

NORTHERN STATES POWER COMPANY

DOCKET NO. 72-58

SECOND REQUEST FOR ADDITIONAL INFORMATION

RELATED TO EXEMPTION REQUEST FOR
NONCONFORMING DRY SHIELDED CANISTER DYE PENETRANT EXAMINATIONS

By letter dated September 29, 2015, Northern States Power Company, doing business as Xcel Energy, submitted an application for an exemption request for nonconforming dry shielded canister (DSC) dye penetrant examinations.

This second request for additional information (RAI) identifies additional information needed by the U.S. Nuclear Regulatory Commission staff in connection with its review of this exemption request. Each individual RAI describes information needed by the staff to complete its review of the application and to determine whether the applicant has demonstrated compliance with the regulatory requirements. Please note that "RAI-2" is included in the alpha-numeric nomenclature to distinguish these 2nd round of RAIs from the 1st round of RAIs.

L-MT-16-003, Enclosure 2, "Calculation 11042-0205, Rev. 2, 61BTH ITCP and OTPC Closure Weld Flaw Evaluation"

RAI-2-1: With respect to Table 6, "Summary of Load Cases and Results," consider the elastic-plastic analysis results to revise the collapse pressure and g-load entries, as appropriate. This may be done by recognizing that a collapse load should be defined as the loading not to result in the weld strain ductility demand beyond its code allowable extension limit.

The staff notes that the listed collapse pressures and side-drop g-loads were calculated with the elastic-perfectly plastic analyses, which would have been replaced, in the present submittal, with the elastic-plastic analysis results. Absent of the collapse loads commensurate with the elastic-plastic analysis, there is no basis for establishing the weld design margins to make safety findings. Specifically, for the loading conditions analyzed, the results should be listed for demonstrating adequate loading factors of safety in that the calculated weld ductility demands are smaller than the code allowable extension limits.

This information is needed to complete the review in accordance with 10 CFR 72.236.

L-MT-15-056, Enclosure 1, "Exemption Request for Nonconforming Dry Shielded Canister Dye Penetrant Examinations"

RAI-2-2: Considering the revised collapse analysis, revise the "Executive Summary," and any other sections of the submittal, as appropriate, to recognize that (1) reference made to "stress margins" may need to be revised to reflect the design margins available in the weld and (2) the summary bullets on the lower bound collapse pressures and acceleration are to reflect the calculated results using the elastic-plastic analyses.

Enclosure

The Executive Summary should be prepared to be consistent with those of the revised analyses and results documented in Calculation 11042-0205.

This information is needed to complete the review in accordance with 10 CFR 72.236.

RAI-2-3: Considering the revised collapse analysis, revise Enclosure 1, "Exemption Request for Nonconforming Dry Shielded Canister Dye Penetrant Examinations" for appropriate description of the structural evaluation approach by noting that the collapse load margins rather than the stress margins are used for demonstrating the weld structural performance.

The updated structural analysis approach, including the acceptance criteria, should be consistent with the revised analyses and results documented in Calculation 11042-0205.

This information is needed to complete the review in accordance with 10 CFR 72.236.