UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the matter of	
APPLICATION OF TEXAS UTILITIES GENERATING COMPANY FOR AN OPERATING LICENSE FOR COMANCHE PEAK STEAM ELECTRIC STATION UNIT #1 and #2 (CPSES)	Docket Nos. 50-445 and 50-446

SUPPLEMENT TO
PETITION FOR LEAVE TO INTERVENE
AND CONTENTIONS
BY
CASE (CITIZENS ASSOCIATION FOR SOUND ENERGY)

COMES NOW Citizens Association for Sound Energy (hereinafter referred to as CASE), on its own behalf and on behalf of its members, and files this its Supplement to Petition for Leave to Intervene and Contentions in the above-captioned matter pursuant to Section 2.714 of the Nuclear Regulatory Commission's Rules of Practice, and for grounds therefore would show the following:

I.
INTERESTS TO BE AFFECTED

CASE incorporates each and every allegation contained in its February 28, 1979 filing herein for all purposes, and in addition would show the following:

CASE alleges that the applicant has failed to comply with certain regulations of the Nucle r Regulatory Commission and that to allow the applicant to possess, use, and operate the Comanche Peak nuclear power plant will endanger the property, business interests, health and lives of CASE and its members.

II. CONTENTIONS

CONTENTION No. 1: The applicant cannot be depended upon to adequately protect, either in the normal or the emergency operation of the Comanche Peak nuclear power plant (CPSES), the health and safety of the public and the individuals represented by CASE, and should therefore not be allowed to operate the plant.

EXPLANATION: Texas Utilities has consistently demonstrated the correctness of this contention, as evidenced by statements made by officials of four environmental protection agencies that the company is "reluctant to comply with regulations, slow in making corrections, negligent in reporting violations and uncooperative in supplying data to regulatory agencies." The company has repeatedly violated air and water pollution standards.

The following four agencies are taking or considering action against the company:

1. The Texas Air Control Board. The board's staff decided in late March 1979 to sue the company for putting a boiler into operation at the Martin Lake lignite power plant earlier this year before the proper air pollution control equipment was ready and running it for more than two months. One board member, Joe C. Bridgefarmer of Dallas, requested the proposed suit be put to a vote of the board; that delayed filing of the suit until at least the board's next meeting on Friday, May 4, 1979.

On May 4, 1979, the Texas Air Control Board approved a recommendation which allowed the staff to send the suit to the attorney general's office for filing. The suit alleges several violations by Texas Utilities, the most serious

of which is that the company started a new boiler at Martin Lake in February without turning on the equipment to reduce emissions of sulfur and particulates. The suit charges the company with leaving the particulate-reducing equipment off for 22 days and the sulfur scrubbers off for about 80 days. The suit seeks an injunction and fines of between $50 and $1,000 for each day of violation.

Under questioning before the Texas House Environmental Affairs Committee on May 4, the following information was brought out: Joe C. Bridgefarmer owns "1,300 or 1,600" shares of Texas Utilities stock. He has known T. Louis Austin, Jr., Chairman of the Board of Texas Utilities, for "quite a number of years" and had discussed the matter of air pollution at the company's plants with him. Bridgefarmer said he asked the suit be delayed so he could get more information on it; but he gave conflicting statements on what his intentions were at the time he asked for the delay. At the air control board meeting in the morning, he read a prepared statement saying that because of his company's relationship with Texas Utilities, "I did not then and do not now intend to vote or otherwise participate in the board's resolution of this matter." But in the afternoon, he told the House committee that he was unfamiliar with the ethics rules and had not decided from the start to disqualify himself from the vote. Bridgefarmer, in addition to owning stock in Texas Utilities, is general manager of the Dallas office of Gibbs & Hill, Inc., a firm that has collected millions of dollars from the utility for designing the Comanche Peak nuclear power plant. Before joining Gibbs and Hill in 1977, Bridgefarmer was president of Forrest & Cotton Inc., a Dallas engineering company that has also done work for Texas Utilities.

From the start, Texas Utilities has been reluctant to install required pollution control equipment. As each of the company's three lignite plants began operations, the air control board had to go to court or threaten court action to get the company to install the equipment. Although the company installed sulfur scrubbers and other equipment, air control board officials say the equipment is either inadequate or the company doesn't bother to use the devices at times.

The agency is considering taking legal action against the company for other violations, in addition to the above: (a) Pollution control devices on the two other Martin Lake boilers were off for periods of a week and three weeks, respectively, in February, and the board was not notified; (b) Smoke from the stacks of the first two boilers at Martin Lake was too opaque almost one out of every two hours during the first three months of the year (opacity is a measurement of the particulates in the smoke); (c) Smoke from the stacks of the company's first lignite facility, the eight-year-old Big Brown plant, exceeds the opacity standard as much as 99 per cent of the time; (d) At the Monticello plant, the company let one boiler operate even though samples failed federal air standards, and one day last August the company let the plant run for seven hours with the particulate-removing device turned off, emitting roughly 100 times more particulates than normal.

According to Dennis Haverlah, who is in charge of boiler permits for the Texas Air Control Board, at least one other utility in Texa[illegible] du[illegible]es the power production from its coal plant to bring emissions [illegible]ance with the standards. Texas Utilities not only doesn't do that, but it [illegible]sn't use its

pollution control equipment any more than it has to to meet the standards, he says.

2. The Texas Department of Water Resources. The Department has asked the State Attorney General's office to sue the company for unlawful discharges into Martin Lake over a four-month period last summer and for failing to report the discharges. The water contained traces of the toxic metal selenium, which is strongly suspected of killing thousands of fish between May and October 1978 and bringing all fishing since then to a virtual halt. The company admits the discharges were made last summer but not that it is the proven cause of the fish-kills. It says the dumping has been halted.

The Department is also taking legal action for discharges from a lignite mining area at Martin Lake that exceeded permissible levels for total suspended solids and iron.

3. The Parks and Wildlife Department. The Department is considering suing Texas Utilities to pay for the replacement of fish in Martin Lake. The Department began a study the week of April 30, 1979 to determine the seriousness of the fish loss.

4. The U. S. Environmental Protection Agency. The EPA has called the company before it this month (May) to explain what it says are 18 alleged violations of federal water pollution standards last winter. EPA also charges the company with failing to report a violation and has ordered it to bring the discharges into compliance with standards by May 26, 1979.

Contention #1 is further supported by the December 6, 1978 letter to P. G. Brittain, President of TUSI (Texas Utilities Services Inc.) and TUGCO (Texas Utilities Generating Company), from Harold R. Denton, Director, Office of Nuclear

Reactor Regulation and John G. Davis, Acting Director, Office of Inspection and Enforcement, NRC, Washington:

> "The purpose of this letter is to direct your attention to our continuing concern for the accuracy and completeness of information submitted to the NRC by licensees and applicants. Our statutory responsibilities require that information received as part of the regulatory process be accurate and complete. This includes information provided in license applications, responses to licensing questions, enforcement letter responses, event reports, and IE Bulletin responses.
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> "As you know, 10 CFR 50.30 requires that an application for a license, or amendment thereto, be provided under oath or affirmation. While other information is not required to be provided under oath or affirmation, this in no way detracts from the necessity that all information submitted to the NRC be accurate. The information submitted should be substantiated by data, records, calculations and sound technical judgment. The required promptness of reply may, under certain circumstances, contribute to an inadvertent submittal of incomplete or inaccurate information. Under such circumstances, we expect your prompt detection and immediate NRC notification of any inaccuracies and incompleteness in the information supplied to the NRC.
>
> "You are no doubt aware that failure to meet the expected standards of accuracy and completeness has resulted in enforcement action. Enforcement action will continue to be considered for inaccurate or incomplete information amounting to material false statements. Such action is necessary, as inaccurate or incomplete information could lead to decisions which adversely affect the health and safety of the public.
>
> "It is imperative that licensees and applicants meet their responsibility of positively assuring the accuracy and completeness of all information provided to the NRC. It is expected that each licensee and applicant will have an active program to assure an awareness at all levels in their organization that nothing less than complete and accurate information is acceptable.
>
> "Sincerely, (signed) Harold R. Denton and John G. Davis."

Additionally, there are certain actions which have been taken by the company in the past which are, if not actually illegal, at least highly questionable

and which raise the question of the company's ability or desire to abide by regulations and guidelines which are set up to protect the best interests of the public. Two examples of this were demonstrated in the recent hearings into the transactions between the affiliated companies of Texas Utilities (Docket 1903 before the Texas Public Utility Commission):

A. In the April 20, 1979 Order of the Public Utility Commission of Texas, the Commission ordered the three operating subsidiaries of Texas Utilities Company (Dallas Power & Light, Texas Power & Light, and Texas Electric Service Company) to refund $3.2 million to their customers and approved an end to automatic fuel adjustment charges on consumer electric bills. The PUC staff is to come up with a new way to figure the fuel adjustment charge. In its Order, the PUC stated:

> "In previous rate case final orders...this Commission removed from the rate base of each operating company...all advances made from each operating company to TUGCO. It was determined that such advances should be treated as loans and that interest charged on such loans be considered as a portion of expense related to fuel expenses and be passed through to customers as part of such fuel expense. In addition, the Commission did not require that the income derived by the companies from these interest rates be deducted from their costs of service. In each case, the interest rate allowed was established at seven percent (7%) per annum. Subsequent to such rate orders and prior to refinancing by TUGCO from other sources, each utility increased the rate of interest charged without obtaining approval of the Commission. Each utility (TP&L, TESCO and DP&L) increased its rate charged to TUGCO to nine and one-half percent (9½%) per annum...The Commission finds that such increase was improper and in violation of the Act (Sec. 41(c)(3).. For a utility to be able to unilaterally increase the interest rate charged to its agent and, in turn, have that expense charged back to itself as a part of the fuel expenses is inconsistent with proper ratemaking...the utilities are not then free to change that rate at their own discretion and pass it through as a cost to its customers. To hold otherwise would, in effect, permit a utility

to utilize the fuel adjustment clause to unilaterally increase expenses and income over which it has complete control by simply raising expenses, such as interest rates, to its affiliate...Each of the operating companies will be required to refund to its customers those amounts charged by reason of the increase in the interest rate from seven percent (7%) to nine and one-half percent (9½%) per annum..."

"The evidence in this case reflects that certain abuses can and do occur in the fuel adjustment clause as it is now constituted...The purpose of the fuel clause has, to some extent, been exploited or misused."

B. Again from the PUC Order, "Basic Resources, Inc. is a subsidiary of TU (Texas Utilities Company), organized to engage in research and experimental projects to provide additional sources of fuel to the operating companies. The operating companies are not financially involved in the funding of Basic."

Although dealings between the operating companies (DP&L, TP&L and TESCO) and the service companies (TUGCO, TUFCO and TUSI) are done on an at-cost basis, this is not the case with Basic Resources (or with Chaco). Basic Resources was set up as a profit-making subsidiary of Texas Utilities. From the PUC Order:

> "In December 1977 TUFCO transferred to Basic Resources, Inc., a TU subsidiary, its interests in an in situ lignite gasification project previously obtained from V/o Licensintory of Moscow. As part of the transfer, TUFCO also conveyed its interest in a 369 acre tract of deep lignite in Anderson County, Texas. The above transfers were made at book cost to TUFCO."

Although "The Commission concludes that the transfers of TUFCO's interests in the projects described...is consistent with the public interest..." the PUC recognized the potential for abuse and misuse in this transaction: "...provided that upon perfection of the deep lignite in situ gasification project in Anderson County the gas produced from such lease be made available to the operating companies at a price based upon the price paid to TUFCO and not at the market price of such gas."

Neither Texas Utilities Company or its subsidiaries involved in this transaction had made any such provisions.

Information contained in contentions which follow regarding the workmanship and adherence to procedures and rules at the Comanche Peak plant add further weight to Contention No. 1.

In addition:

(a) The cost of increased incidence of cancer resulting from releases, routine and accidental, will outweigh benefits of CPSES.

(b) Cost of decommissioning will outweigh benefits derived from CPSES (see Contention No. 6.1).

(c) Alternative sources available show the cost of CPSES outweighs benefits in comparison. See facts supporting Contention No. 5.

(d) The past record of the applicant indicates an unwillingness to voluntarily comply with procedures and regulations necessary to assure the health and safety of the public and the individuals represented by CASE, and gives every indication that the applicant will operate the CPSES in a manner such as to endanger the health, safety, property, and lives of the people who will necessarily be relying on the applicant to protect their best interests.

CONTENTION No. 2: Because of new information available since the preparation of the final environmental impact statement, prepared in connection with the construction permit which has been inadequately dealt with in the Environmental Report - Operating License Stage (ER) submitted by the applicant, applicant must amend that report before the NRC can consider its request for an operating license, and when the new information is taken into account, a weighing of the costs and benefits of licensing the plant (cost/benefit analysis) to operate and the availability of alternatives necessitate the denial of the operating license.

EXPLANATION: As a requirement for obtaining an operating license for the Comanche Peak nuclear power plant, Units 1 and 2, (CPSES), regulations of the Nuclear Regulatory Commission (NRC) require in 10 CFR 51.21 that the applicant submit an environmental report entitled "Environmental Report - Operating License Stage" which discusses the same matters described in Section 10 CFR 51.20 to the extent that they differ from those discussed or reflect new information in addition to that discussed in the final environmental impact statement prepared by the NRC in connection with the construction permit.

Under 10 CFR 51.20, the ER must discuss the following:

1. 10 CFR 51.20(a). Alternatives to the proposed action which pursuant to paragraph 5 must be sufficiently complete to aid the NRC in developing and exploring appropriate alternatives.

2. 10 CFR 50.20(b). A consideration and balancing of environmental effects of the facility and alternatives available for reducing or avoiding adverse environmental effects quantifying the factors involved. The report must contain sufficient data to aid the NRC in its development of an independent cost/benefit analysis.

3. 10 CFR 50.20 (c). The radiological effects even though the facility may satisfy NRC standards and criteria pertaining to radiological effects, together with all effects of the facility and alternatives.

These criteria have not been satisfied, as shall be exhibited specifically in contentions which follow.

CONTENTION No. 3: The requirements of the National Environmental Policy Act and 10 CFR Part 51 have not been met in that the forecast of the need for power which the plant will supply, as contained in the Applicant's Environmental Report (ER), is inaccurate. (See also Contention No. 4.)

EXPLANATION:

1. Applicant has failed to update its filing to incorporate actually known demand for 1978. Although these figures are now available (and indeed, were available at the time of their filing of October, 1978), CPSES/ER (OLS) Tables 1.1-8 and 1.1-8a, which compares Texas Utilities Company System (TUCS) Capabilities, Demands, and Reserves, indicate that the figures are actual only through 1977. A revision of the 1978 figures would necessitate a corresponding change throughout the balance of the tables, and reduce the figures from 1978 forward.

2. CPSES/ER (OLS) Table 1.1-8a "Comparison of Past and Present Projections TUCS Capabilities, Demands, and Reserves" indicates under "Present Filing" the following increases in "Demand":

minus 97 MW from 1974 to 1975
plus 497 MW from 1975-76
523 MW, 1976-77 (the preceeding are all actual figures)

Projections indicate an increase of:
752 MW from 1977-78
574 MW, 1978-79
608 MW, 1979-80
1,028 MW, 1980-81
683 MW, 1981-82
725 MW, 1982-83
767 MW, 1983-84
813 MW, 1984-85

The above figures were derived simply by subtracting each year's MW demand from the following year's demand.

The 752 MW figure from 1977-78 is obviously too high and should be changed to reflect the actual amount of increase, as stated in No. 1. above.

CASE submits that the increase in MW stated for 1980-81 is incorrect. No explanation is given for the huge increase of 1,028 MW in 1980-81, followed by a subsequent reduction back down to a more logical progression of increase. In any event, the applicant should explain or revise this figure. Such a revision would, of course, necessitate a corresponding revision throughout the balance of the tables, decreasing the total MW demand and increasing the total reserve capacity.

3. Applicant has failed to utilize model for projecting growth in electric demand that takes account of all significant factors affecting demand.

4. Applicant has failed to account for the impact of energy conservation measures (both voluntary and involuntary) on demand.

5. Applicant has failed to consider the effect of alternative price designs, such as peak load pricing, which will discourage demand.

6. Applicant has failed to account for the effect of possible federal, state and local incentive programs to encourage the use of alternative systems such as solar.

7. Applicant has failed to consider the effect of industrial measures to lessen electrical demand, such as co-generation.

8. Applicant has failed to include all costs of the plant, such as waste disposal and decommissioning, in the rates, thereby failing to give the ratepayers

proper signals regarding cost which would most probably lead to further conservation. When this is done, it will quite probably necessitate a corresponding lowering of future demand projections. Applicant has failed to provide for complete internalization of all significant external costs so that the total cost of electricity is charged to those using it. In particular, applicant has failed to consider in rates the proper cost allocation to business and industry as the primary source of demand leading to the building of new power plants.

CONTENTION No. 4: The Environmental Report (ER) prepared by the applicant clearly indicates that there is not a legitimate need for the operation of the Comanche Peak nuclear power plant (CPSES).

EXPLANATION: Table 1.1-8, sheets 5 and 6, of the ER, indicates that the Texas Utility System will have an average percentage reserve in 1981, when the first unit of CPSES is to come on line, of 31.5%; a reserve in 1983, when the second unit of CPSES is to come on line, of 17.6%; and a reserve in 1985 of 14.4%; all without CPSES being in operation.

Table 1.1-9 of the ER indicates that even without CPSES, the Electric Reliability Council of Texas (ERCOT) system, of which Texas Utilities is a part, will have a projected reserve margin of 30.2% in 1981, 26.2% in 1983, and 19.9% in 1985. These reserves could help the TUCS should there be an unexpected demand on the system. In fact, this is one of the primary reasons for the existence of ERCOT -- to help assure its members of back-up supplies in the event of emergency needs and to lessen the need for excessive reserve capacity by its members. The basis is not given for the projected figures, and based upon past experience, it is to be expected that the ERCOT reserve capacity will be even greater than has been indicated.

The applicant has admitted in the ER, Vol. I, page iii, that 15% is the reserve requirement both for ERCOT and TIS (Texas Interconnected System) members. In Section 1.3.3, "Capacity Reserves," the applicant states: "Reserves for the Texas Utilities Company system is higher at this time than when the Comanche Peak units were planned (refer Table 1.1-8a). It has been necessary to pursue construction of new generating capacity, including Comanche Peak, even when reserves

appear adequate, because of the fuel supply situation." However, at the time the Comanche Peak units were proposed, the applicant cited as reasons for needing the units that they would be needed to supply projected demand (which did not materialize as expected) and that there was a need to switch from oil and gas to alternate fuels; so there is no justification to be found here for the company's incorrect assessment of reserve capacity. The projections which led to the supposed need for the Comanche Peak plant simply have not materialized, and there is presently no such need.

As previously indicated, the figures for demand must be adjusted downward from 1978 forward. However, even before these adjustments are made, the reserves figures are based on demand projections that are inflated. The projection submitted in the original environmental report as shown on Table 1.1-8 shows that for the years 1974-1977, the applicant has seriously overestimated the anticipated demand (according to actual experience) and seriously underestimated the anticipated percentage of reserves. Applicant's projections for 1978-1985 also seriously overestimate demand and underestimate reserves. Once the figures are appropriately adjusted, the reserve without the operation of CPSES is significantly higher than that projected, and is considerably higher than that needed for the system.

CONTENTION No. 5: The ER fails to adequately discuss and consider new information concerning alternatives available to the applicant to the operation of CPSES.

EXPLANATION:

1. An opinion and order of the Railroad Commission of Texas, Gas Utilities Division, entered in Docket No. 600, 12/17/75, provided in part:

> "...that on or before January 1, 1981, gas deliveries to boiler fuel users who consumed an average of 3,000 MCF/D, or more, during calendar 1974 or 1975 will be reduced by ten percent (10%) below that users' level of gas consumption in calendar 1974 or 1975, whichever year is higher; and that on or before January 1, 1985, gas deliveries to such boiler fuel users will be reduced by twenty-five percent (25%) below the calendar 1974 or 1975 consumption, whichever year is higher."

That order was repealed on April 30, 1979, to become effective May 20, 1979. Therefore, restrictions on the use of natural gas as a boiler fuel by the applicant have been lifted, and Docket No. 600 can no longer be used as a legitimate reason for the need for CPSES.

2. The only other legal restriction with which the applicant must comply is the Power Plant and Industrial Fuel Use Act, which mandates a conversion to coal by 1990. It has been reported that attorneys for the Department of Energy are working on an amendment to eliminate the 1990 ban on uses of natural gas as a boiler fuel.

3. T. L. Austin, Chairman of the Board of Texas Utilities Company, has publicly stated that if the company knew when the plant was being considered what it knows now about alternate generating sources, there is a good chance

Comanche Peak would not have been built. In effect he admitted that the company made incorrect assessments of the alternatives which are now obviously available to the operation of CPSES, stating:

> "If I knew then what I know now we might not have built it, but we did this nine years ago and at that time I did not know we were going to be able to negotiate for New Mexico coal, we did not have the lignite we have now, and we were being curtailed 100 percent on gas."

4. Numerous recent reports indicate that available supplies of natural gas, from Mexico, New Mexico and the Gulf Coast, plus supplies of coal available at an economically feasible price for use by public utilities exceed those contemplated at the time the environmental impact statement was prepared in connection with the construction license, and have not been adequately considered in the ER submitted by the applicant. For example:

(a) A report by the Pitts Energy Group, which has done extensive research on natural gas supplies, indicates that the amount of natural gas available will be far greater than was previously thought.

(b) Carter Oil Co., the coal affiliate of Exxon Co. USA, estimates production of lignite in Texas to triple by 1985. Joe M. Hamner, planning manager for Carter Oil Co., said the state's production by 1985 will approximate 50 to 55 million tons compared with the current output of about 19 million a year. Carter estimates Texas lignite recoverable reserves at more than 10 billion tons. Carter has extensive lignite acreage in East Texas where Exxon is studying the feasibility of building a plant to gasify some of the reserves.

5. The Texas Utilities system has purchased patent rights to in situ coal gasification technology, has tested that technology, and has determined that it is feasible and can be pursued given appropriate economic circumstances. (See Contention No. 1. B. for further details.) Further, the system possesses extensive rights to deep lignite coal deposits which could be used to fuel any such facilities so that that process and that technology is an available alternative which needs to be appropriately evaluated in the ER, and the availability of that technology presents an alternative to the operation of CPSES.

6. Extensive holdings and contracts for natural gas, oil, lignite, and coal are detailed in Texas Utilities Company's January 23, 1979 Prospectus for the sale of 5,000,000 shares of common stock. The applicant should be required to translate the figures for these resources into how many natural gas, oil, lignite, coal gasification or other types of plants could be fueled for their expected lifetime. Only by so doing can an accurate evaluation be made of the real need for CPSES.

CONTENTION No. 6: Neither the applicant nor the staff have adequately considered certain cost elements which should be included in any cost/benefit analysis of the operation of CPSES, included in the required Environmental Report.

EXPLANATION:

1. Again, T. L. Austin, Chairman of the Board of Texas Utilities Company, admitted in a public statement that any estimate of the cost of decommissioning after the end of the useful life of CPSES or if it must be decommissioned because of an accident is "a figure sort of pulled out of the air."

According to the CPSES/ER (OLS), pages 5.8-2 and 5.8-3, the amount chosen by the applicant was $24.5 million (in 1975 dollars); this cost was escalated at 8% to the year 2022 (41 years after the first unit of CPSES is to be placed in service) and then discounted at 10% back to 1981, yielding a figure of $18.4 million (in 1981 dollars). "In order to maintain consistency with other financial data in this report, this sum is converted to 1978 dollars, resulting in an allowance of $14.6 million for decommissioning." The applicant states that "An Atomic Industrial Forum study entitled 'An Engineering Evaluation of Nuclear Power Reactor Decommissioning Alternatives' was chosen as the best information to date on the subject and was checked to insure that it was consistent with other expert opinion concerning decommissioning." However, no comparison figures from other studies are given, and therefore this is not an adequate basis for arriving at the stated figure. CASE challenges this figure and the study by the AIF, and asks that the NRC require

further proof in the form of comparisons with other studies by the applicant to substantiate the stated figure.

The report "Nuclear Power Costs," a report by the subcommittee on Environment, Energy, and Natural Resources of the Committee on Government Operations of the House of Representatives, released April 26, 1978, yields far different figures. It states, in part:

> "Dismantling a nuclear plant now may cost anywhere from $31 million to more than $100 million in 1977 dollars -- between 3 percent and 10 percent of the $1 billion capital cost. Even the higher figures, however, do not include perpetual care costs for rubble from the plant containing radioactive nickel which may remain hazardous for up to 1.5 million years. After 30 to 40 years, the expected lifespan of a nuclear plant, decommissioning costs would quadruple (assuming 5 percent annual inflation).
>
> "But these figures are all estimates, from the lowest to the highest, and no one really knows how much it will cost or who will pay the bill to decommission this Nation's commercial nuclear reactors. Decommissioning costs therefore represent substantial unknown costs of nuclear-generated electricity -- costs ratepayers may be burdened with 40 years after the reactor startup date."

If the amount for decommissioning the CPSES were figured to be 3% or 10% of the current cost of construction, $2.2 billion ($1.7 billion plus $500,000 estimated for the cost of correcting the error in design of the second reactor*), it would yield a figure of between $66 million and $220 million.

In the May 7, 1979 issue of FORTUNE magazine, Peter N. Skinner, an environmental engineer in the New York State attorney general's office, is quoted as saying:

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* See Contention No. 6. 2, following.

"He figures it might cost a formidable $249 million, in 1977 dollars, to decommission a 1,150-megawatt reactor -- about a quarter of the cost of building it. His estimate is based on the most thorough-going form of decommissioning, in which the highly irradiated reactor vessel and piping are cut up and the pieces are completely removed from the site for deep burial. To accumulate the necessary funds, Skinner says, utilities would have to set aside as much as four mills per kilowatt-hour, far more than most of them now do."

It is interesting to note that this same article refers also to a study by the Atomic Industrial Forum:

"Two studies by the Nuclear Regulatory Commission and by the Atomic Industrial Forum, and industry group, put the cost of dismantling and complete removal of a 1,000-megawatt plant between $40 million and $50 million. G. Wayne Meyers of Rockwell International's Atomics International division, which recently took apart a small research reactor in California, calls the numbers in both studies 'pretty good.' It is costing $7.2 million to dismantle the California reactor, which is tiny compared with a commercial installation. But Meyers says the dismantling cost does not increase proportionately with size. Some utility men believe decommissioning might cost roughly $100 million in today's dollars."

Therefore, applicant has failed to assess, discuss or state the true cost of decommissioning CPSES. The true decommissioning cost will show the cost of CPSES to outweigh the benefits.

2. The applicant has failed to properly update the construction costs portion of its filing to include costs of approximately $500,000 for making corrections so that the reactor vessel for Unit No. 2 of CPSES will fit correctly, or to adjust the fuel load date for Unit No. 2 accordingly. According to a report in THE DALLAS TIMES HERALD 2/28/79, the reactor vessel for Unit No. 2 "won't fit correctly on the supports built to hold it. The four steel supports are not aligned correctly with the parts of the reactor vessel that are supposed to rest on them. If the reactor vessel were to be rotated to fit correctly on the supports, then some pipes would not line up correctly." According to a television news report, a company representative stated that the cost for correcting the error would be approximately $500,000 and that the completion of the second unit would be delayed somewhat. It was reported that the problem arose because the second unit's reactor vessel was to have been a mirror image of the first, but was actually a duplicate instead.

Further, the costs of the facility need to be re-evaluated in the light of the "Nuclear Power Costs" report referred to in Contention 6.1. The findings of that report have not been dealt with by the applicant, and they cast serious doubt on the cost portion of any cost/benefit analysis which must be made.

3. The "Nuclear Power Costs" study indicates that Westinghouse, the supplier of the Comanche Peak reactors, along with other manufacturers of nuclear plants, may be facing immense financial losses due to the decline of orders for nuclear plants. The report states:

"'Flatly stated, the manufacturers just cannot go o conditions. The minimum healthy market for one of 5 to 10 new orders a year,' Dr. Bupp, a subcommitte York Times.

"Dr. Bertram Wolfe, general manager of nuclear engi of General Electric Co. in San Jose, Calif., said t average of 16 to 20 orders a year, 'the present str is not going to be able to hold out.'

"Westinghouse has said its commercial nuclear divis 2 years ago. (It received only four domestic order 1975 and none since then.)

"General Electric reportedly faces losses of $500 mi faces a $200 million loss, and Atomic General, a Gul forced to withdraw from the nuclear business in Nove

"The decline in orders for nuclear plants is primari forces. The financial community cannot afford to ti capital that sit idle for 10 to 12 years and take ab In light of this, Federal subsidies to nuclear power and development grants and limited liability insuran Funds used for such purposes could be used instead t sources of energy."

Indeed, a close look is currently being taken at the referred to above, perhaps with the results as indicated.

In light of the preceeding, a serious look should be financial commitment and ability with respect to the futu This is especially true because of the fact that, accordi from company representatives in the recently-completed he between the affiliated companies of Texas Utilities:

"In September, 1975, Westinghouse informed TUSI and customers that had purchased uranium from Westinghous to deliver approximately sixty-five million pounds o terms of existing contracts. The contracts, which c the next twenty years at a base price of approximate

only minor price-escalation provisions. When uranium prices jumped threefold to $24 from $8 a pound, Westinghouse unilaterally canceled the contracts, maintaining it was legally excused under the 'commercial impracticability' doctrine in the Uniform Commercial Code. By meeting its contractual obligations, Westinghouse could foresee a potential loss of at least $2.5 billion. In settlement of its obligations Westinghouse proposed to allocate its existing uranium supplies among the utilities notified.

"Upon rejection of the Westinghouse contention that it was excused from full performance of its contract, TUSI (Texas Utilities Services Inc.), in October, 1975, filed suit in United States District Court seeking specific performance of the contract, damages and other relief. Similar suits were filed by other utility companies. Thereafter, Westinghouse notified TUSI that its contract had lapsed and withdrew its offer to allocate its existing uranium supplies.

"Westinghouse filed a suit in federal court in October, 1975, that in effect requested the court to take jurisdiction over the uranium that the company had available to meet part of its supply contracts with utilities..."

"On December 27, 1977, TUSI and Westinghouse reached an out of court settlement whereby TUSI would receive a package deal consisting of Westinghouse equipment and services, cash, uranium and rights to certain mining properties."

The fact that Westinghouse reneged on its contract with TUSI (Texas Utilities Services Inc.) brings further questions to light regarding Westinghouse's financial commitment and ability with respect to the future operation of CPSES.

4. The ER also fails to take into account serious increases in the cost of uranium, the fact that long-term fuel contracts for the life of the plant are unavailable, and that any future contract for supplies of uranium are suspect in light of the recent litigation involving the Westinghouse contract.

Further, the applicant has failed to indicate an adequate basis for the fuel costs estimated in CPSES/ER (OLS) 8.2.1.2 (pages 8.2-2 and 8.2-3). A more

accurate basis for such estimates is necessary in light of the statements contained in the January 23, 1979 Texas Utilities Company Prospectus, page 17, under "Nuclear":

> "Additional contracts for uranium ore concentrates and nuclear fuel cycle services will be required in the future; however, it is not possible to predict the ultimate availability or cost thereof."

And under "General":

> "The companies are not able to state what problems may be encountered in the future in obtaining the fuel they will require for use in generating electric energy to serve their customers, or predict the effect upon their operations of any difficulty they may experience in protecting their rights to fuel now under contract or in acquiring fuel in the future, or the cost thereof, although the cost of fuel or increases therein is generally recoverable under the fuel cost adjustments referred to under Regulation and Rates."

In addition to the fact that the source or cost of future fuel is unknown, the fuel costs are no longer recoverable automatically under the fuel cost adjustments (see Contention No. 1.A.).

5. The cost of future waste storage has not been adequately considered. Again, T. L. Austin, Chairman of the Board of Texas Utilities, in a public statement indicated that the exact cost of permanent waste storage remains an unknown. He stated:

> "People put figures on permament storage but you can't depend on them."

Not only has the financial cost not been adequately considered, but neither has the possible health cost, especially in light of new studies which indicate that the possible consequences of an accident at a waste storage facility would approximate the consequences of an accident with the spent fuel at a nuclear power plant (see Contention No. 7 following).

In the "Nuclear Power Costs" report previously referred to, the fact that no one knows the costs or availability of waste disposal solutions is confirmed and items 8 and 9 of RECOMMENDATIONS states:

"8. The Department of Energy should develop a schedule of fees and expenses adequate to cover the full cost of radioactive waste and spent nuclear fuel management, including disposal, perpetual care, and reasonable contingencies, and should issue guidelines necessary to accurately estimate decommissioning costs.

"9. The Nuclear Regulatory Commission should require applicants for construction and operating licenses for nuclear powerplants, as a condition of such licenses, to amortize the full cost of radioactive waste disposal, spent nuclear fuel management, perpetual care, contingencies, and decommissioning costs over the expected useful lifetime of each powerplant. This should be done in accordance with the schedule of fees and expenses for such purposes issued by the Department of Energy. Funds sufficient for such costs should be levied by the power facility on its customers, and such amounts should be held in trust for purposes of such costs."

CONTENTION No. 7: Neither the applicant nor the staff have adequately considered the costs in terms of health as well as the economic costs of a possible accident in the on-site storage of spent fuel.

EXPLANATION: New information has been generated indicating that there are serious potential dangers involved with the on-site storage of spent fuel from the operation of a nuclear reactor, and neither the environmental report nor the environmental impact statement properly assesses the potential economic and health costs of such an accident in light of such new information, including the following:

1. The potential effects of an accident in an on-site storage of spent fuel are much more serious than previously thought, as indicated by Report No. 290 (NRC Translation #161) "Studies Comparing the Greatest Possible Failure Sequences in a Processing Installation and in a Nuclear Power Plant." This report indicates that in the worst possible accident involving a meltdown of spent fuel pool, radiation doses of 47,000 rems (75 times the lethal dose) are possible 62.5 miles from the spent fuel pool. Higher doses would occur closer to the pool. With unfavorable winds, the whole body dose to an individual at 62.5 miles would be 6,300 rems, still 10 times the lethal dose; in this case, the doses would be spread over a greater area. Since ingestion of contaminated food and water is not considered in the report, the doses are significantly underestimated.

Aside from the mechanism of sabotage, tornadoes and earthquakes causing a spent fuel pool meltdown, there is an alarming possibility of a reactor meltdown precipitating a fuel pool meltdown, if the cooling systems of the reactor and

the spent fuel pool are linked together. This possibility is not identified in the German study.

Spent fuel contains enormous quantities of cesium and strontium -- in fact, a spent fuel pool will contain more strontium and cesium than a nuclear reactor itself. A release into the atmosphere and surrounding area of this deadly material could be catastropic -- even more so than from a core meltdown.

2. Additionally, the applicant has not dealt adequately with the additional hazard involved in the possible storage of spent fuel in closer proximity than originally planned. Manufacturers of high-density storage racks which significantly increase existing storage capability also have not dealt with this additional hazard. In the January 23, 1979 Prospectus of Texas Utilities Company, it is stated:

> "...there will be on-site storage capacity for spent fuel to accommodate the operation of the units and this storage capacity can be increased if needed."

If the method to be used for increasing such storage capacity is by the use of high-density storage racks, this particular question needs to be addressed by the applicant.

3. The report SAND77-1371, September 1978, "Spent Fuel Heatup Following Loss of Water During Storage", prepared by Sandia Laboratories for the NRC, also indicates significant dangers from a spent fuel accident and supports many of the findings in the German study.

4. In the limited analysis of possible spent fuel accidents contained in the ER submitted, only accidents in handling the fuel are considered, and the ER fails to take into account the potential harm of releasing into the environment certain transuranic elements other than those specifically listed in the report from an accident involving spent fuel.

CONTENTION No. 8: The ER fails to analyze the probability of and potential costs in terms of health and dollars of a Class 9 accident defined in the ER as follows:

> "These events involve sequences of postulated successive failures more severe than those postulated for providing design bases for protective systems and engineered safety features. Although their consequences could be severe, the probability of their occurrence is very low, and therefore the probability of this event is low."

Clearly this statement is inadequate. No basis whatsoever is given for such a statement, and there is no indication as to how the applicant arrived at such a conclusion. Applicant should indicate the factual basis on which this statement is based.

Recent events and reports indicate that the possibilities of such an accident are not nearly as low as had been previously thought and they are deserving of serious consideration both in terms of the costs and health hazards and as they relate to the cost/benefit analysis.

EXPLANATION:1.Recent events including the Three Mile Island accident and the accident which occurred earlier at Brown's Ferry indicate that both common mode failures and common event failures involving successive failures of various systems due to a common incident or a failure common to all the systems involved are much more likely than had previously been believed. This is also borne out by numerous accident reports which indicate that the likelihood of major accidents from a number of events previously considered highly improbable should be taken into account.

Thus, with the probability of such an accident being much more significant

than had previously been anticipated, the environmental report should take into account the possibility of such an accident and should assess the possible damages from such an accident in order to permit an effective cost/benefit analysis to be made.

2. If the probability of such an accident is based on the Rasmussen Report (Reactor Safety Study, WASH-1400), such use is no longer valid. In a January 18, 1979 Statement regarding the RSS, WASH-1400, the Nuclear Regulatory Commission adopted the findings of the independent Risk Assessment Review Group and stated specifically:

> "...absolute values of the risks presented by WASH-1400 should not be used uncritically either in the regulatory process or for public policy purposes and (the NRC) has taken and will continue to take steps to assure that any such use in the past will be corrected as appropriate. In particular, in light of the Review Group conclusions on accident probabilities, the Commission does not regard as reliable the Reactor Safety Study's numerical estimate of the overall risk of reactor accident."

3. The accident in Pennsylvania at the Three Mile Island plant suggests that the probability of a class 9 accident, as defined by the applicant, may be as high as one in 72. By actual experience, one in 72 operating reactors has experienced such an accident. Actually, by the applicant's definition of the class 9 accident, these odds should actually be more like 2 in 72, since the Brown's Ferry accident in 1975 would also fall into the Class 9 accident category. This would indicate that the odds are actually more like 1 in 36 that a class 9 accident <u>will</u> occur.

4. The ER states that the Class 8 loss of coolant accident is the most severe

accident that the CPSES is designed to withstand on the theory that a Class 9 accident is too low to consider. From the CPSES/ER (OLS), 7.1.8 DESIGN BASIS EVENTS (CLASS 8), page 7.1-10:

> "The events discussed in this section encompass the most severe accidents that the CPSES is designed to withstand; therefore, they establish the design basis for plant safeguards systems."

Again, there is no basis given by the applicant for reaching the conclusion that a Class 8 accident is the most severe which should be considered. Additionally, since there is clearly the possibility of a Class 9 accident, the applicant must address itself to how this can be dealt with, and the plant safety systems should be upgraded to withstand a Class 9 accident; otherwise, the plant should not be allowed to operate.

CONTENTION No. 9: Neither the applicant nor the staff have adequately considered the effects of low-level radiation on the population surrounding CPSES in the cost/benefit analysis required in the ER.

EXPLANATION: Recent studies since the preparation of the original environmental impact study indicate that the possible radiation effects of the operation of CPSES and of possible accidents on both the environment and persons surrounding the plant have been understated and must be re-evaluated because:

1. An analysis of the figures contained in the environmental report indicate a heavy reliance on Reactor Safety Study (Rasmussen Report, WASH-1400). As indicated in Contention 8.2. the figures in this study have been called into serious question by the NRC itself, the risk assessment review group report (the Lewis Report) to the U. S.NRC, NUREG/CR 0400, and The Risk of Nuclear Power Reactors, Review of the NRC Reactor Safety Study, Wash. 1400, prepared by the Union of Concerned Scientists, and studies referred to in those reports as well as other studies, such as:

(a) "Offsite Distribution of Plutonium in the Respirable Dust on the Surface of the Soil in the Vicinity of the Rocky Flats Plant" - Report to the Jefferson County, Colorado, Board of Health, by Carl J. Johnson, M. D., Director of Health - March 31, 1977

(b) "Evaluation of the Hazard to Residents of Areas Contaminated with Plutonium" presented to the IVth International Congress, International Radiation Protection Association, Paris, France, April 1977, by Carl J. Johnson, Jefferson County Health Department and the University of Colorado School of Medicine, Lakewood, Colorado 80226

(c) "Rates of Leukemia, Lung Cancer and Congenital Malformations by Census Tract in Areas Contaminated with Plutonium" presented to the First International Congress on Human Ecology, Vienna, Austria, Oct. 26-31, 1978, by Dr. Carl J. Johnson, Director of Health, Jefferson County Health Department, Lakewood, Colorado

(d) "Epidemiological Evaluation of Cancer Incidence Rates for the Period 1969-1971 in Areas of Census Tracts with Measured Concentrations of Plutonium Soil Contamination Downwind from the Rocky Flats Plant" - A report to the Jefferson County Board of Health, the Colorado Board of Health, and the National Cancer Institute, N.I.H., P.H.S., U.S.D.H.E.W., by Carl J. Johnson, M. D., M.P.H., Director of the Jefferson County Health Department, Lakewood, Colorado, February 9, 1979

(e) "Plutonium Hazard in Respirable Dust on the Surface of Soil" SCIENCE Magazine, 6 August 1976, by Carl J. Johnson, Ronald R. Tidball and Ronald C. Severson

(f) "X-Ray Exposure and Premature Aging" - JOURNAL OF SURGICAL ONCOLOGY, 1977, by Rosalie Bertell, Ph. D., Roswell Park Memorial Institute, Buffalo, N. Y.

(g) "Measurable Health Effects of Diagnostic X-Ray Exposure" - Testimony before the Sub-committee on Health and the Environment, U. S. House of Representatives, July 11, 1978, by Rosalie Bertell, Ph. D., GNSH, investigation partially supported by grant from National Cancer Institute, DHEW

(h) Testimony by Dorothy B. Jones, Another Mother for Peace before the House Committee on Interstate and Foreign Commerce Subcommittee on Health and the Environment, January 25, 1978

(i) "Health Hazards from Low-Level Radiation" by Sr. Rosalie Bertell, Biostatistician at Roswell Cancer Research Institute, Buffalo, N. Y., specializing in the relationship of radiation to cancer, reprint of a speech at Seabrook, N. H., 10/23/76.

(j) "At the Crossroads" by Dr. Helen Caldicott, Boston's Children's Hospital, reprint from December 1977 NEW AGE Magazine

(k) "Toward a Realistic Fission Dose Estimate: Methodology and Case Study" by Land Educational Associates Foundation, Inc., Stevens Point, Wisconsin, February 17, 1979

(l) "Honiker vs. Hendrie - A Lawsuit to End Atomic Power" by Jeannine Honiker, Petitioner, 1978 - petition to the NRC

(m) 'Protocol - Epidemiologic Study of Civilian Employees at the Portsmouth Naval Shipyard, Kittery, Maine" - Sept. 28, 1978, Div. of Surveillance, Hazard Evaluations and Field Studies, National Institute for Occupational Safety and Health, Center for Disease Control, Public Health Service, U. S. Dept. of HEW

(n) Memorandum from Director, Dept. of HEW, Public Health Service, Center for Disease Control, National Institute for Occupational Safety and Health, to Acting Director, NIOSH (National Institute for Occupational Safety and Health), Oct. 25, 1978, Re: Progress Report: Portsmouth Naval Shipyard Study

(nn) "Oregon Malignancy Pattern Physiographically Related to Hanford Washington Radioisotope Storage" by Robert Cunningham Fadeley, Director of Research of the Foundation for Environmental Research, Golden, Colorado, JOURNAL OF ENVIRONMENTAL HEALTH, May-June, 1965

(o) Statement of W. D. Rowe, Ph.D., Deputy Assistant Administrator for Radiation Programs, Environmental Protection Agency, before the Subcommittee on the Environment and the Atmosphere, Committee on Science and Technology, House of Representatives, June 7, 1978

(p) Testimony of Saul Levine, Director, Office of Nuclear Regulatory Research, U. S. Nuclear Regulatory Commission, before the Subcommittee on the Environment and the Atmosphere, House Committee on Science and Technology, June 7, 1978

(q) Statement by James L. Liverman, Acting Assistant Secretary for Environment, U. S. Department of Energy, before the House Committee on Science and Technology, Subcommittee on the Environment and the Atmosphere, June 7, 1978

(r) "Reanalysis of Data Relating to the Hanford Study of the Cancer Risks of Radiation Workers" by George W. Kneale, M.A., Alice M. Stewart, M.D., and Thomas F. Mancuso, M.D., Dept. of Industrial Environmental Health Sciences, University of Pittsburgh, Pittsburgh, Pa., Presented at the International Atomic Energy Meeting, Vienna, Austria, March 13-17, 1978

(s) "Low-Dose Radiation" by Kneale and Stewart - THE LANCET 7/29/78

(t) "Radiation Exposures of Hanford Workers: A Critique of the Mancuso, Stewart and Kneale Report" by Terence W. Anderson, Dept. of Preventive Medicine and Biostatistics, Faculty of Medicine, University of Toronto, Ontario, Canada, HEALTH PHYSICS 12/78

(u) Statement by Arthur C. Upton, M.D., Director, National Cancer Institute, on Ionizing Radiation Research, before the Subcommittee on the Environment and the Atmosphere, House Committee on Science and Technology, June 7, 1978

(v) "A Dosage Response Curve for the One Rad Range: Adult Risks from Diagnostic Radiation" by Irwin D. J. Bross, Ph.D., Marcella Ball, Ph.D., and Steven Falen, M.A., AJPH, Feb. 1979

(w) "Radiation Exposures of Hanford Workers Dying from Cancer and Other Causes" By Thomas F. Mancuso, Alice Stewart and George Kneale, University of Pittsburgh, Pittsburgh, Pa., HEALTH PHYSICS, 1977

(x) "Nuclear Power Costs" Report of the Committee on Government Operations, U. S. House of Representatives, April 26, 1978

In addition, there are currently studies underway, such as the monitoring of the health of persons living near and working at the Three Mile Island plant by the Department of Health, Education and Welfare, hearings before a Senate health subcommittee chaired by Sen. Edward Kennedy, a National Academy of Sciences study "Risks Associated with Nuclear Power" due to be released very soon, hearings

on the Nevada and Utah nuclear weapons tests before the House Oversight and Investigations Subcommittee chaired by Rep. Bob Eckhardt, etc.

2. On May 4, 1979, Joseph Califano, Secretary of Health, Education and Welfare, revised the estimate of the level of radiation leaked from the Three Mile Island plant and changed his earlier assessment that there was no health risk to near-by residents. He said there is now a statistical probability that the impact of the low-level radiation on the 2 million persons living within 50 miles of the plant would produce two cases of cancer, one of them fatal, and cause birth defects in one child. But even the latest estimate may prove too low, Mr. Califano said. Some scientists believe there could be up to 20 additional cancer cases, half of them fatal.

He further indicated that "We expect the revised staff estimate of the total dose to increase again" in a report to be released next week.

In light of these facts, the effects of low-level radiation on the population surrounding CPSES should be re-evaluated in the cost/benefit analysis.

CONTENTION No. 10: Neither the applicant nor the staff have adequately considered the economic effects of accidents occurring in light water reactors located elsewhere in the United States which are similar in design to those of CPSES.

EXPLANATION: The recent accident at Three Mile Island has indicated that an accident in one plant has potentially serious economic repercussions not only for the plant affected but also for all other reactors constructed by the same company or pursuant to the same or similar design criteria so that the possibility and probability of an accident in any Westinghouse reactor and the economic consequences of such an accident in terms of downtime of CPSES as a result must be taken into account in any cost/benefit analysis for CPSES.

CONTENTION No. 11: The applicant has projected a useful life of CPSES as being 30 to 40 years for purposes of the cost/benefit analysis, while in reality new factors indicate that CPSES will have a much shorter life.

EXPLANATION: 1. Public statements by personnel of applicant have indicated that the operation of CPSES is viewed as a "short term" solution to the energy needs of the region it will serve, and due to the availability of alternative sources of energy which will be cheaper and less dangerous it is unlikely that CPSES will be required for longer than 20 years.

2. Applicant has failed to adequately consider the effects of cumulative radiation on the plant and the likelihood that its effects will seriously shorten the operating life of CPSES.

CONTENTION No. 13: Neither the applicant nor the staff have adequately considered the need and the possibilities for evacuation of the Dallas/Fort Worth area in the event of a major accident at CPSES.

EXPLANATION: In the event of a major accident at the plant under adverse weather conditions, it would be necessary to evacuate the town of Glen Rose and significant portions of the Dallas/Fort Worth metroplex. However, no plans are included in the final safety analysis report (FSAR) for such an evacuation. There has been no attempt to identify state or regional authorities responsible for such plans or who have special qualifications for meeting such a contingency, nor have agreements been reached with local and state officials and agencies for the early warning of the public and public evacuation including the identification of the principal officials by titles and agencies. Therefore 10 CFR Appendix E to Part 50 has not been satisfied.

CONTENTION No.14: Neither the applicant nor the staff have adequately considered the problem of emergency treatment and transportation which would be necessary in the event of a major accident affecting the area immediately surrounding the plant.

EXPLANATION: Appendix E described in Contention No. 12 requires a description of arrangements for the services of physicians and other medical personnel qualified to handle radiation emergencies and arrangements for transportation of injured or contaminated individuals to treatment facilities outside the site boundary, and such plans for fulfilling these requirements have not been made. Therefore, the requirements of 10 CFR Appendix E to Part 50 has not been satisfied.

CONTENTION No. 15: Adequate plans for testing by periodic drills of emergency plans and provisions for participation in the drills by persons whose assistance may be needed other than the employees of the applicant have not been formulated.

EXPLANATION: Applicant has not done this; therefore the requirements of 10 CFR Appendix E to Part 50 has not been satisfied.

CONTENTION No. 16: The requirements of the Atomic Energy Act, as amended, have not been met in that the applicant is not financially qualified to construct the proposed facility.

EXPLANATION:

1. On Friday, April 27, 1979, Dallas Power & Light Co., one of the operating companies of Texas Utilities Company, filed for a rate increase. The same company just received a rate increase in June of 1978. DP&L President Jerry Farrington, in a public statement, said reasons for the increase include "the additional costs of complying with a myriad of new regulations, the company's deteriorating financial condition".

2. In recent rate hike requests, Texas Utilities' operating companies (Dallas Power & Light, Texas Power & Light, and Texas Electric Service Company) have obtained only about one-half the rate increases applied for.

3. The Texas Public Utility Commission on April 20, 1979 ordered that the three operating companies of Texas Utilities pay back to its consumers $3.2 million. (See Contention No. 1.A.) It is assumed that this money will have to come from the stockholders.

4. Texas Utilities' operating companies no longer can automatically pass on to customers fuel costs through the fuel adjustment clause. See Contention No. 5.1.

5. The general demise of utilities stock on the open market which have resulted from the accident at Three Mile Island and the loss or lowering of bond

ratings can severely curtail the applicant's ability to raise capital.

(a) Recent items from local newspapers, THE WALL STREET JOURNAL, and BARRON'S indicates the mood of the stock market: "Nuclear stocks off sharply;" "Stock prices fall in reaction to nuclear accident;""Energy stocks take decline - The stock market in general, and nuclear-power industry issues in particular, declined for the second straight session...Analysts said last week's accident at a nuclear power station in Pennsylvania had raised new concerns in investors' minds about the energy outlook."; General Public Utilities, owner of TMI (Three Mile Island)"asked that a trading halt in its stock declared last Friday be continued;" "Utility stocks pushed lower. Nervousness over the future of nuclear power pushed utility stocks lower Thursday as the stock market retreated."

(b) The April 24, 1979, WALL STREET JOURNAL reported:

> "Virginia Electric & Power Co., or Vepeo, doesn't own any part of the stricken Three Mile Island nuclear plant,but the utility will nonetheless be 'paying' for the accident at Harrisburg for years to come.
>
> "Vepco, which got 35% of its power last year from its three nuclear plants and is building three more, came to market here with a $100 million construction bond issue on April 3 -- just six days after the crisis at the Harrisburg reactor began.
>
> "Nervous underwriters charged Vepco $1 million to distribute the bonds, or about 50% above the usual fee, and skittish investors forced up the utility's interest cost by 0.2 percentage point, or an aggregate of $3.6 million over the expected 18-year average life of the bonds. If that same percentage-point increase were applied to all utilities' estimated nuclear borrowings over the next decade, it would aggregate $2 billion over the probable average life of the bonds.

"Talks with officials at utilities and in the nuclear industry, and with their critics, indicate that the Harrisburg accident will add billions of dollars to nuclear-generating costs that already are vastly higher than imagined in the industry's pioneer days.

"The Harrisburg fallout seems certain to further exacerbate nuclear-cost problems through 'more-frequent plant shutdowns, stiffer siting requirements and new design changes,' predicts Alex Radin, executive director of the Washington-based American Public Power Association, a utility group. 'New operating procedures and additional reactor safeguards may be needed, and if so, the necessary changes will be made,' says Carl Walske, president of the Atomic Industrial Forum.

"Charles Komanoff, a New York energy consultant and nuclear critic, believes the Harrisburg accident will force more nuclear plants to be temporarily closed for safety reasons over the next few years. This, he says, will lower the plants' operating rates and will help ensure that nuclear-generated electricity a decade hence will cost half again as much as power from coal-fired plants."

"Metropolitan Edison Co., which owns that crippled Pennsylvania facility, saw the ratings on its various debt securities downgraded yesterday by Standard & Poor's. Ratings classifications on the General Public Utilities Corp. unit's obligations were suspended entirely last week by Moody's, the other major rating agency.

"Consumers Power Co. put $100 million of fresh bonds up for bids...Its new... bonds...sold slowly at a price of 99.316, to yield 10.45% in 30 years. First day orders accounted for a mere 25% of the issue, dealers estimated. Investment bankers were surprised by the poor showing.

"One manager of a large portfolio was candid about why he chose to pass up the Consumer Power bonds. 'We're in an era of fiduciary laws where you can't claim ignorance about a situation,' he said. 'If I buy I figure I can only lose. It makes more sense to acquire (securities of) a faltering industrial company, if I want to speculate on a recovery situation,' he said.

"Provident National Bank, in an investment-research report, said...'The bonds of utilities using nuclear power as a major source of electric generation have rather uniformly responded to the adverse publicity of the Three Mile Island nuclear accident.'"

(c) Metropolitan Edison, owner of the Three Mile Island Nuclear plant, has stated that it will go bankrupt unless consumers or taxpayers share the costs of the accident. The Pennsylvania Public Utilities Commission has rescinded a $49 million annual rate increase granted recently. Moody's has suspended all its rating classifications on Met Ed and Standard & Poor has downgraded the company's debt and securities ratings.

In the April 30, 1979 issue of BARRON'S, it states:

> "Perhaps the worst performance of all was turned in by lower-quality electric utility bonds. That entire market sector is clearly showing the strains being imposed by rising interest rates and the Three Mile Island mishap in Pennsylvania.
>
> "Indicative of the fallen-star status of Metropolitan Edison, 2008, operator of the stricken Pennsylvania plant a block of its 9% bonds, due reportedly changed hands at an 11.50% level. Prior to the March 28 accident those bonds could command prices returning closer to 9.8%. Ironically its liens had been considered by many analysts to be the strongest of any electric utility carrying single-A ratings from both Moody's and S&P." (Emphasis added.)

(d) Five class action suits have been filed seeking damages for people who live and work around Three Mile Island. Three of the suits estimate that damages will at least equal the $560 million limit established in federal law (the Price-Anderson Act) to pay the costs of a nuclear accident. Although the $560 million limit is still applicable, it has never been tested in court, and a favorable decision for the plaintiffs would further erode the ability of utilities to successfully approach the bond market for funds for nuclear power plants.

(e) According to the May 3, 1979 WALL STREET JOURNAL:

> "General Public Utilities Corp. is scrambling to obtain about $450 million in bank credit lines to help pay for the cost of the accident at its Three

Mile Island nuclear plant and avoid a potential bankruptcy.

"In testimony before the Pennsylvania Public Utilities Commission, GPU Treasurer John G. Graham...reiterated that to insure the company's financial liability, the commission would have to quickly pass along to customers some of the cost of the accident.

"The need to set up firm credit lines is coming largely because of nervousness by current lenders about the utility's financial condition...

"But as the extent of the worst accident in the history of U. S. nuclear power became clearer, the banks became more concerned. Mr. Graham said they want strict and formal arrangements, secured in part by about $1 billion of GPU assets.

"'Our banks are very uncomfortable and won't continue to allow borrowings far into the future on an unsecured basis,' he said.

"...Metropolitan Edison is in a 'very critical and serious financial status,' Mr. Graham said.

"Since the accident, the Pennsylvania commission has delivered some financial blows to GPU. It recently rescinded, in whole or in part, two previously granted rate increases to company subsidiaries. That was because those increases had been based partly on having unit No. 2 in service.

"...Mr. Graham said GPU is being asked to pledge as security all of the common stock of its two other subsidiaries, Pennsylvania Electric Co. and Jersey Central Power & Light Co.

"The banks also want Metropolitan Edison in the near future to sell them up to $100 million in short-term bonds. This would be in place of part of the credit lines...He (Mr. Graham) added that inquiries have indicated that there currently isn't any market for Metropolitan's long-term securities."

With the "deteriorating financial condition" of at least one of its operating companies, and the unsettled condition of the stock market regarding utilities with nuclear power plants and of the stability of the Price-Anderson Act, there is no proof that the applicant will be able to raise funds to complete construction of CPSES or to run it once it is completed, especially should there be a nuclear accident, at the CPSES or even at some other nuclear plant in the country.

CONTENTION No. 17: Applicant has not shown that the operation of Comanche Peak nuclear plant would not be inimical to the common defense and security and to the health and safety of the public, as required by 10 CFR 50.57 (a)(6).

EXPLANATION: It is impossible to prove or show the effects on the health of the surrounding population without having made a base-line study showing public health characteristics of said population with particular regard to: age of population, incidence of chronic diseases such as heart disease, diabetes, arthritis, mental retardation, and the specific incidence of birth defects.

CONTENTION No. 18: Applicant has failed to adequately assess the cost of the Westinghouse uranium settlement on CPSES in its ER as to how it affects the cost/benefit analysis.

EXPLANATION:1.The increased cost of uranium adversely affects the cost/benefit ratio. Applicant should show a detailed cost/benefit analysis of the fuel costs under the original Westinghouse contract and the Westinghouse settlement which was made with Texas Utilities; such analysis should include costs for any fuel originally contracted for which will not be supplied under the settlement. This is especially important since it has been indicated by the applicant that "Additional contracts for uranium ore concentrates and nuclear fuel cycle services will be required in the future; however, it is not possible to predict the ultimate availability or cost thereof." (See Contention 6.3 and 6.4.)

2. The viability of Westinghouse's nuclear division, considering the present litigation concerning Westinghouse's inability to perform under its contracts with numerous utilities to supply uranium, is not addressed by applicant with regard to replacement of parts or financial responsiveness to breach of warranty. (See also Contention 6.3 and 6.4.)

CONTENTION No. 19: CPSES has not been built in a manner so as to comply with certain regulations of the Nuclear Regulatory Commission, in particular 10 CFR 50.57(a)(2), 10 CFR 50.57(a)(3), and 10 CFR 50.57(a)(6), and therefore should not be licensed for operation.

EXPLANATION:

1. CASE has been told by a worker at the CPSES that on one side of the reactor, where there is supposed to be some room between the containment vessel and the reactor, workers could not get the expansion joints to work correctly and poured concrete in on one side where the expansion joints are supposed to be.

2. A witness has told CASE that following a Christmas party at CPSES, where there was considerable drinking and many of the employees were quite drunk, a load of cement that had been ordered arrived for pouring. The foreman, without proper supervision or an inspector being on duty, made the workers pour the cement in the forms. He then had the workers clean up the party area and instructed the workers to put all trash, garbage, cans and bottles into the forms and pour the cement over it.

3. Witnesses have told CASE that they knew, as welders, that the welding of the steel beams and rods at CPSES would not pass a rigid test. They stated that the reason for this was that a number of workers were allowed to weld without having the proper training and being properly qualified.

A review of the Inspection and Enforcement Reports (I&E Reports) of the Nuclear Regulatory Commission reveals that there have been continuing problems and violations by the applicant in regard to welding. For example:

(a) Report 78-16, conducted 10/2-31/78: "...it appears that certain of your activities deviate from commitments made in your Final Safety Analysis Report (FSAR) as indicated below:

"A. FSAR Section 1A(B), on page 1A(B)-5, states that installation and testing of mechanical (Cadweld) splices in reinforcing bars in the containment structure will comply with Regulatory Guide 1.10. Paragraph C.1 of Regulatory Guide 1.10 requires that each member of the splicing crew be qualified by making qualification splices. When crew members work as a unit, the crew may be qualified as a unit.

"Contrary to the above:

"It was established, based on interviews with cognizant craft and TUGCO quality assurance personnel, that craft personnel who have not been given qulification tests have made Cadweld splices independently of the qualified splicer up to the point of loading and firing the filler metal crucible. Such personnel are not identified in appropriate quality assurance records relatable to any given splice, day or crew composition.

"This is a deviation."

According to the applicant's letter of December 8, 1978:

"Corrective Action: Use of cadweld helpers per the previous program has been stopped.
Corrective Action to Prevent Recurrence: Revision 4 to Brown and Root's Construction Procedure 35-1195-CCP-19 has been issued and no longer provides for cadweld helpers. Personnel 'setting up' and 'firing' cadwelds will be qualified cadwelders in accordance with this procedure.
Date Corrective Action and Preventive Measures Completed: Corrective action was initiated on October 12 and completed on November 19, 1978. Preventive measures were completed on November 15, 1978."

Report No. 78-17, conducted Oct. 4-12, 1978: "The Licensee, on October 4, 1978, reported...that a Cadweld splice in the Unit 1 Containment wall reinforcing steel had pulled apart upon application of a light force while preparing the spliced bar for additional splicing. The mode of failure was such that grossly poor workmanship had to be the cause, either by intent or by negligence. The Cadweld splicer, according to licensee quality assurance records, had performed over six hundred (600) other splices throughout the various Category I buildings and involved both Units 1 and 2. The Cadweld splicer had been terminated in March 1978 for disciplinary reasons not related to his actual work.

"The following facts were established from licensee quality assurance

records made available to the IE Resident Inspector:

"a. The failed Cadweld splice was made on the second shift during the evening hours of December 16, 1977, and was one of four (4) splices made that evening by the splicer.

"b. The splicer had made a total of six hundred eighty-seven (687) splices over a period beginning January 21, 1977, and terminating March 27, 1978.

"c. The splicer had been qualified initially and his work inspected and tested commensurate with the requirements of NRC Regulatory Guide 1.10 throughout his working period.

"d. The licensee/contractor quality control organization had rejected a total of eight (8) splices made by the splicer for visual defects during the above working period.

"e. None of the twenty-five (25) tensile tests conducted on the splicer's work evidenced failure.

"f. All but twelve (12) splices made by the splicer were embedded in concrete and thus were not readily available for examination. Of the four made on the evening of December 16, only one splice in addition to the failed splice was available for examination." (Emphasis added.)

CASE has been unable to find any indication that any of the above-referenced splices which were embedded in concrete were ever tested further. We contend that this should have been done immediately upon discovery, and that since that apparently was not done then, that it should be done now.

We ask that the entire Report No. 78-17 be incorporated herein by reference and that its contents be reviewed in its entirety. As can be readily seen, there are several areas of particular concern; for example:

On page 4, item 4.b.: "The B&R (Brown & Root) inspector stated that he recalled the particular work that evening because of the difficulties and hazards involved. He stated that much of the splicer setup work was done under poor lighting conditions and that he had had to use a penlight to make his inspections." (Emphasis added.)

There are numerous other I&E reports which deal specifically with problems in welding at CPSES. CASE will be looking at them in more detail in the hearings and plans to have witnesses to testify in this area.

4. A review of the I&E reports reveals that there are continuing problems and violations by the applicant in regard to the improper pouring of concrete and concrete's not being up to specifications. As recently as February 20, 1979 the applicant was advised by the NRC of a Notice of Violation for "Failure to Follow Concrete Placement Procedure."

In an article in the April 4, 1979 FORT WORTH STAR-TELEGRAM, allegations were made that untested concrete has been used in construction of portions of CPSES, that quality control procedures have not been followed, that training has been inadequate, that sampling for sand and gravel was done in ways prohibited by standards the applicant had pledged to follow, that records were falsified.

I&E report No. 78-13, conducted August 1-31, 1978, in citing the applicant with a Notice of Violation for "Failure to Follow Concrete Testing Procedures," states:

> "Criterion V of Appendix B requires that established instructions, procedures, or drawings be followed for all activities affecting quality.
>
> "Texas Utilities Generating Company Procedure QI-QP-11.1-10, Revision 0, 'Sampling Fresh Concrete,' paragraph 3.1.2 requires that samples be taken at two or more intervals during the discharge of the middle portion of the batch.
>
> "Contrary to the above:
>
> "The IE inspector observed on the above date, during placement of concrete in a reactor building interior wall, that a concrete laboratory technician

took a single sample rather than at two or more intervals during the discharge of the middle portion of the batch. Discussions with the technician and the laboratory supervisor confirmed that this was the standard, but undocumented, practice when taking samples where cylinder strength tests are not a requirement." (Emphasis added.)

"This is an infraction."

There are numerous other examples of problems with concrete cited in the I&E reports, and CASE plans to pursue them at length during the hearings and to have witnesses to testify in this area.

5. The seriousness of the applicant's failure to meet the expected standards of accuracy and completeness is borne out by the December 6, 1978 letter to Mr. P. G. Brittain, President of TUSI and TUGCO, from Harold R. Denton, Director, Office of Nuclear Reactor Regulation, and John G. Davis, Acting Director, Office of Inspection and Enforcement, NRC, Washington. See Contention 1, page 6, for complete text of this letter.

6. Unit No. 2 has not been built correctly, as evidenced by the fact that the reactor vessel for Unit No. 2 won't fit correctly on the supports built to hold it. (See page 23, Contention 6.2. for details.) This was a major design and construction error, and raises questions about the capability of the applicant to operate CPSES.

7. There are numerous other problems with construction and procedures which are indicated in the I&E reports, and CASE would incorporate them all herewith by reference. It is our intention to pursue them in detail during the hearings, and to present related testimony by expert witnesses.

8. The applicant has failed to address the possible effects on the quality of workmanship which may be caused by: use of undocumented workers; use of inexperienced workers; high number of deaths among workers during construction; long working hours of workers. These matters need to be addressed and assurances obtained that there has been no lessening of quality of workmanship due to them.

9. Applicant has failed to properly address the health effects of the transmission lines from the plant, necessary for compliance with 10 CFR 50.57(a)(3) and 10 CFR 50.57(a)(6).

10. The February 13, 1979 letter from Robert L. Baer to R. J. Gary indicated that the applicant must provide an Offsite Dose Calculation Manual (ODCM). It is impossible without this manual to be assured that 10 CFR 50.57(a)(3) and 10 CFR 50.57(a)(6) have been complied with. It should be supplied, reviewed, and approved by the staff and intervenors before issuing an operating license.

11. Applicant has not adequately addressed the possibility of tornadoes at CPSES, especially in light of possible spent fuel pool loss of water (see Contention No. 7). The CPSES site has been under a tornado watch or warning at least four times in the past two months.

12. Applicant has failed to update adequately its filing in regard to the growing and expected future population in the CPSES area in regards to water usage.

13. It is not clear from the applicant's filing that wells which were under the dam for CPSES were capped to prevent possible seepage of contaminants into them.

14. Applicant has failed to show the full effects of the transportation of waste upon the health, safety and lives of the persons residing along transportation routes and living in the general vicinity of the plant. Thus, 10 CFR 50 57(a)(3) and (6) have not been complied with.

15. Applicant has failed to take into account human errors and the failure of certain controls on certain pumping systems and other problems associated with the accident in Pennsylvania, with regard to possible similar events at the Comanche Peak plant and resultant effects on the population at risk.

16. Applicant has failed to adequately address possible effects on the Dallas/Ft. Worth metroplex area of wind currents and their effect on radiation emissions, either routinely emitted or emitted in the event of a major accident, which may be carried by wind currents which would blow such emissions toward the metroplex area during a considerable portion of the year.

17. It has not been proven that the applicant has sufficient expert, properly trained personnel to operate the Comanche Peak plant in compliance with 10 CFR 50.57(a)(2), (3), and (6).

According to Gregory Choppin, a Florida State University chemist, in a public statement, the nuclear industry will soon face a shortage of critical personnel. He said the results of a survey commissioned by the American Chemical Society Division of Nuclear Chemistry and Technology found that the number of students enrolled in Ph.D. programs in nuclear chemistry has dropped from 213 in 1960 to 102.

18. Non-compliance with regulations and procedures as detailed in the I&E reports supports and confirms Contention No. 1.

19. I&E reports, plus the contentions in Contention No. 1, clearly indicate a trend which would prove that 10 CFR 50.57(a)(2), (3), and (6) will not be complied with by the applicant. Therefore, the CPSES should not be licensed to operate.

WHEREFORE, PREMISES CONSIDERED, CASE prays that this motion to intervene be granted in all particulars and that all contentions be accepted, and for any other relief to which CASE may show itself to be entitled.

Respectfully submitted,

Juanita Ellis

(Mrs.) Juanita Ellis, President
CASE (Citizens Association for Sound Energy)
1426 S. Polk
Dallas, Texas 75224

May 7, 1979

CERTIFICATE OF SERVICE

I hereby certify that copies of "Supplement to Petition for Leave to Intervene and Contentions by CASE (Citizens Association for Sound Energy)" in Docket Nos. 50-445 and 50-446 have been served on the following by deposit in the United States mail, first class, or, as indicated by an asterisk, by Certified First Class Mail, return receipt requested, this 7th day of May, 1979:

Lawrence J. Chandler
Counsel for NRC Staff
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Elizabeth S. Bowers, Esq., Chairman*
Atomic Safety and Licensing Board
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Lester Kornblith, Esq., Member
Atomic Safety and Licensing Board
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Richard Cole, Esq., Member
Atomic Safety and Licensing Board
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Nicholas S. Reynolds
Debevois & Liberman
1200 - 17th St., N. W.
Washington, D. C. 20036

Mr. Geoffrey M. Gay
West Texas Legal Services
406 W. T. Waggoner Building
810 Houston Street
Ft. Worth, Texas 76102

Richard W. Lowerre, Esq.
Assistant Attorney General
Environmental Protection Division
P. O. Box 12548, Capitol Station
Austin, Texas 78711

Mrs. Nancy Holdam Jacobson
CFUR
1400 Hemphill
Ft. Worth, Texas 76104

Atomic Safety and Licensing Board Panel
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Atomic Safety and Licensing Appeal
Panel (5)
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Docketing and Service Section (4)
Office of the Secretary
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Juanita Ellis

(Mrs.) Juanita Ellis, President
CASE (Citizens Association for Sound Energy)
1426 S. Polk
Dallas, Texas 75224
214/946-9446

2231 172