

MAR 16 1977

MEMORANDUM FOR: A. Schwencer, Chief, Operating Reactors Branch #1, DOR  
D. K. Davis, Acting Chief, Operating Reactors Branch #2, DOR  
G. Lear, Chief, Operating Reactors Branch #3, DOR  
R. Reid, Chief, Operating Reactors Branch #4, DOR

FROM: K. R. Goller, Assistant Director for Operating Reactors, DOR

SUBJECT: OPERATING EXPERIENCE RELEVANT TO STEAM GENERATOR TUBE DENTING

Appeal Board for the Prairie Island Nuclear Generating Plant for the operating license proceeding has requested the answers to the attached question for all operating PWR's in the United States. Please provide answers to this question to Marshall Grotenhuis by March 22, 1977.

Original signed by:  
Karl R. Goller

Karl R. Goller, Assistant Director  
for Operating Reactors  
Division of Operating Reactors

Attachment

cc w/attachment:

V. Stello	G. Zech
D. B. Vassallo	A. Burger
R. Denise	C. Trammell
H. Gearin	C. Parrish
J. McGough	D. Verrilli
R. M. Diggs	J. Wetmore
R. P. Snaider	D. Elliott
E. A. Reeves	D. Jaffe
M. H. Fletcher	R. Ingram
M. Grotenhuis	C. Nelson
S. Sheppard	P. Erickson
B. Russell	V. Rooney
T. Wambach	G. Zwetzig
D. Neighbors	M. Fairtile

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ORB #2 Reading  
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SURNAME	MGrotenhuis <sup>ro</sup>	ASchwencer <sup>#5</sup>	D.K. Davis	GLear <sup>6</sup>	RReid <sup>7</sup>	KRGoller
DATE	3/15/77	3/15	3/16	3/15/77	3/15/77	3/16/77



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

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SUBJECT: OPERATING EXPERIENCE RELEVANT TO STEAM GENERATOR TUBE DENTING

Appeal Board for the Prairie Island Nuclear Generating Plant for the operating license proceeding has requested the answers to the attached question for all operating PWR's in the United States. Please provide answers to this question to Marshall Grotenhuis by March 22, 1977. The responses may be by phone but must be verified by letter or by docketed reference. Attachment 2 is the format for the responses.

*Karl R. Goller*  
Karl R. Goller, Assistant Director  
for Operating Reactors  
Division of Operating Reactors

Attachments

cc w/attachment:

V. Stello	G. Zech
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## ATTACHMENT 1

1. In order for us to develop an understanding of the possible relationship between the denting phenomenon and the Prairie Island steam generators, all available operational experience relevant to this matter should be considered. To this end, the staff is directed to provide information which may be of significance for this review for each PWR in the U.S. and (where the information is available) for foreign PWR's. At least the following items should be included.

- a. Significant operational history, e.g., date of initial operation, periods of major down time, etc.;
- b. Materials of construction used for major secondary system components, e.g., steam generator (SG) tubes, SG tube sheet, SG tube support plates (TSP), condenser tubes, etc.;
- c. Operational history of secondary water treatment, e.g., periods of use of phosphates, AVT, condensate demineralization, etc.;
- d. Condenser cooling water -- typical chemical composition;
- e. History of significant condenser tube leakage;

- f. "Denting" history (date discovered, how discovered, leakage associated with denting);
- g. SG tube plugging history (dates and number of tubes);
- h. Restrictions imposed on plant operation due to degraded SG conditions.

ATTACHMENT 2

UTILITY

PLANT NAME

DOCKET NO.

a. Significant operating history

1. O. L. date - \_\_\_\_\_
2. Full power operation - \_\_\_\_\_
3. Major period(s) of down time (non-refueling) - \_\_\_\_\_

b. Materials of construction for major secondary system components

1. S. G. tubes - \_\_\_\_\_
2. S. G. tube sheet - \_\_\_\_\_
3. S. G. tube support plates - \_\_\_\_\_
4. Condenser tubes - \_\_\_\_\_
5. Other - \_\_\_\_\_

c. Operational history of secondary water treatment

1. Period of use of phosphates - \_\_\_\_\_
2. Period of use of AVT - \_\_\_\_\_
3. Period of use of condensate demineralization - \_\_\_\_\_
4. Other - \_\_\_\_\_

d. Condenser cooling water - typical chemical composition

e. History of significant condenser tube leakage

1. Date discovered - \_\_\_\_\_
2. How discovered - \_\_\_\_\_
3. Leakage associated - \_\_\_\_\_

f. Denting history

1. Date discovered - \_\_\_\_\_
2. How discovered - \_\_\_\_\_
3. Leakage associated (gpm) - \_\_\_\_\_

g. Steam Generator Tube plugging history

1. Dates - \_\_\_\_\_
2. Number of tubes - \_\_\_\_\_

h. Operating restrictions imposed on the plant due to degraded S. G. conditions.