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Docket No: 50-424/425

MEMORANDUM FOR: Elinor Adensam, Chief
Licensing Branch #4
Division of Licensing

FROM: L. G. Hulman, Chief
Accident Evaluation Branch
Division of Systems Integration

SUBJECT: ACCIDENT EVALUATION BRANCH QUESTIONS ON THE FINAL SAFETY ANALYSIS REPORT FOR THE VOGTLE ELECTRIC GENERATING STATION

Enclosed are the Accident Evaluation Branch questions on the Vogtle docket. These questions are based upon our review of the radiological consequence evaluations of Chapter 15, the proposed fission product control systems (Sections 6.5.1 and 6.5.2), and the control room habitability envelope (Section 6.4).

The AEB lead reviewer for this project is F. Akstulewicz (X24993) and any questions regarding this input should be directed to him.

Original signed by:
L. G Hulman

L. G. Hulman, Chief
Accident Evaluation Branch
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DATE	3/27/84	3/27/84	3/30/84				

FSAR REVIEW QUESTIONS FOR VOGTLE UNITS 1 & 2

450.1 (6.4) List the areas in the zone serviced by the control room emergency ventilation system and show ventilation patterns within the control room emergency zones and areas adjacent to the control room emergency zone.

450.2 (6.4) Identify the source of unlimited offsite bottled air replenishment capability for the control room envelope and the estimated delivery time.

450.3 (6.4) Provide the assumptions & bases used to calculate the control room X/Q values, including separation distance from release point(s) to the control room air intake, building width or diameter, source type (diffusion or point source) and building projected area.

450.4 (6.4) Radiation release point 3, shown on Figure 6.4.2-2 of the FSAR, appears to be less than 100 feet from the control room air intakes. Provide an evaluation of control room operator doses for those design basis accidents that result in radiation release from release point 3.

450.5 (6.4) For the evaluation of radiation doses to control room personnel following design basis accidents, provide the following information for FSAR Section 15A.3.1:

1. Recirculation rate;
2. Control room air intake rate;
3. Exhaust rate;
4. Control room unfiltered inleakage rate; and
5. Filter efficiencies for recirculation and intake flow rate.

450.6 (6.5.2) In FSAR Section 6.5.2.3, you state that transfer from the spray injection mode to the spray recirculation mode will be made manually. This design is not in accordance with Acceptance Criteria c.1.a of SRP Section 6.5.2, Revision 1 (NUREG-0800) which states that the spray system should be designed to transfer automatically from the injection mode to the recirculation mode. Provide a revised spray system design which meets all acceptance criteria of SRP Section 6.5.2, or provide justification of the design which utilize operator actions by using the guidance of ANSI/N660, "Time Response Design Criteria for Safety-Related Operator Actions".

450.7 (15.4.8 App. A) In Section 15.4.8 of the Vogtle Final Safety Analysis Report, you provided an analysis of the rod ejection accident which assumes a certain split in the transport of fission products between containment leakage and secondary side releases. While the staff recognizes in SRP 15.4.8, Appendix A, that the radiological consequences could occur as a result of the two release pathways, the SRP section indicates that the two release pathways be evaluated independently (see Review

Procedure 3) to bound the potential offsite consequences. Therefore, provide the following information:

1) Provide an analysis of the offsite radiological consequences for the case where all the fission product activity is released to the containment. The containment should be assumed to leak at its design leak rate. Additional assumptions should be consistent with Regulatory Guide 1.77, Appendix B.

2) Provide an analysis of the offsite radiological consequences for the case that the rod housing is not punctured and all the fission products released from the damaged fuel are retained in the primary coolant. This case should assume that activity in the primary system is leaked to the steam generators at the technical specification leakrate. Primary to secondary leakage should be assumed until equalization of pressure between the primary and secondary systems can be expected.

For both types of analyses, the cases analyzed should be the most severe from the standpoint of fission product releases to the environment.

450.8 (15.6.3) To verify that break flow to and releases from the affected steam generator can or cannot be terminated within 30 minutes of accident initiation, provide an analysis of the design basis SGTR which uses the Westinghouse emergency operator guidelines for operator actions to mitigate SGTR events as appropriate for your plant. This analysis should follow the guidance of ANSI/N660, "Time Response Design Criteria For Safety-Related Operator Actions" for each operator action. This includes the assumption of the first operator action at 5 minutes following reactor scram and one minute between successive operator actions (manipulation). The analysis should assume the loss-of-offsite power at the time of reactor scram and should be carried out to the time at which no additional releases from the affected steam generator are required. The following time-dependent parameters should be provided in graphical form:

1. the primary system pressure and reactor coolant temperature (hot leg);

2. the primary system mass;

3. the tube rupture flow rate and integrated break flow;

4. the secondary liquid mass in the faulted and non-faulted steam generators;

5. the steam generator pressure for the faulted and

non-faulted steam generators;

6. the integrated mass release through the safety/relief valves for the faulted and non-faulted steam generators;

7. the integrated mass release through the atmospheric dump valves for the faulted or non-faulted steam generators; and

8. the pressurizer water volume.

450.9 (15.6.5 App. B) Provide or reference a discussion to confirm that ECCS components located exterior to the reactor containment are housed in a structure which, in the event of leakage from the ECCS, permit venting of releases through iodine filters designed in accordance with Regulatory Guide 1.52. Identify the ESF ventilation system used for this purpose and for maintaining the ECCS pump rooms less than 0.25 inches W. G. vacuum with respect to the environment.

450.10 (15.7.4) Relative to your analysis of a fuel handling accident inside fuel building, supply the following information:

1. radiation detection time;

2. isolation damper closure time;

3. time radioactive material takes to travel from a detector to the isolation damper; and

4. whether automatic or manual action is needed to switch the fuel handling building ventilation system to the emergency mode and exhaust any potential release through the ESF filters.