NRR-PMDAPEm Resource

From: Victor,, Wiilliam R.- Strategic Initiatives [wrvicto@nppd.com]
Sent: Monday, July 08, 2013 2:34 PM
To: Wilkins, Lynnea
Cc: Flaherty, James R.; Lyon, Fred
Subject: Review of Amendment 246 Safety Evaluation
Attachments: Amendment 246 SE Excerpts.pdf

Lynnea,

In reviewing the Safety Evaluation (SE) for the recently-issued License Amendment 246, we noted two items that we believe warrant correction (see attached):

1. Page 6, last paragraph states: "The **EPU** radiological dose consequences of an FHA are shown in Table 3.2." This dose calculation was not associated with an Extended Power Uprate, so the reference to EPU should be omitted.

2. Page 7, Table 3.2 lists the 24-hour decay period EAB dose as 1.459 TEDE. The value provided in NEDC 05-031 (enclosed with the LAR) was 1.4499 rem TEDE, which rounds up to 1.450, not 1.459. As this renders the CNS calculated EAB dose non-conservative to the value listed in the SE, this value should be corrected.

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RADTRAD was also used by the licensee to determine the total amount of activity that was loaded upon the CREFS filter during a FHA release. Also, the licensee assumed higher parameters to be more conservative with regard to the total source term accumulated on the filter. These changes included:

- CREFS Flowrate - increased to 990 cfm versus using 810 cfm. The use of a higher flowrate results in higher halogen accumulation onto the CREFS filter versus the base case. This is conservative as it results in higher shine contribution.

- Filter Efficiency - a value of 100 percent filter efficiency was used for all halogen species as that also maximizes higher halogen accumulation onto the filter versus the base FHA calculation.

The licensee calculated the value of 114 mrem for cloud and CREFS filter CR shine. This value has been added to the dose consequences of the 24-hour decay time case to provide the most limiting dose consequences for the FHA event. The NRC staff concludes that this calculation is acceptable because the methodology and assumptions used are consistent with CNS current licensing basis and the regulatory guidance in RG 1.183.

3.3 NRC Staff Conclusion

The NRC staff has evaluated the licensee's revised accident analyses for the radiological consequences of a FHA and concludes that the licensee has adequately accounted for the effects of the proposed changes to the CNS FHA analysis. The NRC staff further concludes that the plant site and the dose-mitigating engineered safety features remain acceptable with respect to the radiological consequences of a postulated FHA since the calculated TEDE doses at the EAB, LPZ, and in the CR are within regulatory limits. The EPU radiological dose consequences of an FHA are shown in Table 3.2. Therefore, the NRC staff concludes that the licensee's proposed change is acceptable with respect to the radiological consequences of FHA.

Table 3.1

Cooper Fuel Handling Accident Atmospheric Dispersion Factors (sec/m^3)
Ground Level Release from Reactor Building Vent

Time Period	Exclusion Area Boundary	Low Population Zone	Control Room Intake
0-2 hr	5.2×10^{-4}	2.9×10^{-4}	4.15×10^{-3}
2-8 hr	---	2.9×10^{-4}	3.24×10^{-3}
8-24 hr	---	7.3×10^{-5}	1.32×10^{-3}
24-96 hr	---	2.5×10^{-5}	9.01×10^{-4}
96-720 hr	---	5.2×10^{-6}	7.22×10^{-4}

Table 3.2

Calculated FHA Radiological Consequences

	EAB	LPZ	CR
Calculated results, TEDE			
24-hr decay period	1.450 ~~1.459~~	0.809	4.568*
7 day decay period	0.622	0.347	4.393
Dose acceptance criteria, TEDE	6.3	6.3	5

* Includes 114 mrem due to gamma shine from external sources

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Nebraska State official was notified of the proposed issuance of the amendment. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such finding published in the *Federal Register* on April 16, 2013 (78 FR 22570). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) there is reasonable assurance that such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

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Date: June 26, 2013