NRR-PMDAPEm Resource

From: Pulvirenti, April
Sent: Tuesday, February 21, 2017 5:57 PM
To: Zamber, Maria
Subject: MF8325 Waterford Unit 3 request for information

Maria,

See the questions below:

SUBJECT: WATERFORD STEAM ELECTRIC STATION, UNIT 3 – LICENCE AMENDMENT REQUEST TO REVISE TECHNICAL SPECIFICATION 3/4.3.2 TO RELOCATE SURVEILLANCE FREQUENCY REQUIREMENTS FOR ENGINEERED SAFETY FEATURE ACTUATION SYSTEM (ESFAS) SUBGROUP RELAYS TO THE SURVEILLANCE FREQUENCY CONTROL PROGRAM (TAC NO. MF8325)

By letter dated September 1, 2016 (Agencywide Document Access and Management System Accession No. ML16245A359), Entergy Operations, Inc. (the licensee) submitted a license amendment request for Waterford Steam Electric Station Unit 3 (Waterford 3). The proposed amendment would revise the table notation for Table 4.3-2, "Engineered Safety Feature Actuation System Surveillance Requirements" to provide consistency with existing licensee-controlled Surveillance Frequency Control Program, which is implemented in accordance with Nuclear Energy Institute 04-10, "Risk Informed Specification Initiative 5B, Risk-Informed Method for Control of Surveillance Frequencies." The Nuclear Regulatory Commission staff requested additional information by letter dated December 27, 2016 (ADAMS Accession No. ML16354A105). The licensee provided a response by letter dated January 26, 2017 (ADAMS Accession No. ML17026A370).

After reviewing your request and response, the U.S. Nuclear Regulatory Commission staff has determined that additional information is required to complete the review. The additional information needed to complete the review is delineated below. A supplement to the license amendment request application containing the requested information is requested within 7 days of the date of this memorandum. If you would like to request a clarification call to discuss the questions, please contact me as soon as possible. Please note that a clarification call is not a technical discussion. The call may only discuss the scheduling, wording, or availability of the information.

Waterford 3 further clarifications pertaining to Entergy response of January 26, 2017

1. In order to assess compliance to IEEE 279, Clause 4.10, the staff requests that the licensee explain operation of the MSIVs and the CSAS valves. The explanation should describe the total number of affected valves, the total number of solenoid valves per affected valve, the arrangement of the hydraulic dump piping/tubing to dump the hydraulic fluid indicating the operation of the solenoid valves, and the total number and combinations of solenoid valves required to actuate each of the affected valves. Please indicate the nomenclature of the valves corresponding to the schematic sketches included within the LAR and the January 26, 2017, response.

2. In Attachment 2 to the licensee response dated January 26, 2017 (ADAMS Accession No. ML17026A370), Entergy included the "Generic Diagram of System Configuration After Change" which shows that a test switch is available for each relay (i.e. relays K105 and K305). Can the test switches

for individual relays be used for testing? If not please explain why not. The license amendment has addressed the single point vulnerability. However the proposed modification has two contacts in series that are needed to actuate the solenoid valve and dump the hydraulic fluid to affected valve when needed. The staff is concerned that if one of the contacts is not adequately tested and fails open, the associated solenoid valve will not actuate and completion of the safety function could be impacted, depending on the overall design. Please explain how the reliability of the safety function is not adversely affected as a result of this modification that adds a second relay contact in the circuit to operate the solenoid valves. This information is required to assess compliance to GDC 20, Protection System Functions, and GDC 21, Protection System Reliability and Testability.

3. Please respond to the following items to assess compliance with GDC 20 and GDC 21:

    a. Please provide a summary of the results of the previous tests on Main Steam Isolation Valves (MSIVs) and Containment Spray Actuation Signal (CSAS) valves. The summary should address the total number of tests, number of tests that were not successful on the first try, and the reason for each test failure.
    b. Please explain how the operation of each relay contact is verified as part of testing. If the contact operation is not verified, then how is a latent failure identified?
    c. Has there been any inadvertent actuation of the MSIVs or CSAS due to single point vulnerability in the design? If so, please provide a brief reason for failure and associated corrective action.

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NRR/DORL/LPL4
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"Zamber, Maria" <mzamber@entergy.com>
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