

NRR-PMDAPem Resource

From: Williams, Shawn
Sent: Thursday, March 02, 2017 7:52 AM
To: 'gkmcclro@southernco.com'
Cc: Jackson, Nicole D.; Joyce, Ryan M.
Subject: Joseph M. Farley Nuclear Plant, Units 1 and 2 - Request for Additional Information regarding Alternative Request RR-PR-03 (CAC Nos. MF9265 and MF9266)
Attachments: RAI for Farley Units 1 and 2 Relief Request RR-PR-03.docx

Mr. McElroy,

By letter dated February 6, 2017 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML17037D324), Southern Nuclear Operating Company Inc. (SNC), the licensee, requested approval of alternative testing associated with the inservice testing (IST) programs fifth 10-year interval for Joseph M. Farley Nuclear Plant (FNP) Units 1 and 2.

The Nuclear Regulatory Commission (NRC) staff is reviewing the submittal and has determined that the additional information is needed to complete its review. We request that SNC respond within 30 days of the date of this e-mail. Please note that the NRC staff's review is continuing and further requests for information may be developed.

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Plant Licensing Branch, 11-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-348, 50-364

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REQUEST FOR ADDITIONAL INFORMATION
REGARDING ALTERNATIVE REQUEST RR-PR-03 VERSION 1.0
FOR THE INSERVICE TESTING PROGRAM FIFTH 10-YEAR INTERVAL
JOSEPH M. FARLEY NUCLEAR PLANT UNITS 1 AND 2
DOCKET NUMBERS 50-348 AND 50-364
CAC NOS. MF9265 AND MF9266

By letter dated February 6, 2017 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML17037D324), Southern Nuclear Operating Company Inc. (SNC), the licensee, requested approval of alternative testing associated with the inservice testing (IST) programs fifth 10-year interval for Joseph M. Farley Nuclear Plant (FNP) Units 1 and 2. The Nuclear Regulatory Commission (NRC) staff is reviewing the submittal and has determined that the additional information is needed to complete its review.

RAI No. 1:

Alternative request RR-PR-03 is applicable to the ASME OM Code requirements for testing the condition of service water vertical line shaft centrifugal pumps at FNP Units 1 and 2. These pumps are classified as Group "A" pumps which ASME OM Code defines as pumps that are operated continuously or routinely during normal operation, cold shutdown, or refueling operations. Group "A" pumps are required to be tested quarterly and have a comprehensive test completed biennially. During performance of the comprehensive test, the accuracy of the pressure instrumentation must be $\pm 0.5\%$. RR-PR-03 requests an alternative to this requirement.

ASME OM Code 2004 Edition through 2006 Addenda, Section ISTB-5223 "Comprehensive Test Procedure" for vertical line shaft centrifugal pumps states in part that "Comprehensive tests shall be conducted with the pump operating at a specified reference point." Section ISTB-5223(b) states that "The resistance of the system shall be varied until the flow rate equals the reference point. The differential pressure shall then be determined and compared to its reference value. Alternatively, the flow rate shall be varied until differential pressure (D/P) equals the reference point and the flow rate determined and compared to the reference flow rate value." Alternative request RR-PR-03 states that their test procedure follows the latter approach.

To meet the requirement of adjusting the D/P to a specific reference point, the pressure measuring device(s) must have an accuracy of $\pm 0.5\%$. This may be accomplished using a single instrument that measures the D/P or by using the delta of two gauges, one measuring the suction pressure and the other measuring the discharge pressure. When using analog instrumentation, the required accuracy is percent of full scale. For digital instruments, the required accuracy is over the calibrated range. Alternative request RR-PR-03 plans to obtain the suction pressure by recording the service water wet pit level (WPL) and pump elevation. The accuracy of the WPL gauge is $\pm 2\%$. All other measurements will comply with the OM Code requirements.

As noted in NUREG-1482 Revision 2, Section 5.3, the NRC staff recognizes that it may not be possible to set or control the D/P at a fixed value with the specification of $\pm 0.5\%$ accuracy. Greater variances must be justified and acceptance criteria adjusted as necessary. Please explain how the proposed alternative of setting the differential pressure within a 2 percent band will effectively monitor the health and condition of the service water pumps. Also, please explain the acceptance criteria that has been established for operation within this D/P band.