

March 28, 2000

Mr. Mike Reandeau
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P.O. Box 678
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SUBJECT: CLINTON POWER STATION - FIRST 10-YEAR INTERVAL INSERVICE
INSPECTION PROGRAM PLAN REQUESTS FOR RELIEF NOS. 4014, 4015,
4016, AND 4017, (TAC NO. MA6192)

Dear Mr. Reandeau:

The Nuclear Regulatory Commission (NRC) staff with technical assistance from its contractor, the Idaho National Engineering and Environmental Laboratory (INEEL) has reviewed and evaluated the information provided by letter dated July 29, 1999, for the Clinton Power Station (CPS). The information concerned Requests for Relief (RR) Nos. 4014, 4015, 4016, and 4017 to the CPS First Ten-Year Interval Inservice Inspection Program Plan.

The staff's evaluations and conclusions are contained in Enclosure 1. Enclosure 2 is a Table summarizing the relief requests and the staff's disposition of them. Enclosure 3 is the INEEL Technical Letter Report.

The staff has found that RR 4014, 4015, and 4017 are acceptable, and the reliefs are granted pursuant to 10 CFR 50.55a(g)(6)(i) based on the determinations that the code requirements are impractical. The staff finds RR 4016 acceptable, and the proposed alternative is authorized pursuant to 10 CFR 50.55a(a)(3)(ii) based on the determination that compliance with specified requirements results in a hardship without a compensating increase in the level of quality or safety.

Contact your assigned NRC project manager if you have any questions.

Sincerely,

/RA/

Anthony J. Mendiola, Section Chief, Section 2
Project Directorate III
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-461

Enclosures: As stated

cc w/encls: See next page

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Mike Reandeau

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SAFETY EVALUATION
FOR
FIRST 10-YEAR INTERVAL INSERVICE INSPECTION
REQUESTS FOR RELIEF NOS. 4014, 4015, 4016, AND 4017
FOR
CLINTON POWER STATION, UNIT 1
DOCKET NUMBER 50-461

1.0 INTRODUCTION

Inservice inspection (ISI) of the American Society of Mechanical Engineers (ASME) Code Class 1, 2, and 3 components is performed in accordance with Section XI of the ASME Boiler and Pressure Vessel (B&PV) Code and applicable addenda as required by 10 CFR 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 that alternatives to the requirements of paragraph (g) may be used, when authorized by the Nuclear Regulatory Commission (NRC) if (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) shall meet the requirements, except the design and access provisions and the pre-service 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 ten-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 Code of record for the Clinton Power Station, Unit 1 first 10-year ISI interval is the 1980 Edition through Winter 1981 Addenda of the ASME Boiler and Pressure Vessel Code.

2.0 EVALUATION

The NRC staff with technical assistance from Idaho National Engineering and Environmental Laboratory (INEEL), has reviewed the information concerning ISI program requests for relief submitted for the first ten-year intervals for Clinton Power Station, Unit 1, in a letter dated July 29, 1999, by the licensee at that time, Illinois Power Company. The licensee is now AmerGen Energy Company, LLC.

The staff adopts the evaluations and recommendations for granting relief or authorizing alternatives contained in the Technical Letter Report (TLR), included as Enclosure 3 prepared by INEEL. Enclosure 2 lists each relief request and the status of approval. Results of the review are provided in Section 2.0 of the TLR. The TLR refers only to Illinois Power Company as the licensee. The NRC staff has not changed the TLR to reflect the new licensee, AmerGen Energy Company, LLC, as it is the staff's practice to not rewrite TLRs submitted by INEEL. The transfer of the license does not impact the acceptability of the requested ISI program relief requests.

For the Clinton Power Station, Unit 1 relief is granted from, or alternatives are authorized to, the inspection requirements which have been determined to be impractical to perform or where compliance would result in a hardship or unusual difficulty without a compensating increase in quality or safety.

The ISI program relief requests 4014, 4015, 4016, and 4017 are granted or authorized and closeout the first 10-year ISI interval. Additionally, the granting of relief is based upon the fulfillment of any commitments made by the licensee in its basis for each relief request and the alternatives proposed.

3.0 CONCLUSION

The Clinton Power Station, Unit 1, requests for relief from the Code requirements have been reviewed by the staff with the assistance of its contractor, INEEL. The TLR provides INEEL's evaluation of these relief requests. The staff has reviewed the TLR and concurs with the evaluations and recommendations for granting relief or authorizing alternatives.

The staff concludes that the relief requests (RR) as evaluated by this Safety Evaluation will provide reasonable assurance of structural integrity of the subject components in the licensee's requests for relief. The staff has found that RR 4014, 4015, and 4017 are acceptable and the reliefs are granted pursuant to 10 CFR 50.55a(g)(6)(i) based on the determinations that the code requirements are impractical, and the alternatives are authorized by law and will not endanger life or property or the common defense and security and is otherwise in the public interest given due consideration to the burden upon the licensee that could result, if the code requirements were imposed on the facility. The staff finds RR 4016 acceptable, and the proposed alternative is authorized pursuant to 10 CFR 50.55a(a)(3)(ii) based on the determination that compliance with specified requirements results in a hardship without a compensating increase in the level of quality or safety.

The staff finds that granting relief pursuant to 10 CFR 50.55a (g)(6)(i) and authorizing an alternative pursuant to 10 CFR 50.55a (a)(3)(ii) is authorized by law and will not endanger life or property, or the common defense and security and is otherwise in the public interest.

Principal Contributor: T. McLellan

Date: March 28, 2000

CLINTON POWER STATION, UNIT 1
First 10-Year ISI Interval

TABLE 1
SUMMARY OF RELIEF REQUESTS

Relief Request Number	INEEL TLR Sec.	System or Component	Exam. Category	Item No.	Volume or Area to be Examined	Required Method	Licensee Proposed Alternative	Relief Request Disposition
4014	2.1	Nozzles in Reactor Pressure Vessels	B-D	B3.90	Penetration Welds of Nozzles in Reactor Pressure Vessels	Volumetric	Perform exams to extent practical.	Granted (g)(6)(i)
4015	2.2	Pressure Retaining Welds in Reactor vessel	B-A	B1.30	Pressure Retaining welds in Reactor Vessel	Volumetric	Perform exams to extent practical.	Granted (g)(6)(i)
4016	2.3	Pressure Retaining Welds in Reactor vessel	B-A	B1.12	Pressure Retaining welds in Reactor Vessel	Volumetric	Perform exams to extent practical	Authorized (a)(3)(ii)
4017	2.4	Pressure Retaining Welds in Reactor vessel	B-A	B1.11	Pressure retaining circumferential weld	Volumetric	Perform exams to extent practical	Granted (g)(6)(i)

TECHNICAL LETTER REPORT
ON THE THIRD 10-YEAR INTERVAL INSERVICE INSPECTION
REQUESTS FOR RELIEF 4014, 4015, 4016, AND 4017
FOR
ILLINOIS POWER COMPANY
CLINTON POWER STATION, UNIT NO. 1
DOCKET NUMBER: 50-461

1. INTRODUCTION

By letter dated July 29, 1999, the licensee, Illinois Power Company, submitted Requests for Relief 4014, 4015, 4016, and 4017, seeking relief from the requirements of the ASME Code, Section XI, for the Clinton Power Station, Unit 1, first 10-year inservice inspection (ISI) interval. The Idaho National Engineering and Environmental Laboratory (INEEL) staff's evaluation of the subject requests for relief is in the following section.

B. EVALUATION

The information provided by Illinois Power Company in support of the requests for relief from Code requirements has been evaluated and the bases for disposition are documented below. The Code of record for the Clinton Power Station, Unit 1, first 10-year inservice inspection (ISI) interval, which began April 1, 1987, is the 1980 Edition through Winter 1981 Addenda of Section XI of the ASME Boiler and Pressure Vessel Code.

2.1 Request for Relief 4014, Examination Category B-D, Item B3.90, Full Penetration Welds of Nozzles in Reactor Pressure Vessels

Code Requirement: Examination Category B-D, Item B3.90, requires 100% volumetric examination, as defined by Figures IWB-2500-7(a) through (d), for full penetration welds of nozzles in reactor vessels.

Licensee's Code Relief Request: In accordance with 10 CFR 50.55a(g)(5)(iii), the licensee requested relief from the performing the complete Code required volumetric examination of the following welds:

Weld Number	Description	Estimated Percentage of Volume Examined
N2A	Recirculation Inlet Nozzles	65%
N2H	Recirculation Inlet Nozzles	65%
N2J	Recirculation Inlet Nozzles	65%
N2K	Recirculation Inlet Nozzles	65%
N3B	Main Steam Nozzles	67%
N3D	Main Steam Nozzles	67%
N5B	Core Spray Nozzles	63%
N6A	RHR Coolant Injection Nozzles	65%
N9B	Jet Pump Instrument Nozzles	66%

Licensee's Basis for Relief Request (as stated):

"A portion of the Code required examination volume cannot be completed due to the RPV nozzle configuration/geometry. Attached Figures 1A through 1C¹ identify the limitations presented by a typical RPV nozzle configuration/geometry for each examination technique employed at Clinton Power Station (CPS)."

"Performance of ultrasonic examination of approximately 65 percent of the required examination volume for each of the nine identified welds provides reasonable assurance of the structural integrity of each entire weld. Altogether, there are twenty-nine (29) RPV nozzle-to-shell welds requiring ultrasonic examination. During two previous refueling outages (RF-2 and RF-4) IP performed ultrasonic examination on twenty (20) of these welds. These ultrasonic examinations did not cover 100% of the required examination volume of each of these 20 welds. There were no unacceptable indications in the areas examined. IP submitted a relief request (Relief Request 4006, IP letter U-602566 dated June 5, 1996) for these welds, which was approved by the NRC (for the twenty examinations performed in the previous outages) to permit examination of less than the minimum required weld examination volume."

"The remaining nine welds were examined during refueling outage RF-6 and no unacceptable indications identified. The examination coverage for each of these nine welds is approximately the same as for the twenty welds identified in Relief Request 4006. It should be noted that during initial plant construction, all of these welds were radiographed and the results were acceptable. These welds were also ultrasonically examined in accordance with the Preservice Inspection Plan, and the results of those examinations were also acceptable."

“ASME Section V, Article 4, requires that the examination volume (weld and adjacent base material) be scanned by straight and angle beam, 45° and 60° techniques. Article 4 of ASME Section V allows the examination to be performed from one side of the weld. Due to the RPV nozzle configuration, ultrasonic examination can only be performed from the shell side. Due to the bend radius and thickness of the nozzle, the following examinations were scanned using the techniques listed below (not taking beam spread into account):”

Technique	% Examination Volume
0° L-Wave	50%
45° P-Scan Clockwise	60%
60° P-Scan Clockwise	60%
45° P-Scan Counter Clockwise	60%
60° P-Scan Counter Clockwise	60%
45° T-Scan Shell Side	80%
60° T-Scan Shell Side	88%
Composite Examination Volume	65%

“It should be noted that the outer 1/4" volume was excluded from this determination of examination volume because of inherent properties of the ultrasonic examination methods near-surface effect.”

“As shown above, at least one technique (60° T-Scan) covers close to 90% of the examination volume. Illinois Power Company believes that the actual area examined using the 45° T-Scan and 60° T-Scan techniques was over 90%, however, if any indication would have been present in the area identified as not examined, it would have been difficult to size. For this reason, the examiner has identified 80% and 88% coverage for 45° T-Scan and 60° T-Scan techniques respectively. It should be noted that the ASME, per Code Case N-460, considers 90% coverage as meeting the Code requirements. Code Case N-460 has been incorporated into Regulatory Guide 1.147.”

“The examination limitation imposed by the RPV nozzle/shell configuration makes it impractical to perform a complete volumetric examination (90% or more) of the nozzle-to-shell welds. However, IP believes that performance of ultrasonic examination of the welds to the maximum extent feasible (for a composite examination volume of approximately 65%) is sufficient for confirming weld integrity and therefore provides an acceptable level of quality and safety.”

Licensee’s Proposed Alternative Examination (as stated):

“Illinois Power Company (IP) performed ultrasonic examinations of these welds to the maximum extent feasible for the required examination volume.”

Evaluation: The Code requires that all RPV nozzle-to-vessel welds receive a volumetric examination each inspection interval, as defined by applicable Figures IWB-2500-7(a) through (d).

However, the nozzles' configuration/geometries restrict scanning, which limits the extent of volumetric examination that can be attained.

The limitations illustrated in the drawings submitted support the licensee's determination that volumetric examination of the subject nozzle-to-vessel welds, to the extent required by the Code, is impractical. To increase examination coverage, the reactor pressure vessel and/or nozzles would require extensive modification. Imposition of this requirement on Illinois Power Company would cause a considerable burden.

The licensee obtained a significant level of volumetric coverage (greater than 60%) on each of the subject nozzle welds. In addition, volumetric examination of other similar RPV nozzle-to-vessel welds was previously performed. It is concluded that degradation, if present, would have been detected by the limited examinations that were completed. Therefore, reasonable assurance of the continued structural integrity of the RPV nozzle welds has been provided. Based on the impracticality of meeting the Code requirements for the subject welds, and the reasonable assurance provided by the examinations that were completed, it is recommended that relief be granted pursuant to 10 CFR 50.55a(g)(6)(i).

2.2 Request for Relief 4015, Examination Category B-A, Item B1.30, Pressure Retaining Welds in Reactor Vessel

Code Requirement: Examination Category B-A, Item B1.30, requires 100% examination, as defined by Figure IWB-2500-4, for pressure retaining shell-to-flange welds in reactor vessels.

Licensee's Code Relief Request: In accordance with 10 CFR 50.55a(g)(5)(iii), the licensee requested relief from examining 100% of the Code required volume of RPV shell-to-flange Weld Number RPV-C5.

Licensee's Basis for Relief Request (as stated):

"A portion of the Code required examination volume cannot be completed due to the RPV shell flange configuration/geometry. Figure 1 identifies the geometrical limitation presented by the RPV shell flange with respect to the various ultrasonic examination techniques performed on the RPV shell-to-flange weld."

"Performance of approximately 52% of the required examination volume provides reasonable assurance of the structural integrity of the entire weld. Based on the examination conducted, no unacceptable indications were found. It should be noted that during initial plant construction, this weld was radiographed and the results were acceptable. The weld was also ultrasonically examined in accordance with the Preservice Inspection Plan, and the results of that examination were also acceptable."

"ASME Section V, Article 4, requires that the examination volume (weld and adjacent base material) be scanned by straight and angle beam, 45° and 60° techniques. Article 4 of ASME Section V allows the examination to be performed from one side of the weld. Due to the flange configuration, ultrasonic examination can only be performed from the shell side. Due to the bend radius on the flange side and thickness of the flange, only the following examinations can be scanned for the techniques listed below (not taking beam spread into account):

Technique	% Examination Volume
0° L-Wave	58%
45° T-Scan Upstream Side	85%
60° T-Scan Upstream Side	89%
45° T-Scan Downstream Side	0%
60° T-Scan Downstream Side	0%
45° P-Scan Counter Clockwise	60%
60° P-Scan Counter Clockwise	60%
Technique	% Examination Volume
45° P-Scan Clockwise	60%
60° P-Scan Clockwise	60%
Composite Examination Volume	52%

“It should be noted that the outer 1/4" volume was excluded from this determination of examination volume because of inherent properties of the ultrasonic examination methods near-surface effect.”

“As shown above, at least one technique (60° T-Scan) covers close to 90% of the examination volume. Illinois Power Company believes that the actual area examined using the 60° T-Scan was over 90% because Illinois Power Company assumes the outer 1/4" was not examined due to near zone effects of ultrasonic methods. This is a very conservative assumption, in fact, only a smaller portion versus 1/4" close to the surface is not examined. Similarly, Illinois Power believes that the actual area examined using the 45° T-Scan was over 90%. It should be noted that the ASME considers 90% coverage to be acceptable per Code Case N-460. Code Case N-460 has been incorporated into Regulatory Guide 1.147.”

“The examination limitation imposed by the RPV flange configuration makes it impractical to perform a complete volumetric examination (90% or more) of the weld. However, based on the examination performed, IP believes that the structural integrity of the weld is confirmed and provides an acceptable level of quality and safety.”

Licensee’s Proposed Alternative Examination (as stated):

“Illinois Power Company (IP) completed ultrasonic examination of this weld to the maximum extent feasible for the required examination.”

Evaluation: The Code requires 100% volumetric examination of the RPV shell-to-flange weld. However, the proximity of the weld to the flange limits ultrasonic scanning and makes volumetric examination impractical to perform to the extent required by the Code. Due to the flange configuration, ultrasonic examination can only be performed from the shell side and the bend radius on the flange side and thickness of the flange limit the techniques available. To complete

the Code-required examination, design modifications of the RPV to allow access would be required. Imposition of this requirement would cause a considerable burden on the licensee.

A significant portion (52%) of the subject RPV shell-to-flange weld was examined, with no unacceptable indications found. The examinations performed should have detected any existing patterns of degradation, therefore, reasonable assurance of continued structural integrity has been provided. Based on the impracticality of performing the volumetric examination to the extent required by the Code, it is recommended that relief be granted pursuant to 10 CFR 50.55a(g)(6)(i).

2.3 Request for Relief 4016, Examination Category B-A, Item B1.12, Pressure Retaining Welds in Reactor Vessels

Code Requirement: Examination Category B-A, Item B1.12, requires 100% volumetric examination, as defined by Figure IWB-2500-2, for reactor pressure vessel longitudinal welds.

Licensee's Proposed Alternative: The licensee proposed to perform the volumetric examinations on RPV longitudinal Welds RPV-V2B and RPV-V2C to the maximum extent feasible.

Licensee's Basis for Proposal (as stated):

“Performance of ultrasonic examination of 91% of the required examination volume provides reasonable assurance of the structural integrity of the entire weld. The results of 91% of the examination volume were acceptable. During initial plant construction. The entire welds were radiographed and the results were acceptable. The welds were also ultrasonically examined in accordance with the Preservice Inspection Plan, and the results were also acceptable.”

“To perform the remaining 9% of the Code required examination would require erecting scaffolding/platform in the very high radiation area. The dose rate in this area during our most recent outage were approximately 3000 mR/hr measured at the N12 nozzles. It is estimated that performing manual examinations of the areas not restricted by N12 nozzles would bring the total coverage to 95%. The hazards involved in this additional examination (only 4%) as well as the dose fields encountered do not warrant performing this additional examination to obtain an additional 4% coverage. It should be noted that the outer 1/4" volume was excluded from this determination of examination volume because of inherent properties of ultrasonic examination methods near-surface effect.”

“ASME Code Case N-460 has been adopted into Regulatory Guide 1.147, Rev. 11 dated October, 1994. This Code Case allows a reduction of the examination area of less than 10% due to interference by another component or part geometry. This Code Case allows Illinois Power to not perform the 5% of the examination volume restricted by N12 nozzles, however, it does not allow the remaining 4% of the examination volume to be not performed. Another 4% reduction in the examination area for these welds would not significantly impact the effectiveness of the examination and this should not compromise safety.”

Evaluation: The Code requires that all RPV longitudinal welds receive a volumetric examination as defined by Figure IWB-2500-2 during each inspection interval. The licensee has attained approximately 91% of the required examination coverage. Examination of the remaining 9% of the Code-required volume would require erecting scaffolding and platforms in a very high radiation area. The licensee stated that the dose rate in this area during the most recent outage was

approximately 3000 mR/hr measured at the N12 nozzles. Approximately 5% of the examination area is restricted due to proximity of the N12 nozzles, therefore, it is estimated that performing manual examinations of the areas not restricted by N12 nozzles would increase the total coverage to only 95%.

The licensee has completed a significant percentage (91%) of the Code required examination. Consequently, it is concluded that the examinations performed would have detected any existing patterns of degradation and reasonable assurance of the structural integrity of the subject RPV weld is provided. Based on the information provided by the licensee, the extent of the examinations performed, and the estimated radiation exposure required for a 4% percent increase in coverage, it is concluded that imposition of the Code requirements would cause a considerable hardship to the licensee without a compensating increase in the level of quality or safety. Therefore, pursuant to 10 CFR 50.55a(a)(3)(ii), it is recommended that the licensee's proposed alternative be authorized.

2.4 Request for Relief 4017, Examination Category B-A, Item B1.11, Pressure Retaining Welds in Reactor Vessels

Code Requirement: Examination Category B-A, Item B1.11, requires 100% volumetric examination, as defined by Figure IWB-2500-1, for reactor pressure vessel circumferential welds.

Licensee's Code Relief Request: In accordance with 10 CFR 50.55a(g)(5)(iii), the licensee requested relief from the Code required 100% volumetric examinations of Weld Number RPV-C1.

Licensee's Basis for Relief Request (as stated):

"A portion of the Code required examination volume cannot be completed due to the bottom head shell course number 1 weld configuration/geometry and location where RPV skirt is welded to the bottom head."

"Performance of ultrasonic examination of approximately 81% of the required examination volume provides reasonable assurance of the structural integrity of the entire weld. During plant construction, the entire weld was radiographed and the results were acceptable. The weld was also ultrasonically examined in accordance with the Preservice Inspection Plan, and the results of that examination were also acceptable. The remaining 19% of the examination volume cannot be performed due to weld configuration/geometry and location where RPV skirt is welded to the bottom head. Code Case N-460, Alternative Examination Coverage for Class 1 and Class 2 Welds, allows Illinois Power to reduce the examination coverage up to 10% due to component geometry. Therefore, only 9% of the Code required examination was not performed."

"ASME Section V, Article 4, requires that the examination volume (weld and adjacent base material) be scanned by straight and angle beam, 45° and 60° techniques. Due to weld configuration/geometry and location where RPV skirt is welded to the bottom head, the following examination volumes can be scanned using the techniques listed below:

Technique	% Examination Volume
0° L-Wave	96%
45° T-Scan Downstream Side	94%
45° T-Scan Upstream Side	72%
60° T-Scan Downstream Side	88%
60° T-Scan Upstream Side	40%
45° P-Scan Clockwise	72%
45° P-Scan Counter Clockwise	96%
60° P-Scan Clockwise	72%
60° P-Scan Counter Clockwise	96%
Composite Examination Volume	81%

“It should be noted that approximately 4% (the outer 1/4" volume) of the volume was not examined, due to inherent UT properties of near zone effect, and it is not included in the above determination of examination volume.”

“As shown above, at least four (4) techniques (0° L-Wave, 45° T-Scan Downstream, 45° P-Scan Counter Clockwise, and 60° P-Scan Counter Clockwise) cover over 90% of the examination volume. Illinois Power believes that the actual area examined using other techniques was more than what is identified above, however, if any indications would have been present in the area identified as not examined, it would have been difficult to size. For this reason, the examiner identified lesser coverage for these techniques. It should be noted that the ASME, per Code Case N-460, considers 90% coverage as meeting the Code requirements. Code Case N-460 has been incorporated into Regulatory Guide 1.147.”

“The examination limitation imposed by this geometry/configuration makes it impractical to perform a complete volumetric examination (90% or more). However, Illinois Power believes that performance of ultrasonic examination of the weld to the maximum extent G1 feasible (for a composite examination volume of approximately 81%) is sufficient for confirming weld integrity and that such examination therefore provides an acceptable level of quality and safety.”

Licensee’s Proposed Alternative Examination (as stated):

“Illinois Power Company (IP) completed ultrasonic examination of this weld to the maximum extent feasible for the required examination volume.”

Evaluation: The Code requires that all RPV circumferential welds receive 100% volumetric examination, as defined by Figure IWB-2500-1, each inspection interval. However, the weld configuration/geometry and location, i.e., near the area of the RPV support skirt-to-vessel weld, restricts scanning, and limits the extent of the volumetric examination that can be obtained.

The limitations illustrated in the drawings submitted with this relief request support the licensee's determination that volumetric examination of the subject RPV circumferential weld to the extent required by the Code is impractical. To increase examination coverage, the RPV would require extensive modification. Imposition of this requirement on Illinois Power Company would cause a considerable burden.

The licensee obtained a significant level of volumetric coverage (greater than 80%) on each of the subject nozzle welds. In addition, volumetric examination of other similar RPV welds was previously performed. It is concluded that degradation, if present, would have been detected by the limited examinations that were completed. Therefore, reasonable assurance of the continued structural integrity of the RPV circumferential welds has been provided. Based on the impracticality of meeting the Code requirements for the subject welds, and the reasonable assurance provided by the examinations that were completed, it is recommended that relief be granted pursuant to 10 CFR 50.55a(g)(6)(i).

C. CONCLUSION

The INEEL staff evaluated the licensee's submittal and concluded that certain inservice examinations cannot be performed to the extent required by the Code at Clinton Power Station, Unit 1. For Relief Requests 4014, 4015, and 4017, it is concluded that the Code requirements are impractical for the subject welds. Therefore, it is recommended that relief be granted pursuant to 10 CFR 50.55a(g)(6)(i). For Relief Request 4016, it is concluded that imposition of the Code requirements would result in a significant hardship without a compensating increase in the level of quality or safety. Therefore, it is recommended that the licensee's proposed alternative be authorized pursuant to 10 CFR 50.55a(a)(3)(ii).