

NSP

NORTHERN STATES POWER COMPANY

MINNEAPOLIS, MINNESOTA 55401

July 16, 1979

Director of Nuclear Reactor Regulation
U S Nuclear Regulatory Commission
Washington, DC 20555

PRAIRIE ISLAND NUCLEAR GENERATING PLANT
Docket Nos. 50-282 License Nos. DPR-42
50-306 DPR-60

Information on Prairie Island Feedwater Lines

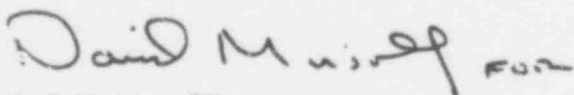
In a letter dated May 25, 1979, from Mr Victor Stello, Director, Division of Operating Reactors, USNRC, we were informed of a recent discovery of feedwater line cracking at another facility and were requested to submit information related to the Prairie Island feedwater line design, fabrication, inspection, and operating history for NRC Staff review. With the exception of item (2), stress analysis results, our letter of June 19, 1979 provided all of the information required by the Staff. Our response to item (2) follows:

2. Provide the results of any stress or fatigue analyses which were performed for this system.

Response

The feedwater piping to nozzle weld region has been reanalyzed by the Prairie Island architect-engineer. Reanalysis has shown allowable stresses are not exceeded. See summary on attached Table.

Yours very truly,



L O Mayer, PE
Manager of Nuclear Support Services

LOM/DMM/ak

cc: J G Keppler
G Charnoff

Attachment

7907190211

343 048

NORTHERN STATES POWER COMPANY
PRAIRIE ISLAND - UNITS 1 & 2
SUMMARY OF ADJUSTED STRESSES
AT THE F.W. INLETS OF THE STM GEN'S

Attachment
Director of NRR, USNRC
July 16, 1979

STEAM GENERATOR NUMBER	PRESSURE HOOP STRESS (S_{hp})	STRESS COMBINATIONS			THERMAL EXPANSION STRESS - NOMINAL OPERATION Note 4	THERMAL EXPANSION STRESS - HOT STANDBY Note 4
		WEIGHT + PRESSURE Note 2	O.B.E. + WEIGHT + PRESSURE Note 3	D.B.E. + WEIGHT + PRESSURE Note 3		
1A	15,121 psi (17,500)	12,283 psi (17,500)	19,342 psi (21,000)	26,440 psi (31,500)	18,008 psi (31,467)	31,330 psi (31,467)
1B	15,121 psi (17,500)	11,151 psi (17,500)	16,183 psi (21,000)	21,219 psi (31,500)	16,521 psi (32,599)	27,735 psi (32,599)
2A	15,121 psi (17,500)	8,107 psi (17,500)	12,288 psi (21,000)	16,469 psi (31,500)	8,699 psi (35,643)	19,391 psi (35,643)
2B	15,121 psi (17,500)	13,189 psi (17,500)	16,683 psi (21,000)	20,188 psi (31,500)	18,596 psi (30,561)	29,162 psi (30,561)

NOTES:

1. Numbers in parentheses are allowable stresses based upon B31.1 - 1967 Edition, unless otherwise noted.
 2. Stresses due to sustained loads - ref B31.1 - 1967 Ed.
 3. Allowable stress limits for sustained load plus O.B.E. / D.B.E. Ref. FSAR Appendix B.
- When the stresses due to sustained loads are less than allowable, the difference between the allowable and the actual sustained loads may be added to the allowable thermal expansion stress. Ref B31.1 1967 Ed para. 102.3.2(d).

643

049