

May 20, 2003

Mr. R. T. Ridenoure  
Division Manager - Nuclear Operations  
Omaha Public Power District  
Fort Calhoun Station FC-2-4 Adm.  
P.O. Box 550  
Fort Calhoun, NE 68023-0550

SUBJECT: FORT CALHOUN STATION – RELAP5/MOD3.3 PREDICTION AND MODEL  
SIMULATION (TAC NO. MB6468)

Dear Mr. Ridenoure:

By letter dated October 8, 2002, Omaha Public Power District (OPPD), requested approval of the revised low-temperature overpressure protection (LTOP) analysis for the Fort Calhoun Station, Unit 1 (FCS). On April 23, 2003, the NRC staff and OPPD held a conference call to discuss the revised LTOP methodology. The staff stated that it would be useful if OPPD could validate its LTOP models. The staff agreed to provide OPPD several references which would assist in this effort. Enclosed are: (1) a MIT Thesis, "Insurge Pressure Response and Heat Transfer for PWR Pressurizer," (2) a short description of the RELAP5/MOD3.3 prediction and model simulation from the RELAP5 Developmental Report, and (3) a listing of the RELAP5 input model for the Test ST4. The thesis contains relevant data to allow OPPD to validate the LTOP models. Note that the RELAP5 prediction of ST4 underpredicts the pressure data due to the lack on nodalization detail in the RELAP5 model. The surge tank was modeled with 10 cells which was determined to be insufficient.

If you have any questions, please contact me at (301) 415-1445.

Sincerely,

*/RA/*

Alan B. Wang, Project Manager, Section 2  
Project Directorate IV  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket No. 50-285

Enclosures: 1. MIT Thesis  
2. Description/Model Simulation  
3. Listing

cc: See next page

May 20, 2003

Mr. R. T. Ridenoure  
Division Manager - Nuclear Operations  
Omaha Public Power District  
Fort Calhoun Station FC-2-4 Adm.  
P.O. Box 550  
Fort Calhoun, NE 68023-0550

SUBJECT: FORT CALHOUN STATION – RELAP5/MOD3.3 PREDICTION AND MODEL  
SIMULATION (TAC NO. MB6468)

Dear Mr. Ridenoure:

By letter dated October 8, 2002, Omaha Public Power District (OPPD), requested approval of the revised low-temperature overpressure protection (LTOP) analysis for the Fort Calhoun Station, Unit 1 (FCS). On April 23, 2003, the NRC staff and OPPD held a conference call to discuss the revised LTOP methodology. The staff stated that it would be useful if OPPD could validate its LTOP models. The staff agreed to provide OPPD several references which would assist in this effort. Enclosed are: (1) a MIT Thesis, "Insurge Pressure Response and Heat Transfer for PWR Pressurizer," (2) a short description of the RELAP5/MOD3.3 prediction and model simulation from the RELAP5 Developmental Report, and (3) a listing of the RELAP5 input model for the Test ST4. The thesis contains relevant data to allow OPPD to validate the LTOP models. Note that the RELAP5 prediction of ST4 underpredicts the pressure data due to the lack on nodalization detail in the RELAP5 model. The surge tank was modeled with 10 cells which was determined to be insufficient.

If you have any questions, please contact me at (301) 415-1445.

Sincerely,

*/RA/*

Alan B. Wang, Project Manager, Section 2  
Project Directorate IV  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket No. 50-285

Enclosures: 1. MIT Thesis  
2. Description/Model Simulation  
3. Listing

cc: See next page

DISTRIBUTION: (w/o enclosures)  
PUBLIC (w/enclosures)  
PDIV-2 Reading  
RidsNrrDlpmLpdiv (HBerkow)  
RidsNrrPMAWang  
RidsNrrLAEPeyton  
JWermiel (NRR/DSSA/SRXB)  
RidsOgcRp  
RidsAcraAcnwMailCenter  
RidsRgn4MailCenter (AHowell)

**Package No.: ML031400602**

**MIT Thesis No.: ML031410212**

**Description/Model Simulation No.: ML031410096**

**Listing No.: ML031410107**

**ADAMS Accession No.: ML031400506**

NRR-106

NRR-106

NRR-106

NRR-088

OFFICE	PDIV-2/PM	PDIV-2/LA	PDIV-2/SC
NAME	AWang	EPeyton	SDembek
DATE	5/13/03	5/13/03	5/13/03

DOCUMENT NAME: G:\PDIV-2\FortCalhoun\mb6468ltoprai.wpd

OFFICIAL RECORD COPY

Ft. Calhoun Station, Unit 1

cc:

Winston & Strawn  
ATTN: James R. Curtiss, Esq.  
1400 L Street, N.W.  
Washington, DC 20005-3502

Chairman  
Washington County Board of Supervisors  
P.O. Box 466  
Blair, NE 68008

Mr. John Kramer, Resident Inspector  
U.S. Nuclear Regulatory Commission  
P.O. Box 310  
Fort Calhoun, NE 68023

Regional Administrator, Region IV  
U.S. Nuclear Regulatory Commission  
611 Ryan Plaza Drive, Suite 400  
Arlington, TX 76011-4005

Ms. Sue Semerera, Section Administrator  
Nebraska Health and Human Services  
Systems  
Division of Public Health Assurance  
Consumer Services Section  
301 Centennial Mall, South  
P.O. Box 95007  
Lincoln, NE 68509-5007

Mr. David J. Bannister, Manager  
Fort Calhoun Station  
Omaha Public Power District  
Fort Calhoun Station FC-1-1 Plant  
P.O. Box 550  
Fort Calhoun, NE 68023-0550

Mr. John B. Herman  
Manager - Nuclear Licensing  
Omaha Public Power District  
Fort Calhoun Station FC-2-4 Adm.  
P.O. Box 550  
Fort Calhoun, NE 68023-0550

Mr. Daniel K. McGhee  
Bureau of Radiological Health  
Iowa Department of Public Health  
401 SW 7<sup>th</sup> Street, Suite D  
Des Moines, IA 50309

Mr. Richard P. Clemens  
Division Manager - Nuclear Assessments  
Omaha Public Power District  
Fort Calhoun Station  
P.O. Box 550  
Fort Calhoun, NE 68023-0550