

October 18, 2017

MEMORANDUM TO: Dennis C. Morey, Chief
Licensing Processes Branch
Division of Licensing Projects
Office of Nuclear Reactor Regulation

FROM: Brian J. Benney, Senior Project Manager */RA/*
Licensing Processes Branch
Division of Licensing Projects
Office of Nuclear Reactor Regulation

SUBJECT: SUMMARY OF SEPTEMBER 18, 2017, CLOSED MEETING
WITH FLOWSERVE TO DISCUSS THE N-SEAL TOPICAL
REPORT

On September 18, 2017, a closed meeting was held between the U.S. Nuclear Regulatory Commission (NRC) staff and Flowserve. The purpose of this meeting was for Flowserve to discuss history, background, and data associated with the design and development of the N-Seal.

NRC staff discussions with Flowserve had begun last year during a September 14, 2016, meeting on the proposed technical approach via a topical report (TR). The purpose of this TR is to develop a model to estimate the probability of failure for the Flowserve N-Seal package Abeyance Seal given failure of the N-seal package. This model is intended to be used in probabilistic risk assessment (PRA) models to quantify the risk of a reactor coolant pump (RCP) seal loss of coolant accident (LOCA) given a loss of seal cooling (LOSC) event. Additionally, this analysis evaluates data from dynamic testing of the N-seal package without seal cooling and provides a basis for the time that the N-seal can operate without seal cooling. This model represents the three-stage configuration that would be installed in Westinghouse RCPs, but is limited to the modeling of the Abeyance seal, and the dynamic operation of the N-seals under loss of cooling. Testing shows Flowserve seals continue to function for much longer on a pump that continues to operate following a loss of seal cooling. It is expected that the model will be used in support of Risk-Informed License Amendment Requests by utilities that installed the N-Seal package in their RCPs, by relaxing the timing for tripping the RCPs because this causes undue priority on this action.

A list of attendees is available in the Agencywide Documents Access and Management System (ADAMS) as Accession No. ML17263A082. Additional supporting materials may be found in ADAMS as Accession No. ML17236A212.

Project No. 822

CONTACT: Brian J. Benney, NRR/DLP/PLPB
(301) 415-2767

Commented [BB1]: Are we still doing Project numbers after Oct 1?

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FLOWSERVE TO DISCUSS THE N-SEAL TOPICAL REPORT .
DATED: OCTOBER 18, 2017

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ADAMS Accession Nos.: Package: ML17236A212; Summary: ML17269A196;

Attendees List: ML17263A082; *concurrence via e-mail

NRC-001

OFFICE	NRR/DLP/PLPB/PM	NRR/JLD/TSD/JERB*	NRR/DLP/PLPB/BC	NRR/DLP/PLPB/PM
NAME	BBenney	SBailey	DMorey	BBenney
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