

NRR-PMDAPem Resource

From: Kuntz, Robert
Sent: Wednesday, August 23, 2017 9:56 AM
To: 'Gunderson, Lynne'
Subject: Request for Additional Information RE: Prairie Island EAL scheme change

Ms. Gunderson,

By letter dated March 29, 2017, Northern States Power Company - Minnesota, doing business as Xcel Energy (the licensee or Xcel), requested approval for an emergency action level (EAL) scheme change for Prairie Island Nuclear Generating Plant, Units 1 and 2 (PINGP) (Agencywide Documents Access and Management System (ADAMS) Accession Number ML17094A576).

The Nuclear Regulatory Commission (NRC) staff has determined that additional information is required to complete its review. The following is the NRC staff's request for additional information (RAI). The NRC staff expects a response to this RAI by September 28, 2017.

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REQUESTS FOR ADDITIONAL INFORMATION

LICENSE AMENDMENT REQUEST

EMERGENCY ACTION LEVEL SCHEME CHANGE

PRAIRIE ISLAND NUCLEAR GENERATING PLANT UNIT 1 AND UNIT 2

DOCKET NOS. 50-282 AND 50-306 (CAC NOS. MF9551 AND MF9552)

The requirements of Section 50.47(b)(4) to Title 10 of the *Code of Federal Regulations* (10 CFR) state, in part, that:

A standard emergency classification and action level scheme, the bases of which include facility system and effluent parameters, is in use by the nuclear facility licensee...

The most recent industry emergency action levels (EAL) scheme development guidance is provided in the Nuclear Energy Institute (NEI) document NEI 99-01, "Development of Emergency Action Levels [EALs] for Non-Passive Reactors" (ADAMS Accession Number ML12326A805). By letter dated March 28, 2013, the NRC endorsed NEI 99-01, Revision 6, as acceptable generic (i.e., non-plant-specific) EAL scheme development guidance. Xcel Energy proposes to revise their current EAL scheme for Prairie Island Nuclear Generating Plant, Units 1 and 2 (PINGP) to one based upon NEI 99-01, Revision 6 (hereafter referred to as "endorsed guidance").

PINGP RAI-1

Proposed EALs CA6 and SA9 include “Low River Water Level” as a hazardous event. However, EAL HU3 specifically includes a River Intake level less than 669.5 feet Mean Sea Level (MSL), based on loss of cooling water pumps.

Explain how a decision maker would differentiate between these EALs, and why a loss of cooling pumps would constitute a Notice of Unusual Event (NOUE) rather than an ALERT.

PINGP RAI-2

Proposed EALs CG1.1.a and CS1.2 b include a Refueling Canal Level of 0 inches, and Emergency Response Computer System (ERCS) differential pressure (DP) of 0 inches, as indications of low reactor pressure vessel (RPV) level. However, the Differences and Deviations Matrix, provided as an enclosure to the LAR submittal, states that in Mode 6 (Refueling), the top of active fuel (TOAF) level cannot be determined, so the best available indications are used. However, the Developer Notes in the endorsed guidance for these EALs state that if TOAF water level cannot be determined during Cold Shutdown or Refueling modes, do not include this EAL.

Describe the difference between the TOAF water level and the referenced level indications.

PINGP RAI-3

Proposed EALs CG1.2.a and CS1.3.b include Containment Vessel Area Monitor 1(2)R-2 readings of 1 Rem per hour (R/hr) for indications of core uncover. Pages 19 and 20 of Calculation GEN-PI-091 (Attachment 4 of the License Amendment Request) suggest that at 1 R/hr, as indicated on 1(2)-R-2, there would be approximately 5 to 6 feet of water above TOAF and that monitors R-48 and R-49 could also be used to determine core uncover.

Provide justification for not using radiation monitors R-48 and R-49 as additional indications for core uncover, instead of R-2.

PINGP RAI-4

Proposed EALs SU5, SA5, and SS5 include a power level of 5 percent (%) as an indication that the reactor is shutdown. The intent of the endorsed guidance is to align the classification for EAL listed above with site-specific emergency operating procedure (EOP) criteria for a successful reactor shutdown, thus benefitting decision makers by providing consistent criteria. The power level provided in the Developer Notes in the endorsed guidance is an example that represents a typical EOP indication for a generic power plant. PINGP also relies of indications of a start-up rate (SUR) of more negative than -0.2 dpm as an indication of reactor shutdown.

Provide justification for EALs SU5, SA5, and SS5 not including the negative SUR from the Developers Notes as EOP reactor shutdown criteria.

PINGP RAI-5

Proposed EAL HU4, Table H2, includes “All areas within AB [Auxiliary Building] Special Vent Zone.” Provide evidence that a decision maker can determine the areas within the “AB Special Vent Zone” in a reasonable amount of time to make an emergency classification.

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