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SUBJECT: Forwards response to question re peak containment pressure calculated as part of SG Tube Plugging Program.

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August 2, 1996

AEP:NRC:1207B

Docket Nos.: 50-315
50-316

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D. C. 20555

Gentlemen:

Donald C. Cook Nuclear Plant Units 1 and 2
STEAM GENERATOR TUBE PLUGGING PROGRAM T/S CHANGE REQUEST
RESPONSE TO QUESTION REGARDING CONTAINMENT PRESSURE

The attachment to this letter provides the response to a question regarding the peak containment pressure calculated as part of the Steam Generator Tube Plugging Program. The response was developed by Westinghouse Electric Corporation, which performed the containment pressure analysis for Cook Nuclear Plant.

In compliance with the requirements of 10 CFR 50.91(b)(1), copies of this letter and its attachments have been transmitted to the Michigan Public Service Commission and to the Michigan Department of Public Health.

Sincerely,

A handwritten signature in cursive script, appearing to read 'E. E. Fitzpatrick'.

E. E. Fitzpatrick
Vice President

SWORN TO AND SUBSCRIBED BEFORE ME

THIS 2nd DAY OF August 1996.

A handwritten signature in cursive script, appearing to read 'L. W. H. H. H.'.

Notary Public

/jen

Attachment

My Commission Expires: 6-28-99

cc: A. A. Blind.
A. B. Beach
NFEM Section Chief
NRC Resident Inspector - Bridgman
J. R. Padgett

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M. E. Eberhardt - w/attachment
DC-N-6015.1

ATTACHMENT TO AEP:NRC:1207B

RESPONSE TO QUESTION REGARDING
CONTAINMENT PRESSURE CALCULATION



Question:

"The peak containment pressure for the Rerating Program was 11.89 psig. For the SGTP Program, the peak containment pressure is 11.49 psig. If the mass and energy release calculations were done with 0% tube plugging so that tube plugging was not a consideration, what causes the reduction in peak containment pressure? Is it due to the reduction in the assumed value of the core rated power (3413 MWt for the SGTP Program vs. 3425 for the Rerating program)?"

Response:

At the beginning of the Cook Nuclear Plant unit 1 steam generator tube plugging (SGTP) program, the loss of coolant accident (LOCA) and containment models and input assumptions were reviewed for margins because of the potential and eventual desire to operate unit 2 at the elevated 3588 MWt core power. These margins resulted in a slight reduction in peak containment pressure (i.e. 0.4 psig) when the rerating program results were compared to the SGTP program analysis results. There are improvements utilized in the SGTP mass and energy release calculations, including the following:

1. Steam Generator Metal - The rerating program analysis utilized an overly conservative and generic amount of steam generator metal and corresponding energy available to be transferred from the secondary to primary side of the plant. As a part of the SGTP program, the amount of metal mass available was based upon details of the current steam generators in units 1 and 2. The mass was still biased high for conservatism.
2. Core-Stored Energy - The rerating program analysis used a conservative generic core-stored energy of 6.79 full power seconds (FPS). For the SGTP program analysis, a revised value was developed based upon more recent data, with considerations of fuel specific to units 1 and 2. A core-stored energy of 4.95 FPS, which includes 15% margin for manufacturing tolerances, was used for the SGTP program.
3. More Discrete Data - The amount of data (the number of times for lb/sec & BTU/sec) utilized during the post-reflood period (i.e. depressurization/equilibration period) was conservatively sparse in the rerating program analysis. During the process of changing computer platforms more time-history data was included in the output. This translated into having more time points for releases that resulted in a more accurate, but still conservative, definition of the transient.

The impact of the change in reactor core power, which affects the decay heat, is considered to be small.

