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Supplementary Information Regarding License Amendment Request for Elimination of Backup Steam Supply to Turbine Driven Auxiliary Feedwater Pump

The purpose of this letter is to provide clarification to Consumers Energy Company letters of February 16, 2000, and February 18, 2000, and to reaffirm conclusions provided in those letters that compliance with 10CFR50 Appendix R does not rely on a manually initiated, backup steam supply to Auxiliary Feedwater Pump P-8B.

On February 5, 2000, a steam leak developed in the underground portion of a pipe line which provided a backup steam supply to the turbine-driven Auxiliary Feedwater Pump P-8B. The leak resulted from external corrosion due to a breakdown in the coating on the pipe. The integrity of the remainder of the underground line beyond the immediate area of the leak could not readily be confirmed. Since this line did not provide a required design basis function and was not risk-significant, it was concluded that the line should be abandoned.

The then-current plant Technical Specifications did not have a specific LCO relating to this line, but there was an implied operability requirement for the line in that a Technical Specification Surveillance specified that pump P-8B be manually started on a periodic basis using this backup steam supply. A request for a Notice of Enforcement Discretion (NOED) from this surveillance requirement was submitted to NRC on February 16, 2000. The NOED was approved verbally on February 16, 2000, and written confirmation of approval was issued on February 18, 2000. In addition, on February 18, 2000, a request was submitted for a Technical Specifications change to delete references to the backup steam supply line in both the then-current Technical

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Specifications and in the Improved Technical specifications. [The Improved Technical Specifications had been approved by the NRC, but implementation was not scheduled until later in 2000.] This request was supplemented on March 8, 2000, and the requested changes were issued by the NRC in Amendment 190 on March 14, 2000.

Questions have been raised about the completeness and accuracy of certain information related to compliance with 10CFR50 Appendix R that was provided in our letters of February 16, 2000, and February 18, 2000. Our review has determined that the overall conclusion provided in both letters was accurate when it indicated that the backup steam supply to pump P-8B was not required in order to provide safe shutdown capability under Appendix R. Our review has also determined that certain information provided in support of this conclusion was incomplete and inaccurate. This letter provides the relevant clarifications.

Background Information

Auxiliary Feedwater is available to the steam generators from two motor driven pumps, P-8A and P-8C, as well as from a steam turbine driven pump, P-8B. One train includes pumps P-8A and P-8B which are located in a room on the 571' elevation of the Turbine Building. The second train includes pump P-8C which is located inside the Auxiliary Building in the West Engineered Safeguards Room on the 570' elevation. The normal steam supply to the Auxiliary Feedwater Pump P-8B turbine is through control valve CV-0522B via an above-ground steam line through the Turbine Building. Before it was abandoned in place, the backup steam supply line to P-8B received steam through control valve CV-0522A and ran underground for part of its length.

Both the request for the NOED and the request for a Technical Specifications change included brief discussions to confirm that the abandonment of this backup steam supply line would not remove the plant's ability to cope with design and licensing basis events, including severe fires theorized under 10CFR50 Appendix R. The NOED request stated,

"Use of CV-0522A and the associated underground steam supply line is optional by current design and optional in off-normal or normal operating procedures." (page 4 of attachment), and

"The P-8C train provides an independent train which is not susceptible to common mode failures which would affect the P-8A/P-8B train from steam line breaks, seismic events, floods, missiles or fires." (page 4 of attachment), and

"In addition, 10CFR50 Appendix R requirements call for the plant to be able to achieve cold shutdown. ... In all cases the backup underground

steam supply through CV-0522A is not relied upon to mitigate the event, and therefore, is not required to fulfill any safety function." (page 6 of attachment),

The Technical Specifications change request (page 9 and 10 of Enclosure 1) repeated these conclusions in nearly identical language. Both documents went on to provide additional amplifying discussion in sections entitled "Design Basis Event Considerations". With specific respect to Appendix R compliance, the request for an NOED (page 6 of Attachment) dated February 16, 2000, stated:

*"For the Post-Fire Safe Shutdown Analysis P-8C is the preferred source of feedwater for this event. **Only one case exists where use of the underground steam supply through CV-0522A was considered as available to help the plant in achieving cold shutdown. This case is associated with a fire in the Southwest Cable penetration Room, which will affect controls for P-8A, and CV-0522B.** [Emphasis added] The analysis of record notes that either P-8C or CV-0522A would be available for supplying auxiliary feedwater to the steam generators but only requires one source of auxiliary feedwater. P-8C is the preferred source of feedwater for this event. In addition, the manual handwheel on CV-0522B is available for use in providing a steam supply to P-8B during this event.*

In addition, 10CFR50 Appendix R requirements call for the plant to be able to achieve cold shutdown. Under certain assumed fires, the result is loss of both electrical driven auxiliary feedwater pumps. Being able to achieve cold shutdown requires the use of the steam from the steam generators at very low pressures. Post-modification testing demonstrated successful performance of the turbine driven pump through CV-0522B down to steam generator pressures below 39 psia. Since the performance was based on use of CV-0522B only (No parallel operation of the two steam lines) the analytical assumptions have only been verified for use of the normal above ground steam supply. In all cases the backup underground steam supply through CV-0522A is not relied upon to mitigate the event and therefore, is not required to fulfill any safety function."

This discussion was repeated nearly verbatim in the Technical Specifications change Request (page 10 of Enclosure 1) submitted on February 18, 2000. The two sentences which were later determined to be incomplete and inaccurate are highlighted in bold type.

Clarifying Information

The two paragraphs quoted above were not necessary for the letters of February 16 and February 18 to convey the relevant conclusion about compliance with Appendix R. The entire two paragraph discussion should have been replaced with, "For Appendix R fire areas, either Auxiliary Feedwater Pump P-8B with steam supply through CV-0522B or pump P-8C is available to satisfy decay heat removal requirements. In all cases the backup underground steam supply through CV-0522A is not relied upon to mitigate the event and therefore, is not required to fulfill any safety function."

The additional information provided in the letters to support the overall conclusion was incomplete and inaccurate. It was not necessary to single out the Southwest Cable Penetration Room or any other fire area in order to justify abandoning the backup steam supply line to P-8B. If any amplifying information were included at all, it would have been better written as follows:

1. Either CV-0522A or CV-0522B is required for operation of pump P-8B.
2. CV-0522B is available from the Control Room, Alternate Shutdown Panel, or locally for immediate use in 34 of 35 fire areas. In the 35th area (Turbine Building) CV-0522B is available after one hour when the fire is assumed to be extinguished.
3. Pump P-8C is available for immediate use for a fire in the Turbine Building, among other fire areas.
4. Therefore, either CV-0522B or pump P-8C is available for immediate use for every fire area. No fire area would require the use of the backup steam supply through CV-0522A in order to satisfy Appendix R requirements for safe shutdown, and the backup steam supply line may be permanently isolated without affecting compliance with Appendix R.

This overall conclusion is the same as was provided in the February 16, 2000, and February 18, 2000, letters.

The second and third sentences in the Appendix R discussion in the February 16 and February 18 letters (shown above in bold type) were trying to convey that CV-0522A could be available to support other fire areas, if P-8B were ever needed for compliance with CV-0522B unavailable. However, with P-8C available for these areas, use of P-8B via CV-0522A would be optional, and not required.

Conclusion

In summary, the submittals of February 16, 2000, and February 18, 2000, were correct in their conclusions that the backup steam supply to pump P-8B through valve CV-0522A was not required for compliance with 10CFR50 Appendix R requirements. However, the additional information provided to support this conclusion was incomplete and inaccurate when it stated, "Only one case exists where use of the underground steam supply through CV-0522A was considered as available to help the plant in achieving cold shutdown. This case is associated with a fire in the Southwest Cable penetration Room, which will affect controls for P-8A, and CV-0522B."

This failure to communicate clearly with NRC is of great concern to us. It is indicative of a failure to be disciplined and rigorous during this emergent situation as we developed documentation to support both a plant modification and the associated NRC submittals. A thorough investigation into the causes for transmitting incomplete and inaccurate information to NRC has been performed under our Corrective Action Program, and appropriate corrective actions are being taken.

We regret any inconvenience this incomplete and inaccurate information may have caused.

Summary of Commitments

This letter contains no new commitments and no revisions to existing commitments.



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