TEXAS UTILITIES SERVICES INC.
2001 BRYAN TOWER-DALLAS, TEXAS 75201 3050

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July 1, 1983

Mr. S. B. Burwell
U.S. Nuclear Regulatory Commission
Licensing Project Manager
Office of Nuclear Reactor Regulation
Washington, D.C. 20555

SUBJECT: COMANCHE PEAK STEAM ELECTRIC STATION
COMPLETION OF ACRS REQUESTS

REFERENCE 1: ACRS/NRC MEMORANDUM "ACTIONS, AGREEMENTS, ASSIGNMENTS AND REQUESTS 259TH ACRS MEETING, NOVEMBER 12-14, 1981", DATED JANUARY 11, 1982.

Dear Mr. Burwell:

Reference (1) listed four specific requests made by ACRS. Our responses to those requests are as follows:

1. M. Bender requested that D. Jones of TUGCO contact the management of the San Onofre Unit 1 about the availability of data on the failure of diesel generators to start.

   R. A. Jones, Manager, Plant Operations, contacted the management of San Onofre and found out that the problems with their diesel generators had no specific application to the Comanche Peak diesel generators.

2. M. Bender asked H. Schmidt to provide a copy of Secondary Chemistry operating procedures when they are available.

   The secondary chemistry operating procedures were sent to Dr. Shewmon of ACRS by letter dated May 7, 1982.

3. F. Madden, TUGCO, was asked to investigate and report to the Committee the sensitivity of the hydrogen control purge to radionuclide inventory in the containment.

   F. Madden has provided the following response.

   Containment Hydrogen Purge System Filters - In response to the ACRS's questions concerning filtration of the Containment Hydrogen Purge System we offer the following.

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The containment hydrogen purge system, when operated within the system design bases, provides an effective means of reducing the hydrogen concentration in the containment atmosphere. The system is capable of performing this function in the presents of a post accident fission product environment. Pertinent system design features are as follows:

a. The filters comply with the design guidance provided in USNRC Regulatory Guide 1.52, Rev. 1.

b. Impregnated activated charcoal is used as the adsorbent material for removing gaseous iodine (elemental and organic) from the air.

c. The activated charcoal bed depth is four inches.

d. The total mass of activated charcoal is 510 pounds per filter.

e. The design loading on each filter is 2.5 mg of iodine (radioactive and stable) per gram of activated charcoal. Therefore, each filter is capable of adsorbing approximately 578,000 milligrams of iodine.

f. The hydrogen purge system is designed to operate for a period of 3-hours per day starting on the 14th day after the accident. After 13 days of decay there exists approximately 2895 milligrams of I-131 in the containment atmosphere. Therefore each charcoal bed is capable of absorbing 193 times the quantity of I-131 remaining in the containment at the earliest time the purge system is activated.

g. The charcoal filters do not remove noble gases. It was calculated that 3.65×10^7 Curies of Xe-133 would be available for release at the end of 13 days. The total activity released as a result of purging was calculated to be approximately 1/4 of this amount. It was also calculated that 9.97×10^5 Curies of Kr-85 would be available for release at the end of 13 days. The total capacity released as a result of purging was calculated to be approximately 1/2 of this amount.

4. J. Ebersole questioned whether occupancy of the control room could be maintained if there were containment leakage as a result of an accident. M. Bender requested that TUGCO investigate this matter by considering a TMI-2 fission product inventory with worse containment leakage that occurred during that accident.

F. Madden has provided the following response.

Control Room Occupancy versus Containment Leakage Rate - The radiological effects of containment leakage rates greater than the CPSES design bases (i.e., greater than 0.1 percent for the first 24 hours and greater than 0.05 percent for the duration of the accident) have been analyzed.

This analysis was performed to evaluate the radiological consequences (i.e., radiation doses) of a TMI-2 type accident release in the CPSES containment to the operators in the control room. Containment leakage rates were varied from 0.1 to 1.0 percent of the containment volume for the first 24 hours after the accident and half the corresponding rate for the duration of the accident. The results of our analyses indicates that compliance with 10 CFR 50, GDC-19 is met for containment leakage rates up to 0.61 percent in the first 24 hours after the accident and half that rate for the duration. This is more than six times design leak rate for the CPSES containment.

This letter completes our responses to requests made by ACRS on November 12-14, 1981. Please forward this information to the appropriate ACRS members.

Sincerely,

H. C. Schmidt

RAW:grr
cc: B. R. Clements
R. J. Gary
J. C. Kuykendall
S. C. Relyea
N. S. Reynolds
J. B. George
L. F. Fikar
R. A. Jones
R. D. Calder
J. S. Marshall