

NRR-DMPSPeM Resource

From: Wiebe, Joel
Sent: Wednesday, May 30, 2018 12:41 PM
To: Ryan Sprengel
Cc: Lisa Simpson (Lisa.Simpson@exeloncorp.com)
Subject: Preliminary RAls Regarding Braidwood TORMIS Amendment Request

The purpose of providing preliminary RAls is to ensure that the request is clear and understandable. If a clarification call is desired, please inform me by June 6, 2018.

The NRC requires that nuclear power plants be designed to withstand the effects of tornado and high-wind-generated missiles so as not to adversely impact the health and safety of the public in accordance with the requirements of General Design Criterion (GDC) 2, "Design Bases for Protection against Natural Phenomena," and GDC 4, "Environmental and Dynamic Effects Design Bases," of Appendix A, "General Design Criteria for Nuclear Power Plants," to Title 10 of the Code of Federal Regulations (10 CFR) Part 50, "Domestic Licensing of Production and Utilization Facilities."

The 1983 TORMIS safety evaluation report (SER) (ADAMS Accession No. ML080870291) approving the TORMIS methodology provides one way of meeting the above requirements. The SER requests licensees using the methodology to consider and address five points in their applications.

By letter dated February 1, 2018 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML18036A227, Exelon Generation Company (the licensee) requested the U.S. Nuclear Regulatory Commission's (NRC) approval of a license amendment request (LAR) to revise the Braidwood Station Unit 1 & 2 licensing bases for protection from tornado-generated missiles. The NRC staff has identified areas in which additional information is needed to complete the Technical Review.

RAI 1: The licensee's LAR references Regulatory Information Summary (RIS) 2008-14, "Use of the TORMIS Computer Code for Assessment of Tornado Missile Protection," which includes reference to the 1983 TORMIS safety evaluation report (SER) (ADAMS Accession No. ML080870291). One concern mentioned in RIS 2008-14 is inappropriately limiting the number of targets modeled.

LAR Section 2.a contains a list of equipment not included in TORMIS analysis with supporting justification. One item is bullet specifying, "...For the Unit 2 AF Pump Diesel Engine Day Tank, the vent line has a different configuration; therefore, a revision was made to the Abnormal Operating Procedure to establish operator compensatory actions to address a potential vent line crimp due to a tornado missile impact."

Braidwood Unit 2 vent uses justification of updating AOP procedures to establish operator action. Addressing unprotected non-conforming SSC procedurally, with operator compensatory actions, is not typically accepted as adequate justification for not protecting components from tornado protection.

Provide a discussion on how these compensatory actions are defined to justify not protecting these components.

RAI 2: The LAR provides discussion on each of the five points requested to be addressed by the 1983 TORMIS safety evaluation report (SER) (ADAMS Accession No. ML080870291). One of the points in the TORMIS SER specifies that the user should provide sufficient information to justify the assumed missile density based on site specific missile sources and dominant tornado paths of travel.

The LAR includes the statement, "A detailed plant survey was performed during an outage to quantify the number of potential missiles. The Braidwood missile survey walkdown was performed by ARA using ARA's

plant walkdown procedures. The survey walkdown uses a systematic, documented process to provide input on what missiles are in each missile zone, the minimum and maximum injection heights for all missiles by missile type, the building characteristics for structures in the missile zone, and pictures of the missiles and buildings surveyed. This information was developed into the plant modeling inputs for the TORMIS analysis. The mean number of potential missiles simulated for EF5 tornadoes was 383,420, including structural failure missile sources.”

Missile count and details of development of origin zones depicting the representative type, quantity or density of zonal missiles was not provided. As a result, it’s unclear how the missile count was derived. Therefore, the staff requests the licensee justify how the TORMIS SE was met and provide details of the assumed missile density based on location-specific missile counts used in the analysis.

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