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L-MT-18-034
10 CFR 72.7

ATTN: Document Control Desk
Director, Division of Spent Fuel Management
Office of Nuclear Material Safety and Safeguards
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Monticello Nuclear Generating Plant
Docket No. 50-263
Renewed Facility Operating License No. DPR-22
Independent Spent Fuel Storage Installation Docket No. 72-58

Supplement to Exemption Request for Nonconforming Dye Penetrant Examinations of Dry Shielded Canisters (DSCs) 11 through 15 (CAC No. 001028, EPID L-2017-LLE-0029)

- References:
- 1) NSPM letter to NRC, "Exemption Request for Nonconforming Dye Penetrant Examinations of Dry Shielded Canisters (DSCs) 11 through 15", dated October 18, 2017 (ADAMS Accession No. ML17296A205)
 - 2) NRC letter to NSPM, "First Request for Additional Information for Review of Exemption Request for Five Nonconforming Dry Shielded Canisters 11 through 15 (CAC No. 001028, Docket No. 72-58, EPID L-2017-LLE-0029)", dated March 6, 2018 (ADAMS Accession No. ML18065A545)
 - 3) NSPM letter to NRC, "Response to Request for Additional Information Regarding Exemption Request for Nonconforming Dye Penetrant Examinations of Dry Shielded Canisters (DSCs) 11 through 15 (CAC No. 001028, EPID L-2017-LLE-0029)", dated April 5, 2018 (ADAMS Accession No. ML18100A183)
 - 4) NRC email to NSPM, "Monticello Exemption: NRC Clarification Questions on RAI #1 Responses", dated May 1, 2018 (ADAMS Accession No. ML18121A250)
 - 5) NRC Conversation Record, "Clarification Call with Xcel Energy (XE) on RAI #1 Response in Regard to Monticello Exemption Request for DSCs 11-15", dated May 14, 2018 (ADAMS Accession No. ML18134A323)

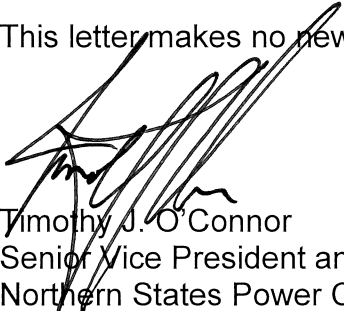
In accordance with 10 CFR 72.7, Northern States Power Company, a Minnesota corporation (NSPM), doing business as Xcel Energy, requested in Reference 1, a permanent exemption from the requirements of 10 CFR 72.212(a)(2), 10 CFR 72.212(b)(3), 10 CFR 72.212(b)(5)(i), 10 CFR 72.212(b)(11), and 10 CFR 72.214 for five NUHOMS[®] Dry Shielded Canisters (DSCs), designated DSCs 11-15, due to nonconforming dye penetrant (PT) examinations performed during the loading campaign that started in September 2013 at the Monticello Nuclear Generating Plant (MNGP). In Reference 2, the NRC provided a Request for Additional Information (RAI) regarding NSPM's application in Reference 1. NSPM provided its response to the RAI in Reference 3.

Subsequent to NSPM's RAI response, the NRC provided clarifying questions in Reference 4. On May 10, NSPM held a teleconference with members of the NRC staff to discuss the NRC's clarifying questions (Reference 5). During the teleconference, NSPM agreed to provide supplemental information for its RAI response provided in Reference 3. The enclosure to this letter provides supplemental information for NSPM's response to RAIs M-4, M-5, and M-6.

If additional information is required, please contact Mr. Shane Jurek at (612) 330-5788.

Summary of Commitments

This letter makes no new commitments and no revisions to existing commitments.



Timothy J. O'Connor
Senior Vice President and Chief Nuclear Officer
Northern States Power Company – Minnesota

Enclosure

cc: Administrator, Region III, USNRC
NMSS Project Manager, USNRC
NRR Project Manager, Monticello, USNRC
Resident Inspector, Monticello, USNRC

SUPPLEMENTAL INFORMATION

EXEMPTION REQUEST FOR NONCONFORMING DYE PENETRANT EXAMINATIONS OF DRY SHIELDED CANISTERS (DSCS) 11 THROUGH 15

On October 18, 2017, Northern States Power Company, a Minnesota corporation (NSPM), doing business as Xcel Energy, submitted a request for a permanent exemption for the Monticello Nuclear Generating Plant (MNGP). Specifically, NSPM requested a permanent exemption from the requirements of 10 CFR 72.212(a)(2), 10 CFR 72.212(b)(3), 10 CFR 72.212(b)(5)(i), 10 CFR 72.212(b)(11), and 10 CFR 72.214 for five NUHOMS® Dry Shielded Canisters (DSCs), designated DSCs 11-15, due to nonconforming dye penetrant (PT) examinations performed during the loading campaign that started in September 2013. By letter dated March 6, 2018, the NRC provided a request for additional information (RAI). NSPM provided its response to the RAI in a letter dated April 5, 2018. Subsequently, the NRC provided clarifying questions regarding NSPM's response to five of the nine questions.

On May 10, 2018, NSPM held a teleconference with members of the NRC staff to discuss the clarifying questions. During the teleconference, NSPM agreed to provide supplemental information regarding its responses to RAIs M-4, M-5, and M-6. The requested information is provided below.

RAI M-4

Requested Information

NSPM agreed to supplement the RAI M-4 response to clarify "rework" vs. "repair" or "conditioning" for DSC 12, specifically in regards to layers 2a and 2c. In addition NRC staff had a follow-up question requesting NSPM to describe what is a "hot pass" in Enclosure 8 of the response to RAI M-4. NSPM agreed to include the description of a hot pass in their supplemental response.

NSPM Response

The "1st pass" or "1(Root)" discussed in Enclosure 3 to the exemption request (Reference 1), "Structural Integrity Associates, Inc. Report 700388.401, Revision 1, Evaluation of the Welds on DSC 11-15", for DSC-12, as well as the other canisters, refers to the "root pass". A nondestructive examination (NDE) is required after the root pass is completed. Weld head video records for the DSC-12 outer top cover plate (OTCP) provided evidence indicating that light grinding had been performed on the top surface of the root pass prior to the NDE inspection. Light grinding and cleaning of the root pass surface prior to inspection is commonplace to facilitate and improve the NDE inspection. The root pass inspection result for the DSC-12 OTCP was reported as "satisfactory"; thus, no "post-NDE repairs" were performed on the root pass.

The weld head video records for the OTCP of DSC-12 show a second layer deposited in five separate segments or strips each of variable lengths. These strips are identified 2 strip, 2a, 2b, 2c, and 2d. The tabulated results for each of these strips were reported in Enclosure 3 to Reference 1. The deposit conditions previously described as “blow-through” or “blow-out” related to 2 strip and 2c are more appropriately described as a weld deposit “crater”, because the bottoms of both craters are visible in the weld head video records. This observation establishes that the underlying root pass was not breeched. The first crater developed while shutting down the “2_strip” segment, and the second crater event during the shutdown of the “2c” segment. The reason(s) for shutting down the weld progression was not documented. Both craters were reworked by rewelding over the discontinuity location with the addition of weld filler metal. It is noted that rework is not a post-NDE defect repair as defined by Section 8.10 of the 12751-MNGP-OPS-01 welding procedure.

A review of the weld head video information shows that a limited surface area of the “2 strip” weld deposit needed to be smoothed to facilitate improved weldability over that surface. This was the grinding referred to in the segment 2a notes. Segment 2a was approximately 1 inch long. The rework cited in the comments on segment 2a involved repositioning the welding arc closer to the lid side to improve the weld deposit distribution and to eliminate the crater that formed when welding was stopped on segment 2 strip. These activities are rework of in-process welds.

“Hot pass” is welding jargon, typically used by welders and/or pipe fitters when referring to the weld layer placed on top of the root pass (root layer). In the context of the report, “hot pass” is used to designate the second layer weld that was completed in conformance with the approved welding procedure.

RAI M-5

Requested Information

NSPM agreed to supplement RAI M-5 response to provide clarifying language for the inconsistent use of “repairs” versus “rework” or “conditioning” of welds. NSPM can address each instance of apparent inconsistent use, or provide a high level clarification that generically cleans up what was intended to be said.

NSPM Response

The usage of the term “repair” was, in fact, referring to in-process rework or conditioning performed in accordance with Section 8.8 and 8.9 of the Spent Fuel Cask- 61BT/BTH NUHOMS® Canister Welding Procedure 12751-MNGP-OPS-01, Rev 0. No post NDE defect repairs were required. A discussion of the differences between “In-process Repair” and “Post NDE Repair of Defects” follow:

In-Process Repair (rework):

Repair activities performed during welding are identified as “in-process repairs”, and because they are performed prior to performing acceptance NDE, they are properly considered rework. Rework typically is conducted at the discretion of the welding operator to correct undesirable welding surface conditions that can be assessed visually prior to NDE. In-process rework may involve welding and/or surface conditioning by metal removal methods such as grinding, filing, sanding, etc. Rework was conducted in accordance with Sections 8.8 and 8.9 of the Spent Fuel Cask -61BT/BTH NUHOMS[®] Canisters Welding Procedure 12751-MNGP-OPS-01, Rev 0.

Post NDE Repair of Defects:

All rejectable and non-rejectable indications discovered during NDE must be recorded according to the inspection procedures. All indications determined to be defects must be repaired. Section 8.10 of the Spent Fuel Cask -61BT/BTH NUHOMS[®] Canisters 12751-MNGP-OPS-01, Rev 0 welding procedure describes two types of weld repairs – major and minor. Minor weld repairs require only surface conditioning of the weld area, whereas major repairs require defect removal with the addition of weld metal. These repairs require post-repair inspection to determine acceptability for meeting acceptance criteria.

No unacceptable NDE results were identified and thus no repairs were required in accordance with Section 8.10 of procedure 12751-MNGP-OPS-01. These results were consistent with the lack of any observed post-NDE repair activities in the general area videos records.

RAI M-6

Requested Information

SIA previously had technical difficulties viewing the general area video of DSC 12. However, during this call, NRC became aware that NSPM revisited the historical video files and was able to resolve the technical difficulties enabling NSPM subject matter experts to review the general area video for DSC 12. NSPM agreed to provide a summary of the restored video to NRC as a supplemental response to RAI M-6.

NSPM Response

The general area video of DSC 12 inner top cover plate (ITCP) welding was reviewed by NSPM. The area observations during this welding focused on the operation of the gas tungsten arc welding (GTAW) welder as well as any follow-up corrective actions (e.g., grinding, weld buildup). The details of the area observations for DSC 12 ITCP welding evolution are outlined in Table 1.

Table 1 – DSC 12 ITCP Welding Area Observations

Cask Plate	Date	Activity	Time Start	Time End	Notes
ITCP	9/13/2013	1 st Pass	9:15:52	10:29:41	GTAW machine was stopped and started once. Manual weld buildup.
		2 nd Pass	13:35:31	14:48:55	GTAW machine was stopped and started once. Manual weld buildup.

SIA has reviewed the DSC-12 results in Table 1 and compared them to similar ITCP records for DSC-13 and DSC-16 previously reported. The results are considered consistent with the general welding area observations reviewed for the other canister ITCP closure welds regarding duration and activities performed.

References

1. NSPM letter to NRC, “Exemption Request for Nonconforming Dye Penetrant Examinations of Dry Shielded Canisters (DSCs) 11 through 15”, dated October 18, 2017 (ADAMS Accession No. ML17296A205)