June 20, 2006

Mr. David A. Christian
Senior Vice President and
Chief Nuclear Officer
Innsbrook Technical Center
5000 Dominion Boulevard
Glen Allen, VA 23060-6711

SUBJECT: KEWAUNEE POWER STATION - REQUEST FOR RELIEF FROM THE REQUIREMENTS OF THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS BOILER AND PRESSURE VESSEL CODE THIRD INSERVICE INSPECTION INTERVAL, LIMITED VOLUMETRIC AND SURFACE EXAMINATION COVERAGE FOR INSERVICE INSPECTION PROGRAM WELDS (TAC NOS. MC7897 THROUGH MC7900, MC7904 THROUGH MC7906, MC7908 THROUGH MC7912, MC7916 THROUGH MC7919, MC7960, AND MC7967)

Dear Mr. Christian:

By letter dated June 23, 2005, as supplemented by letter dated March 29, 2006, Dominion Energy Kewaunee, Inc. (the licensee, at the time of the application, was Nuclear Management Company), submitted requests for relief from the requirements of the American Society of Mechanical Engineers (ASME) *Boiler and Pressure Vessel Code* (Code), Section XI, for Kewaunee Power Station (KPS). By letter dated May 18, 2006, the U.S. Nuclear Regulatory Commission (NRC) staff issued a partial response to the application, as supplemented. The portion of the application addressed herein includes Relief Request Nos. RR-G-7-1 through RR-G-7-4, RR-G-7-8 through RR-G-7-10, RR-G-7-12 through RR-G-7-16, RR-G-7-20 through RR-G-7-23, RR-G-7-64, and RR-G-7-71. Certain relief requests were withdrawn in the March 29, 2006, supplement and acknowledged in the NRC letter dated April 3, 2006. The following relief requests were withdrawn: RR-G-7-5 through RR-G-7-7, RR-G-7-11, RR-G-7-17 through RR-G-7-19, RR-G-7-24, RR-G-7-29, RR-G-7-38, RR-G-7-46, RR-G-7-58, RR-G-7-62, RR-G-7-63, RR-G-7-72, and RR-G-7-73. This letter completes the NRC staff's response to the application, as supplemented.

The NRC staff concludes, based upon the enclosed safety evaluation, that compliance with the ASME Code volumetric and surface coverage requirements is impractical at KPS for the configurations identified in the subject relief requests. The NRC staff further concludes that the proposed inspections provide reasonable assurance of structural integrity. Therefore, relief is granted pursuant to 10 CFR 50.55a(g)(6)(i) for the third inservice inspection interval for Relief Request Nos. RR-G-7-1 through RR-G-7-4, RR-G-7-8 through RR-G-7-10, RR-G-7-12 through RR-G-7-16, RR-G-7-20 through RR-G-7-23, RR-G-7-64, and RR-G-7-71. This granting of relief is authorized by law and will not endanger life or property or the common defense and security and is otherwise in the public interest giving due consideration to the burden upon the licensee that could result if the requirements were imposed on the facility.

All other ASME Code, Section XI, requirements for which relief was not specifically requested and approved in this relief request remain applicable, including third party review by the Authorized Nuclear Inservice Inspector.

Sincerely,

/RA/

L. Raghavan, Chief
Plant Licensing Branch III-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-305

Enclosure: Safety Evaluation

cc w/encl: See next page

All other ASME Code, Section XI, requirements for which relief was not specifically requested and approved in this relief request remain applicable, including third party review by the Authorized Nuclear Inservice Inspector.

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Docket No. 50-305

Enclosure: Safety Evaluation

cc w/encl: See next page

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ADAMS Accession Number**: ML061420171** ***No major changes to SE Input.**

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Kewaunee Power Station

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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

THIRD 10-YEAR INTERVAL INSERVICE INSPECTION PROGRAM INTERVAL

AMERICAN SOCIETY OF MECHANICAL ENGINEERS

BOILER AND PRESSURE VESSEL CODE RELIEF REQUESTS

DOMINION ENERGY KEWAUNEE, INC.

KEWAUNEE POWER STATION

DOCKET NO. 50-305

1.0 INTRODUCTION

By letter dated June 23, 2005, as supplemented by letter dated March 29, 2006, Dominion Energy Kewaunee, Inc. (the licensee, at the time of the application, was Nuclear Management Company), submitted requests for relief from the requirements of the American Society of Mechanical Engineers (ASME) *Boiler and Pressure Vessel Code* (Code), Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components," for Kewaunee Power Station (KPS). By letter dated May 18, 2006, the U.S. Nuclear Regulatory Commission (NRC) staff issued a partial response to the application, as supplemented. The portion of the application addressed herein includes Relief Request Nos. RR-G-7-1 through RR-G-7-4, RR-G-7-8 through RR-G-7-10, RR-G-7-12 through RR-G-7-16, RR-G-7-20 through RR-G-7-23, RR-G-7-64, and RR-G-7-71. Certain relief requests were withdrawn in the March 29, 2006, supplement and acknowledged in the NRC letter dated April 3, 2006. The following relief requests were withdrawn: RR-G-7-5 through RR-G-7-7, RR-G-7-11, RR-G-7-17 through RR-G-7-19, RR-G-7-24, RR-G-7-29, RR-G-7-38, RR-G-7-46, RR-G-7-58, RR-G-7-62, RR-G-7-63, RR-G-7-72, and RR-G-7-73. This safety evaluation (SE) completes the NRC staff's response to the application, as supplemented. The final status of each relief request is contained in the attachment to this SE.

The NRC staff, with technical assistance from Pacific Northwest National Laboratory (PNNL), has reviewed and evaluated the information provided by the licensee. The Technical Letter Report (TLR) from PNNL is available from the Agencywide Documents Access and Management System (Accession No. ML061660437).

2.0 REGULATORY REQUIREMENTS

Inservice inspection (ISI) of the ASME Code Class 1, 2, and 3 components is performed in accordance with Section XI of the ASME Code and applicable addenda as required by Title 10

ENCLOSURE

of the *Code of Federal Regulations* (10 CFR) 50.55a(g), except where specific relief has been granted by the NRC pursuant to 10 CFR 50.55a(g)(6)(i). The regulation at 10 CFR 50.55a(a)(3) states that alternatives to the requirements of paragraph (g) may be used, when authorized by the 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, 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) 12 months prior to the start of the 120-month interval, subject to the limitations and modifications listed therein. The ASME Code of record for the KPS's third 10-year ISI program, which began on June 16, 1994, is the 1989 edition of Section XI of the ASME Code, with no addenda.

3.0 STAFF EVALUATION

The NRC staff, with technical assistance from its contractor, PNNL, has reviewed and evaluated the information provided by the licensee in its application dated June 23, 2005, which proposed its third 10-year interval ISI program plan Relief Request Nos. RR-G-7-1 through RR-G-7-23, RR-G-7-64, RR G-7-72, and RR G-7-73. In response to an NRC request for additional information (RAI), the licensee provided additional information in its letter dated March 29, 2006. The NRC staff adopts the evaluations and recommendations for granting relief contained in PNNL's TLR.

For Relief Request No. RR-G-7-4, ASME Code, Section XI, Table IWB-2500-1 Examination Category B-A, Item B1.40, "Pressure Retaining Welds in Reactor Vessel" requires volumetric and surface examination, as defined by Figure IWB-2500-5, of essentially 100 percent of the weld length of the reactor pressure vessel (RPV) closure head-to-flange weld. The licensee requested relief from 100 percent volumetric examination coverage for RPV closure head-to-flange weld RV-W12.

The volumetric examinations are performed by using several ultrasonic sound beams (at proper angles within the material), directed both perpendicular and parallel to the weld. Ultrasonic scans are applied from the outside surface of the component, from each side of the weld, and across the surface crown of the weld. The cross-sectional geometry of the RPV closure head-to-flange weld RV-W12 produces a high transition angle between the flange and the domed head. Therefore, scanning from the flange side of the weld is severely limited due to location of the weld and the transition angle. In addition, the location of three closure head lifting lugs further restricts access for ultrasonic examination. The NRC staff determined that for the above reasons, the component configuration does not allow the licensee to obtain the ASME Code-required volumetric coverage from both sides of the weld. For the licensee to achieve 100 percent volumetric coverage, the RPV closure head would have to be redesigned and modified. This would place a significant hardship on the licensee; thus, the ASME Code requirements are impractical for KPS.

The licensee obtained 77 percent volumetric coverage from the head side of the weld and this inspection provides reasonable assurance of structural integrity of the RPV closure head weld. In addition, the licensee replaced the reactor vessel closure head during the fall of 2004, after the refueling outage in which the subject inspection was conducted. The replacement closure head was manufactured as a one piece forging, and therefore, a RPV closure head-to-flange weld no longer exists. During the period of time that the retired RPV closure head was in service, it adequately performed its function as a pressure boundary component. For further detail on the basis of this relief, see the TLR.

For Relief Request No. RR-G-7-71, ASME Code, Section XI, Table IWB-2500-1, Examination Category B-A, Item B1.30, "Pressure Retaining Welds in Reactor Vessel", requires essentially 100 percent volumetric examination, as defined by Figure IWB-2500-4 of shell-to-flange weld RV-W1.

The ultrasonic examinations of the RPV shell-to-flange weld were conducted using personnel, equipment and procedures qualified in accordance with ASME Code, Section XI, Appendix VIII, 1995 edition with the 1996 addenda as administered through the Electric Power Research Institute Performance Demonstration Initiative (PDI), which have shown high (approximately 90 percent) probability of detection levels. This has resulted in an increased reliability of inspections for weld configurations within the scope of PDI. In addition, other pressure-retaining shell welds in the RPV were examined to the full extent of ASME Code requirements with no service induced flaws being detected.

As shown on the sketches and technical descriptions provided by the licensee in the application, approximately 63 percent (composite for single side and two-sided access) for the vessel shell-to-flange weld was examined due to access limitations caused by the taper transition between the forged flange and the upper RPV shell course. This geometry, which includes a 3-inch radius in the transition region, prevents making adequate transducer contact to place the corresponding ultrasonic beams into the correct weld volume from the taper side of the weld. For the licensee to achieve full volumetric coverage requirements, the RPV would need to be redesigned and modified. This would place a significant burden on the licensee; thus, the ASME Code-required 100 percent volumetric examinations are impractical for KPS.

The NRC staff determined that based on the limited examination completed for the subject weld, and considering the full ASME Code volumetric examinations on other RPV shell welds, it is reasonable to conclude that significant degradation, if present, would have been detected. Therefore, the examinations performed provide reasonable assurance of structural integrity of shell-to-flange weld RV-W1. For further detail on the basis of this relief, see the TLR.

For Relief Request Nos. RR-G-7-73, RR-G-7-6, and RR-G-7-7 based on the NRC RAI and the licensee's use of ASME Code Case N-460, *Alternative Examination Coverage for Class 1 and Class 2 Welds* as an alternative approved for use by the NRC in Regulatory Guide (RG) 1.147, Revision 14, *Inservice Inspection Code Case Acceptability* (RG 1.147), the licensee elected to withdraw these relief requests in their response dated March 29, 2006. There will be no further discussion of these relief requests in this SE.

For Relief Request Nos. RR-G-7-20 and RR-G-7-21, ASME Code, Section XI, Table IWB-2500-1, Examination Category B-D, Item B3.90, "Full Penetration Welds of Nozzles in Vessels," requires 100 percent volumetric examination, as defined in Figures IWB-2500-7(a)

through (d), as applicable, of reactor vessel outlet nozzle-to-vessel welds RV-W7 and RV-W10 and their adjacent base metals during each inspection interval. The requirement for examining adjacent base metal extends a distance of one-half the vessel shell wall thickness on each side of the weld from the widest part of the weld.

The NRC staff determined that the ASME Code-required examination cannot be performed due to a protrusion at the nozzle inner radius which limits the transducer's ability to scan the shell side of the weld and the nozzle bore. In order for the licensee to achieve the ASME Code-required volumetric coverage, the inside geometry of the nozzles would be required to be redesigned and modified. This would place a significant burden on the licensee, thus the ASME Code-required volumetric examinations are impractical for KPS.

The NRC staff further determined based on the drawings and technical descriptions provided by the licensee in the application, that approximately 70.2 percent composite volumetric coverage was obtained for nozzle-to-shell welds RV-W7 and RV-W10. The composite coverage includes approximately 97 percent volumetric coverage for scans perpendicular to the weld, and approximately 43 percent volumetric coverage for scans parallel to the weld. Therefore, based on the examination coverage obtained, the NRC staff determined that if significant service-induced degradation were occurring in the subject welds, there is reasonable assurance that evidence of it would be detected by the examinations performed by the licensee and that examinations performed provide reasonable assurance of structural integrity of the subject welds. For further detail on the basis of this relief, see the TLR.

For Relief Request No. RR-G-7-12, ASME Code, Section XI, Examination Category B-D, Item 3.140, "Full Penetration Welded Nozzles in Vessels," requires 100 percent volumetric examination, as defined by Figure IWB-2500-7(a) through (d), as applicable, of the steam generator (SG) 1A and 1B nozzle inside radius sections. The licensee requested relief from 100 percent volumetric examination coverage for SG 1A nozzle inside radius sections SG-IR25 and SG-IR26, and SG 1B inside radius sections SG-IR27 and SG-IR28.

The NRC staff determined that welded structural supports limit full access to examine the nozzle inside radius sections on the primary coolant nozzles in SGs 1A and 1B. For the licensee to perform the ASME Code-required volumetric examination coverage, the SG main supports would need to be redesigned and modified. This would place a significant burden on the licensee; thus, the ASME Code-required 100 percent volumetric examinations are impractical for KPS.

The licensee obtained 92.7 percent volumetric coverage for each of the subject nozzle inside radius sections. Therefore, based on the high level of volumetric coverage obtained, it is reasonable to conclude that the examinations performed by the licensee would have detected significant patterns of degradation, should it exist. Therefore, the coverages obtained provide reasonable assurance of structural integrity for SG 1A nozzle inside radius sections SG-IR25 and SG-IR26 and SG 1B inside radius sections SG-IR27 and SG-IR28. For further detail on the basis of this relief, see the TLR.

For Relief Request No. RR-G-7-72, based on the NRC staff RAI and the licensee's use of ASME Code Case N-460 as an alternative approved for use by the NRC in RG 1.147, the licensee elected to withdraw this relief request in their response dated March 29, 2006.

For Relief Request Nos. RR-G-7-22 and RR-G-7-23, ASME Code, Section XI, Examination Category B-F, Item B5.70, "Pressure Retaining Dissimilar Metal Welds in Vessel Nozzles," requires 100 percent volumetric and surface examination, as defined by Figure IWB-2500-8, of SGs 1A and 1B nozzle-to-safe end butt welds. The licensee requested relief from the ASME Code requirement to examine 100 percent of the weld volume for the following Class 1 dissimilar metal nozzle-to-safe end but welds: RC-W76DM, RC-77DM, RC-W78DM, and RC-79DM.

The NRC staff determined that the ASME Code-required 100 percent volumetric examination coverage from both sides of the subject welds could not be obtained due the outside surface geometry of the nozzle. In order for the licensee to achieve ASME Code-required 100 percent volumetric coverage, the nozzles and welds would need to be redesigned and modified. This would place a significant burden on the licensee, thus, the ASME Code-required 100 percent volumetric examinations are impractical for KPS.

The licensee was able to obtain approximately 60 percent composite volumetric coverage for these dissimilar metal welds and the licensee's calculated coverage includes approximately 80 percent of the ASME Code-required volumes as scanned from the safe end side of the weld using 45 and 60 degree longitudinal waves. The licensee could not perform scans from the nozzle side due to the extreme outside surface taper of the nozzles. In addition, the licensee completed 100 percent of the ASME Code-required surface examinations on these welds with no limitations. No indications were observed during the volumetric or surface examinations. The NRC staff determined that based on the volumetric coverage obtained from the safe end side of the welds, in conjunction with the full surface examinations performed, if significant service-induced degradation were occurring in the subject welds, there is reasonable assurance that evidence of it would be detected by the examinations that were performed. Therefore, the examinations provide reasonable assurance of structural integrity of the subject welds. For further detail on the basis of this relief, see the TLR.

For Relief Request No. RR-G-7-10, ASME Code, Section XI, Examination Category B-G-1, Item B6.180, "Pressure Retaining Bolting Greater than 2-Inch In Diameter," requires 100 percent volumetric examination, as defined by Figure IWB-2500-12, of reactor coolant pump (RCP) 1A main flange bolting RCP-B1 through RCP-B8, RCP-B9, and RCP-B11.

The NRC staff determined that the configuration of RCP main flange bolts do not allow for ultrasonic testing methods deployed from the "heater hole" of the bolts to access the entire bolt length. In order to make the entire bolt length accessible for ultrasonic examination from these heater holes, the bolts would have to be redesigned and modified. This would place a significant burden on the licensee; thus, the ASME Code-required volumetric examinations are impractical for KPS.

The bolt configuration limited portions of the 70 degree forward and 90 degree scans; however, the licensee obtained a composite coverage for all scans of 92.7 percent for each of the RCP bolts. The licensee recently applied a new ultrasonic 0 degree head shot method, qualified in accordance with ASME Code, Section XI, Appendix VIII, Supplement 8, to several of the bolts. The full ASME Code-required examination volumes are being completed with these new methods and no recordable indications have been observed. Therefore, the NRC staff determined that it is reasonable to conclude that the licensee would have detected significant

degradation, should it exist and that the coverage obtained provides reasonable assurance of structural integrity of the subject bolts. For further detail on the basis of this relief, see the TLR.

For Relief Request Nos. RR-G-7-8, RR-G-7-9, RR-G-7-13, RR-G-7-14, RR-G-7-15, RR-G-7-16, and RR-G-7-64, ASME Code, Section XI, Examination Category C-A, Items C1.10, C1.20, and C1.30, "Pressure Retaining Welds in Pressure Vessels" require essentially 100 percent volumetric examination, as defined by Figures IWC-2500-1 or -2, as applicable, of Class 2 circumferential shell, head, and tubesheet-to-shell welds in selected Class 2 pressure vessels (see the attached summary table for further information). The licensee requested relief from the ASME Code volumetric examination requirement for the welds AHRS1-W1, AHRS1-W2, AHNR-W2, AFS1-W1, AFS1-W2, SG-W2, and ARG-W11.

The NRC staff determined that the configuration of several of these components preclude 100 percent examination. In order for the licensee to increase coverage for the subject vessel welds, the components would have to be redesigned and modified. This would place a significant hardship on the licensee, thus, the ASME Code-required volumetric examinations are impractical for KPS. The licensee obtained a range from 23 percent to 88 percent volumetric coverage on Class 2 vessel welds AHRS1-W1, AHRS1-W2, AHNR-W2, AFS1-W1, AFS1-W2, SG-W2, and ARG-W11. The licensee examined similar pressure-retaining welds on these vessels to the full extent of ASME Code requirements, and all components received the ASME Code-required VT-2 visual examination. The licensee observed no rejectable indications during any of the examinations performed. Therefore, considering the volumetric coverage obtained on the subject welds and examinations performed on similar Class 2 vessel welds, it is reasonable to conclude that the licensee would have detected significant patterns of degradation, should it exist, and that the examinations performed on the subject welds provide reasonable assurance of structural integrity of the subject welds. For further detail on the basis of this relief, see the TLR.

For Relief Request Nos. RR-G-7-5, RR-G-7-11, RR-G-7-17, RR-G-7-18, and RR-G-7-19, based on the NRC staff's RAI and the licensee's use of ASME Code Case N-460 as an alternative approved for use by the NRC in RG 1.147, the licensee elected to withdraw these requests for relief in their response dated March 29, 2006.

For Relief Request Nos. RR-G-7-1, RR-G-7-2, and RR-G-7-3, ASME Code, Section XI, Table IWC-2500-1, Examination Category C-C, Items C3.10 and C3.30, "Integral Attachments for Vessels, Piping, Pumps, and Valves" requires 100 percent surface examination, as defined by Figure IWC-2500-5, of the welds and adjacent base material for the integral attachment support welds listed in Table 3.X below:

Table 3.X - Examination Category C-C Integral Attachment Support Welds

Component ID	Relief Request No.	Attachment Weld	ASME Item	Coverage Obtained
RHR Heat Exchanger AHRS1-1A	RR-G-7-1	AHRS1-SW1 AHRS1-SW2	C3.10	79.3%

Table 3.X - Examination Category C-C Integral Attachment Support Welds				
Component ID	Relief Request No.	Attachment Weld	ASME Item	Coverage Obtained
Safety Injection Pump APSI-1A	RR-G-7-2	APSI-1A-S1 APSI-1A-S3 APSI-1A-S4	C3.30	85.4%
Safety Injection Pump APSI-1B	RR-G-7-2	APSI-1B-S1 APSI-1B-S2 APSI-1B-S4	C3.30	85.4%
Safety Injection Pump APSI-1A	RR-G-7-3	APSI-1A-S2	C3.30	83%
Safety Injection Pump APSI-1B	RR-G-7-3	APSI-1B-S3	C3.30	83%

The subject integrally attached supports are made of carbon steel and provide primary support for the residual heat removal (RHR) heat exchanger and safety injection pumps. The supports are welded to the pressure-retaining boundary of the subject vessel/pumps and bolted to either an in-bed plate in the concrete floor or to other non-ASME support members. The NRC staff determined that based on the drawings and photographs provided by the licensee in the application, the ASME Code-required surface examination are impractical for KPS due to the design and location of these supports. The licensee is unable to obtain access to the lower portions of the welds and those in close contact with the vessel/pumps are inaccessible.

In order for the licensee to perform the ASME Code-required examinations, the subject components would need to be redesigned and modified. To impose the ASME Code-required examinations on the licensee would be a significant burden. Therefore, the ASME Code-required examinations on the subject integral attachment welds are impractical for KPS.

The licensee obtained a significant amount of surface examination coverage ranging from 79 to 85 percent of the ASME Code-required areas. In addition, the licensee found no rejectable indications in the examinations completed. Considering the coverage that was obtained, it is reasonable to conclude that the licensee would have detected any significant patterns of degradation, if present. Therefore, the examinations performed provide reasonable assurance of structural integrity of the subject welds. For further detail on the basis of this relief see the TLR.

4.0 CONCLUSIONS

For the relief requests listed in Table 1 below, the ASME Code requirements have been reviewed by the NRC staff with the assistance of its contractor, PNNL. The TLR provides PNNL's evaluation of these relief requests.

The NRC staff has reviewed the contractor's TLR and adopts the evaluations and recommendations for granting relief for the third 10-year ISI interval at KPS. A summary of each relief request determination is presented in the attachment of this SE.

Table 1

RR-G-7-1	RR-G-7-8	RR-G-7-13	RR-G-7-20	RR-G-7-64
RR-G-7-2	RR-G-7-9	RR-G-7-14	RR-G-7-21	RR-G-7-71
RR-G-7-3	RR-G-7-10	RR-G-7-15	RR-G-7-22	
RR-G-7-4	RR-G-7-12	RR-G-7-16	RR-G-7-23	

Based on the configuration and access limitations of the subject components, the subject components would need to be redesigned to permit inspection in accordance with the ASME Code. To impose the ASME Code requirements on the licensee would be a significant hardship; therefore, the NRC staff concludes that the ASME Code-required examinations are impractical.

The NRC staff further concludes that, based on the coverages obtained, if significant service-induced degradation were occurring, there is reasonable assurance that the licensee would detect evidence of it by the examinations that it performed. Therefore, the examinations performed provide reasonable assurance of structural integrity of the components contained in the relief requests. For the subject relief requests, relief is granted, pursuant to 10 CFR 50.55a(g)(6)(i), for the third 10-year ISI interval at KPS.

The NRC staff has determined that granting relief pursuant to 10 CFR 50.55a(g)(6)(i) is reasonable as it is authorized by law and will not endanger life or property, or the common defense and security and is otherwise in the public interest giving due consideration to the burden upon the licensee that could result if the requirements were imposed on the facility.

All other requirements of the ASME Code, Section XI, for which relief has not been specifically requested remain applicable, including third party review by the Authorized Nuclear Inservice Inspector. For additional information regrading the staff's conclusion see the TLR.

Attachment: Summary Table

Principal Contributor: T. McLellan

Date:

TABLE 1
SUMMARY OF RELIEF REQUESTS

Relief Request Number	PNNL TLR Sec.	System or Component	Exam. Category	Item No.	Volume or Area to be Examined	Required Method	Licensee Proposed Alternative	Relief Request Disposition
RR-G-7-1	3.17	Integrally Welded Attachments	C-C	C3.10	100% of the integral attachment welds on RHR heat exchanger AHRS1-1A	Surface	None. Use obtained 79.3% examination coverage	Granted 10 CFR 50.55a(g)(6)(i)
RR-G-7-2	3.17	Integrally Welded Attachments	C-C	C3.30	100% of the integral attachment welds on safety injection pumps APSI-1A and -1B	Surface	None. Use obtained 85.4% examination coverage	Granted 10 CFR 50.55a(g)(6)(i)
RR-G-7-3	3.17	Integrally Welded Attachments	C-C	C3.30	100% of integral attachment welds on safety injection pumps APSI-1A and -1B	Surface	None. Use obtained 83% examination coverage	Granted 10 CFR 50.55a(g)(6)(i)
RR-G-7-4	3.1	RPV Closure Head Flange	B-A	B1.40	100% of head-to-flange weld	Volumetric and Surface	None. Use obtained 77% examination coverage. Head has been replaced.	Granted 10 CFR 50.55a(g)(6)(i)
RR-G-7-5	3.12	Charging Pump Pulsation Dampeners	C-A	C.120	100% of head circumferential welds	Volumetric	N/A	Withdrawn by licensee in March 29, 2006, letter
RR-G-7-6	3.4	PZR Head Welds	B-B	B2.11	100% of circumferential shell-to-head welds	Volumetric	N/A	Withdrawn by licensee in March 29, 2006, letter
RR-G-7-7	3.5	PZR Head Welds	B-B	B2.12	100% of longitudinal head welds	Volumetric	N/A	Withdrawn by licensee in March 29, 2006, letter
RR-G-7-8	3.11	Class 2 Pressure Vessels	C-A	C1.10	100% of shell circumferential weld on RHR heat exchanger AHRS1-1A	Volumetric	None. Use obtained 23% examination coverage	Granted 10 CFR 50.55a(g)(6)(i)
RR-G-7-9	3.11	Class 2 Pressure Vessels	C-A	C1.20	100% of head circumferential weld on RHR heat exchanger AHRS1-1A	Volumetric	None. Use obtained 62.4% examination coverage	Granted 10 CFR 50.55a(g)(6)(i)
RR-G-7-10	3.10	RCP Bolting	B-G-1	B6.180	100% of bolting on RCP 1A	Volumetric	None. Use obtained 92.7% examination coverage	Granted 10 CFR 50.55a(g)(6)(i)

ATTACHMENT

TABLE 1
SUMMARY OF RELIEF REQUESTS

Relief Request Number	PNNL TLR Sec.	System or Component	Exam. Category	Item No.	Volume or Area to be Examined	Required Method	Licensee Proposed Alternative	Relief Request Disposition
RR-G-7-11	3.13	Class 2 Pressure Vessels	C-A	C1.20	100% of head circumferential head weld on regenerative heat exchanger	Volumetric	N/A	Withdrawn by licensee in March 29, 2006, letter
RR-G-7-12	3.7	SG Nozzles	B-D	B3.140	100% of inner radius sections on SGs 1A and 1B nozzles	Volumetric	None. Use obtained 93.7% examination coverage	Granted 10 CFR 50.55a(g)(6)(i)
RR-G-7-13	3.11	Class 2 Pressure Vessels	C-A	C1.20	100% of head circumferential weld on letdown heat exchanger	Volumetric	None. Use obtained 57% examination coverage	Granted 10 CFR 50.55a(g)(6)(i)
RR-G-7-14	3.11	Class 2 Pressure Vessels	C-A	C1.10	100% of shell circumferential weld on seal water injection filter 1A	Volumetric	None. Use obtained 32.9% examination coverage	Granted 10 CFR 50.55a(g)(6)(i)
RR-G-7-15	3.11	Class 2 Pressure Vessels	C-A	C1.20	100% of head circumferential weld on seal water injection filter 1A	Volumetric	None. Use obtained 64.2% examination coverage	Granted 10 CFR 50.55a(g)(6)(i)
RR-G-7-16	3.11	Class 2 Pressure Vessels	C-A	C1.10	100% of shell circumferential weld on SG 1A	Volumetric	None. Use obtained 88.9% examination coverage	Granted 10 CFR 50.55a(g)(6)(i)
RR-G-7-17	3.14	Class 2 Pressure Vessels	C-A	C1.10	100% of shell circumferential weld on SG 1B	Volumetric	N/A	Withdrawn by licensee in March 29, 2006, letter
RR-G-7-18	3.15	Class 2 Pressure Vessels	C-A	C1.20	100% of head circumferential weld on SG 1B	Volumetric	N/A	Withdrawn by licensee in March 29, 2006, letter
RR-G-7-19	3.16	Class 2 Pressure Vessels	C-A	C1.30	100% of tubesheet-to-shell circumferential weld on SGs 1A and 1B	Volumetric	N/A	Withdrawn by licensee in March 29, 2006, letter
RR-G-7-20	3.6	RPV Nozzle Welds	B-D	B3.90	100% of nozzle-to-shell weld RV-W7	Volumetric	None. Use obtained 70.2% composite examination coverage	Granted 10 CFR 50.55a(g)(6)(i)
RR-G-7-21	3.6	RPV Nozzle Welds	B-D	B3.90	100% of nozzle-to-shell weld RV-W10	Volumetric	None. Use obtained 70.2% composite examination coverage	Granted 10 CFR 50.55a(g)(6)(i)
RR-G-7-22	3.9	SG Nozzle-to-Pipe Welds	B-F	B5.70	100% of dissimilar metal welds in SG 1A	Volumetric and Surface	None. Use obtained 61.9% examination coverage	Granted 10 CFR 50.55a(g)(6)(i)

TABLE 1
SUMMARY OF RELIEF REQUESTS

Relief Request Number	PNNL TLR Sec.	System or Component	Exam. Category	Item No.	Volume or Area to be Examined	Required Method	Licensee Proposed Alternative	Relief Request Disposition
RR-G-7-23	3.9	SG Nozzle-to-Pipe Welds	B-F	B5.70	100% of dissimilar metal welds in SG 1B	Volumetric and Surface	None. Use obtained 59.8% examination coverage	Granted 10 CFR 50.55a(g)(6)(i)
RR-G-7-64	3.11	Class 2 Pressure Vessels	C-A	C1.30	100% of tubesheet-to-shell circumferential weld on regenerative heat exchanger	Volumetric	None. Use obtained 58.6% examination coverage	Granted 10 CFR 50.55a(g)(6)(i)
RR-G-7-71	3.2	RPV Shell Weld	B-A	B1.30	100% of shell-to-flange weld RV-W1	Volumetric	None. Use obtained 63% composite examination coverage	Granted 10 CFR 50.55a(g)(6)(i)
RR-G-7-72	3.8	RPV Nozzle Weld	B-D	B3.90	100% of nozzle-to-shell weld RV-W11	Volumetric	N/A	Withdrawn by licensee in March 29, 2006, letter
RR-G-7-73	3.3	RPV Lower Head Weld	B-A	B1.21	100% of lower head-to-shell weld RV-W4	Volumetric	N/A	Withdrawn by licensee in March 29, 2006, letter