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10 CFR 50.90
10 CFR 50.55a(a)(3)

RS-04-005

January 15, 2004

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

Dresden Nuclear Power Station, Units 2 and 3
Facility Operating License Nos. DPR-19 and DPR-25
NRC Docket Nos. 50-237 and 50-249

Quad Cities Nuclear Power Station, Units 1 and 2
Facility Operating License Nos. DPR-29 and DPR-30
NRC Docket Nos. 50-254 and 50-265

Subject: Request for Amendment to Technical Specifications Surveillance Requirements for the Main Steam Line Relief Valves and Associated Relief Requests

In accordance with 10 CFR 50.90, "Application for amendment of license or construction permit," Exelon Generation Company, LLC (EGC) requests an amendment to Facility Operating License Nos. DPR-19 and DPR-25 for Dresden Nuclear Power Station (DNPS), Units 2 and 3 and Facility Operating License Nos. DPR-29 and DPR-30 for Quad Cities Nuclear Power Station (QCNPS), Units 1 and 2. The proposed changes modify Technical Specifications (TS) Surveillance Requirement (SR) 3.4.3.2, SR 3.5.1.10, and SR 3.6.1.6.1 to provide an alternative means for testing the main steam Electromatic relief valves (ERVs) and the dual function Target Rock safety/relief valves (S/RVs). These valves provide overpressure protection, automatic depressurization, and low set relief functions. The proposed changes will allow demonstration of the capability of the valves to perform their function without requiring that the valves be cycled with steam pressure while installed.

Additionally, in accordance with 10 CFR 50.55a, "Codes and standards," paragraph (a)(3), this submittal includes Relief Request RV-02I for DNPS, Units 2 and 3 and Relief Request RV-30E for QCNPS, Units 1 and 2. These relief requests provide an alternative to the requirement of the American Society of Mechanical Engineers (ASME)/American National Standards Institute (ANSI), Operation and Maintenance of Nuclear Power Plants, 1998 Edition through 2000 Addenda, Section ISTC-3510, "Exercising Test Frequency," Section ISTC-5113, "Valve Stroke Testing," Section ISTC 5114, "Stroke

A047

Test Acceptance Criteria," and Section I-3410, "Class 1 Main Steam Pressure Relief Devices With Auxiliary Actuating Devices."

This request is subdivided as follows.

- Attachment 1 provides an evaluation supporting the proposed TS changes for DNPS and QCNPS.
- Attachment 2 contains the marked-up TS pages for DNPS with the proposed changes indicated.
- Attachment 3 provides revised TS pages for DNPS with the proposed changes incorporated.
- Attachment 4 provides the marked-up TS Bases pages for DNPS with the proposed changes indicated. The TS Bases pages are provided for information only, and do not require NRC approval.
- Attachment 5 contains the marked-up TS pages for QCNPS with the proposed changes indicated.
- Attachment 6 provides revised TS pages for QCNPS with the proposed changes incorporated.
- Attachment 7 provides the marked-up TS Bases pages for QCNPS with the proposed changes indicated. The TS Bases pages are provided for information only, and do not require NRC approval.
- Attachment 8 provides Relief Request RV-02I for DNPS.
- Attachment 9 provides Relief Request RV-30E for QCNPS.

The proposed changes have been reviewed by the DNPS and QCNPS Plant Operations Review Committees and approved by the Nuclear Safety Review Boards in accordance with the requirements of the EGC Quality Assurance Program.

EGC requests approval of the proposed amendment and associated relief request by October 22, 2004, to support DNPS, Unit 3 refueling outage D3R18, which is currently scheduled to begin in early November 2004. Once approved the changes will be implemented within 30 days.

In accordance with 10 CFR 50.91, "Notice for public comment; State consultation," paragraph (b), EGC is notifying the State of Illinois of this application for changes to the TS by transmitting a copy of this letter and its attachments to the designated State Official.

If you have any questions or require additional information, please contact Mr. Ken Nicely at (630) 657-2803.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 15th day of January 2004.

Respectfully,

Patrick R. Simpson

Patrick R. Simpson
Manager, Licensing

Attachments:

Attachment 1: Evaluation of Proposed Changes
Attachment 2: Marked-up Technical Specifications Pages for DNPS
Attachment 3: Revised Technical Specifications Pages for DNPS
Attachment 4: Marked-up Technical Specifications Bases Pages for DNPS
Attachment 5: Marked-up Technical Specifications Pages for QCNPS
Attachment 6: Revised Technical Specifications Pages for QCNPS
Attachment 7: Marked-up Technical Specifications Bases Pages for QCNPS
Attachment 8: Relief Request RV-02I for DNPS
Attachment 9: Relief Request RV-30E for QCNPS

cc: Regional Administrator – NRC Region III
NRC Senior Resident Inspector – Dresden Nuclear Power Station
NRC Senior Resident Inspector – Quad Cities Nuclear Power Station
Illinois Emergency Management Agency – Division of Nuclear Safety

ATTACHMENT 1
Evaluation of Proposed Changes

ATTACHMENT 1
Evaluation of Proposed Changes

1.0 INTRODUCTION

In accordance with 10 CFR 50.90, "Application for amendment of license or construction permit," Exelon Generation Company, LLC (EGC) requests an amendment to Facility Operating License Nos. DPR-19 and DPR-25 for Dresden Nuclear Power Station (DNPS), Units 2 and 3 and Facility Operating License Nos. DPR-29 and DPR-30 for Quad Cities Nuclear Power Station (QCNPS), Units 1 and 2. The proposed changes modify Technical Specifications (TS) Surveillance Requirement (SR) 3.4.3.2, SR 3.5.1.10, and SR 3.6.1.6.1 to provide an alternative means for testing the main steam Electromatic relief valves (ERVs) and the dual function Target Rock safety/relief valves (S/RVs). These valves provide overpressure protection, automatic depressurization system (ADS), and low set relief functions. The proposed changes will allow demonstration of the capability of the valves to perform their function without requiring that the valves be cycled with steam pressure while installed.

ERVs and S/RVs at DNPS and QCNPS have exhibited elevated tailpipe temperatures due to suspected seat leakage. Leakage from ERVs and S/RVs is discharged to a point below the minimum water level in the suppression pool. Thus, the steam leakage can result in increasing suppression pool temperature and level. In addition, leakage past the pilot valves of these valves can cause an inadvertent opening of the main valves.

Experience in the industry and at DNPS and QCNPS indicates that manual actuation of main steam relief valves during plant operation can lead to increased seat leakage. The alternative testing proposed for the ERVs and S/RVs will reduce the potential for seat leakage, thus reducing the potential for suppression pool temperature and level effects and the potential for pilot valve leakage, which can cause an inadvertent opening of the valves and impair their ability to re-close.

2.0 DESCRIPTION OF PROPOSED AMENDMENT

The proposed changes modify SR 3.4.3.2, SR 3.5.1.10, and SR 3.6.1.6.1 to provide an alternative means for testing the QCNPS and DNPS main steam ERVs and dual function S/RVs. The proposed changes will allow demonstration of valve capability by requiring that the valve actuator be manually stroked during each refueling outage without lifting the main valve seat.

The SRs listed above for DNPS currently require verification that the S/RVs and ERVs stroke when manually actuated. The SRs listed above for QCNPS currently require verification that the S/RVs and ERVs are capable of being opened. For both DNPS and QCNPS, the proposed changes modify the SRs to read as follows.

SR 3.4.3.2 Verify each relief valve actuator strokes when manually actuated.

SR 3.5.1.10 Verify each ADS valve actuator strokes when manually actuated.

SR 3.6.1.6.1 Verify each low set relief valve actuator strokes when manually actuated.

Each of these SRs currently include a Note that states, "Not required to be performed until 12 hours after reactor steam pressure and flow are adequate to perform the test." Deletion of this Note is proposed. Details regarding the proposed alternative tests are provided in Section 5.0 of this attachment, and will be incorporated into the DNPS and QCNPS TS Bases upon implementation of the approved amendment.

3.0 BACKGROUND

There are four Dresser model 1525VX ERVs on the main steam lines between the reactor vessel and the first isolation valve within the drywell on DNPS, Units 2 and 3 and QCNPS, Unit 1 (i.e., four valves on each unit). The ERVs consist of a main valve disc and seat and a pilot valve. See Figure 1. The ERVs are opened by automatic or manual switch actuation of a solenoid. The switch energizes the solenoid to actuate a plunger, which contacts the pilot valve operating lever, thereby opening the pilot valve. When the pilot valve opens, pressure under the main valve disc is vented. This allows reactor pressure to overcome main valve spring pressure, which forces the main valve disc downward to open the main valve.

There is one dual function Target Rock model 67F S/RV on one of the main steam lines between the reactor vessel and the first isolation valve within the drywell of each DNPS and QCNPS unit. The S/RV can actuate in either the safety mode or the relief mode. See Figure 2. In the safety mode (i.e., when actuated by system pressure), the S/RV opens when the inlet steam pressure reaches the lift set pressure. In the relief mode (i.e., power actuated mode of operation), automatic or manual switch actuation energizes a solenoid valve that admits air to the air operator diaphragm chamber and strokes the air plunger which strokes the second-stage disc that is located within the main valve body. Actuation of the plunger allows pressure to be vented from the top of the main valve piston. This allows reactor pressure to lift the main valve piston, which opens the main valve.

There are four PORVs on the main steam line between the reactor vessel and the first isolation valve within the drywell on QCNPS, Unit 2 manufactured by Target Rock. Because of recent operating experience with these PORVs involving seat leakage and an inadvertent opening, QCNPS plans to replace these PORVs with the Dresser ERVs described above during the next refueling outage on QCNPS, Unit 2, which is scheduled for February 2004.

Experience in the industry and at DNPS and QCNPS has indicated that manual actuation of main steam relief valves during plant operation can lead to valve seat leakage. Relief valve leakage from either the main valve disc or pilot valve results in increased suppression pool temperature and level. Leakage from the main valve disc and seat has little safety significance, as long as the pilot valve retains its function and suppression pool temperature and level are maintained within TS limits. However, leakage from the pilot valve can lead to inadvertent opening of the main valve, and the subsequent inability to re-close the valve.

4.0 REGULATORY REQUIREMENTS & GUIDANCE

10 CFR 50.36, "Technical specifications," provides the regulatory requirements for the content required in a licensee's TS. Criterion 3 of 10 CFR 50.36(c)(2)(ii) requires a limiting condition for

operation to be established for a structure, system, or component that is part of the primary success path and which functions or actuates to mitigate a design basis accident or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier. 10 CFR 50.36 paragraph (c)(3) specifies that surveillance requirements should ensure that limiting conditions for operation are met.

5.0 TECHNICAL ANALYSIS

The S/RVs and ERVs are part of the ADS. The ADS is a part of the Emergency Core Cooling System (ECCS). The ECCS is designed to provide adequate core cooling across the entire spectrum of line break accidents. The ADS is designed to depressurize the reactor to permit either the Low Pressure Coolant Injection (LPCI) or Core Spray (CS) systems to cool the reactor core during a small break loss of coolant accident (LOCA). This size break would result in a loss of coolant without a significant pressure reduction, so neither system alone could provide adequate core cooling. When the ADS is actuated, the flow of steam through the S/RV and ERVs results in a maximum energy removal rate with a corresponding minimum mass loss. Thus, the specific internal energy of the saturated fluid in the system is rapidly decreased, which causes a pressure reduction. Since the ADS does not provide coolant makeup to the reactor, the ADS is considered only in conjunction with the LPCI or CS systems as a backup to the High Pressure Coolant Injection (HPCI) system.

The S/RVs and ERVs also provide overpressure protection to the reactor pressure vessel as discussed in Updated Final Safety Analysis Report Section 5.2.2. The S/RVs and ERVs actuate in the relief mode to control reactor coolant system pressure during transient conditions to prevent the need for safety valve actuation following such transients.

The S/RVs also function in the safety mode to relieve pressure when the inlet steam pressure reaches the lift set pressure. This ensures that peak reactor pressure vessel pressure in the nuclear system will not exceed the American Society of Mechanical Engineers Boiler and Pressure Vessel Code limits for the reactor coolant pressure boundary. In addition, two ERVs on each unit function in the low set relief mode to limit induced thrust loads on the relief valve discharge line for any subsequent actuations of the relief valve.

The proposed revision to the SRs deletes the requirement to demonstrate the capability of the relief valves to open using steam pressure and substitutes a requirement to demonstrate that the valve actuator strokes when manually actuated. In addition, the proposed revisions to the TS Bases will describe the testing that will occur to verify the opening capability of the valve. The combination of testing the valve actuator and the verifications of the capability of the valve to open provides a complete verification of functional capability. This testing is described in more detail below.

Valve Actuator Testing

The revised SRs require that the valve actuator strokes when manually actuated. These tests are described in the following paragraphs.

S/RV Valve Actuator Testing

For the S/RVs, the actuator test will be performed by energizing a solenoid that pneumatically actuates a plunger located within the main valve body. The plunger depresses the second

stage disc. Actuation of the plunger during plant operation allows pressure to be vented from the top of the main valve piston. This allows reactor pressure to lift the main valve piston, which opens the main valve disc. The test will verify movement of the plunger in accordance with vendor recommendations. However, since this test will be performed prior to establishing the reactor pressure needed to overcome main valve closure spring force, the main valve will not stroke during the test.

This test does not disturb the safety-mode first stage pilot valve. This is desirable, since leakage through the first stage pilot valve can mask main valve seat leakage after steam is applied to the valve.

ERV Valve Actuator Testing
For the ERVs, the actuator test will be performed with the pilot valve actuator mounted in its normal position. This will allow testing of the manual actuation electrical circuitry, solenoid actuator, pilot operating lever, and pilot plunger. This test will verify pilot valve movement. However, since this test will be performed prior to establishing the reactor pressure needed to overcome main valve closure spring force, the main valve will not stroke during the test.

The proposed testing for ERVs is adequate and not detrimental to the pilot valves in light of the Nine Mile Point events described in an NRC Inspection Report for Nine Mile Point dated December 22, 2000, and NRC Event Notification Report 39779, dated April 21, 2003. The NRC inspection report for Nine Mile Point states that the spurious operation and sticking of valve ERV-111 most probably was caused by a bent stem and partial disk-stem separation. The inspection report describes that dry cycling of pilot valves can cause the partial disk-stem separation.

The valve actuator testing at DNPS and QCNPS includes manual dry cycling of the pilot valve to verify that the stem travel and lever arm adjusting screw gap are within limits. Following this verification, the ERV solenoid will be energized to manually stroke the pilot valve. The stem travel and lever arm adjusting screw gap will then be rechecked to verify that these parameters are within limits following the dry cycling. Partial disk-stem separation caused by dry cycling of the pilot valve will be detected during this recheck. Discussions with the ERV manufacturer, Dresser, concluded that this recheck would detect partial disk-stem separation caused by dry cycling of the pilot valve. In addition, EGC has performed dry cycling of the pilot valves at DNPS and QCNPS for many years, with no signs of partial or full disc detachment. Therefore, the proposed testing is adequate to detect the partial disk-stem separation experienced at Nine Mile Point during the simulated bench test described in the NRC inspection report.

The maintenance procedures for the ERV pilot valves include appropriate inspections of the stem, pilot valve bushing, and disc to identify any nicks, gouges, or other damage that could impair free movement. The procedure checks the gap at the end of the stem that has the thinnest cross section. This is the area most likely to be bent if not properly handled. In addition, free movement of the stem in the bushing and of the disc to stem connection are checked. This check assures that the stem is straight, the pilot can travel freely, and the pilot disc can seat properly.

The Nine Mile Point event described in NRC Event Notification Report 39779 was a failure of an ERV to open when actuated. The failure was reportedly due to inadequate solenoid force caused by high resistance in the cutout switch, such that the output force was not adequate to

overcome the pilot spring force. The proposed testing for the DNPS and QCNPS ERVs will include manual actuation of the electrical circuitry, solenoid actuator, pilot operating lever, and pilot plunger after installation in the plant. However, since this test will be performed prior to establishing the reactor pressure needed to overcome main valve closure spring force, the main valve will not stroke during the test. Since the proposed testing for DNPS and QCNPS ERVs includes a manual actuation of the solenoid and pilot valve, the test will demonstrate that the solenoid force is adequate to overcome the pilot spring force. Resistance checks of the cutout switch will assure the solenoid is capable of producing its full output force.

The solenoid actuator is designed to operate the pilot valve under all design conditions. The actuator includes two coils. One coil can be considered a pull-in coil, and the second considered a hold-in coil. The pull-in coil provides sufficient force to actuate the pilot, and then the hold-in coil provides sufficient force to maintain the pilot in an open position. Contacts designated as cutout contacts control the energization of these coils during solenoid motion.

During inspection of the operator prior to testing, specific attention is given to maintenance and testing of the cutout contacts. An as-found contact resistance value is measured, the contacts are cleaned, the associated springs and mechanisms are inspected, and as-left contact resistances are verified. Resistance checks and meggar tests are then performed on both coils. Finally, during electrical actuation, operating voltages and currents are verified to be within acceptance criteria limits. These steps provide substantial indication that the solenoid operator is capable of functioning as designed.

In addition, operating experience indicates that a solenoid that is capable of actuating the pilot in cold conditions is capable of actuating the pilot under normal operating conditions. Pilot actuation and verification of coil and contact performance provides additional assurance that the ERVs will actuate when required.

Valve Testing

The relief valves are tested in accordance with the DNPS and QCNPS IST programs. The IST programs for relief valves are based on the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code — OM Code, 1998 Edition through 2000 Addenda. As required by this code, following the initial five-year interval, all valves of each type and manufacturer shall be tested during each subsequent five-year interval, with a minimum of 20% of the valves to be tested within any 24 months. In practice, this means that half of the ERVs (i.e., two on each unit) are tested each refueling outage, and that each S/RV (i.e., one on each unit) is tested each refueling outage. This is normally accomplished by replacing the installed valves with new or refurbished valves that have been pre-tested.

Valve testing will be performed at a steam test facility, where the valve (i.e., main valve and pilot valve) and an actuator representative of the actuator used at the plant will be installed on a steam header in the same orientation as the plant installation. The test conditions in the test facility will be similar to those in the plant installation, including ambient temperature, valve insulation, and steam conditions. The valve will then be leak tested, functionally tested to ensure the valve is capable of opening and closing (including stroke time), and leak tested a final time. Valve seat tightness will be verified by a cold bar test, and if not free of fog, leakage will be measured and verified to be below design limits. In addition, for the safety mode of S/RVs, an as-found setpoint verification and as-found leak check are performed, followed by verification of set pressure, and delay. The valve will then be shipped to the plant without any

disassembly or alteration of the main valve or pilot valve components. A receipt inspection will be performed in accordance with the requirements of the EGC Quality Assurance Program. The storage requirements in effect ensure the valves are protected from physical damage. Prior to installation, the valve will again be inspected for foreign material and damage. The valve will be installed, insulated, and pneumatically and electrically connected. Proper connections will be verified per procedure.

In addition to the requirements of the OM Code, as part of the preventive maintenance program during each refueling outage, DNPS and QCNPS replace the pilot valve assemblies in the ERVs that are not scheduled for removal and testing. The replacement of the pilot valve assemblies does not involve removal of the ERVs and does not affect the main valve disc. Following replacement of the pilot valve assemblies, the proposed SR will require testing of the ERV actuator as described in the section above (i.e., ERV valve actuator testing), without stroking the main valve. This SR will ensure that the affected portion of the valve will be fully tested. If other maintenance is performed, controls regarding testing requirements following maintenance ensure that appropriate post-maintenance testing is performed. For example, if maintenance is performed that affects the main valve, the capability of the main valve would be tested as described above.

The combination of the steam testing of the valve at the test facility and the valve actuator testing at the site will provide a complete check of the capability of the valves to open and close. Therefore, the proposed changes will allow the testing of the S/RVs and ERVs such that full functionality is demonstrated through overlapping tests, without cycling the valves under steam pressure with the valves installed.

The use of overlapping tests to demonstrate operability of active components is similar to that used elsewhere in the TS for other systems and components. For example, SR 3.5.1.8 is modified by a Note that excludes vessel injection/spray during ECCS injection/spray subsystem actuation testing. The TS Bases for SR 3.5.1.8 state that coolant injection into the vessel is not required since all active components are testable and full flow can be demonstrated by recirculation through test lines. The proposed alternative testing for S/RVs and ERVs will test the active components and therefore make unnecessary the cycling of the S/RVs and ERVs using reactor steam pressure and flow.

Additionally, the Boiling Water Reactor Owners' Group (BWROG) Evaluation of NUREG-0737, "Clarification of TMI Action Plan Requirements," Item II.K.3.16, "Reduction of Challenges and Failures of Relief Valves," recommended that the number of safety relief valve openings be reduced as much as possible and unnecessary challenges should be avoided.

Another potential reason for in-situ testing of the relief valves is to verify that the discharge line is not blocked. The probability of blocking a relief valve discharge line and preventing the valve function is considered to be extremely remote. As implemented at DNPS and QCNPS, the EGC Foreign Material Exclusion program provides the necessary requirements and guidance to prevent and control introduction of foreign materials into structures, systems, and components. This program minimizes the potential for debris blocking a relief valve discharge line.

As a result of deleting the requirement for full functional testing of the S/RVs and ERVs during each refueling outage, and replacing these requirements with the proposed SRs, the only change in the frequency of testing is that the main valve disc of the ERVs will be lift tested every

two operating cycles (approximately every four years) compared to the current one operating cycle (approximately two years) frequency. A review of the surveillance testing results for the past ten years at DNPS and QCNPS was performed for the DNPS and QCNPS ERVs. The review checked for any failures of the main valve disc to stroke open. Based on this review, it was concluded that no failures of the valves to lift have occurred. Therefore, extending the frequency of checking the function of the main disc from approximately every two years to approximately every four years is not expected to result in additional valve failures.

6.0 REGULATORY ANALYSIS

The testing described in Section 5.0 of this attachment will ensure that all of the valve components necessary to actuate the S/RVs and ERVs will continue to be tested, and full functionality will be demonstrated while minimizing the potential for creating main valve seat leakage caused by cycling the valve. In addition, Criterion 3 of 10 CFR 50.36(c)(2)(ii) and paragraph (c)(3) of 10 CFR 50.36 will continue to be met since full functionality will be tested under the proposed methodology.

In conclusion, based on the considerations discussed above, (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

7.0 NO SIGNIFICANT HAZARDS CONSIDERATION

According to 10 CFR 50.92, "Issuance of amendment," paragraph (c), a proposed amendment to an operating license involves no significant hazards consideration if operation of the facility in accordance with the proposed amendment would not:

(1) Involve a significant increase in the probability or consequences of an accident previously evaluated; or

(2) Create the possibility of a new or different kind of accident from any accident previously evaluated; or

(3) Involve a significant reduction in a margin of safety.

EGC has evaluated the proposed change to the TS for DNPS, Units 2 and 3, and QCNPS, Units 1 and 2, using the criteria in 10 CFR 50.92, and has determined that the proposed change does not involve a significant hazards consideration. The following information is provided to support a finding of no significant hazards consideration.

1. Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No

The proposed changes modify Technical Specifications (TS) Surveillance Requirement (SR) 3.4.3.2, SR 3.5.1.10, and SR 3.6.1.6.1 to provide an alternative means for testing the main steam line relief valves, automatic depressurization system valves, and low set relief valves. Accidents are initiated by the malfunction of plant equipment, or the catastrophic failure of plant structures, systems, or components. The performance of relief valve testing is not a precursor to any accident previously evaluated and does not change the manner in which the valves are operated. The proposed testing requirements will not contribute to the failure of the relief valves nor any plant structure, system, or component. Exelon Generation Company, LLC (EGC) has determined that the proposed change in testing methodology provides an equivalent level of assurance that the relief valves are capable of performing their intended safety functions. Thus, the proposed changes do not affect the probability of an accident previously evaluated.

The performance of relief valve testing provides confidence that the relief valves are capable of depressurizing the reactor pressure vessel (RPV). This will protect the reactor vessel from overpressurization and allow the combination of the Low Pressure Coolant Injection and Core Spray systems to inject into the RPV as designed. The low set relief logic causes two low set relief valves to be opened at a lower pressure than the relief mode pressure setpoints and causes the low set relief valves to stay open longer, such that reopening of more than one valve is prevented on subsequent actuations. Thus, the low set relief function prevents excessive short duration relief valve cycles with valve actuation at the relief setpoint, which limits induced thrust loads on the relief valve discharge line for subsequent actuations of the relief valve. The proposed changes do not affect any function related to the safety mode of the dual function safety/relief valves. The proposed changes involve the manner in which the subject valves are tested, and have no effect on the types or amounts of radiation released or the predicted offsite doses in the event of an accident. The proposed testing requirements are sufficient to provide confidence that the relief valves are capable of performing their intended safety functions. In addition, a stuck open relief valve accident is analyzed in the Updated Final Safety Analysis Report. Since the proposed testing requirements do not alter the assumptions for the stuck open relief valve accident, the radiological consequences of any accident previously evaluated are not increased.

Therefore, the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No

The proposed changes do not affect the assumed accident performance of the main steam relief valves, nor any plant structure, system, or component previously evaluated. The proposed changes do not install any new equipment, and installed equipment is not

being operated in a new or different manner. The proposed change in test methodology will ensure that the valves remain capable of performing their safety functions due to meeting the testing requirements of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code, with the exception of opening the valve following installation or maintenance for which a relief request has been submitted, proposing an acceptable alternative. No setpoints are being changed which would alter the dynamic response of plant equipment. Accordingly, no new failure modes are introduced.

Therefore, the proposed change does not create the possibility of a new or different kind of accident from any previously evaluated.

3. Does the proposed change involve a significant reduction in a margin of safety?

Response: No

The proposed changes will allow testing of the valve actuation electrical circuitry, including the solenoid, and mechanical actuation components, without causing the relief valve to open. The relief valves will be manually actuated prior to installation in the plant. Therefore, all modes of relief valve operation will be tested prior to entering the mode of operation requiring the valves to perform their safety functions. The proposed changes do not affect the valve setpoint or the operational criteria that directs the relief valves to be manually opened during plant transients. There are no changes proposed which alter the setpoints at which protective actions are initiated, and there is no change to the operability requirements for equipment assumed to operate for accident mitigation.

Therefore, the proposed changes do not involve a significant reduction in a margin of safety.

Based upon the above, EGC concludes that the proposed amendment presents no significant hazards consideration under the standards set forth in 10 CFR50.92(c), and, accordingly, a finding of no significant hazards consideration is justified.

8.0 ENVIRONMENTAL CONSIDERATION

A review has determined that the proposed amendment would change a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR 20, "Standards for Protection Against Radiation," or would change an inspection or surveillance requirement. However, the proposed amendment does not involve: (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluent that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed amendment meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22, "Criterion for categorical exclusion; identification of licensing and regulatory actions eligible for categorical exclusion or otherwise not requiring environmental review," Paragraph (c)(9). Therefore, pursuant to 10 CFR 51.22, Paragraph (b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed amendment.

9.0 PRECEDENT

The NRC has granted similar license amendments for Clinton Power Station in Reference 1, LaSalle County Station in Reference 2, Peach Bottom Atomic Power Station in Reference 3, and QCNPS in References 4 and 5.

10.0 IMPACT ON PREVIOUS SUBMITTALS

EGC has reviewed the proposed changes for impact on previous submittals awaiting NRC approval for DNPS and QCNPS, and has determined that there is no impact.

11.0 REFERENCES

1. Letter from U. S. NRC to O. D. Kingsley (Exelon Generation Company, LLC), "Clinton Power Station, Unit 1 – Issuance of Amendment (TAC No. MB2256)," dated March 19, 2002

2. Letter from U. S. NRC to O. D. Kingsley (Exelon Generation Company, LLC), "LaSalle County Station, Units 1 and 2 – Issuance of Amendments (TAC Nos. MB2253 and MB2254)," dated December 13, 2001

3. Letter from M. C. Thadani (U. S. NRC) to G. D. Edwards (PECO Energy Company), "Peach Bottom Atomic Power Station, Unit Nos. 2 and 3, Technical Specifications Revision Relating to the Surveillance of the Safety Relief Valves (TAC Nos. MA1741 and MA1742)," dated October 5, 1998

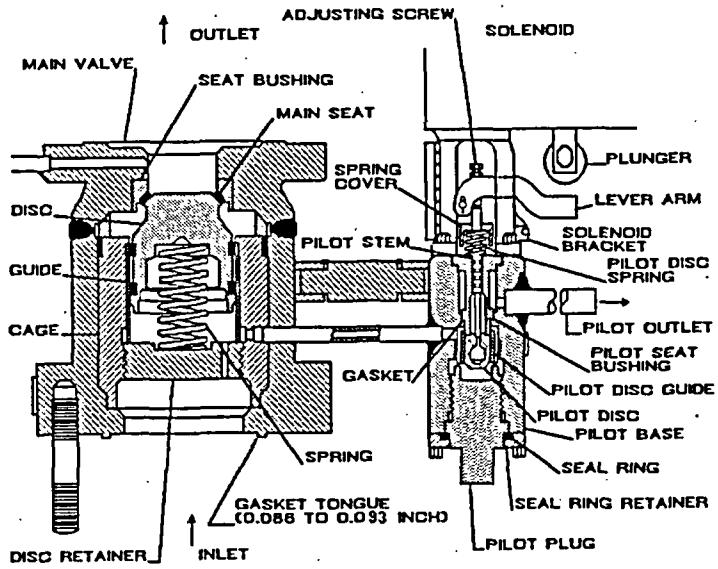
4 Letter from U. S. NRC to J. L. Skolds (Exelon Generation Company, LLC), "Quad Cities Nuclear Power Station, Units 1 and 2 – Issuance of Exigent Amendments Re: Electromatic Relief Valve Testing," dated May 28, 2003

5 Letter from U. S. NRC to J. L. Skolds (Exelon Generation Company, LLC), "Quad Cities Nuclear Power Station, Units 1 and 2 – Issuance of Exigent Amendments Re: Power Operated Relief Valve Testing," dated May 8, 2003

ATTACHMENT 1
Evaluation of Proposed Changes

Figure 1

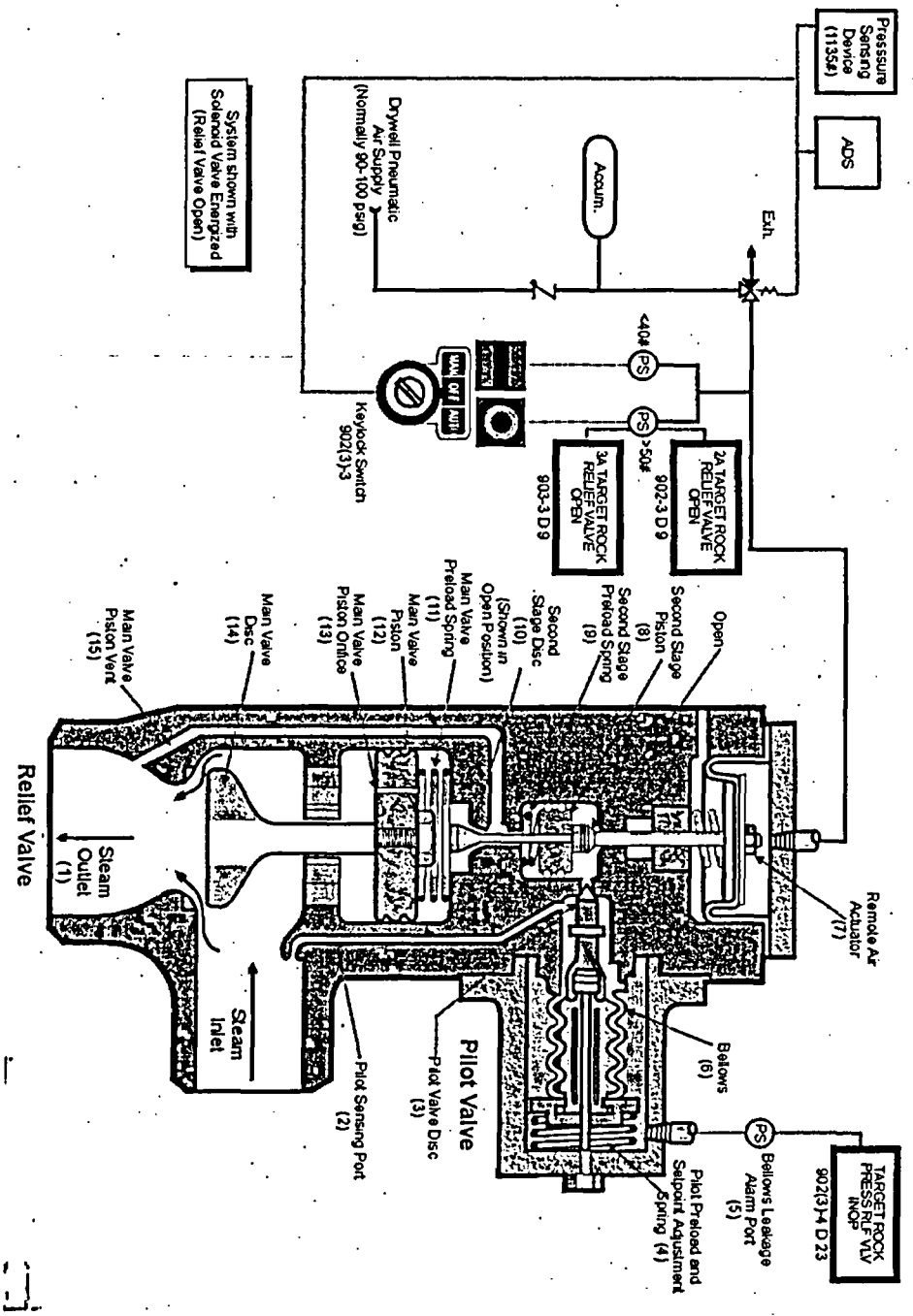
Diagram of Electromatic Relief Valve



ATTACHMENT 1
Evaluation of Proposed Changes

Figure 2

Diagram of Target Rock Safety/Relief Valve



ATTACHMENT 2
Marked-up Technical Specifications Pages
Dresden Nuclear Power Station

TECHNICAL SPECIFICATIONS PAGES

3.4.3-2
3.5.1-6
3.6.1.6-2

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.4.3.1	Verify the safety function lift setpoints of the safety valves are as follows: Number of Safety Valves — Setpoint (psig) 2 — 1240 ± 12.4 2 — 1250 ± 12.5 4 — 1260 ± 12.6	In accordance with the Inservice Testing Program
SR 3.4.3.2	----------NOTE---------- Not required to be performed until 12 hours after reactor steam pressure and flow are adequate to perform the test. ---------- Verify each relief valve opens when manually actuated.	24 months
SR 3.4.3.3	----------NOTE---------- Valve actuation may be excluded. ---------- Verify each relief valve actuates on an actual or simulated automatic initiation signal.	24 months

Insert 1

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.5.1.9	----------NOTE---------- Valve actuation may be excluded. ---------- Verify the ADS actuates on an actual or simulated automatic initiation signal.	24 months
SR 3.5.1.10	----------NOTE---------- Not required to be performed until 12 hours after reactor steam pressure and flow are adequate to perform the test. ---------- Verify each ADS valve opens when manually actuated.	24 months
SR 3.5.1.11	Verify automatic transfer capability of the LPCI swing bus power supply from the normal source to the backup source.	24 months
SR 3.5.1.12	Verify ADS pneumatic supply header pressure is $\geq$ 80 psig.	31 days

Insert 2

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.6.1.6.1	----------NOTE---------- Not required to be performed until 12 hours after reactor steam pressure and flow are adequate to perform the test. ---------- Verify each low set relief valve opens when manually actuated.	24 months
SR 3.6.1.6.2	----------NOTE---------- Valve actuation may be excluded. ---------- Verify each low set relief valve actuates on an actual or simulated automatic initiation signal.	24 months

Insert 3

INSERTS – DRESDEN LCOS

Insert 1 (SR 3.4.3.2)

Verify each relief valve actuator strokes when manually actuated.

Insert 2 (SR 3.5.1.10)

Verify each ADS valve actuator strokes when manually actuated.

Insert 3 (SR 3.6.1.6.1)

Verify each low set relief valve actuator strokes when manually actuated.

ATTACHMENT 3
Revised Technical Specifications Pages
Dresden Nuclear Power Station

TECHNICAL SPECIFICATIONS PAGES

3.4.3-2
3.5.1-6
3.6.1.6-2

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.4.3.1	Verify the safety function lift setpoints of the safety valves are as follows: Number of Safety Valves — Setpoint (psig) 2 — 1240 ± 12.4 2 — 1250 ± 12.5 4 — 1260 ± 12.6	In accordance with the Inservice Testing Program
SR 3.4.3.2	Verify each relief valve actuator strokes when manually actuated.	24 months
SR 3.4.3.3	----------NOTE---------- Valve actuation may be excluded. ---------- Verify each relief valve actuates on an actual or simulated automatic initiation signal.	24 months

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.5.1.9	----------NOTE---------- Valve actuation may be excluded. ---------- Verify the ADS actuates on an actual or simulated automatic initiation signal.	24 months
SR 3.5.1.10	Verify each ADS valve actuator strokes when manually actuated.	24 months
SR 3.5.1.11	Verify automatic transfer capability of the LPCI swing bus power supply from the normal source to the backup source.	24 months
SR 3.5.1.12	Verify ADS pneumatic supply header pressure is $\geq$ 80 psig.	31 days

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.1.6.1	Verify each low set relief valve actuator strokes when manually actuated.	24 months
SR 3.6.1.6.2	----------NOTE---------- Valve actuation may be excluded. ----------	
	Verify each low set relief valve actuates on an actual or simulated automatic initiation signal.	24 months

ATTACHMENT 4
Marked-up Technical Specifications Bases Pages
Dresden Nuclear Power Station

TECHNICAL SPECIFICATIONS BASES PAGES

B 3.4.3-5
B 3.4.3-6
B 3.5.1-15
B 3.5.1-16
B 3.6.1.6-3
B 3.6.1.6-4

BASES

ACTIONS (continued)

B.1 and B.2

With less than the minimum number of required safety valves OPERABLE, a transient may result in the violation of the ASME Code limit on reactor pressure. If the relief function of the inoperable relief valves cannot be restored to OPERABLE status within the associated Completion Time of Required Action A.1, or if the relief function of two or more relief valves are inoperable, or if the safety function of one or more safety valves is inoperable, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to MODE 3 within 12 hours and to MODE 4 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

SURVEILLANCE REQUIREMENTS

SR 3.4.3.1

This Surveillance requires that the safety valves, including the S/RV, will open at the pressures assumed in the safety analysis of Reference 1. The demonstration of the safety valve and S/RV safety lift settings must be performed during shutdown, since this is a bench test, to be done in accordance with the Inservice Testing Program. The lift setting pressure shall correspond to ambient conditions of the valves at nominal operating temperatures and pressures. The safety valve and S/RV setpoints are ± 1% for OPERABILITY.

SR 3.4.3.2

Insert 1

A manual actuation of each relief valve, including the S/RV, is performed to verify that, mechanically, the valve is functioning properly and no blockage exists in the valve discharge line. This can be demonstrated by the response of the turbine control valves or bypass valves, by a change in the measured steam flow, or by any other method suitable to verify steam flow. Adequate reactor steam dome pressure must be available to perform this test to avoid damaging the valve. Also, adequate steam flow must be passing through the main turbine or turbine bypass valves to continue to

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.4.3.2 (continued)

control reactor pressure when the relief valve or the S/RV diverts steam flow upon opening. Sufficient time is therefore allowed after the required pressure and flow are achieved to perform this test. Adequate pressure at which this test is to be performed is 300 psig (the pressure recommended by the valve manufacturer). Adequate steam flow is represented by at least 2.0 turbine bypass valves open.

This SR is modified by a Note that states the Surveillance is not required to be performed until 12 hours after reactor steam pressure and flow are adequate to perform the test. Unit startup is allowed prior to performing this test because valve OPERABILITY is verified, per ASME Code requirements (Ref. 5), prior to valve installation. The 12 hours allowed for manual actuation after the required pressure is reached is sufficient to achieve stable conditions for testing and provides a reasonable time to complete the SR. If the S/RV fails to actuate due only to the failure of the solenoid but is capable of opening on overpressure, the safety function of the S/RV is considered OPERABLE.

The 24 month Frequency ensures that each solenoid for each relief valve is tested. The 24 month Frequency was developed based on the relief valve tests required by the ASME Boiler and Pressure Vessel Code, Section XI (Ref. 5). Operating experience has shown that these components usually pass the Surveillance when performed at the 24 month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

SR 3.4.3.3

The relief valves, including the S/RV, are required to actuate automatically upon receipt of specific initiation signals. A system functional test is performed to verify that the mechanical portions (i.e., solenoids) of the relief valve operate as designed when initiated either by an actual or simulated automatic initiation signal. The LOGIC SYSTEM FUNCTIONAL TESTs in LCO 3.3.5.1, "Emergency Core Cooling System (ECCS) Instrumentation," and LCO 3.3.6.3, "Relief Valve Instrumentation," overlap this SR to provide complete testing of the safety function.

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.5.1.9 (continued)

Surveillance were performed with the reactor at power. Operating experience has shown that these components usually pass the SR when performed at the 24 month Frequency, which is based on the refueling cycle. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

This SR is modified by a Note that excludes valve actuation since the valves are individually tested in accordance with SR 3.5.1.10.

SR 3.5.1.10

Insert 2

A manual actuation of each ADS valve is performed to verify that the valve and solenoid are functioning properly and that no blockage exists in the valve discharge lines. This is demonstrated by the response of the turbine control or bypass valve or by a change in the measured flow or by any other method suitable to verify steam flow. Adequate reactor steam dome pressure must be available to perform this test to avoid damaging the valve. Also, adequate steam flow must be passing through the main turbine or turbine bypass valves to continue to control reactor pressure when the ADS valves divert steam flow upon opening. Sufficient time is therefore allowed after the required pressure and flow are achieved to perform this SR. Adequate pressure at which this SR is to be performed is 300 psig (the pressure recommended by the valve manufacturer). Adequate steam flow is represented by at least 2 turbine bypass valves open. Reactor startup is allowed prior to performing this SR because valve OPERABILITY and the setpoints for overpressure protection are verified, per ASME requirements, prior to valve installation. Therefore, this SR is modified by a Note that states the Surveillance is not required to be performed until 12 hours after reactor steam pressure and flow are adequate to perform the test. The 12 hours allowed for manual actuation after the required pressure is reached is sufficient to achieve stable conditions and provides adequate time to complete the Surveillance. SR 3.5.1.9 and the LOGIC SYSTEM FUNCTIONAL TEST performed in LCO 3.3.5.1 overlap this Surveillance to provide complete testing of the assumed safety function.

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.5.1.10 (continued)

The Frequency of 24 months is based on the need to perform the Surveillance under the conditions that apply just prior to or during a startup from a plant outage. Operating experience has shown that these components usually pass the SR when performed at the 24 month Frequency, which is based on the refueling cycle. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

SR 3.5.1.11

The LPCI System injection valves and recirculation pump discharge valves are powered from the LPCI swing bus, which must be energized after a single failure, including loss of power from the normal source to the swing bus. Therefore, the automatic transfer capability from the normal power source to the backup power source must be verified to ensure the automatic capability to detect loss of normal power and initiate an automatic transfer to the swing bus backup power source. Verification of this capability every 24 months ensures that AC electrical power is available for proper operation of the associated LPCI injection valves and recirculation pump valves. The swing bus automatic transfer scheme must be OPERABLE for both LPCI subsystems to be OPERABLE. The Frequency of 24 months is based on the need to perform the Surveillance under the conditions that apply during a startup from a plant outage. Operating experience has shown that the components usually pass the SR when performed at the 24 month Frequency, which is based on the refueling cycle. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

SR 3.5.1.12

Verification every 31 days that ADS pneumatic supply header pressure is ≥ 80 psig ensures adequate nitrogen pressure for reliable Target Rock ADS valve operation. The accumulator on the Target Rock ADS valve provides pneumatic pressure for valve actuation. The design pneumatic supply pressure requirements for the accumulator are such that, following a failure of the pneumatic supply to the accumulator, at least two valve actuations can occur with the drywell at 70% of design pressure. The ECCS safety analysis assumes only one actuation to achieve the depressurization required for operation of the low pressure ECCS. This minimum required

(continued)

BASES

ACTIONS

B.1 and B.2 (continued)

plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 12 hours and to MODE 4 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

SURVEILLANCE REQUIREMENTS

SR 3.6.1.6.1

Insert 3 →

A manual actuation of each low set relief valve is performed to verify that the valve and solenoids are functioning properly and no blockage exists in the valve discharge line. This can be demonstrated by the response of the turbine control or bypass valve, by a change in the measured steam flow, or by any other method that is suitable to verify steam flow. Adequate reactor steam dome pressure must be available to perform this test to avoid damaging the valve. Also, adequate steam flow must be passing through the main turbine or turbine bypass valves to continue to control reactor pressure when the low set relief valves divert steam flow upon opening. Sufficient time is therefore allowed, after the required pressure and flow are achieved, to perform this test. Adequate pressure at which this test is to be performed is ≥ 300 psig (the pressure recommended by the valve manufacturer). Adequate steam flow is represented by at least 2 turbine bypass valves open.

The 24 month Frequency was based on the relief valve tests required by the ASME Boiler and Pressure Vessel Code, Section XI (Ref. 2). The Frequency of 24 months ensures that each solenoid for each low set relief valve is tested. Operating experience has shown that these components usually pass the Surveillance when performed at the 24 month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

This SR is modified by a Note that states the Surveillance is not required to be performed until 12 hours after reactor steam pressure and flow are adequate to perform the test. Unit startup is allowed prior to performing the test because valve OPERABILITY is verified by Reference 2 prior to valve installation. The 12 hours allowed for manual actuation

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.6.1.6.1 (continued)

after the required pressure and flow is reached is sufficient to achieve stable conditions for testing and provides a reasonable time to complete the SR.

SR 3.6.1.6.2

The low set relief designated relief valves are required to actuate automatically upon receipt of specific initiation signals. A system functional test is performed to verify that the mechanical portions (i.e., solenoids) of the low set relief function operate as designed when initiated either by an actual or simulated automatic initiation signal. The LOGIC SYSTEM FUNCTIONAL TEST in LCO 3.3.6.3, "Low Set Relief Valve Instrumentation," overlaps this SR to provide complete testing of the safety function.

The 24 month Frequency is based on the need to perform this Surveillance under the conditions that apply during a plant outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power. Operating experience has shown these components usually pass the Surveillance when performed at the 24 month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

This SR is modified by a Note that excludes valve actuation. This prevents a reactor pressure vessel pressure blowdown.

REFERENCES

1. UFSAR, Section 6.2.1.3.5.3.

2. ASME, Boiler and Pressure Vessel Code, Section XI.

INSERTS – DRESDEN BASES

Insert 1 (SR 3.4.3.2)

The actuator of each of the Electromatic relief valves (ERVs) and the dual function safety/relief valves (S/RVs) is stroked to verify that the pilot valve strokes when manually actuated. For the S/RVs, the actuator test is performed by energizing a solenoid that pneumatically actuates a plunger located within the main valve body. The plunger is connected to the second stage disc. When steam pressure actuates the plunger during plant operation, this allows pressure to be vented from the top of the main valve piston, allowing reactor pressure to lift the main valve piston, which opens the main valve disc. The test will verify movement of the plunger in accordance with vendor recommendations. However, since this test is performed prior to establishing the reactor pressure needed to overcome main valve closure forces, the main valve disc will not stroke during the test.

For the ERVs, the actuator test is performed with the pilot valve actuator mounted in its normal position. This will allow testing of the manual actuation electrical circuitry, solenoid actuator, pilot operating lever, and pilot plunger. This test will verify pilot valve movement. However, since this test is performed prior to establishing the reactor pressure needed to overcome main valve closure spring force, the main valve will not stroke during the test.

This SR, together with the valve testing performed as required by the ASME Code for pressure relieving devices (ASME OM Code –1998 through 2000 Addenda), verify the capability of each relief valve to perform its function.

Valve testing will be performed at a steam test facility, where the valve (i.e., main valve and pilot valve) and an actuator representative of the actuator used at the plant will be installed on a steam header in the same orientation as the plant installation. The test conditions in the test facility will be similar to those in the plant installation, including ambient temperature, valve insulation, and steam conditions. The valve will then be leak tested, functionally tested to ensure the valve is capable of opening and closing (including stroke time), and leak tested a final time. Valve seat tightness will be verified by a cold bar test, and if not free of fog, leakage will be measured and verified to be below design limits. In addition, for the safety mode of S/RVs, an as-found setpoint verification and as-found leak check are performed, followed by verification of set pressure, and delay. The valve will then be shipped to the plant without any disassembly or alteration of the main valve or pilot valve components.

The combination of the valve testing and the valve actuator testing provide a complete check of the capability of the valves to open and close, such that full functionality is demonstrated through overlapping tests, without cycling the valves.

Insert 2 (SR 3.5.1.10)

The actuator of each of the ADS Electromatic valves (ERVs) and the dual function safety/relief valves (S/RVs) is stroked to verify that the pilot valve strokes when manually actuated. For the S/RVs, the actuator test is performed by energizing a solenoid that

pneumatically actuates a plunger located within the main valve body. The plunger is connected to the second stage disc. When steam pressure actuates the plunger during plant operation, this allows pressure to be vented from the top of the main valve piston, allowing reactor pressure to lift the main valve piston, which opens the main valve disc. The test will verify movement of the plunger in accordance with vendor recommendations. However, since this test is performed prior to establishing the reactor pressure needed to overcome main valve closure forces, the main valve disc will not stroke during the test.

For the ERVs, the actuator test is performed with the pilot valve actuator mounted in its normal position. This will allow testing of the manual actuation electrical circuitry, solenoid actuator, pilot operating lever, and pilot plunger. This test will verify pilot valve movement. However, since this test is performed prior to establishing the reactor pressure needed to overcome main valve closure spring force, the main valve will not stroke during the test.

This SR, together with the valve testing performed as required by the ASME Code for pressure relieving devices (ASME OM Code –1998 through 2000 Addenda), verify the capability of each relief valve to perform its function.

Valve testing will be performed at a steam test facility, where the valve (i.e., main valve and pilot valve) and an actuator representative of the actuator used at the plant will be installed on a steam header in the same orientation as the plant installation. The test conditions in the test facility will be similar to those in the plant installation, including ambient temperature, valve insulation, and steam conditions. The valve will then be leak tested, functionally tested to ensure the valve is capable of opening and closing (including stroke time), and leak tested a final time. Valve seat tightness will be verified by a cold bar test, and if not free of fog, leakage will be measured and verified to be below design limits. In addition, for the safety mode of S/RVs, an as-found setpoint verification and as-found leak check are performed, followed by verification of set pressure, and delay. The valve will then be shipped to the plant without any disassembly or alteration of the main valve or pilot valve components.

The combination of the valve testing and the valve actuator testing provide a complete check of the capability of the valves to open and close, such that full functionality is demonstrated through overlapping tests, without cycling the valves.

Insert 3 (SR 3.6.1.6.1)

The actuator of each of the Electromatic low set relief valves (ERVs) is stroked to verify that the pilot valve strokes when manually actuated. For the ERVs, the actuator test is performed with the pilot valve actuator mounted in its normal position. This will allow testing of the manual actuation electrical circuitry, solenoid actuator, pilot operating lever, and pilot plunger. This test will verify pilot valve movement. However, since this test is performed prior to establishing the reactor pressure needed to overcome main valve closure spring force, the main valve will not stroke during the test.

This SR, together with the valve testing performed as required by the ASME Code for pressure relieving devices (ASME OM Code –1998 through 2000 Addenda), verify the capability of each relief valve to perform its function.

Valve testing will be performed at a steam test facility, where the valve (i.e., main valve and pilot valve) and an actuator representative of the actuator used at the plant will be installed on a steam header in the same orientation as the plant installation. The test conditions in the test facility will be similar to those in the plant installation, including ambient temperature, valve insulation, and steam conditions. The valve will then be leak tested, functionally tested to ensure the valve is capable of opening and closing (including stroke time), and leak tested a final time. Valve seat tightness will be verified by a cold bar test, and if not free of fog, leakage will be measured and verified to be below design limits. In addition, for the safety mode of S/RVs, an as-found setpoint verification and as-found leak check are performed, followed by verification of set pressure, and delay. The valve will then be shipped to the plant without any disassembly or alteration of the main valve or pilot valve components.

The combination of the valve testing and the valve actuator testing provide a complete check of the capability of the valves to open and close, such that full functionality is demonstrated through overlapping tests, without cycling the valves.

ATTACHMENT 5
Marked-up Technical Specifications Pages
Quad Cities Nuclear Power Station

TECHNICAL SPECIFICATIONS PAGES

3.4.3-2
3.5.1-6
3.6.1.6-2

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.4.3.1	Verify the safety function lift setpoints of the safety valves are as follows: Number of Safety Valves — Setpoint (psig) 1 — 1135 ± 11.3 2 — 1240 ± 12.4 2 — 1250 ± 12.5 4 — 1260 ± 12.6	In accordance with the Inservice Testing Program
SR 3.4.3.2	----------NOTE---------- Not required to be performed until 12 hours after reactor steam pressure and flow are adequate to perform the test. ---------- Verify each relief valve is capable of being opened.	24 months
SR 3.4.3.3	----------NOTE---------- Valve actuation may be excluded. ---------- Verify each relief valve actuates on an actual or simulated automatic initiation signal.	24 months

Insert 1 →

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.5.1.8	----------NOTE---------- Vessel injection/spray may be excluded. ---------- Verify each ECCS injection/spray subsystem actuates on an actual or simulated automatic initiation signal.	24 months
SR 3.5.1.9	----------NOTE---------- Valve actuation may be excluded. ---------- Verify the ADS actuates on an actual or simulated automatic initiation signal.	24 months
SR 3.5.1.10	----------NOTE---------- Not required to be performed until 12 hours after reactor steam pressure and flow are adequate to perform the test. ---------- Verify each ADS valve is capable of being opened.	24 months
SR 3.5.1.11	Verify automatic transfer capability of the LPCI swing bus power supply from the normal source to the backup source.	24 months
SR 3.5.1.12	Verify ADS pneumatic supply header pressure is $\geq$ 80 psig.	31 days

Insert 2

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.1.6.1	----------NOTE---------- Not required to be performed until 12 hours after reactor steam pressure and flow are adequate to perform the test. ---------- Verify each low set relief valve is capable of being opened.	24 months
SR 3.6.1.6.2	----------NOTE---------- Valve actuation may be excluded. ---------- Verify each low set relief valve actuates on an actual or simulated automatic initiation signal.	24 months

Insert 3

INSERTS – QUAD CITIES LCOS

Insert 1 (SR 3.4.3.2)

Verify each relief valve actuator strokes when manually actuated.

Insert 2 (SR 3.5.1.10)

Verify each ADS valve actuator strokes when manually actuated.

Insert 3 (SR 3.6.1.6.1)

Verify each low set relief valve actuator strokes when manually actuated.

ATTACHMENT 6
Revised Technical Specifications Pages
Quad Cities Nuclear Power Station

TECHNICAL SPECIFICATIONS PAGES

3.4.3-2
3.5.1-6
3.6.1.6-2

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.4.3.1	Verify the safety function lift setpoints of the safety valves are as follows: Number of Safety Valves — Setpoint (psig) 1 — 1135 ± 11.3 2 — 1240 ± 12.4 2 — 1250 ± 12.5 4 — 1260 ± 12.6	In accordance with the Inservice Testing Program
SR 3.4.3.2	Verify each relief valve actuator strokes when manually actuated.	24 months
SR 3.4.3.3	----------NOTE---------- Valve actuation may be excluded. ---------- Verify each relief valve actuates on an actual or simulated automatic initiation signal.	24 months

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.5.1.8	----------NOTE---------- Vessel injection/spray may be excluded. ---------- Verify each ECCS injection/spray subsystem actuates on an actual or simulated automatic initiation signal.	24 months
SR 3.5.1.9	----------NOTE---------- Valve actuation may be excluded. ---------- Verify the ADS actuates on an actual or simulated automatic initiation signal.	24 months
SR 3.5.1.10	Verify each ADS valve actuator strokes when manually actuated.	24 months
SR 3.5.1.11	Verify automatic transfer capability of the LPCI swing bus power supply from the normal source to the backup source.	24 months
SR 3.5.1.12	Verify ADS pneumatic supply header pressure is $\geq$ 80 psig.	31 days

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.6.1.6.1	Verify each low set relief valve actuator strokes when manually actuated.	24 months
SR 3.6.1.6.2	----------NOTE---------- Valve actuation may be excluded. ----------	
	Verify each low set relief valve actuates on an actual or simulated automatic initiation signal.	24 months

ATTACHMENT 7
Marked-up Technical Specifications Bases Pages
Quad Cities Nuclear Power Station

TECHNICAL SPECIFICATIONS BASES PAGES

B 3.4.3-6
B 3.4.3-7
B 3.5.1-15
B 3.5.1-16
B 3.6.1.6-3
B 3.6.1.6-4

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.4.3.2

A manual actuation of each relief valve, including the S/RV, is performed to verify that, mechanically, the valve is functioning properly. This can be demonstrated by the response of the turbine control valves or bypass valves, by a change in the measured steam flow, or by any other method suitable to verify steam flow. Adequate reactor steam dome pressure must be available to perform this test to avoid damaging the valve. Also, adequate steam flow must be passing through the main turbine or turbine bypass valves to continue to control reactor pressure when the relief valve or the S/RV diverts steam flow upon opening. Sufficient time is therefore allowed after the required pressure and flow are achieved to perform this test. Adequate pressure at which this test is to be performed is 300 psig (the pressure recommended by the valve manufacturer). Adequate steam flow is represented by at least 2 turbine bypass valves open.

Insert 1 →

This SR can also be met using overlapping tests to confirm valve operability. Under this alternative, a manual valve actuation and valve leakage test is performed at a certified steam test facility. This test is conducted under conditions similar to those in the plant installation, including valve orientation, ambient temperature, valve insulation, and steam conditions. Following valve installation, additional tests are completed to verify proper electrical connection and the functionality of the manual actuation circuitry, without cycling the valve. This alternative provides a complete check of the capability of the valve to open and close.

This SR is modified by a Note that states the Surveillance is not required to be performed until 12 hours after reactor steam pressure and flow are adequate to perform the test. Unit startup is allowed prior to performing this test because valve OPERABILITY is verified, per ASME Code requirements (Ref. 5), prior to valve installation. The 12 hours allowed after the required pressure is reached is

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.4.3.2 (continued)

~~sufficient to achieve stable conditions for testing and~~ provides a reasonable time to complete the SR. If the S/RV fails to actuate due only to the failure of the solenoid but is capable of opening on overpressure, the safety function of the S/RV is considered OPERABLE.

The 24 month Frequency ensures that each solenoid for each relief valve is tested. The 24 month Frequency was developed based on the relief valve tests required by the ASME Boiler and Pressure Vessel Code, Section XI (Ref. 5). Operating experience has shown that these components usually pass the Surveillance when performed at the 24 month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

SR 3.4.3.3

The relief valves, including the S/RV, are required to actuate automatically upon receipt of specific initiation signals. A system functional test is performed to verify that the mechanical portions (i.e., solenoids) of the relief valve operate as designed when initiated either by an actual or simulated automatic initiation signal. The LOGIC SYSTEM FUNCTIONAL TESTs in LCO 3.3.5.1, "Emergency Core Cooling System (ECCS) Instrumentation," and LCO 3.3.6.3, "Relief Valve Instrumentation," overlap this SR to provide complete testing of the safety function.

The 24 month Frequency is based on the need to perform this Surveillance under the conditions that apply during a plant outage and the potential for an unplanned transient if the surveillance were performed with the reactor at power. Operating experience has shown these components usually pass the Surveillance when performed at the 24 month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

This SR is modified by a Note that excludes valve actuation since the valves are individually tested in accordance with SR 3.4.3.2.

(continued)

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.5.1.9

The ADS designated valves are required to actuate automatically upon receipt of specific initiation signals. A system functional test is performed to demonstrate that the mechanical portions of the ADS function (i.e., solenoids) operate as designed when initiated either by an actual or simulated initiation signal, causing proper actuation of all the required components. SR 3.5.1.10 and the LOGIC SYSTEM FUNCTIONAL TEST performed in LCO 3.3.5.1 overlap this Surveillance to provide complete testing of the assumed safety function.

The 24 month Frequency is based on the need to perform the Surveillance under the conditions that apply during a plant outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power. Operating experience has shown that these components usually pass the SR when performed at the 24 month Frequency, which is based on the refueling cycle. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

This SR is modified by a Note that excludes valve actuation since the valves are individually tested in accordance with SR 3.5.1.10.

SR 3.5.1.10

Insert 2

A manual actuation of each ADS valve is performed to verify that the valve and solenoid are functioning properly. This is demonstrated by the response of the turbine control or bypass valve or by a change in the measured flow or by any other method suitable to verify steam flow. Adequate reactor steam dome pressure must be available to perform this test to avoid damaging the valve. Also, adequate steam flow must be passing through the main turbine or turbine bypass valves to continue to control reactor pressure when the ADS valves divert steam flow upon opening. Sufficient time is therefore allowed after the required pressure and flow are achieved to perform this SR. Adequate pressure at which this SR is to be performed is 300 psig (the pressure

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.5.1.10 (continued)

recommended by the valve manufacturer). Adequate steam flow is represented by at least 2 turbine bypass valves open. Reactor startup is allowed prior to performing this SR because valve OPERABILITY and the setpoints for overpressure protection are verified, per ASME requirements, prior to valve installation.

This SR can also be met using overlapping tests to confirm valve operability. Under this alternative, a manual valve actuation and valve leakage test is performed at a certified steam test facility. This test is conducted under conditions similar to those in the plant installation, including valve orientation, ambient temperature, valve insulation, and steam conditions. Following valve installation, additional tests are completed to verify proper electrical connection and the functionality of the manual actuation circuitry, without cycling the valve. This alternative provides a complete check of the capability of the valve to open and close.

This SR is modified by a Note that states the Surveillance is not required to be performed until 12 hours after reactor steam pressure and flow are adequate to perform the test. The 12 hours allowed after the required pressure is reached is sufficient to achieve stable conditions and provides adequate time to complete the Surveillance. SR 3.5.1.9 and the LOGIC SYSTEM FUNCTIONAL TEST performed in LCO 3.3.5.1 overlap this Surveillance to provide complete testing of the assumed safety function.

The Frequency of 24 months is based on the need to perform the Surveillance under the conditions that apply just prior to or during a startup from a plant outage. Operating experience has shown that these components usually pass the SR when performed at the 24 month Frequency, which is based on the refueling cycle. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

(continued)

BASES (continued)

ACTIONS

A.1

With one low set relief valve inoperable, the remaining OPERABLE low set relief valve is adequate to perform the designed function. However, the overall reliability is reduced. The 14 day Completion Time takes into account the redundant capability afforded by the remaining low set relief valve and the low probability of an event occurring during this period in which the remaining low set relief valve capability would be required.

B.1 and B.2

If two low set relief valves are inoperable or if the inoperable low set relief valve cannot be restored to OPERABLE status within the required Completion Time, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 12 hours and to MODE 4 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

SURVEILLANCE REQUIREMENTS

SR 3.6.1.6.1

A manual actuation of each low set relief valve is performed to verify that the valve and solenoids are functioning properly. This can be demonstrated by the response of the turbine control or bypass valve, by a change in the measured steam flow, or by any other method that is suitable to verify steam flow. Adequate reactor steam dome pressure must be available to perform this test to avoid damaging the valve. Also, adequate steam flow must be passing through the main turbine or turbine bypass valves to continue to control reactor pressure when the low set relief valves divert steam flow upon opening. Sufficient time is therefore allowed, after the required pressure and flow are achieved, to perform this test. Adequate pressure at which this test is to be performed is ≥ 300 psig (the pressure recommended by the valve manufacturer). Adequate steam flow is represented by at least 2 turbine bypass valves open.

Insert 3

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.6.1.6.1 (continued)

This SR can also be met using overlapping tests to confirm valve operability. Under this alternative, a manual valve actuation and valve leakage test is performed at a certified steam test facility. This test is conducted under conditions similar to those in the plant installation, including valve orientation, ambient temperature, valve insulation, and steam conditions. Following valve installation, additional tests are completed to verify proper electrical connection and the functionality of the manual actuation circuitry, without cycling the valve. This alternative provides a complete check of the capability of the valve to open and close.

The 24 month Frequency was based on the relief valve tests required by the ASME Boiler and Pressure Vessel Code, Section XI (Ref. 2). The Frequency of 24 months ensures that each solenoid for each low set relief valve is tested. Operating experience has shown that these components usually pass the Surveillance when performed at the 24 month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

This SR is modified by a Note that states the Surveillance is not required to be performed until 12 hours after reactor steam pressure and flow are adequate to perform the test. Unit startup is allowed prior to performing the test because valve OPERABILITY is verified by Reference 2 prior to valve installation. The 12 hours allowed after the required pressure and flow is reached is sufficient to achieve stable conditions for testing and provides a reasonable time to complete the SR.

SR 3.6.1.6.2

The low set relief designated relief valves are required to actuate automatically upon receipt of specific initiation signals. A system functional test is performed to verify

(continued)

INSERTS – QUAD CITIES BASES

Insert 1 (SR 3.4.3.2)

The actuator of each of the Electromatic relief valves (ERVs) and the dual function safety/relief valves (S/RVs) is stroked to verify that the pilot valve strokes when manually actuated. For the S/RVs, the actuator test is performed by energizing a solenoid that pneumatically actuates a plunger located within the main valve body. The plunger is connected to the second stage disc. When steam pressure actuates the plunger during plant operation, this allows pressure to be vented from the top of the main valve piston, allowing reactor pressure to lift the main valve piston, which opens the main valve disc. The test will verify movement of the plunger in accordance with vendor recommendations. However, since this test is performed prior to establishing the reactor pressure needed to overcome main valve closure forces, the main valve disc will not stroke during the test.

For the ERVs, the actuator test is performed with the pilot valve actuator mounted in its normal position. This will allow testing of the manual actuation electrical circuitry, solenoid actuator, pilot operating lever, and pilot plunger. This test will verify pilot valve movement. However, since this test is performed prior to establishing the reactor pressure needed to overcome main valve closure spring force, the main valve will not stroke during the test.

This SR, together with the valve testing performed as required by the ASME Code for pressure relieving devices (ASME OM Code –1998 through 2000 Addenda), verify the capability of each relief valve to perform its function.

Valve testing will be performed at a steam test facility, where the valve (i.e., main valve and pilot valve) and an actuator representative of the actuator used at the plant will be installed on a steam header in the same orientation as the plant installation. The test conditions in the test facility will be similar to those in the plant installation, including ambient temperature, valve insulation, and steam conditions. The valve will then be leak tested, functionally tested to ensure the valve is capable of opening and closing (including stroke time), and leak tested a final time. Valve seat tightness will be verified by a cold bar test, and if not free of fog, leakage will be measured and verified to be below design limits. In addition, for the safety mode of S/RVs, an as-found setpoint verification and as-found leak check are performed, followed by verification of set pressure, and delay. The valve will then be shipped to the plant without any disassembly or alteration of the main valve or pilot valve components.

The combination of the valve testing and the valve actuator testing provide a complete check of the capability of the valves to open and close, such that full functionality is demonstrated through overlapping tests, without cycling the valves.

Insert 2 (SR 3.5.1.10)

The actuator of each of the ADS Electromatic valves (ERVs) and the dual function safety/relief valves (S/RVs) is stroked to verify that the pilot valve strokes when manually actuated. For the S/RVs, the actuator test is performed by energizing a solenoid that

pneumatically actuates a plunger located within the main valve body. The plunger is connected to the second stage disc. When steam pressure actuates the plunger during plant operation, this allows pressure to be vented from the top of the main valve piston, allowing reactor pressure to lift the main valve piston, which opens the main valve disc. The test will verify movement of the plunger in accordance with vendor recommendations. However, since this test is performed prior to establishing the reactor pressure needed to overcome main valve closure forces, the main valve disc will not stroke during the test.

For the ERVs, the actuator test is performed with the pilot valve actuator mounted in its normal position. This will allow testing of the manual actuation electrical circuitry, solenoid actuator, pilot operating lever, and pilot plunger. This test will verify pilot valve movement. However, since this test is performed prior to establishing the reactor pressure needed to overcome main valve closure spring force, the main valve will not stroke during the test.

This SR, together with the valve testing performed as required by the ASME Code for pressure relieving devices (ASME OM Code –1998 through 2000 Addenda), verify the capability of each relief valve to perform its function.

Valve testing will be performed at a steam test facility, where the valve (i.e., main valve and pilot valve) and an actuator representative of the actuator used at the plant will be installed on a steam header in the same orientation as the plant installation. The test conditions in the test facility will be similar to those in the plant installation, including ambient temperature, valve insulation, and steam conditions. The valve will then be leak tested, functionally tested to ensure the valve is capable of opening and closing (including stroke time), and leak tested a final time. Valve seat tightness will be verified by a cold bar test, and if not free of fog, leakage will be measured and verified to be below design limits. In addition, for the safety mode of S/RVs, an as-found setpoint verification and as-found leak check are performed, followed by verification of set pressure, and delay. The valve will then be shipped to the plant without any disassembly or alteration of the main valve or pilot valve components.

The combination of the valve testing and the valve actuator testing provide a complete check of the capability of the valves to open and close, such that full functionality is demonstrated through overlapping tests, without cycling the valves.

Insert 3 (SR 3.6.1.6.1)

The actuator of each of the Electromatic low set relief valves (ERVs) is stroked to verify that the pilot valve strokes when manually actuated. For the ERVs, the actuator test is performed with the pilot valve actuator mounted in its normal position. This will allow testing of the manual actuation electrical circuitry, solenoid actuator, pilot operating lever, and pilot plunger. This test will verify pilot valve movement. However, since this test is performed prior to establishing the reactor pressure needed to overcome main valve closure spring force, the main valve will not stroke during the test.

This SR, together with the valve testing performed as required by the ASME Code for pressure relieving devices (ASME OM Code –1998 through 2000 Addenda), verify the capability of each relief valve to perform its function.

Valve testing will be performed at a steam test facility, where the valve (i.e., main valve and pilot valve) and an actuator representative of the actuator used at the plant will be installed on a steam header in the same orientation as the plant installation. The test conditions in the test facility will be similar to those in the plant installation, including ambient temperature, valve insulation, and steam conditions. The valve will then be leak tested, functionally tested to ensure the valve is capable of opening and closing (including stroke time), and leak tested a final time. Valve seat tightness will be verified by a cold bar test, and if not free of fog, leakage will be measured and verified to be below design limits. In addition, for the safety mode of S/RVs, an as-found setpoint verification and as-found leak check are performed, followed by verification of set pressure, and delay. The valve will then be shipped to the plant without any disassembly or alteration of the main valve or pilot valve components.

The combination of the valve testing and the valve actuator testing provide a complete check of the capability of the valves to open and close, such that full functionality is demonstrated through overlapping tests, without cycling the valves.

ATTACHMENT 8
Relief Request RV-02I
Dresden Nuclear Power Station

ASME Components Affected

The affected components are the Dresden Nuclear Power Station (DNPS), Units 2 and 3, main steam Electromatic relief valves (ERVs), and Units 2 and 3 main steam safety/relief valves (S/RVs).

Equipment Piece Number	Description
2-0203-3A	Main Steam 3A Safety/Relief Valve
3-0203-3A	Main Steam 3A Safety/Relief Valve
2-0203-3B	Main Steam 3B Electromatic Relief Valve
2-0203-3C	Main Steam 3C Electromatic Relief Valve
2-0203-3D	Main Steam 3D Electromatic Relief Valve
2-0203-3E	Main Steam 3E Electromatic Relief Valve
3-0203-3B	Main Steam 3B Electromatic Relief Valve
3-0203-3C	Main Steam 3C Electromatic Relief Valve
3-0203-3D	Main Steam 3D Electromatic Relief Valve
3-0203-3E	Main Steam 3E Electromatic Relief Valve

Applicable Code Edition and Addenda

The applicable code edition is ASME OM Code 1998 Edition through 2000 Addenda, Sections ISTC-3510, "Exercising Test Frequency," Section ISTC-5113, "Valve Stroke Testing," Section ISTC-5114, Stroke Test Acceptance Criteria," and Section I-3410, "Class 1 Main Steam Pressure Relief Devices With Auxiliary Actuating Devices."

Applicable Code Requirement

Section ISTC-3510 states, "Power operated relief valves shall be exercised tested once per fuel cycle." Section ISTC-5113 states, "Active valves shall have their stroke times measured when exercised in accordance with ISTC-3500." The definition of stroke time is given in Section ISTC-2000 as the time interval from initiation of the actuating signal to the indication of the end of the operating stroke. Section ISTC-5114 states, "Test results shall be compared to the reference values established in accordance with ISTC-3300, ISTC-3310, or ISTC-3320." Section I-3410(d) states, "Each valve that has been maintained or refurbished in place, removed for maintenance and testing, or both, and reinstalled shall be remotely actuated at reduced or normal system pressure to verify open and close capability of the valve prior to resumption of electric power generation. Set pressure verification is not required."

Reason for Request

Pursuant to 10 CFR 50.55a, "Codes and standards," paragraph (a)(3), relief is requested from the listed requirements of the OM Code. The basis of the relief request is that the proposed alternative would provide an acceptable level of quality and safety.

ATTACHMENT 8
Relief Request RV-02I
Dresden Nuclear Power Station

There are four Dresser model 1525VX ERVs on DNPS, Units 2 and 3 (i.e., 3B, 3C, 3D, and 3E). Each unit also has a dual function Target Rock model 67F S/RV (i.e., 3A) which can actuate in either the safety mode or the relief mode.

The ERVs are solenoid operated with a single stage pilot. Operation of the pilot valve vents the chamber under the main valve disc, which causes it to open. The S/RVs have two pilots; both pilots operate in the safety mode. In the relief mode, the second-stage pilot disc is stroked by the air plunger.

Experience in the industry and at DNPS has indicated that manual actuation of main steam relief valves during plant operation can lead to valve seat leakage. Leakage from either the main valve disc or pilot valve results in increased suppression pool temperature and level. Leakage from the main valve disc and seat has little safety significance, as long as suppression pool temperature and level are maintained within Technical Specifications limits. However, leakage from the pilot valve can lead to inadvertent opening of the main valve, and the subsequent inability to re-close the valve.

The proposed relief will allow testing of the S/RVs and ERVs that is appropriate to demonstrate functionality, without cycling the valves in place under steam pressure.

Additionally, the Boiling Water Reactor Owners' Group (BWROG) Evaluation of NUREG-0737, "Clarification of TMI Action Plan Requirements," Item II.K.3.16, "Reduction of Challenges and Failures of Relief Valves," recommended that the number of safety relief valve openings be reduced as much as possible and unnecessary challenges should be avoided.

Proposed Alternative and Basis for Use

The following alternatives are proposed to the requirements stated above.

Code Section	Proposed Alternative
ISTC-3510	The relief valve actuators will be exercised each refueling outage. The relief valves will be exercised at the frequency required by Section I-1330.
ISTC-5113, 5114	Stroke times will be measured at the test facility. Stroke times will be measured following valve rebuild. The timing will begin with the actuating electrical signal and end with the indirect indication of the end of the operating stroke. Stroke time acceptance criteria will use a pre-established reference value that represents good performance for the valve type.
I-3410(d)	Following main valve refurbishment or replacement, a series of overlapping tests will assure functionality without actuating the valves while installed in the nuclear facility. Following pilot valve maintenance on the ERVs, only the valve actuator and pilot valve will be actuated.

Basis for Proposed Alternatives

Basis for Alternative to Section ISTC-3510 and I-3410

The proposed alternative is to exercise the valve actuators each refueling outage and exercise the valve at the frequency required by Section I-1330, or following any refurbishment or replacement of the valve. The valve actuator exercise will be performed in the plant with the

actuator disconnected from the valve. The valve exercise will be performed at the test facility. Thus, the full capability of the valves will be tested without cycling the valves in the plant under steam pressure. The proposed testing is described below.

Valve Testing
In accordance with Section I-1330, "Test Frequencies, Class 1 Pressure Relief Valves," each S/RV is tested, each refueling outage and two ERVs on each unit are tested every refueling outage. All four ERVs on each unit are thus tested every two refueling outages. This is normally accomplished by replacing the installed valves with new or refurbished valves that have been pre-tested.

Valve testing will be performed at a steam test facility, where the valve (i.e., main valve and pilot valve) and an actuator representative of the actuator used at the plant will be installed on a steam header in the same orientation as the plant installation. The test conditions in the test facility will be similar to those in the plant installation, including ambient temperature, valve insulation, and steam conditions. The valve will then be leak tested, functionally tested to ensure the valve is capable of opening and closing (including stroke time), and leak tested a final time. Valve seat tightness will be verified by a cold bar test, and if not free of fog, leakage will be measured and verified to be below design limits. In addition, for the safety mode of S/RVs, an as-found setpoint verification and as-found leak check are performed, followed by verification of set pressure, and delay. The valve will then be shipped to the plant without any disassembly or alteration of the main valve or pilot valve components. A receipt inspection will be performed in accordance with the requirements of the EGC Quality Assurance Program. The storage requirements in effect at DNPS ensure the valves are protected from physical damage. Prior to installation, the valve will again be inspected for foreign material and damage. The valve will be installed, insulated, and pneumatically and electrically connected. Proper connections will be verified per procedure.

As a result of the proposed alternative, exercising of the main valve for the ERVs will occur every two operating cycles (approximately every four years) compared to every operating cycle (approximately two years) as required by Section ISTC. A review of the surveillance testing results for the past ten years at DNPS was performed for the DNPS ERVs. The review checked for any failures of the main valve disc to stroke open. Based on this review, it was concluded that no failures of the valves to lift have occurred. Therefore, extending the frequency of checking the function of the main disc from approximately every two years to approximately every four years is not expected to result in additional valve failures.

Valve Actuator Testing
For the relief mode of S/RVs, the valve actuator test will be performed by energizing a solenoid that pneumatically actuates a plunger located within the main valve body. The plunger depresses the second stage pilot valve. When steam pressure actuates the plunger during plant operation, this allows pressure to be vented from the top of the main valve piston, allowing reactor pressure to lift the main valve piston, which opens the main valve disc. The test will verify movement of the plunger in accordance with vendor recommendations. However, since this test will be performed prior to establishing the reactor pressure needed to overcome main valve closure spring force, the main valve disc will not stroke during the test.

This test does not disturb the safety-mode first stage pilot valve. This is desirable, since leakage through the first stage pilot valve can mask main valve seat leakage after steam is applied to the valve.

For the ERVs, the valve actuator test will be performed with the pilot valve actuator mounted in its normal position. This will allow testing of the manual actuation electrical circuitry, solenoid actuator, pilot operating lever, and pilot plunger. This test will verify pilot valve movement. However, since this test will be performed prior to establishing the reactor pressure needed to overcome main valve closure spring force, the main valve will not stroke during the test.

The proposed valve actuator testing for ERVs is adequate and not detrimental to the pilot valves in light of the Nine Mile Point events described in an NRC Inspection Report for Nine Mile Point dated December 22, 2000, and NRC Event Notification Report 39779, dated April 21, 2003. The NRC inspection report for Nine Mile Point states that the spurious operation and sticking of valve ERV-111 most probably was caused by a bent stem and partial disk-stem separation. The inspection report describes that dry cycling of pilot valves can cause the partial disk-stem separation.

The valve actuator testing at DNPS includes manual dry cycling of the pilot valve to verify that the stem travel and lever arm adjusting screw gap are within limits. Following this verification, the ERV solenoid will be energized to manually stroke the pilot valve. The stem travel and lever arm adjusting screw gap will then be rechecked to verify that these parameters are within limits following the dry cycling. Partial disk-stem separation caused by dry cycling of the pilot valve will be detected during this recheck. Discussions with the ERV manufacturer, Dresser, concluded that this recheck would detect partial disk-stem separation caused by dry cycling of the pilot valve. In addition, EGC has performed dry cycling of the pilot valves at DNPS for many years, with no signs of partial or full disc detachment. Therefore, the proposed testing is adequate to detect the partial disk-stem separation experienced at Nine Mile Point during the simulated bench test described in the NRC inspection report.

The EGC maintenance procedures for the ERV pilot valves include appropriate inspections of the stem, pilot valve bushing, and disc to identify any nicks, gouges, or other damage that could impair free movement. The EGC procedure checks the gap at the end of the stem that has the thinnest cross section. This is the area most likely to be bent if not properly handled. In addition, free movement of the stem in the bushing and of the disc to stem connection are checked. This check assures that the stem is straight, the pilot can travel freely, and the pilot disc can seat properly.

The Nine Mile Point event described in NRC Event Notification Report 39779 was a failure of an ERV to open when actuated. The failure was reportedly due to inadequate solenoid force caused by high resistance in the cutout switch, such that the output force was not adequate to overcome the pilot spring force. The proposed testing for DNPS ERVs will include manual actuation of the electrical circuitry, solenoid actuator, pilot operating lever, and pilot plunger after installation in the plant. However, since this test will be performed prior to establishing the reactor pressure needed to overcome main valve closure spring force, the main valve will not stroke during the test. Since the proposed testing for DNPS ERVs includes a manual actuation of the solenoid and pilot valve, the test will demonstrate that the solenoid force is adequate to overcome the pilot spring force. Resistance checks of the cutout switch will assure the solenoid is capable of producing its full output force.

The solenoid actuator is designed to operate the pilot valve under all design conditions. The actuator includes two coils. One coil can be considered a pull-in coil, and the second considered a hold-in coil. The pull-in coil provides sufficient force to actuate the pilot, and then the hold-in coil provides sufficient force to maintain the pilot in an open position. Contacts designated as cutout contacts control the energization of these coils during solenoid motion.

During inspection of the operator prior to testing, specific attention is given to maintenance and testing of the cutout contacts. An as-found contact resistance value is measured the contacts are cleaned if required, the associated springs and mechanisms are inspected, and as-left contact resistances are verified. Resistance checks and meggar tests are then performed on both coils. Finally, during electrical actuation, operating voltages and currents are verified to be within acceptance criteria limits. These steps provide substantial indication that the solenoid operator is capable of functioning as designed.

In addition, operating experience indicates that a solenoid that is capable of actuating the pilot in cold conditions is capable of actuating the pilot under normal operating conditions. Pilot actuation and verification of coil and contact performance provides additional assurance that the ERVs will actuate when required.

In addition to the requirements of the OM Code, as part of the preventive maintenance program during each refueling outage, DNPS replaces the pilot valve assemblies in the ERVs that are not scheduled for removal and testing. This replacement does not involve removal of the ERVs and does not affect the main valve disc. Following replacement of the pilot valve assemblies, the proposed relief will allow testing of the ERV actuator and pilot as described above, without stroking the main valve. This proposed relief provides an acceptable level of quality and safety, since the affected portion of the valve will be fully tested.

These verifications will provide a complete check of the capability of the valves to open and close. Therefore, the proposed changes will allow the testing of the S/RVs and ERVs such that full functionality is demonstrated through overlapping tests, without cycling the valves.

Basis for Proposed Alternative to Section ISTC-5113

The proposed alternatives also provide adequate assurance that valve stroke time will be acceptable. Stroke timing of the S/RVs and ERVs will be performed at the test facility as described above. Since the valves are rebuilt at the frequency specified for exercising the valves (i.e., every refueling outage for the S/RVs and every other refueling outage for the ERVs), stroke timing is not useful for identifying valve degradation over several operating cycles. Rather, stroke timing will be used to ensure that the rebuilt valve performs acceptably compared to the stroke times of known good performing valves. Since the test facility cannot duplicate the electrical control system at the plant, actuation of the valve at the test facility is accomplished through a simplified electrical actuation. Observation of the end of the operating stroke at the test facility is indirect, based on evidence of steam flow, as it is at the nuclear facility, since the relief valves have no positive open indication. Although these differences may result in minor differences in measured stroke time compared to those measured when installed in the plant, the stroke times measured at the test facility will be comparable to each other and thus can be used to detect any abnormality in valve performance.

Duration of Proposed Alternative

DNPS requests approval of the proposed alternative for the fourth ten-year inservice testing interval for Units 2 and 3, which begins on November 1, 2003, and ends on October 31, 2012.

Precedent

The NRC has granted similar relief for main steam safety relief valves for Clinton Power Station in Reference 1, LaSalle County Station in Reference 2, and Quad Cities Nuclear Power Station in References 3 and 4.

References

1. Letter from U. S. NRC to O. D. Kingsley (Exelon Generation Company, LLC), "Clinton Power Station, Unit 1 – Relief Request 2204," dated March 28, 2002

2. Letter from U. S. NRC to O. D. Kingsley (Exelon Generation Company, LLC), "LaSalle County Station, Units 1 and 2 – Relief Request RV-11," dated December 13, 2001

3. Letter from U. S. NRC to J. L. Skolds (Exelon Generation Company, LLC), "Quad Cities Nuclear Power Station, Units 1 and 2 – Issuance of Exigent Amendments Re: Electromatic Relief Valve Testing," dated May 28, 2003

4. Letter from U. S. NRC to J. L. Skolds (Exelon Generation Company, LLC), "Quad Cities Nuclear Power Station, Units 1 and 2 – Issuance of Exigent Amendments Re: Power Operated Relief Valve Testing," dated May 8, 2003

ATTACHMENT 9
Relief Request RV-30E
Quad Cities Nuclear Power Station

ASME Components Affected

The affected components are the Quad Cities Nuclear Power Station (QCNPS) main steam Electromatic relief valves (ERVs) and main steam safety/relief valves (S/RVs).

Equipment Piece Number	Description
1-0203-3A	Main Steam 3A Safety/Relief Valve
2-0203-3A	Main Steam 3A Safety/Relief Valve
1-0203-3B	Main Steam 3B Electromatic Relief Valve
1-0203-3C	Main Steam 3C Electromatic Relief Valve
1-0203-3D	Main Steam 3D Electromatic Relief Valve
1-0203-3E	Main Steam 3E Electromatic Relief Valve
2-0203-3B	Main Steam 3B Electromatic Relief Valve
2-0203-3C	Main Steam 3C Electromatic Relief Valve
2-0203-3D	Main Steam 3D Electromatic Relief Valve
2-0203-3E	Main Steam 3E Electromatic Relief Valve

Applicable Code Edition and Addenda

The applicable code edition is ASME OM Code 1998 Edition through 2000 Addenda, Sections ISTC-3510, "Exercising Test Frequency," Section ISTC-5113, "Valve Stroke Testing," Section ISTC-5114, Stroke Test Acceptance Criteria," and Section I-3410, "Class 1 Main Steam Pressure Relief Devices With Auxiliary Actuating Devices."

Applicable Code Requirement

Section ISTC-3510, states, "Power operated relief valves shall be exercised tested once per fuel cycle." Section ISTC-5113 states, "Active valves shall have their stroke times measured when exercised in accordance with ISTC-3500." The definition of stroke time is given in Section ISTC-2000 as the time interval from initiation of the actuating signal to the indication of the end of the operating stroke. Section ISTC-5114 states, "Test results shall be compared to the reference values established in accordance with ISTC-3300, ISTC-3310, or ISTC-3320." Section I-3410(d) states, "Each valve that has been maintained or refurbished in place, removed for maintenance and testing, or both, and reinstalled shall be remotely actuated at reduced or normal system pressure to verify open and close capability of the valve prior to resumption of electric power generation. Set pressure verification is not required."

Reason for Request

Pursuant to 10 CFR 50.55a, "Codes and standards," paragraph (a)(3), relief is requested from the listed requirements of the OM Code. The basis of the relief request is that the proposed alternative would provide an acceptable level of quality and safety.

There are four Dresser model 1525VX ERVs on QCNPS, Unit 1 (i.e., 3B, 3C, 3D, and 3E). Each unit also has a dual function Target Rock model 67F S/RV (i.e., 3A) which can actuate in either the safety mode or the relief mode. Currently, there are four PORVs on QCNPS, Unit 2

(i.e., 3B, 3C, 3D, and 3E) manufactured by Target Rock. Because of recent operating experience with these PORVs involving seat leakage and an inadvertent opening, QCNPS plans to replace these PORVs with the Dresser ERVs described above during the next refueling outage on QCNPS, Unit 2, which is scheduled for February 2004.

The ERVs are solenoid-operated with a single stage pilot. Operation of the pilot valve vents the chamber under the main valve disc, which causes it to open. The S/RVs have two pilots; both pilots operate in the safety mode. In the relief mode, the second-stage pilot disc is stroked by the air plunger.

Experience in the industry and at QCNPS has indicated that manual actuation of main steam relief valves during plant operation can lead to valve seat leakage. Leakage from either the main valve disc or pilot valve results in increased suppression pool temperature and level. Leakage from the main valve disc and seat has little safety significance, as long as suppression pool temperature and level are maintained within Technical Specification limits. However, leakage from the pilot valve can lead to inadvertent opening of the main valve, and the subsequent inability to re-close the valve.

The proposed relief will allow testing of the S/RVs, ERVs that is appropriate to demonstrate functionality, without cycling the valves in place under steam pressure.

Additionally, the Boiling Water Reactor Owners' Group (BWROG) Evaluation of NUREG-0737, "Clarification of TMI Action Plan Requirements," Item II.K.3.16, "Reduction of Challenges and Failures of Relief Valves," recommended that the number of safety relief valve openings be reduced as much as possible and unnecessary challenges should be avoided.

Proposed Alternative and Basis for Use

The following alternatives are proposed to the requirements stated above.

Code Section	Proposed Alternative
ISTC-3510	The relief valve actuators will be exercised each refueling outage. The relief valve will be exercise tested at the frequency required by Section I-1330.
ISTC-5113, 5114	Stroke times will be measured at the test facility. Stroke times will be measured following valve rebuild. The timing will begin with the actuating electrical signal and end with the indirect indication of the end of the operating stroke. Stroke time acceptance criteria will use a pre-established reference value that represents good performance for the valve type.
I-3410(d)	Following main valve refurbishment or replacement, a series of overlapping tests will assure functionality without actuating the valves when installed in the nuclear facility. Following pilot valve maintenance on the ERVs, only the valve actuator and pilot valve will be tested.

Basis for Proposed Alternatives
Basis for Alternative to Section ISTC-3510 and I-3410

The proposed alternative is to test the valve actuators each refueling outage and test the relief valve at the frequency required by Section I-1330, or following any refurbishment or replacement of the relief valve. The valve actuator test will be performed in the plant with the actuator disconnected from the relief valve. The valve test will be performed at the test facility. Thus, the full capability of the valves will be tested without cycling the valves in the plant under steam pressure.

Valve Testing
In accordance with Section I-1330, "Test Frequencies, Class 1 Pressure Relief Valves," each S/RVs is tested each refueling outage and two ERVs on each unit are tested every refueling outage. All four ERVs on each unit are thus tested every two refueling outages. This is normally accomplished by replacing the installed valves with new or refurbished valves that have been pre-tested.

Valve testing will be performed at a steam test facility, where the valve (i.e., main valve and pilot valve) and an actuator representative of the actuator used at the plant will be installed on a steam header in the same orientation as the plant installation. The test conditions in the test facility will be similar to those in the plant installation, including ambient temperature, valve insulation, and steam conditions. The valve will then be leak tested, functionally tested to ensure the valve is capable of opening and closing (including stroke time), and leak tested a final time. Valve seat tightness will be verified by a cold bar test, and if not free of fog, leakage will be measured and verified to be below design limits. In addition, for the safety mode of S/RVs, an as-found setpoint verification and as-found leak check are performed, followed by verification of set pressure, and delay. The valve will then be shipped to the plant without any disassembly or alteration of the main valve or pilot valve components. A receipt inspection will be performed in accordance with the requirements of the EGC Quality Assurance Program. The storage requirements in effect at QCNPS ensure the valves are protected from physical damage. Prior to installation, the valve will again be inspected for foreign material and damage. The valve will be installed, insulated, and pneumatically and electrically connected. Proper connections will be verified per procedure.

As a result of the proposed alternative, exercising of the main valve for the ERVs will occur every two operating cycles (approximately every four years) compared to every operating cycle (approximately two years) as required by Section ISTC. A review of the surveillance testing results for the past ten years at QCNPS was performed for the QCNPS ERVs. The review checked for any failures of the main valve disc to stroke open. Based on this review, it was concluded that no failures of the valves to lift have occurred. Therefore, extending the frequency of checking the function of the main disc from approximately every two years to approximately every four years is not expected to result in additional valve failures.

Valve Actuator Testing
For the relief mode of S/RVs, the valve actuator test will be performed by energizing a solenoid that pneumatically actuates a plunger located within the main valve body. The plunger depresses the second stage pilot valve. When steam pressure actuates the plunger during plant operation, this allows pressure to be vented from the top of the main valve piston, allowing reactor pressure to lift the main valve piston, which opens the main valve disc. The test will verify movement of the plunger in accordance with vendor recommendations. However, since this test will be performed prior to establishing the reactor pressure needed to overcome main valve closure spring force, the main valve disc will not stroke during the test.

This test does not disturb the safety-mode first stage pilot valve. This is desirable, since leakage through the first stage pilot valve can mask main valve seat leakage after steam is applied to the valve.

For the ERVs, the valve actuator test will be performed with the pilot valve actuator mounted in its normal position. This will allow testing of the manual actuation electrical circuitry, solenoid actuator, pilot operating lever, and pilot plunger. This test will verify pilot valve movement. However, since this test will be performed prior to establishing the reactor pressure needed to overcome main valve closure spring force, the main valve will not stroke during the test.

The proposed valve actuator testing for ERVs is adequate and not detrimental to the pilot valves in light of the Nine Mile Point events described in an NRC Inspection Report for Nine Mile Point dated December 22, 2000, and NRC Event Notification Report 39779, dated April 21, 2003. The NRC inspection report for Nine Mile Point states that the spurious operation and sticking of valve ERV-111 most probably was caused by a bent stem and partial disk-stem separation. The inspection report describes that dry cycling of pilot valves can cause the partial disk-stem separation.

The valve actuator testing at QCNPS includes manual dry cycling of the pilot valve to verify that the stem travel and lever arm adjusting screw gap are within limits. Following this verification, the ERV solenoid will be energized to manually stroke the pilot valve. The stem travel and lever arm adjusting screw gap will then be rechecked to verify that these parameters are within limits following the dry cycling. Partial disk-stem separation caused by dry cycling of the pilot valve will be detected during this recheck. Discussions with the ERV manufacturer, Dresser, concluded that this recheck would detect partial disk-stem separation caused by dry cycling of the pilot valve. In addition, EGC has performed dry cycling of the pilot valves at QCNPS for many years, with no signs of partial or full disc detachment. Therefore, the proposed testing is adequate to detect the partial disk-stem separation experienced at Nine Mile Point during the simulated bench test described in the NRC inspection report.

The EGC maintenance procedures for the ERV pilot valves include appropriate inspections of the stem, pilot valve bushing, and disc to identify any nicks, gouges, or other damage that could impair free movement. The EGC procedure checks the gap at the end of the stem that has the thinnest cross section. This is the area most likely to be bent if not properly handled. In addition, free movement of the stem in the bushing and of the disc to stem connection are checked. This check assures that the stem is straight, the pilot can travel freely, and the pilot disc can seat properly.

The Nine Mile Point event described in NRC Event Notification Report 39779 was a failure of an ERV to open when actuated. The failure was reportedly due to inadequate solenoid force caused by high resistance in the cutout switch, such that the output force was not adequate to overcome the pilot spring force. The proposed testing for QCNPS ERVs will include manual actuation of the electrical circuitry, solenoid actuator, pilot operating lever, and pilot plunger after installation in the plant. However, since this test will be performed prior to establishing the reactor pressure needed to overcome main valve closure spring force, the main valve will not stroke during the test. Since the proposed testing for QCNPS ERVs includes a manual actuation of the solenoid and pilot valve, the test will demonstrate that the solenoid force is

adequate to overcome the pilot spring force. Resistance checks of the cutout switch will assure the solenoid is capable of producing its full output force.

The solenoid actuator is designed to operate the pilot valve under all design conditions. The actuator includes two coils. One coil can be considered a pull-in coil, and the second considered a hold-in coil. The pull-in coil provides sufficient force to actuate the pilot, and then the hold-in coil provides sufficient force to maintain the pilot in an open position. Contacts designated as cutout contacts control the energization of these coils during solenoid motion.

During inspection of the operator prior to testing, specific attention is given to maintenance and testing of the cutout contacts. An as-found contact resistance value is measured, the contacts are cleaned if required, the associated springs and mechanisms are inspected, and as-left contact resistances are verified. Resistance checks and meggar tests are then performed on both coils. Finally, during electrical actuation, operating voltages and currents are verified to be within acceptance criteria limits. These steps provide substantial indication that the solenoid operator is capable of functioning as designed.

In addition, operating experience indicates that a solenoid that is capable of actuating the pilot in cold conditions is capable of actuating the pilot under normal operating conditions. Pilot actuation and verification of coil and contact performance provides additional assurance that the ERVs will actuate when required.

In addition to the requirements of the OM Code, as part of the preventive maintenance program during each refueling outage, QCNPS replaces the pilot valve assemblies in the ERVs that are not scheduled for removal and testing. This replacement does not involve removal of the ERVs and does not affect the main valve disc. Following replacement of the pilot valve assemblies, the proposed relief will allow testing of the ERV actuator and pilot as described above, without stroking the main valve. This proposed relief provides an acceptable level of quality and safety, since the affected portion of the valve will be fully tested.

These verifications will provide a complete check of the capability of the valves to open and close. Therefore, the proposed changes will allow the testing of the S/RVs and ERVs such that full functionality is demonstrated through overlapping tests, without cycling the valves.

Basis for Proposed Alternative to Section ISTC-5113

The proposed alternatives also provide adequate assurance that valve stroke time will be acceptable. Stroke timing of the S/RVs and ERVs will be performed at the test facility as described above. Since the valves are rebuilt at the frequency specified for exercising the valves (i.e., every refueling outage for the S/RVs and every other refueling outage for the ERVs), stroke timing is not useful for identifying valve degradation over several operating cycles. Rather, stroke timing will be used to ensure that the rebuilt valve performs acceptably compared to the stroke times of known good performing valves. Since the test facility can not duplicate the electrical control system at the plant, actuation of the valve at the test facility is accomplished through a simplified electrical actuation. Observation of the end of the operating stroke at the test facility is indirect, based on evidence of steam flow, as it is at the nuclear facility, since the relief valves have no positive open indication. Although these differences may result in minor differences in measured stroke time compared to those measured when installed in the plant, the stroke times measured at the test facility will be comparable to each other and thus can be used to detect any abnormality in valve performance.

ATTACHMENT 9
Relief Request RV-30E
Quad Cities Nuclear Power Station

Duration of Proposed Alternative

This proposed alternative is similar to a relief request (i.e., RV-30D) submitted for QCNPS in Reference 1. QCNPS plans to implement the relief requested in Reference 1, if approved, during refueling outage Q2R18, scheduled to begin in February 2004. Following Q2R18, EGC requests approval of this proposed alternative for the remainder of the fourth ten-year inservice testing intervals for Units 1 and 2, which begin on February 19, 2004, and March 11, 2004, and end on February 18, 2013, and March 10, 2013, respectively.

Precedent

The NRC has granted similar relief for main steam safety relief valves for Clinton Power Station in Reference 2, LaSalle County Station in Reference 3, and QCNPS in References 4 and 5.

References

1. Letter from T. J. Tulon, (Exelon Generation Company, LLC) to U. S. NRC, "Submittal of Proposed Relief Requests to the Requirements of 10 CFR 50.55a Concerning the Fourth Ten-Year Interval Inservice Testing Program," dated September 11, 2003

2. Letter from U. S. NRC to O. D. Kingsley (Exelon Generation Company, LLC), "Clinton Power Station, Unit 1 – Relief Request 2204," dated March 28, 2002

3. Letter from U. S. NRC to O. D. Kingsley (Exelon Generation Company, LLC), "LaSalle County Station, Units 1 and 2 – Relief Request RV-11," dated December 13, 2001

4. Letter from U. S. NRC to J. L. Skolds (Exelon Generation Company, LLC), "Quad Cities Nuclear Power Station, Units 1 and 2 – Issuance of Exigent Amendments Re: Electromatic Relief Valve Testing," dated May 28, 2003

5. Letter from U. S. NRC to J. L. Skolds (Exelon Generation Company, LLC), "Quad Cities Nuclear Power Station, Units 1 and 2 – Issuance of Exigent Amendments Re: Power Operated Relief Valve Testing," dated May 8, 2003