ENCLOSURE

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO THE INSERVICE TESTING PROGRAM RELIEF REQUESTS

POWER AUTHORITY OF THE STATE OF NEW YORK

JAMES A. FITZPATRICK NUCLEAR POWER PLANT

DOCKET NO. 50-333

1.0 INTRODUCTION

The Code of Federal Regulations, 10 CFR 50.55a(g), requires that inservice testing (IST) of certain ASME Code Class 1, 2, and 3 pumps and valves be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable addenda, except where specific written relief has been requested by the licensee and granted by the Commission pursuant to Subsections (a)(3)(i), (a)(3)(ii), or (g)(6)(i) of 10 CFR 50.55a. In requesting relief, the licensee must demonstrate that: (1) the proposed alternatives provide an acceptable level of quality and safety; (2) compliance would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety; or (3) conformance with certain requirements of the applicable Code edition and addenda is impractical for its facility. Generic Letter (GL) 89-04, "Guidance on Developing Acceptable Inservice Testing Programs," provides alternatives to Code requirements which have been determined by the staff to be acceptable, provided the alternatives are implemented in accordance with the guidance delineated in the applicable positions.

These regulations authorize the Commission to grant relief from ASME Code requirements upon making the necessary findings. The NRC staff's findings with respect to granting or not granting the relief requested as part of the licensee's IST Program are contained in this Safety Evaluation (SE).

In the Power Authority of the State of New York's (PASNY) June 1, 1992, submittal, Revision 5 of the James A. FitzPatrick (JAF) Nuclear Power Plant IST Program was provided. Revision 5 addressed twenty-five anomalies identified in NRC staff's January 8, 1992, SE. Table 1 describes each anomaly and indicates the action taken by PASNY to address the concerns. For several of the anomalies, no further action is required, and for others, the additional action is described in Table 1. New or revised relief requests were identified, for certain of the anomalies, which were submitted for NRC review. Evaluations of these relief requests are provided below.

2.0 EVALUATION OF RELIEF REQUESTS

The IST program for the second 10-year interval was established to the requirements of the 1980 Edition, with addenda through the Winter 1981

Addenda. The relief requests have been evaluated against the requirements of this edition of ASME Section XI. The FitzPatrick plant is a boiling water reactor which began commercial operation July 28, 1975.

2.1 Relief Request P-9

P-9 was revised to address the concerns of Anomaly 4 regarding the location for measuring vibration of the emergency service water (ESW) pumps and the residual heat removal service water (RHRSW) pumps. These are vertical line shaft pumps with inaccessible pump bearings. The anomaly requested the licensee to consider alternative locations to the lower motor bearing housing, including consideration of permanent probes mounted on the shaft. The licensee indicates that the on-line vibration monitoring for submerged vertical pumps is unproven and requires additional research and development before it can be demonstrated to be of value in meeting Code requirements. Additionally, they indicate that the technique is beyond the scope and intent of the Code.

2.1.1 Licensee's Basis for Relief

The licensee states: "These pumps are of a vertical submerged open-line shaft design with the pump bearings submerged and inaccessible below the floor slab. The bearing housing near the upper coupling, which is accessible, is in a confined area in close proximity to the rotating shaft and coupling. Access to this area is considered to present an unacceptable personnel safety hazard during vibration monitoring.

"ASME/ANSI OM-1988a, Part 6, 'Operation and Maintenance of Nuclear Power Plants' [actual title of Part 6 is 'Inservice Testing of Pumps in Light-Water Reactor Power Plants'], Paragraph 4.6.4(b) identified the access problem associated with measuring vibration of vertical line shaft pumps and directs that measurements be taken on the upper motor bearing housing in three orthogonal directions. This standard considers measuring in this manner an acceptable method for monitoring vibration."

2.1.2 Alternative Testing

The licensee proposes: "Vibration measurements on these pumps will be taken on the upper motor bearing housing per ASME/ANSI OM-1988a, Part 6, 'Operation and Maintenance of Nuclear Power Plants,' Paragraph 4.6.4(b). In addition, vibration measurements will comply with the applicable requirements of Paragraphs 4.6.1 and 5.1 of that standard. The vibration acceptance criteria will be established in accordance with Table 3a."

2.1.3 Evaluation

The requirements of ASME Section XI do not differentiate vertical line shaft pumps from other types of pumps for vibration monitoring. However, OM-6 now addresses these as a separate class of pumps, recognizing their special characteristics. The only accessible bearing for this type of pump is

typically the top motor bearing, as the pump bearings are generally under water. The top motor bearing is also the thrust bearing for the pump, thus OM-6 requires measurement in the axial direction.

The staff has accepted OM-6 as alternative rules for Section XI through approval of Code Case N-465 (reference 10 CFR 50.55a, Footnote 6, and Regulatory Guide 1.147). The 1989 Edition of Section XI stipulates that OM-6 provides alternative rules to Subsection IWP. The staff believes that the vibration monitoring requirements of OM-6 are an improvement to the requirements of IWP. Therefore, if the licensee implements all the vibration monitoring requirements of OM-6 for these pumps, this will provide an acceptable level of quality and safety. In addition to Paragraphs 4.6.1 and 5.1, this includes Paragraphs 4.3, 4.4, 4.5, 4.6.4, 5.2, and 6.1. It is also recommended that the licensee continue to measure vibration at the accessible lower motor bearing to the extent practical, because OM-6 was established based on the upper motor bearing considered typically the only accessible bearing. For centrifugal pumps, OM-6 requires vibration measurements on each accessible bearing.

2.1.4 Conclusion

Relief is granted to perform vibration monitoring of the ESW and RHRSW vertical line shaft pumps in accordance with OM-6, 1988a, pursuant to 10 CFR 50.55a(a)(3)(i) provided all the applicable requirements for vibration monitoring are included in the implementation. The requirements of OM-6 for vibration monitoring provide an acceptable level of quality and safety as alternative rules to the requirements of Section XI, IWP, 1980 Edition, with addenda through Winter 1981 Addenda, and have been incorporated into the 1989 Edition of Section XI. Implementation will be subject to NRC inspection.

Relief was granted in NRC's SE of January 8, 1992, for Relief Request P-15 provided the vibration measurement program meets all vibration measurement requirements of OM-6, including attributes not addressed in the proposed P-15 relief request. In the revised P-15, the alternative testing continues to incorporate the requirements of IWP-3100 for evaluation of test data (reference Table 1) and does not clarify that all vibration monitoring requirements of OM-6 will be met. This is not in accordance with the provision of the relief granted for P-15. Upon adequate incorporation of the January 8, 1992, SE anomaly, Relief Request P-9 will no longer be required, as it will be encompassed by P-15.

2.2 Relief Request V-6

V6 was revised to provide additional information and justification to support a once-per-refueling-outage reverse flow test to address the concerns identified in Anomaly 8 for reactor core isolation cooling (RCIC) check valves 13RCIC-04 and 13RCIC-05. These valves are required to be closed and leak-tight to provide containment isolation. The licensee requests relief from the requirements of IWV-3521 to exercise these valves closed every three months.

2.2.1 Licensee's Basis for Relief

The licensee states: "These valves are exercised open during RCIC surveillance testing performed periodically during plant operation in accordance with the JAF Technical Specifications. Since there is no provision on either of these valves that provides position indication of the disc, valve closure must be verified by backflow or leakage testing.

"In order to verify valve closure by the backflow technique, the RCIC exhaust line must be isolated for the duration of the test causing the RCIC system to be inoperable. The potential safety impact of voluntarily placing the RCIC system in an inoperable status during plant operation at power is considered to be imprudent and unwarranted in relation to any apparent gain in system reliability derived from the closure verification. In addition, the valves are located approximately twenty (20) feet from the floor necessitating erection of a large scaffold in the vicinity of the RCIC pump. This also is considered to be undesirable from the aspect of potential damage to RCIC system components should the scaffold be subjected to structural failure.

"Based on the foregoing discussion, testing of these valves during plant operation at power is considered to be impractical. During cold shutdowns, erection of the scaffold in addition to other activities related to test performance would place an extreme burden on the plant staff and would likely result in unwarranted extensions to all forced outages with the added negative impact on plant performance and availability.

"Verifying closure of these valves during each refuel outage will provide sufficient assurance that the valves will continue to be operable with respect to their capability to close."

2.2.2 Alternative Testing

The licensee proposes: "At each refueling outage, these valves will be verified to close in conjunction with leak testing performed per 10 CFR [Part] 50, Appendix J."

2.2.3 Evaluation

The Code (Section XI) requires that valves be exercised to the position required to fulfill their safety function at a frequency of once per 3 months (quarterly). When testing cannot be performed quarterly, extension of the interval to cold shutdown conditions is allowed. The further extension to perform testing at a refueling outage frequency requires relief. With the implementation of Operations and Maintenance Standard OM-10, which is referenced as alternative rules for Subsection IWV in the 1989 Edition of Section XI, it was recognized that testing may be impractical quarterly or during cold shutdowns, and allows that check valve exercising may be limited to full-stroke during refueling outages, and that all testing required to be performed during a refueling outage shall be completed prior to returning the plant to operation (reference Paragraphs 4.3.2.2.e and h).

Closure verification of these check valves is by performing a leakage test using test taps located in the vicinity of the valves. The licensee has described the hardship of performing this closure verification of these RCIC check valves quarterly, or during cold shutdown conditions as follows: (1) the RCIC system becomes inoperable during testing, (2) the gain in operational assurance of the valves is not sufficient to warrant removing the system from service, (3) RCIC system components could be damaged during testing if scaffolding failed, and (4) the efforts involved in performing the testing are extensive and places a burden on the plant staff and could extend cold shutdown to complete testing.

The removal of a system from service for testing, and the resulting entry into a technical specification (TS) ACTION statement, is not, alone, considered an undue hardship. The Code requirements were established with the knowledge that testing would, in some cases, require systems to be removed from an operable or emergency standby condition. The probability of an accident requiring the system to operate occurring during testing has been considered sufficiently low enough to be acceptable, versus the information gained on the status of the components. However, when testing requires scaffolding to be erected above and between safety-related components, such as the RCIC components, the period of time necessary to perform testing is more critical. The operation of the system is of concern during the time the scaffolding erection begins to the time it is removed, potentially exceeding the allowed TS limiting condition of operation (LCO) for this system (7 days per TS 3.5.E.1 if the high pressure core injection system is operable), and requiring an unnecessary plant shutdown solely for testing performance.

The intent of the Code is not to require plant shutdowns, or extension of shutdowns, solely to perform testing, as evidenced by the OM-10 allowance to extend testing to refueling outages. Therefore, testing these valves on a refueling outage frequency provides adequate assurance of operational readiness. Imposition of the Code requirements for the frequency of testing these RCIC check valves would create a hardship without a compensating increase in the level of quality and safety, in that it could result in exceeding a TS LCO and force a plant shutdown, or could extend a cold shutdown to complete testing, considering that the testing during refueling outages verifies the closure capability of these valves at a frequency allowed by later Code editions.

2.2.4 Conclusion

Relief from the test frequency requirements of IWV-3521 is granted for RCIC check valves 13RCIC-04 and 13RCIC-05 pursuant to 10 CFR 50.55a(a)(3)(ii). Imposition of the Code requirements results in a hardship without a compensating increase in the level of quality and safety as described above. The proposed alternative testing provides adequate assurance of the operational readiness of the valves, and is in accordance with later editions of the Code.

2.3 Relief Request V-12

V12 was revised to provide additional information and justification to support a once-per-refueling-outage reverse flow test to address the concerns identified in Anomaly 10 for feedwater check valves 34FWS-28A and 34FWS-28B. These valves are required to be closed and leak-tight to provide containment isolation upon cessation of feedwater flow during accident conditions. The licensee requests relief from the requirements of IWV-3521 to exercise these valves closed every three months.

2.3.1 Licensee's Basis for Relief

The licensee states: "There are no position indicators on these valves or other means to verify closure, thus, the only practical means of verifying closure is to perform a backflow or leakage test. Performing such a test requires entry into the containment vessel and extensive system preparations, including draining of the main feedwater piping from the outlet of the sixth point feedwater heaters to the reactor vessel isolation valves (approximately 2000 gallons per line). Furthermore, testing of 34FWS-28B requires shutdown of the cleanup system. It is estimated that testing of either of these valves would require up to 24 hours and demand significant staff resources.

"During plant operation at power, these valves cannot be closed without precipitating a plant shutdown. Verifying closure of these valves during each refuel outage will provide sufficient assurance that the valves continue to be operable with respect to their capability to close."

2.3.2 Alternative Testing

The licensee proposes: "At each refueling outage, these valves will be verified to close in conjunction with leak testing performed per 10 CFR [Part] 50, Appendix J."

2.3.3 Evaluation

The Code (Section XI) requires that valves be exercised to the position required to fulfill their safety function at a frequency of once per 3 months (quarterly). When testing cannot be performed quarterly, extension of the interval to cold shutdown conditions is allowed. The further extension to perform testing at a refueling outage frequency requires relief. With the implementation of Operations and Maintenance Standard OM-10, which is referenced as alternative rules for Subsection IWV in the 1989 Edition of Section XI, it was recognized that testing may be impractical quarterly or during cold shutdowns, and allows that check valve exercising may be limited to full-stroke during refueling outages, and that all testing required to be performed during a refueling outage shall be completed prior to returning the plant to operation (reference Paragraphs 4.3.2.2.e and h).

These check valves are open during normal plant operations. Closure of these valves must be verified by performing a backflow or leakage test when the

feedwater system is out-of-service during plant shutdowns. Extensive preparations and test setup are required to accomplish testing by either of these methods, including draining approximately 2000 gallons per line of feedwater and shutting down the reactor water cleanup system. The time to complete testing of either valve is estimated to require 24 hours. Testing during cold shutdown conditions could cause an extension of the shutdown to complete testing.

The intent of the Code is not to require plant shutdowns, or extension of shutdowns, solely to perform testing, as evidenced by the OM-10 allowance to extend testing to refueling outages. Therefore, testing these valves on a refueling outage frequency provides adequate assurance of operational readiness. Imposition of the Code requirements for the frequency of testing these feedwater check valves would create a hardship without a compensating increase in the level of quality and safety, in that it could extend a cold shutdown to complete testing, considering that the testing during refueling outages verifies the closure capability of these valves at a frequency allowed by later Code editions.

2.3.4 Conclusion

Relief from the test frequency requirements of IWV-3521 is granted for feedwater check valves 34FWS-28A and 34FWS-28B pursuant to 10 CFR 50.55a(a)(3)(ii). Imposition of the Code requirements results in a hardship without a compensating increase in the level of quality and safety as described above. The proposed alternative testing provides adequate assurance of the operational readiness of the valves, and is in accordance with later editions of the Code.

2.4 Relief Request V-34

V34 was revised to provide additional information and justification to support a once-per-refueling-outage reverse flow test to address the concerns identified in Anomaly 17 for high pressure coolant injection (HPCI) check valves 23HPI-12/65. These valves are required to open to provide a flowpath from the HPCI turbine exhaust to the suppression pool and to be closed to provide containment isolation during accident conditions. The licensee requests relief from the requirements of IWV-3521 to exercise these valves closed every three months.

2.4.1 Licensee's Basis for Relief

The licensee states: "These valves are exercised open quarterly during HPCI surveillance testing performed during plant operation in accordance with the JAF Technical Specifications. Since there is no disc position indication on either of these valves, closure must be verified by backflow or leakage testing.

"In order to verify valve closure by the backflow technique, the HPCI exhaust line must be isolated for the duration of the test, causing the HPCI system to

be inoperable. The potential safety impact of voluntarily placing the HPCI system in an inoperable status during plant operation at power is considered to be imprudent and unwarranted in relation to any apparent gain in system reliability derived from the closure verification. In addition, the valves are located approximately twenty (20) feet from the floor, necessitating erection of a large scaffold in the vicinity of the HPCI pump. This also is considered to be undesirable from the aspect of potential damage to HPCI system components should the scaffold be subjected to structural failure.

"Based on the foregoing discussion, testing of these valves during plant operation at power is considered to be impractical. During cold shutdowns, erection of the scaffold in addition to other activities related to test performance would place an extreme burden on the plant staff and would likely result in unwarranted extensions to all forced outages with the added negative impact on plant performance and availability.

"Verifying closure of these valves during each refuel outage will provide sufficient assurance that the valves will continue to be operable with respect to their capability to close."

2.4.2 Alternative Testing

The licensee proposes: "At each refueling outage, these valves will be verified to close in conjunction with leak testing performed per 10 CFR [Part] 50, Appendix J."

2.4.3 Evaluation

The Code (Section XI) requires that valves be exercised to the position required to fulfill their safety function at a frequency of once per 3 months (quarterly). When testing cannot be performed quarterly, extension of the interval to cold shutdown conditions is allowed. The further extension to perform testing at a refueling outage frequency requires relief. With the implementation of Operations and Maintenance Standard OM-10, which is referenced as alternative rules for Subsection IWV in the 1989 Edition of Section XI, it was recognized that testing may be impractical quarterly or during cold shutdowns, and allows that check valve exercising may be limited to full-stroke during refueling outages, and that all testing required to be performed during a refueling outage shall be completed prior to returning the plant to operation (reference Paragraphs 4.3.2.2.e and h).

Closure verification of these check valves is by performing a leakage test using test taps located in the vicinity of the valves. The licensee has described the hardship of performing this closure verification of these HPCI check valves quarterly or during cold shutdown conditions as follows: (1) the HPCI system becomes inoperable during testing, (2) the gain in operational assurance of the valves is not sufficient to warrant removing the system from service, (3) HPCI system components could be damaged during testing if scaffolding failed, and (4) the efforts involved in performing the testing are

extensive and places a burden on the plant staff and could extend cold shutdown to complete testing.

The removal of a system from service for testing, and the resulting entry into a technical specification (TS) ACTION statement, is not, alone, considered an undue hardship. The Code requirements were established with the knowledge that testing would, in some cases, require systems to be removed from an operable or emergency standby condition. The probability of an accident requiring the system to operate occurring during testing has been considered sufficiently low enough to be acceptable, versus the information gained on the status of the components. However, when testing requires scaffolding to be erected above and between safety-related components, such as the HPCI components, the period of time necessary to perform testing is more critical. The operation of the system is of concern during the time the scaffolding erection begins to the time it is removed, potentially exceeding the allowed TS limiting condition of operation (LCO) for this system, and requiring an unnecessary plant shutdown solely for testing performance.

The intent of the Code is not to require plant shutdowns, or extension of shutdowns, solely to perform testing, as evidenced by the OM-10 allowance to extend testing to refueling outages. Therefore, testing these valves on a refueling outage frequency provides adequate assurance of operational readiness. Imposition of the Code requirements for the frequency of testing these HPCI check valves would create a hardship without a compensating increase in the level of quality and safety, in that it could result in exceeding a TS LCO and force a plant shutdown, or could extend a cold shutdown to complete testing, considering that the testing during refueling outages verifies the closure capability of these valves at a frequency allowed by later Code editions.

2.4.4 Conclusion

Relief from the test frequency requirements of IWV-3521 is granted for HPCI check valves 23HPI-12/65 pursuant to 10 CFR 50.55a(a)(3)(ii). Imposition of the Code requirements results in a hardship without a compensating increase in the level of quality and safety as described above. The proposed alternative testing provides adequate assurance of the operational readiness of the valves, and is in accordance with later editions of the Code.

2.5 Relief Request V-58

V58 requests relief of the test frequency requirements of IWV-3521 for automatic depressurization system (ADS) check valves 02RV-1 through -11 and 02VB-1 through -11. These valves remain closed to prevent steam from an open safety/relief valve (SRV) discharging to the drywell. They open following closure of an SRV to prevent the formation of a water column within the downcommer that could cause torus damage during subsequent lifting of the same SRV. This relief request was submitted to address Anomaly 23.

2.5.1 Licensee's Basis for Relief

The licensee states: "Exercising these valves requires local manipulation of each valve and thus entry into the containment. During plant operation at power, and on occasion while in cold shutdown, the containment atmosphere is maintained in a nitrogen-inerted condition. During such periods, entry into the containment is not practical due to personnel safety concerns."

2.5.2 Alternative Testing

The licensee proposes: "These valves will be exercised during cold shutdowns when the containment is de-inerted consistent with the requirements of IWV-3522 and the provisions of Note V51."

2.5.3 Evaluation

The Code (Section XI) requires that valves be exercised to the position required to fulfill their safety function at a frequency of once per 3 months (quarterly). When testing cannot be performed quarterly, extension of the interval to cold shutdown conditions is allowed. The further extension when testing cannot be performed each cold shutdown requires relief. With the implementation of Operations and Maintenance Standard OM-10, which is referenced as alternative rules for Subsection IWV in the 1989 Edition of Section XI, it was recognized that testing may be impractical quarterly or during cold shutdowns, and allows that check valve exercising may be limited to full-stroke during refueling outages, and that all testing required to be performed during a refueling outage shall be completed prior to returning the plant to operation (reference Paragraphs 4.3.2.2.e and h). OM-10 does not address the conditions of inerted versus de-inerted containment conditions.

In order to perform testing each cold shutdown, the containment would require de-inerting to allow personnel access to the area where these valves are located. Inerting a boiling-water reactor containment with nitrogen provides an atmosphere which limits combustible concentrations of hydrogen following a loss-of-coolant accident. If de-inerting was performed each cold shutdown, it would require approximately 12 to 24 hours to achieve before containment entry would be allowed, another 24 hours to inert during startup, and would require an increased amount of nitrogen replacement.

The intent of the Code is not to require plant shutdowns, or extension of shutdowns to de-inert the containment, solely to perform testing, as evidenced by the OM-10 allowance to extend testing to refueling outages. Therefore, testing these valves during cold shutdowns only when the containment is de-inerted provides adequate assurance of operational readiness. Imposition of the Code requirements for the frequency of testing these ADS check valves would create a hardship without a compensating increase in the level of quality and safety, in that it could extend a cold shutdown to complete testing, considering that the testing during de-inerted conditions verifies the full-stroke capability of these valves at a frequency within that allowed by later Code editions.

2.5.4 Conclusion

Relief from the test frequency requirements of IWV-3521 is granted for ADS check valves 02RV-1 through -11 and 02VB-1 through -11 pursuant to 10 CFR 50.55a(a)(3)(ii). Imposition of the Code requirements results in a hardship without a compensating increase in the level of quality and safety as described above. The proposed alternative testing provides adequate assurance of the operational readiness of the valves, and is in accordance with later editions of the Code.

2.6 Relief Request V-59

V-59 requests relief from the requirements of IWV-3415, for fail-safe testing valves every 3 months or during cold shutdowns, for main steam isolation valves 29AOV-80A/B/C/D. These valves are normally open to provide steam to the main turbine generator and auxiliaries. They close to isolate steam flow and function as containment isolation valves.

2.6.1 Licensee's Basis for Relief

The licensee states: "Fail-safe exercising these valves requires local manipulation of valves located inside the containment vessel and thus entry into the containment. During plant operation at power, and on occasion while in cold shutdown, the containment atmosphere is maintained in a nitrogen-inerted condition. During such periods, entry into the containment is not practical due to personnel safety concerns."

2.6.2 Alternative Testing

The licensee proposes: "These valves will be fail-safe exercised during cold shutdowns when the containment is de-inerted consistent with the requirements of IWV-3415 and the provision of Note V51."

2.6.3 Evaluation

The Code (Section XI) requires that valves be exercised to the position required to fulfill their safety function at a frequency of once per 3 months (quarterly). When testing cannot be performed quarterly, extension of the interval to cold shutdown conditions is allowed. The further extension when testing cannot be performed each cold shutdown requires relief. With the implementation of Operations and Maintenance Standard OM-10, which is referenced as alternative rules for Subsection IWV in the 1989 Edition of Section XI, it was recognized that testing may be impractical quarterly or during cold shutdowns, and allows that valve exercising may be limited to full-stroke during refueling outages, and that all testing required to be performed during a refueling outage shall be completed prior to returning the plant to operation (reference Paragraphs 4.2.1.2.e and h). OM-10 does not address the conditions of inerted versus de-inerted containment conditions.

In order to perform testing each cold shutdown, the containment would require de-inerting to allow personnel access to the area where these valves are located. Inerting a boiling-water reactor containment with nitrogen provides an atmosphere which limits combustible concentrations of hydrogen following a loss of coolant accident. If de-inerting was performed each cold shutdown, it would require approximately 12 to 24 hours to achieve before containment entry would be allowed, another 24 hours to inert during startup, and would require an increased amount of nitrogen replacement.

The intent of the Code is not to require plant shutdowns, or extension of shutdowns to de-inert the containment, solely to perform testing, as evidenced by the OM-10 allowance to extend testing to refueling outages. Therefore, testing these valves during cold shutdowns only when the containment is de-inerted provides adequate assurance of operational readiness. Imposition of the Code requirements for the frequency of testing these ADS check valves would create a hardship without a compensating increase in the level of quality and safety, in that it could extend a cold shutdown to complete testing, considering that the testing during de-inerted conditions verifies the full-stroke capability of these valves at a frequency within that allowed by later Code editions.

2.6.4 Conclusion

Relief from the test frequency requirements of IWV-3415 is granted for main steam isolation valves 29AOV-80A/B/C/D pursuant to 10 CFR 50.55a(a)(3)(ii). Imposition of the Code requirements results in a hardship without a compensating increase in the level of quality and safety as described above. The proposed alternative testing provides adequate assurance of the operational readiness of the valves, and is in accordance with later editions of the Code.

2.7 Relief Request V-19

Relief from the requirements of IWV-3426 to measure individual containment isolation valve (CIV) leakage is requested for CIVs which are tested in groups per the plant Technical Specifications. The relief request is applicable to the following valves: 10MOV-26A/B, 10MOV-31A/B, 10MOV-38A/B, 10MOV-39A/B, 10RHR-52A/B, 12MOV-18, 12MOV-69, 13MOV-15, 13MOV-16, 13MGV-21, 13MOV-21A/B, 15RBC-24A/B, 16-1AOV-101A/B, 16-1AOV-102A/B, 23MOV-15, 23MOV-16, 23MOV-19, 23MOV-60, 27AOV-101A/B, 27AOV-111, 27AOV-112, 27AOV-113, 27AOV-114, 27AOV-115, 27AOV-116, 27AOV-117, 27AOV-118, 27AOV-131A/B, 27AOV-132A/B, 27CAD-67/68/69/70, 27MOV-113, 27MOV-117, 27MOV-122, 27MOV-123, 27VB-6, 27VB-7, 27AOV-80A/B/C/D (these should be listed as "29" rather than "27"), 29AOV-86A/B/C/D, 34NRV-111A/B, 46ESW-15A/B, and 46ESW-16A/B.

2.7.1 Licensee's Basis for Relief

The licensee states: "By original plant design, these valves are tested in established groupings to determine a penetration leak rate. The Appendix J,

Type C LLRT [local leak rate test] test methodology has been reviewed and addressed in 3.7 of the Technical Specifications."

2.7.2 Alternative Testing

The licensee proposes: "Test these containment isolation valves by the original design groupings."

2.7.3 Evaluation

Section XI requires individual valve leakage testing in order to monitor the condition of each valve. 10 CFR Part 50, Appendix J, provides the regulatory requirements for ensuring the integrity of containments to prevent the uncontrolled release of radioactivity in the event of an accident. Leakage testing for compliance with Appendix J is specified in the FitzPatrick Technical Specifications. For a number of containment penetrations, valves are not individually local leak rate tested, but rather are tested as a group. Generic Letter 89-04, Position 10, states that the staff has determined that the leak test procedures and requirements for CIVs specified in 10 CFR [Part] 50, Appendix J, are equivalent to the requirements of IWV-3421 through IWV-3425; however, the licensee must comply with the Analysis of Leakage Rates and Corrective Action requirements of Paragraphs IWV-3426 and IWV-3427(a). Paragraphs IWV-3426 and IWV-3427(a) require that leakage rate measurements be compared with previous measurements and with the permissible leakage rates specified for a specific valve, and that valves with leakage rates exceeding either the specified limits be replaced or repaired.

Leak testing valves in a group is permitted by Appendix J which has been accepted as an alternative to the Code required testing. However, the licensee must assign a leakage limit to the group of valves, and upon exceeding the limit, take corrective action for the group of valves. The limiting values established for the valve groupings should be low enough to identify degradation of individual valves within the groups.

The 1989 Edition of Section XI references OM-10 as alternative rules for IWV. Leakage testing of valve combinations is recognized in OM-10, with the requirements for leakage limits and corrective action based on the valve combinations. The NRC has specified that these requirements be applied to containment isolation valves, as well, in that OM-10 does not specify leakage testing for CIVs, but references Appendix J (reference Federal Register Vol. 56, No. 21, Thursday, January 31, 1991, Proposed Rules, 3796 through 3804). Therefore, with the provision that leakage limits and corrective actions be specified for the valve groupings, the proposed alternative testing provides an acceptable level of quality and safety for the subject valves.

2.7.4 Conclusion

Relief from the requirements of IWV-3426 and IWV-3427(a) is granted for the applicable containment isolation valves tested in groups pursuant to 10 CFR 50.55a(a)(3)(i) provided the licensee establishes leakage limits for each

valve grouping low enough to monitor degrading conditions of individual valves in the group and requires corrective action if these limits are exceeded.

2.8 Relief Request V-57

Relief from the requirements of IWV-3521 for exercising Category A/C core spray check valves 14AOV-13 A/B has been requested in this new relief request. These valves open to provide flowpaths from the core spray system to the reactor vessel. They close for pressure isolation protection of the low pressure core spray piping.

2.8.1 Licensee's Basis for Relief

The licensee states: "There is no mechanism by which these valves can be full-stroke exercised without injecting water from the core spray pumps to the reactor vessel.

"During plant operation, the core spray pumps cannot produce sufficient discharge pressure to overcome reactor vessel pressure and provide flow into the vessel. The installed air operators are capable of exercising the valves, providing there is no differential pressure across the valve seat; obviously this is not the case.

"During cold shutdown, injecting into the reactor vessel requires a major effort to establish the prerequisite conditions and realignment of the core spray system to allow supplying water from the CST [condensate storage tank]. Torus water cannot be used since it does not meet the chemistry requirements for reactor grade makeup. It is estimated that such a test would take about 24 hours to perform and would result in a significant burden on the plant operating staff. In addition, there is a potential for overfilling the reactor vessel and flooding the main steam lines. This could adversely affect the performance of the main steam safety/relief valves (SRV's) since there is cause to believe that a contributing factor to the historically poor performance of the SRV's is water contamination of the operators.

"The installed check valve operators are capable of exercising the valves through their full stroke; however, the sizing of the operators does not satisfy the criteria set forth in IWV-3522(b)."

2.8.2 Alternative Testing

The licensee proposes: "During cold shutdown, each of these valves will be exercised using the installed operators. Each of the valves will be full-stroke exercised during each refuel outage by injecting full accident flow into the reactor vessel."

2.8.3 Evaluation

Valves 14AOV-13 A/B are 10-inch check valves with air actuators installed to allow for testing. IWV-3522(b) provides that testing can be performed with or

without flow, and that if testing is performed without flow, a mechanical exerciser be used to move the disc. The force or torque delivered to the disc by the exerciser must be limited to less than 10% of the equivalent force or torque represented by the minimum emergency condition pressure differential acting on the disc, or to 200% of the actual observed force or torque necessary when the valve was new. IWV-3521 requires check valves be exercised quarterly, or at cold shutdown conditions, in order to ensure that the disc is free to move (open exercise) and that no obstruction prevents closure (close exercise). The licensee indicates that the testing cannot be performed at power conditions quarterly due to insufficient discharge pressure developed by the core spray pumps in overcoming primary system pressure. Testing at cold shutdown conditions with the valve exercisers constitutes only a partial-stroke due to the exerciser force not meeting the requirements of IWV-3522(b).

Further, to perform a full-stroke exercise during cold shutdown by passing the required accident flow rate through the valves is a hardship on the licensee without a compensating increase in the level of quality and safety. The hardship is due to: (1) required realignment of the core spray system to supply the water from the CST, (2) time involved in performing the testing could extend a cold shutdown solely to complete testing, (3) and adversely affecting the SRV's due to potential flooding of the main steam lines causing water to contaminate the SRV operators. Because the licensee proposes to partial-stroke exercise the valves during cold shutdown with the mechanical exercisers, with a full flow stroke test each refueling outage, the testing provides an acceptable alternative to the Code required test frequency. Imposition of the Code test frequency requirements would not increase the level of quality and safety in that a later edition of Section XI, specifically the 1989 Edition which references Operations and Maintenance Standards, Part 10, allows that testing can be deferred to refueling outages if it is not practical to perform the testing during power operations or cold shutdown conditions. Additionally, the licensee is not proposing that the testing be extended to refueling outages, only the full-stroke, with a partial-stroke providing a level of assurance of the operational readiness of the valves at cold shutdown conditions.

2.8.4 Conclusion

Relief from the test frequency requirements of IWV-3521 is granted for valves 14-AOV-13 A/B, which are to be partial-stroke exercised at cold shutdown conditions and full-stroke exercised during refueling outages, pursuant to 10 CFR 50.55a(a)(3)(ii) based on the resulting hardship without a compensating level of quality and safety if the Code frequency requirements were imposed.

2.9 Relief Request V-48

The revision to Relief Request V-48 clarifies that IWV-3427(b) requirements will not be imposed on containment atmospheric dilution valves 27VB-1 through 5. The testing method approved in NRC's Safety Evaluation dated January 8, 1992, would preclude the application of IWV-3427(b), and therefore, the change does not require additional evaluation.

2.10 Relief Request V-60

The licensee has written a cold shutdown justification in Relief Request V-60, and has included the provision that if this testing at cold shutdown proves to be impractical, a disassembly and inspection program in accordance with the guidelines of GL 89-04, Position 2, will be employed. Therefore, NRC evaluation is not required because the cold shutdown testing is acceptable per Section XI, and GL 89-04 approves relief for a disassembly and inspection program for check valves when testing with full flow is not practical provided the guidelines delineated in GL 89-04, Position 2, are followed.

3.0 Conclusion

Based on the review summarized herein, the staff concludes that the relief granted and the alternative examinations imposed through this document provide reasonable assurance that the acceptable level of quality and safety intended by the ASME Code will be satisfied. The staff has determined that pursuant to 10 CFR 50.55a(a)(3)(i) and 10 CFR 50.55a(3)(ii), granting relief is authorized by law and will not endanger life or property or the common defense and security and is otherwise in the public interest, considering the burden that could result if the requirements were imposed on the facility.

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Date: July 28, 1992

Table 1
New York Power Authority
James A. Fitzpatrick Nuclear Power Plant
Inservice Testing Program Anomalies
NRC Safety Evaluation
Docket No. 50-333

Anomaly Number	Description from NRC SE Dated January 8, 1992	NYPA Actions as Described in June 1, 1992, ISI Program Submittal	Current SE and Remaining Actions
Anomaly 1 (Note P2)	The calculation for inlet and differential pressure for the RHRSW and ESW pumps should be verified to meet the accuracy requirements of Table IWP-4110-1 for direct measurements (±2%).	P2 has been revised to eliminate measurement of forebay water level to the nearest foot. The accuracy requirement of Table IWP-4110-1 will be met.	The licensee has addressed the concerns of the anomaly. Further verification of the accuracy of the calculational method in the test procedure(s) will be subject to NRC inspection.
Anomaly 2 (Note P7)	The calculational method for flow rate of the standby liquid control pumps should be verified to meet the accuracy requirements of Table IWP-4110-1 for direct measurements (±2%), or an alternative method should be proposed.	P7 has been revised to eliminate exceptions taken to the Code accuracy requirements for flow rate. The accuracy of SLC pump flow measurements and their evaluation will comply with appropriate Code requirements.	The licensee has addressed the concerns of the anomaly. Further verification of the accuracy of the calculational method for flow in the test procedure(s) will be subject to NRC inspection.
Anomaly 3 (Note P7)	Relief was denied for the proposed expanded ranges for the SLC pumps as there was no information that showed that the proposed ranges would require corrective action when necessary.	P7 has been revised to eliminate the portion requesting expansion of the hydraulic limits. The evaluation of the test results will comply with appropriate Code requirements.	The concerns of the anomaly have been addressed by the revision of the relief request. No further NRC action is required.
Anomaly 4 (Note P9)	Interim relief was granted to allow for a period of time for the assessment of vibration measurement locations for the RHRSW and ESW vertical line shaft pumps.	P9 was revised to comply with the SE position for measuring service water pump vibration in accordance with the requirements of ASME/ANSI OM-6.	Relief granted for P9 in SE Section 2.1 pursuant to 10 CFR 50.55a(a)(3)(i) provided all vibration requirements of OM-6 are met.

Anomaly Number	Description from NRC SE Dated January 8, 1992	NYPA Actions as Described in June 1, 1992, IST Program Submittal	Current SE and Remaining Actions
Anomaly 5 (Note P13)	Interim relief was granted to allow the licensee a period of time to procure vibration instrumentation which meets Code requirements in the range of measurements for the standby liquid control pumps.	The licensee revised Relief Request P13; however, the revision does not address the requirements of OM-6 as required for Relief Request P9. Additionally, the revision indicates that "oil-whip" is not a concern for reciprocating machines, and therefore, the fractional multiples of the rotational speed are not necessary. However, fractional multiples may indicate looseness of bearings, bearings rubs, etc. which should be discussed. The relief request does not discuss the impracticality of purchasing equipment which will meet the Code requirements.	Equipment should be procured or a revised relief request which addresses OM-6 should be submitted prior to the expiration of the interim relief (1/8/93). A discussion of the impracticality of purchasing equipment to meet the requirements of OM-6 should be included.
Anomaly 6 (Note P15)	Relief was granted provided the vibration measurement program meets all vibration measurement requirements of OM-6, including attributes not addressed in the proposed relief request.	Relief Request P15 has been revised to provide additional information and justification for complying with Code vibration requirements and enhancing the program by taking additional readings.	The revision to P15 is unacceptable to address this anomaly because it does not incorporate all the requirements of OM-6 for vibration monitoring. The relief request should be revised in accordance with OM-6, or relief is not acceptable. The intent of the anomaly was to allow the use of OM-6 vibration requirements, in total, as an acceptable alternative to the requirements of IWP for vibration monitoring. This impacts Relief Requests P9 and P13, as well.
Anomaly 7 (Note P13)	Interim relief was granted to allow the licensee a period of time to determine if Code accuracy requirements for flow rate measurements of the ESW pumps could be met using existing instrumentation with procedure changes or other methods. If not, additional information is required to support long-term approval of the proposed alternative.	The issue related to P15 was reevaluated and the relief request has been withdrawn. The accuracy of emergency service water flow measurements will comply with the appropriate Code requirements.	No further action is required.

Anomaly Number	Description from NRC SE Dated January 8, 1992	NYPA Actions as Described in June 1, 1992, IST Program Submittal	Current SE and Remaining Actions
Anomaly 8 (Note V6)	The relief request to verify closure of RCIC turbine steam exhaust line to the suppression chamber check valves with the Appendix J leak test did not include justification as to why these valves could not be exercised closed quarterly or during cold shutdown.	V6 was revised to provide additional information and justification supporting a once per refueling outage reverse flow test.	Relief granted for V6 in SE Section 2.2 pursuant to 10 CFR 50.55a(a)(3)(ii).
Anomaly 9 (Note V7)	The licensee had proposed to utilize a disassembly and inspection activity to verify closure of the RBC check valves. An interim period was granted and they were requested to investigate other test methods, including nonintrusive, to verify closure.	V7 has been withdrawn. Due to a modification being installed during the 1992 refueling outage, the subject valves can be reverse flow tested on a quarterly basis	No further action is required.
Anomaly 10 (Note V12)	Relief was granted to verify closure of the feedwater system check valves by leakage testing, provided the testing is performed each cold shutdown when the containment is de-inerted and each refueling outage.	V12 was revised to provide additional information and justification supporting a once per refueling outage reverse flow test.	Relief granted for V12 in SE Section 2.3 pursuant to 10 CFR 50.55a(a)(3)(ii).
Anomaly 11 (Note V14)	Relief was granted to verify closure of instrument air system check valves by leakage testing, provided the testing is performed each cold shutdown when the containment is de-inerted and each refueling outage. It was noted that the cold shutdown justification for these valves should be deleted and testing should be performed at the frequency required by the anomaly.	V14 has been revised to forward flow test these valves during cold shutdown periods when the containment is de-inerted, and in accordance with Note V51, relief on cold shutdown testing to be consistent with OM-10, 4.2.1.2.(g). The valves will be reverse flow tested on a quarterly basis.	The concerns of the anomaly and provisions of the relief granted have been addressed by the revised relief request. No further NRC action is required.
Anomaly 12 (Note V17)	Relief was granted for the HPCI turbine exhaust line vacuum breaker check valves provided test taps were utilized for testing quarterly or during cold shutdown conditions. If excessive leakage is noted through the pair of valves, both valves must be declared inoperable, inspected and repaired or replaced prior to their return to service.	V17 was revised to provide for reverse flow testing of the check valve pair during cold shutdowns. Valves will be forward flow exercised during cold shutdowns. Exception to the SE recommendation to continue disassembly and inspection was taken. Should the closure test of the series valves fail, corrective action will be applied to both valves prior to returning the system operability.	The concerns of the anomaly have been incorporated into the revised relief request. The disassembly and inspection should not be considered required for inservice testing, but is a recommended maintenance practice on a frequency established by the licensee as part of a preventative maintenance program. No further NRC action is required.

Anomaly Number	Description from NRC SE Dated January 8, 1992	NYPA Actions as Described in June 1, 1992, IST Program Submittal	Current SE and Remaining Actions
Anomaly 13 (Note V24)	Relief was granted for the containment isolation function of several RHR and core spray CIV/PIVs. Sufficient information on the test methodology was not provided for the pressure isolation function of these valves.	The issue related to V24 was reevaluated and the relief request has been withdrawn.	No further action is required.
Anomaly 14 (Note V30)	For the RHR system keep fill check valves, relief was granted provided the pair of series valves be verified closed by leak testing, in lieu of disassembly and inspection, quarterly or during cold shutdown. If excessive leakage is noted through the pair of valves, both valves must be declared inoperable, inspected, and repaired or replaced prior to their return to service.	V30 has been withdrawn. Due to modifications being installed during the 1992 refueling outage, the residual heat removal keep fill check valves can now be tested quarterly in accordance with the Code.	No further action is required.
Anomaly 15 (Note V31)	Relief was not granted for verifying closure of the reactor building cooling system valves using the Appendix J leak test because these valves are equipped with operators and can be closed and reopened locally.	The issue related to V31 was reevaluated and the relief request has been withdrawn. Valves 15RBC-22A&B and 15RBC-26A&B will be exercised in accordance with Cold Shutdown Justifications CS14 and CS15. Valve 15RBC-33 will be exercised quarterly.	Because the testing will be performed in accordance with the Code, no further action is required.
Anomaly 16 (Note V32)	Interim relief was granted for using disassembly and inspection for verifying full flow open and reverse flow closure of the check valves in the residual heat removal system minimum flow lines. In the interim, the licensee was to pursue the use of alternate testing methods, such as using nonintrusive diagnostic technique, to exercise the valves to both positions.	The issue related to V32 was reevaluated and the relief request has been withdrawn.	No further action is required.
Anomaly 17 (Notes V33, V34, and V45)	For various check valves, relief was denied to verify closure during the Appendix J leak test because test connections and isolation valves are available to reverse flow test the valves at the Code required frequency. Additionally, it was noted that the emergency service water check valves may require forward flow testing.	The issue related to V33 has been reevaluated and the relief request has been withdrawn. The subject valves will be tested in accordance with Cold Shutdown Justifications CS14 and CS15. V34 was revised to provide additional justification for the proposed test frequency. The issue related to V45 was reevaluated and the relief request has been withdrawn. These valves will be tested quarterly.	For V33, because the testing will be performed in accordance with the Code, no further action is required. Relief granted for V34 in SE Section 2.4 pursuant to 10 CFR 50.55a(a)(3)(ii). No additional required for V45.

Anomaly Number	Description from NRC SE Dated January 8, 1992	NYPA Actions as Described in June 1, 1992, IST Program Submittal	Current SE and Remaining Actions
Anomaly 18 (Note V36)	Relief was denied for verifying closure of the containment atmospheric dilution check valves during the Appendix J leak test.	The issue related to V36 was reevaluated and the relief request has been withdrawn. These valves will be tested quarterly.	No further action is required.
Anomaly 19 (Note V49)	Relief was granted for exercising the manually-operated emergency service water valves 46(70) ESW 101 through 104 valves provided the frequency is as close as practicable to the Code required frequency and no less that once each refueling outage.	V49 has been revised to require valve exercising at least once each refueling outage.	The concerns of the anomaly and provisions of the relief granted have been addressed by the revised relief request. No further NRC action is required.
Anomaly 20 (Note V52)	Relief was denied to extend the exercising frequency of the emergency service water to control room chiller valves to once every two years.	The issue related to V52 was reevaluated and the relief request has been withdrawn. These valves will be exercised quarterly.	Because the testing will be performed in accordance with the Code, no further action is required.
Anomaly 21 (Note V55)	Interim relief was granted to allow the use of disassembly and inspection for the core spray check valves. The licensee was requested to investigate other test methods, such as nonintrusives, and to evaluate the feasibility of testing series valves 14CSP-76A/B closure during quarterly core spray pump testing.	V55 has been revised to remove valves 14CSP-76A&B from the relief request. Due to a modification being installed during the 1992 refueling outage 14CSP-76A&B can be tested quarterly. V55 now includes only valves 14CSP-62A&B. The Code requires check valves to be exercised to the positions required to fulfill their safety functions quarterly, or during cold shutdowns, in order to monitor for degrading conditions which could prevent opening or closing, such as obstructions, integrity of the valve internals, binding, or plugging. Generic Letter (GL) 89-04, Position 2, provides an alternative to the Code requirements when it is impractical to perform full-stroke exercising, utilizing a disassembly and inspection program. However, this activity is not a substitute for testing. It is considered a maintenance activity with inherent risks such as damage to valve internals, degradation or damage of pressure boundary integrity, and the potential for installing the disk in an improper orientation (particularly bonnet-hung check valves).	The revised relief request has no information related to the impracticality of employing nonintrusive techniques as requested in Anomaly 21. Therefore, long-term relief cannot be granted. The interim relief granted by the January 8, 1992, SE remains in effect until January 8, 1993. In the interim, the licensee should take action as requested in Anomaly 21.

Anomaly Number	Description from NRC SE Dated January 8, 1992	NYPA Actions as Described in June 1, 1992, IST Program Submittal	Current SE and Remaining Actions
Anomaly 21 (note V55) continued		Therefore, disassembly and inspection should only be used when no other methods are available, including nonintrusive techniques. These core spray check valves cannot be exercised in accordance with the Code due to impracticalities in the design features in that there are not instruments or position indicators to positively verify opening or closing in the lines where these valves are installed. However, Anomaly 21 requested the licensee to investigate the use of nonintrusive techniques as a "positive means" of verifying opening and closing of these valves.	
Anomaly 22 (Note V53)	Interim relief was granted for the residual heat removal lube oil cooler valves to verify evidence of valve movement within five seconds quarterly and check flow rate through the coolers once each operating cycle. The licensee was requested to evaluate the effectiveness of the alternative test method, and to consider other test methods which could provide more accurately measure stroke times of the valves or otherwise monitor for a degrading condition.	NYPA will comply with the interim measures identified in the anomaly and submit a final position concerning this relief request by January 8, 1993, as required by the letter issuing the NRC Safety Evaluation.	No further NRC action is required until the final position is received.
Anomaly 23	Cold Shutdown Justifications (CSJ) 8 and 12 are based on testing the automatic depressurization system relief line vacuum breaker valves and the main steam isolation valves when the plant is in cold shutdown and the drywell is de-inerted. If the drywell is de-inerted each cold shutdown, the IST program should state such; if not, CSJ 8 and CSJ 12 should be resubmitted as relief requests.	Relief Requests V58 and V59 have been submitted to address the anomaly.	Relief granted for V58 in SE Section 2.5 pursuant to 10 CFR 50.55a(a)(3)(ii). Relief granted for V59 in SE Section 2.6 pursuant to 10 CFR 50.55a(a)(3)(ii).
Anomaly 24	In the licensee's letter of March 30, 1990, they took exception to GL 89-04, Position 8, "Starting Point for Time Period in IS ACTION Statements." If the guidance of Position 8 is deemed unreasonable for certain cases, relief should be requested.	NYPA no longer takes exception to GL 89-04, Position 8, regarding starting point for time periods associated with Technical Specification Action Statements.	No further action is required.

Anomaly Number	Description from NRC SE Dated January 8, 1992	NYPA Actions as Described in June 1, 1992, IST Program Submittal	Current SE and Remaining Actions
Anomaly 25 (Notes V19 and V46)	These notes appear to be in conflict with each other and/or GL 89-04, Position 10, "Containment Isolation Valves."	V19 addresses the plant's original design which does not support individual CIV valve testing and was revised. V46 requests relief from trending seat leakage in accordance with GL 89-04, Position 10. V46 was revised to address only CIVs. References to pressure isolation valve testing have been removed.	V46 was granted for the CIV function in the 1/8/92 SE. Relief granted for V19 in Section 2.7 of SE pursuant to 10 CFR 50.55a (a)(3)(i) provided a leakage limit is assigned to the valve groups and corrective action required when limit is exceeded.