



ENTERGY

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May 9, 1996

U.S. Nuclear Regulatory Commission
Mail Station P1-37
Washington, D.C. 20555

Attention: Document Control Desk

Subject: Grand Gulf Nuclear Station
Docket No. 50-416
License No. NPF-29
Modification of the Technical Specifications Surveillance Requirements for
the Safety/Relief Valves Proposed Amendment to the Operating License
(PCOL-96/04)

GNRO-96/00037

Gentlemen:

Entergy Operations, Inc., is submitting by this letter a proposed amendment to the Grand Gulf Nuclear Station (GGNS) Operating License. This proposed change will modify the safety/relief valve (S/RV) surveillance test for the relief mode of operation. This proposed change also includes the related ASME Boiler and Pressure Vessel Code Relief Request for the GGNS Inservice Testing (IST) Program.

Presently, GGNS remotely strokes each S/RV during the initial power ascension following refueling outages to verify that the remote actuation controls have been properly connected following maintenance activities, and to comply with ASME Boiler and Pressure Vessel Code, Section XI, for periodically exercising Category B valves. GGNS performance trending data shows that the GGNS S/RVs have a high probability of seat leakage each time they are stroked. S/RV seat leakage increases thermal heat loss, which contributes to decreased plant efficiency and realignment of safety injection systems to occasionally remove the undesired heat transferred to the suppression pool. Historically, S/RVs that leak during an operating cycle will experience a safety-mode setpoint drift in the negative direction, which has the potential to increase outage duration due to increased S/RV setpoint testing failures. Radiological concerns for plant personnel also result from the leakage of contaminated steam to the suppression pool.

This proposed change modifies the current Technical Specifications S/RV relief mode surveillance test, and applicable sections of the GGNS IST program. Each refueling outage, a sample population of S/RVs will be removed and tested for safety-mode lift setpoint to satisfy the ASME Boiler and Pressure Vessel Code, Section XI testing requirements for Category C safety/relief valves and Technical Specifications requirements. During this testing on a test bench, the S/RVs will be stroked using the relief-mode actuator. The relief-mode stroke of the

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sample population demonstrates that each installed S/RV is functioning properly in the relief mode, and that the actuator of the currently installed S/RVs would successfully function. After replacement of the test population of S/RVs, and after all control systems are connected, each newly-installed S/RV's actuator will be uncoupled from its valve stem, manually actuated, and then re-coupled to the S/RV. This proposed method verifies that the relief-mode controls have been properly installed prior to plant start-up, without physically lifting the disk off of its seat. Testing of proper control functions for the remaining installed S/RVs will continue to be performed as required by Technical Specifications.

Attachment 2 of this letter provides a detailed description of the proposed change, justification, and the no significant hazards considerations. Attachment 3 provides the revised ASME Code Relief Request B21-3 to incorporate changes regarding the GGNS IST program. The affected marked-up Technical Specification pages indicating the proposed changes are included as Attachment 4. Attachment 5 provides drawings of the Dijkers S/RVs used at GGNS.

We request NRC staff complete its review and approval by September 1, 1996 in order to support the October, 1996 refueling outage.

In accordance with the provisions of 10CFR50.4, the signed original of the requested amendment is enclosed. This amendment request has been reviewed and accepted by the Plant Safety Review Committee and the Safety Review Committee. Based on the guidelines presented in 10CFR50.92, Entergy Operations, Inc. has concluded that this proposed amendment involves no significant hazards considerations.

Yours truly,



CRH/BJB

Attachment 1:	Affirmation per 10CFR50.30
Attachment 2:	Detailed Description of the Proposed Change, Justification, and the No Significant Hazards Considerations
Attachment 3:	Revised ASME Code Relief Request B21-3
Attachment 4:	Mark-up of Affected Technical Specifications
Attachment 5:	GGNS S/RV Information Drawings

cc: (See Next Page)

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BEFORE THE
UNITED STATES NUCLEAR REGULATORY COMMISSION

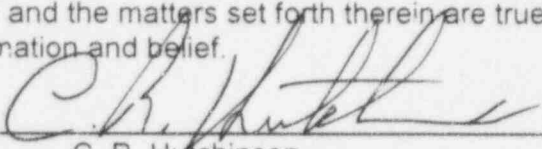
LICENSE NO. NPF-29

DOCKET NO. 50-416

IN THE MATTER OF
MISSISSIPPI POWER & LIGHT COMPANY
and
SYSTEM ENERGY RESOURCES, INC.
and
SOUTH MISSISSIPPI ELECTRIC POWER ASSOCIATION
and
ENTERGY OPERATIONS, INC.

AFFIRMATION

I, C. R. Hutchinson, being duly sworn, state that I am Vice President, Operations GGNS of Entergy Operations, Inc.; that on behalf of Entergy Operations, Inc., System Energy Resources, Inc., and South Mississippi Electric Power Association I am authorized by Entergy Operations, Inc. to sign and file with the Nuclear Regulatory Commission, this application for amendment of the Operating License of the Grand Gulf Nuclear Station; that I signed this response as Vice President, Operations GGNS of Entergy Operations, Inc.; and that the statements made and the matters set forth therein are true and correct to the best of my knowledge, information and belief.



C. R. Hutchinson

STATE OF MISSISSIPPI
COUNTY OF ~~WARREN~~ *Claiborne*
RAM 5/9/96

SUBSCRIBED AND SWORN TO before me, a Notary Public, in and for the County and State above named, this 9th day of May, 1996.

(SEAL)



Notary Public

My commission expires:

MISSISSIPPI STATEWIDE NOTARY PUBLIC
MY COMMISSION EXPIRES JUNE 5, 1998
BONDED THRU STEGALL NOTARY SERVICE

Detailed Description of the Proposed Change, Justification, and the No Significant Hazards Considerations

DISCUSSION

History

In past refueling outages at Grand Gulf Nuclear Station (GGNS), all twenty safety/relief valves (S/RVs) installed on the main steam lines were removed, bench tested for safety set pressure per ASME Boiler and Pressure Vessel Code, Section XI, and replaced with recertified S/RVs that had been verified to have zero seat-to-disk leakage. After this installation, each S/RV was manually stroked to verify that the relief function of the S/RV properly functioned. This S/RV stroke was performed to satisfy ASME Boiler and Pressure Vessel Code Section XI requirements for Category B valves, as well as Technical Specifications requirements. This surveillance requires physically lifting the disk off of the valve seat, and passing reactor vessel steam through the valve body. Following this surveillance, GGNS typically experiences several leaking valves from what was originally a leak-free population of valves.

Each leaking S/RV directs reactor vessel steam flow to the suppression pool, where the steam is condensed and mixed with the suppression pool contents. The condensation transfers heat to the suppression pool, and as a consequence, one of the Residual Heat Removal (RHR) systems must be periodically re-aligned from its normal safety mode of vessel injection to provide suppression pool cooling. This operation of the RHR system generates additional wear and cycling of system components, and the re-alignment places the system in a configuration that differs from its intended normal safety mode of operation. The transfer of heat to the suppression pool is also a source of thermal heat loss from the power generation steam cycle, thereby reducing electrical generating capacity. The reactor vessel steam that leaks through each S/RV provides an additional source of radioactive nuclides, which become a potential source for personnel contamination. The containment at GGNS is accessible during power operations, and containment contamination generally increases from leaking S/RVs. This contamination is undesirable from two aspects: personnel must spend additional time to exit the radiologically controlled area, and staff efforts must be utilized to reduce or remove this contamination.

Historically, the safety-mode setpoints of leaking S/RVs tend to drift in the negative direction. This setpoint drift can potentially cause an S/RV to fail its ASME Boiler and Pressure Vessel Code, Section XI, Category C setpoint testing. This failure requires testing of an additional sample of S/RVs. This additional testing places a burden on GGNS by requiring increased staff support for S/RV removal and replacement, as well as possible impact on the schedule of outage activities.

Description

Each GGNS S/RV is a Dikkers, 8 X 10, direct-acting, spring loaded, safety valve with attached pneumatic actuator for relief-mode operation. Attachment 5 provides drawings of the S/RV internals and relief components. The valve is direct acting; the single, safety valve stem that penetrates the valve bonnet and attaches to the relief components attaches directly to the valve disk. The S/RV bonnet is directly mounted to the top of the S/RV body, with mounting facilities for the functional parts of the relief components. GGNS has a total of twenty S/RVs

installed on the four main steam lines. All S/RVs are of the same design, and can perform their intended function through two modes of operation:

The safety mode of operation consists of direct action of the reactor vessel steam pressure against a single spring-loaded disk. This disk will lift off of its seat when the reactor vessel pressure exceeds the spring force, thereby allowing vessel steam to flow directly through the seat-to-disk opening to the discharge piping and suppression pool. The safety function set pressure of each S/RV is determined by changing the compressed spring force.

The relief mode of operation is accomplished when an automatic or manual control circuit signal provides electric power to the actuator solenoids. The actuator solenoids reposition, admitting control air to the pneumatic actuator cylinder. The pneumatic actuator piston strokes vertically, rotating an attached lever, which contacts a set of roller bearings coupled to the S/RV stem. The S/RV stem, which is directly attached to the disk, strokes vertically and lifts the disk off of the seat. The relief-mode of operation can actuate each S/RV regardless of reactor vessel pressure. The pneumatic operator and linkage are designed so that a malfunction of this linkage will not inhibit the safety-mode of operation. The relief-mode of operation requires three major elements to perform its intended function:

actuation logic and controls,
electrical power, and
control air.

Eight of the S/RVs use the relief mode to perform the Automatic Depressurization System (ADS) function. Also, six S/RVs, two of which are also ADS S/RVs, use the relief mode to perform the Low-Low set function.

The GGNS Inservice Testing (IST) Program currently classifies the S/RVs as ASME Boiler and Pressure Vessel Code, Section XI, Category B/C valves. The Category B classification requires periodic stroking of each S/RV installed in the plant, and the Category C classification requires functional tests and maintenance tasks related to set pressure and seat leak tightness.

Maintenance and Testing

Presently, a maintenance surveillance is performed on each S/RV to satisfy ASME Boiler and Pressure Vessel Code, Section XI, Category C requirements. The S/RV electrical and pneumatic controls are disconnected, and the S/RV is removed from the drywell and transported to a maintenance and testing facility. Each removed valve is tested on a test fixture and is certified for safety-mode set pressure, relief-mode stroke time, and seat leak tightness. A certified S/RV is installed at the location of the removed S/RV, and the electrical and pneumatic controls are connected, after which a surveillance is performed to verify proper operation of the solenoid valves. These maintenance and installation tests verify the operability of the S/RV safety mode and the relief mode up to the control air inlet to the pneumatic actuator.

One further surveillance is currently performed to verify system integration and proper connection of controls to the pneumatic cylinder, as well as satisfy the ASME Boiler and

Pressure Vessel Code requirements for Category B valves. This surveillance is performed while the plant is diverting steam flow to the main condenser via the turbine bypass/control valves. Each S/RV hand-switch is taken to the "OPEN" position, giving that S/RV an open signal in the relief mode. Valve operation is verified by indication that S/RV discharge pipe downcomer pressure increases, and indication of decreasing main steam line flow. This test physically strokes the S/RV using the relief mode of operation. It is this test that tends to produce the S/RV seat leakage that has prompted this proposed change to the GGNS Technical Specifications.

PROPOSED TS CHANGES

GGNS proposes performing the surveillance of each S/RV relief mode of operation without physically lifting the disk off the seat at power. During the refueling outage, a sample of the population of S/RVs will be removed for safety-mode setpoint testing in accordance with the GGNS IST program, using ASME Boiler and Pressure Vessel Code, Section XI. Each of these S/RVs will be tested in the relief mode to verify that the pneumatic actuator functions correctly, and this test sample will provide assurance that the installed S/RV pneumatic actuators will function properly. After the test sample of S/RVs is replaced, and S/RV controls have been connected, the upper stem nut that couples the valve stem to each newly-installed S/RV's pneumatic actuator will be moved up the stem to allow an uncoupled actuation of the relief-mode actuator (Attachment 5, pages 3 and 4). Control air pressure to each actuator will be reduced from normal system pressure to prevent damaging the pneumatic relief-mode actuator. The actuator will be remotely operated from the control room, as required by current test methods, and visual verification will be performed for proper actuator response and range of motion (Attachment 5, page 5). After proper actuator operation has been verified, the upper stem nut will be returned to its operating stem location. Verification of proper system logical controls for every installed S/RV will continue to be performed, as required by Technical Specifications.

Attachment 4 provides a mark-up of the affected Technical Specifications. Attachment 3 provides revised ASME Code Relief Request B21-3 to remove the S/RV stroking requirement from the GGNS IST Program.

JUSTIFICATION FOR CHANGES

ASME Requirements

NUREG-1482, "Guidelines for Inservice Testing at Nuclear Power Plants" describes methods acceptable to the NRC regarding inservice testing. Section 4.3.4, Frequency and Method of Testing Automatic Depressurization Valves in Boiling-Water Reactors, states that "If the ASME OM Committee determines that these valves are Category C (as opposed to Category B/C or A/C), meeting the Code Requirements for Category A or B will be unnecessary." The ASME OM Committee and the Board on Nuclear Codes and Standards recently excluded Category A and B safety and relief valves from inservice exercise testing. Attachment 3, revised ASME Code Relief Request B21-3, Section VI, addresses this position. With the S/RV excluded from Category B testing, actual relief-mode testing is not required to satisfy ASME Boiler and Pressure Vessel Code requirements while the S/RV is installed in the plant; however, the verification of proper relief-mode actuator operation is prudent with regard to reactor safety and integrity.

Pneumatic Actuator Testing

The Dijkers S/RV provides pressure relief based on the principle of vertically moving the stem that attaches directly to the valve disk. The force that provides the stem movement is provided by one of two sources; the vessel pressure directly against the force of the stem spring (safety mode), or the pneumatic actuator arm against the force of the stem spring (relief mode). ASME Boiler and Pressure Vessel Code requires testing the safety mode of operation once every five year operating cycle. Once a safety valve is installed, the safety mode is never tested while the S/RV is installed in the plant. The testing of the relief mode of operation for a direct-acting S/RV provides verification that the control functions of electrical and pneumatic connections have been properly reconnected, and that the actuator arm will provide the necessary force to operate the S/RV.

This proposed change provides verification of proper control connections by requiring the pneumatic and electrical controls to cycle the actuator arm on each S/RV after installation in the drywell. The test population of S/RVs removed each outage for safety setpoint testing will be tested in the relief mode. This testing will demonstrate that the installed S/RVs will function properly in the relief mode.

The remaining installed S/RVs will continue to be tested for proper system function. As presently required by GGNS Technical Specifications and administrative procedures, proper operation of the solenoid control block will be demonstrated by providing an open signal to each S/RV, with a check to verify that each solenoid valve repositions. Verification of proper solenoid valve operation, in addition to the proper relief-mode operation of the test population, provides assurance that the S/RV will perform as expected when control air pressure is applied to the solenoid valve control block.

Removal/Installation Concerns

After each S/RV has been removed for testing, a recertified valve is transported to the containment/drywell, and placed on the appropriate main steam line. During this process, each valve is hoisted and moved through locations that could possibly damage the valve. The components most susceptible to this damage are the relief-mode components, which this proposed change will test prior to plant start-up. The safety-mode components are encased entirely within the S/RV bonnet, and the exposed stem for relief actuator attachment is protected by the S/RV bonnet and lifting attachments. For the past seven cycles, GGNS has both removed and installed all twenty S/RVs with only a single relocation failure. This failure was in a relief-mode solenoid valve that failed to reposition, a failure that would have been identified by this proposed change.

After the test population of S/RVs is replaced, and S/RV controls have been connected, the upper stem nut (Attachment 5, pages 3-5) that couples the valve stem to each newly-installed S/RV's pneumatic actuator linkage will be moved up the stem to allow an uncoupled actuation of the relief-mode actuator. Control air pressure to each actuator will be reduced from normal system pressure to prevent damaging the pneumatic relief-mode actuator. The actuator will be remotely operated from the control room, as required by current test methods, and visual verification will be performed for proper actuator response and range of motion. After proper

actuator operation has been verified, the upper stem nut will be returned to its operating stem location.

This test will demonstrate that no damage has occurred to the relief-mode actuator during reinstallation.

Technical Specification Verification of S/RV Discharge Line Flow-Path

The Technical Specification bases indicate that one purpose of mechanically stroking the S/RV is to verify that a change in measured steam flow indicates that no blockage exists in the S/RV discharge line. Foreign Material Exclusion (FME) controls are placed on all system openings when each S/RV is removed. These controls, as well as the horizontal orientation of the S/RV discharge line mating surfaces, provide reasonable assurance that no obstruction will be admitted into the S/RV discharge tailpipe. GGNS has replaced all twenty S/RVs for the past seven maintenance outages, and has not experienced a single surveillance failure related to line blockage.

Technical Specifications Post Maintenance Testing

GGNS Technical Specifications, Surveillance Requirement (SR) 3.0.1 BASES states, "Upon completion of maintenance, appropriate post maintenance testing is required to declare equipment OPERABLE. This includes ensuring applicable Surveillances are not failed and their most recent performance is in accordance with SR 3.0.2." SR 3.0.2 describes the requirements of SR testing frequency and associated completion times.

Upon completion of maintenance on the test sample of S/RVs, each newly-installed S/RV will be demonstrated OPERABLE by actual testing of the relief-mode function prior to reactor start-up. Previously, testing was performed by a series of overlapping tests, with final demonstration after reactor start-up. The proposed change demonstrates complete system operability prior to reactor start-up and vessel re-pressurization.

The S/RVs that were not removed for maintenance will be tested to ensure that no maintenance activities within the drywell have affected control system continuity. Verification of solenoid valve repositioning demonstrates that the electrical controls to the S/RV will operate as required. The control air to each of these S/RVs will remain connected to its respective S/RV during the refueling outage, unless disconnection is required for other system maintenance activities. This lack of system breach, in combination with foreign material controls, provides reasonable assurance that control air will be available for S/RV relief-mode actuation.

S/RV Service Life

Currently, after five years of service life (defined as actual installed time, including periods of plant shutdown), the S/RVs undergo:

disassembly and inspection of all internals for wear, damage or erosion,

replacement of all gaskets, seals, and parts necessary due to inspection results,

and valve lubrication.

Also, prior to installation in the plant, each S/RV is tested and inspected for actuator leaks. The components of each S/RV are designed to function as required during the five year service life; therefore, the individual components of each S/RV that was not part of the test population would be expected to perform as well as the test population of S/RVs. Currently, every S/RV is removed and replaced with a certified S/RV approximately every 18 months. This proposal provides for replacing a sample every 18 months, with all S/RVs to be replaced approximately every 4½ years.

NO SIGNIFICANT HAZARDS CONSIDERATIONS

Entergy Operations, Inc. is proposing that the Grand Gulf Nuclear Station Operating License be amended to perform the surveillance of each safety relief valve (S/RV) relief mode of operation without physically lifting the disk off the seat at power.

During the refueling outage, a sample population of the S/RVs will be removed for safety-mode setpoint testing in accordance with the GGNS IST program, using ASME Boiler and Pressure Vessel Code, Section XI. Each of these removed S/RVs will be tested in the relief mode to verify that the pneumatic actuator functions correctly, and this test sample will be used to provide assurance that the installed S/RV pneumatic actuators will function properly. After the test sample of S/RVs has been replaced with recertified spares, and S/RV controls have been connected, the upper stem nut that couples the valve stem to each newly-installed S/RV's pneumatic actuator will be moved up the stem to allow an uncoupled actuation of the relief-mode actuator. Control air pressure to each actuator will be reduced from normal system pressure to prevent damaging the pneumatic relief-mode actuator. The actuator will be remotely operated from the control room, as required by current test methods, and visual verification will be performed for proper actuator response and range of motion. After proper actuator operation has been verified, the upper stem nut will be returned to its operating stem location. Verification of proper system logic controls and function for every installed S/RV will continue to be performed, as required by Technical Specifications.

The commission has provided standards for determining whether a no significant hazards consideration exists as stated in 10CFR50.92(c). A proposed amendment to an operating license involves no significant hazards if the 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.

Entergy Operations has evaluated the no significant hazards considerations in its request for a license amendment. In accordance with 10CFR50.91(a), Entergy Operations, Inc. is providing the following analysis of the proposed amendment against the three standards in 10CFR50.92:

- a. No significant increase in the probability or consequences of an accident previously evaluated results from this change.

Each refueling outage, a test sample of the population of S/RVs is removed from the plant to perform testing as required by ASME Boiler and Pressure Vessel Code, Section XI. These S/RVs will be stroked in the relief mode during as-found testing, and are therefore verified to operate properly when each S/RV stem is raised by the relief-mode pneumatic actuator. This proposed surveillance verifies proper S/RV relief-mode operation of all installed S/RVs based upon this test sample. This testing, in conjunction with replacement of each S/RV prior to the end of its expected service life, provides reasonable assurance that the installed S/RVs will perform as well as the test population of S/RVs.

After the S/RVs have been replaced in the plant, and after all controls are reconnected, the relief-mode actuator on each newly-installed S/RV will be uncoupled from the S/RV stem, and stroked. This actuator stroke will verify that no damage has occurred to the relief-mode actuator during S/RV transportation from its storage location to its operating location. The direct coupling of the valve stem to disk provides assurance that proper relief actuation will occur when the actuator is operated. The safety-mode components are completely encased within the valve body and bonnet, which provides a rugged structure to prevent damage to these components. The remaining installed S/RVs will continue to be tested for proper control system function as previously required by Technical Specifications. The direct coupling of the S/RV stem to disk provides assurance that proper relief-mode actuation will occur when the actuator is operated. The safety mode of the GGNS S/RVs is not affected by a malfunction of the relief-mode components.

Blockage of each S/RV discharge line will be prevented by the same Foreign Material Exclusion (FME) controls that exist for other reactor vessel and support systems. These FME controls, combined with the horizontal orientation of the S/RV discharge piping mating surfaces, provide reasonable assurance that discharge line blockage will not occur.

Therefore, no significant increase in the probability or consequences of an accident previously evaluated results from this proposed change.

- b. This change would not create the possibility of a new or different kind of accident from any previously analyzed.

The proposed change demonstrates that each S/RV will perform its intended relief-mode function, which is the intent of the present surveillance. The relief mode of S/RV operation is demonstrated to be operable based upon successful performance of a test population, S/RV component service life, and existing Technical Specification surveillances. No new failure mechanisms to the relief-mode of operation are introduced, as the proposed surveillance verifies relief actuator operability. Plant FME controls, combined with the horizontal orientation of the S/RV discharge piping mating flange, provides reasonable assurance that discharge line blockage will not occur.

This proposed change does not add any new systems, structures, or components, nor does it introduce new S/RV operating modes.

Therefore, this change would not create the possibility of a new or different kind of accident from any previously analyzed.

- c. This change would not involve a significant reduction in the margin of safety.

This proposed change will verify that the relief mode of all installed S/RVs will operate properly based upon demonstrated relief mode performance of a sample of S/RVs. The failure mode of the S/RV relief function would require a failure of either the pneumatic actuator, lifting linkage, or solenoid block. Each of these items has been verified to have a service life exceeding the replacement cycle of each S/RV. Therefore, proper operation of a sample population of S/RVs provides reasonable assurance that the remaining S/RVs would perform identically, within the original margin of expected S/RV operability. In addition, each S/RV's solenoid block and control functions will continue to be tested and cycled each refueling outage. The removal of the valve stroke surveillance for all S/RVs does not increase the possibility of valve malfunction, since valve stroke is verified during the as-found testing of the sample population of S/RVs. This proposed surveillance test reduces the number of S/RV actuations, and therefore, reduces challenges to the system both mechanically and thermally. Also, the proposed alternative method of testing reduces the possibility of a stuck-open S/RV, since this proposed method will not stroke the S/RVs with the reactor pressurized during reactor power operations.

Therefore, this change would not involve a significant reduction in the margin of safety.

Based on the above evaluation, Entergy Operations, Inc. has concluded that operation in accordance with the proposed amendment involves no significant hazards considerations.

RELIEF REQUEST B21-3: NUCLEAR BOILER SYSTEM

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- I. **Components:** Main Steam Safety/Relief Valves (MSRVs) with Automatic Depressurization System (ADS) Function:
- Q1B21F041D, F, and K (P-1077E, G-6)
 Q1B21F047A and L (P-1077E, G-6)
 Q1B21F051A, B and C (P-1077E, G-6)
- MSRVs without ADS function:
- Q1B21F041A, B, C, E, and G (P-1077E, G-6)
 Q1B21F047C, D, G and H (P-1077E, G-6)
 Q1B21F051D, F and K (P-1077E, G-6)
- IWV-1100 FUNCTION: The MSRVs are closed for reactor coolant system boundary. The MSRVs open for overpressure protection and for Automatic Depressurization System (ADS) Function.
- IWV-2200 CATEGORY: B, C
- ASME SECTION III CLASS: 1
- II. **Code:** The MSRVs were designed and fabricated to ASME Section III, Class 1 requirements. Inservice testing is performed in accordance with ASME Section XI, 1980 Edition through and including the Winter, 1980 Addenda.
- III. **Code Requirements:** Class 1 Category C safety and relief valves are required to be setpoint tested at least once every 60 months in accordance with ASME Section XI, IWV-3511.
- Category B valves are required to be exercised and stroke timed to the safety position at least once every 3 months in accordance with ASME Section XI, IWV-3411, and remote position indication is required to be verified at least once every 2 years in accordance with ASME Section XI, IWV-3300.
- IV. **Information to support the determination that the code requirements are impractical:** The Category C test requirements are being met. However, the Category B requirement that the valves be exercised quarterly cannot be met. Opening these valves during power operation would cause unnecessary transients in the reactor coolant system and, should a valve fail in the open position, a LOCA would result. Also, the stroke time cannot be measured due to the rapid action and lack of position indication. It is desirable not to open these valves for exercise testing when they are installed in the plant to prevent seat leakage, which causes unnecessary contamination and heating in the drywell and contributes to valve seat damage.
- V. **Specific relief requested:** Permission is requested to refrain from exercising these MSRVs quarterly or at any time when they are installed in the plant, as required by ASME, Section XI, IWV-3411. In addition, permission is requested to refrain from measuring stroke time per IWV-3413 and verifying remote position indications per IWV-3300.

RELIEF REQUEST B21-3: (CONTINUED)**VI. Reasons why relief should be granted:**

In NUREG-1482, Guidelines for Inservice Testing at Nuclear Power Plants (April, 1995), Section 4.3.4, the NRC Staff recommended reducing the number of challenges to the dual function Automatic Depressurization System (ADS) valves in order to reduce their failure rate. The Staff also noted that the ASME OM Committee was reviewing the categorization of safety and relief valves as Category C, rather than Category B,C, and stated that if the OM Committee determines these valves are Category C only, meeting the code requirements for Category A or B will be unnecessary.

The ASME OM Committee and Board on Nuclear Codes and Standards approved a change to the ASME Operation and Maintenance (OM) Code, Section ISTC 1.2, which adds the following statement:

"Category A and B safety and relief valves are excluded from the requirements of ISTC 4.1, Valve Position Verification and ISTC 4.2, Inservice Exercising Test "

Although this approval does not address the categorization of safety and relief valves noted in NUREG-1482, it accomplishes the same objective, which is to limit inservice exercising of the valves when they are installed in the plant. By excluding the safety and relief valves from Sections ISTC 4.1 and ISTC 4.2, the OM Committee has in fact determined that these valves are only subject to Category C testing. Although this approval is to OM Code-1995, it addresses concerns which have existed since Section XI to the ASME Boiler and Pressure Vessel Code was originally issued. The structure of the '95 OM Code is similar to the Section XI Code, 1980 Edition through and including the Winter 1980 Addenda. Just as '95 OM Code requires safety and relief valves to meet the testing requirements of Appendix I, the Section XI Code (1980 Edition through Winter 1980 Addenda) requires safety and relief valves to be tested in accordance with ASME PTC 25.3-1976. Thus, it is reasonable to apply the OM Committee's determination (which was approved in NUREG-1482) to the Section XI Code, 1980 Edition through Winter 1980 Addenda. Therefore, Category B testing and valve position verification is not required.

It is noted that Appendix I, Section 3.4.1(d) of OM Code 1995 requires each "affected" valve to be remotely actuated to verify open and close capability. However, it is the opinion of GGNS that a de-coupled actuator test (as described below in Section VII) is sufficient to perform this verification.

VII. Alternate testing:

The MSRVs will be exercised to the open position by manual actuation of the valve control system during setpoint testing and certification activities on the test bench.

During installation in the plant following setpoint testing and certification, the valve stems will be uncoupled from their actuators. The air actuators will be exercised (without lifting the valve stems) to verify control signal continuity and proper air system configuration, following which the actuators will be recoupled to the valve stems. This de-coupled actuator

RELIEF REQUEST B21-3: (CONTINUED)

test will also be performed following any maintenance activity which could affect the relief (power mode) of the associated MSRV(s).