) & 4309 & ＊＊ 35 & ＋621 & －731 \\
\hline  & İub & し） 3 & b） & 671 & b 73 & 003 & by8 & 729 & 761 \\
\hline  & & & & & & & & & \\
\hline  & & & & & & & & & \\
\hline  & ＜u3） & 311.1 & \(3 \geq 360\) & 533 w & 430is & 483i4 & 51851 & こち＊」 & 2－6\％－ \\
\hline  & \(197 / y\) & く．7 7 & \(<1198\) & 27043 & 3166 & 49567 & 32547 & 39017 & －6275 \\
\hline
\end{tabular}
\[
\begin{aligned}
& 1976 \\
& 03+6,3 \\
& 26,271 \\
& 13.563
\end{aligned}
\]
\[
\therefore \frac{0}{m}
\]
\[
\begin{aligned}
& n=n \\
& n=3 \\
& 0=3 \\
& =i n
\end{aligned}
\]
\[
\begin{aligned}
& 0=\hat{i} \\
& j n \\
& 0 n \\
& 0 n \\
& n
\end{aligned}
\]
\[
\begin{aligned}
& 10 \\
& 20 \\
& 3 \\
& 3 \\
& 3
\end{aligned}
\]
\[
\begin{aligned}
& 0 \\
& 2 \\
& 2 \\
& 0
\end{aligned}
\]
\[
\begin{aligned}
& n=0 \\
& r N \\
& N \sim 0 \\
& \sim=
\end{aligned}
\]
\[
\begin{array}{ll}
\bar{n} \\
N & 0 \\
N & 0 \\
N & i
\end{array}
\]
\[
\begin{gathered}
1971 \\
372047 \\
1922+9
\end{gathered}
\]


\[
\begin{array}{r}
m m n \\
n i n \\
n \vdots \\
n \pm \\
n
\end{array}
\]
\[
\begin{aligned}
& 0 n \\
& n N \\
& n N \\
& i n \\
& i n
\end{aligned}
\]
\[
\begin{aligned}
& \infty \\
& 0 \\
& 0 \\
& 0 \\
& n
\end{aligned}
\]
\[
\begin{aligned}
& 0 n \\
& n n \\
& n
\end{aligned}
\]
\[
\begin{aligned}
& m \stackrel{n}{n} \\
& \underset{y}{n}= \\
& \underset{y}{c}=
\end{aligned}
\]
\[
\begin{aligned}
& n \stackrel{m}{n} \\
& =\frac{\pi}{n} \\
& =\frac{1}{n}
\end{aligned}
\]
\[
\begin{array}{ll}
5 & 0 \\
n & t \\
0 & n
\end{array}
\]
\[
\begin{gathered}
197 \% \\
540179
\end{gathered}
\]
\[
\begin{array}{r}
178442 \\
633 \mathrm{E}
\end{array}
\]
\[
\begin{aligned}
& m \quad 3 \\
& \hat{n} \dot{3} \\
& 0 \\
& 0 \\
& 0 \\
& m
\end{aligned}
\]
\[
\begin{gathered}
m 0 \\
0 \\
0 \\
0 \\
m \\
m \\
n \\
n
\end{gathered}
\]
\[
\begin{aligned}
& N= \\
& \pi ふ \\
& m= \\
& e=
\end{aligned}
\]
\[
\begin{aligned}
& \text { GN } \\
& =+5 \\
& n
\end{aligned}
\]
\[
\begin{aligned}
& y \\
& v \\
& 0 \\
& z
\end{aligned}
\]
\[
\begin{aligned}
& \vec{v} \\
& \underline{\sim} \\
& -\stackrel{y}{n}
\end{aligned}
\]
\[
\begin{array}{r}
n \\
n \\
3 \\
-2 \\
n \\
n
\end{array}
\]
\[
\begin{aligned}
& n \\
& n \\
& 0 \\
& 0
\end{aligned}
\]
\[
\begin{gathered}
n \\
5 \\
0
\end{gathered} \frac{2}{0}
\]
\[
\begin{aligned}
& 3 n \\
& 2 \underset{\sim}{n} \\
& -\underset{\sim}{2}
\end{aligned}
\]
\[
\begin{array}{ll}
1 & n \\
2 & 2 \\
n & 2 \\
2
\end{array}
\]\(\begin{array}{lll}m & \cdots \\ z & n \\ n & i & n \\ n\end{array}\)
\[
\begin{array}{llll}
x=2 & 3 & n & n \\
p=r & 0 & \hat{n} & \frac{1}{r} \\
p=- & 2 & 0 & 2
\end{array}
\]
\[
\begin{array}{lll}
n & n \\
n & n \\
n & n \\
n & n
\end{array}
\]
\[
\begin{array}{ll}
x & n \\
0 & 0 \\
n & n \\
n & n
\end{array}
\]
\[
\begin{array}{ll}
0 & 2 \\
n & t \\
n & =
\end{array}
\]
\[
\begin{aligned}
& t=\frac{n}{3} \\
& =-i n \\
& =-1
\end{aligned}
\]
\[
\begin{aligned}
& n \\
& 0 \\
& 0 \\
& n \\
& \sim
\end{aligned}
\]
\[
\begin{aligned}
& =0 \\
& \vdots \\
& =
\end{aligned}
\]
\[
\begin{array}{ll}
\sigma & u \\
\cdots & \hat{1} \\
2
\end{array}
\]
zat
\[
\div \frac{y}{0}
\]
\[
\begin{array}{lll}
n & n & n \\
s & y & \infty \\
w & n-2 \\
n & 0 & 2
\end{array}
\]
\[
\begin{array}{llll}
\vec{n} & y & n & \\
A & 1 & y & r \\
\vec{r} & n & t
\end{array}
\]
\[
\begin{aligned}
& \vec{n} \\
& \vec{n} \frac{r}{r}
\end{aligned}
\]

\section*{*ASH.}
 CUnNul CONدTкULTiUnt 4Jek \& FкUGnこSS Luht, Icnt Uk al enacoshir if \(=\) es Cumimioutinua In hias Guastructi sumriodicatal Inv: jria_hr
 Kizacostita tiv_louc
 I*LUSTna \(A_{\text {L }}\) thradi, un nodinus saces


 ifxaumitiov stus, (ant)
\[
\underset{z}{\boxed{z}}
\]
1970
+112992
932327 \(n \rightarrow\)
\(n\)
\(n\)
\(\sim\)
\(=4\) \(\stackrel{n}{\sigma}\) \(\begin{array}{ll}m 0 & =0 \\ n & 0 \\ A & A \\ n & 0 \\ i & 0 \\ n= & 0\end{array}\)
 \(\begin{array}{ccc}0 m & n \\ n & i & n \\ n & n & 2\end{array}\)

 \(\vec{\sigma}\)
N
\(\cdots\)
\(\cdots\)
\(n\) \(\stackrel{\rightharpoonup}{2}\)

\(\begin{array}{ll}n & = \\ n & n \\ n & 1 \\ n & m\end{array}\)
0
0
0
0
0 \(n=\)
\(n\)
0
0
0
\(=\) 2
2
2
2
2 \(n\)
\(n\)
\(n\)
 \(0 n\)
\(m i n\)
\(m=0\)
\(m=n\)

 \(\begin{array}{ll}0 & n \\ 0 & n \\ 0 & n \\ n\end{array}\) \(\stackrel{N}{2}\)
 \(\begin{array}{ll}0 & \\ 0 & n \\ 0 & n \\ n & m\end{array}\) \(*\)
2
\(\Delta\) \(t-\infty=1\)
\(a \sim N\)
\(-\infty\)
 \(y y n\)
\(n\)
\(n\)
\(n\)
\(N\) \(\begin{array}{lllll}0 & n & 3 & a & n \\ 0 & m & 3 & 0 & 0 \\ 0 & 3 & 3 & j & 3\end{array}\) \(\vec{*}: ~\)
0
\(\vec{v} \approx\)
\(m \sim\)\(\begin{array}{lll}20 & n \\ n & 0 & 0 \\ n & 0 & 0 \\ n & 0\end{array}\)3
0
0
2
0
2
2\(\begin{array}{ll}n & n \\ n & j \\ \dot{n} & = \\ v & 0 \\ i & 0\end{array}\)\(\begin{array}{ll}n & 0 \\ n & 3 \\ 0 & 3 \\ 0 & n \\ - & \end{array}\)\(0 m\)
00
0
0
0
\(N\)
 1909
\(<371+30\) 30
02
00 \(\begin{array}{cc}n \\ n \\ n & 0 \\ n\end{array}\)
\(N\)
\(\underset{5}{5}\) \(\begin{array}{ll}x & 3 \\ m & 3 \\ A & 3 \\ n & 3 \\ z & 3 \\ n & -\end{array}\)
\(\begin{array}{ll}n & 2 \\ 7 & 2 \\ i & 2 \\ i & 2\end{array}\)
 30
3
in
0 \(\begin{array}{ccc}\boldsymbol{r} & \cdots \\ \cdots & n \\ \text { m } & 0 \\ m & 0 \\ - & 0\end{array}\)
 \(\begin{array}{ll}30 \\ 0 & 0 \\ 4 & 0 \\ 0 & 1 \\ v & =\end{array}\) 0
\(=0\)
\(u\)
0
0 0
\(j\)
\(n\)
\(n\)
\(n\)
n
\(n\) 0
0
3
0
0
\(n\) \(m\)
0
0
0 \(\begin{array}{ll}n & 2 \\ 3 & 0 \\ 0 & 0 \\ 0 & 1\end{array}\)
\(n\)
\(\vdots\)
\(i\) \(\begin{array}{ll}0 & 3 \\ 0 & 3 \\ 3 & 3 \\ n & : \\ i & -\end{array}\)
\(m=0\)
\(=0\)
\(n\)
0
0
0
\(m\)
30
30
3
3 \(n N r\)
03
0
3
\(m\)
\(r\)
\(r\)
 \(\ln \pi n\)
0
0
0
0
-0
 00
\(n 0\)
30
\(v=\)
 \begin{tabular}{l}
\(a\) \\
\(v_{3}\) \\
\multirow{2}{c}{\(=\)} \\
\(n\)
\end{tabular}


\(\stackrel{n}{n}\) \(\begin{array}{cc}n & 3 \\ \text { rin } & 3 \\ \text { in } & 3 \\ n & 3\end{array}\)
\(\begin{array}{ll}n & n \\ n & v \\ n & 3 \\ n & 3\end{array}\)
 23
2
3
3
2 \(\begin{array}{lll}2 & 9 & 3 \\ 5 & 8 & 3 \\ 0 & 5 & 3 \\ y & n & j\end{array}\) \(\{=n\)
\(;=3\)
3
3
\(m\) \(n\)
0
\(i\) \(\begin{array}{cc}\therefore 0 \\ \therefore & 0 \\ 0 & 3 \\ 0 & -2\end{array}\)
 uxc．

\section*{142＇runzs）uxula}
 Cutiolinuctioli tunk in raubiress
 LuNう ín Jo ol
A＝Aasastit tois alo ibnslaucin

 aRnLumialiAL


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& \mathrm{~L} \omega 1918
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anese & 7524
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& +784 \\
& -185 \varepsilon
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\hline 21474 & Cream & 8962 ＊ & ＊nç 1＊ & くてア＊＊ & 19 くQ & Q＊） 6 \\
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\hline 46216
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\(111+9+9\) & 629135
c． & \(1 \angle<192\)
\(9<F 21<1\) & doecel
\(+128<+1\) & ¢Q9nRO
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& 95^{\circ}+111 \\
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& 8961171 \\
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& 697210 \\
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& +15^{\circ 85} \\
& +1168
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\hline 2．2c116 & （16） cos \(^{\text {c }}\) & の9ていのが & 5－5Eff & LQ9¢012 & ¢ 6964 ？ & \[
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\hline 96219 & anstic & ¢ 2 ¢＋8＊ & 62¢04＊ & gecthy & glecas & 155750 \\
\hline ぐに！ & ＋25 215 & 12¢2¢t & neerst & Pf6i＊？ & ¢106\％a & 1ctstc \\
\hline ¢ \(625>5\) & 2426515 &  & §5＊25\％ & क 2626 ？ & ST911？ & フrcs？ \\
\hline ＋89321 & & & p5c？ 1 & colizl & ¢0ヶをて！ & ¢C11 \\
\hline 9F1915 & Cal 1205 & －¢oz＊a & ：2¢？ 1 & \(6 L^{\circ} \mathrm{cc}\) & 21815 & ていわ／¢ \\
\hline 156694 & 998696 & 618415 & \(95690 \%\) & ¢996EE & 9？ \(1 / 25\) & 40ctif \\
\hline － 12664 & 619＊124 & 6＊12¢2E & て6てがと年 & \(1+4,518\) & －kenlaz & L－965 12 \\
\hline 9\％45く19 & \(1916{ }^{\text {a }}\) ？ & 1くの\＆§§9 & く＊くブヶの & 5＊＊2295 & F75cils & \\
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& 511199
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& c>g a+a
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92+1992
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n-30 \in c_{5}+1
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\hline 9 ！¢？＊） & LC6ina & 6 ¢180n & －aszoel & ＊F ？\({ }^{\text {cel }}\) & ？C15？ & \(4>1+6 \mathrm{f}\) \\
\hline 9く961\％ & celthrci & CltçCl & 26｜：1＊ & & & \\
\hline ¢ 20946 & \(161125^{\circ}\) & 56＊ 255 & 180\％nce & cagzres & CC5iock & 2f50＊pr \\
\hline ぐきのいでく？ & ¢50＋51？ & 2215410 &  &  & \[
\leqslant 1426 f<1
\] & \\
\hline －p¢r \(6^{\circ} 251\) & 9！ & サイ＊！ & －ret＊＊at & －29\％～「92 & 1 －rset 21 &  \\
\hline 2261 & 1261 & ＊LEI & 6961 & 996 1 & 1961 &  \\
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\end{tabular}

\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline 135 cllcasuluto mash & SFOXAN： 190） & 1461 & 1968
2712704 & \[
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& 1 \text { yo9 }
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\] & \[
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1972 \\
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\] & \[
\begin{gathered}
1973 \\
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\] & \(197 *\) \\
\hline Gruas Platil & \(2<75164\) & 246712d & 2712700 & 1718218 & du0b \(\rightarrow\) & ＋413＊8 & 1u＊2099 & 1175791 & \\
\hline a＝j－nvi Fun kracciatiut & \(3907+3\)
\(3100 \pm\) & e69043 & 30，\({ }^{\text {a }}\)（1） & 27091／ & 1－471i & － 377 & \(31+i>2\) & 3,7630
115385 & \\
\hline SUn．isNI ASS－TS & 310．f＊
\(11<d 5\) & 11289 & 11.763 & 11．7\％ & 1167 ＋0 & 11－7 39 & 112336 & & \\
\hline at ousciticn ajuustmint & 1くく050 & H128s & \＄7682 & & 51.87 & －40－2 & Se3bs & 02303 & \\
\hline WAT＝：ALS © Suprutcs & － & 3，9，8 & 47.49 & 122009 & 935ue & c3u－d & & & \\
\hline －0nu liery \(\mathrm{O}_{\text {at }}\) & cosus） & 171045\％ & 1777\％＊ & 3522i & 53652 & \(13>330\) & 153763 & 166321 & \\
\hline Cumatel batoluifics & lowjes & \(110 y s 7\) & \(1777 \%\) & & & & & & \\
\hline  & － 730 & \(15_{103}\) & 22300 & 22300 & 22300 & C2336 & 22316 &  & \\
\hline  & 17t－3＊＊ & 21－く9－3 & 2310102 & 2．1．＜37 & 2129030 & \(20658<0\)
-48971 & 482971 & 442971 & \\
\hline  & ＋6く31 & －d＜cl1 & 432371 & 432971 & －d297 & & & & \\
\hline Inresalis．a viscuunt & Solsse & 307027 & －14430 & ＊20491 & － \(63+36\) & 20070） & \(=2+7>3\) & \(409+60\) & －45403 \\
\hline \begin{tabular}{l}
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\end{tabular} & 3＜315 & 320271 & 303929 & － 2.4 & 4472.3 & －09331 & & & \\
\hline  & & & & & & & & & \\
\hline ín．6AT，Jn ．．．VENUL & 170．j & \(1.3+7\) & ＜2279 & 20400 & 3.732 & 3，3，6 & 3,54 & & 4．7c6 \\
\hline  & 31231 & 3＜，02 & د4323 & 30.13 & 3950 & 35633 & 23006
11676 & 2303？ & 36527 \\
\hline  & 1＋3＋4 & \(1 \rightarrow+02\) & 21723 & 21575 & 15511 & & 90134 & \％－A4i & －75：0 \\
\hline nun－urcialinuekevzi．） & stus & \(3 \rightarrow\) 14 & －＊－jo & 203 3\％ & S0．
\(-85-6\) & \(3 / 230\)
\(\$ 1231\) & 20
95
5097 & 7334 ， & 2090＊ \\
\hline  & －1．3＊ & －1しら & －3133 & ？ 6 く－ & －85＊6 & & & & \\
\hline inubiriac juthes（4wr） & & & & & & & & & \\
\hline  & & & 2250 & 20u1 & 35－2 & 50.3 & 3402 & 6） & ¢722 \\
\hline Jln＿t．St－Stidh） & 0 & youti & 1．2000 & 1108，3 & 132,02 & 13 ）uct & 141159 & 13031， & \\
\hline Evac．ur torul（1al） & 2007， &  &  & sic7os & 418700 & \(\rightarrow 21<7\) & －6．37ia & －دn3．a & \(2<\) \\
\hline Pun－Lissit3Stun \(=\) Prans & 20こつ」 & す） & & & 33712 & 63125 & 10353＊ & 110592 & 321917 \\
\hline \[
3+=1 .+v i+v n_{n}=x_{1}^{\prime} \text { chisc }
\] & 1235 & ＊－4． & 73091 & \(3<202\) & 23712 & b） & & & \\
\hline  & & & 32962 & －4934 & －193／ & －202d & 33036 & 43463 & －9231 \\
\hline Gusiutun sunvici & 27517 & 433 & 216 & & 511 & 1.7 & 185 & & 1862．＊ \\
\hline SAL－S＝A－こhos & bior． & 60300 & 3．772 & 92189 & 117784 & \(1<1020\) & 115406 & 120160 & 150．2．＊ \\
\hline  & ， \(1+0\) & 10．7 & 1200 & 300 & 4724 &  & 1－4942 & 15 cils & 1，81：2 \\
\hline \[
i \leqslant x_{c}=
\] & c） \(3+9\) & －io．t & 19200 & 1.1213 & \(1287-9\) & & 14.9 .2 & － & 2．1：7 \\
\hline गtran UiJuitiuna & & 8.301 & 6＊1＊5 & dutio & 1357 & 113435 & \(12 \mathrm{TC.1}\) & 133026 & \\
\hline 大と， & 2\％．．． & C3u5； & \(27 \pm 06\) & く9．60 & くサいいし & 2れい & \(2+6\) & cysum & ＜ 4 ．．． \\
\hline  & 3sio & －645 & ＊ 4.6 & － 711 & \(41 / 4\) & 7133 & \(\xrightarrow{19} 9\) & 4 & \\
\hline G\％） & د314 & 3613 &  & 2713 & 3905
132 & 4775 & \(7 \rightarrow 0\) & 7＊， & \\
\hline  & \(\geq 23\) & 5,2 & 736 & 798 & & & & & \\
\hline malas ur UiStsisulluit Lin－ & & & & & & & & & \\
\hline 3．v－Lut Tatilec uiscuunt & & く63ヶ） & \(<3127\) & 20170 & 2 doul & 33138 & 33535
\(2=935\) & 3333, & \\
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\hline 0 & 9 & \(\checkmark\) \\
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31830
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\(=7 i\)
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\(\stackrel{\infty}{\approx}\) 15jo
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline & & & 1tos & 1972 & 1971 & 1972 & 1973 & 1976 \\
\hline 60 & 1968 & 1960 & 1903 & & －193 & & & －991－73 \\
\hline S3943is & Sber344 & 57．4．62 & 6,43773 & 0177715 & \(0374+22\) & 67iJs \({ }^{\text {a }}\) & －62238 & － \\
\hline 17－2s／， & 1s309\％／ & 2，31，65 & 4109123 & 22～5086 & 231：96\％ & 2330326 & ＜691865 & \(24>3219\) \\
\hline osss． & 320302 & 310s2． & 60＊1＞3 & 76د＞51 & ：19746 & \(92+815\) & 111306 & 1156539 \\
\hline & & & & & & & & 1038 \\
\hline 04273 & 8916 & 938＞1 & 1．2070 & 111く6 & 103054 & 86219 & 93791 & \\
\hline 71753 & \(1435 \% 0\) & \＄3215 & 7ヶ740 & 08027 & 111530 & 10996］ & 3b＞2＊ & 1222＜3 \\
\hline & & & & うui & 32.5 & 1335 & 3333 & 17－63 \\
\hline －262035 & 4．287118 & －56， 338 & 39936～2 & ＋8113i－ & ＋351306 & 5636：79 & 5251643 & －556913 \\
\hline －1く3．0 & ¢くくus & 012066 & － 7 くd6 & b723s & c72．．． & 672063 & －728 & 7e23．0 \\
\hline －621．d & －74910 & 21339＊ & 35i061 & 317502 & 621039 & 063796 & 674283 & 645132 \\
\hline 2，3433 & 2 L 3903 & 225360 & 203691 & 203280 & 442929 & \(32340 \%\) & St7es & 32t6\％ \\
\hline 147500 & \(23700 \%\) & 32S100 & 1430\％ & 90902 & 11く34） & 142583 & 13うゃ11 & 6くらっ＊ \\
\hline 32 sit & －0．l & 12015 & 1211＞ & 1319 & 1－529 & 15153 & 1：731 & 1．153 \\
\hline 11232 & 9124 & 9161 & 1.032 & 10700 & 1，026 & 11929 & 12231 & 17506 \\
\hline 1／65 & 17703 & 12316 & 291. & 352.3 & 3．343 & 24225 & －d3 37 & \(8 \mathrm{Ca49}\) \\
\hline －＜023 & 239， & ¢3352 & 330．3 & 00912 & 120．6 & 7156 & 145．0 & －17－2 \\
\hline 11710 & 1721＊ & 19304 & く229＊ & calco & 20303 & 31732 & 3.991 & 32，75 \\
\hline \(1<300\) & 3cil7 & \(6: 169\) & 16360 & 0317 & 1 u ¢\％ & 13710 & 1,570 & 15935 \\
\hline 1235 & 1223 & 1371 & 1020 & 1335 & 20．3 & 2125 & 1－75 & 149 \\
\hline Yes．1 & 1176\％ & 1ヵJus & 115211 & 113042 & 16 ta & 14， 02 & 13i－7 & 1652： 5 \\
\hline 15，900 & 34－412 & 344569 & 536－13 & 206459 & 345．35 & 441153 & 3506 at & －71212 \\
\hline 3＜3． & ？．eds & 31.64 & －1？\({ }^{\text {a }}\) & د67us & 3， 233 & 3，357 & \(2{ }^{2} 130\) & 31396 \\
\hline 71353 & du2l1 & 33307 & 9260 & 11406 & 121272 & 135226 & 121502 & 13 rest \\
\hline 107.4 & 19．53 & 21136 & 27101 & 21.11 & 316．3 & 33.11 & 3j933 & 34212 \\
\hline 7222 & 2．93 & 1708 & 1 ¢ 7 & 3 c & 1393 & 1712 & 2212 & ここ6 \\
\hline 0－30） & 3＊21＊ & 02203 & \(7 \times 33\) & 77315 & 85109 & 91972 & 84603 & lles：9 \\
\hline 13.975 & 1392.2 & 145162 & 14．40\％ & 139179 & 1－3626 & 133126 & 157091 & 2， \(2=3\) \\
\hline 13，urs & 1－5＊2＊ & \(1-1040\) & 15.612 & 139215 & \(16 \pm 5+2\) & 17.854 & 17159， & 14， 4737 \\
\hline － 3 36 & －ごくい & \(\rightarrow 0326\) & 4.322 & 4.36 \％ & ＋320 & －13c5 & ＊＊s． & 6．320 \\
\hline 2063 & ¢¢ & 3722 & 5301 & 5954 & b125 & 52,9 & us 2 &  \\
\hline －010 & \(\rightarrow 0.2\) & ＋316 & 472 & 52.46 & 5176 & 33.7 & 2428 & \(\because 622\) \\
\hline oio & \(\checkmark \rightarrow\) & 120 & 734 & 7.6 & 702 & 787 & 161 & 71 \\
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* 78
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\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline \multicolumn{2}{|l|}{PURTLANJ} & \multicolumn{2}{|l|}{FY} & & & & & \multirow[t]{2}{*}{147} \\
\hline lyon & 1961 & 1968 & 1954 & 1973 & 1971 & 1972 & 1983 & \\
\hline －bifs？ & 35118， & 201900 & －5inc． & 777＋27 & .19792 & \(61 / 163\) & 721715 & evig 3 \\
\hline Oud＞？ & 13540 & 96.24 & 1－3＊）2 & 11.535 & 1135.8 & \(2, t 36\) & 36.29 & 353.0 \\
\hline \multirow[t]{2}{*}{4S319} & 3：7：7 & ＊7626 & scols & 6.496 & 133451 & 161717 & 19360） & ＜．672 \\
\hline & & & 20130 & 24.73 & & & 20alo & 19773 \\
\hline 31970 & 33621 & & 1112 & 29125 & \(62>17\) & 62305 & 6ヶ3－＊ & 982 t \\
\hline d31＊ & 11.60 & \(136-7\) & 104， \(\mid\) & \(13+40\) & 19635 & 18298 & Stedo & 76731 \\
\hline \multirow[t]{2}{*}{－ \(6+37\)} & & \(4<0\) & \(\cdots<0\) & 72054 & －29 & & & \\
\hline & 2332：4 & －85916 & 07340 & 720558 & 33.0017 & 757241 & 843546 & 345974 \\
\hline 2i8i8 & 278．s & 27878 & 2／did & 27518 & 27878 & 21878 & 21879 & 9 \\
\hline \multirow[t]{3}{*}{\[
\begin{array}{r}
1+j 113 \\
0<+37
\end{array}
\]} & \(1><00^{3}\) & 10．4415 & 119420 & 19.521 & 223142 & 2－7481 & 25939. & 275072 \\
\hline & －＜yal & －0360 & i，+22 & ． 69306 & 87809 & 1117.1 & 113554 & 75751 \\
\hline & & & & & & & 13291 & 35323 \\
\hline 1くい & 4 20 & i826 & 18il & 77．d & 16035 & 2893 & 13140 & 4.911 \\
\hline 5.55 & 1400 & 3404 & 4165 & 9765 & \(3: 576\) & 4.3354 & ＊9202 & 35329 \\
\hline \(1 \$ 32\) & 2147 & 1821 & \(9-5\) & 10く & 164 & & & \\
\hline \multirow[t]{2}{*}{\[
\begin{array}{r}
10013 \\
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\end{array}
\]} & \(190 \% 0\) & ＜1439 & \(2+6+2\) & \(<0139\) & 2 to 33 & 32315 & 36115 & \(3627 *\) \\
\hline & 2915 & b \(j>2\) & \(71+3\) & 3219 & 79＞3 & 11797 & \[
\begin{array}{r}
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\] & \[
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& 7+20 \\
& -925
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\] \\
\hline \＃\＃1 & 903 & \(11>2\) & 1154 & 1395 & 12.27 & 713 & 1726 & ン2う3 \\
\hline 2003， & \(<\rightarrow \mid\)－ & 31006 & \(3: 002\) & 38325 & ＊＊＊う & \(44<6 ?\) & 52435 & 37008 \\
\hline 1－3I＜3 & 1259 nd & 1.7806 & 131 l & 1.79 A7 & 1508，6 & \(1736 \times\) ： & 19．1．1 & 2しt3uT \\
\hline 5．1－3 & 3 360t & 33330 & 3196 & 44469 & 34961 & 9／t 26 & 45312 & －7835 \\
\hline 42，3 & 36.3 & 3Jb7 & \(5 \times 2\) & Sibo & 22ヶ9 & \[
\begin{array}{r}
+7>0 \\
135
\end{array}
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\section*{REGULATORY INFORMATION DISTRIBUTION SYn 3 SEM (RIDS)}
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ACCESEION NAR: 8012160128 DOC. DATE: 80/12/11 NOTARIZED: NO
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AUTHOR AFFILIATION
Washington Public Power Supply System
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AUTH. NAME
EOUCHEY, G. D. REC IP. NAME
YOUNGBLOOD, B. J.

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SUBJECT: Forwards Annual Financial Rept 1980.
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December 11, 1980
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Docket Nos. \(50-397,50 \cdots 460 / 513\)
50-508/509

Director, Nuclear Reactor Regulation
U. S. Nuclear Regulatory Comilission

Washington, D. C. 20555
Attn: Mr. B. J. Youngblood, Chief Licensing Branch 1


Gentlemen:
Subject: WASHINGTON PUBLIC POWER SUPPLY SYSTEM ANNUAL REPORT

Enclosed for your information, as required by 10CFR50.71(b), please find fifteen (15) copies of the Washington Public Power Supply System Annual Report for 1980. Copies of the certified financial statements are included as a part of the Annual Report.

bk
cc: A Bournia, NRC
R. H. Engelken, NRC ROV
M. D. Lynch, NF:
N. S. Reynolds, D\&L.

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\section*{The Washington Public Power
Supply System: A Profile.} Hantord Generating Project. The Supply System's Packwood nyaroer 27 con filowett eapacity another 27 iong kinowatt capaciy The concept of the Supply,
System is that of servica.,
service to its members, partici-
pating yolties, and ultimately, to
the seven million people who live
in the Pacific Northwest.
 Nature is generous in providing a supply of thee inergy: But nature's "tree" energy in sunlight, water, wind, wood, coal, processed into a form useful to * the consumer. .. and this carries a cogt. Energy procsssing. that is, generating electricity, is the function of the Washington Public Power Supply System, on beha
of its members which are 19 . public utility districts and four municipalities in the State of
The Supp S 1957 was
The Supply System was , organized in ist 1 action agency . Through which the member utilities may act as one to:meet their joint energy needs. Nearly a hundred other consumer and investor-owned fre served as coopérating participants through their contracts to: purchase shares of the electricity produced, or shares of plant
The Supply System is the lead egency for these utilities in the construction of five large nuclear electric plants which will have a capacity of more than six million
 the region's total capacity, when
The Supply System already
supplies almost haif of the 5
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Financial Highlights of 1980

\section*{Construction Projects}
\begin{tabular}{|c|c|c|c|c|c|}
\hline Long-Term Revenue Bond Sales & WNP-1 & WNP-2 & WNP-3 & WNP-4/5 & Total \\
\hline Par Values & \$ 150 & 125 & - & & \$ 755 \\
\hline Number of Issues & 1 & 1 & - & 3 & 5 \\
\hline Borrowing Cost (\%) & 6.57 & 7.41 & - & 8.29 & 7.77 \\
\hline \multicolumn{6}{|l|}{Total 1 ong-Term Revenue Bonds Outsuanding} \\
\hline Outstanding as of Ju e 30 & \$1,045 & \$1,266 & \$ 680 & \$1,490 & \$4,481 \\
\hline Annualized Interest Expense & \$ 68 & \$ 84 & \$ 43 & \$ 104 & \$ 299 \\
\hline Borrowing Cost (\%) & 6.52 & 6.52 & 6.37 & 6.99 & 6.60 \\
\hline \multicolumn{6}{|l|}{Interest Earned} \\
\hline Interest on Investments & \$ 29 & \$ 26 & \$ 30 & \$ 47 & \$ 132 \\
\hline Annuai Rate of Return (\%) & 9.71 & 9.06 & 8.85 & 10.72 & 9.71 \\
\hline
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"The most economic thermal plants are large units, those of 1-million kilowatts and larger. No single utility or small group of utilities can absorb a plant of such size in its normal loadgrowth pattern."

Joint Power
flanning Council
Statement
October 1968

ne of the fundamentals of the District Power Law, enacted by the State of Washington in 1930 .
authorizing the formation of public utility districts, is
"Cooperation by mutual agreement between districts on utility operations to the benefit of the individual districts.

Since it was organized in 1957, the Washington Public Power Supply System has been an extension of this concept of cooperation. In addition to the 23 members of the Supply System, there are 87 other consumer-owned utilities, for a total of 110, which are financial participants in one or more of the Supply System's five large nuclear projects now under construction. As a joint operating agency, the Supply System provides the mechanism for the utilities to act as a single entity to meet their individual needs. In addition, four investor-owned utilities own portions of two plants.

The Supply Systein's tinancing and construction program is one of the largest of any consumer-owned utility in the nation.
Attendant to programs of this scope are the challenges of direction and management to meet the problems which are common throughout the nuclear energy
industry schedule delays and cost increases.

Our analysis shows that the aver age cost of all nuclear power plants has more than doubled and construction time has doubled since the late 1960 s
Even so, this board has taken steps to strengthen its ability to ensure that these plants are completed as soon and as economicaliy as possible. Three permanent Loard committees were appointed and given specific responsibilities related to costs, schedules, emergency planning and external relations.
A Committee on Budget, Finance and Audit was assigned responsibility for review of all financial matters that may affect cost and schedule. Additionally, the committee will participate with outside agencies which have oversight responsibility in reviewing procedures pertaining to budgets, cost estimates and issues concerning bonds and investments.

A Committee on Corporate Performance was apponted to review data pertaining to organization and management, contracting procedures, construction and plant management

A Committee on External Relations was appointed to work with the State Legislature, Bonneville Power Administration and other pi 'slic groups and government agencies. It
also will assess the adequacy of emergency contin jency plans and interaction with public safety and community groups.
Another step taken by the Board was the appointment of an independent Administrative Auditor to conduct continuous performance audits. The Administrative Auditor is responsible to the Board of Directors and communicates regularly with the State Legislature The Board also receives direct reports from its own internal inde pendent financial auditor
Further strengthening of the relationship with the Bonneville Power Administration was the adoption of a working agreement known as the
"Memorandum of Understanding which clarifies the roles and responsibilities of each party in activities related to Projects WNP-1. 2 and 3, for which BPA purchases all, or most of the output through "net-billing" agreements

Robert L. Ferguson, a Deputy Assistant Secretary of the Department of Energy, was selected June 27 to be the Supply System's new Managing Director, succeeding N. O. Strand who resigned in February.
Mr. Ferguson, who was in charge of the Energy Department's nuclear reactor program since 1978, also had been Director of the Fast Flux Test Facility (FFTF) project office for the Energy Department from 1973 to 1978 and was credited with the

\section*{Managing Director's Statement}
successful completion of its construction within the final schedule and budget.
His appointment was effective August 1, 1980
Some changes took place on the Board of Directors and in managemont. During the year, Donald Clayhold was appointed to represent the Benton County Public Utility District and Larry Nickel to represent the City of Ellensburg on the Board. A. E. Fletcher, Clallam County Public Utility District representative, was elected Vice Chairman of the Executive Committee Hal Norman, Pacific County Public Utility District, was elected Vice President of the Board of Directors and Howard Prey, Douglas County Public Utility District, was elected to the membership on the Executive Committee.
We begin a new decade on a note of hope, recognizing the critical importance of energy and our responsibility as energy suppliers to the people of the Pacific Northwest and in the belief that the Supply System is a strong organization, and the right organization for meeting our future needs.


\section*{Ed Fischer}

Chairman, Executive Committee


This is my first opportunity to communicate with the more than 10,000 people who receive the Supply System annual report. Since my appointment as Managing Director in June, I have received many expressions of support from the Northwest public power community and others. I appreciate that support and I welcome this opportunity to share my initial thoughts on this appointment with you.
I took the assignment of Managing Director cf the Supply System because I believe in your commitment to sound and prudent economic development in this region and to the need for the energy supplies that will make this possible.
I want you to know that I have a commitment also, not only to serve the growing needs of public power in the Northwest, but to the belief that our nuclear projects are the best energy option available at this time. While we all look forward to the development of alternative energy sources in the future, we have an obligation to the citizens of the Northwest to meet their current and near-term energy needs with power generation systems using proven technologies which are safe, reliable, and economically acceptable.
The Supply System has taken on a great responsibility to the ratepayers of the member and participating utilities. It is imperative that the five projects now under construction be completed successfully, for their total output will equal about 20 percent of the total energy resources in the Northwest.
I believe we can meet this responsibility. The Supply Syster, has an outstanding and dedicated staff and I plan to supplement th is staff with additional proven management leadership to coordinate and direct their efforts. The tasks before us are formidable and they will require our best efforts if we are to overcome the very real problems we face in completing the projects. But we already have our most important resource in place-talented people. With that talent and with your continued support, I am confident that we can build safe and economic power plants that will serve the Northwest for many years in the future.


Robert L. Ferguson Managing Director

"1. To serve all who come,
2. With adequate facilities,
3. At reasonable rates, and 4. Without discrimination."

Principles of public responsibility for Public Utility
Districts.
vama H power from the Columbia River
system. This led to the develop-
 segment of the region's economy
 and more recently, electronic
 and readily marketable on a
The Northwest's booming economy slowed in 1980 with the onset of the national recession. Mount St Helens. Hardest hit were Mount St. Helens. Hardest hit were
 However, the diversity of the economy buffered the Northwest from the full effects of the recesayt u! are stiauans ulem sy vors aircraft industry, exports, agriculture, primary metals and a growing electronics manufacturing industry. Significantly, many of these pillars are industries that depend upon energ their fure hor energy for their future health. Fo example, The Boeing Co., the nation's leading manufacturer or heavily upon the health of the
 industry.

\section*{The Pacific Rim Is Next Door}

The Pacific Northwest is the gateway to the Pacific Rim nations and Alaska, with its untold wealth of the Northwest Slope oil and other natural resources. The increased use of large shipping containers and the development of inland navigation facilities on the major rivers bring landlocked interior states within reach of the Pacific Ocean for shipment of agricultural products, a process already well begun.

Agriculture: A Growth Industry
Agriculture-now more correctly agribusiness, with the inclusion of food processing-is the traditional heart of the economy. More than one half million acres of the Columbia Basin south of Grand Coulee Dam have had irrigation water available for many years, while another half million acres in the eastern part of the irrigation project were dependent upon the vagaries of the nature's weather patterns to grow crops.

Major facilities to bring water to these dry lands were completed during the fiscal year. The investment in the huge, energy intensive irrigation system is now nearly \(\$ 1.4\) billion and eventually will increase. Expanding farm output also has attracted many food processing firms to the area, creating many new jobs.

\section*{Newcomers Keep Arriving}

The region's population increased at a more rapid pace than other regions. As an example, newcomers entered the state of Washington at a rate of more than 100,000 a year in 1978 and 1979

The visible growth that contributes to the strength of the economy also is contributing to possible energy shortages in the years ahead, even with completion of the Supply System's 6-million kilowatts of gener: ig capacity.

The Pacific Northwest Utilities Conference Committee (PNUCC). consisting of essentially all electrical power generating interests in the region, makes an annual load and resource analysis, projecting both ten years into the future.

The Pacific Northwest has the most highly developed hydroelectric system in the nation, producing more than 80 percent of the energy used in the region. However, the amount of energy which can be generated in the powerhouses along the ri ers depends upon the amount of rain and snow which falls in the mountains of the Columbia River drainage.
When precipitation is lower than average, the water flow in the rivers drops and the amount of energy available is reduced. This is known as "adverse water conditions" and is the basis for the regional forecast.

Comparisons of forecasts since 1977 reveal some serious trends Since the 1977 forecasts, the maximum energy deficit for any one year has grown steadily to an amount equal to two large thermal power plants. Deficits of more than 3,000 average meyawatts are expected in five of the next 11 years and there is a high probability that the available energy will be insufficient to meet the firm loads now forecast.
Despite the possibility of an energy shortage, economists foresee growth at a more rapid pace than the national economy, with increased concentration un the quality rather than the quantity of growth.

\section*{PACIFIC NORTHWEST LOADS AND RESOURCES}

"...It is certain... that there is going to continue to be a demand for energy, and growing demand at that."

Dr. Paul Raver. BPA Administrator. 1954.


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\section*{he Hanford} Generating Project (HGP) completed another successful operating year on May 15,
1980, when the Department of Energy shut down its N Reactor for the scheduled summer refueling and maintenance program
The 860,000 -kilowatt HGP again proved its reliability by maintaining 100 percent availability during the time that steam was available from N Reactor. The Supply System paid \(\$ 32.3\) million to the Department of Energy for steam during the fiscal year.

Total electrical generation for the eperating year was \(3,795,606,000\) kilowatt hours, the equivalent of six million barrels of oil.

Since it began operating in 1966, HGP has generated more than 48 billion kilowatt hours, or the equivalent of the electrical energy available from burning about 75 million barrels of oil.

\section*{Packwood: Hydro Energy}

The 27.500 -kilowatt Packwood Hydroelectric Proje't operated at less than full capacity during most of the year, primarily because of low water levels in Packwood Lake

Electrical energy from Packwood is distributed by Bonneville Power Administration to Clark, Lewis and Snohomish County Public Utility Districts which are among the 12 project participants. The three FUDs are expected to purchase about \(27.500,000\) kilowatt hours of the project output in fiscal year 1981. The remainder, about \(62,500,000\) kilowatt hours, will be exchanged with BPA for demand billing capacity

\section*{Realistic Training Builds Skills}

The accident at Three Mile Island focused attention on the need for extensive trainir g and more frequent retraining of reactor operators, with new standards for realism.

At the time of tr e accident, the Supply System's WNF-1/4 control room simulator was in final assembly and was utilized by the Nuclear Regulat ory Commission to study certain Three Mile Island operations.

The computer-d rected simulator can provide realistic training by allowing operators to practice for hundreds of expected, or unex pected conditiors or events which might be met in plant operations.

The simulator looks exactly like the plant control room and to the operators, it "feels" like the plant by producing the same instrument indications as the real control room instruments.

Scheduled retraining of licensed operators enables them to maintain their skills in recognizing any abnormal situation quickly, for safety, more efficient plant operation and more reliable electric power production

The WNP- 1 and WNP- 4 simulator was installed, tested and placed in service in the fall of 1979

A simulator for WNP-2 was ordered so that operators might also benefit from training under conditions which exactly duplicate operational conditions. Other simulators for training WNP- 3 and WNP-5 operators were expected. Each of the simulators will be installed in facilities near the respective plant.

> "Now...on this site... a nation dedicated to living in peace is forging, not a sword, but a plowshare, the Hanford steam electric generating plant."

President
John F. Kennedy
September 26,
1963, at the groundbreaking

\section*{Photos:}
(facing page) A control room simulator provides realistic training
(left) Gauges are checked regularly at the Packwood Hydroelectric plant
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\section*{Construction Requires Human Skill \& Ingenuity}


\section*{he Supply Sys} tem has five large nuclear electric gener ating facilities under construc tion. Three are on the federal
Hanford Reservation near Richland, Washington, a historic center of energy research and development, and two are in Grays Harbor County. Washington, near the town of Satsop. The projects are identified with the initials WNP followed by a number.

\section*{Hanford}

During fiscal year 1980, the work at WNP-2, a 1,100,000-kilowatt boiling water plant and the one nearest completion, entered a new phase, characterized by inspection, testing and making necessary adjustments to ensure performance reliability when the plant goes into operation. All primary buildings were completed, major piping and the principal control systems were installed.
A number of separate systems received provisional acceptance and were placed in service. These included the major electrical and water systems used to provide building power and water and also construction water to the neighboring sites of WNP- 1 and WNP- 4
One important task completed was the installation of the "Omega" seal, shaped like the Greek letter
for which it is named and which seals the wetwell (lower portion) from the "drywell" (upper portion) of the containment vessel. The stainless steel ring. 12 inches in diametor, extends around the 335 foot circumference of the structure It is capable of maintaining a seal despite a pessible 25 pound per square inch pressure differential between the building sections.
At WNP-1, a 1,250,000-kilowatt pressurized water plant, the start of the turbine-generator assembly marked a start of the mechanical installation phase.
Utilizing the world's largest land transportable mobile crane, known as the "Transi-Lift", workmen placed the 387 -ton pressure vesse! and two 500-ton steam generators inside the containment.

The system of lifting heavy components "over the top" and down into place contrasts with the conventional method of skidding the heavy materials into place from the side, and leaves the work areas clear for other work for a longer time.
At WNP-4, a twin of WNP-1, work continued in the civil and structural construction phase. A major milestone was the completion of the nuclear steam supply system support slab which cleared the way for construction of interior building walls.

\section*{Satsop}

The projects being built near Satsop are twin 1,240,000-kilowatt, pressurized water plants designated WNP- 3 and WNP- 5
At WNP-3, a major accomplishment of the year was the post-weld heat treatment of the large steel containment vessel. The entire steel structure- 150 feet in diameter and 190 feet high-was heated through pipe openings on the sides with 10 forced-air, oil burners. The inside temperature was raised to about \(1100^{\circ} \mathrm{F}\) to relieve any stress in the field welds. It is the largest containment vessel ever to be field stress relieved, a treatment required of all weids greater than \(11 / 2\) inches thick.
Above-ground work began on the 500 -foot-high natural draft cooling tower which will be the dominant visible structure on the site. Installation of pipe began in the reactor auxiliary and turbine buildings

"...utilities...have an obligation to supply power that is needed by a growing population and a technological society that is highly dependent upon energy."

Alex Radin. Executive Director. American Public Power Association, 1980

Photos:
(facing page) WNP- 2 rises in the parched desert land of eastern Washington.
(left) The cooling
tower rises.

ing. There were no serious injuries, but there was damage to the building which was in the early stages of construction. The derrick was demolished in the collapse and was removed after thorough inspection by several investigating teams. The effects on cost and schedule had not been determined by the end of the fiscal year

\section*{Disputes Impede Progress}

Labor disputes impaired progress at all sites, but most severely at the Hanford locations

A major jurisdictional dispute in March resulted in over two weeks. suspension of work on two major contracts at WNP- 1 and WNP-4. More than 1.000 craft workers were affected.

Many collective bargaining agreements between contractors and their craft unions expired on May 31. In some cases contractors and unions failed to reach agreements for new contracts at the Hanford Reservation. Some of the unions withdrew their services, resulting in large reduction in forces by contractors due to their inability to function efficiently and safely without the support of these crafts. Approximately \(5,300 \mathrm{craft}\) workers were affected out of a total contractors \({ }^{\prime}\) work force of about 5,950 .

A strike by Cement Masons at WNP- 3 and WNP- 5 against several contractors in June resulted in the loss of seven work days by the affected contractors. Picket lines
aiso disrupted other contractors for a short period during this strike. This action was the result of breakdown of negotiations for a nev: collective bargaining agreement to replace one which had expired on May 31. At one time, over 1.500 contractor employees were affected.

Such complete work stoppages affect project completion schedules on a day-for-day basis.

\section*{The Mountain Erupts}

The awesome eruptions of the volcano Mount St. Helens in southwestern Washington on May 18 and 25 also affected construction of all projects to some degree. A third eruption on June 13 had no effect. These were the first eruptions of the volcano in 123 years.

Areas within a few miles of the mountain were devastated in the explosions, but damage becaıne less severe with distance. Chemical analysis of the ash proved it did not contain any corrosive elements and that only clean-up would be required
The three plants on the Hanford Reservation near Richland were at the edge of the ash plume from the May 18 eruption and received oneeighth to one-quarter inch of ash. There was minor impact on WNP-2 which is completely enclosed. Clean-up was completed within three days. The impact on WNP-1 and WNP- 4 was slightly greater, although the amount of ash was the same as at WNP-2, because much of the work is not enclosed.


\section*{Photo:}
(facing page) Fog lends an ethereal quality to a heavy lift.

6

Work did not return to normal for about a week.

Ash from the May 25 explosion was carried westerly by an unusual wind pattern and was deposited to a depth of three-eighths to one-half inch at the Satsop site. Clean-up was a major activity for about five days.

\section*{Three Mile Island: Its Impact}

The accideni at Three Mile Island in March 1979 has had a continuing impact on the entire nuclear industry. Numerous design and operating changes are being incorporated into all Supply System projects.
The Supply System is continuing its participation with industry groups in reviewing information derived from the TMI "Lessons Learned" to make certain that the essential changes in design or operation are included in the Supply System plants.
The Nuclear Regulatory Commission also served notice of its rededication to enforcing its regulations concerning quality assurance since TMI with a \(\$ 61,000\) civil penalty against the Supply System for work which did not meet NRC quality assurance standards at WNP-2.
Primarily the violations concerned faulty documentation, but a more serious circumstance was the discovery of faulty welding and concrete work on the sacrificial shield which is a thick concrete and steel cylinder
enclosing the reactor. The work was done several years ago.
The Supply system considered the penalty severe and the situation as serious and took immediate action to avoid future occurrences by becoming more deeply involved in day-to-day construction and quality control activities and to develop an action plan for repairing defective work.

At the same time, the Supply System filed a legal action seeking \(\$ 120\) million from five construction contractors, one material supply firm and two bonding firms associated with the work criticized by the NRC


Photos:
(facing page) Floodlights at the Satsop site permit non-stop work.
(left) Engineers check work against the blueprints.

\section*{Technology: A System for Simple Order}

ur world today is a world of high technology
computers, space satellites. transistors, microcircuits, lasers, nuclear power and dozens of other applications of recently developed technologies

To many, high technology means complexity. With aboat 50,000 components, such as valves, pumps motors and contral instruments, a nuclear generatug station is considered complex.

But, simple order is being brought to the complex array of mechanical and electrical components through an extensive plant reliability program.
A complete history of each component, starting with its manufacture and continuing through installation, operation, in-service inspection, maintenance, repair and failure is recorded and stored in a computer. This will make easier the task of keeping the plants operating safely and reliably.
The Supply System's plant reliability program is keyed into a national data system through which utilities may share their reliability information.

\section*{A Search for Fuel}

The Supply System is one of many utilities actively engaged in exploring for uranium reserves in the west. The goal of the Supply System exploration program is to identify 10 million pounds of uranium reserves to supplement the supply already purchased under contract previously.
Exploration continued in four states during fiscal 1980 with some encouraging indications of the presence of uranium at some locations.

\section*{A Search for Energy}

The Supply System is participating on behalf of Northwest public utilities in a joint venture with other regional utilities: The Raft River Geothermal Project in southern Idaho.

The five megawatt project is a prototype to determine the feasibility and economics of geaerating electric power from the moderate temperature geothermal resource with a binary system using lowboiling isobutane as the heattransfer medium. It is expected to go into operation in 1980 and the production testing and economic assessment to be completed in 1983.

Technical support and guidance during startup and engineering testing is being given by the particcipating utilities under a contract with the federal Department of Energy.


\section*{"Tech-no-lo-gy ...the totality of the means employed to provide objects necessary for human sustenance and comfort."}

Webster's New Collegiate Dictionary.

\section*{Photos:}
(facing page) A scale model is useful in preventing interferences.
(top left) Instruments are fine tuned in a calibration laboratory.
(bottom left) Atmospheric sampling devices are aligned precisely.


\section*{Management Services: People Helping People}

24:
he concentration of thousands of workers at Supply System construction sites puts heavy demands on neighboring communities.
To assist these communities in coping with increased demand on the available public and social services, the Su oly System compensates them for the impact arising out of its projects. The payments began in 1976 in the Hianford regien and in 1978 in the ; jrays Harbor area.
At the end of fiscal year 1980, the Supply System had made payments totaling more than \(\$ 11\) million to school districts, cities and other taxing districts.
In addition to these payments, the Supply System, by state law, must pay sales or use tax on materials and equipment purchased for construction. Most of the tax money goes into the state general fund, but a oercentage is also returned to the counties in which the construction is taking place.
At the end of the fiscal year, tax payments by the Supply System iotaled more than \(\$ 97\) million.

\section*{A Wealth of Talent}

Supply System projects provide thousands of job opportunities for skilled craftsmen and create new jobs in secondary support service activities. Apart from this, the Supply System has its own staff of persons with specialized technical and construction management skills to keep pace with its need

The Supply System has a technical staff of about 570 persons who represent some 4,600 man-years of experience in the nuclear field and 2,700 man-years of nonnuclear experience.

\section*{A Concern for All}

In addition to the need for improvement in design, instrumentation and operator training, the Three Mile Island accident indicated a need for realistic and functional emergency plans.
Supply System plans were being developed before Three Mile Island, but the work was accelerated and given more emphasis, particularly in the areas of health physics monitoring, radiation dose assessment capability, emergency response and communications facilities and ten-mile resident warning systems. The offsite emergency plan was expanded to meet new requirements for capability to assess conditions in the event of an accident within a 50 -mile radius and to take whatever actions are necessa:y for protection of the public. Planning was coordinated
closely with federal, state and local agencies.
Professional fire marshalls were designated at three of the sites and fire brigade training was conducted for all 195 security force members, more than 60 persons on the operations staff, and enough contractor employees to maintain a qualified fire brigade of at least 20 members at each site.
The value of the fire-fighting training was underscored when security officers saved permanent plant equipment valued at about \(\$ 100,000\) from a fire at WNP- 1 in April.
During the year, the securitv force was expanded to 195 officers to meet increasing needs during construction activities. In addition to the fire training, all were trained in first aid, safety, security procedures. law, communications and loss prevention.


\section*{"Who befriends his neighbor befriends himself."}

Sophocles.
408 BC.

\section*{Photos:}
(facing page) New requirements call for wide area emergency planning.
(left) Word processing
machines speed
communications

\section*{Finance Group Activities}


E
ssential to the Supply System's primary taskto construct the five nuclear projects - is a successful capital financing program Our success in the capital financial markets is measured by our ability to issue revenue bonds, at the lowest possible cost.
The Supply System's financial strength lies in its project particcipants who provide electrical service to the broad and diverse economic base of the Pacific Northwest. This helps make the Supply System's revenue bonds one of the most secure investments one can make

Fiscal year 1980 was another successful year for the Supply System's financing program. Despite the economic pessimism prevailing i.) the capital markets, the Supply System's long-term tax-exempt revenue bonds continued to maintain their excellent ratings. A total of \(\$ 755\) million of long-term revenue bonds were sold in five separate trips to the municipal bond market. These sales increased the Supply System's total revenue bondis issued to approximately \(\$ 4.5\) billion at an average weighted borrowing cost of 6.6 percent.

Of the \(\$ 755\) million, two issues totalling \(\$ 275\) million were sold for the net-billed projects (WNP Nos. 1 2 , and 3) bririging our financing program for these projects to
approximately 50.5 percent complete on June 30, 1980. Three issues totalling \(\$ 480\) million were sold for WNP-4/5 bringing the financing program for these projects to approximately 20.6 percent complete on June 30, 1980.
The finaricing highlight for the Supply System during fiscai year 1980 was its first negotiated public offering of revenue bonds in the Supply System's history. The record high interest rates prevailing in the bond market during the scheduled sale for WNP-4/5 in April 1980 created a situation in which the Supply System chose to reject the single bid and enter into a negotiated public offering. This decision and negotiated effort resulted in \(\$ 3.8\) million of additional bond proceeds and \(\$ 27.5\) million in interest cost savings over the life of the issue.

The Supply System's financing schedule for fiscal year 1981 calls for the issuance of approximately \(\$ 1.5\) billion of revenue bonds.
In an effort to protect and enhance the Supply System's access to the municipal revenue bond market and to facilitate the completion of the financing program at the lowest possible cost, the Board of Directors approved the concept of a Balanced Financing Program for Nuclear Projects No. 4 and 5. This action culminated many months of concerted effort by the staff of the Supply System, the Financial Advisor, Consulting Engineer, Bond Counsel and Special Counsel. Of
the many financing mechanisms analyzed, the Board of Directors approved the use of short-term and intermediate-term debt, in conjunction with the long-term financing schedule
The Supply System staff is develop ing the necessary legal documents to implement the short-term (2-7 year maturities) bond issue segment of the Program. These documents will require the consent of the WNP-4/5 Participants prior to implementation.
Next in importance to the acquisition of funds is the management and control of expenditures. This control includes the annual updating of detailed construction. operating, administrative and special program budgets based on established goals and action plans, followed by issuance of periodic financial measurement reports.
There are numerous approval and concurrence steps and interactions in this total process. The integrated planning, budgeting and reporting sequence, for which the Finance Group has a key role, together with the many accompanying interrelationships is depicted on the chart on page 21
The extensive annual budgeting cycle ended in late July 1980 with approval by the Board of Directors of new project budgets for fiscal year 1981
The combined project construction budgets, including all overheads. fuel, cost of financing. and special
programs increased to \(\$ 15.95\) billion from \(\$ 11.75\) billion a year earlier.
The amount which the Supply System will be required to finance is \(\$ 13.19\) billion.
A number of reasons accounted for the increases, including higher than anticipated inflation, additional regulatory requirements. and plant delays from various causes.
Higher plant costs will influence the future cost of power, as will all other increases related to the delivered cost of power. Similar to recent past and expected future cost of other forms of energy, all phases of electric power are projected to continue to increase. Operating and maintenance costs have steadily advanced, cost of new transmission and distribution facilities has escalated very rapidly. and cost of money has substantially increased.

Analysis based on present project budgets and projects by the pub-liciy-owned project participants, indicate that in 1990
- Fifty percent more customers will be served, representing an annual increase of 3.9 percent.
- Even after conservation efforts, the average customer (includes industrial and commercial) will use 10 percent more electricity.
- The Supply System projects will provide about one third of their power sales.
- The cost per kwh will increase 4.4 percent a year to 1.9 cents in 1980 constant dollars.
- The cost per kwh, in terms of the inflated 1990 dollars, will be 4.2 cents, which is less than the average residential cost of electricity in the United States today.

Another principal accomplishment was the effective implementation of several check-and-balance functions to improve the level of financial involvement in each of the construction projects. These efforts, initiated in August 1979, included the establishment of a Budget Review Group. consisting of representatives of the Participants Review Board, Participants Committee, Investor-Owned Utilities, BPA and the Board of Directors Budget Committee. This group met approximately once a month during the year to review present construction progress and budget variances, and other related Supply System activities.

The steadily expanded scope of responsibilities and influence of the Finance Group included the formation of a Financial Management Controls staff charged with independent review, analysis and evaluation of project estimating. cost, and schedule performance; the placing of accounting personnel of the Construction Manager firms under Supply System financial management control, 1 , improve efficiency and cost control; the formation of a Financial Studies and Analysis Staff to concentrate the capabilities of broadly experienced senior staff members on emerging financially related issues throughout the Supply System; and assigning Financial Representatives to each major functional organization to assist managers in budget ing, cost control and financial analysis of the operations.

Also particularly noteworthy is the Treasury Division's sophisticated investment program. Through efforts of the investment staff, who assured that all available funds were continuously invested in authorized money market instruments, approximately \(\$ 133\) million was earned in fiscal year 1980.

The average daily investment balance of \(\$ 1.17\) billion earned an average return of 9.72 percent. This compares with an average cost of 7.77 percent for new funds acquired during the year.

The reader is invited to examine the following financial statements We also welcome requests for copies of recent financing official statements, which present additional information about the Supply System's projects and financial affairs.

The Budget Planning Process


Row 2) Donaid R. Clayholk Assistant Manager and Chiel Engineer Aobert Keiser Cobert Keisser Cheian County PUD
A. E. Fietcher

Cormmissioner Clallam County PU Donrid E. Hughe. Manager of Engineering 8 Planning
Cowitz County PUD Howard Prey Howard Piey Douglas County PUD Larry Nickel (not puctured) Counciperson Counciper son
City of Eliensburg
(Row 3) William G. Kuehne
Commissioner Ferry County PUD C. K. Jolly

Cornmissioner
Grant County PUD No 2 tohn I Weich Commi -soner Grays Hirbor County PuD Haroid W Jo an Cormissiont. Kittitas civenty PUD Macion Sabe Commissioner Kickutal County PUD (Fow 4 ) Arnoid James Commisssioner Edwin w. Tavior Commissioner Mason County Puo No 3 Stanton H Cain Commissioner Okanogan County Puo Hal Norman p fic County PUD No 2 P. fic County Pud No Thomas M. Logstor Mayor (Row 5) Robert Murray Supertine City Light Roff E. Jemtegaard Commissioner c. Stantord Oisen Commissioner Snehomish County PUO Paul J. Notan Direcior Department of Pubic Utilities Tacoma City Light
Charies F. Emen Wahkiakum County PUD


Chairman, Executive Committee
Ed Fischer(left)
Commissioner,
Clark County PUD
President, Supply System Board
Glenn C. Walkiey
Commissioner,
Franklin County PUD


\section*{Participants and Members}

\section*{Fublic \& Peoples Utility Districts}

Oregon
Central Linroirn, Peoples Utility District Clatskanie Peoples Utility District Northern Wasco County
Peoples Utility District
Tillamook Peoples Utility District
Washington
Benton County PUD
Chelan County PUD
Clallam County PUD
Clark County PUD
Cowlitz County PUD
Douglas County PUD
Ferry County PUD
Franklin County PUD
Grani County PUD No. 2
Grays Harbor County PUD
Kittitas County PUD
Klickitat County PUD
Lewis County PUD
Mason County PUD
Mason County PUD No. 3
Okanogan County PUD
Pacific County PUD No. 2
Pend Orielle County PUD
Skamania County PUD
Snohomish County PUD
Wahkiakum County PUD
Whatcom County PUD

\section*{Cooperatives}

\section*{California}

Surprise Valley Electrification Corp.
Idaho
Clearwater Power Co
East End Mutual Electric Co., Ltd. Fail River Rural Electric Cooperative, Inc Farmers Electric Co., Ltd. Idaho County Light \& Power

Cooperative Association, Inc
Kootenai Electric Cooperative, Inc.
Lost River Electric Cooperative, Inc.

Nathern Lights, lic
F. dirie Power Cooperative, Inc

Roft River Rural Electric Cooperative, Inc. Riverside Electric Co. Ltd

\section*{Rural Electric Co.}

Salmon River Electric Cooperative, Inc
South Side Electric Lines, Inc
Unity Light \& Power Company

\section*{Montana}

Flathead Electric Cooperative, Inc. Glacier Electric Cooperative, inc Lincoln Electric Cooperative, Inc. Missoula Electric Cooperative, Inc. Ravalli County Electric Cooperative, Inc. Vigilante Electric Cooperative Inc

Nevada
Wells Rural Electric Cooperative, Inc.

\section*{Oregon}

Blachly-Lane County Cooperative Electric Association
Columbia Basin Electric Cooperative, Inc Central Electric Cooperative, Inc. Columbia Power Cooperative Assn., Inc Consumers Power, Inc
Coos-Curry Electric Coopera:ive, Inc.
Douglas Electric Cooperative, Inc
Harney Electric Cooperative, Inc.
Hood River Electric Cooperative, Inc.
Lane County Electric Cooperative, Inc.
Nidstate Electric Cooperative, Inc.
Salem Electric
Umatilla Electric Cooperative Assn
Wasco Electric Cooperative, Inc.
West Oregon Electric Cooperative, Inc.

\section*{Washington}

Alder Mutual Light Company Benton Rural Electric Assn., Inc. Big Bend Electric Cooperative, Inc Columbia Rural Electric Assn., Inc
Elmhurst Mutual Power \& Light
Inland Fower \& Light Co
incoin Electric Cooperative, Inc.
Nespelem Valley Electric
Cooperative, Inc
Ohop Mutual Light

\section*{Total Participants} and Members by Classification

Cooperatives: 52
Municipalities: 32
Public Utility Districts: 26
Investor Owned
Utilities: 5
Total: 115

Okanogan County Electric
Cooperative, In
Orcas Power \& I ght Company Parkland Light 8 Nater Company Tanner Electric

Wyoming
Lower Valley Power \& Light, Inc

\section*{Municipalities}
\begin{tabular}{ll}
\begin{tabular}{ll} 
Idaho \\
Albion & Heyburn \\
Bonners Ferry \\
Burley & Idaho Falls \\
Declo & Minidoka \\
& Rupert
\end{tabular} \\
Oregon & \\
Bandon & Forest Grove \\
Canby & McMinnville \\
Cascade Locks & Milton-Freewater \\
Drain & Monmouth \\
Eugene & Springfield Utility Board \\
& \\
Washingion & \\
Blaine & Port Angeles \\
Centralia & Richland \\
Cheney & Seattle \\
Coulee Dam & Steilacoom \\
Ellensburg & Sumas \\
McCleary & Tacoma
\end{tabular}

Irrigation Districts
Consolidated Irrigation District 19
Vera Irrigation District 15

\section*{Investor Owned Utilities}

Montana Power Company Pacific Power \& Light Company Portland General Electric Company Puget Sound Power \& Light Company
The Washington Water Power Company


\section*{Table of Contents}

\author{
Financial Statements. \\ Balance sheets/2 \\ Statements of operations-Hanford and Packwood Projects/4 \\ Statements of changes in finarcial position-Hanford and Packwood Projects/5 \\ Statements of source and use of funds-Nuclear Projects Nos. 1 through 5/6 \\ Notes to financial statements/7
}

Report of independent accountants/15
Statement of the state auditor/16
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Construction projects expenditures / 19

\section*{Washington Public Power Supply System ANNUAL REPORT}

Financial Section

June 30, 1980

\section*{Balance Sheets}



\footnotetext{
See accompanying notes to financial statements
}


Statements of Source and Use of Funds

\section*{Nuclear Projects PSos. 1 through 5}
SOURCE OF FUNDS:
Collected Under Ner Billing .
Bond Proceeds .
USE OF FUNDS:
Construction Costs.
inse.

389
\(\$ 330425\)
See accompanying notes to financiel statements.

\section*{Notes to Financial Statements}

\section*{Note A-Organization}

The Washington Public Power Supply System was organized in 1957 as a municipal corporation and joint operating agency of the State of Washington. Its membership consists of 19 public utility distriuts and 4 municipalities that own and operate electric systems within the State of Washington. It is empowered to acquire, construct and operate facilities for the generation and transmission of electric power and energy.

The Supply System has constructed and is now operating the Fackwood Lake Hydroelectric Project (Packwood) and the Hanford Generating Project and has five nuclear electric generating plants under construction [Juiclear Projects Nos. 1. 2, 3, 4 and 5). In addition, the Supply System has an internal Service Fund (formerly General Fund) to account for the contral procurement of certain common goods and services for the projects on a costreimbursement basis.
Nuclear Projects Nos. 1, 2, and 4 are owned by the Supply System.
Nuclear Project No. 3 is jointly owned by the Supply System (70\%) and four investor-owned utilities (30\%). Nuclear Project No. 5 is also jointly owned by the Supply System ( \(90 \%\) ) and one investor-owned utility ( \(10 \%\) ).
Each joint owner is responsible for its own financing costs, providing its share of the costs of construction and operation and will be entitled to
its ownership share of the projects' capability.

In accordance with the covenants of the bond resolutions, the Supply System is authorized to recover its cost of operation and debt service over the life of the plant or bonds outstanding. Accordingly, the Supply System realizes no income or loss and equity is not accumulated.

\section*{Note B-Summary of} Significant Accounting Policies

The Supply System has adopted accounting policies and practices that are in accordance with generally accepted accounting principles applicable to the utility industry. Separate books of account are maintained for each project except for Nuclear Projects Nos. 4 and 5, which are accounted for as a single entity.

\section*{Prinzlples of Combination}

The individual and combined financial statements have been prepared to facilitate ah tit.derstanding of the financial position and results of operations of each project, the Internal Service , and and, because of common management control, the Supply System as a whole. All significant interproject due to and from balances have been eliminated from the combined columns.

\section*{Restricted Funds}
in accordance with project bond resolutions and certain related agreements, separate restricted funds are required to be
established for each of the projects. The assets held in \(t\) ese funds are restricted for specific uses including construction, debt service and other special reserve requirements. Restricted funds currently include the following:
Special Funds
- Construction
- Construction Revolving or Trust
- Construction Fuel
- Fuel Development-Uranium Program
- Development-Energy Program
- Reserve and Contingency

\section*{Debt Sorvice Funds}
- Bond Fund Principal
- Bond Fund Retirement
- Bond Fund Reserve
- Bond Fund Interest
- Construction Internst

\section*{Current Assets and Current} Lisbilities

Assets and liabilities shown as current in the accomparying balance sheets exclude current maturities on revenue bonds and accrued interest thereon because Debt Service funds are provided for their payment.

\section*{Investments}

Investments include time certificates of deposit, repurchase agreements (secured by U.S. Government securities) and United States Government and Government Agencies securities. Investments are stated at cost or amortized cost as appropriate and include accrued interest.

Irsestments held in the Bond Fund Reserve Accounts (included in Debt Service Funds) and Reserve and Contingency Funds fincluded in Specia. Funds) are stated at the lower of amortized cost or market as provided ty their respective bond resolutions.
The market values of investments held in Debt Service and Special Funds and in Current Assets IOperating Fund) approximate emortized cost ac of June 30, 1980 and June 30, 1979.

\section*{Income Eavneat an Investments} Income esrned on investments includer gains and losees from the sale of investments. income earned on investments held by projects under construction is recorded as a reduction in construction costs. Income earned on investments held by operating projects accrues to the appicable project's Operating fund.

\section*{Capitalization of Construction} Costs and Overhead Expenses During the construction phase of a project, the Supply System will capitalize all costs of the project including general, administrative, interest, certain depreciation and other overhend expenses. The overhead expenses of the Supply System are allocated from the Internal Service Fund to the various project primarily on the basis of diract iabor cost or direet usage.
The cost of the abandoned plant site, carried as a deferred charge in

Nuclear Projact Nn. 1 at June 30 , 1979, has been retroactively reclessified to Construction Work in Progress.
Urility Plant and Equipmont-At Cost
Provisions for depisciation are computed by the straight-line mathod besed on the estimated usefuf lives of the projects, whioh
approximate the term of the related reverue bonds.
Provisions for amc izaton of improvements to U.S. Govarnment owned facilities are being amortized over the pariod coyered by the contract for dual-purpose operation of the Departmant of Energy's New Production Reactor.

\section*{Contributions Used for Purchase of Equipment-Packwood and Hanford Projocts}

Monies provided by narticipants to acquire equipment since completion of the Project are recorded and accounted for as a reduction of the carrying value of such equipment included in Utility Plant.
Debt D'scount. Premium and Expenses
Debt discount or premium and expenses relating to the issuance of revenue bonds are amortized by the straight-line method over the terms of the respective issues.

\section*{Revanues}

Member kurchasers of power are contractually obligated to pay projact annual costs including debt service (excluding depreciation and amortization). The Supply System
records these reimbursable annual costs as pperating revenues for the Hanford und Peskwood Projects. in addition to recovery of project annual costs, the Supply Syetem records as revenue each yeur an amount equal to the provisions for depreciation and amentizatisn, lays the recorded gainz on bond redemptiod This sccounting policy is used in order to spresd swch revenues equally over the full teran of the bunds?
Cumulative reimbursable annual costs, leos payments by member purchasers for tiond redemption. are reffected es Unbilled Reimbure able Costs in the sccompanying beifance sheets.
For Project No. 2, payments received from member purchasers for bond redemption and interest, less the annual amortization of debt discount, are shown as Unearned Revanue in the accomganying balance sheets.

\section*{Retirement Plen}

The Supply System participates in the Wastrington State Public Employees' Retirement Systam that provides retirement benefits to eligible employess. Cost of the plan te the Supply System is determined by the Retirement System's Soard. The actuariaily computed value of pension beneflis exceeds the fund assets for the Retirement System. However, because the Retirement System is a multi-employer system the amount of such excess, if any. that relates to the Supply System is
not available. The Supply System's
required contributions were
\(\$ 2,307.523\) in 1980 and
\$1,847.063 in 1979.

\section*{Note C-Long-Term Debt}

Except for Nuclear Projects Nos. 4 and 5 , which are being financed tugether as one utility system, all Supply System projects are financed separately. The revenue bonds issued with respect to each project are payable solely from the revenues of that project.
Outstanding revenue bonds of the various projects as of June 30 ,
1980 and 1979 are presented on. Pages 11 through 14.

\section*{Security-Agreements and} Contracts
The United States of America. Department of Energy (DOE), acting by and through the Banneville. Power Administration (BPA) has purchased the entire capabilit) of the Hanford Project and the Supply System's owneership shard of the projects' capability in Nuclear Profects Nos. 1, 2 and 3 from its statutory preference customers and, in add tion, with respect to Project No. 1, the of its private utility. customers. Each of these custumers has, in turh, purchased such capability from the Supply System, all under the Net Billing and Exchange Agreoments. BPA is obligated to pay the participants. and the participants are ubligated to pay the Supply System its pro rata share of the total annual costs of the projects including debt
service on the bonds, whather or not the projects are completed, operable or operating and notwithstanding the suspension, reduction or curtailment of the projects'

\section*{output.}

The Supply System's Packwood Project revenue bonds are secured by Power Sales Contracts between the Supply System and each of its 12 member purchasers. Pursuant to these agreements, member purchasers pay for their percentage allocation of power specified therein at rates sufficient to operate and maintain the project, including debt service on the bonds. Such payments continue until the bonds are paid or provision is made for their payment or retirement.
As security for the Generating Facilities revenue bonds for Nuclear Projects Nos. 4 and 5, the Supply System has entered into Participants' Agreements with 88 utilities operating principally in the western United States. Pursuant to the Participants' Agreeinants, the participarits are obligated to pay their respective share of project annual costs, including debt service on the bonds, whether or not the projects are completed, operable or operating and notwithstanding ihe suspension, reduction or curtailment of the projects' output. Billings to the participants for Nuclear Projects Nos. 4 and 5 will begin on July i, 1988 or the date of commercial operation for the respective projects, whichever is earlier.

\section*{Advances from Members and Perticipants and Unearned \\ Revenue}

As of September 1, 1977, the partit. ipants in Nuclear Project No. 2 vere required to fund delt service, working capisal and reserve requirements as provided in the Net Billing Agreements.
The debt service portion of this funding was previously recorded as a reduction in Construction Work in Progress. This portion of the advance funding has been reciassified as Unearned Revenue, a deferred credit, which will be recegnized as earned revenue during the operating period of the plant.

\section*{Note D-Commitments and} Contingencies

\section*{Conitricts}

The Supply System thas entered into substantial contracts ecvering a portion of total estimated costs for certain major equipmant and material, and for services relating to finaricing, desigh and the supply of nuclear fuel for the projects under construction.

\section*{Hanford Project and its Relation-} ship to Nuclear Project No. 7
The Department of Energy owns and operates a nucleer reactor, the New Production Reactor. This reactor provides byproduct steam to the Hanford Project. The Supply System's current agreement with DOE provides for the continuation of this dual-purpose operation of the reactor through June 1983

It was initially intended thit Nuciear Project Nc, 1 would be constructed adjacemt to the Hanford Project and would grovide the ener jy source to operate thu project when DOE ceased opera:tion of the Ney Procluction Aeactor. Because studies indicated that generating resources in the Pacitio Northwest would be inadequate in The lace 1970's and early 1980's. the Supoly System determinad that the Hanford Project should be kept available for power production. Therefore, the Nuclear Project We: 1 Net Billing, Exchange and Propty Agreoments were amended to provide for the seperation of Nucleer Project No. 1 from the Hanford Project and to provide that Henford Project costs, to the extent not otherwise provided for, will be treated as Nuclear Project No. 1 costs having a first claim on the resionues of that project.
The amended agreements provide for the payment by Nuclear Project No. 1 participants of all debt service cosis of the Hanford Project, commencing Juily 1, 1980, regardlass of continued operation of the reactor. If the plant ceases operations, revenues arising from the aforemer. ioned payments will nevertheless be recerded each year thereafter in amounts that will result in full realization of tind carrying value of the plant.

The U.S. Government has an optio *p acquire ownership of the Hanford Project upon ctraining Congressional approval. If the Government sxarcises its option, it must assume at rights and obligation of the project, Includinn the obligation to pay all revarue bonds.

\section*{4uigation}

The Supply System is involved in verious legal actions as tothe a plaintiff and e defendent and in certain clains arising in the normat colnbe of business for a targe construction program. Although some suits and claims are significant in amount, final disposition is not determinable. In the opinion of management and legal counsel, the outcome of any such litigation or claims will not have a material effect on the financial positions of the projects. The estimated cost of the projects may e her be increased er decreased as a result of the outcome of these matters.

\section*{Ner Billing Agreements}

On November 14, 1977, th.a City of Portiand, Oregon and five residents of the City commenced E lawsuit against Bonneville and the Secidtary of the Department of Energy. The Supply System and the pasticipants have been added as defendants in this lawsuit. The action is brought under the National Environinental Policy Act of 1969 (N(PA) and alleges, among other things, that Bonneville aid not prepare, publish, circulate and file
detailed environmental impart statements corserning each of its Net Billing Agreements antered into after NEPA become affective on January 1, 1970, The Supply Syetem prejects involvea ure Nueler Projects Nas 1, 2 and 3. The complaint speks, anyong othor things. (1) a declat atony judgement deciaring the Mer B;-ping nareamerts null and void (2) an order enipining the performance of the Net Billing Agreements, and, (3) in cder requiring she defendants to prepire, publicly circulate. file arral consider a final and adequate epvironmental impaci statement for each such Net Billing Agrsement:
Legal counsel for the Supply System have advised that there is a possibility that the court might find noncompliance with NEPA in some respect and that in such event the court might enter an order designed to enforce compliance. However, counsel are of the opinion that even if the court should decide that Bonneville has not fullv comptied with the provisions of NEPA, under app"'sable legat principles the Net Silling Agreements will not be declared null and void nor will performance of the obligations thereunder of the participants to make payments and Bonneville to make credits or make payments be enjoined. Accordingly, legal counsel are of the opinion that the lawsuif is without substantial merit insofar as it deals with the Nat Billing Agreements.

\section*{Outstanding Long-Term Debt}

Outsfanding Long-Term Debt (continuoa)

\begin{tabular}{|c|c|}
\hline \multicolumn{2}{c|}{ June 30} \\
\hline \(1980 \quad-1979\) \\
\hline & \\
\hline 18.800 & 18.600 \\
124.400 & 124.409 \\
\hline 151.200 & 144.000 \\
\hline
\end{tabular} 8888
88.8
बैल.

200,000
68,250
888
18
188
888
\begin{tabular}{l}
\(8 \mid 8.8818\) \\
88 \\
8 \\
\hline 8 \\
\hline
\end{tabular} W \(\left|\begin{array}{l}8 \\ \frac{8}{2} \\ \frac{4}{2} \\ \vdots\end{array}\right|\)


\footnotetext{
unurene
}

Outstanding Long-Term Debt (continues)



Weshington Public Power Supply System
Pichiand, Washington
We heve examined the individual and combined financial statements, as listed in the financial stetements section of the table of contents, of Washington Public Power Supply System's Hanford Project, Packwood Lake Hydroelectric Project, Nuclear Project No. 1, Nuclear Project No. 2, Nuclear Project No. 3, Nuclear Projects Nos. 4 and 5 , and the Internal Service Fund for the years ended June 30, 1980 and 1979. Our examinations were made in accordance with generally accepted auditing standards and, accordingly, included such tests of ine accounting records and such other auditing procedures as we considered necessary in the circumstances.
In our opinion, the financial statements listed in the aforementioned table of contents present fairly the respective individual and combined financial positions of Washington Public Power Supply System's Hanford Project, Packwood Lake Hydroelectric Project, Nuclear Project No. 1, Nuclear Project No. 2, Nucloar Project No. 3, Nuclear Projects Nos. 4 and 5, and the Internal Service Fund at June 30, 1980 and 1979, and the respective individual and combined resuits of operations and changes in financial position of the operating projects and sources and uses of funds of the construction Projacts Nos. 1, 2, 3, and 4 and 5 for the years then ended, in conformity with generally accepted accounting principies appliad on a consistent basis.
Seattis, Washington
August 29,1980


\section*{Hanford}
\begin{tabular}{|c|c|c|c|c|}
\hline Yoar & \multicolumn{2}{|l|}{Principal} & Intersent & Annual Dabt Requirements \\
\hline 1981 & \$ & 2.810 & \$ 1.483 & \$ 4.293 \\
\hline 1982 & & 2,915 & 1,393 & 4,308 \\
\hline 1983 & & 2,915 & 1.303 & 4.218 \\
\hline 1984 & & 3,010 & 1,210 & 4,220 \\
\hline 1985 & & 3,125 & 1.114 & 4.239 \\
\hline 1986 & & 3,240 & 1,014 & 4,254 \\
\hline 1987 & & 3,255 & 913 & 4.168 \\
\hline 1988 & & 3,360 & 806 & 4.166 \\
\hline 1989 & & 3,485 & 693 & 4,178 \\
\hline 1990 & & 3,455 & 580 & 4,035 \\
\hline 1991 & & 5,065 & 425 & 5,490 \\
\hline 1992 & & 5,585 & 246 & 5,831 \\
\hline 1993 & & 5.835 & 58 & 5,893 \\
\hline 1994 & & 800 & 4 & 804 \\
\hline 1995 & & & & \\
\hline 1996 & & & & \\
\hline 1997 & & & & \\
\hline 1998 & & & & \\
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\hline 2010 & & & & \\
\hline 2011 & & & & \\
\hline 2012 & & & & \\
\hline 2013 & & & & \\
\hline 2014 & & & & \\
\hline 2015 & & & & \\
\hline 2016 & & & & \\
\hline 2017 & & & & \\
\hline 2018 & & & & \\
\hline & & 8,855 & \$11,242 & \$60,097 \\
\hline
\end{tabular}

Packwood


WNP- 1
\begin{tabular}{|c|c|c|c|c|c|}
\hline \multicolumn{2}{|r|}{Principal} & \multicolumn{2}{|r|}{Interest} & \multicolumn{2}{|l|}{Annual Debt Requirements} \\
\hline \$ & 3.695 & \$ & 68,177 & \$ & 71.872 \\
\hline & 3,815 & & 67.972 & & 71,787 \\
\hline & 4,045 & & 67.761 & & 71,806 \\
\hline & 9,245 & & 67,537 & & 76,782 \\
\hline & 9,785 & & 67,032 & & 76,817 \\
\hline & 10,355 & & 66,495 & & 76,850 \\
\hline & 10,970 & & 65,923 & & 76,893 \\
\hline & 11,615 & & 65,315 & & 76,930 \\
\hline & 12,310 & & 64,668 & & 76,978 \\
\hline & 13,045 & & 63.977 & & 77,022 \\
\hline & 13,835 & & 63.238 & & 77,073 \\
\hline & 14,675 & & 62,449 & & 77,124 \\
\hline & 15,675 & & 61,605 & & 77,180 \\
\hline & 16.535 & & 60,700 & & 77,235 \\
\hline & 17,560 & & 59,726 & & 77,286 \\
\hline & 18,666 & & 58,681 & & 77,346 \\
\hline & 19,845 & & 57,659 & & 77,404 \\
\hline & 21.110 & & 56,358 & & 77,468 \\
\hline & 22,455 & & 55,075 & & 77,530 \\
\hline & 23,940 & & 53,630 & & 77,570 \\
\hline & 25,630 & & 52,084 & & 77,614 \\
\hline & 27,235 & & 50,422 & & 77,657 \\
\hline & 29,0650 & & 48.643 & & 77,708 \\
\hline & 31,030 & & 46,726 & & 77,756 \\
\hline & 33,135 & & 44,6E,2 & & 77,787 \\
\hline & 35,380 & & 42,435 & & 77,815 \\
\hline & 37,780 & & 40,068 & & 77,848 \\
\hline & 40,345 & & 37,537 & & 77,882 \\
\hline & 43.085 & & 34,834 & & 77,919 \\
\hline & 46,015 & & 31,945 & & 77,960 \\
\hline & 49,145 & & 28,836 & & 77,981 \\
\hline & 52.505 & & 25,494 & & 77,999 \\
\hline & 56,100 & & 21,923 & & 78,023 \\
\hline & 59,940 & & 18,104 & & 78,044 \\
\hline & 64,050 & & 14,021 & & 78,071 \\
\hline & 68,445 & & 9,656 & & 78,101 \\
\hline & 73,140 & & 4,989 & & 78,129 \\
\hline \multicolumn{2}{|l|}{\$1.045,000} & \$1 & 06.247 & \$2. & 51.247 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|}
\hline WNP-2
Year & Principal & Interest &  & Hip -3
Prineip & Interest &  \\
\hline 1981 & 6,500 & 82,601 & 89,101 & & 43,284 & 43,284 \\
\hline 1982 & 14,130 & 82.217 & 98,347 & & 43,285 & 43,285 \\
\hline 1983 & 15.010 & 81,353 & 96,363 & 1,880 & 43.285 & 44,965 \\
\hline 1984 & 15.940 & 80.437 & 96,377 & 1.786 & 43.193 & 44.978 \\
\hline 1985 & 16.925 & 79.464 & 96,389 & 6,175
8.530 & 43.094
42.759 & 49.269
49.289 \\
\hline 1586 & 17,975 & 78.431 & 96,40R & 6,530 & 42.403 & 49,289 \\
\hline 1987 & 19,085 & 77.336 & 96,420
98.432 & 7.300 & 42.024 & 49,324 \\
\hline 1988 & 20,215 & 76.217 & & 7.725 & 41.620 & 49.345 \\
\hline 1989 & 21,415 & 75,032 & 96,447 & 7,725
8,175 & 41.191 & 49,366 \\
\hline 1990 & 22,690 & 73,770 & 96,460
96,467 & 8,865 & 40,734 & 49.389 \\
\hline 1991 & 24,045 & 72,422 & 96,4679 & 9,165 & 40,247 & 49.412 \\
\hline 1992 & 25,495 & 70.984
69.428 & 96,488 & 9,710 & 39,727 & 49,43: \\
\hline 1993 & 27,060 & 69,428
67.769 & 96,499 & 10,295 & 39,170 & 49,466 \\
\hline 1994 & 28,739
30.515 & 67,769
65,991 & 96,506 & 10,925 & 38,571 & 49,496 \\
\hline 1995 & 30.615
32,425 & 64,085 & 96,510 & 11,600 & 37.929 & 49,529 \\
\hline 1996 & 34,475 & 62,044 & 96,519 & 12,315 & 37,239 & 49.554 \\
\hline 1997 & 36,665 & E9,8E3 & 96,518 & 13,090 & 36,501 & 49,591 \\
\hline 1999 & 39,005 & 57.512 & 96,517 & 13,910 & 35,711 & 49.621 \\
\hline 2000 & 41,515 & 55.003 & 96,518 & 14,815 & 34,843 & 49,658 \\
\hline 2001 & 44,240 & 52,266 & 96,506 & 15,785 & 33,912 & 49,697 \\
\hline 2002 & 47,160 & 49,328 & 96.488 & 16,830 & 32,908 & 49782 \\
\hline 2003 & 50.280 & 46,194 & 96,474 & 17,945 & 30,69ธ & 49,830 \\
\hline 2004 & 53.615 & 42.842 & 96,457 & 19,405 & 29,475 & 49,880 \\
\hline 2005 & 57,170 & 39,266 & 96,436 & 21,755 & 28.152 & 49,907 \\
\hline 2006 & 60,995 & 35,415 & 96.410 & 23.200 & 26,740 & 49.940 \\
\hline 2007 & 65,075 & 31,305 & 96,347 & 24,745 & 25,233 & 49,978 \\
\hline 2008 & 69,445 & 26.90. & 96,312 & 26,390 & 23,625 & 50,015 \\
\hline 2009 & 74,10 & 17.183 & 96,278 & 28,140 & 21,909 & 50,049 \\
\hline 2010 & 79,095
84,410 & 17.826 & 96,236 & 30,025 & 20,068 & 50,093 \\
\hline 2011 & 84,410 & 11,826 & 96,197 & 32,040 & 18.096 & 50,136 \\
\hline 2012 & 90.090 & & & 34,190 & 15,991 & 50,181 \\
\hline 2013 & & & & 36.485 & 13,744 & 50.229 \\
\hline 2014 & & & & 38,940 & 11,343 & 50,283 \\
\hline 2015 & & & & 41.556 & 8,780 & 50,335 \\
\hline 2017 & & & & 44,350 & 6,044 & 50,394 \\
\hline 2018 & & & & 47,335 & 3.121 & 50.466 \\
\hline & \$1,266,500 & 61.812,784 & 83,078,284 & \$680,009 & 11,188,483 & 1,888.483 \\
\hline
\end{tabular}

WNP-485


\section*{NUCLEAR PROJECT NO. 1 \\ Construction \& Fuel .. \\ \(\qquad\)}

Net Interest, Financing \& Reserves
Total Funding Rsquirements .............................
Less: Interest, Financing \& Reserves Funded BPA.....
Total WPPSS Funding Requirements ..................

\section*{NUCLEAR PROJECT NO. 2}

Construction \& Fuet

Total Funding Requirements .....................................
Total WPPEs Funding Requirements

\(\qquad\)

\section*{NUCLEAR PAOJECT NO. 3}

Construction \& Fuel
Engineering \& Construction Management. .....................
\(\qquad\)
Owner's Cost
Net Interest, Financing \& Reserves*
Totat Funding Requirements .
Less: Interesi, Financing \& Reserves Funded by BPA
Private Unilities' Funded Owhership*
Total wppss Funding Requirsments

\section*{NUCLEAR PROJECT NO. 4}

Construction \& Fuel
Engineering \& Corstruction Management.
Owner's Cost
. . . . . . . . . . . . .........
....... \(48+58+8\)

Net Interest, Finaricing \& Reserves
Other Authorized Cost
Total WPPSS Funding Requirements.

Cumuletive June \(30,198 \mathrm{c}\)
\begin{tabular}{r} 
\\
\hline 723,928 \\
85,953 \\
38,223 \\
82,530 \\
\hline 930,634 \\
\hline\(\$ 930,634\) \\
\hline \hline
\end{tabular}
\begin{tabular}{r}
\(\$ 915,932\) \\
153,475 \\
97,632 \\
180,211 \\
\hline \(1,347,248\) \\
\((235,778)\) \\
\hline\(\$ 1,111,470\) \\
\hline \\
\hline 6470,775 \\
80,799 \\
28,872 \\
45,407 \\
\hline 625,853 \\
\hline 185,671\()\) \\
\hline 4440,182 \\
\hline
\end{tabular}
\(\begin{array}{r} \\ \$ 482,529 \\ 85,953 \\ 38,223 \\ 54,489 \\ \hline 5,275 \\ \hline \$ 666,469 \\ \hline\end{array}\)


Expended

\section*{43.8}
48.0
22.7
11.2
34.0
43.2


\footnotetext{
* Assumes that net financing costs applicable to the private utilities' ownership shares are proportionally the same as the Supply System's.
}


\footnotetext{
*Assumes that net financing costs applicable to the private utilities' ownership shares are proportionally the same as the Supply System's.
}


REMARKS
Since you may witinatelyget involved in ene or bitch of these plants, ot thought you may find the enclosed wits document of value.

DO NOT use this form as a RECORD of approvals, concurrences, disposals, - clearances, end similar actions
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[^0]:    3/ The respective portions purchased by each Participant are set forth in the formal Application (Applizant's Exhibit 1). A portion of WPPSS' 703 share of the WNP-3 output will be sold to 15 industrial customers of the Bonneville Power Administration from the date of comnercial operation through June 30, 1984, pursuant to a "Power Sale Agremment".

[^1]:    4) A form of Net Billing Agreement is set forth in Exhibit A to WPPSS' formal Application (Applicant's Exhibit 1).
[^2]:    *w
    alons

[^3]:    ${ }^{0}$ negligible compared to overall source term, e.g., less than 1.0 curies per year noble gases, less than $1(-4)$ curies per year iodine.
    bexponential notation: $7(-5)=7 \times 10^{-5}$.

[^4]:    exponential notation: $8(-5)=8 \times 10^{-5}$

[^5]:    ${ }^{3}$ This value is constant and corresponds to 0.12 percent of the operating power fission product source term as given in Regulatory Guide 1.BB, September 9, 1975.

[^6]:    ${ }^{\text {a }}$ millirems per year
    $\mathrm{b}_{\text {millifads }}$ per year
    ${ }^{\text {C }}$ Carbon－14 14 and tritium have been added to this category．

[^7]:    ${ }^{\text {a }}$ From Regulatory Guide 1.110 .
    ${ }^{\text {b From Applicants' Environmental Report Supplement } 6 .}$

[^8]:    Exclusion area boundary distance $=1,310$ meters
    b/ Low population zone distance $=4,830$ meters ( 3 miles)

[^9]:    (d) Applies to new issues.
    (b) Each element of revenue and expense is individually analyzed and forecasted so that no single growth rate is used in their development. The values given summarize the results of all of the detailed analyses for the period December 31, 1975 to December 31, 1985 on an annually compounded rate of growth basis.
    (c) Includes forecasted rate of increase in average sales price of 9.60 percent. Remaining growth rate is caused by increased unit sales.
    ${ }^{(d)}$ The market/book ratio is not an independent input; it is the product of other forecasts and therefore varies over the range shown.
    (e) Varies over the range shown due to assumed 6 cents per year annual dividend increment.
    (f) December 31 covering earnings divided by Decenber 31 annualized fixed charges.

[^10]:    Bonneville Power Administration

[^11]:    (1) First five years (1976-1980) based on five year financial model data. Last two years projected manually on a consistent basis.
    (2) Exclusive of AFDC (allowance for funds used during construction)

[^12]:    The Notes are to be issued subject to the approval of legality by Wood Dawson Love \& Sabatine, New York, New York, Bond Counsel to the Supply System, and Houghton Cluck Coughlin \& Riley, Seattle, Washington, Special Counsel to the Supply System. It is expected that the Notes in definitive form will be ready for delivery in New York, New York, on or about October 24, 1973.

[^13]:    * Approval of Agreement by Rural Electrification Administration required.

[^14]:    ${ }^{1}$ Participant's Stares will remain the same as $1986-87$ for remaining Contract Years in the term hereof

[^15]:    ${ }^{1}$ Participant's Shares will remain the same as 1986.87 for remaining Contract Years in the term hereof.

[^16]:    ( ) Denotes red figure.

