

UNITED STATES NUCLEAR REGULATORY COMMISSION

AMMENDMENT TO THE
APPLICATION FOR OPERATING LICENSE FOR A
UTILIZATION FACILITY
UNDER THE
ATOMIC ENERGY ACT OF 1954
AS AMENDED,
FOR
CALLAWAY PLANT

UNION ELECTRIC COMPANY
ST. LOUIS, MISSOURI

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UNION ELECTRIC COMPANY

AMMENDED APPLICATION FOR OPERATING LICENSE1. NAME OF APPLICANT

Union Electric Company

2. ADDRESS OF APPLICANT

P. O. Box 149
St. Louis, Missouri 63166

3. DESCRIPTION OF BUSINESS AND ORGANIZATION OF APPLICANT

Union Electric Company (hereinafter referred to as "UE") is an independent, investor-owned public utility duly organized and existing under the laws of the State of Missouri and is qualified to do business in the States of Missouri, Illinois and Iowa. UE and its subsidiaries, Missouri Power & Light Company, Missouri Edison Company, and Missouri Utilities Company are primarily engaged in the generation, transmission, distribution and sale of electricity and serve an estimated population of 2,723,000 over a 24,000 square mile area which includes the greater St. Louis metropolitan area and the eastern third of the State of Missouri, the southeastern tip of Iowa and the western part of Illinois in the East St. Louis, Alton, and Hamilton, Illinois areas and environs. A map of the area served by the UE system is depicted on page 11 of the Union Electric Company Annual Report for 1978 (See Exhibit I). The total system electric customers number approximately 955,000.

UE, which employs approximately 5,400 persons, operates fossil-fired, hydroelectric and pumped-storage electric generating facilities with a total system capacity of 6,463 megawatts. The UE system gross instantaneous peak load for 1979 was 5,795 megawatts. UE is interconnected with neighboring utilities and is an active member of both the Illinois-Missouri Pool and the Mid-America Interpool Network coordinating group.

UE also supplies gas purchased from a pipeline company to over 16,000 customers in Alton, Illinois, and supplies steam for heating and other purposes to 380 customers in the downtown business section of St. Louis, Missouri.

In 1978, total system operating revenues were approximately \$904 million, 93.4% of which were derived from electric operations.

The names of UE's directors and principal officers, all of whom are citizens of the United States of America, are as follows:

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DirectorsAddress

J. A. Baer II	500 N. Broadway St. Louis, MO 63102
W. L. Behan, Jr.	Hill-Behan Lumber Company 6515 Page Boulevard St. Louis, Missouri 63133
Sam B. Cook	The Central Trust Company 238 Madison Street Jefferson City, MO 65101
W. E. Cornelius	Union Electric Company P. O. Box 149 St. Louis, Missouri 63166
Earl K. Dille	Union Electric Company P. O. Box 149 St. Louis, Missouri 63166
Charles J. Dougherty	Union Electric Company P. O. Box 149 St. Louis, Missouri 63166
Edwin S. Jones	510 Locust Street St. Louis, Missouri 63101
R. A. Meyer	9046 Fernald Drive St. Louis, Missouri 63123
John K. Riedy	INTERCO Ten Broadway St. Louis, MO 63102
Stewart W. Smith, Jr.	Union Electric Company P. O. Box 149 St. Louis, Missouri 63166
Howard L. Young	American Zinc Sales Co. 7701 Forsyth Boulevard St. Louis, MO 63105

Principal OfficersAddress

Charles J. Dougherty, President and Chief Executive Officer	Union Electric Company P. O. Box 149 St. Louis, Missouri 63166
W. E. Cornelius, Executive Vice President	Union Electric Company P. O. Box 149 St. Louis, Missouri 63166

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Earl K. Dille, Executive
Vice President

Union Electric Company
P. O. Box 149
St. Louis, Missouri 63166

H. Clyde Allen
Vice President
Rates

Union Electric Company
P. O. Box 149
St. Louis, Missouri 63166

John K. Bryan, Vice President
Nuclear

Union Electric Company
P. O. Box 149
St. Louis, Missouri 63166

H. C. Colteryahn
Vice President
Engineering and Construction

Union Electric Company
P. O. Box 149
St. Louis, Missouri 63166

J. T. Friel,
Vice President and Controller

Union Electric Company
P. O. Box 149
St. Louis, Missouri 63166

M. E. Gatewood
Vice President
Supply Service

Union Electric Company
P. O. Box 149
St. Louis, Missouri 63166

G. J. Haven, Vice President
Transmission and Distribution

Union Electric Company
P. O. Box 149
St. Louis, Missouri 63166

Colbert W. Lais, Vice President
Regional Operations

Union Electric Company
P. O. Box 149
St. Louis, Missouri 63166

William A. Sanford, Vice President
Industrial Relations

Union Electric Company
P. O. Box 149
St. Louis, Missouri 63166

Stewart W. Smith, Jr.,
Vice President and
General Counsel

Union Electric Company
P. O. Box 149
St. Louis, Missouri 63166

Merle T. Welshans, Vice President
Finance

Union Electric Company
P. O. Box 149
St. Louis, Missouri 63166

H. E. Wuertenbaecher, Jr.,
Vice President
Customer Service

Union Electric Company
P. O. Box 149
St. Louis, Missouri 63166

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C. W. Mueller, Treasurer

Union Electric Company
P. O. Box 149
St. Louis, Missouri 63166

G. R. Murray, Secretary

Union Electric Company
P. O. Box 149
St. Louis, Missouri 63166

UE is not owned, controlled, or dominated by any alien, foreign corporation, or foreign government.

4. CLASS AND PERIOD OF LICENSE APPLIED FOR

UE is amending its application for a class 103 Operating License for a period of 40 years for the units described in Section 6 below.

5. ADDITIONAL LICENSES APPLIED FOR

UE requests such additional source, special nuclear, and by-product material licenses as may be necessary and appropriate to the operation of the plant.

6. DESCRIPTION AND USE OF THE FACILITY

UE proposes to build and operate two nuclear generating units at the Callaway Plant site. Each unit will utilize a pressurized water reactor designed by Westinghouse Electric Corporation. Each reactor will have an initial nuclear output of 3411 MW thermal and an additional non-nuclear output of 14 MW thermal. Each unit will produce approximately 1150 MW of electricity at full power.

Callaway Plant is located in Callaway County, Missouri, approximately 10 miles southeast of Fulton, Missouri, and 5 miles north of the Missouri River. Additional details concerning the plant and site are contained in the Final Safety Analysis Report and the Environmental Report, which constitute part of this application.

The facility will be used primarily for the generation of electricity.

7. FINANCIAL QUALIFICATIONS

The financial information required by 10 CFR 50.33(f) for operating license applications will be supplied by June, 1981. A copy of the UE's 1978 annual report is included herewith as Exhibit 1.

8. EXPECTED OPERATION DATE

The expected fuel load date for Unit 1 of the Callaway Plant is Apr. 1, 1982.

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9 REGULATORY AGENCIES

The regulatory agencies which have jurisdiction over UE's rates and services are:

Missouri Public Service Commission
P.O. Box 360
Jefferson City, Missouri 65102

Iowa State Commerce Commission
Valley Bank Building
4th and Walnut Street
Des Moines, Iowa 50319

Illinois Commerce Commission
527 East Capitol Avenue
Springfield, Illinois 62706

Federal Energy Regulatory Commission
825 North Capitol Street, N.E.
Washington, D.C. 20426

10. NEWS PUBLICATIONS

The following is a list of news publications (including frequency of publication) and their addresses, which circulate in the area where the Callaway Plant will be constructed and operated (Callaway County and the six adjoining counties).

Advertiser-Courier (Weekly)
136 East 4th Street
Hermann, Missouri 65041

Centralia Fireside Guard (Weekly)
118 West Sneed
Centralia, Missouri 65240

Columbia Missourian (Daily)
311 South 9th Street
Columbia, Missouri 65201

Columbia Tribune (Daily)
701 Cherry Street
Columbia, Missouri 65201

Kingdom Daily News (Daily)
307 Court Street
Fulton, Missouri 65251

Mexico Evening Ledger (Daily)
Mexico, Missouri 65265

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Montgomery Standard (Weekly)
Montgomery City, Missouri 63361

News-Tribune (Daily)
210 Monroe Street
Jefferson City, Missouri 65251

Optic-News (Weekly)
Wellsville, Missouri 63384

Osage County Observer (Weekly)
Linn, Missouri 65051

Sun-Gazette (Daily)
5th and Ravine Streets
Fulton, Missouri 65251

Tri-County Publications (Weekly)
Belle, Missouri 65013

Unterrified Democrat (Weekly)
Linn, Missouri 65051

The following are considered appropriate news publications in the area of UE's St. Louis headquarters.

St. Louis Globe-Democrat (Daily)
12th Boulevard at Delmar
St. Louis, Missouri 63166

St. Louis Post-Dispatch (Daily)
900 North 12th Boulevard
St. Louis, Missouri 63166

Suburban Journals
677 New Ballas Road
St. Louis, Missouri 63141

11. RESTRICTED DATA

This Application does not contain any restricted data or other defense information.

12. COMMUNICATIONS REGARDING APPLICATION

For the purpose of this section, the term "Power Block" will include the reactor building, turbine building, auxiliary building, fuel building, radwaste building, diesel-generator building, control building, and all systems and equipment within these buildings.

- A.1. All communications to UE pertaining to the structures, systems, and equipment within the Power Block, including NRC inspections of vendors, to first core fuel, to Seismic Category I structures,

systems and equipment outside the Power Block, and to other facilities generic to SNUPPS plants; and

2. All communications to UE pertaining to site studies and development, to the design and procurement of non-Seismic Category I structures, systems and equipment outside the Power Block, to construction, and to other subjects not-generic to the SNUPPS plants; and
- B. All communications pertaining to financial matters; and
- C. All communications pertaining to the Security Plan shall be sent to:

D. F. Schnell
Manager-Nuclear Engineering
Union Electric Company
P. O. Box 149
St. Louis, Missouri 63166

Gerald Charnoff, Esq.
Shaw, Pittman, Potts & Trowbridge
1810 M Street, N.W.
Washington, D.C. 20036

J. E. Birk
Assistant to the General Counsel
Union Electric Company
P. O. Box 149
St. Louis, Missouri 63166

- D. In addition, it is requested that one copy of each communication described above in "A.1," "A.2," and "B" be sent to the following:

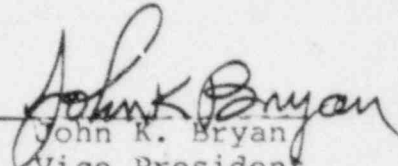
Mr. Nicholas A. Petrick
Executive Director, SNUPPS
5 Choke Cherry Road
Rockville, Maryland 20850

- E. Communications to the Commission on the subjects described above in "A.1" shall be and are hereby authorized to be signed by the Executive Director of SNUPPS on behalf of UE.

Respectfully submitted,

UNION ELECTRIC COMPANY

By


John K. Bryan
Vice President
Nuclear

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STATE OF MISSOURI

CITY OF ST. LOUIS

John K. Bryan, of lawful age, being first duly sworn upon oath says that he is Vice President-Nuclear and an officer of Union Electric Company; that he has read the foregoing application and knows the content thereof; that he has executed the same for and on behalf of said company with full power and authority to do so; and that the facts therein stated are true and correct to the best of his knowledge, information and belief.

By

John K. Bryan
John K. Bryan
Vice President
Nuclear

SUBSCRIBED and sworn to before me this 19th day of October, 1979

Patricia Ann Dorris
Patricia Ann Dorris

Notary Public

PATRICIA ANN DORRIS
NOTARY PUBLIC, STATE OF MISSOURI
MY COMMISSION EXPIRES 1/31/82
ST. LOUIS COUNTY

(Seal)

My Commission Expires: 1/31/82

UNION ELECTRIC COMPANY

Annual Report 1978



ANNUAL MEETING

The Annual Meeting of Stockholders will convene at 10 a.m. Tuesday, April 24, 1979 at the Alfonso J. Cervantes Convention and Exhibition Center, 801 Convention Plaza, St. Louis, Missouri.

STATEMENT OF POLICY

We are a business enterprise—dependent for success on the high quality and fair price of our service; on the skill, courtesy and loyalty of our employees; on the confidence of our investors; and on the ability of our management to forecast and provide for the electric power requirements of our area.

In the conduct of our business, we will render service of the highest quality to our customers—promptly, courteously, and efficiently—at the lowest prices consistent with paying fair wages and affording job satisfaction and security to our employees; providing modern facilities for our customers; expanding needs for electric service; and paying a fair return to our investors who have provided the funds to make such service possible.

As a private enterprise entrusted with an essential public service, we recognize our civic responsibility in the communities we serve. We shall strive to advance the growth and welfare of these communities and shall participate in civic activities which fulfill that goal. For we believe this is both good citizenship and good business.

DIVIDEND REINVESTMENT AND STOCK PURCHASE PLAN

The Company's Dividend Reinvestment and Stock Purchase Plan provides common stockholders and employees the opportunity to purchase additional common stock of the Company by automatically reinvesting dividends and/or investing optional cash payments.

Stockholders and employees may obtain information regarding the Company's Dividend Reinvestment and Stock Purchase Plan by writing to: Union Electric Company, Stockholder Records Division, P.O. Box 149, St. Louis, Missouri 63166.

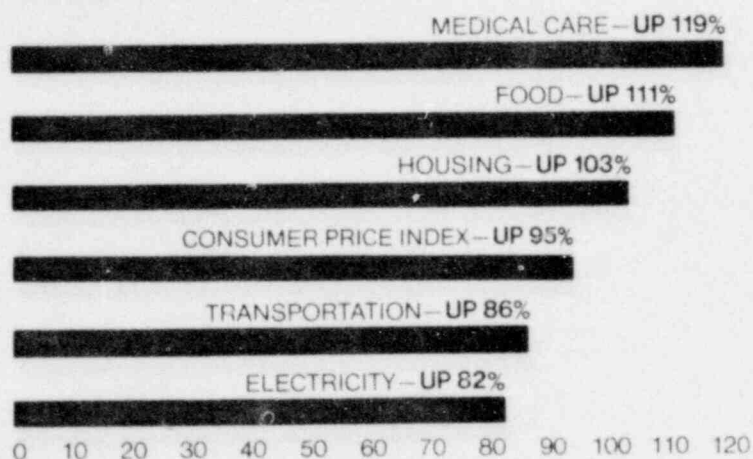
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HIGHLIGHTS

	Year Ended December 31, 1978	Annual Change	
		Current Year	10-Year Average
Earnings per Average Common Share	\$ 2.01	20.4 %	3.8 %
Dividends per Common Share	\$ 1.40	2.9	1.6
Common Shares Outstanding (Average)	48,260,500	0	7.2
Average Common Stock Equity	\$ 768,297,000	3.2	10.3
Residential Kilowatt-Hour Sales	7,670,000,000	3.8	6.4
Total Kilowatt-Hour Sales	27,517,000,000	1.9	4.3
Price per Ton of Coal	\$ 24.15	35.2	17.7
Coal Burned (Tons)	11,866,000	—	9.1
Interest on Debt	\$ 90,309,000	8.0	13.3
Total Indebtedness	\$ 1,273,552,000	5.1	8.0

Consumer Prices 1967-1978



Source: U.S. Department of Commerce, except for "Electricity" which indicates Union Electric Company's average residential price per kilowatt-hour.

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TO OUR STOCKHOLDERS

1978 was a good year—earnings were up, dividends were increased, and our customers continued to enjoy dependable electric service.

Common stock earnings for the year were \$96.9 million, or \$2.01 per share, which was a significant improvement over the \$1.67 per share earned in 1977.

Reflecting these record earnings, the quarterly common stock dividend was increased from 34 cents to 36 cents per share effective in the third quarter of 1978, bringing the annual dividend rate to \$1.44 per share.

The high level of earnings for the year was due primarily to the improved relationship between rates-charged and costs-incurred as a result of rate increases of approximately \$50 million authorized in 1978. Additionally, kilowatt-hour sales to industrial customers were up 1 per cent and sales to residential customers were up 4 per cent, producing an overall increase in kilowatt-hour sales of 2 per cent.

For our customers, the availability of reliable electric service in 1978 was an important asset, even though, understandably, the appreciation of such fact may have been lessened by our fine record of service reliability. Actually, the customer's conscious awareness of dependability was undoubtedly heightened by the circumstances of the harsh winter of 1977-78 and

the 110-day United Mine Workers' coal strike, events which impacted adversely on electric service in some other areas of the country, and by the severe ice storm that struck the St. Louis area on December 31, 1978.

It is the nature of our business to reflect in a significant manner the comfort standard of our customers. And while the industrial portion of our customers—in the overall—showed little progress for the year, chiefly because of the coal strike and the absence of new industry in our service area, most of our customers—as represented by the residential segment—enjoyed in 1978 a record usage of electricity. Since it is obvious that no one is required to use more electricity than he did in the past, the increased use of electricity by residential customers evidences a voluntary choice of the conveniences and comforts afforded by electric energy. It is, in every sense, a significant manifestation of the customers' recognition of the value of electricity.

Thus the record shows that 1978 was a good year for Union Electric's investors and customers. As much as we might prefer to confine our letter to that record and its good news, to do so would be incomplete because, in our opinion, it is essential that the current state and trend of governmental regulations and attitudes be widely broadcast and understood—for they pose a real and menacing threat to the future.

The goal and objective of Union Electric—the very purpose for which we exist—is to provide reliable electric service to everyone who wants it in our service area. We are

proud of our record in fulfilling that obligation. While such task has never been easy, we recognize that its achievement in the future is endangered by governmental policies on rate fixing, on environmental matters, and on economics generally.

Of course, rate regulation and its direct effect on our financial health is an acknowledged fact of utility life. For us, this is largely a State matter. Since in last year's Annual Report we spoke at length on the subject of rate regulation, we will not here reiterate it. Suffice it to say that inflation has increased significantly the frequency of the need for adequate rate increases. At the same time, this circumstance has heightened the debilitating effect of a regulatory policy which habitually awards less rate relief than is called for by the facts of the case. Such policies in the case of Union Electric and most utilities in the country have debased the market price of common stock to a point below its book value. Inevitably, this is a situation which is hazardous to the future supply of electricity—for capacity expansion requires capital attraction and capital is not generally attracted to companies and industries suffering from impaired credit standings.

As difficult as it has become in recent times, we are accustomed to rate regulation. Environmental regulation, on the other hand, is a much newer concept and lacks the history and established principles which give some assurance in the rate area. As reported in previous Annual Reports, it has appeared on many occasions that environmental regulations would be imposed on the Company without regard to their effects on economics or on service standards.

All of the Company's generating plants meet the established quality standards for ambient air (the ground level air people breathe) with respect to sulfur dioxide. Although our Labadie and Sioux plants have not met the previously established sulfur dioxide standards for emissions at the top of the stack, the plants have been operated under short-term variances granted by the authorities. Recently, however, Missouri officials approved new permanent emission standards with which the Company can comply by blending low-sulfur Western coal with the Illinois coal normally utilized at those plants. While the additional cost for the Western coal is estimated at \$40 to \$50 million per year, it is well below the \$175 million per year which would have been required to comply with the prior emission standards.

Although these new Missouri emission standards for Labadie and Sioux plants must be approved by the U.S. Environmental Protection Agency (EPA), we believe it significant that the EPA generally supported adoption of the new standards in the Missouri proceedings. Moreover, the approval of the new Missouri standards by the EPA is extremely important because,

should they not be approved, the old standards would apply and it would probably be necessary to shut down part of the Labadie and Sioux generation and purchase expensive replacement power from other utilities.

Without question, rate regulation and environmental regulation are serious matters having direct effects on the future supply of electricity. However, in our opinion, the unbridled inflation of our day, although it is neither as direct nor as exclusive a problem for electric utilities, poses a much more serious and pervasive threat to our future.

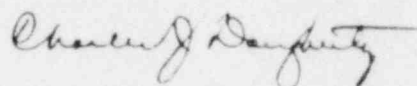
Inflation, of course, is a national problem. More accurately, it is a problem of the Federal Government. It is simply the cheapening of money. It is accomplished by the over-expansion of the money supply, an event spurred on by the government's deficit-spending habits.

Wage and price controls—voluntary or mandatory—cannot stop inflation because high wages and prices are the effect, not the cause. In all of history—without exception—wage and price controls have never worked; nor can they. Unfortunately, until the Federal Government is willing to meet the problem of money supply, we will continue to reel under the accelerating pace of inflation.

All of us—individually and collectively—are the victims of inflation. None of us can escape its effects. In a special way, however, electric utilities are particularly vulnerable to the harmful effects of inflation. Quite clearly, society today is dependent on electricity to an ever-increasing degree—a situation which requires expansion of electric utility facilities. And, significantly, because the electric utility industry is the most capital-intensive business there is, the cost of capital to us is more important than it is to any other industry.

Today, interest rates and all money costs are at record highs, a fact which reflects the lessened value of money. This results in an unnecessarily high cost for utility construction—and will inevitably produce much higher electric rates. Inflation can benefit no one.

In summary, we had a good year in 1978. The hill to the future, however, is steeper. We believe that the time has come for everyone to exert such influence as he possesses to correct the serious and menacing situations that loom ahead. We pledge to do our part.

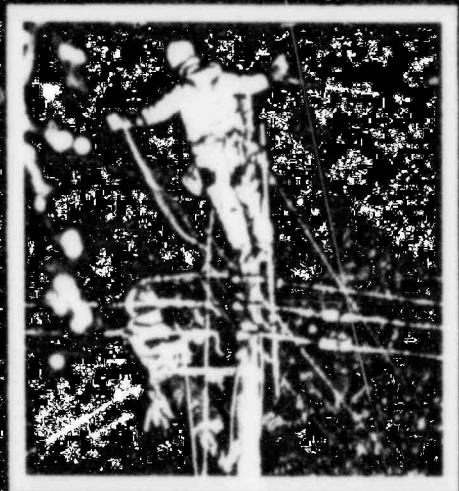


Charles J. Dougherty
President and
Chief Executive Officer

February 21, 1979
St. Louis, Missouri



... the cost
of capital to us
is more important
than it is to any
other industry. Today
interest rates and all
money costs are at
record highs...



Union Electric personnel worked around the clock for several days to restore service in the wake of a severe ice storm which struck the St. Louis area New Year's eve.

THE YEAR 1978

Earnings Per Share Rise To \$2.01

Earnings per share during 1978 were \$2.01, an increase of 34 cents over the previous year. This was a 20 per cent increase over 1977, in contrast to the 10 per cent decline in per-share earnings in 1977.

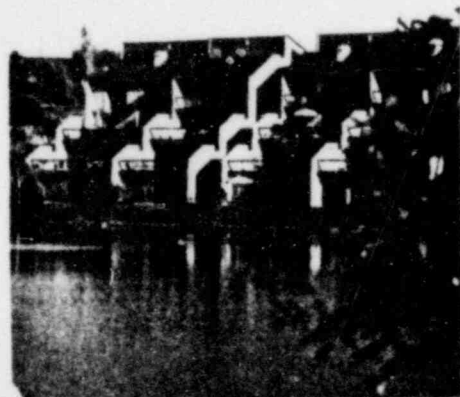
The common stock earnings of \$96,858,000 for the year primarily reflected a more realistic relationship between electric rates charged to customers and actual costs incurred by the Company.

Dividends Increase

Quarterly common stock dividends were increased from 34 to 36 cents per share effective in the third quarter of 1978, bringing the annual dividend rate to \$1.44. All dividends paid on common and preferred stocks during 1978 are fully taxable as dividend income.

Kilowatt-hour Sales Increase

Total kilowatt-hour sales were up 2 per cent in 1978, following an



Electric heat was installed in 36% of the new single-family construction and in 72% of the new multi-family construction in the Company's service area last year.

exceptional 8 per cent increase in 1977. Industrial sales were up 1 per cent, to slightly over 7.7 billion kilowatt-hours, and commercial sales remained level at 6.3 billion kilowatt-hours in 1978. Residential sales, however, increased to 7.7 billion kilowatt-hours, a 4 per cent gain over 1977. The coal miners' prolonged strike early in the year obviously had an adverse impact on industrial and commercial sales in 1978.

The total electric heating load connected to the Company's system increased by 250,000 kilowatts during the year. Electric heat was installed in 33 per cent of all single-family residential construction and in 72 per cent of all multi-family construction in the Company's service area.

These increases in electric space heating installations are important because they enable the Company to utilize, during the winter months, the facilities which have been built to serve the high demands of the summer air conditioning season.

Rate Increases

In February 1978, the Missouri Public Service Commission approved an increase in electric rates which was designed to provide additional annual revenues of approximately \$33 million. This was slightly more than one-half of the \$65 million originally requested.

Also in February 1978, the Illinois Commerce Commission authorized an annual increase in electric rates of approximately \$9 million, as compared with the \$14½ million requested.

At the end of 1978, Company rate cases were pending before the Federal Energy Regulatory Commission (FERC) equal to \$15 million in annual revenues; the Iowa State Commerce Commission amounting to \$2¼ million in annual revenues; and the Missouri Public Service Commission, where an

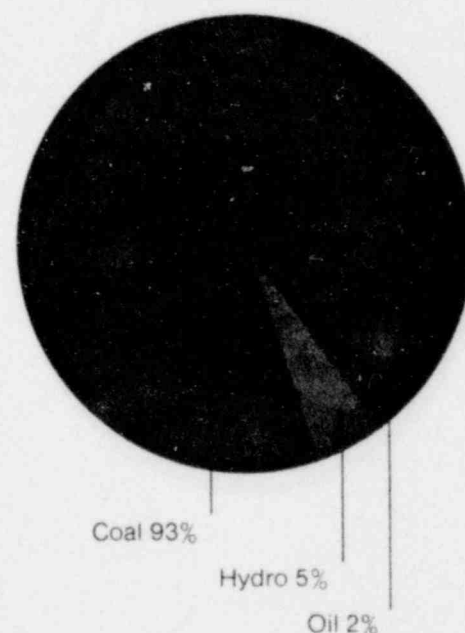
additional \$2 million annual amount is being sought in the Company's rates for steam heating service. Based on interim approvals of the FERC and the Iowa cases, Union Electric has been collecting the higher rates, essentially beginning in the second quarter of 1978, subject to refund pending final determination of the cases. Also pending at year-end were rate increase applications of subsidiary companies aggregating over \$9 million in annual revenues.

Fuel and the Fuel Adjustment Clause

Fuel costs are a major and volatile operating expense of our business. In 1978, Union Electric's fuel bill was \$308 million, an increase of \$71 million or 30 per cent over the previous year. Increases in the cost of coal caused by the coal miners' strike were a key factor in the higher fuel costs.

The fuel adjustment clause is the means by which changes in fuel prices are reflected in customers' electric bills. On February 2, 1979, the Missouri Public Service Commission entered an order

Generation Mix 1978



establishing a new fuel adjustment charge for Missouri electric utilities. While changing some details, the new fuel adjustment charge will continue the basic concept. It will apply to all classes of customers and will reflect the cost of the fuel component of energy generated and purchased. The Company's present fuel adjustment clause continues in effect until the new fuel adjustment charge is determined following a Commission hearing to be held later this year.

Nuclear Fuel

On February 12, 1979, a contract was entered into with Western Nuclear, Inc., a major U.S. uranium producer, for the supply of six million pounds of uranium to be delivered during the period 1984 through 1995. With this contract, the Company now has secured a sufficient supply of uranium to operate Callaway Unit 1 through the end of this century.

Record Amount Spent For Construction

Construction expenditures in 1978 were a record \$323 million. Of that amount \$230 million was spent on the Callaway Plant, and \$93 million was expended for other projects and environmental controls.

Progress continued on the Callaway Plant, and at year-end, Unit 1 of the 2,300,000 kilowatt plant was 27 per cent completed. The first 1,150,000 kilowatt unit of Callaway is scheduled to provide electricity for our customers in late 1982, with Unit 2 scheduled for operation in 1987.

Several accomplishments highlighted the construction year at Callaway. Most significant, perhaps, was enclosure of the turbine/generator building and other major parts of the plant, which permitted work to proceed indoors during the winter.

In the spring of 1979, the reactor vessel will be placed in the multi-layered steel and reinforced concrete containment building. The 146-foot-high walls of the structure have been completed and the dome-like roof will be completed as soon as the reactor is placed in position.

At the end of 1978, a total of \$453 million had been spent at Callaway, and the ultimate cost for the two units is estimated at \$2.5 billion.

During 1978, the Company placed three 55,000-kilowatt combustion turbines in service, bringing the system's combustion turbine capacity to 414,000 kilowatts. Located at Jefferson City, Moberly and Mexico, Missouri, these three units represent a \$21 million investment and provide increased reliability for the system.

Security Issues Provide Construction Funds

The sale of stocks and bonds provided more than \$113 million for the Company's construction program in 1978.

In August, \$55 million in first mortgage bonds, bearing an annual interest rate of 9.35 per cent, were sold to a group of institutional investors.

In September, the Company issued 4 million new shares of common stock, a public sale which generated \$58 million.

Shareholders continued to benefit from the Company's Dividend Reinvestment and Stock Purchase Plan during 1978. The Plan provides an opportunity for shareholders to reinvest their dividends in the Company's stock and to make optional cash payments in any month for the purchase of additional stock.

At the end of 1978, more than 21,000 common stockholders were

participating in the Plan. They represent over 13 per cent of our 158,000 common shareholders and, in 1978, alone, provided more than \$11 million of additional capital through the Plan.

Financing plans for 1979 include a private placement of up to \$75 million of new preferred stock with a group of institutional investors during the second quarter and the issuance of additional first mortgage bonds later in the year.

Long-term Bank Loan Extended

Last August, the Company issued \$75 million of unsecured bank notes to repay an identical amount of 1972 bank notes. The interest rate on the new notes is based on multiples of the prime interest rate—105% of the prime in 1979, rising to 115% of the prime in 1984 and 1985. However, the new notes, which mature in 1985, can be prepaid without penalty after December 31, 1979.

Cost-of-Service Study

In 1978, Union Electric completed a study which analyzed the costs of providing service to various categories of customers in Missouri. The cost-of-service study was undertaken at the direction of the Missouri Public Service Commission.

On the basis of the study results, the Company has filed newly-designed rate schedules with the Commission, which will conduct hearings on the issue during 1979. The proposed new rates would not increase the Company's revenues. The sole purpose of the new filing is to restructure rates so that they more closely reflect the actual cost of serving the various classifications of customers—which was the expressed objective of the cost-of-service study. Under the proposed new rate design, rates for residential

customers would increase an average of 4 per cent and large commercial and industrial customers' rates would increase an average of 8 per cent; however, rates for small commercial and industrial customers would decrease an average of 29 per cent.

New Board Member

At the annual meeting in April 1978, Union Electric stockholders elected Mr. Sam B. Cook to the Company's Board of Directors. Mr. Cook, who is president and chief executive officer of The Central Trust Bank, Jefferson City, Missouri, fills the vacancy resulting from the retirement of Mr. W. Alfred Hayes.

Management Changes

In April 1978, the Board of Directors elected H.C. Colteryahn a vice president. He continues to be responsible for the Engineering and Construction function.

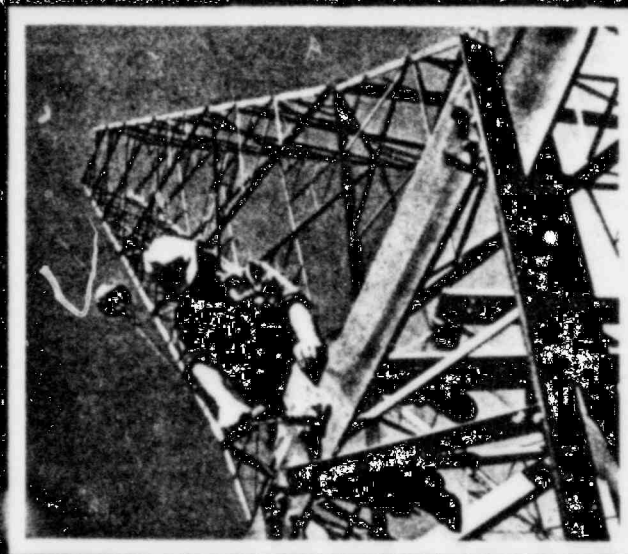
In October 1978, the Board elected two vice presidents: M. E. Gatewood, who continues in charge of the Supply Service function, and W. A. Sanford, who continues to head Industrial Relations. Effective with the retirement of Vice President P. J. Potts on December 1, 1978, the Personnel function was divided into Industrial Relations and Employee Relations functions. Mr. Sanford heads Industrial Relations and R. O. Piening, formerly treasurer, was promoted to director of Employee Relations. C. W. Mueller was elected treasurer to succeed Mr. Piening.

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"...our studies
showed that nuclear
fuel would provide
the safest, most
economical and
efficient, and most
environmentally-
acceptable method
of generating
electricity

... Our studies today
come to the same
conclusion."



Construction expenditures in
1978 ~~reached~~ a record \$323 million

PLANNING AND CONSTRUCTION

The future ability to provide for growing electric energy demand requires planning and construction many years in advance of the actual need. In fact, governmental red tape has significantly increased the lead time required to build new electric utility facilities—particularly generating plants. Therefore, our planning today must sometimes begin more than a decade before the facility is to become operative. In view of such long lead times, the planning process necessarily retains as much flexibility as possible to meet changing circumstances.

Generating Facilities

The longest lead times are required for the construction of nuclear power plants. Thus it was that after several years of intensive and extensive study, the Company in July 1973 announced that it was then beginning the process of building—for service in the early 1980s—the 2-unit nuclear power plant which we now call Callaway Plant. The 1973 decision to build

the nuclear generating plant was made because our studies showed that nuclear fuel would provide the safest, most economical and efficient, and most environmentally-acceptable method of generating the electricity which will be required. Our studies today come to the same conclusion.

Interconnections

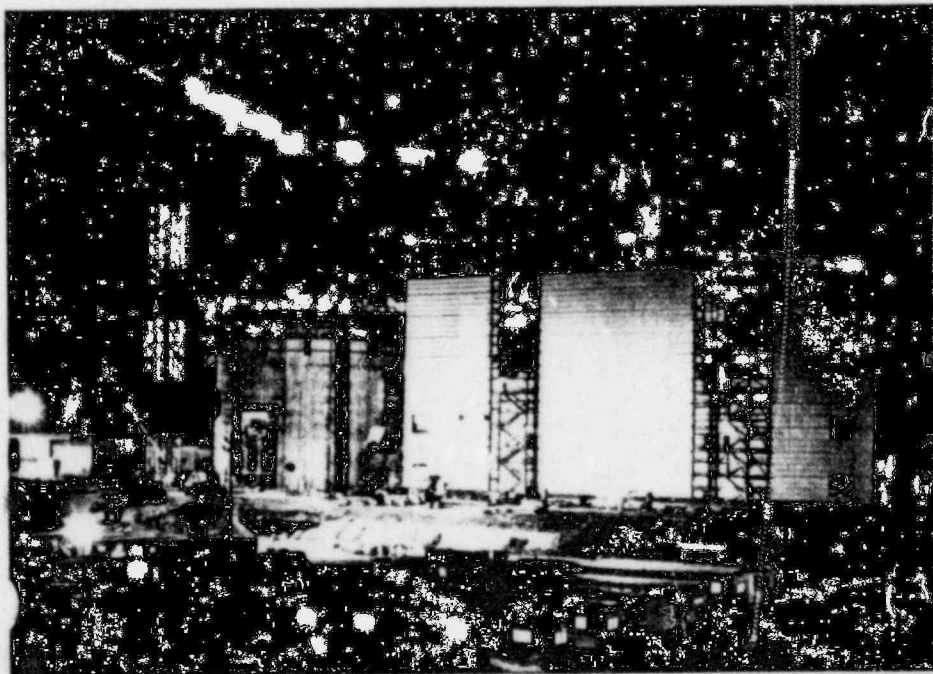
In addition to the dependability of service that is derived from the Company's own generating facilities, interconnections with other systems and the ability they provide for the interchange of power greatly enhance the reliability of electric utility service. Currently, the Company has the ability to interchange electric power with more than 20 other electric utilities to the north, south, east and west.

During 1978, an agreement was made between Union Electric, Associated Electric Cooperative, Inc. and Arkansas-Missouri Power Company to provide additional ties to the south. When completed in

1984, the new interconnections will provide for increased interchange of electricity with the Middle South Utilities System, which includes the Arkansas-Missouri Power Company. Also, this will increase reliability to southeast Missouri, where Missouri Utilities Company, a Union Electric subsidiary, is located.

Load Dispatching Expansion

Load Dispatching is the master control center of Union Electric's power operations and is responsible for directing the flow of power throughout the system. In 1978, plans were completed for an expanded, multi-million dollar, load dispatching facility which will provide increased reliability and more economic operation of the Company's electrical power system. Among other things, the new facility will be able to monitor, and control more effectively, power flow and voltages; and will be capable of demonstrating the effects on the system of alternative operating actions. In addition, expanded microwave facilities are planned to improve communication of load dispatching and other power system data.



The Callaway Plant construction schedule calls for Unit 1 to begin operation in late 1982.



The 331-ton reactor vessel arrived at the Callaway Plant in October.

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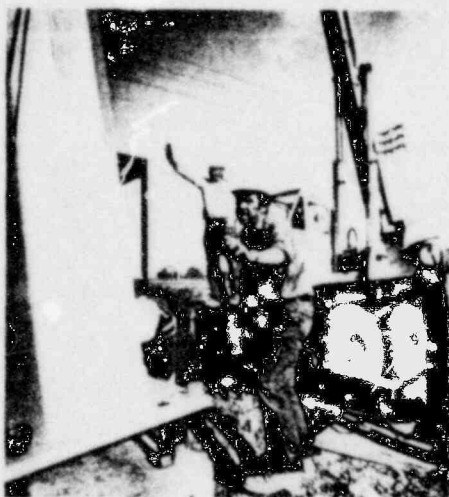
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A construction crane provides an aerial view of activities at the Callaway project.



Plans are double-checked as a transmission tower is erected for a new power line.



Installation of new transmission lines is necessary to maintain service reliability.



Decisions on the most efficient and economic method of providing electricity for our customers are made in the Load Dispatching center.

Research—Looking To the Future

An important part of planning for the future is the Company's efforts in the research and development of new sources of energy, as well as the more efficient use of existing resources. Union Electric is a member of the Electric Power Research Institute (EPRI), which serves as a coordinator of major research and development projects for the nation's electric industry. In addition, independent research is also conducted by the Company.

Union Electric is participating in the research and development of a coal gasification ("Kilngas") plant which would produce clean energy from coal. This plant would use abundantly-available high-sulfur coal for conversion to a low-sulfur gaseous fuel that would be environmentally acceptable for power plants.

The Company also continued its research, with four other midwestern utilities and the U.S. Department of Energy, on plans for a compressed-air storage plant. This unique combustion turbine concept would pump compressed-air underground, when demand for electricity is low, for later use during high demand periods, thereby reducing fuel consumption.

Throughout the year, the Company conducted its own research activities on solar water and space heating for residential applications.

The Residential Insulation Program, initiated in 1977, was continued by the Company. In 1978, more than 8,100 customers installed insulation as part of the program and 476 of those financed the cost on their electric bill.

Union Electric Service Area



Union Electric and its utility subsidiaries, **Illinois Power & Light Company**, **Missouri Electric Company** and **Missouri United Company**, are primarily engaged in supplying electric service for the strategic center of America—a 24,000 square mile area in Missouri, Illinois and Iowa. The Company is a member of one of the nation's largest power pooling networks. The ability to interchange bulk power provides emergency reserve power and enables each utility system to build new plant capacity in the most efficient and economic manner.

LEGEND

- Extra-High-Voltage Lines
 - Owned by Union Electric
 - - - Owned by Others
- Electric Generating Plants
 - Fossil—Steam
 - Hydro
 - ▲ Pumped-Storage
 - Combustion Turbine
 - Nuclear
 - Under Construction

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Responsibility For Financial Statements

The management of Union Electric Company is responsible for the preparation and presentation of the consolidated financial statements included in this Annual Report. The statements, consisting of a balance sheet and a statement of long-term debt and preferred stock and the related statements of income, retained earnings, other paid-in capital, and changes in financial position, have been prepared in accordance with generally accepted accounting principles consistently applied.

Accounting rules used in the preparation of the financial statements conform to the accounting policies prescribed by the federal and state regulatory commissions having jurisdiction. Other financial information included in this Annual Report is consistent, where applicable, with the consolidated financial statements.

The Company maintains a system of internal accounting controls designed to provide reasonable assurance as to the integrity of the financial records and the protection of assets. Qualified personnel are selected and an organization structure is maintained that provides for appropriate functional responsibility. Written policies and procedures have been developed and are revised as necessary. The Company maintains and supports an extensive program of internal audits with appropriate management follow up.

The financial statements have been examined by Price Waterhouse & Co., independent accountants, and their report appears on page 23. We believe that such report expresses an informed opinion as to whether management's financial statements present fairly, in conformity with generally accepted accounting principles, the Company's financial position and operating results.

The Board of Directors, through its Audit Committee comprised of outside directors, is responsible for ensuring that both management and the independent accountants fulfill their proper respective responsibilities relative to the financial statements. Moreover, the independent accountants have full and free access to meet with the Audit Committee, with or without management present, to discuss auditing or financial reporting matters.

This report and the financial statements contained herein are submitted for the information of the stockholders of the Company and are not intended to induce, or for use in connection with, any sale or purchase of any securities of the Company, or any of its subsidiaries.

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Consolidated Statement Of Income (Thousands of Dollars)

Union Electric and Subsidiaries		Year 1978	Year 1977
Operating Revenues:	Electric	\$844,473	\$713,036
	Gas	50,150	42,784
	Steam	8,149	8,097
	Water	1,216	1,185
	Total operating revenues	903,988	765,102
Operating Expenses:	Operations		
	Fuel and purchased power	256,894	186,954
	Other	143,482	135,135
		400,376	322,089
	Maintenance	68,012	61,191
	Depreciation	73,477	68,814
	Income taxes	80,366	58,533
	Other taxes	105,525	95,336
	Total operating expenses	727,756	605,963
Operating Income		176,232	159,139
Other Income:	Allowance for equity funds used during construction	15,980	8,301
	Miscellaneous, net	2,896	1,389
	Total other income	18,876	9,690
Income Before Interest and Other Items		195,108	168,829
Interest and Other Items:	Interest on debt	90,309	83,624
	Allowance for borrowed funds used during construction	(15,489)	(10,721)
	Preferred dividends of subsidiaries	390	391
	Total interest and other items	75,210	73,294
Net Income		119,898	95,535
Preferred Dividend Requirements of Company		23,040	20,367
Earnings on Common Stock		\$ 96,858	\$ 75,168
Earnings per Share of Common Stock (based on average shares outstanding)		\$2.01	\$1.67
Dividends Declared per Share of Common Stock		\$1.40	\$1.36
Average Number of Common Shares Outstanding		48,260,596	45,110,245

See Notes to Financial Statements on pages 20, 21 and 22.

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Consolidated Balance Sheet (Thousands of Dollars)

Union Electric and Subsidiaries		December 31, 1978	December 31, 1977
Assets			
Property and Plant, at original cost:	Electric	\$2,651,602	\$2,567,322
	Gas	61,609	59,611
	Steam	10,038	10,054
	Water	6,683	5,017
	Other	18,913	17,998
		<u>2,748,845</u>	<u>2,660,002</u>
	Less accumulated depreciation	725,448	362,516
		<u>2,023,397</u>	<u>1,997,486</u>
	Construction work in progress (includes nuclear fuel of \$35,215 and \$32,320, at respective dates)	517,677	293,843
Total property and plant, net		<u>2,541,074</u>	<u>2,291,329</u>
Investments, at cost		3,679	3,530
Deferred Charges:			
	Generating station construction abandonment	7,114	8,893
	Interest	—	6,712
	Unamortized bond defeasance cost	5,236	5,438
	Unamortized debt expense	2,776	2,692
	Other	459	918
	Total deferred charges	<u>15,585</u>	<u>24,653</u>
Current Assets:			
	Cash	5,188	6,764
	Deposits for payment of interest, and other deposits	7,342	7,533
	Accounts receivable—trade (less allowance for doubtful accounts of \$939 and \$930, at respective dates)	75,072	59,100
	Unbilled revenue	38,346	32,569
	Other accounts and notes receivable	3,520	2,643
	Materials and supplies, at average cost—		
	Fuel	69,198	59,426
	Construction and maintenance	25,888	23,541
	Recoverable fuel costs	9,436	5,966
	Prepayments and other assets	5,881	4,127
	Total current assets	<u>239,871</u>	<u>201,669</u>
		<u>\$2,800,209</u>	<u>\$2,521,181</u>

See Notes to Financial Statements on pages 20, 21 and 22.

December 31, December 31,
1978 1977

Union Electric and Subsidiaries

Capital and Liabilities

Capitalization:

Common stock and
retained earnings

Common stock, \$5 par value, authorized 75,000,000 and 60,000,000 shares, at respective dates; outstanding 51,909,270 and 46,811,805 shares, at respective dates (excluding 42,990 shares at par value in treasury)	\$ 259,546	\$ 234,059
Other paid-in capital, principally premium on common stock (see accompanying statement)	328,573	280,187
Retained earnings (see accompanying statement)	247,901	218,865
	836,020	733,111

Preferred stock

Preferred stock, including premium of \$1,571 (see accompanying statement)	322,447	322,473
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Total capital stock and retained earnings	1,158,467	1,055,584
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Long-term debt

Long-term debt (see accompanying statement)	1,237,576	1,187,640
Unamortized premium and discount on debt	1,284	1,440
Total capitalization	2,397,327	2,244,664

Accumulated Deferred Taxes
on Income

95,507 69,410

Accumulated Deferred Investment
Tax Credits

55,647 33,612

Current Liabilities:

Current maturity of long-term debt	5,092	105
Accounts payable	79,177	46,001
Wages payable	13,144	11,744
Bank loans	14,400	9,050
Commercial paper	15,200	14,000
Income taxes accrued	53,691	30,667
Other taxes accrued	13,592	13,278
Interest accrued	26,736	24,297
Dividends declared	5,833	6,135
Other current liabilities	24,863	18,218
Total current liabilities	251,728	173,495

\$2,800,209 \$2,521,181

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Long-Term Debt And Preferred Stock (Thousands of Dollars)

		December 31, 1978	December 31, 1977
Union Electric and Subsidiaries			
Long-Term Debt:			
Union Electric Company	2 7/8% Series due 1980	\$ 25,000	\$ 25,000
First mortgage bonds—	3 3/4% Series due 1982	30,000	30,000
see note (a)	3 3/4% Series due 1986	40,000	40,000
	4 1/4% Series due 1988	35,000	35,000
	4 3/4% Series due 1990	50,000	50,000
	4 3/4% Series due 1991	30,000	30,000
	4 1/2% Series due 1993	30,000	30,000
	4 1/2% Series due 1995	35,000	35,000
	5 1/2% Series due 1996	30,000	30,000
	5 1/2% Series due 1997	40,000	40,000
	7% Series due 1998	50,000	50,000
	7 3/4% Series due 1999	35,000	35,000
	8 3/4% Series due 1999	40,000	40,000
	9% Series due 2000	60,000	60,000
	7 7/8% Series due 2001	50,000	50,000
	7 7/8% Series due 2001	50,000	50,000
	8 1/4% Series due 2001	60,000	60,000
	8 3/8% Series due 2004	70,000	70,000
	10 1/2% Series due 2005	70,000	70,000
	5.80% Series due 1992 to 2005	27,085	27,085
	8 7/8% Series due 2006	70,000	70,000
	8 7/8% Series due 2007	60,000	60,000
	9 35% Series due 2008	55,000	—
Unsecured bank notes—			
see note (b)	12 3/4% Due 1985	75,000	75,000
Missouri environmental	Series 1974, interest rates averaging		
improvement revenue bonds	6.21% due 1989 to 2004	16,500	16,500
Total Union Electric Company		1,133,585	1,078,585
Missouri Power & Light Company	2 3/4% Series due 1979	—	2,000
First mortgage bonds—	3 3/4% Series due 1984	7,500	7,500
see note (a)	4 1/2% Series due 1992	6,000	6,000
	10 3/4% Series due 1994	7,000	7,000
	5 1/4% Series due 1996	5,000	5,000
	5 1/4% Series due 1997	5,000	5,000
	8% Series due 1999	5,000	5,000
	9 3/4% Series due 2001	12,000	12,000
	7 3/4% Series due 2003	7,000	7,000
Total Missouri Power & Light Company		54,500	56,500
Missouri Utilities Company	3 3/4% Series due 1979	—	500
First mortgage bonds—	3 3/4% Series due 1979	—	1,000
see note (a)	4% Series due 1979	—	1,000
	5 3/4% Series due 1984	1,000	1,000
	4 1/2% Series due 1988	3,000	3,000
	5 1/4% Series due 1991	3,500	3,500
	8 1/4% Series due 1996	10,000	10,000
	7.95% Series due 1998	4,000	4,000
	9 1/4% Series due 2001	6,000	6,000
Unsecured notes—due in			
equal annual installments	6% Due 1992	2,450	2,555
Total Missouri Utilities Company		29,950	32,555
Missouri Edison Company	11 1/4% Series due 1990	4,700	5,000
First mortgage bonds—	5% Series due 1991	2,000	2,000
see note (a)	4 3/4% Series due 1995	3,000	3,000
	9 3/4% Series due 2001	3,826	4,000
	8 1/2% Series due 2002	6,000	6,000
Unsecured notes—due in			
equal annual installments	7 7/8% Due 1981	15	—
Total Missouri Edison Company		19,541	20,000
Total long-term debt		\$1,237,576	\$1,187,640

December 31, December 31,
1978 1977

Union Electric and Subsidiaries

Preference Stock:

Union Electric Company
Preference stock, \$1 par value
(entitled to cumulative
dividends), authorized 7,500,000
shares—none outstanding

Preferred Stock:

Union Electric Company	Stated value of shares outstanding.		
Preferred stock, without par value (entitled to cumulative dividends), authorized 15,000,000 and 7,500,000 shares, at respective dates	\$100 per share—		
	\$7.44 Series—550,000 shares	\$ 55,000	\$ 55,000
	\$6.40 Series—300,000 shares	30,000	30,000
	\$4.56 Series—200,000 shares	20,000	20,000
	\$4.50 Series—213,595 shares	21,359	21,359
	\$4.00 Series—150,000 shares	15,000	15,000
	\$3.70 Series—40,000 shares	4,000	4,000
	\$3.50 Series—130,000 shares	13,000	13,000
	Stated value of shares outstanding.		
	\$97.50 per share—		
	\$8.00 Series of 1971—425,000 shares	41,437	41,437
	Stated value of shares outstanding.		
	\$92.25 per share—		
	\$8.00 Series—350,000 shares	32,288	32,288
	Stated value of shares outstanding.		
	\$25.00 per share—		
	\$2.72 Series—1,600,000 shares	40,000	40,000
	\$2.125 Series—1,600,000 shares	40,000	40,000
Total Union Electric Company		312,084	312,084
Missouri Power & Light Company	Outstanding—		
Preferred stock, \$100 par value (entitled to cumulative dividends), authorized 75,000 shares	4.30% Series—20,000 shares	2,000	2,000
	3.90% Series—40,000 shares	4,000	4,000
Total Missouri Power & Light Company		6,000	6,000
Missouri Utilities Company	Outstanding—		
Preferred stock, \$100 par value (entitled to cumulative dividends), authorized 50,000 shares	5% Series—14,000 shares	1,400	1,400
	5% Series of June 1950—1,500 shares	150	150
	5% Series of September 1950—1,500 shares	150	150
	5.70% Series—10,920 and 11,180 shares at respective dates	1,092	1,118
Total Missouri Utilities Company		2,792	2,818
Missouri Edison Company			
Preferred stock, \$100 par value (entitled to cumulative dividends), authorized 5,000 shares—none outstanding			
Total preferred stock		\$320,876	\$320,902

(a) At December 31, 1978, substantially all of the property and plant was mortgaged under, and subject to liens of, the respective indentures pursuant to which the bonds were issued.

(b) On August 22, 1978, the Company issued \$75,000,000 of unsecured bank notes due December 31, 1985 to repay the bank notes due in 1979. The interest rate on the new notes is based on 105% of the bank prime interest rate through December 31, 1979, 112% through December 31, 1983 and 115% thereafter.

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Consolidated Statement Of Changes In Financial Position (Thousands of Dollars)

Union Electric and Subsidiaries		Year 1978	Year 1977
Source of Funds:			
	From operations—		
	Income	\$119,898	\$ 95,535
	Provision for depreciation	73,477	68,814
	Provision for deferred taxes on income (net)	26,097	25,239
	Provision for deferred investment tax credits (net)	22,035	23,965
	Allowance for all funds used during construction	(31,469)	(19,022)
		210,038	194,531
	Dividend reinvestment and stock purchase plans	15,793	11,899
	Issue of mortgage bonds	55,000	93,085
	Issue of preferred stock	—	40,000
	Issue of common stock	58,080	75,000
	Issue of restructured long-term unsecured notes	75,000	—
	Additional short-term bank loans and commercial paper	6,550	—
	Total funds provided	\$420,461	\$414,515
Application of Funds:			
	Gross plant expenditures	\$323,292	\$240,433
	Allowance for all funds used during construction	(31,469)	(19,022)
	Union Electric dividends on preferred stock and common stock	90,616	82,120
	Restructured long-term unsecured notes	75,000	—
	Defeasance of environmental improvement revenue bonds	—	22,000
	Reduced short-term bank loans and commercial paper	—	43,950
	Change in deferred charges	(9,068)	6,087
	Net change in working capital (excluding short-term loans and current maturity of long-term debt)	(28,494)	42,644
	Net change in other funds	584	(3,697)
	Total funds applied	\$420,461	\$414,515
Changes in Components of "Working Capital":			
	Cash and deposits	\$ (1,767)	\$ 260
	Receivables, net	22,626	10,122
	Materials and supplies	12,119	18,490
	Recoverable fuel costs	3,470	(920)
	Accounts and wages payable	(34,576)	2,743
	Taxes accrued	(23,338)	9,365
	Interest and dividends accrued or declared	(2,137)	(1,463)
	Other	(4,891)	4,047
		\$ (28,494)	\$ 42,644

See Notes to Financial Statements on pages 20, 21 and 22.

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Consolidated Statement Of Retained Earnings (Thousands of Dollars)

Union Electric and Subsidiaries		Year 1978	Year 1977
Balance at Beginning of Period		\$218,865	\$207,190
Add:	Net income	119,898	95,535
		338,763	302,725
Deduct:	Preferred stock dividends	23,040	20,792*
	Common stock dividends—\$1.40 and \$1.36 per share, respectively	67,576	61,328
	Write-off capital stock expense	246	1,740
		90,862	83,860
Balance at Close of Period	(Under the mortgage indenture of Union Electric Company as amended, free and unrestricted retained earnings at December 31, 1978 amounted to \$194,104)	\$247,901	\$218,865

*Includes dividends of \$425,000 declared in 1977 applicable to a subsequent period.

Consolidated Statement Of Other Paid-In Capital (Thousands of Dollars)

Union Electric and Subsidiaries		Year 1978	Year 1977
Balance at Beginning of Period		\$280,187	\$222,038
Add:	Excess of sales price over par value of 4,000,000 and 5,000,000 shares of common stock issued in 1978 and 1977, respectively	38,000	50,000
	Excess of sales price over par value of 808,379 and 615,837 shares of common stock issued during 1978 and 1977, respectively, for dividend reinvestment and stock purchase plan	7,446	6,460
	Excess of sales price over par value of 289,086 and 153,892 shares of common stock issued for tax reduction act stock ownership plan in 1978 and 1977, respectively	2,860	1,591
	Excess of acquisition cost over par value of 7,727 shares of common stock issued during 1977 in exchange for Missouri Utilities Company common stock	—	58
Balance at Close of Period		\$328,573	\$280,187

See Notes to Financial Statements on pages 20, 21 and 22.

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Notes To Financial Statements

Union Electric Subsidiaries

Note 1—Summary of Accounting Policies

The Company and its utility subsidiaries are subject to regulation by the Missouri Public Service Commission, Illinois Commerce Commission, Iowa State Commerce Commission and the Federal Energy Regulatory Commission of the Department of Energy. The accounting policies of the companies are in accordance with the rate-making practices of the regulatory authorities having jurisdiction and, as such, conform to generally accepted accounting principles as applied to regulated public utilities. A description of the Company's significant accounting policies follows.

Principles of Consolidation

The consolidated financial statements include the accounts of the Company and all of its wholly-owned subsidiaries. In the process of consolidation, all intercompany investments and accounts and all intercompany sales and profits are eliminated.

Property and Plant

The cost of additions to and betterments of units of property and plant is capitalized. Cost includes labor, material, applicable taxes, pensions and certain other items, plus an allowance for funds used during construction. Maintenance expenditures and renewals of items not considered to be units of property are charged to income as incurred. When units of depreciable property are retired, the original cost and removal cost, less salvage, are charged to accumulated depreciation.

Depreciation

For financial statement purposes, depreciation is provided over the estimated lives of the various classes of depreciable property by applying composite rates on a straight-line basis. The provisions for depreciation in 1978 and 1977 were equivalent to approximately 2.7% of the average depreciable cost.

Income Taxes

For income tax purposes, the Company computes depreciation using the most liberalized methods allowed by the Internal Revenue Code. Net depreciable property and plant used in this computation excludes costs (primarily the allowance for funds used during construction, taxes, pensions and certain other items) which are charged to property and plant for financial statement purposes but treated as expenses when incurred for income tax purposes.

With respect to all property additions after 1974 and prior additions in Illinois, the reductions in taxes applicable to the liberalized depreciation methods described above are accounted for as deferred income taxes and amortized over the estimated useful lives of the related properties. In addition, the Company normalizes the income tax effects of the debt component of the allowance for funds used during construction, and taxes, pensions and other expenses capitalized, as well as the repair allowance which has been claimed for years after 1974.

The Company has elected to defer the additional investment tax credit benefits resulting from the Tax Reduction Act of 1975 with respect to properties in all states, and is amortizing the deferrals over the estimated useful lives of the related properties. The Company is continuing to flow-through to income the 4% investment tax credit on Missouri and Iowa properties which are not qualified progress expenditures under the Tax Reduction Act of 1975.

Allowance for Funds Used During Construction

The Federal Energy Regulatory Commission Uniform System of Accounts defines allowance for funds used during construction (AFC), which is a non-cash item, as the net cost for the period of construction of borrowed funds used for construction purposes and a reasonable rate on other funds when so used.

During 1978 and 1977, the Company recorded AFC at various rates, compounded semi-annually. The net rates reflect the Company's policy of deferring the income tax effect applicable to the borrowed funds portion of the AFC rate. The resulting average annual AFC rates were: 1978—8.65% (6.55% net); 1977—8.30% (6.00% net).

Unbilled Revenue

The Company records on its books the estimated amount of accrued, but unbilled, revenue and also the accrued liability for the related taxes.

Recoverable Fuel Costs

Fuel cost adjustment riders to the Company's tariffs are in effect for virtually all electric customers. Due to the lag in application of such fuel riders, the Company is deferring the effect, net of related income taxes, on costs arising from the fluctuation in the costs of fuel to the period when such amounts are billed to electric customers. The deferral obtains a proper matching of costs and revenues.

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Note 2—Income Taxes

Total income tax expense is less than the amount computed by multiplying the income-before-tax by the statutory Federal income tax rate. The reasons for this difference for the years in which shown are as follows (in thousands):

	1978	1977
Tax computed at statutory rate on book income-before-tax	\$95,788	\$73,754
Increases (Decreases) in tax from:		
Additional depreciation	(1,560)	(3,977)
Allowance for equity funds used during construction	(7,940)	(4,203)
Investment tax credits	(2,231)	(5,843)
Dismantling costs	(2,173)	(1,794)
Capitalized costs	(462)	(641)
Miscellaneous, net	(1,763)	824
Total	<u>\$79,659</u>	<u>\$58,118</u>
Income tax expense components (in thousands):		
Included in operating expenses—		
Taxes currently payable:		
Federal	\$24,026	\$ 685
State	4,440	3,763
Deferred taxes (principally Federal):		
Liberalized depreciation	10,988	10,483
Repair allowance	6,792	5,194
Other (principally capitalized costs)	11,261	11,127
Provisions deferred in prior years	(2,944)	(1,565)
Deferred investment tax credits, net	25,798	28,843
	<u>80,366</u>	<u>58,533</u>
Current provision included in other income—		
miscellaneous, net	(707)	(415)
Total	<u>\$79,659</u>	<u>\$58,118</u>

Note 3—Retirement Plans

The retirement plans covering employees of the Company and its subsidiaries are financed through irrevocable pension trusts and group annuity contracts. The policy is to fund pension costs accrued. Costs of the retirement plans for the years 1978 and 1977 were \$9,166,000 and \$8,862,000, respectively, of which approximately 20% was charged to construction accounts. The aforementioned amounts include prior service costs which are being amortized over twenty years. At December 31, 1978, the unfunded prior service costs are estimated to be \$24,000,000 and the actuarially computed value of vested benefits exceeded the fund (valued at market) by approximately \$16,000,000.

Note 4—Compensating Balances and Short-Term Borrowings

Short-term borrowings of the Company and its subsidiaries consist of bank loans (maturities not in excess of 270 days) and commercial paper (maturities generally within 30-45 days). Information regarding such consolidated short-term borrowings is as follows (in thousands of dollars):

	1978	1977
Amounts outstanding at year end—		
Bank loans	\$14,400	\$9,050
Commercial paper	\$15,200	\$14,000
Composite interest rates at year end—		
Bank loans	11.5%	7.8%
Commercial paper	10.8%	6.9%
Maximum aggregate amount outstanding at any month end during the year	\$101,540	\$89,900
Average daily short-term borrowings outstanding during the year—		
Aggregate amount	\$42,321	\$60,030
Weighted composite interest rate	7.6%	5.8%

Notes To Financial Statements (continued)

Union Electric and Subsidiaries

The above weighted composite interest rates were calculated by dividing the applicable interest expense for the year by the average daily short-term borrowings shown above.

At December 31, 1978, the Company and its subsidiaries had bank lines of credit aggregating \$101,670,000 which make available interim financing at the prime rate of interest. In support of such lines of credit, the Company has unwritten agreements with the majority of its lending banks to maintain average compensating balances equivalent to 10% of the line of credit plus 10% of the borrowings outstanding, as determined from bank records. In addition, at December 31, 1978, the Company had commitments from banks aggregating \$15,000,000, which expire August 31, 1979. The Company pays a fee of 0.375% on the unused portions of the commitments.

Note 5—Property Abandonments

In late 1974, the Company cancelled its plans to construct two electric generating units which had been scheduled for completion in 1979 and 1980 and announced plans to construct instead oil-fired combustion turbine peaking capacity. Negotiations of cancellation charges on construction contracts were completed in 1976 and these costs, when combined with construction costs related to the cancelled units, aggregated \$8,893,000. In accordance with instructions received from regulatory authorities having jurisdiction, this amount and the related income taxes (\$4,446,000 net of such income taxes) is being amortized over a five-year period beginning January 1, 1978. The unamortized amounts of \$7,114,000 and \$8,893,000 are included in Deferred Charges at December 31, 1978 and 1977, respectively.

Note 6—Construction Commitments

The Company and its subsidiaries are engaged in a construction program under which expenditures of approximately \$2.25 billion are anticipated during the next five years, of which expenditures of \$415,000,000 and \$489,000,000 are estimated to be made in 1979 and 1980, respectively.

Note 7—Contingencies

As explained in the President's letter on page 3, a recent change by the State of Missouri to less stringent sulfur dioxide emission standards will become effective if approved by the U.S. Environmental Protection Agency. Under these revised standards, the Company estimates that compliance would add \$40 to \$50 million to annual operating costs. Should the EPA not approve the revised standards, the Company estimates that compliance with the more stringent standards, previously approved by the EPA, would add \$175 million to annual operating costs or it may be necessary to shut down part of the generation of two major plants and purchase replacement power from other utilities.

Note 8—Selected Quarterly Information

(Unaudited)

In the opinion of the Company, the summarized data as shown under "Selected Quarterly Information" for the years 1978 and 1977 on pages 28 and 29 of this report includes all adjustments, consisting only of normal recurring adjustments, necessary for a fair statement of the results for the periods.

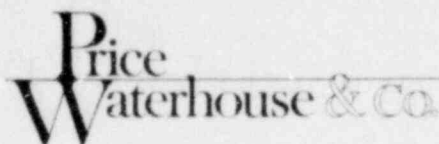
Due to the effect of weather on sales and other factors which are characteristic of electric utility operations, financial results for interim periods are not necessarily indicative of trends for any twelve-month period.

Note 9—Replacement Cost Information

(Unaudited)

The impact of the rate of inflation experienced in recent years, along with environmental and other regulatory requirements, has resulted in replacement costs of productive capacity that are significantly greater than the historical costs of such assets reported in the Company's financial statements. In accordance with the requirements of the Securities and Exchange Commission, the Company has computed the estimated replacement cost of its productive capacity, and the related effect on depreciation, and this data will be reported in Form 10-K to be filed with the Commission.

Report Of Independent Accountants



ONE MEMORIAL DRIVE
ST. LOUIS, MISSOURI 63102
314 425-0500

February 14, 1979

To the Stockholders and Board of
Directors of Union Electric Company

In our opinion, the accompanying consolidated balance sheet and the related consolidated statements of income, long-term debt and preferred stock, retained earnings, other paid-in capital and changes in financial position present fairly the financial position of Union Electric Company and its subsidiaries at December 31, 1978 and 1977, and the results of their operations and the changes in their financial position for the years then ended, in conformity with generally accepted accounting principles consistently applied. Our examinations of these statements 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.

Price Waterhouse & Co.

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Consolidated Summary Of Operations (Thousands of Dollars)

Union Electric and Subsidiaries	1978	1977	1976	1975
Operating Revenues:				
Electric	\$844,473	\$713,036	\$635,000	\$542,977
Gas	50,150	42,784	38,636	31,388
Steam	8,149	8,097	7,688	8,136
Water	1,216	1,185	1,132	954
Total operating revenues	903,988	765,102	682,456	583,455
Operating Expenses:				
Operations				
Fuel and purchased power	256,894	186,954	146,071	137,078
Other	143,482	135,135	118,110	105,597
	400,376	322,089	264,181	242,675
Maintenance	68,012	61,191	54,159	39,995
Depreciation	73,477	68,814	63,062	56,871
Income taxes	80,366	58,533	50,896	29,175
Other taxes	105,525	95,336	86,044	77,853
Total operating expenses	727,756	605,963	518,342	446,569
Operating Income	176,232	159,139	164,114	136,886
Other Income:				
Allowance for funds used during construction				
All funds (prior to January 1, 1977)	—	—	12,379	23,107
Equity funds (after December 31, 1976)	15,980	8,301	—	—
Miscellaneous, net	2,896	1,389	(2,554)	1,402
Total other income	18,876	9,690	9,825	24,510
Income Before Interest and Other Items	195,108	168,829	173,939	161,396
Interest and Other Items:				
Interest on debt	90,309	83,624	78,136	74,967
Allowance for borrowed funds used during construction (after December 31, 1976)	(15,489)	(10,721)	—	—
Preferred dividends of subsidiaries	390	391	393	394
Total interest and other items	75,210	73,294	78,529	75,361
Net Income	119,898	95,535	95,410	86,035
Preferred Dividend Requirements of Company	23,040	20,367	19,640	19,640
Earnings on Common Stock	\$ 96,858	\$ 75,168	\$ 75,770	\$ 66,395
Earnings per Share of Common Stock (based on average shares outstanding)	\$2.01	\$1.67	\$1.86	\$1.78
Dividends Declared per Share of Common Stock	\$1.40	\$1.36	\$1.34	\$1.28
Average Number of Common Shares Outstanding	48,260,596	45,110,245	40,795,152	37,240,134
Return on Average Common Stock Equity	12.61%	10.68%	12.19%	11.98%
Ratio of Earnings to Fixed Charges (a)	3.18	2.81	2.79	2.51

(a) Earnings consist of net income plus fixed charges (interest on debt, preferred dividends of subsidiaries and an appropriate amount of rentals charged to operating expenses) and income taxes.

Note: See pages 26 and 27 for Management's Analysis of Operations covering the period since 1976.

1974	1973	1972	1971	1970	1969	1968
\$443,044	\$399,161	\$357,606	\$325,964	\$302,687	\$271,217	\$249,423
17,377	14,527	13,679	11,796	10,735	9,474	8,642
7,735	4,261	3,903	3,148	3,306	3,503	3,140
—	—	—	—	—	—	—
468,656	417,949	375,188	340,908	316,728	284,194	261,205
116,229	76,245	90,287	72,540	54,800	46,342	42,754
75,271	76,273	66,979	61,595	57,456	53,528	50,839
191,500	154,518	157,266	134,135	112,256	99,870	93,593
41,913	35,039	31,564	25,363	22,462	22,330	19,844
53,016	49,811	44,784	43,336	38,093	34,749	32,522
3,573	6,850	560	4,535	19,200	21,655	19,053
65,653	60,471	52,863	47,105	40,452	35,866	31,802
355,655	306,689	287,037	254,474	232,463	214,470	196,814
113,001	111,260	88,151	86,434	84,265	69,724	64,391
13,696	10,521	13,277	13,457	14,092	10,084	5,267
—	—	—	—	—	—	—
1,154	99	578	494	(48)	(4)	151
14,850	10,620	13,955	13,951	14,044	10,080	5,418
127,851	121,880	102,106	100,385	98,309	79,804	69,809
67,823	54,471	48,409	43,411	38,189	31,96 ^a	26,244
—	—	—	—	—	—	—
242	242	242	242	242	242	242
68,065	54,713	48,651	43,653	38,431	32,210	26,486
59,786	67,167	53,455	56,732	59,878	47,594	43,323
15,700	15,288	11,312	10,074	7,796	5,251	4,996
\$ 44,086	\$ 51,879	\$ 42,143	\$ 46,658	\$ 52,082	\$ 42,343	\$ 38,327
\$1.37	\$1.62	\$1.35	\$1.61	\$1.92	\$1.60	\$1.59
\$1.28	\$1.28	\$1.28	\$1.28	\$1.26	\$1.20	\$1.20
32,187,113	31,946,291	31,249,023	29,045,701	27,162,204	26,440,670	24,170,612
8.94%	10.72%	8.89%	11.04%	13.63%	12.07%	13.16%
1.92	2.33	2.10	2.39	3.03	3.12	3.31

Management's Analysis Of Operations

Union Electric and Subsidiaries

The principal fluctuations in revenues and major categories of income and expense during the past two years are discussed below.

Operating Revenues

The principal factors causing increases in revenues during the periods set forth below were as follows:

Electric	Variation from Prior Year	
	1978	1977
(Millions of Dollars)		
Rate increases	\$ 43.2	\$ 2.1
Revenues resulting from application of fuel cost adjustment riders and the inclusion of current fuel costs in basic tariffs to reflect the higher costs of fuel under revised fuel riders	67.9	25.5
KWH sales (excluding effect of the factors listed above)	13.0	46.5
Municipal license taxes	7.3	3.9
	<u>\$131.4</u>	<u>\$78.0</u>

The fluctuations attributed to KWH sales in the above table resulted primarily from increased use of electricity by residential customers in 1978 and by all major classes of customers in 1977.

Gas	Variation from Prior Year	
	1978	1977
(Millions of Dollars)		
Rate increases	\$1.0	\$.9
Purchased gas adjustment riders	2.9	6.6
MCF sales (excluding effect of the factors listed above)	3.5	(3.4)
	<u>\$7.4</u>	<u>\$4.1</u>

Operating Expenses

The changes in operating expenses during the periods set forth below were as follows:

Fuel and Purchased Power	Variation from Prior Year	
	1978	1977
(Millions of Dollars)		
Fuel:		
Variation in KWH generation	\$ (4.9)	\$11.8
Price increases	73.7	32.9
Generating units availability	2.4	10.6
Purchased and interchange power	(1.3)	(14.4)
	<u>\$69.9</u>	<u>\$40.9</u>

The variations in purchased and interchange power reflected favorable interchange transactions with other power systems.

Other Operations	Variation from Prior Year	
	1978	1977
(Millions of Dollars)		

Normal increases due to growth, new generating units, inflation and annual wage increases

\$8.3 \$17.0

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Maintenance

Variation from
Prior Year

1978 1977

(Millions of Dollars)

Normal increases due to the addition of generating units, higher costs of repair parts and wage increases

\$6.8 \$7.0

Depreciation

The variations in depreciation resulted from increases in depreciable property. No changes were made in depreciation rates during the periods.

Income Taxes

For information concerning income taxes refer to Notes 1 and 2 under Notes to Financial Statements.

Other Taxes

These increases generally reflect taxes on additional real property and increased gross receipts taxes on greater revenues.

Other Income

The changes in other income during the periods set forth below were as follows:

Variation from
Prior Year

1978 1977

(Millions of Dollars)

Allowance for funds used during construction (AFC)

All funds (prior to January 1,

1977) \$ — \$(12.4)

Funds (after December 31,

7.7 8.3

Miscellaneous 1.5 4.0

\$9.2 \$ (1)

Interest and Other Items

The changes in interest and other items and in dividends on preferred shares during the periods set forth below were as follows:

Variation from
Prior Year

1978 1977

(Millions of Dollars)

Interest on debt \$6.7 \$ 5.5

Allowance for borrowed funds used during construction (after December 31, 1976) (4.8) (10.7)

Preferred dividends of Company 2.7 7

\$4.6 \$ (4.5)

The increases in interest and preferred dividends were due to the issuance of securities to finance the construction program and higher interest and preferred dividend rates on certain of such securities. Effective January 1, 1977, the portion of AFC related to borrowed funds has been classified as a reduction of Interest and Other Items (see Other Income above).

Effective January 1, 1977, in accordance with a Federal Power Commission Order, AFC was classified into equity funds and borrowed funds. The equity funds portion is included under Other Income and the borrowed funds portion is recorded as a reduction of interest as shown under Interest and Other Items.

Capital Stock Information

Union Electric Company		1978 Calendar	
		December 31	September 30
Preferred Stock Price Ranges (High and Low):	Stated value of shares outstanding, \$100 per share—		
	\$7.44 Series (1)	\$82½ - 75¼	\$82 - 78
	\$6.40 Series (1)	70 - 64	71 - 66
	\$4.56 Series (1)	49 - 45¼	47¾ - 46½
	\$4.50 Series (1)	49¼ - 39⅞	48¼ - 46
	\$4.00 Series (1)	41 - 37	43 - 41
	\$3.70 Series (2)	(4)	(4)
	\$3.50 Series (1)	37⅞ - 32¾	38 - 35¼
	Stated value of shares outstanding, \$97.50 per share—		
	\$8.00 Series of 1971 (1)	86 - 75	85 - 80¼
	Stated value of shares outstanding, \$92.25 per share—		
	\$8.00 Series (2) and (3)	(4)	(4)
	Stated value of shares outstanding, \$25.00 per share—		
	\$2.72 Series (1)	28¾ - 25⅞	28¾ - 26⅞
	\$2.125 Series (issued October 1977) (1)	23¾ - 20¼	24⅞ - 21¼
Preferred Stock Dividends:	Composite rate	1.887%	1.887%
Preferred Shareholders at Year-End	Total requirements (in millions)	\$5.8	\$5.8
		23,042	
Common Stock Price Ranges (High and Low) (1)		\$15 - 13¼	\$15¼ - 13½
Common Stock Dividends:	Per share	36¢	36¢
	Total payments (in millions)	\$18.6	\$17.0
Common Shareholders at Year-End		157,956	

(1) Based on transactions recorded on the New York Stock Exchange;
all other Series are traded on the Over the Counter Market.

(2) Based on asked and bid prices recorded on the Over the Counter Market.

(3) Accepted for listing on the New York Stock Exchange on December 14, 1978.

(4) No asked or bid prices or transactions recorded.

Selected Quarterly Information

Union Electric and Subsidiaries

Operating Revenues (in thousands)	\$203,494	\$266,750
Operating Income (in thousands)	\$ 36,428	\$ 60,217
Net Income (in thousands)	\$ 24,070	\$ 46,156
Earnings on Common Stock (in thousands)	\$ 18,310	\$ 40,396
Earnings per Common Share (a)	\$0.35	\$0.85

(a) Based on average shares outstanding.

Quarters Ended		1977 Calendar Quarters Ended			
June 30	March 31	December 31	September 30	June 30	March 31
\$81¼ - 79⅞	\$84 - 81	\$87½ - 83	\$88½ - 86⅞	\$88⅞ - 86	\$87 - 83¾
70 - 66	72¾ - 68¾	74⅞ - 70½	76⅞ - 72	75¼ - 70	76¼ - 71
51¾ - 49¾	52 - 51	53 - 51½	55 - 52¾	53½ - 50½	53½ - 51
49 - 45½	51 - 47	53½ - 50	54¼ - 51	52½ - 50	53 - 50
44¼ - 40	46⅞ - 43½	47½ - 45	48 - 44¼	48 - 46	47 - 44½
(4)	(4)	42 - 40	43 - 40	41½ - 40½	41 - 37¼
38¾ - 35¼	40 - 36¾	41 - 39	41½ - 39¼	42 - 38½	42 - 38½
85½ - 82½	89 - 83	91½ - 87	94 - 90	91½ - 86¼	91½ - 87½
(4)	(4)	91 - 87	92 - 89	90 - 87	87 - 81
28¾ - 22⅞	29⅞ - 27⅞	29⅞ - 28¼	31 - 28⅞	30⅞ - 29¼	31 - 29⅞
23¾ - 21⅞	24¾ - 22⅞	25 - 24¼			
1.887%	1.887%	1.887%	1.840%	1.840%	1.840%
\$5.8	\$5.8	\$5.7	\$4.9	\$4.9	\$4.9
		23.356			
\$14¾ - 13⅞	\$15¼ - 14¼	\$16⅞ - 14¾	\$16¾ - 15⅞	\$16⅞ - 15	\$16½ - 15
34¢	34¢	34¢	34¢	34¢	34¢
\$16.0	\$15.9	\$15.9	\$15.8	\$15.7	\$14.0
		146.588			

\$221,107	\$212,637	\$177,428	\$221,379	\$182,394	\$183,901
\$ 42,060	\$ 37,527	\$ 33,604	\$ 53,487	\$ 40,139	\$ 31,909
\$ 27,514	\$ 22,158	\$ 18,853	\$ 36,335	\$ 23,757	\$ 16,590
21,754	\$ 16,398	\$ 13,216	\$ 31,425	\$ 18,847	\$ 11,680
\$0.46	\$0.35	\$0.28	\$0.68	\$0.41	\$0.28

Operating Statistics

Union Electric and Subsidiaries	1978*	1977*	1976*	1975*	1974	1968
Electric Operating Revenues (000 Omitted):						
Residential	\$331,128	\$283,124	\$248,784	\$220,174	\$171,381	\$ 97,958
Commercial	253,279	219,806	195,568	162,079	129,351	75,423
Industrial	209,440	169,834	154,539	127,939	107,471	60,618
Other electric utilities	31,565	24,040	21,432	19,812	23,814	9,805
Miscellaneous	19,061	16,232	14,677	12,973	11,027	5,619
Total	\$844,473	\$713,036	\$635,000	\$542,977	\$443,044	\$249,423
Percent of total:						
Residential	39.2%	39.7%	39.2%	40.6%	38.7%	39.3%
Commercial	30.0	30.8	30.8	29.8	29.2	30.2
Industrial	24.8	23.8	24.3	23.6	24.3	24.3
Other electric utilities	3.7	3.4	3.4	3.6	5.4	3.9
Miscellaneous	2.3	2.3	2.3	2.4	2.4	2.3
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Kilowatt Hour Sales (000,000 Omitted):						
Residential	7,670	7,389	6,625	6,807	5,898	4,168
Commercial	6,332	6,331	5,823	5,554	5,249	4,368
Industrial	7,738	7,656	7,221	6,855	6,845	5,581
Other electric utilities	1,317	1,263	1,171	1,222	1,780	1,041
Miscellaneous	460	442	519	506	474	302
Total	23,517	23,081	21,359	20,944	20,246	15,466
Percent of total:						
Residential	32.6%	32.0%	31.0%	32.5%	29.1%	27.0%
Commercial	26.9	27.4	27.3	26.5	25.9	28.2
Industrial	32.9	33.2	33.8	32.7	33.8	36.1
Other electric utilities	5.6	5.5	5.5	5.9	8.8	6.7
Miscellaneous	2.0	1.9	2.4	2.4	2.4	2.0
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Electric Customers (End of year):						
Residential	845,074	832,251	821,564	810,702	764,363	706,077
Commercial	99,751	99,105	95,248	93,848	81,477	75,731
Industrial	5,348	5,225	5,459	5,368	5,303	4,740
Electric utilities	24	24	24	25	23	22
Other	2,753	2,312	1,472	1,350	1,195	962
Total	952,950	938,917	923,767	911,293	852,361	787,532
Residential Electric Customer Data (Average):						
Kilowatt hours used	9,167	8,956	8,114	8,459	7,756	5,965
Annual bill	\$395.74	\$343.16	\$304.71	\$273.62	\$225.37	\$140.11
Revenue per kilowatt hour— cents	4.32	3.83	3.76	3.23	2.91	2.35

*Includes operation of Missouri Utilities Company, a subsidiary acquired December 31, 1974. Prior to acquisition, sales of Missouri Utilities were included as sales to electric utilities.

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Generation Statistics

Union Electric and Subsidiaries	1978	1977	1976	1975	1974	1968
Kilowatt Hour Output (000,000 Omitted):						
Steam generation—						
Rush Island	6,141	5,926	2,603	—	—	—
Labadie	12,044	11,598	12,434	12,763	10,561	—
Sioux	3,331	4,417	4,207	4,460	3,147	3,500
Meramec	3,260	3,712	4,135	4,108	4,124	5,486
Other (net)	196	115	523	420	885	2,726
Total steam	25,472	25,858	23,902	21,751	18,717	11,712
Hydro generation—						
Keokuk	913	770	633	861	869	920
Osage	407	371	268	624	766	513
Total hydro	1,320	1,141	901	1,485	1,635	1,433
Purchased and other (net)	(1,246)	(1,160)	(1,498)	(457)	1,560	3,516
Total output	25,546	25,669	23,305	22,779	21,912	16,661
Less line losses, etc.	2,029	1,988	1,946	1,835	1,666	1,195
Kilowatt hour sales	23,517	23,681	21,359	20,944	20,246	15,466
Output (in % of total):						
Steam generation	99.7%	103.1%	102.6%	95.5%	85.4%	70.3%
Hydro generation	5.2	4.3	3.9	6.5	7.5	8.6
Purchased and other	(4.9)	(7.4)	(6.5)	(2.0)	7.1	21.1
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Thermal Economy of Steam						
Plants (BTU per KWH generated)	10,360	10,325	10,393	10,202	10,289	10,696
Fuel Cost (Cents per million BTU burned)						
115.865	85.858	71.247	62.533	50.129	22.293	
System Gross Instantaneous						
Peak Demand (Kilowatts)	5,813,000	5,837,000	5,582,000	5,363,000	5,318,000	3,830,000
System Capability at Time of Peak, Including Net of Firm Purchase and Sale of Capacity (Kilowatts)						
6,873,000	6,891,000	6,913,000	6,474,000	6,660,000	4,171,000	
System Generating Capability at Year End (Kilowatts)						
6,850,000	6,673,000	6,361,000	5,891,000	5,921,000	3,719,000	
Load Factor	52.74%	51.79%	50.19%	51.15%	50.07%	52.54%

Major Generating Units Installed (Kilowatts):

1968—Sioux	500,000
1970—Labadie	600,000
1971—Labadie	600,000
1972—Labadie	600,000
1973—Labadie	600,000
1976—Rush Island	600,000
1977—Rush Island	600,000

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Property And Plant (Thousands of Dollars)

Union Electric and Subsidiaries		December 31,				
	1978	1977	1976	1975	1974	
Property and Plant:						
Electric	\$3,169,088	\$2,860,318	\$2,650,958	\$2,483,323	\$2,334,435	
Gas	61,715	59,715	58,275	56,934	55,769	
Steam	10,039	10,080	9,891	10,704	9,640	
Water	6,767	5,734	4,493	4,218	4,026	
Other	18,913	17,998	18,820	17,115	7,276	
Total	\$3,266,522	\$2,953,845	\$2,742,437	\$2,572,294	\$2,411,146	
Electric Plant:						
Steam production	\$1,182,407	\$1,178,235	\$1,048,147	\$ 841,772	\$ 842,124	
Hydraulic production	59,614	59,403	59,220	59,205	58,761	
Pumped-storage production	45,856	45,854	45,861	45,861	45,854	
Internal combustion production	42,287	22,249	19,476	18,528	18,485	
Transmission and distribution	1,238,093	1,183,134	1,133,955	1,067,119	1,025,494	
General	83,345	78,448	73,817	67,542	64,678	
Electric plant in service	2,651,602	2,567,323	2,380,476	2,100,027	2,055,396	
Construction work in progress	517,486	292,995	270,482	383,296	279,039	
Total	\$3,169,088	\$2,860,318	\$2,650,958	\$2,483,323	\$2,334,435	
Accumulated Electric Depreciation:						
Amount	\$693,428	\$632,027	\$591,661	\$555,964	\$508,439	
Percent of depreciable property and plant	26.3%	24.8%	25.1%	26.7%	25.0%	
Annual depreciation rate	2.7%	2.7%	2.7%	2.7%	2.7%	
	1978	1977	1976	1975	1974	
Gross Plant Expenditures	\$323,292	\$240,433	\$199,868	\$170,088	\$159,013	
Property Retirements	\$ 10,615	\$ 29,025	\$ 29,725	\$ 8,940	\$ 9,740	

Construction Forecast (Thousands of Dollars)

Union Electric and Subsidiaries		1979	1980	1981	1982	1983
Construction Expenditures:						
Generating Facilities—						
Combustion peaking turbines	\$ 8,014	\$ 26,554	\$ 28,790	\$ 9,909	\$ 282	
Callaway nuclear plant	263,384	271,738	221,967	275,251	292,199	
Transmission, distribution and other facilities	143,427	190,350	211,397	182,468	127,755	
Total	\$414,825	\$488,642	\$462,154	\$467,628	\$420,228	

OFFICERS AND DIRECTORS

OFFICERS

Charles J. Dougherty
President and Chief Executive Officer

W. E. Cornelius
Executive Vice President

Earl K. Dille
Executive Vice President

H. Clyde Allen
Vice President—Rates

John K. Bryan
Vice President—Nuclear

H. C. Colteryahn
Vice President—Engineering and Construction

J. T. Friel
Vice President and Controller

M. E. Gatewood
Vice President—Supply Service

G. J. Haven
Vice President—Transmission and Distribution

Colbert W. Lais
Vice President—Regional Operations

J. F. McLaughlin, Jr.
Vice President—Staff

William A. Sanford
Vice President—Industrial Relations

Stewart W. Smith, Jr.
Vice President and General Counsel

Merle T. Welshans
Vice President—Finance

H. E. Wuertenbaeche, Jr.
Vice President—Customer Service

C. W. Mueller
Treasurer

G. R. Murray
Secretary

BOARD OF DIRECTORS

J. A. Baer II
Business Consultant; Adviser to, and former Chairman and Chief Executive Officer—Stix, Baer & Fuller, which operates department stores.

***W. L. Behan, Jr.**
Chairman of the Board and Chief Executive Officer—Hill-Behan Lumber Company, wholesaler & retailer of lumber and allied building products.

Sam B. Cook
President and Chief Executive Officer—The Central Trust Company, which conducts a general banking business.

***W. E. Cornelius**
Executive Vice President

***Earl K. Dille**
Executive Vice President

***Charles J. Dougherty**
President and Chief Executive Officer

***Edwin S. Jones**
Chairman of the Executive Committee—First National Bank in St. Louis, which conducts a general banking business.

***R. A. Meyer**
Retired, former President—Anheuser-Busch, Inc.

John K. Riedy
President and Chief Operating Officer—INTERCO, manufacturer and retailer of consumer products.

***Stewart W. Smith, Jr.**
Vice President and General Counsel

****Howard L. Young**
President—American Zinc Sales Company, subsidiary of Texasgulf, Inc., engaged in marketing of nonferrous metals.

ADVISERS TO THE BOARD

Isaac B. Grainger
Former President—Chemical Bank.

W. Alfred Hayes
Chairman of the Board—W. Alfred Hayes and Company, pension trust consultants.

J. W. McAfee
Former Chairman of the Board

**Member of Executive Committee*

***Member of Audit Committee*

Offices

1901 Gratiot Street
St. Louis, Mo.

Mailing Address

P.O. Box 149
St. Louis, Mo. 63166

Transfer Agents

For Preferred Stock

Mercantile Trust Company
National Association
St. Louis, Mo. 63166

Manufacturers Hanover
Trust Company
New York, N.Y. 10015

For Common Stock

St. Louis Union Trust Company
St. Louis, Mo. 63101

Manufacturers Hanover
Trust Company
New York, N.Y. 10015

Registrars

For Preferred Stock

The Boatmen's National Bank
of St. Louis
St. Louis, Mo. 63166

The Chase Manhattan Bank
(National Association)
New York, N.Y. 10015

For Common Stock

The Boatmen's National Bank
of St. Louis
St. Louis, Mo. 63166

Manufacturers Hanover
Trust Company
New York, N.Y. 10015

Trustee, Transfer

Agents, Registrars, and Paying Agents

For First Mortgage Bonds

St. Louis Union Trust Company
Trustee
St. Louis, Mo. 63101

Bankers Trust Company
New York, N.Y. 10015

UNION ELECTRIC COMPANY

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