May 17, 2001

Mr. Michael Kansler
Sr. Vice President and
Chief Operating Officer
Entergy Nuclear Operations, Inc.
440 Hamilton Avenue
White Plains, NY 10601

SUBJECT: INDIAN POINT NUCLEAR GENERATING UNIT NO. 3 - EVALUATION OF THIRD 10-YEAR INTERVAL INSERVICE INSPECTION PLAN RELIEF REQUESTS (TAC NO. MA9757)

Dear Mr. Kansler:

By letter dated July 18, 2000, the Power Authority of the State of New York submitted the Third 10-year Inservice Inspection (ISI) Program Plan for Indian Point Nuclear Generating Unit No. 3 (IP3), which began on July 21, 2000. The ISI Program Plan submittal included 27 requests for relief (3-1 to 3-27), from certain requirements of the American Society of Mechanical Engineers (ASME) Code.

On November 21, 2000, the operating license for IP3 was transferred to Entergy Nuclear Operations, Inc. (ENO). By letter dated January 26, 2001, ENO adopted requests associated with the operating license that were pending at the time of the license transfer. By letters dated March 20, and April 27, 2001, ENO supplemented the July 18, 2000, ISI Program Plan submittal. The March 20, 2001, submittal withdrew Relief Requests 3-6, 3-9, 3-12, 3-14, 3-16, 3-18, 3-20, 3-21, and 3-22. The April 27, 2001, submittal withdrew Relief Request 3-13.

The NRC staff has reviewed and evaluated Relief Requests 3-1 to 3-5, 3-7, 3-8, 3-10, 3-11, 3-19, and 3-23 to 3-27, as documented in the enclosed Safety Evaluation. The staff's review of Relief Requests 3-15 and 3-17 will be addressed in a separate correspondence.

Sincerely,

/RA/

Richard P. Correia, Acting Chief, Section 1
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-286

Enclosure: Safety Evaluation

cc w/encl: See next page

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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO THIRD 10-YEAR INTERVAL INSERVICE INSPECTION PLAN

RELIEF REQUESTS

ENTERGY NUCLEAR OPERATIONS, INC.

INDIAN POINT NUCLEAR GENERATING UNIT NO. 3

DOCKET NO. 50-286

1.0 INTRODUCTION

The inservice inspection (ISI) of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code) Class 1, Class 2, and Class 3 components is to be performed in accordance with Section XI of the ASME Code and applicable edition and addenda as required by Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.55a(g), except where specific written relief has been granted by the Commission pursuant to 10 CFR 50.55a(g)(6)(i). 10 CFR 50.55a(a)(3) states in part that alternatives to the requirements of paragraph (g) may be used, when authorized by the NRC, if the licensee demonstrates that: (i) the proposed alternatives would provide an acceptable level of quality and safety, or (ii) compliance with the specified requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety.

Pursuant to 10 CFR 50.55a(g)(4), ASME Code Class 1, 2, and 3 components (including supports) will meet the requirements, except the design and access provisions and the preservice examination requirements, set forth in the ASME Code, Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components," to the extent practical within the limitations of design, geometry, and materials of construction of the components. The regulations require that inservice examination of components and system pressure tests conducted during the first 10-year interval and subsequent intervals comply with the requirements in the latest edition and addenda of Section XI of the ASME Code incorporated by reference in 10 CFR 50.55a(b) twelve months prior to the start of the 120-month interval, subject to the limitations and modifications listed therein. The inservice inspection Code of record for Indian Point Nuclear Generating Unit No. 3 (IP3) - Third 10-year ISI interval is the 1989 Edition of Section XI of the ASME Code.

10 CFR 50.55a(g)(6)(ii)(B) requires containment inspections per the requirements of Subsections IWE and IWL of the 1992 Edition with the 1992 Addenda or the 1995 Edition with the 1996 Addenda of Section XI of the ASME Code, as modified by the requirements of 10 CFR 50.55a(b)(2)(viii) and 10 CFR 50.55a(b)(2)(ix). Licensees of all operating nuclear power plants are required to complete their first period inspections by September 9, 2001.

Enclosure

By letter dated July 18, 2000, the Power Authority of the State of New York submitted the Third 10-year ISI Program Plan for IP3, which began on July 21, 2000. The ISI Program Plan submittal included 27 requests for relief (3-1 to 3-27), from certain requirements of the ASME Code.

On November 21, 2000, the operating license for IP3 was transferred to Entergy Nuclear Operations, Inc. (ENO). By letter dated January 26, 2001, ENO adopted requests associated with the operating license that were pending at the time of the license transfer. By letters dated March 20, and April 27, 2001, ENO supplemented the July 18, 2000, ISI Program Plan submittal. The March 20, 2001, submittal withdrew Relief Requests 3-6, 3-9, 3-12, 3-14, 3-16, 3-18, 3-20, 3-21, and 3-22. The April 27, 2001, submittal withdrew Relief Request 3-13. The NRC's findings with respect to the remaining relief requests are given below. The staff's review of Relief Requests 3-15 and 3-17 will be addressed in a separate correspondence.

2.0 EVALUATION

2.1 Relief Request 3-1

2.1.1 Code Requirement

Section XI, IWA-5250(a)(2) requires that if leakage occurs at a bolted connection in ASME Section XI components, the bolting shall be removed, VT-3 examined for corrosion, and evaluated in accordance with IWA-3100.

2.1.2 Licensee's Proposed Alternative

In accordance with 10 CFR 50.55a(a)(3)(i), the licensee proposed to use alternative requirements regarding corrective actions for leakage at bolted connections in lieu of the examination requirements defined in IWA-5250(a)(2). The licensee stated:

> The source of leakage at bolted connections detected by VT-2 examination during system pressure tests shall be located and evaluated for corrective measures. This evaluation will consider the following variables at a minimum:
>
> 1. Location of leakage
> 2. History of leakage
> 3. Fastener materials
> 4. Evidence of corrosion, with the connection assembled.
> 5. Corrosiveness of the process fluid and
> 6. Other components in the vicinity that may be degraded due to the leakage.
>
> When the evaluation of the above variables is concluded and the evaluation determines that the leaking condition has not degraded the fasteners, then no further action is necessary. However, reasonable attempts to stop the leakage shall be taken.
>
> If the evaluation of the variables above indicates the need for further evaluation, or no evaluation is performed, then a bolt closest to the source of leakage shall be removed.

The bolt will receive a VT-1 examination and be evaluated for corrosion in accordance with IWA-3100(a) and dispositioned in accordance with IWB-3140. When the removed bolting shows evidence of rejectable degradation, all remaining bolts shall be removed and receive a VT-1 examination and evaluation in accordance with IWB-3140. If the leakage is identified when the bolted connection is in service, and the information in the evaluation is supportive, the removal of the bolt for VT-1 examination may be deferred to the next refueling outage.

2.1.3 Licensee's Basis for Proposed Alternative (as stated)

The ASME Code Committee has approved Code Case N-566, which allows evaluation of leakage at bolted connections. This relief request is more prescriptive and conservative than Code Case N-566. The proposed joint evaluation must consider specific factors which, if indicative of degradation, must be dispositioned in accordance with IWB-3140 of Section XI. This engineering evaluation is more comprehensive than the simple bolt inspection currently required by IWA-5250. The proposed alternative also addresses many of the implementation and radiological hardships associated with IWA-5250(a)(2) and yet maintains the conclusion of the ASME Code Committee by assuring that a proper evaluation of the connection and/or the bolting is performed.

The proposed alternative requirements will ensure an acceptable level of quality and safety by ensuring that structural integrity is maintained, while reducing the operational, maintenance and radiological hardships of the current Code requirement. A similar relief request submitted by Carolina Power and Light Company, Harris Nuclear Power Plant, was approved by the NRC in an SER dated November 4, 1998. Therefore, this relief request should be granted in accordance with 10CFR50.55a(a)(3)(i).

2.1.4 Evaluation

The Code requires that all bolts be removed from leaking bolted connections and that the bolts be VT-3 visual examined for corrosion and evaluated in accordance with IWA-3100. The Code requirements provide assurance that bolting corroded by system leakage will be detected and that corrective actions will be taken. However, the Code requirements are often unnecessarily conservative since corrosion is dependent on other factors beyond system leakage. Additionally, removal and examination of all bolts may not be necessary to assure continued integrity of the bolted connection.

In lieu of these requirements, the licensee has proposed to implement an alternative which requires, in part, an engineering evaluation to determine the need for additional examinations of the bolts considering the elements listed below:

1. Location of leakage
2. History of leakage
3. Fastener materials
4. Evidence of corrosion, with the connection assembled.
5. Corrosiveness of the process fluid and
6. Other components in the vicinity that may be degraded due to the leakage.

The licensee noted that when an evaluation of the above elements is concluded and the evaluation determines that the leaking condition has not degraded the fasteners, then no further action is necessary. In addition, the licensee will take reasonable attempts to stop the leakage.

If the evaluation determines that examination is required, the licensee proposed that the bolt closest to the leak be removed and VT-1 examined. The bolt will be evaluated per IWA-3100 and requires that the evaluation of flaws are in accordance with IWB-3000, IWC-3000, and IWD-3000 for Class 1, 2, and 3 pressure retaining components, respectively. The staff determined that removal and VT-1 examination of the bolt closest to the leak is a reasonable alternative since degradation of this bolt is most likely, and would be representative of the worst case condition of the other bolts in the subject connection. The licensee stated that if the leakage is identified when the bolted connection is in service, and the information in the evaluation is supportive, the removal of the bolt for VT-1 examination may be deferred to the next refueling outage.

2.1.5 Conclusion

Based on the items included in the evaluation process, the staff concludes that the evaluation proposed by the licensee presents a sound engineering approach. In addition, if the initial evaluation indicates the need for a more detailed analysis, the bolt closest to the source of leakage will be removed, VT-1 visually examined, and evaluated in accordance with IWA-3100(a). The VT-1 examination criteria are more stringent than the simple corrosion evaluation described in IWA-5250. Therefore, the licensee's proposed alternative provides reasonable assurance of quality and safety and is authorized pursuant to 10 CFR 50.55a(a)(3)(i) for the third 10-year interval.

2.2 Relief Request 3-2

2.2.1 Code Requirement

Section XI, IWA-2300, requires that personnel performing VT-2 visual examinations be qualified in accordance with comparable levels of competency as defined in ANSI N45.2.6.

2.2.2 Licensee's Proposed Alternative

In accordance with 10 CFR 50.55a(a)(3)(i), the licensee proposed the following alternative:

> Indian Point 3 proposes the following alternative qualification requirements for VT-2 visual examination personnel:
>
> (1) Vision test requirements of IWA-2321, 1989 Edition, which is the ISI Code of Record for the IP3 ISI Program; for a period until the end of refueling outage 11. Then vision test requirements of IWA-2321, 1995 Edition shall be used thereafter.
>
> (2) Develop procedural guidelines for obtaining consistent, quality VT-2 visual examinations in accordance with IWA-2210.

(3) At least 40 hours of plant walkdown experience, such as that gained by licensed and non-licensed operators, local leak rate personnel, system engineers and inspection and nondestructive examination personnel.

Note: Documentation of the walkdown experience is a one-time effort and will be maintained in the personnel qualification records.

(4) Independent review and evaluation of detected leakage shall be performed by personnel other than those that performed the VT-2 visual examinations, in accordance with IWA-1400(n).

(5) At least four (4) hours of training on Section XI requirements and plant specific procedures for VT-2 visual examination. VT-2 examination personnel shall be qualified by examination to demonstrate knowledge of Section XI and plant specific procedures for VT-2 visual examination.

(6) Re-qualify examination personnel every 3 years, in accordance with the requirements of item b of Code Case N-546.

2.2.3 Licensee's Basis for Proposed Alternative (as stated)

As stated in Code Case N-546, plant personnel (e.g., licensed and non-licensed operators, system engineers, testing technicians) with the specified training and plant walkdown experience need not be qualified nor certified to comparable levels of competence in accordance with ANSI N45.2.6. Experience in identifying equipment problems and knowledge of operating conditions will enhance the ability of plant personnel to locate leakage during VT-2 examinations. With the specified four hours of training on Section XI requirements and plant specific procedures for VT-2 examinations, the designated plant personnel will understand how leaks should be identified and documented and be fully capable of performing VT-2 examinations.

Qualifying personnel for VT-2 examinations under Code Case N-546 is less burdensome than qualifying and maintaining the present VT-2 certification. Adopting this Code Case would make it feasible to train more people to perform these tasks. Furthermore, using personnel who are already required to perform functions in the plant will reduce the number of people required to enter into areas that may be radiologically restricted, resulting in fewer plant workers exposed to potential radiation dose and keeping radiation exposure as low as reasonably achievable.

Additionally, use of on-shift personnel will improve the process of returning systems to service. Prompt return of safety systems to service will improve the safety of the plant and the public.

In accordance with the provisions of 10CFR50.55A(a)(3)(i), the proposed alternative qualification requirements will provide an acceptable level of quality and safety. The proposed alternative qualification requirements are similar to those of ASME Section XI Code Case N-546, with additional provisions based on further discussions with the NRC. The Nuclear Regulatory Commission has not generically approved Code Case N-546 in Regulatory Guide 1.147, "Inservice Inspection Code Case Acceptability ASME Section

XI Division 1." This Relief Request is similar to a Relief submitted and approved for JAFNPP with similar provisions but for the 1989 vision test requirements. Our next refueling outage is currently scheduled for April 27, 2001. In concert with using Code Case N-546, this Request seeks additional relief to use the 1989 vision test requirement for a period until the end of refueling outage 11 since all plant personnel and most of the staff on loan from our other Entergy plants to support R11 are currently qualified to the 1989 vision test requirements. This relief on the 1995 vision test requirement is requested on the basis that compliance with the specified requirements of this condition would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety.

2.2.4 Evaluation

The ASME Code, Section XI, IWA-2300, requires that personnel performing VT-2 visual examinations be qualified in accordance with comparable levels of competency as defined in ANSI N45.2.6. The Code also requires that the examination personnel be qualified for near and far distance vision acuity. Pursuant to 10 CFR 50.55a(a)(3)(i), the licensee proposed to use Code Case N-546 in lieu of the requirements of IWA-2300 for VT-2 visual examination personnel.

The NRC staff considers the qualification requirements in Code Case N-546 to be comparable to those of the ASME Code, Section XI, paragraph IWA-2300, for VT-2 visual examination personnel. With regard to the selection of personnel to conduct the test, the Code Case states that licensed and non-licensed operators, local leak rate personnel, system engineers, and inspection and nondestructive examination personnel are eligible due to their plant experience. Those personnel typically have a sound working knowledge of plant components and piping layouts, making them acceptable candidates for performing VT-2 visual examinations. Furthermore, the licensee follows plant-specific procedures to obtain consistent VT-2 visual examination results. The Code Case also requires a vision test for examination personnel to that of the 1995 Edition Code. The NRC also finds it necessary for the VT-2 visual examination personnel to demonstrate knowledge of Section XI and plant-specific procedures for VT-2 visual examinations and to demonstrate continued proficiency through periodic re-qualification in accordance with the frequency specified in IWA-2314 of the ASME Code (every 3 years).

In their submittal, the licensee included both of these provisions in their proposed alternative. The licensee requested additional relief to use the 1989 vision test requirement for a period until the end of R11, because all plant personnel and most of the staff on loan from other Entergy plants to support the April 27, 2001, outage are currently qualified to the 1989 vision test requirements. In the second part of the licensee's alternative it proposed that after November 30, 2001, it will use the vision test requirements of IWA-2321, 1995 Edition. If the licensee was required to use the 1989 vision test requirement this outage compliance would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety.

2.2.5 Conclusion

The staff concludes that the licensee's proposed alternative to use Code Case N-546 with its commitments and the 1989 Edition vision test requirements during the R11 outage provides reasonable assurance of leakage integrity of the subject systems. Furthermore, to require the

licensee to use the 1995 Edition vision test requirements for the R11 outage would result in a hardship or unusual difficulty without a compensating increase in the level of quality and safety. Therefore, the licensee's proposed alternative to use Code Case N-546 with the 1989 Edition vision test requirements is authorized pursuant to 10 CFR 50.55a(a)(3)(ii) for the R11 outage only.

The staff also concludes that the licensee's proposed alternative to use Code Case N-546 with its commitments and the 1995 Edition vision test requirements provides reasonable assurance of quality and safety. Therefore, the licensee's proposed alternative to use Code Case N-546 with the 1995 Edition vision test requirements is authorized pursuant to 10 CFR 50.55a(a)(3)(i) for the third 10-year interval or until such time Code Case N-546 is referenced in a future revision of Regulatory Guide (RG) 1.147. At that time, if the licensee intends to continue to implement Code Case N-546, the licensee should follow all provisions in the subject code case with the limitations (if any) listed in RG 1.147.

2.3 Relief Request 3-3

2.3.1 Code Requirement

IWA-5242(a) requires that insulation shall be removed from pressure-retaining bolted connections for VT-2 visual examination in systems borated for the purpose of controlling reactivity.

2.3.2 Components

IWA-5000, Section IWA-5242(a)
Class: 1 and 2
System: Reactor Coolant, Chemical and Volume Control, Safety Injection and Residual Heat Removal.

2.3.2 Licensee's Proposed Alternative (as stated)

The following alternate rules for the pressure testing and VT-2 visual examination of pressure retaining bolted connections will be used:

(a) A system pressure test and VT-2 visual examination shall be performed each refueling outage for Class 1 connections and each inspection period for Class 2 connections, without removal of insulation.

(b) The insulation shall be removed from the bolted connections each refueling outage for class 1 connections and each period for Class 2 connections, and a VT-2 visual examination shall be performed. The connections are not required to be pressurized. Any evidence of leakage shall be evaluated in accordance with IWA-5250.

(c) As an additional condition, the system pressure test and corresponding VT-2 visual examination will be performed in accordance with the temperature, pressure, and hold time requirements of ASME Section XI.

2.3.3 Licensee's Basis for Proposed Alternative (as stated)

Inside containment, the referenced systems are tested in an environment that is hazardous to personnel. Removing and reinstalling insulation under these conditions is difficult to perform and is not consistent with the ALARA (as low as reasonably achievable) concept when compared to the alternate approach. In addition, the removal and reinstallation of insulation is often a critical path activity which directly affects the duration of refueling outages, therefore placing a financial hardship on the plant.

The concern that led to the Section XI requirement for removal of insulation on bolted connections, while performing pressure testing and VT-2 examinations, is that a borated-water leak from a bolted connection could cause corrosion of the bolting materials. Thus, the structural integrity of a safety-related system could be compromised by a small leak that could be unnoticed if the insulation remains in place during the pressure testing and VT-2 examination.

This relief request addresses the structural integrity concerns while mitigating the personnel hazards and reducing the critical path impact of the testing. It divides the pressure testing and the VT-2 examination into two activities that need not be performed at the same time. The proposed alternate examination is supported by the following:

(a) ASME Code Case N-533 was approved by the Section XI Code Committee, thus providing an alternative to the similar requirement for examination of insulated Class 1 pressure retaining bolted connections.

(b) Similar relief requests have been approved by the NRC for other nuclear power plants (V.C. Summer Nuclear Station, Surry Power Station and Shearon Harris Nuclear Plant).

(c) Pre-existing boric acid leaks will be detected at atmospheric or static pressures due to residue deposits.

The proposed alternative provides an acceptable level of quality and safety since the insulated bolted connections still receive pressure testing and visual VT-2 examinations each inspection period. There are no changes being made neither to the areas that are inspected nor to visual VT-2 personnel qualifications. Neither are there any changes to acceptance criteria. The alternate reduces critical path time by allowing the insulation removal and inspection to be completed prior to the system leakage test required by ASME XI.

2.3.4 Evaluation

Paragraph IWA-5242(a) requires the removal of all insulation from pressure-retaining bolted connections in systems borated for the purpose of controlling reactivity when performing VT-2 visual examinations during system pressure tests. However, requiring the licensee to remove insulation during the Class 1 system pressure test would create a safety hazard due to elevated system temperatures that are present during this test, and would also result in excessive radiation exposure to plant personnel. Therefore, the requirements of IWA-5242(a) would create an undue burden on the licensee.

The licensee's proposed alternative provides a reasonable approach of ensuring the leak-tight integrity of systems borated for the purpose of controlling reactivity. First, the 1989 Edition required 4-hour hold time for insulated systems during a system pressure test at normal operating pressure ensures detection by allowing any significant leakage to penetrate the insulation. Second, by removing the insulation each refueling outage for Class 1 systems and each period for Class 2 systems, the licensee will be able to detect minor leakage indicated by the presence of boron crystals or residue. This two-phase approach provides reasonable assurance of the continued leakage integrity of Class 1, and 2 bolted connections in borated systems.

2.3.5 Conclusion

Requiring the licensee to remove insulation at normal operating pressure (and elevated temperatures) would present a significant safety hazard for plant personnel. Furthermore, the licensee's proposed alternative provides reasonable assurance of continued leakage integrity for Class 1 and 2 bolted connections. Based on these considerations, the staff concludes that compliance with the Code requirements for Class 1 and 2 systems would result in a burden without a compensating increase in the level of quality and safety. Therefore, the licensee's proposed alternative is authorized, pursuant to 10 CFR 50.55a(a)(3)(ii), for Class 1 and 2 systems for the third 10-year interval.

2.4 Relief Request 3-4

2.4.1 Code Requirement

IWA-5242(a) requires that insulation shall be removed from pressure-retaining bolted connections for VT-2 visual examination in systems borated for the purpose of controlling reactivity.

2.4.2 Components

IWA-5000, Section IWA-5242(a)

Class: 1 and 2 Systems:
Reactor Coolant, Chemical and Volume Control, Safety Injection and Residual Heat Removal

2.4.3 Licensee's Proposed Alternative

In accordance with 10 CFR 50.55a(a)(3)(i), the licensee has proposed the following alternative to the Code requirement to remove insulation at bolted connections for VT-2 examination during system pressure testing. The licensee stated:

> The following alternate rules for the pressure testing and VT-2 visual examination of pressure retaining bolting will be used:
>
> A system pressure test and VT-2 visual examination shall be performed with insulation installed at NOP/NOT after sustained system operation and prior to any clean up activities. If any evidence of leakage is detected, the insulation will be removed and any evidence of leakage shall be evaluated in accordance with IWA-5250.

2.4.4 Licensee's Basis for Proposed Alternative (as stated)

Inside containment, the referenced systems are tested in an environment that is hazardous to personnel. Removing and reinstalling insulation under these conditions is difficult to perform and is not consistent with the ALARA (as low as reasonably achievable) concept when compared to the alternate approach. In addition, the removal and reinstallation of insulation is often a critical path activity which directly affects the duration of refueling outages, therefore placing a financial hardship on the plant.

The concern that led to the Section XI requirement for removal of insulation on bolted connections, while performing pressure testing and VT-2 examinations, is that a borated-water leak from a bolted connection could cause corrosion of the bolting materials. Thus, the structural integrity of a safety-related system could be compromised by a small leak that could be unnoticed if the insulation remains in place during the pressure testing and VT-2 examination.

This relief request addresses the concern that a borated water leak at a bolted connection could go undetected. It recognizes that if a bolted connection leaks for a considerable amount of time, the leakage would be evident, even through the insulation. The proposed alternate examination would allow a VT-2 inspection to be performed, with insulation on, at Normal Operating Pressure/Normal Operating Temperature (NOP/NOT) after sustained system operation. The proposed alternate examination is supported by the following:

(a) Even a small leak will be visible through insulation if enough time passes.

(b) If an inspection is performed at NOP/NOT after sustained system operation and prior to any clean up activities (i.e. upon entering a refueling outage) any leakage would be evident.

(c) If insulation is removed to allow maintenance to be performed, a visual examination will be performed with the insulation removed in accordance with hydrostatic relief request 3-3(H).

Relief Requests RR 3-3 and RR 3-4 are very similar and were written to be used in tandem by IP3 to allow for operational flexibility; to minimize radiation exposure; and to maximize personnel safety. The following is an illustrative example of how IP3 may use these Relief Requests in tandem: As an example, Relief Request RR 3-4 would be used to perform inspections on most Class 1 bolted connections, with insulation installed, at NOP/NOT at the start of a refueling outage. The only areas not inspected using Relief Request RR 3-4 would be two (2) Reactor Coolant Pumps, which are scheduled to have their insulation removed as part of scheduled maintenance, and 3 valves which are in areas of high heat stress and/or high radiation. For the two (2) Reactor Coolant Pumps and 3 valves, Relief Request RR 3-3 would be used to allow a VT-2 with the insulation removed while in the refuel outage and a VT-2 with insulation installed at startup.

In the example given, use of Relief Request RR 3-4 would reduce the amount of insulation which would require removal during the outage, thereby reducing radiation exposure. Similarly, Relief Request RR 3-3 would allow removal of insulation from certain areas where maintenance would require removal of insulation anyway, or where heat stress and/or high radiation fields could be encountered at NOP/NOT following sustained operation. By utilizing both Relief Requests, RR 3-3 and RR 3-4, IP3 will have the operational flexibility to minimize radiation exposure, and maximize personnel safety.

Compliance with the specified requirement would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety. The proposed alternative provides an acceptable level of quality and safety since leakage from a bolted connection would be detectable through insulation after sustained system operation. The proposed alternative inspection would be performed prior to any clean up activities to ensure that any evidence of leakage in the surrounding area (including floor areas or equipment surfaces located underneath the components) would be detected.

2.4.5 Evaluation

Paragraph IWA-5242(a) requires the removal of all insulation from pressure-retaining bolted connections in systems borated for the purpose of controlling reactivity when performing VT-2 visual examinations during system pressure tests.

The licensee has proposed that a system pressure test and VT-2 visual examination will be performed with insulation installed at NOP/NOT after sustained system operation and prior to any clean up activities and if any evidence of leakage is detected, the insulation will be removed and any evidence of leakage will be evaluated in accordance with IWA-5250. In addition, the proposed alternative inspection would be performed prior to any clean up activities to ensure that any evidence of leakage in the surrounding area (including floor areas or equipment surfaces located underneath the components) would be detected.

The licensee noted that Relief Requests 3-3 and 3-4 are very similar and were written to be used in tandem by IP3 to allow for operational flexibility; to minimize radiation exposure; and to maximize personnel safety. As an example, Relief Request 3-4 would be used to perform inspections on most Class 1 bolted connections, with insulation installed, at NOP/NOT at the start of a refueling outage. The only areas not inspected using Relief Request 3-4 would be two (2) Reactor Coolant Pumps, which are scheduled to have their insulation removed as part of scheduled maintenance, and 3 valves which are in areas of high heat stress and/or high radiation. For the two (2) Reactor Coolant Pumps and 3 valves, Relief Request 3-3 would be used to allow a VT-2 with the insulation removed while in the refuel outage and a VT-2 with insulation installed at startup.

In the example given, use of Relief Request 3-4 would reduce the amount of insulation which would require removal during the outage, thereby reducing radiation exposure. Similarly, Relief Request 3-3 would allow removal of insulation from certain areas where maintenance would require removal of insulation anyway, or where heat stress and/or high radiation fields could be encountered at NOP/NOT following sustained operation. By utilizing both Relief Requests 3-3 and 3-4, IP3 will have the operational flexibility to minimize radiation exposure, and maximize personnel safety.

2.4.6 Conclusion

Requiring the licensee to remove insulation during the Class 1and 2 system pressure test would create a safety hazard due to elevated system temperatures that are present during this test, and would also result in excess radiation exposure to plant personnel. Therefore, the requirements of IWA-5242(a) would create an undue hardship on the licensee.

Based on these considerations, the staff concludes that compliance with the Code requirements for Class 1, and 2 systems would result in a burden without a compensating increase in the level of quality and safety. Therefore, the licensee's proposed alternative is authorized, pursuant to 10 CFR 50.55a(a)(3)(ii), for Class 1and 2 systems for the third 10-year interval.

2.5 Relief Request 3-5

2.5.1 Code Requirement

Section XI, IWA-5250(a)(2) requires that if leakage occurs at a bolted connection in ASME Section XI components, the bolting shall be removed, VT-3 examined for corrosion, and evaluated in accordance with IWA-3100.

2.5.2 Licensee's Proposed Request for Relief

Pursuant to10CFR50.55a(a)(3)(ii) the licensee requested relief from removal and visual inspection of bolting at a bolted connection for leakage discovered during a system pressure test when the bolting was replaced or inspected and found satisfactory during the same outage as the pressure test. Removal and reinspection of bolting replaced or inspected during the same outage will not add to the assurance of pressure boundary integrity, because there is insufficient time for any corrosion mechanism to degrade the bolting condition.

2.5.3 Licensee's Basis for Proposed Request for Relief (as stated)

> This Relief Request, although similar to RR 3-1, serves a different purpose. The following are two examples:
>
> Example 1: A maintenance activity is performed on an ISI Class 2 flange and all the associated bolting is replaced. When the system is placed into service and the system pressure test is performed a small leak is noted at the flange. The bolting is snugged up and the leak stops. RR 3-1 (H) would require IP3 to perform a formal evaluation on the new bolting. This additional evaluation would be burdensome without a compensating increase in the level of safety and quality since these are recently inspected bolts and the leak was corrected.
>
> Example 2: At the beginning of the refueling outage, an inspection is performed to meet the requirements of the Generic Letter 88-05 boric acid inspection program. A boric acid leak is detected on some ISI Class 1 bolting. The affected bolting is inspected, found satisfactory, and reinstalled. Later on during the system leakage test performed on the RCS [reactor coolant system] prior to startup following refueling, as required by

IWB-2500-1, Category B-P, B15.10, a small leak is noted at the same bolting. The bolting is snugged up and the leak stops. RR 3-1 (H) would require IP3 to perform a formal evaluation on the same bolting. This additional evaluation would be burdensome without a compensating increase in the level of safety and quality since these are newly replaced bolts and the leak was corrected.

If bolting is newly replaced or inspected and found satisfactory and a leak is detected during the pressure test performed during the same outage, there is no benefit to quality or safety by performing an evaluation.

2.5.4 Evaluation

In accordance with the 1989 Edition of the Code, when leakage occurs at bolted connections, all bolting is required to be removed for VT-3 visual examination. The licensee has requested relief from removal of bolting that has either been installed new or has received a VT-3 visual examination prior to installation when leakage is found prior to or during startup.

The licensee noted that when a maintenance activity is performed on an ISI Class 2 flange and all the associated bolting is replaced and the system is placed into service a small leak is noted at the flange. The bolting is then snugged up to stop the leak. However, Request for Relief 3-1(H) would require the licensee to perform a formal evaluation on the new bolting. This additional evaluation would be a hardship on the licensee without a compensating increase in the level of safety and quality since these are recently inspected bolts and the leak was corrected.

In the second example the licensee noted that at the beginning of the refueling outage, an inspection is performed to meet the requirements of the Generic Letter 88-05 boric acid inspection program. When a boric acid leak is detected on some ISI Class 1 bolting connections the affected bolting is inspected, found satisfactory, and reinstalled. Subsequently, a system leakage test is performed on the RCS prior to startup and when a small leak is noted at the same connection the bolting is snugged up and the leak is stopped. However, Relief Request 3-1 would require the licensee to perform a formal evaluation on the same bolting. This additional evaluation would be hardship on the licensee without a compensating increase in the level of safety and quality since these are newly replaced bolts and the leak was corrected.

2.5.5 Conclusion

Bolting will not exhibit degradation without related service time. Requiring the licensee to remove bolting in these cases results in a hardship without a compensating increase in safety. The staff concludes that the licensee's proposed alternative provides reasonable assurance structural integrity of the bolted connection by using new bolts or bolts that received a VT-1 visual examination prior to service (in Relief Request 3-1 the licensee committed to perform a VT-1 on bolts that are removed for inspection). Therefore, the licensee's proposal alternative is authorized pursuant to 10 CFR 50.55a(a)(3)(ii) for the third 10-year interval.

2.6 Relief Request 3-7

2.6.1 Code Requirement

IWA-4800	The records required by IWA-6000 shall be completed for all repairs.
IWA-7520(8)	Completed Owner's Report for Repairs or Replacements, Form NIS-2
IWA-6210(c)	The Owner shall prepare inservice inspection summary report for Class 1 and 2 pressure retaining components and their supports.
IWA-6220(c)	Inservice Inspection summary reports shall be required at the completion of each inspection conducted during a refueling outage. Examinations, tests, replacements, and repairs conducted since the preceding summary report shall be included.
IWA-6220(d)	Each summary report shall contain the following: (2) Owner's Report for Inservice Inspection, Form NIS-1; and (3) Owner's Report for Repair or Replacement, Form NIS-2.
IWA-6230	Within 90 days of the completion of the inservice inspection conducted during each refueling outage, the Owner shall file ISI Summary Reports with the enforcement and regulatory authorities.

2.6.2 Licensee's Proposed Alternative

In accordance with 10 CFR 50.55a(a)(3)(ii), the licensee proposed to use Code Case N-532 as alternative requirements to repair and replacement documentation requirements and inservice summary report preparation and submission as required by IWA-4000, and IWA-6000. The licensee stated:

> As an alternate to the requirements of IWA-4800, IWA-600, and IWA-7528(8), JAF (IP-3) will implement ASME Code Case N-532, "Alternative Requirements to Repair and Replacement Documentation Requirements and Inservice Summary Report Preparation and Submission as Required by IWA-4000 and IWA-6000, Division 1".

2.6.3 Licensee's Basis for Proposed Alternative (as stated)

> Pursuant to 10 CFR 50.55a(a)(3)(ii), relief is requested on the basis that the specified requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety.
>
> NYPA-IP3 feels that the summary report required by IWA-6000 does not contain the information necessary to assure compliance with Code requirements, and therefore does not provide a compensation increase in the quality and/or safety at IP3.
>
> The summary report does not furnish evidence of compliance with the ASME Boiler and Pressure Vessel Code, Section XI, Inspection Program B, percentage requirements as mandated by IWB-2412, IWC-2412, and IWD-2412.
>
> Class 3 components are excluded from the summary report submittial. Both a Final Report and Summary Report must be prepared, reviewed and approved in order to comply with Sub-articles IWA-6220 and IWA-6310 respectively.

The preparation, review, approval and certification of each record and report, within the time frame of 90 days following completion of each refueling outage, increases substantially the costs associated with inservice inspection activities, and puts an unreasonable time constraint on IP3 without an increase in assurance of Code compliance and without a compensating increase in the level of quality and safety.

A similar relief request was approved for use at NYPA's James A. FitzPatrick Nuclear Power Plant. Refer to the NRC letter on JAF relief requests dated 11/25/98.

Pursuant to 10 CFR 50.55a(a)(3)(ii), relief is requested on the basis that the specified requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety.

2.6.4 Evaluation

The staff reviewed the proposed alternative documentation requirements of Code Case N-532 and determined that although the required forms have changed, the information required by the Code is available. Code Case N-532 would require preparation of the Repair/Replacement Certification Record, Form NIS-2A. The completed form NIS-2A shall be certified by an Authorized Nuclear Inservice Inspector (ANII) as defined in ASME Code, Section XI, IWA-2130 and shall be maintained by the Owner. Furthermore, the Owner's Activity Report Form, OAR-1 shall be prepared and certified by an ANII upon completion of each refueling outage. The OAR-1 form shall contain an abstract of applicable examinations and tests, a list of item(s) with flaws or relevant conditions that require evaluation to determine acceptability for continued service, and an abstract of repairs, replacements and corrective measures performed as a result of unacceptable flaws or relevant conditions. Hence, the information provided in the documentation pertaining to the use of Code Case N-532, can be used in the same manner to assess the safety implications of Code activities performed during an outage.

2.6.5 Conclusion

A review using the information as prescribed by Code Case N-532 will provide the same or an improved level of quality and safety as reviews that may be conducted using the Code reporting requirements. In addition, more detailed information may be requested by the staff if it is deemed necessary. Therefore, the use of this alternative is authorized pursuant to 10 CFR 50.55a(a)(3)(i) for the third 10-year interval at IP3, or until Code Case N-532 is approved for general use by reference in RG 1.147. After that time, the licensee must follow the conditions, if any, specified in the RG.

2.7 Relief Request 3-8

2.7.1 Code Requirements for which Relief is Requested

The licensee is requesting relief from Subarticle IWA-2300 of Section XI of the 1995 Edition with 1996 Addenda of the ASME Code regarding nondestructive examination (NDE) personnel in accordance with the 1991 Edition of CP-189, "ASNT Standard for Qualification and Certification of Nondestructive Testing Personnel" and the additional requirements of Division 1,

and IWA-2300 of Section XI of the 1989 Edition of ASME Code regarding nondestructive examination (NDE) personnel in accordance with the 1984 Edition of ASNT SNT-TC-1A, "Personnel Qualification and Certification in Nondestructive Testing."

2.7.2 Licensee's Proposed Alternative to Code

Pursuant to 10 CFR 50.55a(a)(3)(i), the licensee's proposed alternative is to delay the implementation of CP-189 for all NDE personnel until October 15, 2001, and to continue initial certification and re-certification of NDE personnel in accordance with the requirements contained in the SNT-TC-1A through August 31, 2001. After August 31, 2001, NDE personnel will not be certified or recertified to SNT-TC-1A.

2.7.3 Licensee's Basis for Relief (as stated)

> 10 CFR 50.55a was amended in the Federal Register (Volume 64, No. 183 dated September 22, 1999) to require the use of the 1995 Edition, with the 1996 Addenda for Appendix VIII qualification requirements. This also imposes the requirements of IWA and Appendix VII of the 1995 Edition, with 1996 Addenda of Section XI. This includes Sub-article IWA-2300, which requires a written practice prepared in accordance with CP-189, 1991 Edition, as amended by the requirements of Division 1.
>
> This requires development, implementation, and to the extent possible consolidation, of multiple certification requirements into one or more written practices. This is needed to address the various NDE certification requirements contained in SNT-TC-1A, for non-Appendix VIII applications and CP-189, for Appendix VIII applications. These are further modified by IWA-2300 and Appendix VII, as amended by respectively the 1989 Edition of Section XI or the 1995 Edition with 1996 Addenda of Section XI.
>
> ...The initial certification and re-certification of ultrasonic examination personnel requirements are in accordance with the 1989 Edition of Section XI and include the use of ASNT SNT-TC-1A, 1984, as amended by IWA-2300 and Appendix VII of Section XI, 1999 Edition. An additional burden would be imposed on IP3 due to the short duration of time before the start of the upcoming Refueling Outage R11 which is currently scheduled for April 27, 2001. There are administrative/personnel constraints experienced by IP3 as a result of the transfer of the ownership of the plant from NYPA [New York Power Authority] to Entergy, specifically a number of senior technical staff, including one of the two site Level IIIs had taken early retirement. IP3 is actively looking for a replacement but is limited in resources to implement a full CP-189 program before the upcoming refueling outage. The required procedural changes, manpower resources, and in some cases additional training and re-certification of personnel would place an unnecessary burden and hardship on the finite resources available before the outage. In addition, there are no scheduled Reactor Vessel UT [ultrasonic testing] examinations in the upcoming refueling outage scheduled to begin in April of 2001.
>
> In lieu of developing and maintaining redundant programs, the proposed alternative of maintaining the current program for qualifications of UT personnel for a period of up to October 15, 2001, with a stipulation that no personnel be certified or re-certified

> under the current program after August 31, 2001, would simplify record keeping; satisfying the need to maintain personnel qualifications, eliminate redundant systems, and provide an acceptable level of quality and safety commensurate with the other NDE disciplines....
>
> Current certifications are not affected, paragraph IWA-2310 in the 1995 Edition with 1996 Addenda states that certifications based on SNT-TC-1A are valid until re-certification is required.

2.7.4 Evaluation

10 CFR 50.55a(g)(6)(ii)(C) imposes implementation of Appendix VIII to the 1995 Edition with 1996 Addenda of Section XI of the Code. The implementation schedules for the Supplements to Appendix VIII are: May 22, 2000, for Supplements 1, 2, 3, and 8; November 22, 2000, for Supplements 4 and 6; November 22, 2001, for Supplement 11; and November 22, 2002, for Supplement 5, 7, 10, 12, and 13. Appendix VIII references Appendix VII which in turn, references Subarticle IWA-2300 of Section XI of the 1995 Edition with 1996 Addenda of the Code. Subarticle IWA-2310 requires qualification of nondestructive (NDE) examiners according to the 1991 Edition of CP-189 as amended by the requirements of Division 1 of the Code.

The staff performed a detailed comparison of SNT-TC-1A and CP-189. CP-189 contains essentially everything that is in SNT-TC-1A and some additional requirements. CP-189 has a larger definition of terms which are applicable to performance demonstrations than SNT-TC-1A. CP-189 requires written procedures detailing the program for qualifying and certifying NDE personnel. CP-189 requires Level III personnel to answer more questions in the method specific examination (questions on specifications, equipment, techniques, and procedures) and to pass a performance demonstration.

Except for UT Level III examiners, the changes from SNT-TC-1A to CP-189 are mostly programmatic and do not affect UT personnel skills. The CP-189 requirement that Level III examiners demonstrate proficiency in UT is satisfied by the Appendix VIII performance demonstration of the specific UT activities in which the Level III is involved.

The ASME Code has provided for an orderly transition from SNT-TC-1A to CP-189 with the continued recognition of certifications until recertification is required. For Level I and II examinations, recertification is every 3 years, and for Level III examiners, recertification is every 5 years. However, the orderly transition by Code does not consider licensee-specific difficulties. The licensee is requesting to continue using SNT-TC-1A and delay implementing CP-189 in order to accommodate a planned refueling outage scheduled for April 27, 2001. The delay would provide the licensee with an opportunity to perform an orderly transition to CP-189 after the outage. The licensee's proposed alternative is to continue (i.e., delay the implementation of CP-189) certification and recertification of NDE personnel in accordance with SNT-TC-1A through August 31, 2001 and to leave in place the current program until October 15, 2001, at which time CP-189 will be implemented. The licensee will not certify or recertify NDE personnel to SNT-TC-1A after August 31, 2001. The programmatic differences between SNT-TC-1A and CP-189 should not affect the proficiency of NDE personnel over the short time that this relief is being requested. Therefore, the staff concludes that the proposed alternative would provide an acceptable level of quality and safety.

2.7.5 Conclusion

Based on the discussion above, the staff concludes that the proposed alternative to delay the implementation of CP-189 until October 15, 2001, and to continue initial certification and recertification of NDE personnel in accordance with the requirements contained in the SNT-TC-1A through August 31, 2001 at IP3, provides an acceptable level of quality and safety. Therefore, pursuant to 10 CFR 50.55a(a)(3)(i), the proposed alternative is authorized until October 15, 2001.

2.8 Relief Request 3-10

2.8.1 Code Requirement

The 1995 Edition and 1996 Addenda of ASME Section XI, Sub-article VII-4240 requires a minimum of 10 hours of annual training.

10 CFR 50.55a(b)(2)(xiv) requires that all personnel qualified for performing ultrasonic examinations in accordance with Appendix VIII shall receive 8 hours of hands-on training on specimens that contain cracks. The training must be completed no sooner than 6 months prior to performing ultrasonic examinations at a licensee's facility.

2.8.2 System/Component(s) for Which Relief is Requested

All components subject to ultrasonic examination in accordance with the 1995 Editions and 1996 Addenda of ASME Section XI, Appendix VIII.

2.8.3 Licensee's Proposed Alternative (as stated)

> Annual ultrasonic examination training will be conducted in accordance with 10 CFR 50.55a(b)(2)(xiv) in lieu of Section XI, Appendix VII, paragraph VII-4240.

2.8.4 Licensee's Basis for Proposed Alternative (as stated)

> Pursuant to 10 CFR 50.55a(a)(3)(i), relief is requested on the basis that the proposed alternative provides an acceptable level of quality and safety. IP3 proposes that annual ultrasonic examination training be conducted in accordance with 10 CFR 50.55a(b)(2)(xiv) in lieu of Section XI, Appendix VII, paragraph VII-4240.
>
> 10 CFR 50.55a was amended in the Federal Register (64 FR 51370) to require the 1995 Edition, with the 1996 Addenda of Section XI for Appendix VIII qualification requirements. This also imposes the requirements of Appendix VII of the 1995 Edition, with 1996 Addenda of Section XI. This includes Sub-article VII-4240, which requires a minimum of 10 hours of annual training.
>
> Paragraph 2.4.1.1.1 in the Federal Register contained the following statement, "The NRC had determined that this requirement *(10 hours of training on an annual basis)* was inadequate for two reasons. The first reason was that the training does not require

laboratory work and examination of flawed specimens. Signals can be difficult to interpret and, as detailed in the regulatory analysis for this rulemaking, experience and studies indicate that the examiner must practice on a frequent basis to maintain the capability for proper interpretation. The second reason is related to the length of training and its frequency. Studies have shown that an examiner's capability begins to diminish within approximately 6 months if skills are not maintained. Thus, the NRC had determined that 10 hours of annual training is not sufficient practice to maintain skills, and that an examiner must practice on a more frequent basis to maintain proper skill level. The PDI program has adopted a requirement for 8 hours of training, but it is required to be hands-on practice. In addition, the training must be taken no earlier than 6 months prior to performing examinations at a licensee's facility. PDI believes that 8 hours will be acceptable relative to an examiner's abilities in this highly specialized skill area because personnel can gain knowledge of new developments, material failure modes, and other pertinent technical topics through other means. Thus, the NRC has decided to adopt in the final rule the PDI position on this matter. These changes are reflected in § 50.55a(b)(2)(xiv) of the final rule.

Implementation of the requirements contained in ASME Section XI and the Final Rule will result in redundant systems. The use of the Final Rule requirements in lieu of additional requirements will simplify record keeping, satisfy needs for maintaining skills, and provide an acceptable level of safety and quality.

2.8.5 Evaluation

Subarticle VII-4240, Appendix VII of Section XI of the Code requires 10 hours of annual training to impart knowledge of new developments, material failure modes, and any pertinent technical topics as determined by the licensee. No hands-on training or practice is required to be included in the 10 hours of training. This training is required of all UT personnel qualified to perform examinations of ASME Code Class 1, 2, and 3 systems. Independent of the ASME Code, 10 CFR 50.55a(b)(2)(xiv) imposes the requirement that 8 hours of hands-on training with flawed specimens containing cracks be performed no earlier than 6 months prior to performing examinations at a licensee's facility. The licensee contends that maintaining two separate UT annual training programs creates for confusion, redundancies, and extra paper work.

As part of the staff's rulemaking effort to revise 10 CFR 50.55a(b)(2), the issue of UT annual training requirements was reviewed. The review was included in the summary of comments to the rule 64 FR 51370. In the review, the staff determined that the 10 hours of annual training requirement specified in the ASME Code was inadequate for two reasons. The first reason was that the training does not require practice with flawed specimens. Practice with flaws is necessary to maintain familiarity with signals that can be difficult to interpret. The second reason is related to the length of training and its frequency. Studies have shown that an examiner's capability begins to diminish within 6 months if skills are not maintained. Therefore, examiners must practice on a frequent basis to maintain their capability for proper interpretation of flaws.

Based on resolution of public comments for the above rulemaking, the staff accepted an industry initiative advanced by the Electric Power Research Institute (EPRI), which proposed 8 hours of hands-on practice with flawed specimens containing cracks. The practice would occur no earlier than 6 months prior to performing examinations at a licensee's facility. The initiative was adopted in 10 CFR 50.55a(b)(2)(xiv) for personnel maintaining their Appendix VIII qualifications.

2.8.6 Conclusion

The staff believes that the proposed alternative to using 10 CFR 50.55a(b)(2)(xiv) in lieu Subarticle VII-4240 will maintain the skill and proficiency of UT personnel at or above the level provided in the Code for annual UT training, thereby, providing an acceptable level of quality and safety. Therefore, the licensee's proposed alternative is authorized pursuant to 10 CFR 50.55a(a)(3)(i) for the third 10-year interval.

2.9 Relief Request 3-11

2.9.1 Code Requirement

IWA-2600 requires that a reference system be established for all welds and areas subject to surface or volumetric examinations. Each such weld and area shall be located and identified by a system of reference points. The system shall permit identification of each weld, location of each weld center line, and designation of regular intervals along the length of the weld.

2.9.2 Licensee's Proposed Alternative

In accordance with 10 CFR 50.55a(a)(3)(i), the licensee proposed to utilize the method of identification used during the first two inspection intervals. The licensee stated:

> The weld reference system described above shall be used for locating welds on existing piping and components and new installations.
>
> Datum reference markings will be established in the event that recordable indications are to be reported. Such datum points shall either be marked on the component or have their locations adequately described in the inspection documentation so that subsequent relocation can be achieved.
>
> The method proposed for the identification of indication is identical to the one employed at Indian Point No. 3 during the first and second inspection intervals.

2.9.3 Licensee's Basis for Proposed Alternative (as stated)

> The above current code requirements include the establishment of a weld reference system which includes the initial marking of weld joints. At the time of construction of Indian Point No. 3, the application of a reference system which included the marking of welds before or during the preservice examination was not required by the code and, accordingly welds were not marked.
>
> A reference system for controlling the selection and documentation of datum points has been in effect since preservice inspections were performed in the early 1970's. The datum and conventions established at that time have been retained to promote consistency in the recording of data. The general conventions used at Indian Point No. 3 for establishing weld reference datum points include:

Reference system for pipe:

a) The datum point for a circumferential weld on a horizontal pipe is the intersection of the top centerline of the pipe and the weld centerline. Dimensions are taken in a clockwise direction when viewing along the direction of system flow, which is marked on the line isometric drawing.

b) The datum point for a circumferential weld on a vertical pipe is the intersection of the weld centerline and the centerline through the outside (extrudes) of the elbow or bend that is in the direction of the lower weld number.

c) The datum for a longitudinal weld is the weld centerline and the intersecting circumferential weld.

Reference system for vessels:

a) The datum for circumferential welds is the intersection of the weld centerline and the centerline of the adjacent longitudinal weld. Dimensions are taken in a clockwise direction when viewed from the top.

b) Where there is no intersecting weld, the datum point is drawn from an existing structural point (i.e., the centerline of hot leg manway). This is identified on the data sheet for the weld examination.

c) The datum for longitudinal welds is the intersection of the weld centerline and the centerline of the intersecting upper circumferential weld.

The weld reference system currently use(d) at Indian Point No. 3 has been performing satisfactorily for the first and second 10-Year Intervals. The location of indications could be positively identified using the conventions identified above. Therefore, we believe that the marking of weld joints would not be necessary.

Marking of the vessels and piping at this time (for the 3rd 10-Year Interval), which is long after the preservice examination, to comply with current code requirements, which apply to marking before or during the preservice examination, could potentially create problems with the examination techniques and in the interpretation of the results. In general, the requirements of Appendix III, Subarticle III-4320 to mark on the weld centerline to a depth of 0.046 inches and to have a surface finish suitable for ultrasonic or penetrant examination conflict with each other. Marking in the area to be examined will increase the difficulty in coupling the transducer for ultrasonic examination and may result in false indications during penetrant examinations which could mask unacceptable indications. Furthermore, there is the potential of making an error in re-marking all the weld joints already inspected previously under the existing system. Marking also introduces the potential for causing localized surface damage on components. These potential problems are eliminated with the proposed alternate weld reference system.

Since the alternative method proposed provides an acceptable level of quality and safety, as demonstrated in the first two inspection intervals, and will continue to be as effective at locating previously identified indications as required by the code, there will be no change in the level of plant quality and safety by granting this request.

2.9.4 Evaluation

The Code requires that a reference system be established for all welds and areas subject to surface or volumetric examinations. Each such weld and area shall be located and identified by a system of reference points. The system shall permit identification of each weld, location of each weld center line, and designation of regular intervals along the length of the weld.

The licensee proposed to utilize the method of identification used during the first two inspection intervals. The weld reference system described by the licensee in its submittial will be use for locating welds on existing piping and components and new installations.

Datum reference markings will be established in the event that recordable indications are to be reported. Such datum points shall either be marked on the component or have their locations adequately described in the inspection documentation so that subsequent relocation can be achieved.

The licensee noted that at the time of construction of IP3, the application of a reference system which included the marking of welds before or during the preservice examination was not required by the Code and, accordingly welds were not marked. The licensee's current reference system for controlling the selection and documentation of datum points has been in effect since preservice inspections were performed in the early 1970's. The datum and conventions established at that time have been retained by the licensee to promote consistency in the recording of data.

2.9.5 Conclusion

Requiring the licensee to use the Code requirements would result in a hardship without a compensating increase in safety. The licensee's proposed alternative will provide reasonable assurance of structural integrity of the subject welds. Therefore, the licensee's proposed alternative is authorized pursuant to 10 CFR 50.55a(a)(3)(ii) for the third 10-year interval.

2.10 Relief Request 3-19

2.10.1 Code Requirement

Examination Category B-A, Item B1.30 requires a volumetric examination of at least 50% of the weld by the end of the first period. IWB-2420(a) requires that the sequence of component examinations established during the first inspection interval shall be repeated during each successive inspection interval, to the extent practical.

2.10.2 Licensee's Proposed Alternative

In accordance with 10 CFR 50.55a(a)(3)(ii), the licensee proposed to perform the required examinations at or near the end of the inspection interval in conjunction with the reactor pressure vessel (RPV) 10-year ISI. The licensee stated:

> IP3 will perform the code required shell to flange exam using a manual inspection technique **or** a remote controlled, automated inspection tool in the 3rd period of the 3rd 10-year ISI interval (present interval) in conjunction with the RPV 10-year ISI inspection.

2.10.3 Licensee's Basis for Proposed Alternative (as stated)

> Pursuant to 10 CFR 50.55a(a)(3)(ii), relief is requested on the basis that the specified requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety.
>
> The 1989 ASME XI code which applies to IP3 requires that a partial examination is required for the shell to flange weld for the third ten [10]-year Inservice Inspection (ISI) plan for the Indian Point 3 plant. Examination Category B-A, item B1.30, note 4, requires that approximately 50% of the shell to flange weld be examined by the end of the first inspection period.
>
> This relief request defers examination of the entire shell to flange weld until the third inspection period of the interval, in conjunction with the RPV 10-year ISI examinations. However, deferral of the entire exam to the third period does not follow the sequence of examinations followed during the previous intervals. Therefore, relief is also requested from section IWB-2420(a) of ASME, Section XI. This deferral will allow the inspection of the shell flange weld to coincide with the inspections of the reactor pressure vessel (RPV) shell welds. Performing the inspection of the shell to flange weld during the same outage as the RPV shell welds affords the following advantages.
>
> - The inspection of the shell to flange weld, in conjunction with the inspection of the RPV shell welds, reduces the radiation exposure to plant workers. If the shell to flange weld is inspected as currently scheduled (50 percent during the first inspection period and 50 percent during the third period of the inspection interval), these examinations will be completed manually and requires access [to] the vessel flange twice during the 10-year interval which increases critical path outage time. If the inspection of the shell to flange weld is deferred until the latter portion of the interval, then the inspection can be done in conjunction with the RPV shell welds and decreases overall critical path time. The coordination of the vessel flange inspection in conjunction with the RPV 10-year ISI is expected to reduce person-rem exposure as the flange inspection will be schedule[d] for only one time during the interval. In addition, coordinating this work with the RPV 10-year ISI inspection will reduce critical path by inspecting the vessel flange weld only once in a 10-year interval.

- The inspection of the entire shell to flange weld during the latter portion of the interval, in conjunction with the RPV shell welds, reduces the outage time and cost associated with this inspection as it will be done once in a 10-year interval vs. code requirements. This also reduces person-rem and the risk of contamination to inspection personnel, as this examination will only be completed once in the 10-year ISI interval.

- 100% of the vessel to flange weld was inspected during the previous refueling outage (Refueling outage 10-Fall, 1999) at the end of the 2nd 10-year ISI interval. No indications were noted.

Deferral of the examination of the reactor vessel shell to flange weld to the end of the inspection interval will provide an acceptable level of safety and quality. IP3's shell to flange weld was manually examined 100% during the second ten-year interval in 1999. These exams did not reveal any rejectable indications or service related defects. Therefore, based upon a lack of any rejectable indications, deferral of the third 10-year interval exams until the third period does not constitute a safety hazard. Therefore, requiring a partial inspection of the flange weld during RO 11 or 12 (1st period) would constitute an exposure, economic and schedule hardship without a compensating increase in quality or safety.

The proposed alternative would provide an acceptable level of quality and safety as allowed by 10 CFR 50.55a(a)(3)(ii). In addition, IP3 will be notified if any flaws are detected at other Nuclear Power Plants through the Operating Experience Program. If this were to occur the schedule for inspection would be reevaluated.

2.10.4 Evaluation

Examination Category B-A, Item B1.30 requires a volumetric examination of at least 50% of the weld by the end of the first period. Performance of the subject examinations during the first period of the interval results in potential personnel safety hazards and excessive radiation exposure. The licensee’s proposed alternative to perform the subject examinations at or near the end of the interval in conjunction with the automated nozzle examinations allows for a significant reduction in personnel radiation exposure and eliminates many of the safety hazards associated with performance of a manual examination of the flange weld. Additionally, the licensee performed examinations on the subject welds during the third period of the second interval (1999) and found no rejectable indications or inservice defects. The third period examinations performed ensure that no more than 10 (Code) years will lapse between the successive examinations.

2.10.5 Conclusion

Based on the examinations completed during the third period of the second interval, and the fact that no more than 10 (Code) years will lapse between successive examinations, the licensee's proposed alternative will provide an acceptable level of quality and safety. Therefore, the licensee's proposed alternative is authorized pursuant to 10 CFR 50.55a(a)(3)(i) for the third 10-year interval.

2.11 Relief Request 3-23

2.11.1 Code Requirement

Examination Category C-B, Item C2.22 requires 100% volumetric examination of the nozzle inside radius sections of nozzles greater than one-half inch nominal wall thickness in Class 2 vessels as defined by Figure IWB-2500-4(a) or (b).

2.11.2 Licensee's Code Relief Request

In accordance with 10 CFR 50.55a(g)(5)(iii), the licensee requested relief from performing the Code-required volumetric examination of the Steam Generator outlet nozzle inside radius section.

2.11.3 Licensee's Basis for Requesting Relief (as stated)

> The Main Steam Nozzle is welded to the Replacement Steam Generator. Section XI requires volumetric examination of the inside radius section of nozzles greater than a nominal pipe size of 12 inches in Class 2 vessels. In the case of Indian Point Unit 3 Replacement Steam Generators, due to design, the Main Steam Nozzles do not have an inner or blended radius section to examine. The nozzle is a one piece forging with seven holes bored parallel to the nozzle centerline. Inconel flow restrictors are subsequently installed within each of these holes and attached to cladding that is weld deposited onto the bottom surface of the nozzle. The cladding serves as a medium of attachment for the inconel flow restrictors and as an erosion barrier to protect the nozzle forging. Due to the Main Steam Nozzle not having an inner radius blended section to examine, the Section XI requirements are not applicable. The I.D. of the Steam Outlet Nozzle is not accessible for visual examination due to interference from the installed steam separator packages on the inside and the internal geometry of the nozzle itself precludes access for visual examination from the outside.
>
> Examination(s) perform(ed) on the Replacement Steam Generators to ASME Section III on the steam outlet nozzle include the following: 100% Ultrasonic inspection of the nozzle forging prior to final machining followed by magnetic particle and visual inspection after final machining. Examinations performed on the weld deposited cladding in the area beneath the bored hole corners include ultrasonic (for bond and defect), liquid penetrant and visual examination. Upon attachment of the flow restrictors the welds were liquid penetrant and visually examined.

2.11.4 Licensee's Proposed Alternative Examination (as stated)

> Visual, VT-2 examination will be performed during system pressure test as required by IWC-2500-1, Item C7.10 and C7.20 and in accordance with Code Case N-498-1.

2.11.5 Evaluation

Examination Category C-B, Item C2.22 requires 100% volumetric examination of the nozzle inside radius sections of nozzles greater than one-half inch nominal wall thickness in Class 2 vessels as defined by Figure IWB-2500-4(a) or (b). As described by the licensee, and is evident by review of sketches, the steam outlet nozzle was designed with an internal multiple hole-type flow restrictor. This design does not use a radiused nozzle as described in Figure IWC-2500-4, but instead has several (7) individual holes bored parallel to the nozzle centerline.

2.11.6 Conclusion

The Code requirement does not apply to the design of the nozzle and is, therefore, impractical. Based on the impracticality resulting from the design configuration of the subject steam generator nozzle, relief is granted pursuant to 10 CFR 50.55a(g)(6)(i) for the third 10-year interval.

2.12 Relief Request 3-24

In Relief Request 3-24, the licensee proposes to use the 1998 Edition of Subsection IWE as an alternative to the requirements of the 1992 Edition and Addenda for inspection of Class MC components and the metallic shell and penetration liners of Class CC pressure retaining components. An analysis of the changes in requirements between the 1992 Edition and Addenda and the 1998 Edition of Subsection IWE was performed. Appendix A contains a table which shows this comparison. The four columns of the table provide the following information:

Column 1 The paragraph (sometimes includes articles and subarticles) corresponding to the 1992 Edition and Addends of Subsection IWE.

Column 2 Changes between the 1992 Edition and Addenda and the 1998 Edition.

Column 3 Licensee's statement of significance and/or basis for use as an alternative inspection.

Column 4 Acceptability of the requirements of the 1998 Edition of the Code in terms of quality and safety.

Based on the review of the comparative requirements, the staff identified several significant issues that required additional commitments from the licensee. These issues are evaluated in Sections 2.1 through 2.5.

2.12.1 Visual Examination Methods and Personnel Qualification, IWE-2300

The 1992 Edition and Addenda invokes the use of IWA-2200 for visual, surface, and volumetric examination methods, and IWA-2300 for qualification of personnel. For qualification of personnel, the 1992 Addenda of IWA-2300 requires personnel to be qualified and certified using a written practice prepared in accordance with ANSI/ASNT CP-189. The 1998 Edition of IWE-2300 requires the owner (i.e., licensee) to define requirements for visual examination of containment surfaces, and for qualifying the personnel performing visual examinations. In general, use of consensus standards for performance of containment examinations is

preferable to owner-defined requirements. Without any consistent guidance, deferring these responsibilities to individual owners creates a potential for substantial inconsistencies. In its March 20, 2001, submittal, the licensee committed to supplement the requirements of the 1998 Edition of IWE-2300 with the following provisions:

a. General visual examinations will be performed by Engineering personnel knowledgeable in the requirements for design, inservice inspection, and/or testing of Class MC and metallic liners of Class CC components. These personnel will be required to attend a Section XI Containment Inspection training class and pass an eye vision test examination as determined by the Responsible Engineer.

b. Detailed visual examinations will be performed by personnel meeting the applicable requirements of IWA-2300 of the 1989 Edition, no Addenda, for a period of up to December 31, 2001, in accordance with SNT-TC-1A, 1984 Edition. Beginning January 1, 2002, the qualification program for personnel performing the detailed visual examinations will meet the applicable requirements of IWA-2300 of the 1992 Addenda, in accordance with CP-189, 1991 Edition.

c. Applicable IP3 Containment Inspection program documents and/or procedures will be developed to include the aforementioned qualification requirements.

d. Performance requirements for general and detailed visual examinations will be included in the applicable examination documents/procedures. The following methodology will be used for the demonstration:

i. The demonstration will include artificial and natural lighting. The general and detailed visual examination parameters will be verified (using a commercial light meter) as meeting the illumination requirements of Section XI, 1992 Addenda, Table IWA-2210-1 for VT-3 (general visual) and VT-1 (detailed visual) respectively. Both industrial halogen flashlights and halogen spotlights will be used.

ii. For direct general visual examination, the demonstration will determine the distance that could resolve the character height requirement of Section XI, 1992 Addenda, Table IWA-2210-1 for VT-3.

iii. Direct detailed visual examination will be demonstrated to meet the character height and distance requirements of Section XI, 1992 Addenda, Table IWA-2210-1 for VT-1.

iv. Remote visual examination will be demonstrated using commercial binoculars, spotting scope, and power zoom camera systems. The remote visual demonstration will be conducted both in artificial and natural lighting.

v. Remote general visual will demonstrate to resolve the character height for the VT-3 line of Table IWA-2210-1, at distances typical of the actual maximum remote examinations to be performed at the plant.

vi. Remote detailed visual will demonstrate to resolve the character height for the VT-1 line of Table IWA-2210-1.

vii. Demonstrations will be performed by qualified personnel and demonstrated to the Authorized Nuclear Inservice Inspector.

e. An alternate method may be used in future demonstrations which will prescribe the use of a "general visual reference standard, such as using the 18% neutral gray card in lieu of the character height standard." The alternate method, if used, will be demonstrated to meet the resolution requirement sufficient to detect defects or deterioration which may be identified during a general visual examination. The use of the reference standard complies with the provisions included in 10 CFR 50.55a(b)(2)(ix)(B). This "general visual reference standard" may also be used in future containment examination as applicable.

f. Personnel performing augmented ultrasonic thickness examinations will be qualified in accordance with the requirements of IWA-2000 in the 1992 Addenda.

The staff concludes that the incorporation of these provisions into the licensee's containment inservice inspection procedures provides reasonable assurance that the licensee's defined visual examination methods and personnel qualification procedures are adequate.

2.12.2 Examination of Paint and Coatings, IWE-2500(b)

The requirement to examine paint or coating prior to removal was deleted in the 1998 Edition of the Code. The staff has no objection to this deletion. However, in the absence of any examination for detecting flaws or degradation in the containment base metal, the recoating may be applied to a degraded containment surface.

The licensee states that "any work performed on the IP3 Containment boundary, including coated or painted surfaces is controlled under the work control process. If a containment pressure boundary surface coating is degraded, as a good practice, it is evaluated and dispositioned by the Coating Engineer (who is a member of the Civil Structure group under the direction of the Responsible Containment Engineer). Any base metal conditions that could challenge the structural integrity of the containment would be identified and resolved prior to coating removal and re-application. IP3 will include a requirement in the applicable procedures (e.g., Section XI Repair/Replacement procedure which covers maintenance activity such as coating; and the applicable Coating procedure) for the Responsible Engineer or designee to evaluate and disposition any containment related coating removal and application, including an examination of the base metal for acceptance."

The staff finds that implementation of the licensee's proposed process will ensure that base metal degradation will be identified, and appropriate action taken, prior to recoating the containment liner.

2.12.3 Visual Examination Acceptance Standards for Categories E-A and E-C

IWE-3510.1 and IWE-3511.1 of the 1998 Edition of the Code state that the owner is required to define the acceptance criteria for visual examination of containment surfaces when performing

Category E-A and Category E-C examinations. The licensee has augmented these requirements with commitments contained in its March 20, 2001 submittal. The licensee states:

> The general visual examination acceptance criteria will be included in the applicable IP3 Containment examination program documents or procedures. The general visual examination of containment liner surfaces examines for indications of degradation that may affect the containment structural integrity or leak tightness. Containment liner welds and dissimilar metal welds are examined as part of the containment liner surfaces. Excessive indications of flaking, blistering or peeling coating, corrosion, general deformation, bulges, surface irregularities, or other signs of distress, which do not meet the acceptance criteria as determined by the Responsible Engineer will be recorded and evaluated for further disposition. General visual examination of pressure retaining bolted connections will be performed for missing or loose bolting materials, corrosion, bolting deformation, or other indications that may affect the integrity of the bolted connection. General visual examination of moisture barriers will be performed for signs of wear, damage, erosion, tears, surface cracks or other defects that would permit intrusion of moisture into inaccessible areas. Excessive indications will be recorded and evaluated by the Responsible Engineer or designee.
>
> The detailed visual (VT-1) examinations will also be included in the applicable IP3 Section XI visual examination documents/procedures. The detailed visual examination assesses the initial condition of surfaces requiring augmented examinations, in accordance with IWE-1241, and determines the magnitude and extent of indications of degradation and distress of these containment surfaces. The detailed visual examination also determines the magnitude and extent of indications of degradation and distress of suspect containment surfaces initially detected by the general visual examination. The detailed visual examination criteria of IWE-2310(e) of the 1998 Edition are used, supplemented by additional criteria for bolted connections and moisture barriers, as defined in the general visual examination criteria above. The results of the examination will be recorded for evaluation by the Responsible Individual for acceptance by engineering evaluation or correction by repair/replacement activity.

The staff finds that complying with the 1998 Edition of the Code, augmented by the specific requirements in the licensee's containment inspection program, will provide reasonable assurance that significant flaws and degradation of the containment are adequately identified during Category E-A and Category E-C examinations.

2.12.4 Ultrasonic Examinations, IWE-3511.3

In Paragraph IWE-3511.3 of the 1998 Edition of the Code, examination of metallic liners of Class CC components has been excluded from the acceptance criterion, which requires disposition of areas where material loss exceeds 10% of the nominal wall thickness. Therefore, the 1998 Code is not acceptable for the metallic liners of Class CC components without augmentation by the licensee. The licensee states in its March 20, 2001, letter that the ultrasonic examinations required by IWE-3511.3 apply to Class CC components as well as to Class MC components. Specifically, if greater than 10% material loss is identified, the area shall be subject to acceptance by engineering evaluation or repair. This is equivalent to the requirements of the 1992 Addenda. Therefore, the staff concludes that the proposed acceptance criterion for material loss will ensure that the integrity of the liner plate is maintained and, thus, will provide an acceptable level of quality and safety.

2.12.5 Examination of Pressure Retaining Bolting, Table IWE-2500-1

The 1992 Edition through the 1996 Addenda requires licensees to perform a VT-1 visual examination on 100% of the pressure retaining bolting. It also requires torque testing of each bolted connection. In the 1998 Edition of IWE, the requirements for bolted connections have been moved to Examination Category E-A, Item E1.10, "Containment Vessel Pressure Retaining Boundary" and Item E1.11, "Accessible Surface Areas." The 1998 Edition requires that 100% of the accessible surface areas of the containment vessel pressure retaining boundary be visually examined (general visual) during each inspection period. This corresponds to an examination of all bolted connections three times per inspection interval. Included in the examination are bolts, studs, nuts, bushings, washers, and threads in base material and flange ligaments between fastener holes. The Code does not require that the bolted connection be disassembled for performance of the examination.

A general visual examination alone will not allow identification of flaws or degradation in inaccessible areas. In addition, the acceptance criteria for general visual examinations do not provide sufficient guidance for acceptance of flaws. Therefore, the staff finds that the requirements for visual examination of bolted connections in the 1998 Edition are not fully satisfactory. The staff recommends the following guidelines:

> A detailed visual examination should be performed for areas where flaws or degradation are indicated.
>
> Damaged bolted connections should be disassembled and a detailed visual examination of the bolted connection components should be performed.
>
> A general visual examination or detailed visual examination if applicable, should be performed when a bolted connection is disassembled at the time of a scheduled general visual examination. All accessible surface areas of the connection (bushings, threads, ligaments in the base material of flanges) should be included in the examination.
>
> A general visual examination or detailed visual examination if applicable, should be performed when a bolted connection is disassembled at times other than a scheduled visual examination. Procedures should be used to ensure that the integrity of the reassembled bolted connections are maintained. The procedures should include acceptance criteria for the continued use of all parts of the connections including bolts, studs, nuts, bushings, washers, and threads in base material and flange ligaments between fastener holes.

The licensee's description of examination of containment pressure boundary bolted connections in its letter of March 20, 2001, is consistent with the staff's guidelines and provides a reasonable and practical approach to ensure that degraded and damaged bolting is adequately identified. Therefore, the staff finds that the licensee's proposed alternative provides an acceptable level of quality and safety.

2.12.6 Conclusion

The licensee's proposed alternative to use the requirements of the 1998 Edition of Subsection IWE and IWL, as supplemented by commitments in the licensee's submittal of March 20, 2001, provides an acceptable level of quality and safety for ensuring the integrity of the pressure boundary of the IP3 containment. Therefore, the proposed alternative is authorized pursuant to 10 CFR 50.55a(a)(3)(i) for the third 10-year interval.

2.13 Relief Request 3-25

In Relief Request 3-2, the licensee proposes to use the 1998 Edition of Subsection IWL as an alternative to the requirements of the 1992 Edition and Addenda for inspection of Class CC components. An analysis of the changes in requirements between the 1992 Edition and Addenda and the 1998 Edition of Subsection IWL was performed. Appendix B contains a table which shows this comparison. The four columns of the table provide the following information:

Column 1 The paragraph (sometimes includes articles and subarticles) corresponding to the 1992 Edition and Addends of Subsection IWL.

Column 2 Changes between the 1992 Edition and Addenda and the 1998 Edition.

Column 3 Licensee's statement of significance and/or basis for use as an alternative inspection.

Column 4 Acceptability of the requirements of the 1998 Edition of the Code in terms of quality and safety.

Based on the review of the comparative requirements, the staff identified several significant issues that required additional commitments from the licensee. These issues are evaluated in Sections 3.1 through 3.3.

2.13.1 Qualification of Visual Examination Personnel for Concrete Inspection

The 1998 Edition of IWL-2310(d) requires the owner to define the qualification requirements to qualify personnel to perform visual examinations of concrete and tendon anchorage hardware, wires, or strands. Prior to the 1997 Addenda, IWL-2310(c) required that visual examination personnel be qualified in accordance with IWA-2300 or IWA-2350, as applicable. In general, use of consensus standards for qualification of examination personnel is preferable to owner-defined requirements. Without any consistent guidance, deferring these responsibilities to individual owners creates a potential for substantial inconsistencies.

In its March 20, 2001, submittal, the licensee provided the following information on its personnel qualification requirements:

> a. General visual examinations will be performed by Engineering personnel knowledgeable in the requirements for design, inservice inspection, and/or testing of Class CC components. These personnel will be required to attend a Section XI Containment Inspection training class and pass an eye vision test examination as determined by the Responsible Engineer.

b. Detailed visual examinations will be performed by personnel meeting the applicable requirements of IWA-2300 of the 1989 Edition, no Addenda, for a period of up to December 31, 2001, in accordance with SNT-TC-1A, 1984 Edition. Beginning January 1, 2002, the qualification program for personnel performing the detailed visual examinations will meet the applicable requirements of IWA-2300 of the 1992 Addenda, in accordance with CP-189, 1991 Edition.

c. Applicable IP3 Containment Inspection program documents and/or procedures will be developed to include the aforementioned qualification requirements.

The staff concludes that the incorporation of these provisions into the licensee's containment inservice inspection program provides reasonable assurance that the licensee's defined personnel qualification procedures are adequate.

2.13.2 Examination of Concrete, IWL-2510

The 1992 Edition and Addenda requires the use of visual examination procedures VT-3C and VT-1C. In the 1998 Edition, IWL-2310, these procedures have been changed to "general visual" and "detailed visual" examinations. The 1998 Code requires the owner to define the requirements for visual examination of tendon anchorage hardware, wire, and strands. Use of consensus standards for visual examination methods is preferable to owner-defined requirements. Without any consistent guidance, deferring these responsibilities to individual owners creates a potential for substantial inconsistencies.

In its March 20, 2001, submittal, the licensee provided the performance requirements for general and detailed visual examinations:

a. Performance requirements for general and detailed visual examinations will be included in the applicable examination documents/procedures. The following methodology will be used for the demonstration:

i. The demonstration will include artificial and natural lighting. The general and detailed visual examination parameters will be verified (using a commercial light meter) as meeting the illumination requirements of Section XI, 1992 Addenda, Table IWA-2210-1 for VT-3 (general visual) and VT-1 (detailed visual) respectively. Both industrial halogen flashlights and halogen spotlights will be used.

ii. Direct general visual examination, the demonstration will determine the distance that could resolve the character height requirement of Section XI, 1992 Addenda, Table IWA-2210-1 for VT-3.

iii. Direct detailed visual examination will be demonstrated to meet the character height and distance requirements of Section XI, 1992 Addenda, Table IWA-2210- for VT-1.

iv. Remote visual examination will be demonstrated using commercial binoculars, spotting scope, and power zoom camera systems. The remote visual demonstration will be conducted both in artificial and natural lighting.

v. Remote general visual will demonstrate to resolve the character height for the VT-3 line of Table IWA-2210-1, at distances typical of the actual maximum remote examinations to be performed at the plant.

vi. Remote detailed visual will demonstrate to resolve the character height for the VT-1 line of Table IWA-2210-1.

vii. Demonstrations will be performed by qualified personnel and demonstrated to the Authorized Nuclear Inservice Inspector.

b. An alternate method may be used in future demonstrations which will prescribe the use of a "general visual reference standard, such as using the 18% neutral gray card in lieu of the character height standard." The alternate method, if used, will be demonstrated to meet the resolution requirement sufficient to detect defects or deterioration which may be identified during a general visual examination. The use of the reference standard complies with the provisions included in 10 CFR 50.55a(b)(2)(ix)(B). This "general visual reference standard" may also be used in future containment examination as applicable.

c. The visual examinations will be performed in accordance with the 1998 Edition, Subsections IWL-2310, IWL-2510, and IWL-2524.1. Indications will be recorded, and subsequently evaluated, by the Responsible Engineer in accordance with IWL-2320, IWL-3200, and IWL-3300.

The staff finds that complying with the 1998 Edition of the Code, augmented by the specific requirements in the licensee's containment inspection program, will provide reasonable assurance that significant flaws and degradation of the containment are adequately identified during IWL-2510 examinations.

2.13.3 Examination of Suspect Areas, Table IWL-2500-1

Table IWL-2500-1 of the 1998 Edition of the Code requires a general visual examination for Item L1.12 (suspect areas). The 1992 Addenda of the Code requires VT-1 examination. The licensee states in its letter dated March 20, 2001, that it "will perform detailed visual examinations of suspect areas addressed in Category L-A, Item L1.12." The licensee's proposal meets the intent of the 1992 Code requirements and, therefore, is acceptable.

2.13.4 Conclusion

The licensee's proposed alternative to use the requirements of the 1998 Edition of Subsection IWE and IWL, as supplemented by commitments in the licensee's submittal of March 20, 2001, provides an acceptable level of quality and safety for ensuring the integrity of the pressure boundary of the IP3 containment. Therefore, the proposed alternative is authorized pursuant to 10 CFR 50.55a(a)(3)(i) for the third 10-year interval.

2.14 Relief Request 3-26

2.14.1 Code Requirement

IWA-4400(a) requires that all welding shall be performed in accordance with Welding Procedure Specifications that have been qualified by the Owner or repair organization in accordance with the requirements of the codes specified in the Repair Program in accordance with IWA-4120.

2.14.2 Licensee's Proposed Alternative

In accordance with 10 CFR 50.55a(a)(3)(i), the licensee has proposed to use Code Case N-573, *Transfer of Procedure Qualification Records Between Owners.* The licensee stated:

> The following alternative testing requirements as outlined in ASME Section XI Code Case N-573, Transfer of Procedure Qualification Records (PQR) between Owners, Section XI, Division 1, will be implemented. Specifically,
>
> a. The Owner that performed the procedure qualification test shall certify, by signing the PQR, that testing was performed in accordance with Section IX.
>
> b. The Owner that performed the procedure qualification test shall certify, in writing, that the procedure qualification was conducted in accordance with a Quality Assurance Program that satisfies the requirements of IWA-1400.
>
> c. The Owner accepting the completed PQR shall accept responsibility for obtaining any additional supporting information needed for WPS development.
>
> d. The Owner accepting the completed PQR shall document, on each resulting WPS, the parameters applicable to welding. Each WPS shall be supported by all necessary PQR's.
>
> e. The Owner accepting the completed PQR shall accept responsibility for the PQR. Acceptance shall be documented by the Owner's approval of each WPS that references the PQR.
>
> f. The Owner accepting the completed PQR shall demonstrated [sic] technical competence in application of the received PQR by completing a performance qualification test using the parameters of a resulting WPS.
>
> g. The Owner may accept and use a PQR only when it is received directly from the Owner that certified the PQR.
>
> h. Use of this Case shall be shown on the NIS-2 form documenting welding or brazing.

2.14.3 Licensee's Basis for Proposed Alternative (as stated)

The basis for this relief is to implement ASME Code Case N-573, which eliminates the redundancy currently required by the Code for each organization to independently qualify all welding procedures even though they have met the qualification process at another facility. ASME XI Code Case N-573 recognizes and addresses this fact and proposes an alternative, which maintains an acceptable level of quality and safety.

2.14.4 Evaluation

IWA-4400(a) requires that all welding shall be performed in accordance with Welding Procedure Specifications (WPS) that have been qualified by the Owner or repair organization in accordance with the requirements of the codes specified in the Repair Program, per IWA-4120. The licensee has proposed the use of Code Case N-573, *Transfer of Procedure Qualification Records Between Owners*. This Code Case essentially allows the use of a welding or brazing procedure qualification record (PQR) qualified by one owner to be used by another owner for the development of the WPS. The specific requirements listed in Code Case N-573 shall be met by the Owner that performed the procedure qualification, and by the Owner intending to use the PQR. These requirements are:

(a) The Owner that performed the procedure qualification test shall certify, by signing the PQR, that testing was performed in accordance with Section IX.

(b) The Owner that performed the procedure qualification test shall certify, in writing, that the procedure qualification was conducted in accordance with a Quality Assurance Program that satisfies the requirements of IWA-1400.

(c) The Owner accepting the completed PQR shall accept responsibility for obtaining any additional supporting information needed for WPS development.

(d) The Owner accepting the completed PQR shall document, on each resulting WPS, the parameters applicable to welding. Each WPS shall be supported by all necessary PQR's.

(e) The Owner accepting the completed PQR shall accept responsibility for the PQR. Acceptance shall be documented by the Owner's approval of each WPS that references the PQR.

(f) The Owner accepting the completed PQR shall demonstrate technical competence in application of the received PQR by completing a performance qualification test using the parameters of a resulting WPS.

(g) The Owner may accept and use a PQR only when it is received directly from the Owner that certified the PQR.

(h) Use of this Code Case shall be shown on the NIS-2 form documenting welding or brazing.

The staff believes that qualification of a procedure for the purpose of joining materials by either welding or brazing may be performed by any Owner provided the applicable requirements for procedure qualification are maintained. The staff also believes that Owners may use procedures qualified by other Owners provided the conditions/requirements listed in Code Case N-573 are met.

2.14.5 Conclusion

The licensee has committed to comply with requirements specified in Code Case N-573. Therefore, the proposed alternative provides an acceptable level of quality and safety and the use of this alternative is authorized pursuant to 10 CFR 50.55a(a)(3)(i) for the current interval at IP3, or until Code Case N-573 is approved for general use by reference in RG 1.147. After that time, the licensee must follow the conditions, if any, specified in the RG.

2.15 Relief Request 3-27

By letter of July 18, 2000, New York Power Authority (NYPA), the licensee of IP3, requested relief from the requirements of ASME Code Section XI, 1989 Edition, Article IWF-5000, with regard to visual examination of snubbers. Article IWF-5000 references the first Addenda to ASME/ANSI OM-1987, Part 4 (OMa-4) for such snubber activities.

2.15.1 Background

Snubber examinations at IP3 were required to be performed in accordance with the ASME Code, Section XI, Article IWF-5000, 1989 Edition, which invokes the snubber examination requirements of ASME/ANSI OM Code, Part 4, 1987, through OMa-1988 Addenda (published in 1988). Section 2.3.2.2 of the OM Code Addenda states that, “examination shall be conducted at 18-month intervals” and specifies schedule changes if unacceptable snubbers are revealed. In addition, Section 2.3.2.3 of the OM Code Addenda requires that subsequent examinations for any given failure group not be lengthened more than one increment at a time.

Pursuant to the provision specified in 10 CFR 50.55a(g)(5)(iii), the licensee is requesting relief from the performance of visual inspections of snubbers at 18-month intervals, and the associated schedule changes if unacceptable snubbers are revealed, as required by Article IWF-5000 which references OM Code, Part 4, Section 2.3.2.2. The licensee is also requesting relief from the “Subsequent Examination Schedule Adjustment” of Part 4, Section 2.3.2.3. Pursuant to 10 CFR 50.55a(a)(3)(i) relief is requested by the licensee on the basis that the proposed alternatives discussed in this request for relief would provide an acceptable level of quality and safety.

2.15.2 Evaluation

The licensee stated in its July 18, 2000, submittal that the 18-month snubber visual inspection schedule as it appears in OM Code, Part 4, Section 2.3.2.2, assumes that refueling intervals will not exceed 18 months, and is based only on the number of unacceptable snubbers found during the previous visual inspection, irrespective of the size of the snubber population. The licensee stated that the 18-month inspection interval is incompatible with the IP3 current operating cycle lengths of 24 months. Due to the number of snubbers in use at IP3, the licensee stated that the OM Code, Part 4, schedule and snubber selection method is

excessively restrictive and resource intensive. Performance of these inspections during power operation, as would be necessary under the OM Code, Part 4, 18-month inspection interval, would result in expenditures of significant resources and would subject plant personnel to unnecessary radiological exposure with no commensurate increase in quality or safety.

The proposed alternative inspection conforms with NRC Generic Letter 90-09, "Alternative Requirements for Snubber Inspection Intervals and Corrective Actions," December 11, 1990, which has been previously approved for use at the IP3 by the NRC as License Amendment 111 to the IP3 Operating License on March 9, 1992. As previously concluded by the NRC, the alternative inspection maintains the same confidence level in snubber operability as those imposed by the requirements of ASME Code, Section XI, Article IWF-5000, which references the OM Code, Part 4. The proposed alternative is compatible with the current 24-month operating cycle and generally will allow inspections to be performed during plant outages, thereby reducing radiological exposure of plant personnel. This is acceptable to the staff.

The licensee stated that relief from the OM Code, Part 4, Section 2.3.2.3, "Subsequent Examination Schedule Adjustment" is also requested since the schedule adjustment specified in this section is based on the examination intervals of Section 2.3.2.2 of the OM Code, Part 4.

The licensee also stated that the revised IP3 ISI snubber program which relocates examination and testing requirements for snubbers to an IP3 Plant Controlled Document was included in the submittal to the NRC for the Improved Technical Specification Project (reference IPN-98-134, dated December 11, 1998). The licensee stated, therefore, that the above relief request will be incorporated into its ISI snubber program and the IP3 Plant Controlled Document. This is acceptable to the staff.

Based on the above evaluation, the staff determines that snubber visual examinations, conducted in accordance with the IP3 Plant Controlled Document, would provide an equal or greater level of quality and safety than would otherwise be performed under ASME Section XI, 1989 Edition, Article IWF-5000, which references OM-1987, Part 4, 1988 Addenda (OMa-4).

2.15.3 Conclusion

Based on the information provided by the licensee, the staff determines that the licensee has presented an adequate justification for the relief request from the requirements of ASME Code, 1989 Edition, Section XI, Article IWF-5000, which references the first Addenda to OM-1987, Part 4, with regard to visual examinations of IP3 snubbers. The staff determines that the proposed alternative use of the IP3 Plant Controlled Document for snubber activities would provide an acceptable level of quality and safety. Therefore, pursuant to 10 CFR 50.55a(a)(3)(i), the licensee's request for relief for the third 10-year interval of the IP3 ISI snubber program is authorized.

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Attachments: Appendix A
Appendix B

APPENDIX A
INDIAN POINT 3 NUCLEAR POWER PLANT
SUBSECTION IWE COMPARISON TABLE

APPENDIX A -- INDIAN POINT 3 NUCLEAR POWER PLANT -- IWE COMPARISON

IWE Paragraph (1992 Ed.)	Changes between IWE 1992 Edition/Addenda. and the 1998 Edition	Licensee's statement of significance and/or basis for use as an alternative examination	Comments
1100	No change	N/A	
1200	No change	N/A	
1210	No change	N/A	
1220	Changed "containment" to "containment system"	Nonsignificant	Acceptable.
1230	No change	N/A	
1231	Removed item 3) - "single welded butt joints from the weld side" - as a specific item required to remain accessible for the life of the plant.	These single welded butt joints were removed as a separately listed examination item and are now included within the item for the pressure retaining boundary as discussed in the changes to Table IWE-2500-1 below.	Examination of welds is optional in 10 CFR 50.55a. Acceptable.
	Changed wording from "80% of the surface area" to "80% of the pressure retaining boundary" and stated exclusions from that 80%.	The exclusions from 80% incorporate an existing Table IWE 2500-1 note and clarify that areas made inaccessible during construction are also excluded.	Acceptable.
	Reworded paragraph b).	Change to b) is for clarity and is nonsignificant.	Acceptable.

IWE Paragraph (1992 Ed.)	Changes between IWE 1992 Edition/Addenda. and the 1998 Edition	Licensee's statement of significance and/or basis for use as an alternative examination	Comments
1232	ASME XI generic change from repair and/or replacement to repair/replacement activities. Deleted paragraph (a)(3) addressing inaccessible welded joints.	Nonsignificant Welded joints were removed as a separately listed examination items and are now included within the item for the pressure retaining boundary as discussed in the changes to Table IWE-2500-1 below.	Acceptable Examination of welds is optional in 10 CFR 50.55a. Acceptable.
1241	Added stiffeners and, by reference to IWE-2420, flaws accepted by evaluation as areas requiring augmented examination.	The additional areas subject to augmented examination further assure containment integrity.	Acceptable.
1242	Changed IWE-2500(b) to IWE-2500(c)	Nonsignificant	Acceptable.
2000	No change	N/A	
2100	Added new Subarticle 2100 - "General" - to provide reference to IWA-2000 with exceptions from IWA-2210, 2300, 2500 and 2600.	The additional general requirements invoked by reference to IWA-2000 where none were referenced previously further assure containment integrity. The exceptions provided are significant in that	IWE examinations will not require the visual examinations identified in IWA-2210. Per the 1998 Code, personnel will not have to be certified to CP-189 (IWA-

IWE Paragraph (1992 Ed.)	Changes between IWE 1992 Edition/Addenda. and the 1998 Edition	Licensee's statement of significance and/or basis for use as an alternative examination	Comments
		related requirements have been incorporated into IWE-2310, 2320 and 2330. These changes are discussed below. IP3's visual examination requirements are defined in Relief Request RR 3-24, Proposed Alternatives, item 1).	2300) - Licensee committed to certify inspection personnel in accordance with CP-189 after December, 2001.
2200	Deleted paragraph c) which provided allowances for the use of shop or field examinations in lieu of on site preservice examinations.	The deletion of an allowance for an alternative examination ensures that proper preservice examinations are performed and documented.	Acceptable.
	Deleted paragraph g) which required the condition of new coating to be documented in the preservice examination record.	The deletion of the requirement to document the condition of "new" non-pressure retaining coatings in the preservice examination record provides for more efficient program implementation without affecting component integrity. IP3 coating procedure covers containment coating applications without the need for an additional Code examination.	See discussion under Paragraph 2500 for additional discussion on IP3's coatings program. Acceptable.
	ASME XI generic change from repair and/or replacement to repair/replacement activities.	Nonsignificant.	Acceptable.

IWE Paragraph (1992 Ed.)	Changes between IWE 1992 Edition/Addenda. and the 1998 Edition	Licensee's statement of significance and/or basis for use as an alternative examination	Comments
2300	Added new Subarticle 2300 - "Visual Examination, Personnel Qualification and Responsible Individual."	The paragraphs within this subarticle are considered significant and contain requirements that either did not previously exist or that were contained in other areas. Placing these requirements within Article IWE-2000 further ensures proper "Examination and Inspection" of areas important to containment integrity and provides consistency with Subsections IWB, IWC and IWD. The specific paragraphs added are discussed below. Based on the NRC SER for Comanche Peak, IP3 has submitted additional commitments, as detailed in Relief Request RR 3-24. Reference to the applicable additional commitments are identified in the discussion below.	See below,
2310	Added new paragraph 2310 - Visual Examinations - which a) states that the owner shall define requirements for visual examination of containment surfaces;	a) Adding requirements for the owner to define visual examination requirements provides for more efficient containment ISI program implementation by allowing	Consistency with existing ISI visual examination requirements provide for an efficient internal program; that coupled with the program established for IP3 should provide uniformity and consistency industry wide. The 1998 Code with the specific commitments

IWE Paragraph (1992 Ed.)	Changes between IWE 1992 Edition/Addenda. and the 1998 Edition	Licensee's statement of significance and/or basis for use as an alternative examination	Comments
		examinations that may be more consistent with existing ISI, containment coating, maintenance rule and Appendix J programs. IP3's visual examination requirements are defined in Relief Request RR 3-24, Proposed Alternatives, item 1).	in the March 20, 2001, submittal are acceptable.
	b) and c) define general and detailed visual examinations; and	b) and c): The general visual examination is performed to indicate the general condition of the containment. The detailed visual examination is performed to determine the magnitude and extent of any deterioration or distress. Referring to visual examinations by new general visual and detailed visual terms does not adversely affect the integrity of the containment components examined. The provisions of IP3's general visual and detailed visual examinations are defined in Relief Request RR 3-24, Proposed Alternatives, item 1).	The 1998 Edition does not specify acceptance criteria since the examination requirements are defined by the owner. The staff does not find this to be acceptable. The licensee provided specific acceptance criteria for the general and detailed visual examinations in its March 20, 2001, submittal. This is acceptable.

IWE Paragraph (1992 Ed.)	Changes between IWE 1992 Edition/Addenda. and the 1998 Edition	Licensee's statement of significance and/or basis for use as an alternative examination	Comments
	d) and e) provides the requirements for the conditions of areas affected by repair/replacement activities, painted or coated areas, and non-coated areas.	d) and e): Previously these examination requirements did not exist within Article IWE-2000 but rather only in the acceptance criteria of Article IWE-3000. Adding these specific attributes here ensure proper containment examinations. IP3's acceptance criteria for general and detailed visual examination further define the examination criteria to be used. The IP3 acceptance criteria are defined in Relief Request RR 3-24, Proposed Alternatives, item 3).	Acceptable.
2320	Added new paragraph 2320 - "Responsible Individual" - which a) states the qualification requirements of the Responsible Individual and b) defines the responsibilities of the Responsible Individual for the development of plans and procedures; instruction, training and approval of visual examination personnel; performance or direction	a) The details for the Responsible Individual qualification requirements were previously contained in the acceptance standards of IWE-3510.1. b) The added detailed responsibilities for the Responsible Individual ensure proper performance of those related activities. Having an individual possessing the qualifications described in	Acceptable. The duties identified must be performed regardless of who is assigned to do them. However, the philosophy of the 1998 Edition give the responsible individual complete control over the program.

IWE Paragraph (1992 Ed.)	Changes between IWE 1992 Edition/Addenda. and the 1998 Edition	Licensee's statement of significance and/or basis for use as an alternative examination	Comments
	of visual examinations; evaluation of results and documenting results.	paragraph 2320 a) performing the responsibilities defined in paragraph 2320 b) ensures the reliable detection of conditions adverse to containment integrity.	
2330	Added new paragraph 2330 - "Personnel Qualification" - which a) states that the owner is responsible for defining the qualification requirements for personnel performing visual examinations and	a) Adding requirements for the owner to define personnel qualification requirements provides for more efficient containment ISI program implementation by permitting personnel performing containment examinations to be qualified to written practices that are more consistent to those used for other NDE personnel. IP3's personnel qualification requirements are defined in Relief Request RR 3-24, Proposed Alternatives, item 1).	The staff finds owner-defined personnel qualification requirements to be unacceptable. Personnel should be qualified in accordance with Subsection IWA requirements. The licensee states that personnel will be qualified in accordance with CP-189 after December, 2001. This is acceptable.
	b) provides minimum qualification requirements that were previously contained in the acceptance criteria of IWE-3510.1.	b) Providing these details in the qualification requirement paragraph focuses the containment visual qualification on areas important to containment integrity. IP3's personnel qualification and examination provisions that	Use of the 1998 Edition is unacceptable without additional commitments from the licensee. The licensee provided the qualification requirements for direct and remote visual examinations in its March 20, 2001, submittal. This is acceptable.

IWE Paragraph (1992 Ed.)	Changes between IWE 1992 Edition/Addenda. and the 1998 Edition	Licensee's statement of significance and/or basis for use as an alternative examination	Comments
		supplement the Code requirements are defined in Relief Request RR 3-24, Proposed Alternatives, item 1).	
2400	No change	N/A	
2410	No change	N/A	
2411	Deleted a subparagraph discussing decreasing and extending inspection periods.	The deleted subparagraph eliminates duplication with IWA-2400.	Acceptable.
2412	Deleted a subparagraph discussing decreasing and extending inspection periods. Added a subparagraph detailing requirements for the scheduling of added welds or components.	The deleted subparagraph eliminates duplication with IWA-2400. The added requirements for the scheduling of added welds or components was added prior to the 1998 Edition rewrite of Subsection IWE and is of marginal value with the 1998 revisions to Table IWE-2500-1 (refer to the evaluation later in this table).	Acceptable.
2420	Revised (b) to remove repaired areas as areas requiring reexaminations during the next successive inspection period.	Repaired areas that are likely to experience accelerated degradation and aging are already subject to augmented examinations per IWE-1241. Some repairs may be located in non- augmented areas and may	Changing duration of reexamination of areas that remain essentially unchanged from "three consecutive inspection periods" to "the next successive inspection period" is consistent with the requirements for Class 2 components. Acceptable.

IWE Paragraph (1992 Ed.)	Changes between IWE 1992 Edition/Addenda. and the 1998 Edition	Licensee's statement of significance and/or basis for use as an alternative examination	Comments
		be necessary to correct physical damage caused by construction or craft activities. Not having to repeat examinations of these non augmented repaired areas provides for more efficient program implementation without adversely affecting component integrity.	
	Changed (c) to require that areas which remain essentially unchanged for the next inspection period no loner require augmented examinations. The 1992 Addenda required three consecutive examinations to reach this conclusion.	This is now consistent with Class 2 successive inspections. The engineering evaluation of IWE-3122.3, along with the reexamination in the next inspection, is sufficient to assure that augmented examinations need not be continued.	Acceptable.
2430	Deleted the paragraph - Additional Examinations - which discussed adding examination items of the same category if flaws or areas of degradation are identified during an examination.	The changes to Table IWE 2500-1 eliminate several examination categories. The categories that remain all require 100% examination. Therefore no items are available for additional examinations.	The 1998 Code does not rely on sampling as 100% of the containment surface is already examined. Therefore, elimination of this requirements is appropriate. Acceptable.
2500	Reworded the existing subparagraphs consistent with the previous paragraph changes and	The reworded subparagraphs add clarity and provide consistency within IWE.	Acceptable.

IWE Paragraph (1992 Ed.)	Changes between IWE 1992 Edition/Addenda. and the 1998 Edition	Licensee's statement of significance and/or basis for use as an alternative examination	Comments
	with Table IWE-2500-1 changes. Deleted the requirement to examine paint or coatings prior to removal.	The 1998 Edition increases the frequency of examination when compared to the 1992 Addenda. During examinations, the general and detailed visual examinations of coated areas will identify flaws and degradation in the containment base metal and result in appropriate corrective actions per the Code requirements. Should a coating be removed between required inservice inspections, the IP3 nuclear coatings pre-application inspections, and nonconformance and corrective action programs, would identify and resolve any base metal conditions that could challenge the structural integrity of the containment. As a result, there is no anticipated benefit from a separate Code requirement to inspect coatings prior to removal. This deletion provides for a more efficient program implementation without affecting component integrity.	Elimination of the paint or coatings examination prior to removal has been found acceptable provided adequate provisions exist in the licensee's program to examine the base metal prior to reapplication of the coating. The licensee addressed base metal examination in its March 20, 2001, submittal.

IWE Paragraph (1992 Ed.)	Changes between IWE 1992 Edition/Addenda. and the 1998 Edition	Licensee's statement of significance and/or basis for use as an alternative examination	Comments
	Replaced the requirement for one-foot square grids in thickness measurements with a reference to Table IWE 2500-2. Added a reference to IWE-5000 for pressure tests.	The new Table IWE 2500-2 provides more detailed requirements for thickness measurements and is discussed below. The added reference to IWE-5000 provides direction for the performance of pressure tests.	The ultrasonic gridline approach is a sampling methodology similar to that of other portions of the Code and other erosion/corrosion monitoring programs. Acceptable. Acceptable.
2600	Deleted a sentence discussing compatibility of paint and coating systems and a requirement to examine the new paint.	The removal of this sentence addressing "new" non-pressure retaining paint and coatings provides for more efficient containment ISI program implementation without adversely affecting component integrity. The compatibility of paint and coating systems with the existing system, and the examination of newly applied coatings, is addressed in the IP3 containment coating specification and procedures	Elimination of this sentence is considered acceptable when covered by existing nuclear coatings program.
3100	Removed the word nondestructive from the heading.	Nonsignificant	Acceptable.
3110	No change	N/A	

IWE Paragraph (1992 Ed.)	Changes between IWE 1992 Edition/Addenda. and the 1998 Edition	Licensee's statement of significance and/or basis for use as an alternative examination	Comments
3111	Replaced the reference to Table IWE-3410-1 with a reference to subarticle IWE-3500. Removed reference to paragraph IWE-3115.	Table IWE-3410-1 and paragraph IWE-3115 has been deleted and is discussed below. IWE-3500 adequately captures all of the information previously contained in the deleted table and paragraph.	Acceptable.
3112	Replaced the reference to Table IWE-3410-1 with a reference to subarticle IWE-3500. ASME XI generic change from repair and/or replacement to repair/replacement activities.	Nonsignificant	Acceptable.
3114	Replaced the reference to Table IWE-3410-1 with a reference to subarticle IWE-3500. ASME XI generic change from repair and/or replacement to repair/replacement activities.	Nonsignificant	Acceptable.
3115	Deleted subparagraph which addressed repair programs and evaluations being subject to review by authorities.	Nonsignificant - there were no submittal or retention requirements changed by the deletion of the subparagraph.	The regulations do not require the licensee to submit the containment inspection program. Acceptable.
3120	Removed the word nondestructive from the heading.	Nonsignificant	Acceptable.
3121	Removed the word nondestructive	The removal of nondestructive is	Acceptable.

IWE Paragraph (1992 Ed.)	Changes between IWE 1992 Edition/Addenda. and the 1998 Edition	Licensee's statement of significance and/or basis for use as an alternative examination	Comments
	and deleted references to IWE-3124 and IWE-3125 for the acceptance of flaws for continued service.	nonsignificant. The referenced subparagraphs did not actually apply to the acceptance of flaws for continued service.	
3122	Replaced the references to Table IWE-2500-1 and to IWE-3000 with a reference to subarticle IWE-3500. ASME XI generic change from repair and/or replacement to repair/replacement activities. Reworded several sentences. Deleted sentence which addressed evaluations being subject to review by authorities.	Nonsignificant - the changes are for clarity and to reconcile paragraph numbering. There was no submittal or retention requirements changed by the deletion of the sentence addressing evaluation reviews.	Acceptable.
3124	Replaced the reference to Table IWE-3410-1 with a reference to subarticle IWE-3500. ASME XI generic change from repair and/or replacement to repair/replacement activities.	Nonsignificant	Acceptable.
3125	Deleted subparagraph which addressed repair programs and reexamination results being subject to review by authorities.	Nonsignificant - there were no submittal or retention requirements changed by the deletion of the subparagraph.	Acceptable.
3130	No change	N/A	

IWE Paragraph (1992 Ed.)	Changes between IWE 1992 Edition/Addenda. and the 1998 Edition	Licensee's statement of significance and/or basis for use as an alternative examination	Comments
3200	Added a statement to the end of the paragraph that states supplemental surface or volumetric examinations are required when specified by the engineering evaluation.	The added statement clarifies requirements and eliminates potential duplication or contradiction of requirements in stating that the engineering evaluation requirements of IWE-3122 determine what and when supplemental examinations are required.	Acceptable.
3410	Replaced the reference to Table IWE-3410-1 with a reference to subarticle IWE-3500.	Nonsignificant	Acceptable.
3430	No change	N/A	
3500	No change	N/A	
3510	Reconciled acceptance standards with the IWE-2300 changes discussed above and the Table IWE-2500-1 changes discussed below by: Adding the requirement that the owner shall define acceptance criteria for visual examination of containment surfaces;	Previously examination requirements were contained in the acceptance standards of IWE-3500. This has been corrected by the addition of IWE-2300 as discussed above. This change directly corresponds to the addition of IWE-2310(a) discussed above. IP3's visual examination acceptance criteria are defined in Relief Request RR 3-24, Proposed Alternatives, item	Owner-defined visual examination requirements do not provide uniformity and consistency industry wide. This is unacceptable unless the licensee provides specific acceptance standards. The licensee provided this information in its March 20, 2001, submittal. Acceptable.

IWE Paragraph (1992 Ed.)	Changes between IWE 1992 Edition/Addenda. and the 1998 Edition	Licensee's statement of significance and/or basis for use as an alternative examination	Comments
		3).	
	Removing the wording for Responsible Individual and for personnel qualifications;	This change directly corresponds to the addition of IWE-2320 discussed above.	Acceptable.
	Combining 3510.2 and 3510.3 and removing specific VT-1 and VT-3 examination attribute wording; and	These changes directly correspond to the addition of IWE-2310(e)(1) and (2) discussed above.	Acceptable.
	Incorporating IWE-3511;3513,3514 and 3515 with changes into IWE-3510.	These changes correspond to the changes in the examination categories of Table IWE-2500-1 as discussed below and to the removal of examination requirements from the acceptance standards paragraphs.	
	By the incorporation of 3515 the acceptance standards for bolting were changed from referencing material specs and torque or tension limits to conditions affecting leak tight or structural integrity.	The resulting acceptance standards for bolting provide for more practical containment ISI program implementation without adversely affecting containment leak tight or structural integrity.	The examination of bolting, seals and gaskets to determine their ability to maintain containment leak tight integrity as a separate inspection is considered unnecessary. The Appendix J, Type A test is considered sufficient for determining the leak-tight integrity of the penetration.

IWE Paragraph (1992 Ed.)	Changes between IWE 1992 Edition/Addenda. and the 1998 Edition	Licensee's statement of significance and/or basis for use as an alternative examination	Comments
			Acceptable.
3511	Deleted subparagraph which addressed examination category E-B.	Examination category E-B has been incorporated into examination category E-A per the changes to Table IWE-2500-1 discussed below.	Owner-defined acceptance criteria do not provide consistency throughout the industry. The licensee has provided these details in its March 20, 2001, submittal. Acceptable.
3512	Renumbered subparagraph to IWE-3511. Reconciled acceptance standards with the IWE-2300 changes discussed above and the Table IWE-2500-1 changes discussed below	The subparagraph was renumbered based on the deletion of previous IWE-3511 as discussed above. Previously examination requirements were contained in the acceptance standards of IWE-3500. This has been corrected by the addition of IWE-2300 as discussed above.	Acceptable.
	Added the requirement that the owner shall define acceptance criteria for visual examination of containment surfaces;	This change directly corresponds to the addition of IWE-2310(a) discussed above. IP3's visual examination acceptance criteria are defined in Relief Request RR 3-24, Proposed Alternatives, item 3).	
	Combined 3512.2 and 3512.3 with changes into 3511.2 and removed specific VT-1 examination attribute wording; and	These changes directly correspond to the addition of IWE-2310(e)(1) and (2) discussed above and eliminate potential	

IWE Paragraph (1992 Ed.)	Changes between IWE 1992 Edition/Addenda. and the 1998 Edition	Licensee's statement of significance and/or basis for use as an alternative examination	Comments
	Reworded ultrasonic examination subparagraph and limited the UT to Class MC components.	duplication or contradiction of requirements. This change eliminates the need to perform the UT examinations on metallic liners of Class CC components. IP3 will apply the provisions of IWE-3511.3 to both Class MC components and metallic liners of Class CC components, as stated in Relief Request RR 3-24, Proposed Alternatives, item 3).	Licensee states it will apply provisions of IWE-3511.3 to both Class MC and metallic liners of Class CC components. This is acceptable.
3513 3514 3515	Deleted subparagraphs IWE-3513, 3514 and 3515 which addressed examination categories E-D, E-F, and E-G, respectively.	Examination categories E-D, E-F and E-G have been incorporated into examination category E-A per the changes to Table IWE-2500-1 discussed below.	Acceptable. The regulations do not require the examination of containment welds.
4100	No change	IP3's relief request does not include using the 1998 Edition of IWA-4000. IP3 will continue to use IWA-4000 from the 1992 Addenda as required by NRC clarification of the 10 CFR 50 regulations that mandated implementation of IWE and IWL.	
5200	No change	N/A	
5210	No change	N/A	

IWE Paragraph (1992 Ed.)	Changes between IWE 1992 Edition/Addenda. and the 1998 Edition	Licensee's statement of significance and/or basis for use as an alternative examination	Comments
5220	ASME XI generic change from repair and/or replacement to repair/replacement activities.	Nonsignificant	Acceptable.
5221	ASME XI generic change from repair and/or replacement to repair/replacement activities. Removed the quotation of 10 CFR 50 Appendix J paragraph IV.A.	Nonsignificant - the requirement to meet the requirements of the Appendix J paragraph referenced is not affected by removing the quoted Appendix J paragraph.	Acceptable.
5222	ASME XI generic change from repair and/or replacement to repair/replacement activities.	Nonsignificant	Acceptable.
5240	Replaced a reference to IWA-5240 with requirements to perform detailed visual examination of repair/replacement areas during pressure tests.	The addition of specific IWE examination requirements during pressure testing in lieu of referencing IWA general requirements focuses requirements on issues specific to containment integrity and therefore provides added assurance of the integrity of repaired/replaced areas.	Acceptable.
5250	Changed Corrective Measures to Corrective Action in the heading. ASME XI generic change from repair and/or replacement to repair/replacement activities.	Nonsignificant	Acceptable.
7100	No change	N/A	

IWE Paragraph (1992 Ed.)	Changes between IWE 1992 Edition/Addenda. and the 1998 Edition	Licensee's statement of significance and/or basis for use as an alternative examination	Comments
Table 2411-1	No change	N/A	
Table 2412-1	Replaced the separate entries for 1st and successive intervals with one entry for All intervals. Changed minimum and maximum examination completion percentages and added Note (1) which states that if the first period completion percentage for any examination category exceeds 34%, at least 16% of required examinations shall be performed in the second period.	Nonsignificant - The previous requirements for the 1st and successive intervals were identical. Therefore combining the entries does not affect any requirements. Provides more flexibility in scheduling examinations, but ensures allocation of examinations is done throughout the 10-year interval. The IWE change is consistent with changes made in IWB, IWC, IWD, and IWF.	Acceptable. Acceptable.
Table 2500-1 Cat.E-A	E1.11 Revised frequency of examination from "prior to each type A test" to "100% during each period".	Removing the requirement to coordinate examinations with type A tests allows for more efficient containment ISI program implementation without adversely affecting containment integrity. The requirement to perform general visual examinations every inspection period increases the total number of examinations on the containment surface in the interval.	Acceptable.

IWE Paragraph (1992 Ed.)	Changes between IWE 1992 Edition/Addenda. and the 1998 Edition	Licensee's statement of significance and/or basis for use as an alternative examination	Comments
	E1.12 Re-designated item from "accessible surface areas" to "wetted surfaces of submerged areas". Replaced examination method VT-3 with general visual.	Replacing the accessible surface area designation (which is now included in E1.11) with wetted surface areas (which were previously included in E1.12 footnote 4) does not eliminate or reduce any required examination areas. The conditions of distress which would be detected by a VT-3 examination are the same conditions that would be detected by a general visual examination (refer to the evaluation of IWE-2300 above). The requirement to perform a detailed examination on any suspect area has not changed. The new requirement in item E1.11 to perform general visual examinations every inspection period increases the total number of examinations on the containment surface in the interval. The overall impact of this change is to increase the level of quality and does not adversely affect the safety of the containment inspection program. This item is not applicable to the IP3 containment.	Acceptable with licensee's commitments for general visual examination requirements and acceptance criteria as stated in its March 20, 2001, submittal.

IWE Paragraph (1992 Ed.)	Changes between IWE 1992 Edition/Addenda. and the 1998 Edition	Licensee's statement of significance and/or basis for use as an alternative examination	Comments
	E1.20 Added BWR to item description. Replaced examination method VT-3 with general visual. E1.30 Added item for moisture barriers with a general visual required each period.	Moisture barriers were previously included in examination category E-D with a VT-3 required each interval. Examining moisture barriers more frequently will assure reliable detection of conditions adverse to containment integrity.	Acceptable with licensee's commitments for general visual examination requirements and acceptance criteria as stated in its March 20, 2001, submittal.
	All item no.'s - Replaced reference to IWE-3510 for examination requirements with IWE-2310.	Nonsignificant - Previously some examination requirements were contained in IWE-3500. They now exist in IWE-2300 as discussed above.	Acceptable.
	Notes - Revised to specifically include welds and bolting as part of the pressure retaining boundary requiring examination.	Welds and bolting were previously included in examination categories E-B, E-F and E-G. Including these items in the examination category for the containment pressure retaining boundary provides for more efficient program implementation without adversely affecting component integrity.	Acceptable.
Table 2500-1 Cat.E-B	Deleted examination category which addressed pressure retaining	Pressure retaining welds are now included in examination category E-A as addressed above.	10 CFR 50.55a makes containment weld inspections optional. Acceptable.

IWE Paragraph (1992 Ed.)	Changes between IWE 1992 Edition/Addenda. and the 1998 Edition	Licensee's statement of significance and/or basis for use as an alternative examination	Comments
	welds.		
Table 2500-1 Cat. E-C	E4.11 Replaced examination method VT-1 with detailed visual.	The conditions of distress or deterioration which would be detected by a VT-1 are the same conditions that will be detected by the described detailed visual examination, as discussed in IWE-2300 above.	Acceptable with licensee's commitments for detailed visual examination requirements and acceptance criteria as stated in its March 20, 2001, submittal.
	E4.12 Added grid line intersections to description of parts examined. Changed examination method from volumetric to ultrasonic thickness.	The added wording clarifies inspection requirements and ensures repeatability in the location of subsequent thickness measurement points.	The recommended ultrasonic gridline sample requirements provide a more practical approach to augmented container examinations. Acceptable.
	All item no.'s - Added examination requirement paragraph number references. Updated references in Acceptance Standard and Extent and Frequency columns.	Previously no references existed for examination requirements. These requirements have been added to IWE-2300 and 2500 as discussed above. Adding new references and updating paragraph numbers ensure proper requirements are applied to examinations.	Acceptable.
	Notes - Changed note 2 from requiring augmented examination until an area remains unchanged for three consecutive inspection periods to the next inspection	Three inspection periods cover a 10-year interval. Performing augmented examinations for at least two periods while continuing general visual examinations each	Change from three consecutive periods to one period is consistent with the requirements for Class 2

IWE Paragraph (1992 Ed.)	Changes between IWE 1992 Edition/Addenda. and the 1998 Edition	Licensee's statement of significance and/or basis for use as an alternative examination	Comments
	period. Deleted note 3 which discussed inspection deferrals.	period provides for more efficient program implementation without adversely affecting component integrity. Deletion of note 3 is nonsignificant.	components. Acceptable.
Table 2550-1 Cat. E-D	Deleted examination category which addressed seals, gaskets and moisture barriers.	Moisture barriers have been included in examination category E-A as addressed above. Seals and gaskets previously required examination once per an interval with effectively an acceptance criteria of leak tightness. Leak tight integrity is verified during each 10 CFR 50 Appendix J leak test. Removing these inspection items provides for more efficient program implementation without adversely affecting component integrity.	Appendix J, Type A test is considered sufficient for determining the leak-tight integrity of seals and gaskets. Acceptable.
Table 2550-1 Cat. E-F	Deleted examination category which addressed dissimilar metal welds.	Dissimilar metal welds are now included in examination category E-A as addressed above.	10 CFR 50.55a makes containment weld inspections optional. Acceptable.
Table 2550-1 Cat. E-G	Deleted examination category which addressed pressure retaining bolting.	Pressure retaining bolting is now included in examination category E-A as addressed above.	1992 Edition required VT-1 of bolting when a connection is disassembled. Licensee has committed to this. Licensee's alternative is consistent with staff's guidelines. Acceptable.
Table 2550-1	Deleted examination category	Appendix J testing is mandated	Acceptable.

IWE Paragraph (1992 Ed.)	Changes between IWE 1992 Edition/Addenda. and the 1998 Edition	Licensee's statement of significance and/or basis for use as an alternative examination	Comments
Cat. E-P	which addressed 10CFR50 Appendix J testing for all pressure retaining components.	by plant technical specifications. Removing this duplicate requirement from IWE does not adversely affect component integrity.	
------	Added new Table IWE-2500-2 - Ultrasonic Thickness Measurements For Augmented Examinations - which details gridline spacing and thickness measurement requirements.	The new requirements provide for consistency and repeatability in obtaining thickness measurements and thus assure the reliable detection of conditions adverse to containment integrity.	Acceptable.
Table IWE-3410-1	Deleted table.	Nonsignificant - the contents of the previous table are adequately addressed in IWE-3500.	Acceptable.

APPENDIX B
INDIAN POINT 3 NUCLEAR POWER PLANT
SUBSECTION IWL COMPARISON TABLE

APPENDIX B -- INDIAN POINT 3 NUCLEAR POWER PLANT -- IWL COMPARISON

IWL Paragraph (1992)	Changes between IWL 1992 Edition/Addenda. and the IWL 1998 Edition	Licensee's statement of significance and/or basis for use as an alternative examination	Comments
1100	ASME Section XI generic wording change from repair, replacement and/or modification terms to repair/replacement activities	Nonsignificant	Acceptable.
1200	No change	N/A	
1210	No change	N/A	
1220	No change	N/A	
2100	Changed "Inspection" to "General" in heading. Provided reference to IWA-2000 with exceptions from IWA-2210 and 2300 for visual examinations and for qualification of visual examination personnel.	Nonsignificant The additional general requirements invoked by reference to IWA-2000 where none were referenced previously further assure containment integrity. The exceptions from IWA-2210 and IWA-2300 are significant in that the related previous requirements have been changed and incorporated into IWL-2310. The IWL-2310 changes are addressed below. IP3 visual examination requirements are defined in Relief	Acceptable. IWL examinations will not require the visual examinations identified in IWA-2100. Personnel will not have to be certified to CP-189 (IWA-2300) Licensee has written practice meeting the requirements of SNT-TC-1A and will qualify personnel to CP-189 after December, 2001. This is acceptable.

IWL Paragraph (1992)	Changes between IWL 1992 Edition/Addenda. and the IWL 1998 Edition	Licensee's statement of significance and/or basis for use as an alternative examination	Comments
		Request RR 3-25, Proposed Alternatives, item 1).	
2200	Deleted reference to IWL-2500.	The reference to IWL-2500 in the 1992 Addenda was incorrect. The preservice examination requirements were always to be performed in accordance with IWL-2210, IWL-2220, and IWL-2230. This is a non-significant change.	Acceptable.
2210	No change	N/A	
2220	No change	N/A	
2230	ASME Section XI generic change from repair and/or replacement to repair/replacement activities.	Nonsignificant	Acceptable.
2300	No change	The philosophy of Subsection IWL to be an engineering inspection program under the direction of the Responsible Engineer is contained in this revised subarticle. This individual will be accountable for the entire inspection program which will meet or exceed the level of quality and safety defined in the 1992 Edition. The specific changes to IWL-2310 and IWL-	

IWL Paragraph (1992)	Changes between IWL 1992 Edition/Addenda. and the IWL 1998 Edition	Licensee's statement of significance and/or basis for use as an alternative examination	Comments
		2320 will be discussed below. Based on the NRC SER for Comanche Peak, IP3 has submitted additional commitments, as detailed in Relief Request RR 3-25. Reference to the applicable additional commitments is identified in the discussion below.	
2310	The changes to IWL-2310 are summarized by the following four items: (a) replaced VT-1C and VT-3C visual examination terminology with new general visual and detailed visual examination terms.	(a) The VT-3C and VT-1C inspections of IWL have been replaced by Owner (Responsible Engineer) defined general and detailed visual examinations, respectively. The general and detailed visual examinations are equivalent to the VT-3C and VT-1C examinations in terms of assessing the general condition and potential for deterioration within the containment system. The definition of critical examination items and acceptable conditions has not changed. Therefore, any conditions adversely affecting quality or	The owner-defined visual examination requirements of the 1998 Edition do not provide uniformity and consistency throughout the industry. The licensee provided details of its visual examination methods in its March 20, 2001, submittal. The licensee's proposed alternative is acceptable.

IWL Paragraph (1992)	Changes between IWL 1992 Edition/Addenda. and the IWL 1998 Edition	Licensee's statement of significance and/or basis for use as an alternative examination	Comments
		safety are not impacted by this change. The provisions of IP3's general visual and detailed visual examinations are defined in Relief Request RR 3-25, Proposed Alternatives, item 1).	
	(b) Eliminated reference to IWA-2210 for illumination levels, examination distances and resolution requirements.	(b) Direct visual examination is not practical on all areas of containment surfaces. The previous VT requirements precluded the ability to demonstrate that remote visual examination was equivalent to direct visual examination. Providing examination attributes in IWL as opposed to referencing the generic requirements of IWA focuses the visual examination on areas important to the verification of containment integrity. IP3's visual examination requirements addressing illumination, examination distances, and resolution requirements are defined in Relief Request RR 3-24, Proposed Alternatives, item 1).	Specific illumination and resolution details from the licensee's program was provided in its March 20, 2001, submittal. This is acceptable.
	(c) Replaced reference to IWA-2300 for concrete examination	(c) Requiring an owner defined program provides for more efficient	

IWL Paragraph (1992)	Changes between IWL 1992 Edition/Addenda. and the IWL 1998 Edition	Licensee's statement of significance and/or basis for use as an alternative examination	Comments
	personnel qualification requirements with provisions for the owner to define the examination personnel qualification requirements.	program implementation by permitting personnel performing containment examinations to be qualified to written practices that are more consistent to those used for other NDE personnel. IP3's personnel qualification requirements are defined in Relief Request RR 3-25, Proposed Alternatives, Item 1).	Licensee has written practice meeting the requirements of SNT-TC-1A and will qualify personnel to CP-189 after December, 2001. This is acceptable.
	(d) Added requirement for the Owner to define requirements for visual examination of tendon anchorage hardware, wires, or stands.	(d) Does not apply to IP3 Containment.	
2320	Changed wording slightly.	Nonsignificant - clarifies wording	Acceptable.
	Made the ASME Section XI generic change from repair and/or replacement to repair/replacement activities.	Nonsignificant	Acceptable.
	Added a responsibility for the Responsible Engineer to review certain pressure test procedures.	The added pressure test responsibilities for the Responsible Engineer ensures proper performance of pressure testing activities.	Acceptable.

IWL Paragraph (1992)	Changes between IWL 1992 Edition/Addenda. and the IWL 1998 Edition	Licensee's statement of significance and/or basis for use as an alternative examination	Comments
2400	No change	N/A	
2410	A condition which allows for deferral of concrete visual examinations to the next scheduled plant outage for inaccessible portions of concrete surface was added to para. (c).	This change insures that all surfaces that can be inspected are examined, but recognizes the personnel safety of the inspectors.	Acceptable, licensee agrees that credit for both intervals will not be taken.
2420	No change	N/A	
2421	Changed wording for sites with more than one plant. Changed frequencies by adding "and every 10 years thereafter".	Nonsignificant - clarifies wording and accommodates plant life extension.	Acceptable.
2500	No change	N/A	
2510	Changed heading. Changed wording consistent with the changes to IWL-2310 addressed above. In (a), eliminated the reference to the specific revision (R-68) of ACI 201.1.	Nonsignificant Nonsignificant This is an editorial change for consistency in the Code. The revision of referenced documents are contained in Table IWA-1600-1 which still requires the same revision as specified in the 1992	Acceptable.

IWL Paragraph (1992)	Changes between IWL 1992 Edition/Addenda. and the IWL 1998 Edition	Licensee's statement of significance and/or basis for use as an alternative examination	Comments
	Added two new subparagraphs (b) and (c) providing more detailed examination requirements for tendon anchorage areas.	Addenda. The added details ensure proper tendon anchorage area examinations. The addition of (c) is consistent with the rule in 10 CFR 50.	
2520	No change	N/A	
2521	Changed random sample wording in (a)	Nonsignificant - the random sample was always by type of tendon as shown in Table IWL-2521-1.	Acceptable.
2522	Changed the heading and added a subparagraph to address tendon elongation.	The added details ensure proper tendon examinations.	Acceptable.
2523	No change	N/A	
2524	Changed wording consistent with the changes to IWL-2310 addressed above.	Nonsignificant	Acceptable with licensee's commitments for visual examination requirements and acceptance criteria as stated in its March 20, 2001, submittal.
2525	Changed wording for sample analysis.	Nonsignificant	Acceptable.
2526	Added a subparagraph addressing replacement of corrosion protection medium.	The added details ensure tendon integrity.	Acceptable.
3100	No change	N/A	
3110	No change	N/A	

IWL Paragraph (1992)	Changes between IWL 1992 Edition/Addenda. and the IWL 1998 Edition	Licensee's statement of significance and/or basis for use as an alternative examination	Comments
3111	ASME Section XI generic change from repair and/or replacement to repair/replacement activities.	Nonsignificant	Acceptable.
3112	No change	N/A	
3113	ASME Section XI generic change from repair and/or replacement to repair/replacement activities.	Nonsignificant	Acceptable.
3120	No change	N/A	
3200	No change	N/A	
3210	Removed the word concrete from the heading.	Nonsignificant	Acceptable.
3211	Added tendon end and anchorage areas to the scope of the subparagraph and added corrosion protection medium leakage and end cap deformation as acceptance criteria attributes. ASME Section XI generic change from repair and/or replacement to repair/replacement activities.	Does not apply to IP3 Containment. Nonsignificant.	 Acceptable.
3212	No change	N/A	
3213	ASME Section XI generic change from repair and/or	Nonsignificant	Acceptable.

IWL Paragraph (1992)	Changes between IWL 1992 Edition/Addenda. and the IWL 1998 Edition	Licensee's statement of significance and/or basis for use as an alternative examination	Comments
	replacement to repair/replacement activities.		
3220	No change	N/A	
3221	Added acceptance criteria attributes for pre-stress loss prediction, tendon elongation, free water content and corrosion protection medium reduction.	Does not apply to IP3 Containment.	
3222	No change	N/A	
3223	ASME Section XI generic change from repair and/or replacement to repair/replacement activities.	Nonsignificant	Acceptable.
3300	No change	N/A	
3310	Added applicability for other plants at the same site. ASME Section XI generic change from repair and/or replacement to repair/replacement activities.	Nonsignificant Nonsignificant	Acceptable. Acceptable.
3320	Deleted paragraph which addressed engineering evaluations being subject to review by authorities.	Nonsignificant - there were no submittal or retention requirements changed by the deletion of the subparagraph.	Acceptable. The regulations do not require licensees to submit their containment inspection programs.
4000	ASME Section XI changes from repair and/or replacement to repair/replacement activities.	Nonsignificant - all related repair and replacement requirements have been consolidated into IWL-	Acceptable.

IWL Paragraph (1992)	Changes between IWL 1992 Edition/Addenda. and the IWL 1998 Edition	Licensee's statement of significance and/or basis for use as an alternative examination	Comments
		4000.	
4100	No change	N/A	
4110	Exempted grease cups and installation screws from the scope. ASME Section XI generic change from repair and/or replacement to repair/replacement activities.	Nonsignificant - the exempted items are non structural items. Nonsignificant	Acceptable. Acceptable.
4120	Reworded to use the new repair/replacement activity wording and combined paragraph (a) and (b). Changed the paragraph reference to the Repair/Replacement Program and Plan to address paragraph renumbering in IWA-4000.	Nonsignificant - IP3's relief request does not include using the 1998 Edition of IWA-4000.	Acceptable.
4200	ASME XI generic change from repair and/or replacement to repair/replacement activities. Added a paragraph number (IWL-4210) to the information included under IWL-4200 and changed terminology from repair and/or replacement to repair/replacement activities.	Nonsignificant Nonsignificant	Acceptable. Acceptable.

IWL Paragraph (1992)	Changes between IWL 1992 Edition/Addenda. and the IWL 1998 Edition	Licensee's statement of significance and/or basis for use as an alternative examination	Comments
4210	Changed paragraph number to 4220, removed the word repair from heading and changed referenced paragraph numbers consistent with the addition of a new paragraph 4210 above. Changed wording consistent with the changes to IWL-2310 addressed above. ASME Section XI generic change from repair and/or replacement to repair/replacement activities. Changed repair material to new material in several places.	Nonsignificant Nonsignificant Nonsignificant Nonsignificant	Acceptable. Acceptable. Acceptable. Acceptable.
4220	Changed paragraph number to 4230.	Nonsignificant	Acceptable.
4230	Changed paragraph number to 4240 and clarified by removing the word repair. ASME Section XI generic change from repair and/or replacement to repair/replacement activities.	Nonsignificant Nonsignificant	Acceptable. Acceptable.

IWL Paragraph (1992)	Changes between IWL 1992 Edition/Addenda. and the IWL 1998 Edition	Licensee's statement of significance and/or basis for use as an alternative examination	Comments
	Added detailed requirements for the contents of a repair/replacement plan.	Does not apply to IP3 Containment.	
4300	ASME Section XI generic change from repair and/or replacement to repair/replacement activities.	Nonsignificant	Acceptable.
5100	ASME Section XI generic change from repair and/or replacement to repair/replacement activities.	Nonsignificant	Acceptable.
5200	No change	N/A	
5210	ASME Section XI generic change from repair and/or replacement to repair/replacement activities.	Nonsignificant	Acceptable.
5220	No change	N/A	
5230	Changed wording by removing some specific IWE related requirements while maintaining the reference to IWE-5000.	Nonsignificant - the removed wording was IWE specific and is contained in IWE-5000.	Acceptable.
5240	Deleted paragraph which addressed the scheduling of pressure tests.	Nonsignificant - the schedule of pressure tests are contained in IWE-5000 as referenced in IWL-5230.	Acceptable.
5250	Changed wording regarding the role of the Responsible	The clarified role of the Responsible Engineer ensures	Acceptable.

IWL Paragraph (1992)	Changes between IWL 1992 Edition/Addenda. and the IWL 1998 Edition	Licensee's statement of significance and/or basis for use as an alternative examination	Comments
	Engineer in pressure test activities. ASME Section XI generic change from repair and/or replacement to repair/replacement activities. Changed visual examination terminology consistent with the changes to IWL-2310 addressed above.	proper pressure test procedures and examinations. Nonsignificant The visual examination terminology changes are discussed in IWL-2310 above.	Acceptable. Acceptable with licensee's commitments for visual examination requirements and acceptance criteria as stated in its March 20, 2001, submittal.
5260	Changed heading from Corrective Measures to Corrective Action. ASME Section XI generic change from repair and/or replacement to repair/replacement activities.	Nonsignificant Nonsignificant	Acceptable. Acceptable.
5300	ASME Section XI generic change from repair and/or replacement to repair/replacement activities.	Nonsignificant	Acceptable.
7000	Deleted Article including IWL-7100, 7110, 7120 consistent with the IWL-4000 changes above.	Nonsignificant - all related repair and replacement requirements have been incorporated into IWL-4000.	Acceptable.
Table	Changed item L1.11 from all	Changing item L1.11 provides for	Acceptable.

IWL Paragraph (1992)	Changes between IWL 1992 Edition/Addenda. and the IWL 1998 Edition	Licensee's statement of significance and/or basis for use as an alternative examination	Comments
2500-1	areas to all accessible areas. Changed visual examination method terminology consistent with the paragraph IWL-2310 changes above. Note: the item L1.12 examination method in the 1998 Edition contains a publication error. The "general visual" should be "detailed visual".	more practical examination implementation than previous requirements. The visual examination terminology changes are discussed in IWL-2310 above. As stated in IP3's Relief Request RR 3-25, Proposed Alternatives, item 2), IP3 will implement item L1.12 examinations using a detailed visual examination as intended by Section XI.	Acceptable with licensee's commitments for visual examination requirements and acceptance criteria as stated in its March 20, 2001, submittal.
Table 2521-1	Changed inspection periods to state every 5th year in lieu of listing out each year and changed note 2 for having to meet acceptance criteria from "each of the earlier inspections" to "for the last 3 inspections".	Nonsignificant - accommodates plant life extensions for tendon examinations.	Acceptable.
Table 2525-1	Added optional test methods for corrosion protection medium analysis. Added acceptance criteria for water content.	Nonsignificant - additional test method options provides for more practical test implementation. Previous acceptance criteria was noted as "in course of preparation." Providing the acceptance criteria assures consistent implementation.	Acceptable. Acceptable.