

Docket No. 50-112

APR 20 1983

Dr. David Engle, Director
School of Aerospace, Mechanical
and Nuclear Engineering
The University of Oklahoma
865 Asp Avenue, Room 212
Norman, Oklahoma 73019

Dear Dr. Engle:

Our contractor, Los Alamos National Laboratory, has identified a need for additional information to supplement the information you provided in your amended license renewal application submittal.

Please refer to the enclosed list of questions and have the responses available by May 17, 1983, when the LANL and NRC staff are planning a site visit to the University of Oklahoma to discuss the various aspects of your reports and the NRC Safety Evaluation Review.

If you have any questions, please contact your Project Manager, Hal Bernard at (301) 492-9799.

Sincerely,

Cecil O. Thomas, Chief
Standardization & Special
Projects Branch
Division of Licensing

Enclosure:
As stated

cc: J. Hyder, LANL
C. Terrell

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DATE	4/20/83	4/20/83	4/20/83			

UNIVERSITY OF OKLAHOMA PRELIMINARY QUESTIONS

1. The floor plan in the SAR shows a stairway (up) outside the reactor room. This drawing seems to indicate an opening into the reactor laboratory. Is this correct?
2. Define the uses of Labs 112, 109B, 107B, 103, 104, 105, and 106. A list of all rooms in the building used by Nuclear Engineering and their use would be suitable.
3. What is the scram time? The definition in Technical Specifications should be absolute, for example, "shall not exceed 250 ms."
4. What are the current reactivity worths of the control and safety rods?
5. Provide more detailed information on the scram circuit (description). Does the automatic system drive in after a scram?
6. What are the dimensions of the concrete shielding blocks?
7. What is the normal height of water above the core?
8. Is there a formal administrative limit on excess reactivity as a result of fuel loading other than the Technical Specification limit of $0.65\% \Delta k/k$? The documentation suggests a secondary limit of $0.4--0.5\% \Delta k/k$ at 20°C .
9. What is the basis for eliminating the seismic disturbance scram?
10. What is the temperature coefficient? The documents give $0.02\%/^{\circ}\text{C}$ (Technical Specifications, p. 8), $3.0 \times 10^{-4}/^{\circ}\text{C}$ (SAR update p. 13), and $3.6 \times 10^{-4}/^{\circ}\text{C}$ (SAR update p. 14).
11. The SAR update discusses rapid removal of a small piece of cadmium from the reactor causing a 5-s period. What is the size of the cadmium?

12. What are the normal activity levels on the water purification filter and demineralizer?
13. How often is it necessary to dispose of the water purification filter and demineralizer? Describe the procedure.
14. Has ^{41}Ar been identified in the pool water? Have the levels of the fission gases in the water been quantified? Were any activation products resulting from corrosion of the tank identified in the water (for example, ^{24}Na)?
15. Provide a summary of the reactor facility's annual personnel exposures [the number of persons receiving a total annual exposure within the designated exposure ranges, similar to the report described in 10 CFR 20.407(b)] for the last 5 yr of operation.
16. What is the volume (sample) of the water radioactivity monitor?
17. Define the responsibilities of the Radiation Safety Committee.
18. The Technical Specification of the shutdown margin as $1\% \Delta k/k$ with the safety or control rod of highest worth fully inserted implies that this is with all other rods fully withdrawn. Is this your intention?
19. Provide a description of the reactor facility ventilation system. Are there any filters? Is there a provision of isolating the reactor room?
20. In case of a piping failure, what would prevent the purification system pump from emptying the pool?

21. Provide a description of the electrical distribution system, including any provision of emergency power.
22. Describe the reactor facility fire protection system.
23. Describe the administrative organization of the radiation protection program, including the authority and responsibility of each position identified.
24. Describe any radiation protection training for the non-Health Physics personnel.
25. Summarize your general radiation safety procedures. Identify the minimum frequency of surveys, action points (levels), and appropriate responses.
26. Describe your program to ensure that personnel radiation exposures and releases of radioactive material are maintained at a level that is "as low as reasonably achievable" (ALARA).
27. Identify the generic type, number, and operable range of each of the portable Health Physics instruments routinely available at the reactor installation. Specify the methods and frequency of calibration.
28. Describe your personnel monitoring program.
29. List all parameters that are alarmed in the control room and specify the alarm trip settings.