

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
UNITED STATES ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

October 18, 1974

Honorable Dixy Lee Ray
Chairman
U. S. Atomic Energy Commission
Washington, D. C. 20545

Subject: REPORT ON COMANCHE PEAK STEAM ELECTRIC STATION

Dear Dr. Ray:

At its 174th meeting, October 10-12, 1974, the Advisory Committee on Reactor Safeguards reviewed the application of the Texas Utilities Generating Company, acting for itself and as agent for Dallas Power and Light Company, Texas Electric Service Company, and Texas Power and Light Company, for permits to construct the Comanche Peak Steam Electric Station, Units 1 and 2. The Subcommittee made a visit to the proposed plant site on September 17, 1974, and the project was considered at a Subcommittee meeting on September 18, 1974, at Bedford, Texas. During its review, the Committee had the benefit of discussions with the AEC Regulatory Staff and representatives and consultants of the applicant, the Westinghouse Electric Corporation, Gibbs and Hill, Inc., and Brown and Root, Inc. The Committee also had the benefit of the documents listed below.

The Station will be located on a peninsula in the proposed 3,000-acre, Squaw Creek Reservoir, approximately 40 miles southwest of Fort Worth, Texas, the nearest population center (1970 population - 400,000), and 4-1/2 miles northwest of Glen Rose, Texas, the nearest community (1970 population - 1,554). The minimum exclusion distance for this facility is 4,650 feet, and the radius of the low population zone is four miles. There are no residents within one mile of the plant and approximately 41 persons within two miles of the plant.

The Comanche Peak Station will utilize two, four-loop pressurized water reactor nuclear steam supply systems each having a power level of 3411 MWT and a design similar to that of the Catawba Nuclear Station units previously reviewed by the Committee and reported on in its letter of November 13, 1973.

Each of the Comanche Peak units employs a cylindrical, steel-lined, reinforced concrete containment. The design will conform to the proposed ACI-ASME Concrete Containment Code (Section III, Division 2 of the ASME Boiler and Unfired Pressure Vessel Code) with appropriate modifications required by the Regulatory Staff.

The Committee recommended in its report of September 10, 1973, on acceptance criteria for ECCS, that significantly improved ECCS capability should be provided for reactors filing for construction permits after January 7, 1972. The Comanche Peak units are in this category. These units will use 17x17 fuel assemblies similar to those to be used in Catawba Units 1 and 2. Although calculated peak clad temperatures in the event of a hypothetical LOCA are less for 17x17 assemblies than for a 15x15 array, the Committee believes that the applicant should continue studies that are responsive to the Committee's September 10, 1973 report. If studies establish that significant further ECCS improvements can be achieved, consideration should be given to incorporating them into this plant.

Although many details of the proposed 17x17 fuel design are available, complete analyses of the performance of this fuel arrangement are not yet available from the applicant, and the AEC Regulatory Staff has not completed its review. The Committee will review and address questions relating to the proposed 17x17 fuel design within the next few months in connection with operating license applications for other nuclear units employing similar fuel.

The Regulatory Staff has determined that the ECCS performance evaluation for the Comanche Peak units meets the Interim Acceptance Criteria of June, 1971. In addition, the applicant's ECCS performance evaluation, using an approved Westinghouse model, to show compliance with the Final Acceptance Criteria of 10 CFR 50 Appendix K, must be reviewed and approved by the Regulatory Staff. The Committee wishes to be kept informed.

The Comanche Peak Units 1 and 2 will be the first commercial nuclear power plant in the State of Texas. For this reason, the Committee recommends that the applicant and Regulatory Staff give particular attention to assuring proper coordination with appropriate state agencies in the development of effective emergency plans for this facility.

The Committee believes that the applicant and the Regulatory Staff should continue to review the Comanche Peak facility for design features that could reduce the possibility and consequences of sabotage, in accordance with Regulatory Guide 1.17, "Protection of Nuclear Plants Against Industrial Sabotage."

The applicant has indicated that its design review committee will give particular attention to the possible need for design changes suggested by operating experience of current generation nuclear power plants. He indicated, also, that key members of the permanent operating staff would participate in those phases of the design evaluation pertinent to plant operation and maintenance.

Generic problems relating to large water reactors have been identified by the Regulatory Staff and the ACRS and discussed in the Committee's report dated February 13, 1974. These problems should be dealt with appropriately by the Regulatory Staff and the applicant.

The Advisory Committee on Reactor Safeguards believes that the items mentioned above can be resolved during construction and that, if due consideration is given to the foregoing, the Comanche Peak Steam Electric Station, Units 1 and 2 can be constructed with reasonable assurance that it can be operated without undue risk to the health and safety of the public.

Sincerely yours,



W. R. Stratton
Chairman

References

1. Preliminary Safety Analysis Report (PSAR) for the Comanche Peak Steam Electric Station, Volumes 1-6, dated July 25, 1973
2. Amendments Nos. 1-10 to the PSAR
3. Safety Evaluation of the Comanche Peak Steam Electric Station, Units 1 and 2, dated September 3, 1974 by the U. S. AEC Directorate of Licensing (DL)
4. Letter, dated June 17, 1974, Texas Utilities Generating Company (TUGCO) to DL, requesting Limited Work Authorization (LWA)
5. Letter, dated June 26, 1974, Department of the Army (DOA) to DL, concerning DOA review of Comanche Peak PSAR
6. Letter, dated August 22, 1974, TUGCO to DL submitting report, "Review of Selected Dams in the State of California," dated August 5, 1974
7. Letter, dated September 20, 1974, TUGCO to DL, submitting ATWS analysis for Comanche Peak Steam Electric Station