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May 6, 1998

JMHLTR: #98-0140

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

**SUBJECT:** Dresden Nuclear Power Station Unit 3  
Request for Amendment to Facility Operating License DPR-25, Appendix  
A, Technical Specifications (TS),  
**Changes to Technical Specification Surveillance Requirement 4.6.E,  
"Safety Valves"**  
NRC Docket No. 50-249

**REFERENCES:** a) J.S. Perry (ComEd) to USNRC dated September 5, 1996  
b) J.F. Stang (NRC) to D.L. Farrar, SER dated October 8, 1996.

Pursuant to 10 CFR 50.90, ComEd proposes to amend Appendix A, Technical Specification 4.6.E, of Facility Operating Licenses DPR-25. The purpose of this amendment request is to amend the aforementioned requirements to allow a one-time extension of the 40-month requirement to pressure set test or replace all Main Steam Safety Valves (MSSVs) to a maximum interval of 60 months as currently allowed by the ASME Code. The proposed interval of 60 months will allow operation until the next refuel outage for Unit 3, currently scheduled for the end of January, 1999.

The proposed Technical Specification Amendment is subdivided as follows:

1. Attachment A gives a description and safety analysis of the proposed changes.
2. Attachment B includes the proposed changes to the Technical Specifications pages, including marked-up versions of the current pages.
3. Attachment C describes ComEd's evaluation performed in accordance with 10 CFR 50.92(c), which confirms that no significant hazards consideration is involved. In addition, ComEd's Environmental Assessment Applicability Review is included.

This proposed Technical Specification amendment has been reviewed and approved by ComEd On-Site and Off-Site Review in accordance with ComEd procedures.

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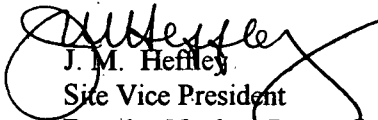
ComEd requests NRC approval of this request by August 13, 1998, to be effective immediately upon issuance to prevent Dresden Unit 3 from being required to shut down to Mode 4 per the requirements of Technical Specification 3.6.E, Action 1. ComEd has provided within the attached amendment request an explanation of the hardships that would be endured should the MSSVs be replaced during the current maintenance outage.

To the best of my knowledge and belief, the statements contained above are true and correct.

ComEd is notifying the State of Illinois of this application for amendment by transmitting a copy of this letter and its attachments to the designated state official.

Please direct any questions you may have concerning this submittal to Frank Spangenberg, Regulatory Assurance Manager (815) 942-2920 extension 3800.

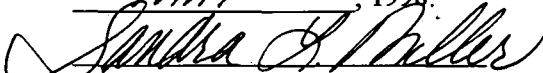
Sincerely,

  
J. M. Hefley  
Site Vice President  
Dresden Nuclear Power Station

Subscribed and Sworn to before me

on this 6TH day of

MAY, 1998.

  
Sandra L. Miller  
Notary Public



Attachments:

- A. Description and Safety Analysis of the Proposed Changes
- B. Marked-Up Technical Specification Pages
- C. Evaluation of Significant Hazards Considerations and Environmental Assessment Applicability Review
- D. As-Found and As-Left MSSV Test Results

cc: A. Bill Beach, Regional Administrator - RIII  
K. R. Riemer, Senior Resident Inspector - Dresden  
L. W. Rossbach, Project Manager - NRR  
Office of Nuclear Facility Safety - IDNS

## ATTACHMENT A

### DESCRIPTION AND SAFETY ANALYSIS OF THE PROPOSED CHANGES

#### Description of the Current Requirement

Technical Specification 3/4.6.E, "Safety Valves," provides the Limiting Conditions for Operation (LCO) and Surveillance Requirements (SRs) for the Main Steam Safety Valves (MSSVs). The LCO also provides the setpoint and setpoint tolerances which are periodically verified by SR 4.6.E.2. Dresden Unit 3 has eight safety valves and one Target Rock valve which provides a safety and relief valve function. The valves function primarily to protect the reactor coolant pressure boundary against exceeding the American Society of Mechanical Engineers (ASME) overpressure limit during design basis pressure transients. This limit is stated as the Reactor Coolant System pressure safety limit specified in Technical Specification 2.1.C.

#### Bases for the Current Requirement

The ASME Boiler and Pressure Vessel Code requires the reactor pressure vessel to be protected from overpressure during upset conditions by self-actuated safety valves. The size and number of safety valves are selected such that peak pressure in the nuclear system will not exceed the ASME Code limits for the reactor coolant pressure boundary. The overpressure protection system must accommodate the most severe pressurization transient. Evaluations have determined that the most severe transient is the closure of all the main steam line isolation valves followed by a reactor scram on high neutron flux. The analysis results demonstrate that the design safety valve capacity is capable of maintaining reactor pressure below the ASME Code limit of 110% of the reactor pressure vessel design pressure. Operability of the valves is required in Modes 1, 2 and 3, when the reactor coolant pressure boundary is pressurized.

Surveillance Requirement 4.6.E.2 is based on two provisions of the ASME Code Section XI, Subsection IWV 3511 (ANSI/ASME Standard OM-1-1981). The first requires that 20% of the total population of each type of valve be tested within any 24-month period. Dresden complies with this requirement by testing at least one half (4 of 8) of the MSSVs every 18 months. The Target Rock Safety Relief valve is categorized in its own ASME valve group. Therefore, it is tested every 18 months. OM-1-1981 also requires all valves within a group be tested within any 60-month period. SR 4.6.E.2 reflects this requirement by having all valves tested within the 40 months.

#### Description of the Proposed Change

Pursuant to 10 CFR 50.90, ComEd proposes to amend Appendix A, Technical Specification (TS) 4.6.E, Main Steam Safety Valves (MSSVs) of Facility Operating License DPR-25. The purpose of this amendment request is to revise the TS surveillance requirements (SR) for the MSSVs. The proposed changes modify SR 4.6.E.2, which currently states:

"At least once per 18 months, ½ of the safety valves shall be pressure tested and reinstalled or replaced with spares that have been previously set pressure tested and stored in accordance with manufacturer's recommendations. At least once per 40 months, the safety valves shall be rotated such that all 9 safety valves are

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removed, set pressure tested and reinstalled or replaced with spares that have been stored in accordance with manufacturer's recommendations."

ComEd proposes to revise SR 4.6.E.2 to read:

"At least once per 18 months, ½ of the safety valves shall be pressure tested and reinstalled or replaced with spares that have been previously set pressure tested and stored in accordance with manufacturer's recommendations. At least once per 40 months<sup>(c)</sup> the safety valves shall be rotated such that all 9 safety valves are removed, set pressure tested and reinstalled or replaced with spares that have been stored in accordance with manufacturer's recommendations."

The above paragraph was revised to include footnote (c) for the 40-month surveillance interval.

Footnote (c): The surveillance interval has been extended to 60 months for Unit 3, Cycle 15 only, and the provisions of Specification 4.0.B are not applicable to the 60-month interval.

#### Bases for the proposed change

The proposed change extends the requirement to test MSSVs at least once per 40 months to a one-time 60-month surveillance interval. This change is based on the ASME Code requirement to test all MSSVs within a 60-month period. This change is needed for Unit 3 to prevent a Unit shutdown to Mode 4 on August 13, 1998, due to exceeding the 40-month surveillance interval, including the allowed extension of 25%.

Technical Specification 4.0.B states that each surveillance interval shall be performed within the specified surveillance interval with a maximum allowable extension not to exceed 25 percent of the surveillance interval. The proposed 60-month interval is consistent with the ASME Code interval for testing all valves; however, extension of the Code interval beyond 60 months would require approval by the NRC Staff via relief request from the schedular requirements of 10CFR50.55a(f). Therefore, it is not appropriate to allow an additional 25% extension to the 60-month requirement.

The NRC Staff has approved similar changes to other licensees on a generic basis by approving conversions to the Improved Standard Technical Specifications (ITS) for BWR-4, NUREG 1433. Within NUREG 1433, ITS SR 3.4.3.1 allows testing per the Inservice Testing Program for plants with good operating experience. The Dresden Inservice Testing Program allows a 60-month interval for the testing of each MSSV. Dresden safety valve operating experience and surveillance results support operation of Unit 3 for 60 months as shown in Attachment D.

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#### Valve Performance

ComEd has provided in Attachment D the as-found and as-left data for both the Unit 2 and Unit 3 MSSVs. The valves scheduled for replacement or testing during the next refueling outage are valves 3-203-4A, 4B, 4C, and 4D. The last as-found data on these valves show that three of the four lifted within the required TS tolerance band of  $\pm 1\%$  and well within the ASME Code tolerance of  $\pm 3\%$ . MSSV 3-203-4C (BK 6277) lifted at 1265 psig during the last as-found test, with 1262 psig being equivalent to the  $+1\%$  upper tolerance limit. The as-found testing results of valves 3-203-4E, 4F, 4G and 4H conducted in May 1997 indicated that three of the four valves fell within the TS tolerance of  $\pm 1\%$  and all four within the ASME tolerance of  $\pm 3\%$ . Valves E through H were installed on the Main Steam Lines for 65 months. Valves A through D are subjected to the same maintenance procedures and rebuild program as valves E through H. Therefore, ComEd is confident that valves A through D will yield acceptable results after subsequent as-found testing.

#### Need for the proposed change

MSSVs 3-203-4A, B, C, and D currently installed on Dresden Unit 3 were installed on June 13, 1994. The 40-month surveillance interval, including the 25% surveillance interval extension allowed by Specification 4.0.B, expires on August 13, 1998. Upon expiration of the surveillance interval, Unit 3 would be required to enter TS 3.6.E, Action 1, since safety valves 3-203-4 (A-D) would be declared inoperable for failure to perform the surveillance within the required interval.

#### Schedular Requirements

As previously stated, the 40-month surveillance interval, including the 25 % allowed extension time, will expire in August 13, 1998. Therefore, ComEd requests approval by that date to avoid a Unit 3 shutdown to Mode 4. Dresden Unit 3 is currently in a planned outage to replace the Main Power Transformer 3 and Unit Auxiliary Transformer (UAT) 31, which began on May 2, 1998. The replacement of one half (4) of the MSSVs during this planned outage would result in many risks and hardships, without a corresponding benefit to quality or safety, nor will valve replacement during the current maintenance outage eliminate the requirement to remove additional valves during the planned Winter 1999 refueling outage. Hardships or difficulties are categorized below.

#### Personnel Safety

The MSSVs weigh roughly 1000 pounds each. Personnel working on these valves would be working inside containment with a complete core in the reactor vessel. No additional ventilation or auxiliary cooling would be available. Temperatures in the area of the valves are between 120° F and 130° F. The dose rates within containment will be higher since shielding normally installed during a refueling outage would not be installed. Total dose

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estimates for replacement of all four valves is 10 REM. Fuel would normally be removed from the vessel and relocated to the spent fuel pool during a refueling outage. Temperature and dose rates will limit stay times, thereby increasing the normal complement of workers as well as time to perform the task.

Plugs are installed in the Main Steam Lines during a refueling outage; however, the drywell head and reactor vessel head require removal for installation of the plugs. The plugs provide a barrier between the reactor vessel and the openings left by a removed MSSV. With no plugs installed, there would be no barrier between the vessel and the momentary openings left by a removed MSSV. This poses additional risk to workers and contamination of the drywell in the event of spurious initiation of an ECCS pump.

#### Plant Safety

During the current maintenance outage, in addition to the transformer replacements, Dresden will be repairing piping on the Unit 3 Reactor Water Cleanup System (RWCU) system. The RWCU will be out of service and serves as the normal letdown path for vessel coolant inventory. The alternate path planned for this outage is using the Main Steam Line Drains. The drains cannot be used if MSSV removal is in progress. Also, the anticipated rigging and heavy load manipulations over the Reactor Recirculation system require significant planning, compensatory actions, and management review to minimize the risks associated an operation with a potential to drain the reactor vessel.

#### Generation

Estimates for additional man-hours to support the MSSV replacement concurrent with other tasks would result in an approximate four day extension without deleting other planned work that is needed to facilitate continued operation. This four day extension to the current maintenance outage is an estimate based on outage planning staff experience and the anticipated effect of additional planning, resources and testing, and system interactions. Ongoing outages at five other ComEd units place greater dependency on the availability of power from Dresden. The availability of power generation from Dresden is anticipated to be important to grid stability throughout the summer months.

#### Summary

ComEd proposes to amend the Technical Specifications SR interval for MSSV testing on Unit 3 to allow a one-time extension of 40 months to 60 months, to allow operation until the fifteenth refuel outage. The proposed changes are consistent with the Staff's philosophy regarding extension of surveillances with respect to safety and relief valves. This philosophy allows extension of safety and relief valve surveillances to coincide with refueling outages as outlined in NUREG 1482, "Guidelines for Inservice Testing at Nuclear Power Plants."

Furthermore, this request is consistent with NRC philosophy for extending surveillance intervals. The staff published Generic Letter 93-05, "Line Item Improvements to Reduce Surveillance

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Requirements for Testing During Power Operation," and NUREG 1366, "Improvements to Technical Specification Surveillance Requirements." These documents provide NRC philosophy with respect to extension of TS SRs. Personnel safety and increased dose are provided as valid reasons to consider performing surveillances at extended intervals.

Additionally, within Reference a) Dresden requested relief from the schedular requirements of ASME Code OM-1-1981 for relief valves 3-203-4E, F, G & H. Without schedular relief, ComEd would have had to endure similar hardships during a forced outage in the Fall of 1996. The actual time of extension for these valves was 65 months. The staff granted relief within Reference b) based on operating experience and the fact that significant degradation would not be experienced over the relatively short time of the extension. ComEd has presented similar circumstances within the proposed TS change and requests an extension much shorter than that granted in Reference b), but within the interval allowed by the ASME Code. There are no materiel condition deficiencies associated with the valves to be inservice during the extended period of time. Therefore, ComEd does not consider the proposed TS change detrimental to the health and safety of the public.