

November 28, 2007

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

Peach Bottom Atomic Power Station, Units 2 and 3  
Renewed Facility Operating License Nos. DPR-44 and DPR-56  
NRC Docket Nos. 50-277 and 50-278

Subject: Submittal of Relief Requests Associated with the Fourth Inservice Testing Interval

Attached for your review are relief requests associated with the Fourth Inservice Testing (IST) Interval for Peach Bottom Atomic Power Station (PBAPS), Units 2 and 3. The fourth interval of the PBAPS, Units 2 and 3 IST program complies with the ASME OM Code, 2001 Edition through 2003 Addenda. The new interval begins on August 15, 2008 and will conclude on August 14, 2018. On August 15, 2007, the latest edition and addenda of the code incorporated by reference in 10CFR50.55a(b)(3) of the regulation was the 2001 Edition through the 2003 Addenda. We request your approval by September 5, 2008, in order to support the Fall 2008 refueling outage.

There are no regulatory commitments contained within this letter.

If you have any questions concerning this letter, please contact Mr. Thomas Loomis at (610) 765-5510.

Sincerely,



Pamela B. Cowan  
Director – Licensing & Regulatory Affairs  
Exelon Generation Company, LLC

Attachment: 1) Relief Requests Associated with the Fourth Ten-Year Interval for Peach Bottom Atomic Power Station, Units 2 and 3

cc: S. J. Collins, Regional Administrator, Region I, USNRC  
F. Bower, USNRC Senior Resident Inspector, PBAPS  
J. Hughey, Project Manager [PBAPS] USNRC

## **Attachment 1**

### **Relief Requests Associated with the Fourth Ten-Year Interval for Peach Bottom Atomic Power Station, Units 2 and 3**

#### **Valve Relief Requests**

<b>01A-VRR-1</b>	<b>Safety Relief Valve Testing</b>
<b>01A-VRR-2</b>	<b>Main Steam Safety Relief Valves (SRVs) with Automatic Depressurization System (ADS) Functions</b>
<b>GVRR-1</b>	<b>Use of ASME Code Case OMN-1, Revision 1</b>
<b>GVRR-2</b>	<b>Exercise Testing of Vacuum Relief Check Valves In Series/Parallel Configuration</b>

**Request Number 01A-VRR-1**  
**Proposed Alternative**  
**In Accordance with 10 CFR 50.55a(a)(3)(ii)**  
**Hardship or Unusual Difficulty without Compensating Increase in Level of Quality or Safety**

**Safety Relief Valve Testing**

**1. ASME Code Component(s) Affected**

Components:

Safety Relief Valves (SRVs): S/N 178 (currently installed in Unit 2)  
S/N 20 (currently installed in Unit 2)  
S/N 73 (currently installed in Unit 3)

Category:

Valves S/N 178, S/N 20, and S/N 73 are Category C

Manufacturer:

Target Rock, Model: 67F

**2. Applicable Code Edition and Addenda**

The applicable code edition and addenda is the ASME OM Code, 2001 Edition through 2003 Addenda. The new interval begins on August 15, 2008, and will conclude on August 14, 2018.

**3. Applicable Code Requirements**

Exelon Generation Company, LLC (EGC) requests relief from the ASME OM Code, "Code for Operations and Maintenance of Nuclear Power Plants," 2001 Edition through 2003 Addenda, Mandatory Appendix I, "Inservice Testing of Pressure Relief Devices in Light-Water Reactor Nuclear Power Plants," Section I-1320, "Test Frequencies, Class 1 Pressure Relief Valves".

**4. Reason for Request**

EGC is requesting relief from the identified code requirements on the basis that compliance with the specified requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality in accordance with 10 CFR 50.55a(a)(3)(ii). ISTC-3200 (ASME OM Code, 2001 Edition through 2003 Addenda), "Inservice Testing," states that inservice testing shall commence when the valves are required to be operable to fulfill their required function(s). Additionally, ISTC-5240, "Safety and Relief Valves," directs that safety and relief valves meet the inservice testing requirements set forth in Mandatory Appendix I of the ASME OM Code. Section I-1320(a) (ASME OM Code, 2001 Edition through 2003 Addenda) states that Class 1 pressure relief valves shall be tested at least once every five years. The required test ensures that the Safety Relief Valves (SRVs), which are located on the main steam lines between the reactor vessel and the first isolation valve within the drywell, will open at the pressures assumed in the safety analysis. EGC is requesting a proposed alternative in accordance with 10 CFR 50.55a(a)(3)(ii) from the above requirements to extend the test interval for S/N 178 (two (2) months – until the

**Request Number 01A-VRR-1**  
**Proposed Alternative**  
**In Accordance with 10 CFR 50.55a(a)(3)(ii)**  
**Hardship or Unusual Difficulty without Compensating Increase in Level of Quality or Safety**

**Safety Relief Valve Testing**

Unit 2 fall outage in 2010), S/N 20 (three (3) months – until the Unit 2 fall outage 2010) and S/N 73 (two (2) months – until the Unit 3 fall outage in 2009). The valves will be replaced in the identified outages.

EGC typically removes and tests either six (6) or seven (7) of thirteen (13) SRV/Safety Valves (SVs) on Peach Bottom Atomic Power Station (PBAPS), Units 2 and 3 every refueling outage, so that all valves are removed and tested every two refueling outages. This methodology supports the ASME OM Code requirements for testing untested Class 1 pressure relief valves. After each valve is removed and tested, the SRV/SVs are overhauled to a like-new condition, and reset to an as-left nominal setpoint plus or minus 1%.

EGC utilizes an ASME Code-certified off-site vendor (Wyle Labs) to perform as-found and as-left testing of the PBAPS SRVs. EGC utilizes an ASME Code-certified off-site vendor (Target Rock Corporation) to perform disassemblies, inspections and refurbishments of the PBAPS SRVs. EGC purchase orders require Target Rock Corporation (TRC) to comply with procedures to disassemble, inspect and refurbish each SRV upon removal from service, independent of the as-found test results.

The TRC procedures identify the critical components that are required to be inspected for wear and defects, and the critical dimensions that are required to be measured during the inspection. If components are found worn or outside of the specified tolerances, the components are either reworked to within the specified tolerances, or replaced. All parts that are defective, outside-of-tolerance, and all reworked/replaced components are identified, and PBAPS is notified in writing of these components by TRC. The SRV is then re-assembled, the as-left test is performed, and the SRV is shipped by Wyle Labs to PBAPS.

At PBAPS, a procedure is used for handling and storage of Safety Related and Augmented Quality equipment (SM-AA-102, "Warehouse Operations"). The procedure requires the storage of SRV/SVs within a fire resistant, tear-resistant, weather-tight and well-ventilated building or equivalent enclosure. The procedure also states that the storage area or enclosure shall not be subject to flooding; the floor shall be paved or equal and well drained. The storage area must be provided with uniform heating and temperature control to prevent condensation and corrosion. Minimum and maximum temperatures are controlled.

Since the PBAPS does not perform setpoint testing of SRVs maintained in a controlled environment for an extended period of time prior to installation, PBAPS has provided the as-found set-pressure test results for SRVs stored in a controlled environment at PBAPS for an extended period of time, placed in service for approximately 4 years (48 months), and then tested. This information is contained in the attached Tables 1, 2 and 3.

**Request Number 01A-VRR-1**  
**Proposed Alternative**  
**In Accordance with 10 CFR 50.55a(a)(3)(ii)**  
**Hardship or Unusual Difficulty without Compensating Increase in Level of Quality or Safety**

**Safety Relief Valve Testing**

**5. Proposed Alternative and Basis for Use**

EGC requests relief from the specified sections of the ASME OM Code, until such time that the valves are removed and refurbished. The requested extensions are for S/N 178 (two (2) months – until the Unit 2 fall outage in 2010), S/N 20 (three (3) months – until the Unit 2 fall outage 2010) and S/N 73 (two (2) months – until the Unit 3 fall outage in 2009).

As-found testing history for PBAPS's Target Rock Valves from 1999 to prior to the Fall 2007 outage indicates that all as-found tests on Target Rock Valves (i.e., a total of 53 tests) that have been installed in PBAPS Unit 2 and Unit 3 for two operating cycles (48 months), have successfully passed the as-found acceptance criteria of plus or minus 3%.

As found testing data for the three (3) valves is contained in Tables 1, 2 and 3. As demonstrated by the testing results, the valve testing results are generally within the rigorous  $\pm 1\%$  Technical Specification limit (exceptions noted in Table 2). We note that this relief request is not requesting relief from the Technical Specification limit of 1%. The short extensions (maximum of three (3) months) requested in this relief request are not anticipated to impact the ability of the valves to meet the Technical Specification limit of 1%, or the reactor steam dome safety limit specified in Technical Specifications (1325 psig).

**6. Duration of Proposed Alternative**

EGC requests relief from the specified sections of the ASME OM Code, until such time that the valves are removed and refurbished. The requested extensions are for S/N 178 (two (2) months – until the Unit 2 fall outage in 2010), S/N 20 (three (3) months – until the Unit 2 fall outage 2010) and S/N 73 (two (2) months – until the Unit 3 fall outage in 2009).

**7. Precedents**

In Reference 1, the NRC reviewed and approved a similar relief request for Peach Bottom Atomic Power Station, Unit 2. This relief request was approved on October 25, 2007.

In Reference 2, the NRC reviewed and approved a relief request for Susquehanna Steam Electric Station, Units 1 and 2 to extend the main steam safety/relief valves test interval duration for individual valves to six years for the entire third 10-year Inservice Testing interval.

In Reference 3, the NRC reviewed and approved a relief request for Nine Mile Point, Unit 2 to extend the main steam safety/relief valves test interval duration for individual valves to three refueling outages or approximately six years for the entire third 10-year Inservice Testing interval.

**Request Number 01A-VRR-1**  
**Proposed Alternative**  
**In Accordance with 10 CFR 50.55a(a)(3)(ii)**  
**Hardship or Unusual Difficulty without Compensating Increase in Level of Quality or Safety**

**Safety Relief Valve Testing**

**8. References**

- 1) Letter from H. K. Chernoff (USNRC) to C. G. Pardee (Exelon Generation Company, LLC), "Peach Bottom Atomic Power Station, Unit 2 – Request for Relief from ASME OM Code 5-Year Test Interval For Safety Relief Valve/Safety Valves, Relief Request (RR) 01A-VRR-2 (TAC NO. MD6701)," dated October 25, 2007.
- 2) Letter from R. J. Laufer (USNRC) to B. L. Shriver (SSES), "Susquehanna Steam Electric Station Units 1 and 2 - Third 10-Year Interval Inservice Testing (IST) Program Plans," dated March 10, 2005.
- 3) Letter from M. Banerjee (USNRC) to J.H. Mueller (NMPC), "Nine Mile Point Nuclear Station, Unit No. 2 – Alternative to American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code) Regarding Inservice Testing of Main Steam Safety/Relief Valves (TAC NO. MB0290)," dated April 17, 2001.

**Request Number 01A-VRR-1**  
**Proposed Alternative**  
**In Accordance with 10 CFR 50.55a(a)(3)(ii)**  
**Hardship or Unusual Difficulty without Compensating Increase in Level of Quality or Safety**

**Safety Relief Valve Testing**

**Table 1**  
**S/N 178**  
**Test History**

<b>Target Rock Serial Number</b>	<b>As-Left Test Date</b>	<b>Storage Time</b>	<b>Installed</b>	<b>Removed</b>	<b>Installation Time</b>	<b>As-Found Test Results</b>	<b>Requested Interval Extension (months)</b>
S/N 178	07/26/05	14 months	2R16 (2006) (71L)	To be removed 2R18 (2010)	48 months	To be determined in Fall 2010	Approximately 2 months
S/N 178	05/25/99	16 months	2R13 (2000) (71G)	2R15 (2004)	48 months	1144 psig (SAT)	—
S/N 178	04/94	5 months	2R10 (1994) (71J)	2R12 (1998)	48 months	1138 psig (SAT)	—

**Request Number 01A-VRR-1**  
**Proposed Alternative**  
**In Accordance with 10 CFR 50.55a(a)(3)(ii)**  
**Hardship or Unusual Difficulty without Compensating Increase in Level of Quality or Safety**

**Safety Relief Valve Testing**

**Table 2**  
**S/N 20**  
**Test History**

<b>Target Rock Serial Number</b>	<b>As-Left Test Date</b>	<b>Storage Time</b>	<b>Installed</b>	<b>Removed</b>	<b>Installation Time</b>	<b>As-Found Test Results</b>	<b>Requested Interval Extension (Months)</b>
S/N 20	07/07/05	14 months	2R16 (2006) (71J)	To be removed 2R18 (2010)	48 months	To be determined in Fall 2010	Approximately 3 months
S/N 20	05/12/00	16 months	3R13 (2001) (71G)	3R14 (2003)	24 months	1130 psig (UNSAT LOW)*	—
S/N 20	10/25/94	11 months	3R10 (1995) (71J)	3R12 (1999)	48 months	1163 psig (UNSAT HIGH) **	—

\* Target Rock S/N 20 was identified as having a UNSAT as-found set pressure test of 1130 psig in 2003. The Technical Specification (TS) value for this valve is 1145 psig  $\pm$  11 psig (low limit of 1134 psig). This as-found set pressure test result is only slightly below the low limit of 1134 psig.

\*\* Target Rock S/N 20 was identified as having a UNSAT as-found set pressure test of 1163 psig in 1999. The Technical Specification (TS) value for this valve is 1145 psig  $\pm$  11 psig (high limit of 1156 psig). This as-found set pressure test result is only slightly above the high limit of 1156 psig. We note that the reactor steam dome safety limit, as specified in TS, is 1325 psig. The as-found set pressure lift values above are well below this safety limit.



**Request Number 01A-VRR-1**  
**Proposed Alternative**  
**In Accordance with 10 CFR 50.55a(a)(3)(ii)**  
**Hardship or Unusual Difficulty without Compensating Increase in Level of Quality or Safety**

**Safety Relief Valve Testing**

**Table 3**  
**S/N 73**  
**Test History**

<b>Target Rock Serial Number</b>	<b>As-Left Test Date</b>	<b>Storage Time</b>	<b>Installed</b>	<b>Removed</b>	<b>Installation Time</b>	<b>As-Found Test Results</b>	<b>Requested Interval Extension (Months)</b>
S/N 73	08/02/04	13 months	3R15 (2005) (71H)	To be removed 3R17 (2009)	48 months	To be determined in Fall 2009	Approximately 2 months
S/N 73	06/17/99	3 months	3R12 (1999) (71J)	3R14 (2003)	48 months	1137 psig (SAT)	—
S/N 73	03/18/94	6 months	2R10 (1994) (71L)	2R12 (1998)	48 months	1149 psig (SAT)	—

The data presented in these tables indicates that storage times do not impact as-found set pressure test results. Based on this data, storage time does not impact the ability of a valve to meet its as-found set pressure acceptance criteria.

**Request Number 01A-VRR-2**  
**Proposed Alternative**  
**In Accordance with 10 CFR 50.55a(a)(3)(ii)**  
**Hardship or Unusual Difficulty without Compensating Increase in Level of Quality or Safety**

**Main Steam Safety Relief Valves (SRVs) with Automatic  
Depressurization System (ADS) Functions**

**1. ASME Code Component(s) Affected**

<b>Valve</b>	<b>Description</b>	<b>Class</b>	<b>Category</b>	<b>Unit</b>
RV-2-02-071A	ADS/Safety Relief Valve A	1	B/C	2
RV-2-02-071B	ADS/Safety Relief Valve B	1	B/C	2
RV-2-02-071C	ADS/Safety Relief Valve C	1	B/C	2
RV-2-02-071G	ADS/Safety Relief Valve G	1	B/C	2
RV-2-02-071K	ADS/Safety Relief Valve K	1	B/C	2
RV-3-02-071A	ADS/Safety Relief Valve A	1	B/C	3
RV-3-02-071B	ADS/Safety Relief Valve B	1	B/C	3
RV-3-02-071C	ADS/Safety Relief Valve C	1	B/C	3
RV-3-02-071G	ADS/Safety Relief Valve G	1	B/C	3
RV-3-02-071K	ADS/Safety Relief Valve K	1	B/C	3

**2. Applicable Code Edition and Addenda**

The applicable code edition and addenda is the ASME OM Code, 2001 Edition through 2003 Addenda. The new interval begins on August 15, 2008, and will conclude on August 14, 2018.

**3. Applicable Code Requirement**

Mandatory Appendix I, Section I-3410(d) ("Class 1 Main Steam Pressure Relief Valves With Auxiliary Actuating Devices"), requires that:

"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 before resumption of electric power generation. Set-pressure verification is not required."

**4. Reason for Request**

Exelon Generation Company, LLC (EGC) is requesting relief from the identified code requirements on the basis that compliance with the specified requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality in accordance with 10 CFR 50.55a(a)(3)(ii). Specifically, EGC is requesting relief from the requirements contained in Mandatory Appendix I, Section I-3410(d). This section requires in-situ exercising testing of the ADS Safety Relief Valves (SRVs) at reduced power operation. This in-situ test imposes an unnecessary challenge on the valves and has been linked to valve degradation (e.g., pilot and/or valve leakage). Pilot degradation, while not a concern with respect to the ADS safety function could, if severe enough, lead to SRV set-point drift, spurious actuation, and/or failure to properly re-seat. Such events have occurred at other BWRs with similar SRVs. If any of these valves fail to re-close after testing, the

**Request Number 01A-VRR-2**  
**Proposed Alternative**  
**In Accordance with 10 CFR 50.55a(a)(3)(ii)**  
**Hardship or Unusual Difficulty without Compensating Increase in Level of Quality or Safety**

**Main Steam Safety Relief Valves (SRVs) with Automatic  
Depressurization System (ADS) Functions**

plant would be placed in a LOCA condition requiring plant shutdown in accordance with Technical Specification 3.6.2.1, "Suppression Pool Average Temperature."

As originally stated in NUREG-1482, "Guidelines for Inservice Testing at Nuclear Power Plants", Section 4.3.4, Revision 0, and NUREG-0626, "Generic Evaluation of Feedwater Transients and Small Break Loss-of-Coolant Accidents in GE Designed Operating Plants and Near-Term Operating License Applications", the NRC staff recommends reducing the number of challenges to the ADS valves. NUREG-1482, Revision 1, Section 4.3.2.1, describes how several licensees have determined that in-situ testing of the SRV/SVs can contribute to undesirable seat leakage of the valve during subsequent plant operation.

Recent ASME Code development has recognized that unnecessary challenges to ADS valves should be avoided. Paragraph ISTC-1200 of the ASME OM 2001 Code with Omb-2003 Addenda exempts safety and relief valves from the requirements of ISTC-3700, Valve Position Verification, and ISTC-3500, Valve Testing Requirements.

In-situ testing of ADS SRVs is not necessary because the remaining ADS and SRV tests provide an acceptable level of quality and safety. These remaining tests and the associated ADS SRV performance requirements provide adequate demonstration of ADS SRV operability as described below:

A. ASME OM Code Appendix I Setpoint/Leakage Testing

These functional tests and inspections, performed on at least 50% of the SRVs each refueling outage, verify that the valves self-actuate to open and close at the required set pressure and that leakage is within specified limits. After as-found testing is completed, disassembly and inspection is performed and the valves are refurbished. Manually exercising of the valves via the solenoid mode (i.e., ADS mode) is performed after refurbishment and as-left set pressure and seat leakage testing is performed.

B. ADS Logic System Functional Test

This test, performed once per 24 months, verifies the ability of the ADS system logic to initiate and sustain automatic operation of the ADS system during design accident conditions. The surveillance tests the logic by simulating Reactor Low Water Level and High Drywell Pressure conditions, times and verifies proper operation of the ADS Bypass time delay relay, and verifies ADS SRV solenoid valve circuit operability.

C. ADS Leak Check

This test, performed each refueling outage, verifies that the ADS instrument nitrogen accumulator leakage is low enough to ensure that there will be sufficient pneumatic pressure for design basis ADS SRVs operation.

D. SRV Cyclic Test

**Request Number 01A-VRR-2**  
**Proposed Alternative**  
**In Accordance with 10 CFR 50.55a(a)(3)(ii)**  
**Hardship or Unusual Difficulty without Compensating Increase in Level of Quality or Safety**

**Main Steam Safety Relief Valves (SRVs) with Automatic  
Depressurization System (ADS) Functions**

This test, performed each refueling outage, verifies proper operation of the ADS solenoid valves and air operator.

These combined tests described above verify the required ADS critical components performance requirements. This relief request will only eliminate the post-installation stroke test. This ADS SRV function is considered to be extremely reliable based on the simplicity of this aspect of the SRV design and is supported by PBAPS and industry performance history.

**5. Proposed Alternative and Basis for Use**

Performance of tests A through D as described above.

**6. Duration of Proposed Alternative**

This proposed alternative will be utilized for the fourth ten-year interval.

**7. Precedents**

- 1) A similar relief request was previously approved for the third ten-year interval at the Peach Bottom Atomic Power Station, Units 2 and 3 as Relief Request 01A-VRR-1 in NRC Safety Evaluation Report dated October 1, 1998.
- 2) A similar relief request was approved for Limerick Generating Station, Units 1 and 2 as Relief Request 41-VRR-6, in NRC Safety Evaluation Report dated November 28, 2000.
- 3) A similar relief request was approved for Hope Creek Generating Station as Relief Request V-04, in NRC Safety Evaluation Report dated April 5, 2007.

**Request Number GVRR-1**  
**Proposed Alternative**  
**In Accordance with 10 CFR 50.55a(a)(3)(i)**  
**Alternative Provides Acceptable Level of Quality and Safety**

**Use of ASME Code Case OMN-1, Revision 1**

**1. ASME Code Component(s) Affected**

All active, non-skid mounted, ASME Class 1, 2 and 3 Motor Operated Valves (MOVs) scoped into the Peach Bottom Atomic Power Station (PBAPS) Inservice Testing Program.

**2. Applicable Code Edition and Addenda**

The applicable code edition and addenda is the ASME OM Code, 2001 Edition through 2003 Addenda. The new interval begins on August 15, 2008, and will conclude on August 14, 2018.

**3. Applicable Code Requirement**

ISTC, excluding ISTC-3600

**4. Reason for Request**

Pursuant to 10 CFR 50.55a(a)(3)(i) relief is requested from the requirements of the OM Code, Subsection ISTC, excluding ISTC-3600. The proposed alternative would provide an acceptable level of quality and safety.

**5. Proposed Alternative and Basis for Use**

The Nuclear Regulatory Commission (NRC) in a September 22, 1999, Federal Register Notice (64 FR 51370), issued a Final Rule on 10 CFR Part 50, "Industry Codes and Standards; Amended Requirements." In the final rule, the NRC amended its regulations to incorporate by reference the 1995 Edition and 1996 Addenda of the ASME Code for Operation and Maintenance of Nuclear Power Plants. The final rule also permits the use of alternate rules for IST of MOVs as described in ASME Code Case OMN-1 Rev. 0, in lieu of certain provisions of Subsection ISTC.

In the latest (last revised August 2, 2006) issuance of 10 CFR 50.55a, 10 CFR 50.55(a)(b) states in part, that Regulatory Guide 1.192, "Operating and Maintenance Code Case Acceptability, ASME Code" (June 2003), has been approved for incorporation by reference. In Regulatory Guide 1.192, it states within Table 2, "Conditionally Acceptable OM Code Cases," that the alternative rules of ASME Code Case OMN-1, Rev. 0, when applied in conjunction with the provisions for leakage rate testing in ISTC-3600, may be applied with the following provisions:

1. The adequacy of the diagnostic test interval for each valve must be evaluated and adjusted as necessary but not later than 5 years or three refueling outages (whichever is longer) from initial implementation of ASME Code Case OMN-1.
2. When extending the exercise test intervals for high risk MOVs beyond a quarterly frequency, licensees shall ensure that the potential increase in core damage frequency and risk associated with the extension is small and consistent with the intent of the Commission's Safety Goal Policy Statement.

**Request Number GVRR-1**  
**Proposed Alternative**  
**In Accordance with 10 CFR 50.55a(a)(3)(i)**  
**Alternative Provides Acceptable Level of Quality and Safety**

**Use of ASME Code Case OMN-1, Revision 1**

3. When applying risk insights as part of the implementation of OMN-1, licensees must categorize MOVs according to their safety significance using the methodology described in Code Case OMN-3, "Requirements for Safety Significance Categorization of Components Using Risk Insights for Inservice Testing of LWR Power Plants," with the conditions discussed in this regulatory guide or use other MOV risk-ranking methodologies accepted by the NRC on a plant-specific or industry-wide basis with the conditions in the applicable safety evaluations.

This conditional acceptance of OMN-1, Rev. 0, per Regulatory Guide 1.192 is applicable in lieu of the provisions for stroke-time testing in Subsection ISTC of the 1995 Edition, up to and including the 2000 Addenda, of the ASME OM Code.

PBAPS proposes to adopt the requirements of Code Case OMN-1, Rev. 1, as presented in the ASME OM Code for 2006, in lieu of the performance of stroke time testing and position indication testing as described by ASME OM ISTC 2001/2003a.

Since Regulatory Guide 1.192 was last published, Code Case OMN-1 has been updated/modified to address and incorporate all of the original Regulatory Guide 1.192 listed provisions.

The PBAPS MOV testing program was developed as a result of Generic Letters (GL) 89-10, "Safety Related Motor Operated Valve Testing and Surveillance," and 96-05, "Periodic Verification of Design Basis Capability of Safety Related Motor Operated Valves," utilizing Topical Report MPR-1807, Rev. 2. PBAPS is currently utilizing MPR-2524-A, "Joint Owners' Group (JOG) Motor Operated Valve Periodic Verification Program Summary," (November 2006) for its MOV Program guidance. The adoption of OMN-1 will consolidate testing between the site's Inservice Testing (IST) and MOV Programs.

**Exceptions to OMN-1, Rev. 1 (ASME OM Code-2006)**

PBAPS requests relief from the following OMN-1 section and proposes the following alternative.

OMN-1, Rev. 1, Section 3.6.1 requires that, "All MOVs within the scope of this Code Case, shall be full-cycled exercised at least once per refueling cycle with the maximum time between exercises to be not greater than 24 months."

PBAPS, Units 2 and 3 operate on a 2-year refueling cycle, not an 18-month refueling cycle that in the past was common among the industry. PBAPS, Units 2 and 3 have approximately 20 MOVs which, to cycle during power operation, would necessitate, at a minimum, a manual reduction in reactor power, if not require a full plant shutdown.

PBAPS, Units 2 and 3 proposes that all MOVs within the scope of this Code Case be full-cycled exercised at least once per refueling cycle with the maximum time between exercises to be not greater than 27 months.

Without this exception, it is foreseen that additional relief will be needed. Pre-mature shutdown for the sole sake of testing, only weeks or days from the scheduled refueling shutdown, would

**Request Number GVRR-1**  
**Proposed Alternative**  
**In Accordance with 10 CFR 50.55a(a)(3)(i)**  
**Alternative Provides Acceptable Level of Quality and Safety**

**Use of ASME Code Case OMN-1, Revision 1**

subject the plant to unnecessary equipment cycling, adding additional wear to the components, and potentially reducing component life.

Even if normal plant shutdown for refueling occurred within 24 months of the valve's last exercise, scheduling during the refueling outage may not support exercising an individual valve without degrading a required safety system that may be required for the condition the plant would be in, in support of safe shutdown.

It is for these reasons that PBAPS, Units 2 and 3 requests relief from this section of OMN-1 at this time, proposing the described alternative.

**Technical Position**

The following positions describe how the EGC interprets and complies with the various requirements of OMN-1 (ASME OMb Code-2006).

1. OMN-1, Section 3.1 allows for the use of testing that was conducted prior to the implementation of OMN-1 if it meets the requirements of the Code Case. PBAPS intends to utilize the testing credited under its GL 89-10/96-05 responses to satisfy the requirement for a one-time test to verify the capacity of each individual or group of MOV's safety-related design basis requirements.
2. OMN-1, Section 3.2 requires that each MOV be tested during the preservice test period or before implementing inservice inspection. PBAPS intends to utilize the testing credited under its GL 96-05 response to satisfy this requirement.
3. OMN-1, Section 3.3(b) states that inservice tests shall be conducted in the as-found condition, and activities shall not be conducted if they might invalidate the as-found condition for inservice testing. PBAPS maintenance activities that would affect the as-found condition of the valve, such as motor operator preventive maintenance or stem lubrication, are typically scheduled to occur in conjunction with the performance of the MOV Periodic Verification Testing, and are performed after as-found testing. Any other activities that could affect the as-found test results are not performed until after the as-found testing has been conducted.
4. OMN-1 Section 3.3(c) requires the inservice test program to include a mix of static and dynamic MOV performance testing. PBAPS has utilized the JOG program's mix of static and dynamic MOV performance testing (MPR-2524-A) to develop its current MOV testing program. Additionally, PBAPS will continue to utilize the existing engineering standards, which are consistent with the JOG standards, to justify any changes to the mix of required MOV performance testing. The use of such an evaluation will serve to ensure PBAPS continues to meet this requirement.
5. OMN-1, Section 3.3(e) requires that Remote Position Indication shall be verified locally during inservice testing or maintenance activities. The PBAPS will continue to verify the operability of each MOV's position indication system as part of each MOV's diagnostic test. In addition, the function of each MOV's position indication system will be verified during the performance of maintenance activities affecting remote position indication.

**Request Number GVRR-1**  
**Proposed Alternative**  
**In Accordance with 10 CFR 50.55a(a)(3)(i)**  
**Alternative Provides Acceptable Level of Quality and Safety**

**Use of ASME Code Case OMN-1, Revision 1**

6. OMN-1, Section 3.3.1(b) requires MOV inservice testing to be conducted every 2 refueling cycles or 3 years (whichever is longer), if insufficient data exists to determine inservice test frequencies. PBAPS has sufficient MOV testing data to justify its current testing frequencies, and therefore meets this requirement. If in the future, modification or replacement results in the necessity to re-baseline a valve or group of valves, the requirements of OMN-1 Section 3.3.1(b), or 3.7.2.2(c) as applicable, will be followed.
7. OMN-1, Section 6.4.4 requires that calculations for determining the MOV's functional margin are evaluated to account for potential performance-related degradation. The PBAPS MOV Program, including the corporate MIDAS Software (or similar updated product), takes into account performance-related degradation, to calculate valve margin.

**6. Duration of Proposed Alternative**

This proposed alternative will be utilized for the fourth ten-year interval.

**7. Precedents**

A similar relief was approved for LaSalle County Station, Units 1 and 2, Relief Request RV-02, in NRC Safety Evaluation Report dated September 26, 2007.



**Request Number GVRR-2**  
**Proposed Alternative**  
**In Accordance with 10 CFR 50.55a(a)(3)(i)**  
**Alternative Provides Acceptable Level of Quality and Safety**

**Exercise Testing of Vacuum Relief Check Valves**  
**In Series/Parallel Configuration**

**1. ASME Code Component(s) Affected**

<b>Valve</b>	<b>Description</b>	<b>Class</b>	<b>Category</b>	<b>Unit</b>
VRV-2-13C-139A	RCIC Turbine Exh Line Vac Breaker	2	C	2
VRV-2-13C-139B	RCIC Turbine Exh Line Vac Breaker	2	C	2
VRV-2-13C-139C	RCIC Turbine Exh Line Vac Breaker	2	C	2
VRV-2-13C-139D	RCIC Turbine Exh Line Vac Breaker	2	C	2
VRV-2-23C-140A	HPCI Turbine Exh Line Vac Breaker	2	C	2
VRV-2-23C-140B	HPCI Turbine Exh Line Vac Breaker	2	C	2
VRV-2-23C-140C	HPCI Turbine Exh Line Vac Breaker	2	C	2
VRV-2-23C-140D	HPCI Turbine Exh Line Vac Breaker	2	C	2
VRV-3-13C-139A	RCIC Turbine Exh Line Vac Breaker	2	C	3
VRV-3-13C-139B	RCIC Turbine Exh Line Vac Breaker	2	C	3
VRV-3-13C-139C	RCIC Turbine Exh Line Vac Breaker	2	C	3
VRV-3-13C-139D	RCIC Turbine Exh Line Vac Breaker	2	C	3
VRV-3-23C-140A	HPCI Turbine Exh Line Vac Breaker	2	C	3
VRV-3-23C-140B	HPCI Turbine Exh Line Vac Breaker	2	C	3
VRV-3-23C-140C	HPCI Turbine Exh Line Vac Breaker	2	C	3
VRV-3-23C-140D	HPCI Turbine Exh Line Vac Breaker	2	C	3

**2. Applicable Code Edition and Addenda**

The applicable code edition and addenda is the ASME OM Code, 2001 Edition through 2003 Addenda. The new interval begins on August 15, 2008, and will conclude on August 14, 2018.

**3. Applicable Code Requirement**

ISTC-3510, "Exercising Test Frequency", requires active Category C check valves to be exercised nominally every 3 months, except as provided in the code.

**4. Reason for Request**

Exelon Generation Company, LLC (EGC) is requesting relief from the identified code requirements on the basis that the proposed alternative will provide an acceptable level of quality and safety in accordance with 10 CFR 50.55a(a)(3)(i). These check valves, which function as vacuum relief valves, perform a safety function in the open direction to prevent siphoning of suppression pool water into the turbine exhaust line due to steam condensing when the High Pressure Coolant Injection (HPCI) and Reactor Core Isolation Cooling (RCIC) systems are shut down. These valves also perform a safety function in the closed direction to prevent back flow of HPCI and RCIC turbine exhaust steam through the vacuum breaker lines.

**Request Number GVRR-2**  
**Proposed Alternative**  
**In Accordance with 10 CFR 50.55a(a)(3)(i)**  
**Alternative Provides Acceptable Level of Quality and Safety**

**Exercise Testing of Vacuum Relief Check Valves**  
**In Series/Parallel Configuration**

The valves are installed in a series-parallel configuration such that each group of four (4) check valves consists of two groups of two check valves in series installed in parallel. These check valves are not provided with air operators to facilitate testing (exercising) nor does the configuration of the piping in this portion of the HPCI and RCIC systems provide for individual testing of these valves. ISTC-5223 addresses the testing of series valves in pairs but does not completely address the configuration of these groups of four valves.

**5. Proposed Alternative and Basis for Use**

Each group of four (4) check valves, made up of two parallel groups of two check valves in series, will be tested as a single unit. Each group of valves will be tested quarterly in the forward and reverse directions as a unit. Forward exercise testing will be performed by verifying the turbine exhaust lines are drained. Valve closure will be verified by monitoring the HPCI and RCIC turbine exhaust vent high temperature alarms located upstream of the valve assemblies. High temperature alarms will indicate steam leakage past the valves. All four (4) valves will be declared inoperable in the event of a failure of the system to perform its function.

**6. Duration of Proposed Alternative**

This proposed alternative will be utilized for the fourth ten-year interval interval.

**7. Precedents**

A similar relief request was previously approved for the third ten-year interval at PBAPS as relief request GVRR-7 in NRC Safety Evaluation Report dated May 11, 1998. Additional discussion concerning this relief request was provided in an NRC letter (J. W. Clifford (NRC) to J. A. Hutton (PECO Energy Company)) dated March 15, 2000.