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10 CFR 50.55a

RS-08-013

February 8, 2008

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Dresden Nuclear Power Station, Units 2 and 3
Renewed Facility Operating License Nos. DPR-19 and DPR-25
NRC Docket No. 50-237 and 50-249

Subject: Request for Relief from ASME OM Code 5-year Test Interval for Main Steam Safety Valves (Relief Request RV-02C, Revision 0)

In accordance with 10 CFR 50.55a, "Codes and standards," paragraph (a)(3)(ii), Exelon Generation Company, LLC (EGC) requests NRC approval of proposed Relief Request RV-02C to extend the 5-year Inservice Test (IST) interval to a 6.5-year IST interval for the Dresser Model 3777Q Main Steam Safety Valves (MSSVs) at Dresden Nuclear Power Station (DNPS), Units 2 and 3.

Specifically, EGC requests relief from the American Society of Mechanical Engineers/American National Standards Institute (ASME), Operation and Maintenance of Nuclear Power Plants, OM-1998, (OM Code), Appendix I, "Inservice Testing of Pressure Relief Devices in Light-Water Reactor Nuclear Power Plants," Section I-1330, "Test Frequencies, Class 1 Pressure Relief Valves." This relief is requested for the remainder of the fourth 10-year Inservice Testing (IST) interval, which began November 1, 2003 and is scheduled to end on October 31, 2012.

EGC requests approval of this request by October 31, 2008, to enable plant start-up following the twentieth DNPS Unit 3 refueling outage. There are no regulatory commitments contained within this letter.

If you have any questions concerning this letter, please contact Mr. John L. Schrage at (630) 657-2821.

Respectfully,

Jeffrey L. Hansen
Manager - Licensing

Attachment: Relief Request RV-02C, Revision 0

Attachment
Relief Request RV-02C, Revision 0
Proposed Alternative in Accordance with 10 CFR 50.55a(a)(3)(ii)
Hardship or Unusual Difficulty without Compensating
Increase in Level of Quality or Safety

1. ASME Code Component(s) Affected

Dresden Nuclear Power Station (DNPS) Units 2 and 3, Main Steam Safety Valves (MSSVs): Model: 3777Q; Manufacturer: Dresser

2. Applicable Code Edition and Addenda

American Society of Mechanical Engineers (ASME)/American National Standards Institute, "Code for Operation and Maintenance of Nuclear Power Plants" (ASME OM Code), 1998 Edition through 2000 Addenda.

3. Applicable Code Requirement

ASME OM Code, Appendix I, "Inservice Testing of Pressure Relief Devices in Light-Water Reactor Nuclear Power Plants," Section I-1330, "Test Frequencies, Class 1 Pressure Relief Valves," paragraph (a), "5-Year Test Interval."

4. Reason for Request

10 CFR 50.55a(f)(4) directs a licensee to meet inservice testing requirements for ASME Code Class 1 valves set forth in the ASME OM Code and addenda. DNPS is committed to the 1998 Edition through 2000 Addenda of the ASME OM Code.

Section ISTC-3200, "Inservice Testing," states that inservice testing shall commence when the valves are required to be operable to fulfill their required function(s). Section ISTC-5240, "Safety and Relief Valves," directs that safety and relief valves meet the inservice testing requirements set forth in Appendix I of the ASME OM Code. Appendix I, Section I-1330(a) of the ASME OM Code states that Class 1 pressure relief valves shall be tested at least once every five years, starting with initial electric power generation. This section also states a minimum of 20 percent of the pressure relief valves are tested within any 24 month interval and that the test interval for any individual valve shall not exceed five years. The required test ensures that the MSSVs, which are located on each of the main steam lines between the reactor vessel and the first isolation valve within the drywell, will open at the pressures assumed in the safety analysis.

The Dresser Model 3777Q MSSVs have shown exemplary test history at both DNPS and Quad Cities Nuclear Power Station (QCNPS), as described in Section 5 below. However, given the current 24-month operating cycle for each DNPS unit, Exelon Generation Company, LLC is required to remove and test fifty percent (four of eight) MSSVs every refueling outage, so that all valves are removed and tested every two refueling outages. This ensures compliance with the ASME OM Code requirements for testing Class 1 pressure relief valves within a five year interval. Approval of extending the test interval to 6.5 years would reduce the minimum number of MSSVs tested at DNPS over three refueling outages by four MSSVs per unit.

Without Code relief, the incremental outage work due to the inclusion of the four additional MSSVs would be contrary to the principles of as low as reasonably achievable (ALARA), in

that the removal and replacement of the four MSSVs over three refueling outages per unit will result in approximately eight additional person-rem of cumulative radiation exposure. This additional cumulative radiation exposure represents a hardship for DNPS without a compensating increase in the level of quality or safety.

In accordance with 10 CFR 50.55a, "Codes and standards," paragraph (a)(3)(ii), EGC requests relief from the five year test interval requirements of ASME OM Code, Appendix I, Section I-1330(a) for the Dresser Model 3777Q MSSVs at DNPS Units 2 and 3. EGC requests that the test interval be increased from five years to 6.5 years. All other requirements of the ASME OM Code would be met. Compliance with the applicable requirements of the ASME OM Code for these MSSVs results in hardship due to unnecessary personnel radiation exposure without a compensating increase in the level of quality or safety.

5. Proposed Alternative and Basis for Use

DNPS proposes that ASME Class 1 pressure relief valves (i.e., Dresser Model 3777Q MSSVs) shall be tested at least once every 6.5 years. A minimum of 20% of the pressure relief valves will be tested within any 24-month interval and that this 20% shall consist of valves that have not been tested during the current 6.5 year interval, if they exist. The test interval for any individual valve shall not exceed 6.5 years.

Basis for Use

All MSSVs (as well as the Electromatic relief valves (ERVs) and the Target Rock safety relief valve (SRV)) are on the second elevation of the Drywell. The major contributor to radiation exposure on the first and second elevations of the Drywell is the Reactor Recirculation System, for which permanent shielding has been installed. However, other systems on the second elevation of the Drywell also contribute to radiation exposure. These systems include Reactor Water Cleanup, Shutdown Cooling, and the Isolation Condenser.

Removal of an installed MSSV and installation of a replacement MSSV require removal of insulation and appurtenances on the MSSV and unbolting the MSSV. Once unbolted, the MSSV is maneuvered from its location and lowered to the first elevation. Due to the highly congested configuration of the General Electric Mark I containment at DNPS, this evolution requires construction and demobilization of additional rigging. Based upon the size of the valves, a crew of five to seven personnel is necessary to safely move each valve.

Historical cumulative radiation exposure at DNPS for removal and replacement of safety and relief valves from seven recent DNPS refueling outages (i.e., four MSSVs, two ERVs, and one SRV each refueling outage) is described in Table 1.

Attachment
Relief Request RV-02C, Revision 0
Proposed Alternative in Accordance with 10 CFR 50.55a(a)(3)(ii)
Hardship or Unusual Difficulty without Compensating
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TABLE 1: Cumulative Radiation Exposure

Outage	D3R17	D3R18	D3R19	D2R17	D2R18	D2R19	D2R20
Number of Valves Replaced	7	7	7	7	7	7	7
Cumulative Radiation Exposure	5.0	10.4	23.2	10.6	16.0	12.6	6.7

This data indicates that the cumulative radiation exposure to replace an MSSV could range from approximately one rem to three rem. The outage-specific variability of cumulative radiation exposure is attributed to the location of a particular valve relative to radiation hot spots, the physical configuration of surrounding equipment for a particular valve, and the impact of outage-specific plant configurations. In that the combinations of these factors for a particular refueling outage are highly variable, EGC has concluded that the expected cumulative radiation exposure to remove and replace a single MSSV would be approximately two person-rem. Therefore, absent the requested relief, replacement of four incremental MSSVs would result in approximately eight additional person-rem over three refueling outages per unit, without a compensating increase in the level of quality or safety.

IST history for the Dresser Model 3777Q MSSVs at DNPS from May 1997 to the present indicates that all tested MSSVs (i.e., 48 MSSV tests) that have been installed in either DNPS Unit 2 or Unit 3 for two operating cycles have successfully passed the ASME OM Code and Technical Specification (TS) as-found lift setpoint acceptance criteria within plus or minus 3%. Historical test data indicates that 32 of the 48 tests remained within an as-left tolerance of plus or minus 1%, and of the16 tests that were greater than plus or minus 1%, only five tests were greater than plus 1% (i.e., the majority of MSSV test results that exceeded plus or minus 1% were in the negative, or conservative, direction).

This historical DNPS test data is consistent with the reliable and consistent performance of the Dresser Model 3777Q MSSVs at Quad Cities Nuclear Power Station (QCNPS), Units 1 and 2. Since 1997, EGC has collected and documented 108 as-found Model 3777Q test results from both DNPS and QCNPS[1]. This test data indicates that all MSSV test results (i.e., Dresser Model 3777Q valves) are within the ASME acceptance criteria of plus or minus 3%.

In addition to the historical test results, the current DNPS reload ASME overpressure analyses for both units assume that only eight of nine MSSVs are operable, and all of the operable MSSVs open to relieve pressure at the upper ASME limit of plus 3% of the MSSV setpoint. These conservative assumptions provide additional assurance that the requested relief from the ASME OM Code requirement would not result in a decrease in the level of quality or safety.

[1] Dresser Model 3777Q MSSVs from QCNPS are tested and refurbished at the same facility that tests and refurbishes the DNPS MSSVs, utilizing the same work processes.

DNPS utilizes an ASME OM Code-certified off-site vendor to perform as-found and as-left testing, inspection, and refurbishment of the MSSVs. An EGC-approved and qualified procedure is used for disassembly and inspection of the MSSVs. This procedure requires that each MSSV be disassembled and inspected upon removal from service, independent of the as-found test results. The procedure identifies the critical components that are required to be inspected for wear and defects, and the critical dimensions that are required to be measured during the inspection. If components are found worn or outside of the specified tolerance(s), the components are either reworked to within the specified tolerances, or replaced. All parts that are defective, outside-of-tolerance, and all reworked/replaced components are identified, and EGC is notified of these components by the off-site vendor. The MSSV is then re-assembled, the as-left test is performed, and the MSSV is returned to DNPS.

Based upon the estimated cumulative radiation exposure to comply with the ASME OM Code, coupled with historical MSSV test results for Dresser Model 3777Q MSSVs at DNPS and QCNPS, EGC has concluded that compliance with the ASME OM Code would result in a hardship, without a compensating increase in the level of quality or safety.

6. Duration of Proposed Alternative

This relief is requested for the remainder of the fourth 10-year IST interval, which began November 1, 2003 and is scheduled to end on October 31, 2012.

7. Precedents

In Reference 1, the NRC reviewed and approved a relief request for Susquehanna Steam Electric Station, Units 1 and 2 to extend the MSSV test interval duration for individual valves to six years for the entire third 10-year Inservice Testing interval. In Reference 2, the NRC reviewed and approved a relief request for Nine Mile Point, Unit 2 to extend the MSSV test interval duration for individual valves to three refueling outages or approximately six years for the entire third 10-year Inservice Testing interval. In both approvals, the NRC allowed for a total installed interval of at least six years.

8. References

1) Letter from R. J. Laufer (USNRC) to B. L. Shriver (SSES), "Susquehanna Steam Electric Station Units 1 and 2 - Third 10-Year Interval Inservice Testing (IST) Program Plans," dated March 10, 2005.

2) Letter from M. Banerjee (USNRC) to J.H. Mueller (NMPC), " Nine Mile Point Nuclear Power Station, Unit No. 2 – Alternative to American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code Regarding Inservice Testing of Main Steam Safety/Relief Valves (TAC No. MB0290)," dated April 17, 2001.