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Ref. # 10CFR50.90
10CFR50.36

C. Lance Terry
Group Vice President

February 22, 1996

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

SUBJECT: COMANCHE PEAK STEAM ELECTRIC STATION (CPSES) - UNITS 1 AND 2
DOCKET NOS. 50-445 AND 50-446
ADDITIONAL INFORMATION TO LICENSE AMENDMENT REQUEST 95-007
REMOVAL OF REQUIREMENT TO MAINTAIN
ONE PERSONNEL AIRLOCK DOOR CLOSED DURING REFUELING

REF: TU Electric letter logged TXX-95289 from C. L. Terry to the NRC
dated November 21, 1995.

Gentlemen:

During a phone conversation between Mr. T. Polich of NRR, Mr. J. Minns of NRR and Mr. J. Seawright of TU Electric on February 15, 1996, NRR requested that TU Electric provide additional information regarding License Amendment Request LAR 95-007, maintaining the Personnel Airlock door open during refueling. TU Electric hereby responds to the questions in the attachment to this letter.

The current fuel handling accident analysis assumes no barriers and no filtration and applies to fuel handling accidents in both the fuel handling building and the containment building. The fuel handling accident analysis bounds the current licensed fuel enrichment up to 5 w/o U235 and burnup up to 60,000 megawatt-days per metric ton of uranium.

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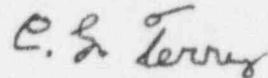
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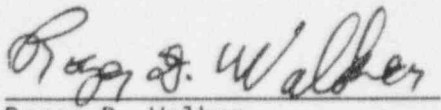
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Should you have any questions, please contact Mr. Jimmy Seawright at (214) 812-4375 or Mr. Don Woodlan at (214) 812-8225.

Sincerely,



C. L. Terry

By: 

Roger D. Walker
Regulatory Affairs Manager

JDS/grp
Attachment

c - Mr. L. J. Callan, Region IV
Mr. T. J. Polich, NRR
Mr. W. D. Johnson, Region IV
Resident Inspectors, CPSES

Mr. Arthur C. Tate
Bureau of Radiation Control
Texas Department of Public Health
1100 West 49th Street
Austin, Texas 78704

NRC Question 1:

Provide the doses and the design basis for the Fuel Handling Accident consistent with Reg. Guide 1.25, "Assumptions used for Evaluating the Potential Radiological Consequences of a Fuel Handling Accident in the Fuel Handling and Storage Facility for Boiling and Pressurized Water Reactors."

Response:

The impact of a fuel handling accident was analyzed in accordance with R.G. 1.25 as documented in FSAR section 15.7.4 (updated in Amendments 66 and 72). The guidelines set forth in 10CFR100.11 for the whole body and thyroid doses at the Exclusion Area Boundary (EAB) and Low Population Zone (LPZ) form the design basis for the final design of the facility which has the prime function of mitigating the radiological consequences at the site boundaries. The conformance with the design basis for various accidents demonstrates the ability of the facility to withstand a broad range of DBAs without undue risk to the public's health and safety. The doses are provided in the response to question 2.

NRC Question 2:

Provide the doses for the EAB and the LPZ. (The results should show the resulting doses of the Fuel Handling Accident with the Airlock Door Open.)

Response:

Provided below is the evaluation of the doses calculated for CPSES Units 1 and 2 by both the NRC and TU Electric.

The resulting doses calculated for Comanche Peak Units 1 and 2 reported in the original issue of the FSAR at the EAB and LPZ are shown in the following table. These same doses were reviewed in Safety Evaluation Report (original) NUREG-0797 dated July, 1981. (Takes credit for ESF filtration)

DOSE (rem)	NRC		CPSES	
	EAB	LPZ	EAB	LPZ
W. B. - gamma	1	1	.0143	.00404
THYROID	2.1	1	4.03	.459

The resulting doses calculated for Comanche Peak Units 1 and 2 reported in the Amendment 66 (dated January 16, 1988) of the FSAR at the EAB and LPZ are shown in the following table. These same doses were reviewed in SSER 22 dated January, 1990. (Does not take credit for ESF Filtration)

DOSE (rem)	NRC		CPSES	
	EAB	LPZ	EAB	LPZ
W. B. - gamma	2.8	<1	.711	.0629
THYROID	42	6.5	87.6	7.75

The current doses at the EAB and LPZ, for 5% enriched fuel and a burnup of 60,000 megawatt-days per metric ton of uranium, are shown in the following table (thyroid only). The doses calculated by NRC were reported in the Safety Evaluation related to License Amendments 17 and 3 for CPSES Units 1 and 2 respectively. (NRC results take credit for ESF filtration and are based on the values reported in the original issue of the NUREG 0797 dated July, 1981 while the CPSES values do not take credit for ESF Filtration.)

DOSE (rem)	NRC*		CPSES	
	EAB	LPZ	EAB	LPZ
THYROID	2.5	1.2	105.1	9.30

* NRC results for EAB and LPZ using the values reported in SSER 22 are projected to be 50.4 and 7.8 rem (applying the same methodology used in the Safety Evaluation related to Amendments 17 and 3 for CPSES Units 1 and 2 by applying the 1.2 factor described in NUREG/CR-5009 dated February 1989) respectively.

The resulting doses (rem) to the control room for the fuel handling accident are provided below and are bounded by the LOCA accident reported in FSAR Section 6.4 (also provided below). (LOCA results approved in SSER 22)

	NRC	CPSES	
	LOCA	LOCA	Fuel Handling
W. B. - gamma	1.7	3.76	.24
THYROID	26	27.4	9.79

NRC Question 3:

Provide the doses to the Control Room for the Fuel Handling Accident with the airlock door open. (Should be within the exposure guidelines of GDC-19). Include the Control Room ventilation flow rates used in the calculation.

Response:

The control room doses shown above (30 day integrated dose) are within the guidelines of GDC 19 and take into account the PAL being open (see response to question 2 above)

The flow rates for the control room ventilation in the analysis are as follows:

- 3000 CFM unfiltered intake during normal operation
- 800 CFM filtered intake, with 7200 cfm filtered recirculation, in emergency recirculation mode

The assumption regarding which mode is operating is discussed in the response to question 4. The fuel handling accident analysis did not take credit for any form of ventilation or filtration by the primary plant ventilation system. Therefore, the doses shown above represent the doses for having the PAL open (FSAR section 15.7.4.3.1.9).

NRC Question 4:

Provide all the assumptions used in evaluating the above accident.

Response:

The fuel handling accident analysis assumptions and calculation inputs were as follows:

- a. The accident occurs at 100 hr. after reactor shutdown.
- b. All fuel rods in the dropped assembly are ruptured (264).
- c. The damaged assembly is assumed to have the highest gap activity in the core. (radial peaking factor of 1.65)
- d. The fuel pellet-cladding gap inventory of fission products is released to the spent fuel pool or the refueling cavity.
- e. The retention of noble gases in the water is negligible.
- f. The gap iodine inventory is composed of 99.75% inorganic and 0.25% organic.

- g. The water retains a large fraction of the halogens by virtue of their solubility and hydrolysis.
- h. 100% of the activity goes into the atmosphere (no credit for ventilation in containment/fuel building).
- I. 99.9% of activity is released in 2 hours (R.G. 1.25).
- j. Source term based on Westinghouse Radiation Analysis Manual.
- k. Minimum depth of water is 23ft.
- l. Overall decontamination factor of water is 100.
- m. Atmospheric dispersion factors:

0-2 hr	2.6E-4 sec/M ³
0-8 hr	2.3E-5

The following assumptions and calculation inputs apply to the control room analysis:

- a. Atmospheric dispersion factors:

0-8 hr	3.04E-3 sec/M ³
8-24 hr	1.82E-3
1-4 day	6.08E-4
4-30 day	1.40E-4
- b. Control room breathing rate is 3.47E-4 M³/sec.
- c. Control room charcoal filter efficiency is 99%.
- d. Control room in-leakage is 12 CFM.
- e. The control room ventilation intake monitors initiate switching the control room ventilation system to emergency recirculation mode. Sampling rate, response time, and damper closure time provide a 13.4 second delay in switching.

NRC Question 5:

Reevaluate the basis for the PAL to assure a designated individual is not needed for the accident.

Response:

Please refer to TU Electric letter logged TXX-96062 from C. L. Terry to the NRC dated February 22, 1996.