

DCS MS-06

JUN 22 1984

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Docket File

MEMORANDUM FOR: Richard M. Denise, Director  
Division of Resident, Reactor Project  
and Engineering Programs, Region IV

FROM: Darrell G. Eisenhut, Director  
Division of Licensing

SUBJECT: TIA NO. 84-41, FORT CALHOUN - S/G TUBE FAILURE

ORB#3 Rdg & Memo  
ETourigny  
PMKreutzer  
GCLainas

In accordance with TIA No. 84-41, Fort Calhoun - S/G Tube Failure, we have forwarded to you under separate cover a safety evaluation and suggested cover letter which addresses restart of the Fort Calhoun Station, Unit No. 1.

This completes our short term efforts under the TIA.

The licensee has committed to provide a final report to the tube failure mechanism by June 30, 1984. We have scheduled our review of this report to be completed by July 31, 1984. We will forward the results of that review shortly thereafter, and it will conclude our long term efforts under the TIA.

Original signed by  
F. J. Miraglia  
for Darrell G. Eisenhut, Director  
Division of Licensing

Attachments are SE and draft letter referred to in first paragraph above.

ORB#3:DL  
PMKreutzer  
6/ /84

ORB#3:DL  
ETourigny/pn  
6/ /84

ORB#3:DL  
JRMiller  
6/ /84

AD-OR:DL  
GCLainas  
6/ /84

DCG Eisenhut  
6/ /84

8406280329 840622  
PDR ADOCK 05000285  
S PDR

*Handwritten notes:*  
JRMiller  
6/22/84  
M. Eisenhut  
should not be  
to Miraglia

**DRAFT**

Docket No. 50-285

DISTRIBUTION:

Mr. W. C. Jones  
Division Manager, Production  
Operations  
Omaha Public Power District  
1623 Harney Street  
Omaha, Nebraska 68102

<u>Docket File</u>	PMKreutzer
NRC PDR	ETourigny
L PDR	Gray File
ORB#3 Rdg	OELD
DEisenhut	EJordan
JNGrace	ACRS-10
LYandell	DPowers
RIreland	LFrank
CMcCracken	GHolohan
SLong	

Dear Mr. Jones:

SUBJECT: RESTART OF THE FORT CALHOUN STATION, UNIT NO. 1

By letter dated May 22, 1984, you notified us that a steam generator tube failure occurred at the Fort Calhoun Station, Unit No. 1 on May 16, 1984 during the hydrostatic pressure test of the reactor coolant system. By letter dated May 31, 1984, you provided specific details of the event, a description of past steam generator inspections, and the results of the failed tube visual inspections and laboratory analyses. By letter dated June 5, 1984, the NRC confirmed the actions you planned to take. By letter dated June 19, 1984 you submitted an update of the report you provided to us on May 31, 1984.

The purpose of this letter is to provide you our safety evaluation which is based upon your submittals described above. Our safety evaluation, which is enclosed, contains the following summary of conclusions and recommendations:

We conclude that the operators had full control of the station during the event and subsequent to it, and have acted responsibly.

We accept your conclusions that the tube failure was due to outside diameter initiated stress corrosion cracking, and since there is no evidence to the contrary at this time, caustic is a reasonable first candidate as the causative agent. The preliminary profilometry data indicates that tube ovalization/indenting is occurring in those tubes at the outer areas of the tube bundle that pass through all three (3) vertical support straps, with maximum deformation occurring at the strap on the hot-leg side of the generator. This is consistent with ovalization and location of the failed tube in the generator and provides the evidence as to the source of the stress component of the observed stress corrosion cracking. However, there is not sufficient supporting data to fully explain the tube degradation that you have experienced; therefore, unless you can provide additional justification that a mid-cycle inspection is not warranted, all tubes presently with dent indications at the vertical support locations must be examined, in

DRAFT

Mr. W. C. Jones

- 2 -

addition to eddy-current, with profilometry after nine (9) months following initial power operation (Mode 1) to measure ovality/denting so that in the event denting is not arrested we can establish a strain criteria for preventative plugging in the future. We also request that you complete the analysis of the profilometry data and reduce the tube diametric values to percent of permanent strain so that a baseline can be established for future profilometry tests. The additional justification schedule should be on a compatible schedule with strain results of the profilometry data and other planned corrective actions as contained in section 6.0 of the June 19, 1984 submittal, and should be submitted for NRC staff review no later than seven (7) months into full power operation.

We conclude that the lower primary to secondary leak rate limit of 0.3 gpm total for both steam generators is appropriate. This administrative limit should remain in effect until further notice. Your proposed future operation related activities are also acceptable. This includes the method of analysis for detecting leakage, sampling frequency, emergency procedures revisions, and operator training refresher.

Based on the above, we conclude that the Fort Calhoun Station, Unit No. 1 can safely return to power operations and that you have met the requirements of our June 5, 1984 letter. On this basis, you are authorized to return the Fort Calhoun Station, Unit No. 1 to service.

Sincerely,

John T. Collins  
Regional Administrator  
Region IV

Enclosure:  
As stated

cc w/enclosure:  
See next page

\*SEE PREVIOUS PAGE FOR CONCURRENCES.

*for*  
D:DL  
DGL:snhut  
6/22/84

ORB#3:DL\*  
PMKreutzer  
6/22/84

ORB#3:DL\*  
ETourigny/pn  
6/22/84

ORB#3:DL\*  
JRMiller  
6/22/84

AD:OR:DL\*  
GCLainas  
6/22/84

Region IV  
JCollins  
6/ /84

**DRAFT**

Mr. W. C. Jones

- 3 -

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Darrell G. Eisenhut, Director  
Division of Licensing

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See next page

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RMKreutzer  
6/22/84

*[Handwritten initials]*  
ORB#3:DL  
ETourigny/pn  
6/22/84

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JRMiller  
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JCollins  
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**[Redacted]**  
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**[Redacted]**

D:DL:  
DGEisenhut  
6/ /84

AD:OR:DL  
GCLainas  
6/22/84

*[Handwritten notes and signatures]*  
note counts.  
*[Signature]*



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

Docket No. 50-285

Mr. W. C. Jones  
Division Manager, Production  
Operations  
Omaha Public Power District  
1623 Harney Street  
Omaha, Nebraska 68102

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Sincerely,

John T. Collins  
Regional Administrator  
Region IV

Enclosure:  
As stated

cc w/enclosure:  
See next page

Omaha Public Power District

cc:

Harry H. Voigt, Esquire  
LeBoeuf, Lamb, Leiby & MacRae  
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Washington, DC 20036

Mr. Jack Jensen  
Chairman, Washington County  
Board of Supervisors  
Blair, Nebraska 68023

U.S. Environmental Protection Agency  
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