

Guy G. Campbell
Vice President - Nuclear

419-321-8588
Fax: 419-321-8337

Docket Number 50-346

License Number NPF-3

Serial Number 2684

February 6, 2001

United States Nuclear Regulatory Commission
Document Control Desk
Washington, D. C. 20555-0001

Subject: Supplemental Information Regarding License Amendment Application to Add a New Technical Specification 3/4.7.1.8, Main Feedwater Control Valves and Startup Feedwater Control Valves, and Associated Bases (License Amendment Request No. 98-0014; TAC No. MA9560)

Ladies and Gentlemen:

During a telephone conference call held on December 19, 2000, between the Davis-Besse Nuclear Power Station (DBNPS) and Nuclear Regulatory Commission (NRC) staffs, information was discussed regarding the proposed allowed outage times in License Amendment Request (LAR) 98-0014 (DBNPS Letter Serial Number 2663, dated August 7, 2000). Specifically, the NRC staff requested supplemental information with regards to the 72-hour allowed outage time in proposed Technical Specification 3/4.7.1.8, Main Feedwater Control Valves and Startup Feedwater Control Valves, and the low probability of an event occurring during this time period that would require isolation of these flow paths. The requested information is contained in Attachment 2 to this letter.

This supplemental information does not affect the conclusion stated in DBNPS letter Serial Number 2663 that the license amendment application does not adversely affect nuclear safety and does not involve a significant hazards consideration.

Should you have any questions or require additional information, please contact Mr. David H. Lockwood, Manager - Regulatory Affairs, at (419) 321-8450.

Very truly yours,



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Attachments

A001

Docket Number 50-346

License Number NPF-3

Serial Number 2684

Page 2

cc:

J. E. Dyer, Regional Administrator, NRC Region III

S. P. Sands, NRC/NRR Project Manager

D. J. Shipley, Executive Director, Ohio Emergency Management Agency, State of Ohio

(NRC Liaison)

K. S. Zellers, NRC Region III, DB-1 Senior Resident Inspector

Utility Radiological Safety Board


Docket Number 50-346
License Number NPF-3
Serial Number 2684
Attachment 1

SUPPLEMENTAL INFORMATION
IN SUPPORT OF
APPLICATION FOR AMENDMENT
TO
FACILITY OPERATING LICENSE NPF-3
DAVIS-BESSE NUCLEAR POWER STATION
UNIT NUMBER 1

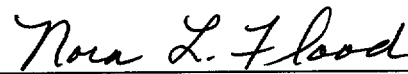
Attached is supplemental information for Davis-Besse Nuclear Power Station (DBNPS), Unit Number 1 Facility Operating License Number NPF-3, License Amendment Request Number 98-0014 (reference: DBNPS Letter Serial Number 2663, dated August 7, 2000).

This information, submitted under cover letter Serial Number 2684, contains the Risk Assessment of Proposed Technical Specification 72-Hour Allowed Outage Time for Main Feedwater Control Valves and Startup Feedwater Control Valves

I, Guy G. Campbell, state that (1) I am Vice President - Nuclear of the FirstEnergy Nuclear Operating Company, (2) I am duly authorized to execute and file this certification on behalf of the Toledo Edison Company and The Cleveland Electric Illuminating Company, and (3) the statements set forth herein are true and correct to the best of my knowledge, information and belief.

By: 
Guy G. Campbell, Vice President - Nuclear

Affirmed and subscribed before me this 6th day of February, 2001.


Notary Public, State of Ohio - Nora L. Flood
My commission expires September 4, 2002.

Risk Assessment of Proposed Technical Specification 72-Hour Allowed Outage Time for Main Feedwater Control Valves and Startup Feedwater Control Valves

This analysis was performed to evaluate the impact on plant risk of having a Main Feedwater Control Valve (MFCV) or a Startup Feedwater Control Valve (SFCV) out of service for a 72-hour time period.

The following assumptions were used in this analysis:

- No credit was taken for any means of isolating feedwater to the steam generator with the inoperable MFCV or SFCV, except the Main Feedwater Stop Valve (MFSV) (see attached figure).
- A conditional core damage probability of one, given overfeeding of a depressurized steam generator, was used. This is very conservative, since other actions (e.g., stopping main feedwater pumps) could be taken to mitigate the overfeeding event.
- The unavailability of any one valve was assumed to be 72 hours, the proposed allowed outage time. It should be noted that these valves are not routinely taken out of service for maintenance. Entry into the proposed Technical Specification Actions is expected to be infrequent.

The event that the Main Feedwater Control Valves (MFCVs) and Startup Feedwater Control Valves (SFCVs) are required to mitigate is a secondary-side rupture causing the depressurization of a steam generator. The value used in the Davis-Besse Nuclear Power Station (DBNPS) Probabilistic Safety Assessment (PSA) for the frequency of a rupture that would cause a steam generator to depressurize is $5.7\text{E-}04/\text{year}$. The DBNPS plant-specific failure probability for a Motor Operated Valve, such as a MFSV, is $1.79\text{E-}03$.

With an MFCV or an SFCV out of service, the steam generator isolation failure frequency can be calculated as follows:

$$\text{Isolation Failure Frequency} = (5.7\text{E-}04 / \text{year}) \times (1.79\text{E-}03)$$

$$\text{Isolation Failure Frequency} = 1.02\text{E-}06 / \text{year}$$

The frequency above does not consider the conditional probability that the event would lead to core damage. However, the bounding case can be taken and this probability assumed to be one. Assuming 72 hours of MFCV or SFCV unavailability, the incremental conditional core damage probability (ICCDP) can be calculated as follows:

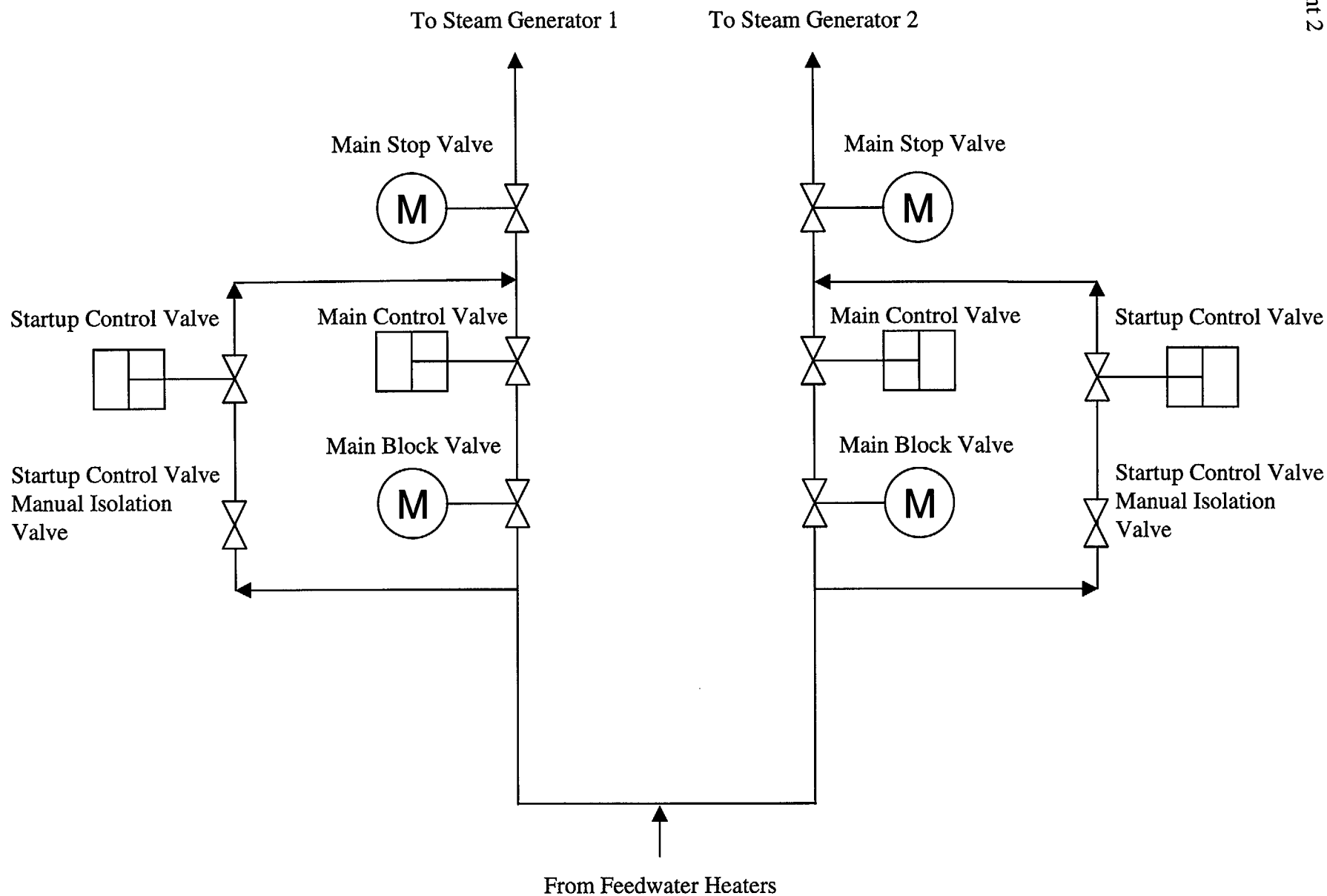
$$\text{ICCDP} = (1.02\text{E-}06 / \text{year}) \times (3 \text{ days} / 365 \text{ days/year})$$

$$\text{ICCDP} = 8.38\text{E-}09$$

Regulatory Guide 1.177, *An Approach for Plant-Specific, Risk-Informed Decisionmaking: Technical Specifications*, dated August 1998, considers a value of less than $5.0\text{E-}07$ as being small. The calculated ICCDP of $8.38\text{E-}09$ is much less than the value of $5.0\text{E-}07$. Therefore, the risk impact of a MFCV or SFCV being unavailable for the proposed 72-hour allowed outage time is considered negligible and acceptable.

Main Feedwater System Control and Isolation Valves

Docket Number 50-346
License Number NPF-3
Serial Number 2684
Attachment 2
Page 2



INFORMATION ONLY

Docket Number 50-346
License Number NPF-3
Serial Number 2684
Attachment 3

COMMITMENT LIST

THE FOLLOWING LIST IDENTIFIES THOSE ACTIONS COMMITTED TO BY THE DAVIS-BESSE NUCLEAR POWER STATION (DBNPS) IN THIS DOCUMENT. ANY OTHER ACTIONS DISCUSSED IN THE SUBMITTAL REPRESENT INTENDED OR PLANNED ACTIONS BY THE DBNPS. THEY ARE DESCRIBED ONLY FOR INFORMATION AND ARE NOT REGULATORY COMMITMENTS. PLEASE NOTIFY THE MANAGER – REGULATORY AFFAIRS (419-321-8450) AT THE DBNPS OF ANY QUESTIONS REGARDING THIS DOCUMENT OR ANY ASSOCIATED REGULATORY COMMITMENTS.

COMMITMENTS

DUE DATE

None