U.S. Department of Energy

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August 11, 1980

Dr. Daniel R. Muller
Assistant Director for Environmental
Technology
Division of Engineering
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Dear Mr. Muller:

Attached is a list of questions and requests for additional information generated by the Argonne team as a result of its review of the Comanche Peak Environmental Report and the site visit of August 4th and 5th.

Argonne's ability to generate the Draft Environmental Statement on schedule depends in a large part on the ability of the applicant to respond fully and in a timely manner to these questions and requests.

Sincerely,

James E. Carson
Division of Environmental Impact Studies

JEC:de

Enclosure

cc: John Lehr

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COMANCHE PEAK STEAM ELECTRIC STATION

FORMAL SITE REVIEW QUESTIONS

THE SITE

1. Provide an updated schedule for the completion of Units 1 and 2, such as fuel loading, startup for commercial power dates, etc.

2. Provide an updated list of other agency reviews and approvals, including a list of all licenses and approvals CPSES will require prior to startup of Units 1 and 2.

AIR QUALITY

1. Provide an updated summary of existing air quality information applicable to the site.

2. Provide a copy of theletter from the Texas Utilities Services, Inc. to the Executive Director, Texas Air Control Board, dated 6 February 1980 and their reply dated 12 February 1980.

3. Discuss the methods to be utilized to control fugitive dust during plant operation.

CULTURAL RESOURCES

1. With reference to ER Sections 2.6.3.1 and 2.6.3.2, indicate how it can be assured that cultural resource sites are not present at or near these locations without looking. Provide detailed information on surveys made in the nearby area (i.e., within 25 miles) for similar topographic settings with the same geological history.

2. (ER Section 2.6). Provide a detailed description of the settlement-subsistence system for all cultural phases known in the nearby area and a correlation of site-type, cultural-phase, and environmental setting over time.

3. (ER Section 2.6). Describe the natural resources, or locations on the plant properties of cultural or religious importance to Native Americans living in/or utilizing the nearby area, if any. Provide a detailed description of the structure, function and current condition of all of the cultural resource sites that have been located on the plant properties.

4. (ER Section 3.6). Provide a detailed description of the research design developed for site identification and all methods utilized in the field reconnaissance. Describe the kinds of strategies utilized in areas with different topographic and vegetational settings.

5. Provide a detailed description of the criterion used to evaluate the sites according to the four levels of data need presented on pages 2.6-4 and 2.6-5. What levels of data have been collected from the sites that still remain on the plant properties?

6. (ER Section 4.1). Discuss the specific plans for reducing aesthetic impacts of CPSES site and along the associated transmission corridors.

FORMAL QUESTIONS TO APPLICANT

Socio-Economics

1. Indicate, if available, how many workers will be present at CPSES during operation that:

   1) will be hired locally

   2) be retained from construction work force

   and/or

   3) ~~lived~~ hired from outside Somervell and Hood counties.

   APPROXIMATE PERCENTAGE ESTIMATES ARE SUFFICIENT. - no caps

2. Estimate to the extent feasible how many construction force workers of CPSES, who presently live in Somervell or Hood counties, ~~and~~ will choose to remain as residents of these counties after construction is complete.

3. Update taxes paid by CPSES to local and State government and discuss the factors which influence the projection of tax payments over the life of the plant.

4. Provide a map ~~by category~~ of land owners by category [public (by jurisdiction), private, TEC] who ~~are~~ have access or are located within a quarter of a mile of the reservoir. Document, if and when available, any formal ~~discussions~~ decisions regarding the use and control of the reservoir for recreational purposes or other land use/ownership decisions.

TERRESTRIAL ECOLOGY - LAND USE

1. Land use is mainly discussed in Section 3.9-5 to 3.9-9 of the ER-OL but it did not mention any cooperative agreements with land owners and land use restrictions on right-of-way associated with CPSES. Please provide a description of right-of-way agreement.

2. Provide information on management of undeveloped parts of the site and transmission corridors during the lifetime of the plant.

3. (ER Section 3.9) Describe any additional transmission lines not described in the ER-OL directly associated with CPSES that will be constructed during lifetime of the plant. ER-OL 4.2-1 to 4.2-5.

4. (ER Section 3.9.1.3) Indicate which herbicides are/will be used along transmission line right-of-way. Provide the EPA registration numbers of the herbicides, and any restrictions for using them. Indicate who will be responsible for the application of the herbicides and their qualification requirements. Indicate how, and how often and when (what time of year) they are to be applied. Indicate which pesticides are/will be used on site and along right-of-way. Identifiy state regulations and/or permits requirements for use of the herbicides and pesticides to be applied. ER-OL 4.2-10.

5. (ER Section 3.9) Describe the measures that have been or will be undertaken to insure that the transmission lines do not interfere with irrigation and crop dusting activities.

6. (ER Section 4.1) Give details for monitoring and mitigating erosion problems during lifetime of plant. Describe the extent to which native vegetation has been seeded. Provide documentation on the success of seeding these grasses. Provide a replanting schedule (if available). ER-OL Section 3.3, 3.4, 4.0.

7. (ER Section 4.2) Describe the safety measures which were undertaken to ensure that metal structures such as fences, barns, buildings, etc. near the activated transmission lines are adequately grounded to preclude electrical shock hazards.

GEOLOGY

1. Please provide an update of Section 2.5.6 (Mineral Resources) to include a discussion of the location and production rates of the gas wells located on the CPSES site.

2. Please provide the following references from Section 2.5.7 of the ER:

   Shubert, D. H., 1969, Increased Seismicity in Texas: Texas Journal of Science, Vol. 21, pp. 37-41.

   Sellards, E. H., 1935, Balcones Zones of Faulting and Folding: The University of Texas Bulletin No. 3201.

3. Please provide an update of the record of seismic activity within a 250mi radius of CPSES. Indicate the magnitude, frequency and location of the epicenter of the events that have occurred since the drafting of Figure 2.5-1 in the ER.

WATER QUALITY

1. (ER Section 3.6.2.3)-Provide the thickness of the clay liner in the evaporation pond and the permeability through the liner in mm/sec. Estimate the permeability increase of the liner due to leaching of the chemicals discharged to the evaporation pond and provide the basis for the estimate.

2. (ER Section 3.6.2.3)-Provide an updated list of chemicals discharged to the evaporation pond following determination of RCRA compliance. For any contaminants, previously identified as being routed to the evapora- pond which cannot be disposed of in that manner, describe the agreed upon method of treatment and disposal. Include method of treatment and disposal. In the treatment description, include the concentrations of these contaminants in waste streams, treated effluent, and receiving body, and frequency of discharges.

3. (ER Section 3.6.2.4)-Describe possible pathways of hydrazine release from the secondary cooling water system into the environment. Estimate the amount released in each pathway and concentration in the receiving body. Identify any mitigating measures for each pathway.

4. Specify the organic corrosion inhibitor listed in Table 3.6-1 of the OL-ER, and if available, the EPA registration number.

5. (ER Section 3.6)-Estimate the amount of copper released to Squaw Creek Reservoir as a result of corrosion/erosion. Provide the basis for the estimate.

6. (ER Section 3.6)-The following chemicals, cyclohexylamine, sodium phosphate, lithium hydroxide, and detergents, are identified in the CP-ER, but not in the OL-ER. If these chemicals will be used during operation, identify source of use and amount consumed, frequency of discharge, concentrations in system water and waste streams, release point, and estimate increase in concentration in the receiving body.

7. (ER Section 3.7)-Provide an updated description of the sanitary waste treatment system. Estimate flow rate during normal operation and during refueling. Describe the planned use of the package units during operation (eg. split stream treatment, or complete shutdown of one or more units). Estimate the BOD_5 and total suspended solids concentrations in the total effluent, and the amount of sanitary waste sludge produced per year.

AQUATIC ECOLOGY

1. Discuss plans to monitor SCR during operation of the CPSES until such time as the reservoir becomes part of a public recreational area.

2. Lake Granbury is reported to be "brackish" because of its high salinity. In view of this condition, show what changes are to be expected in Lake Granbury salinity as a result of a return flow from SCR. ER-OL, pp. 5.1-4; Appendix "D" of Original ER; Aquatic - p. 299.

3. Provide the level of concentration of chlorine (TRC) that will be released via the CPSES effluent into the Squaw Creek Reservoir (SCR), according to the latest information. ER-OL Secs. 3.6; 3.7; 5.1.3.3, on p. 5.1-7, 6.2.2; Environ. Tech. Spec. Sec. 4.1.

4. Describe the extremes of temperature and salinity to be expected in the SCR and Lake Granbury as a result of operation of CPSES, (e.g., low and high flow, low/high temperature, low/high salinity and combinations thereof superimposed on extremes of power plant operation). Original ER-5.1, 5.2.

5. Describe the access, if any, that the public will have to Squaw Creek Reservoir for recreational purposes. Indicate the limitations on recreational activities.

6. Discuss ultimate fate of treated waste from the CPSES' evaporation ponds. Indicate anticipated frequency of material removal from the evaporation ponds. (ER-OL, Sec. 3.7; Sec. 5.4, p. 5.4-1; Sec. 6.2.2, p. 6.2-1).

HYDROLOGY

1. ER-OL, Figure 3.4-10. Please provide a more legible figure showing the profile of the equalization channel (safe shutdown spillway for mini dam).

2. ER-OL, page 3.4-5, Section 3.4.2.2. Please indicate the service water temperature rise and perform the thermal plume analysis for SSI during the normal operation of the station.

3. ER-OL, page 3.4-5. Please discuss the effects on the water temperature in the SSI due to the possible thermal wedge intrusion of the Panther Branch Arm of the SCR through equalization channel.

4. ER-OL, page 3.4-5, Section 3.4.3.1. The circulating water system as presented in ER-CP has been modified at several locations including but not limited to the discharge tunnel and the discharge channel. However, the data presented in Table 3.4-5 in the ER-OL do not reflect these modifications. The position numbers given in the table do not correspond to the numbers shown on Figure 3.4-14 in the ER-OL. Several numbers mentioned on page 3.4-5 in the ER-OL describing the discharge channel design are also different from the numbers shown on Figure 3.4.-5 in the ER-OL. Please clarify these discrepancies.

5. ER-OL, page 3.4-5, Section 3.4.3.1. Please provide a schematic diagram showing the design details of the discharge tunnels and also describe the material used for constructing the discharge channel floor.

NEED FOR PROJECT, ALTERNATIVES TO OPERATION, AND BENEFIT COST

1. PROVIDE INFORMATION ON ~~Have you or anyone else done~~ load management or time-of-use studies to determine if better management could delay the need for the plant?

   Present in summary form the relevant issues, ~~what~~ the conservation steps you have taken to delay the need for power beyond that year, and ~~what~~ the future conservation steps you contemplate which may have that effect.

2. Identify (and give a short explanation of) any developing federal or state or local government or regulatory policy, laws or actions existing or pending which you believe may substantially affect your fuel supply.

3. Will your system be more reliable with C.P. than without it? If yes, explain how the increased reliability comes about.

4. In the year that both units are first both running would C.P. replace any baseload plant on your system which can be operated and maintained more inexpensively than C.P.?

5. Provide form 1 and form 12 reports filed with the FPC for the three most recent years.

6. For Schedule 432a, Form 1, please further provide the breakdown of kilowatt hours generated (line 12), fuel costs (line 21), and production costs other than fuel (line 34 minus line 21) for each of the fuel types for each of the plants (when there is more than one fuel type)?

7. Please provide the anticipated loading order of units by type of fuel for each of the seasons of the year.

8. (ER Section 1). Indicate the dates ~~that~~ when electrical generation will be fully available from each unit.

9. Provide sample demand and energy projection methodology used by DP and L in summary form. E.G., a least squares projection (Sec. 1.1.1.2.1)

10. Provide the most recent summary documents from Edison Electric Institute, DPL, TUGCO, TESCO, TPL, TUCS, TIS and ERCOT in which the assumptions, methods and conclusions for, and estimates of, need for power in the relevant regions are calculated. If unavailable, explain why.(Sec. 1.1.1.2.1)

11. Discuss the bases for the conclusion (page 1.1-16) that the addition of a nuclear plant provides the proper mix of energy sources for the TUCS area. (Sec. 1.1.2)

12. (ER Section 1). Explain what you mean by "statistical theory of extreme values" and "exponential smoothing," and give a short example of how you used each in the need for power calculation.

13. (ER Sections 1 and 11). If the reserve margin with Comanche Peak turns out to be substantially in excess of 15% over a good portion of the plant life, will TUCS members close down or reduce usage of less efficient plants? If yes, state which plants and show the calculation for any saving of money or energy which would occur. If no such saving would occur, state the reasons why Comanche Peak would be operated. Assume 70% load factor and give the year in which 70% will be achieved.

14. (ER Section 1). Indicate the reasons that 10% of Comanche Peak is being sold. Is it correct that this sale will not materially change any conclusion concerning your system?

15. Page 1.3-1 claims the best interest of customers, from among other things the cost standpoint, is to place Comanche Peak in service on schedule. Show the calculation which proves Comanche Peak will lower KWh cost to customers on schedule. If a different calculation supports your point for Section 1.3.2 show it.

16a. Expand the discussion of Section 1.3.3 to show exactly what the shortage of non-nuclear fuel would be if Comanche Peak did not operate. Explain in detail any difficulties envisioned in obtaining oil and gas as fuels and explain the evidence for it.

16b. Indicate the number of barrels of oil or therms of gas that would be saved by normal operation of CPSES per year assuming normal operation of Units 1 and 2. Include the basis for the above calculation.

17. (ER Section 5.7 and 5.8). Reconcile the claim of 30 year economic life for the plant (page 5.7-6) and at least 40 year operating life (page 5.8-1).

18. Provide an updated discussion of decommissioning costs and include bases for assumptions used.

19. (ER Section 8). Update all numbers in Chapter 8 which are outdated and apply to operation (i.e. no need to update construction information).

20. Show the calculation of present value for CPSES as stated Section 8.1.1.3, and state why you use the discount rate you do.

21. ER Chapters 1, 8 and 11). What proportion of TU sales are on an interruptible basis, and are any uses in addition to industrial on an interruptible basis?

22. Update the discussion of 8.2.1.1 and provide the bases for use of the percentage value for AFUDC.

23. Show the calculation for fixed charge and operating, maintenance and fuel costs (page 8.2-4). How was 3.67% arrived at as the depreciation rate, 18% as the fixed charge rate, and how did you use it in calculating fixed charges?

24. (ER Section 11). Estimate the value of the most valuable crop which could be grown or grazed on site if the plant did not operate.

25. (ER Section 1, 8 and 11). Estimate total system production costs and energy production in KWh with and without the CPSES units in each of the first 5 years they both operate at full capacity assuming zero load growth between now and then, and for the case of your projected load growth between now and then. Give costs in millions of dollars and mills per KWh. List the assumptions and show the basic calculations. If you were able to achieve 70% capacity factor in the early years due to trouble-free operation, how would that affect the production cost comparison.

26. (ER Sections 1, 8 and 11). If CPSES is not licensed, give the source of the needed energy from the next best alternative.

27. (ER Section 1). Indicate any change in service area, regional relationships, new forecasts of system production costs, base load, temperature sensitive load and peak load, system capability, reserves and reserve margin since FES-cp and also OL application.

28. The staff feels that much of the environmental report regarding need for power, cost benefit and the alternative of not operating C.P. presents information in a conclusionary fashion. The spirit of the above questions and the revisions of chapters in the ER should be to document and to prove your conclusions. Without that information the staff cannot do an independent analysis of your conclusions as required by the Council on Environmental Quality regulations for implementing NEPA.