Requirements to Consider LOOP in Conjunction with Large LOCA – Rulemaking

Lead Office/Division: NRR/DPR
Supporting Offices/Divisions: TBD

Description

The proposed rule would amend the Commission's regulations to eliminate, based upon appropriate risk considerations, the assumption of a coincident loss of offsite power for postulated large-break (low frequency) loss-of-coolant accidents (LB-LOCA) in General Design Criterion (GDC) 35. The proposed rule would provide a voluntary alternative to existing requirements in situations where specified acceptance criteria are satisfied, and also would address a petition for rulemaking submitted by Bob Christie (Performance Technology) (PRM-50-77).

The Boiling Water Reactor Owners' Group (BWROG) submitted License Topical Report (LTR) NEDO-33148, Revision 2, "Separation of Loss of Offsite Power from Large Break LOCA," on August 25, 2006. The LTR provides the technical and regulatory basis for an exemption request from the current regulations, which require (in part) the ability for a plant to mitigate large break loss of coolant (LOCA) accidents using only onsite power system operation (assuming offsite power is not available). The technical basis for this rulemaking is being developed through the review of the BWROG LTR. The staff review is ongoing.

On December 26, 2007, the NRC staff requested that the Commission defer the schedule for the rulemaking to relax the current requirement for considering a loss-of-offsite power (LOOP) coincident with a large break loss-of-coolant accident (LOCA) to allow for further development of the technical basis for the rule. The justification for deferral follows:

> Most of the underlying technical issues involved in risk-informed rulemaking to decouple LOOP from LOCA are similar to the technical issues involved in the pending final rule on risk-informed redefinition of large break LOCA ECCS analysis requirements (Title 10 of the Code of Federal Regulations (10 CFR) 50.46a, "Alternative Acceptance Criteria for Emergency Core Cooling Systems for Light-Water Nuclear Power Reactors"). Common issues shared by these rules include: (1) break frequency of very large piping; (2) seismic contributions to pipe break frequency; (3) use of risk assessment to change fundamental U.S. Nuclear Regulatory Commission (NRC) regulations; and (4) requirements for maintaining adequate defense-in-depth. A proposed 10 CFR 50.46a rule was published on November 7, 2005. The final 10 CFR 50.46a rule is still being developed. Its detailed status and priority were discussed by the staff in SECY-07-0082, "Rulemaking to Make Risk-Informed Changes to Loss-of-Coolant Accident Technical Requirements;" 10 CFR 50.46a, "Alternative Acceptance Criteria for Emergency Core Cooling Systems for Light-Water Nuclear Power Reactors" dated May 16, 2007.

On February 4, 2008, the Commission approved the staff's request to defer the schedule for the rulemaking to relax the current requirement for considering a loss-of-offsite power (LOOP) coincident with a large break loss-of-coolant accident (LOCA) to allow for further development of the technical basis for the rule. The existing Commission action associated with the LOOP - LOCA rule will remain open pending review of the decisions made concerning the 10 CFR 50.46a final rule and receipt of the Boiling Water Reactor Owners Group topical report (NEDO-33148).

The staff's request to defer the rulemaking schedule may be found on the NRC external website:

http://www.nrc.gov/reading-rm/doc-collections/commission/comm-secy/2007/2007-0041comscy.pdf

The Commission's approval of the staff's request to defer this rulemaking may be found at:

http://www.nrc.gov/reading-rm/doc-collections/commission/comm-secy/2007/2007-0041comsrm.html