

TECHNICAL EVALUATION REPORT ON THE
FIRST 10-YEAR INTERVAL INSERVICE INSPECTION PROGRAM PLAN:
NIAGARA MOHAWK POWER CORPORATION,
NINE MILE POINT NUCLEAR STATION, UNIT 2,
DOCKET NUMBER 50-410

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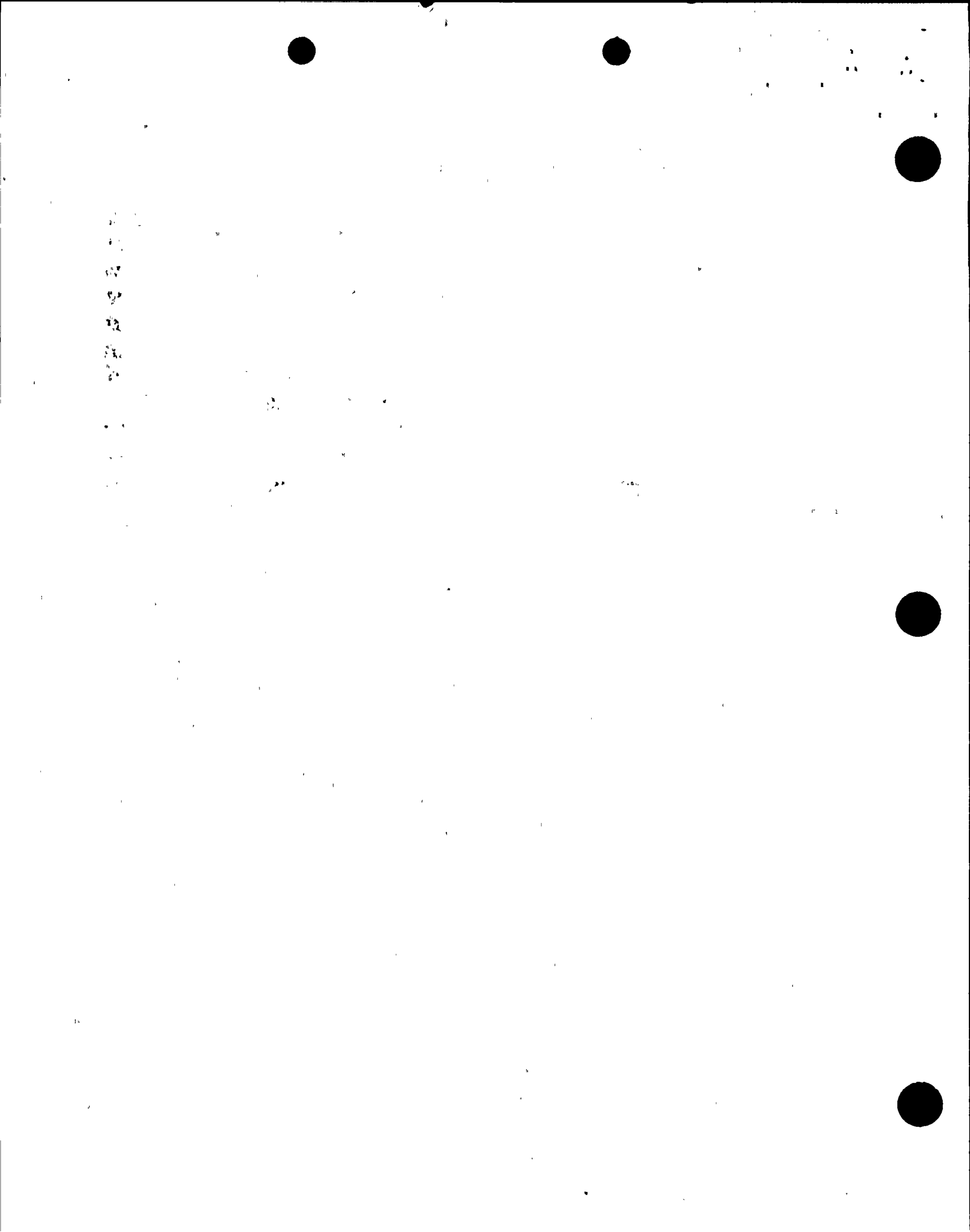
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ABSTRACT

This report presents the results of the evaluation of the Nine Mile Point Nuclear Station, Unit 2, First 10-Year Interval Inservice Inspection (ISI) Program Plan, Revision 0, submitted July 30, 1987, including the requests for relief from the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code Section XI requirements which the Licensee has determined to be impractical. In Section 2 of this report, the ISI Program Plan is evaluated for (a) compliance with the appropriate edition/addenda of Section XI, (b) acceptability of examination sample, (c) exclusion criteria, and (d) compliance with ISI-related commitments identified during the Nuclear Regulatory Commission (NRC) review before granting an Operating License. The requests for relief from the ASME Code requirements which the Licensee has determined to be impractical for the first 10-year inspection interval are evaluated in Section 3 of this report.

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Operating Reactor Licensing Issues Program,
Review of ISI for ASME Code Class 1, 2, and 3 Components



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SUMMARY

The Licensee, Niagara Mohawk Power Corporation, has prepared the Nine Mile Point Nuclear Station, Unit 2, First 10-Year Interval Inservice Inspection (ISI) Program Plan, Revision 0, to meet the requirements of the 1983 Edition, Summer 1983 Addenda (83S83) of the ASME Code Section XI with the following exceptions: (1) the extent of examination for Code Class 1 piping welds has been determined by the 1974 Edition through Summer 1975 Addenda (74S75), as permitted by 10 CFR 50.55a(b), and (2) the extent of examination for Code Class 2 piping welds has been determined by ASME Code Case N-408, "Alternative Rules for Examination of Class 2 Piping." The first 10-year interval began March 11, 1988 and ends March 11, 1998.

The information in the Nine Mile Point Nuclear Station, Unit 2, First 10-Year Interval ISI Program Plan, Revision 0, submitted July 30, 1987, was reviewed. Included in the review were the requests for relief from the ASME Code Section XI requirements which the Licensee has determined to be impractical. As a result of this review, a Request for Additional Information (RAI) was prepared describing the information and/or clarification required from the Licensee in order to complete the review.

Based on the review of the Nine Mile Point Nuclear Station, Unit 2, First 10-Year Interval ISI Program Plan, Revision 0, the Licensee's response to the Nuclear Regulatory Commission's RAI, and the recommendations for granting relief from the ISI examination requirements that have been determined to be impractical, it is concluded that the Nine Mile Point Nuclear Station, Unit 2, First 10-Year Interval ISI Program Plan, Revision 0, with the exception of Requests for Relief RR-IWB-6, in part, and RR-IWB-13, is acceptable and in compliance with 10 CFR 50.55a(g)(4).



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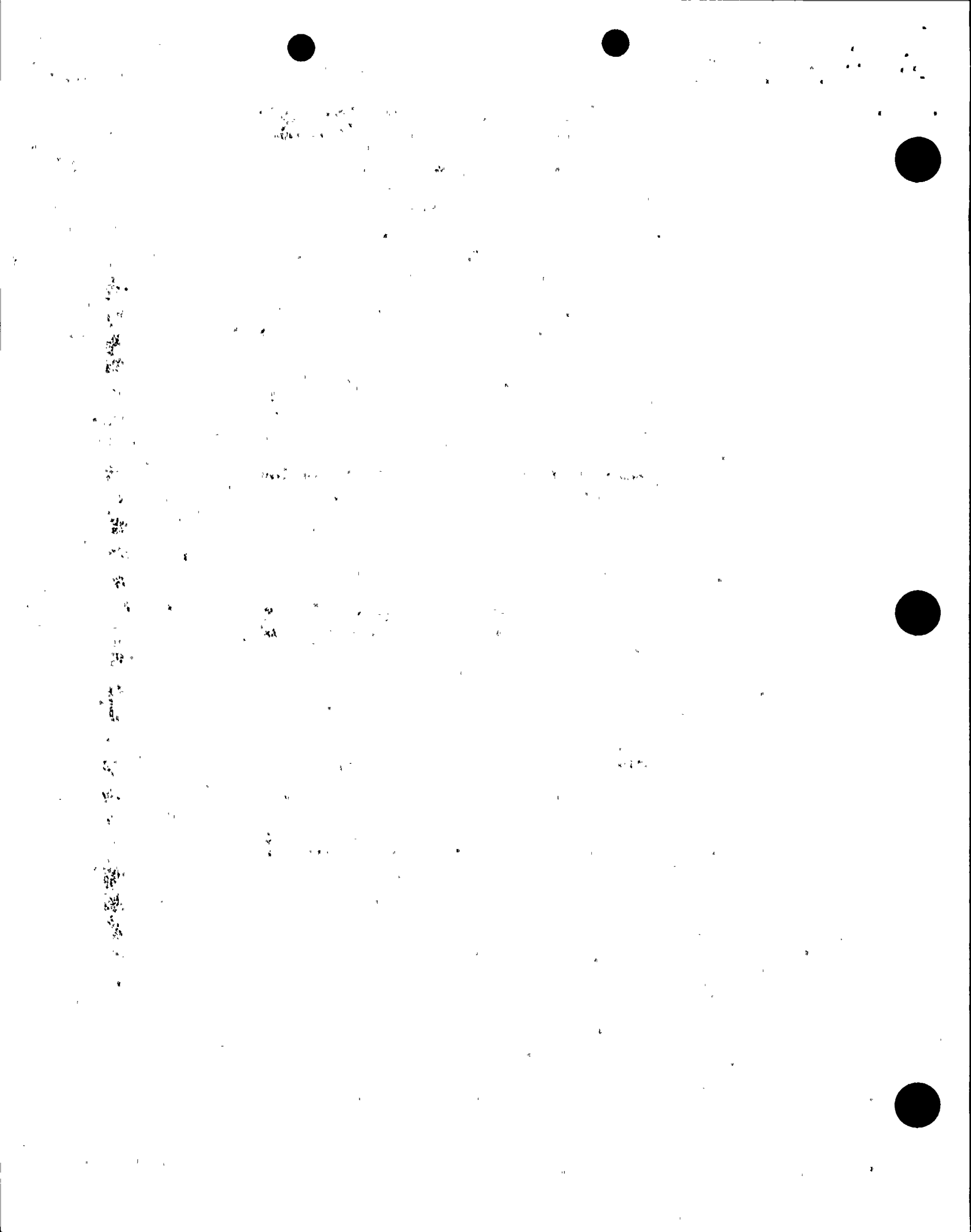
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1. INTRODUCTION

Throughout the service life of a water-cooled nuclear power facility, 10 CFR 50.55a(g)(4) (Reference 1) requires that components (including supports) which are classified as American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code Class 1, Class 2, and Class 3 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," (Reference 2) to the extent practical within the limitations of design, geometry, and materials of construction of the components. This section of the regulations also requires that inservice examinations of components and system pressure tests conducted during the initial 120-month inspection interval shall comply with the requirements in the latest edition and addenda of the Code incorporated by reference in 10 CFR 50.55a(b) on the date 12 months prior to the date of issuance of the operating license, subject to the limitations and modifications listed therein. The components (including supports) may meet requirements set forth in subsequent editions and addenda of this Code which are incorporated by reference in 10 CFR 50.55a(b) subject to the limitations and modifications listed therein. The Licensee, Niagara Mohawk Power Corporation, has prepared the Nine Mile Point Nuclear Station, Unit 2, First 10-Year Interval Inservice Inspection (ISI) Program Plan, Revision 0, to meet the requirements of the 1983 Edition, Summer 1983 Addenda (83S83) of the ASME Code Section XI with the following exceptions: (1) the extent of examination for Code Class 1 piping welds has been determined by the 1974 Edition through Summer 1975 Addenda (74S75), as permitted by 10 CFR 50.55a(b), and (2) the extent of examination for Code Class 2 piping welds has been determined by ASME Code Case N-408, "Alternative Rules for Examination of Class 2 Piping." The first 10-year inspection interval began March 11, 1988 and ends March 11, 1998.



As required by 10 CFR 50.55a(g)(5), if the licensee determines that certain Code examination requirements are impractical and requests relief from them, the licensee shall submit information and justifications to the Nuclear Regulatory Commission (NRC) to support that determination.

Pursuant to 10 CFR 50.55a(g)(6), the NRC will evaluate the licensee's determinations under 10 CFR 50.55a(g)(5) that Code requirements are impractical. The NRC may grant relief and may impose alternative requirements that are determined to be authorized by law, will not endanger life or property or the common defense and security, and are 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.

The information in the Nine Mile Point Nuclear Station, Unit 2, First 10-Year Interval ISI Program Plan, Revision 0 (Reference 3), submitted July 30, 1987, was reviewed, including the requests for relief from the ASME Code Section XI requirements which the Licensee has determined to be impractical. The review of the ISI Program Plan was performed using the Standard Review Plans of NUREG-0800 (Reference 4), Section 5.2.4, "Reactor Coolant Boundary Inservice Inspections and Testing," and Section 6.6, "Inservice Inspection of Class 2 and 3 Components."

In a letter dated November 25, 1987 (Reference 5), the NRC requested additional information that was required in order to complete the review of the ISI Program Plan. The Licensee responded by letter dated February 12, 1988 (Reference 6).

In Section 2 of this report, the ISI Program Plan is evaluated for (a) compliance with the appropriate edition/addenda of Section XI, (b) acceptability of examination sample, (c) exclusion criteria, and (d) compliance with ISI-related commitments identified during the NRC's review before granting an Operating License.

The requests for relief are evaluated in Section 3 of this report. Unless otherwise stated, references to the Code refer to the ASME Code, Section XI, 1983 Edition including Addenda through Summer 1983. Specific inservice test (IST) programs for pumps and valves are being evaluated in other reports.



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2. EVALUATION OF INSERVICE INSPECTION PROGRAM PLAN

This evaluation consisted of a review of the applicable program documents to determine whether or not they are in compliance with the Code requirements and any license conditions pertinent to ISI activities. This section describes the submittals reviewed and the results of the review.

2.1 Documents Evaluated

- (a) Nine Mile Point Nuclear Station, Unit 2, First 10-Year Interval ISI Program Plan, Revision 0, submitted July 30, 1987; and
- (b) Letter, dated February 12, 1988, Licensee's response to the NRC's RAI.

2.2 Compliance with Code Requirements

2.2.1 Compliance with Applicable Code Editions

The Inservice Inspection Program Plan shall be based on the Code editions defined in 10 CFR 50.55a(g)(4) and 10 CFR 50.55a(b). Based on the Operating License date of October 31, 1986, the Code applicable to the first 10-year inspection interval ISI program plan is the 1983 Edition with Addenda through Summer 1983. As stated in Section 1 of this report, the Licensee has written the Nine Mile Point Nuclear Station, Unit 2, First 10-Year Interval ISI Program Plan, Revision 0, to meet the requirements of the 1983 Edition, Summer 1983 Addenda of the Code with the following exceptions: (1) the extent of examination for Code Class 1 piping welds has been determined by the 1974 Edition through Summer 1975 Addenda, as permitted by 10 CFR 50.55a(b), and (2) the extent of examination for Code Class 2 piping welds has been determined by ASME Code Case N-408, "Alternative Rules for Examination of Class 2 Piping, Section XI, Division 1." Code Case N-408 is referenced in Regulatory Guide 1.147, Revision 5 (Reference 7), as an NRC-approved code case and, therefore, may be used.



2.2.2 Acceptability of the Examination Sample

Inservice volumetric, surface, and visual examinations shall be performed on ASME Code Class 1, 2, and 3 components and their supports using sampling schedules described in Section XI of the ASME Code and 10 CFR 50.55a(b). Sample size and weld selection have been implemented in accordance with the Code and appear to be correct.

2.2.3 Exclusion Criteria

The criteria used to exclude components from examination shall be consistent with Paragraphs IWB-1220, IWC-1220, IWC-1230, IWD-1220, and 10 CFR 50.55a(b). The exclusion criteria have been applied by the Licensee in accordance with the Code as discussed in the ISI Program Plan and appear to be correct.

2.2.4 Augmented Examination Commitments

In addition to the requirements as specified in Section XI of the ASME Code, the Licensee has committed to perform the following augmented examinations:

- (a) High Energy Lines Penetrating Containment - Augmented examinations will be performed on high energy piping in the containment penetration region in the Main Steam, Reactor Core Isolation Cooling (Steam Supply), Feedwater, and Reactor Water Clean-Up Systems in accordance with NUREG-0800, Standard Review Plans, Section 3.6.1, "Plant Design for Protection Against Postulated Piping Failures in Fluid Systems Outside Containment."
- (b) Ultrasonic examination of Reactor Pressure Vessel welds during ISI will be in compliance with Regulatory Guide 1.150, "Ultrasonic Testing of Reactor Vessel Welds During Preservice and Inservice Examinations," Revision 1 (Reference 8).



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The Licensee states that the augmented examination requirements of NUREG-0313, "Technical Report on Material Selection and Processing Guidelines for BWR Coolant Pressure Boundary Piping," Revision 1 (Reference 9), and NUREG-0619, "BWR Feedwater Nozzle and Control Rod Drive Return Line Nozzle Cracking" (Reference 10), are not applicable to the Nine Mile Point Nuclear Station, Unit 2, ISI Program Plan.

With regard to NUREG-0313, the Licensee states that, although the NDE procedures used for stainless steel components will detect and size inter-granular stress corrosion cracking (IGSCC), the materials used at Nine Mile Point, Unit 2, have all been demonstrated to be highly resistant to oxygen-assisted stress corrosion in the as-installed condition and are in complete compliance with NUREG-0313, Revision 1.

The subject of NUREG-0619 is cracking of the feedwater nozzles and control rod drive (CRD) return lines in BWRs. However, the Licensee reports that neither of these are problems at Nine Mile Point, Unit 2, since: (a) The feedwater nozzles have been redesigned by GE and a topical report issued covering this redesign has been accepted by the NRC; and (b) The potential CRD return line problem has been solved at Nine Mile Point, Unit 2, by removing the CRD return line, thus eliminating temperature transients that caused cracking in other BWR facilities.

2.3 Conclusions

Based on the review of the documents listed above, it is concluded that the Nine Mile Point Nuclear Station, Unit 2, First 10-Year Interval ISI Program Plan, Revision 0, is acceptable and in compliance with 10 CFR 50.55a(g)(4).



3. EVALUATION OF RELIEF REQUESTS

The requests for relief from the ASME Code requirements which the Licensee has determined to be impractical for the first 10-year inspection interval are evaluated in the following paragraphs.

3.1 Class 1 Components

3.1.1 Reactor Pressure Vessel

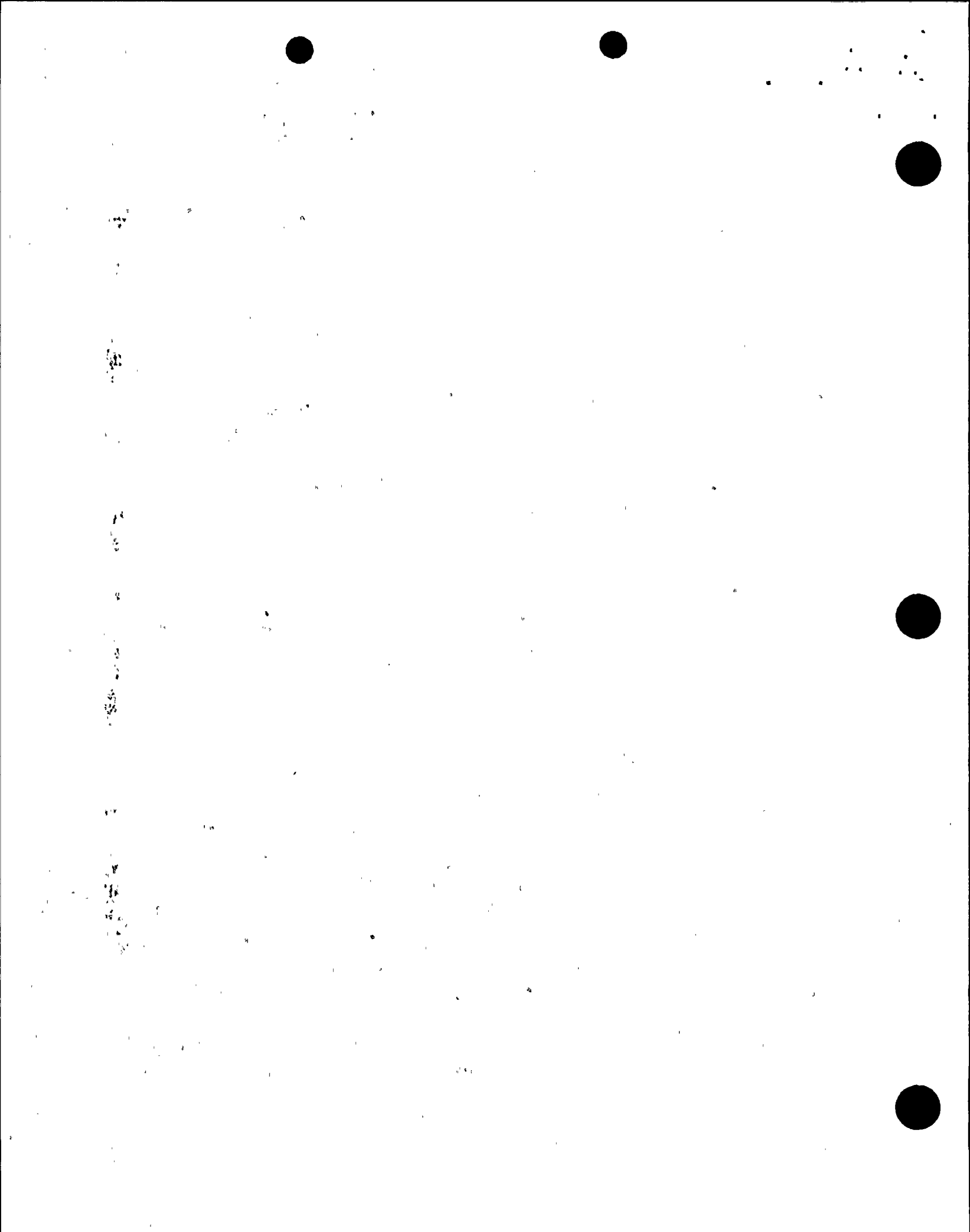
3.1.1.1 Request for Relief RR-IWB-1, Examination Category B-0, Item B14.10, Pressure Retaining Welds in Control Rod Housings

Code Requirement: Section XI, Table IWB-2500-1, Examination Category B-0, Item B14.10 requires a 100% volumetric or surface examination, as defined by Figure IWB-2500-18, of 10% of the peripheral control rod drive (CRD) housing welds.

Licensee's Code Relief Request: Relief is requested from examining 100% of the Code-required volume of 10% of the peripheral CRD housing welds.

Licensee's Proposed Alternative Examination: Section XI requires that the welds on 10% of the peripheral CRD housings be examined. The Licensee states that there are 40 peripheral CRD housings at Nine Mile Point, Unit 2, and each housing has two welds. Therefore, eight welds are required to be examined by the end of the interval. Since it is not possible to examine 100% of eight welds, five additional welds will be examined so that the aggregate total is greater than or equivalent to eight full examinations.

The welds on each CRD housing are specifically identified as either RPV-CRDH-OXXA or RPV-CRDH-OXXB. Table 2 of the relief request shows the number of A and B welds selected, the degrees of examination, and the aggregate. Table 3 of the relief



request shows the specific welds selected for examination, the extent of examination, and the obstruction that prevents full examinations.

The Licensee feels that examining the additional welds fulfills the 10% sampling requirement specified by Section XI. In addition, all Code-required system leakage and hydrostatic tests will be performed.

Licensee's Basis for Requesting Relief: The Licensee states that the accessibility for examination is limited for all peripheral CRD housing welds due to inherent obstructions caused by the surrounding cables, tubing, and foundations. As stated in Table 1 of the relief request, the extent of circumferential examination of these welds ranges from 0 to 270 degrees. It is not practical to remove or replace these obstructions due to the congestion in the CRD assembly area.

Evaluation: The examination of the subject welds, to the extent required by the Code, is impractical because the welds are obstructed by the adjacent CRD housings, cables, tubing, and foundations. The alternative examination proposed by the Licensee will provide examination of an aggregate weld length total that is greater than or equivalent to the Code requirement.

Conclusions: Based on the above evaluation, it is concluded that the proposed alternative examination ensures an acceptable level of inservice structural integrity. Compliance with the specific requirements of Section XI would result in hardship or unusual difficulties without a compensating increase in the level of quality and safety. Therefore, it is recommended that relief be granted as requested.



3.1.1.2 Request for Relief RR-IWB-2, Examination Category B-D, Item B3.90, Reactor Pressure Vessel Nozzle-to-Shell Welds

Code Requirement: Section XI, Table IWB-2500-1, Examination Category B-D, Item B3.90 requires a 100% volumetric examination of the reactor pressure vessel (RPV) nozzle-to-vessel welds as defined by Figure IWB-2500-7.

Licensee's Code Relief Request: Relief is requested from examining 100% of the Code-required volume of the following RPV nozzle-to-shell welds:

2RPV-KA01	2RPV-KA09	2RPV-KA21
2RPV-KA02	2RPV-KA10	2RPV-KA22
2RPV-KA03	2RPV-KA11	2RPV-KA23
2RPV-KA04	2RPV-KA12	2RPV-KA24
2RPV-KA05	2RPV-KA17	2RPV-KA25
2RPV-KA06	2RPV-KA18	2RPV-KA26
2RPV-KA07	2RPV-KA19	2RPV-KA32
2RPV-KA08	2RPV-KA20	

Licensee's Proposed Alternative Examination: The Licensee states that volumetric examinations will be performed to the maximum extent possible. A VT-1 examination will be performed on those portions which cannot be inspected by the volumetric method. All Code-required leakage and hydrostatic tests will be performed.

Licensee's Basis for Requesting Relief: The Licensee states that the automated examination of these RPV nozzle-to-shell welds is limited to the extent indicated in Table 1 of the relief request due to nozzle-to-shell blend, vessel scanner tracks, other nozzles, and mechanical limitations. The extent of the worst case limitations, including descriptions and sketches, is provided in Figures 1 through 5 of the relief request.

The Licensee feels that a significant percentage of the Code-required examinations can be performed, and that in order to fully comply with the Section XI requirements, a major redesign effort would be required.



Evaluation: The Licensee's relief request has been reviewed, including the sketches which show the examination limitations for the individual nozzles. The volumetric examination of the subject welds, to the extent required by the Code, is impractical because the present design of the reactor pressure vessel and/or nozzles prohibits complete examination.

Conclusions: Based on the above evaluation, it is concluded that the limited Section XI volumetric examination of the subject welds, along with the VT-1 examination and Code-required leakage and hydrostatic tests, ensures an acceptable level of inservice structural integrity. Compliance with the specific requirements of Section XI would result in hardship or unusual difficulties without a compensating increase in the level of quality and safety. Therefore, it is recommended that relief be granted as requested.

3.1.1.3 Request for Relief RR-IWB-3, Examination Category B-A, Items B1.11 and B1.12, Pressure Retaining Shell Welds in the Reactor Pressure Vessel

Code Requirement: Section XI, Table IWB-2500-1, Examination Category B-A, Items B1.11 and B1.12 require a 100% volumetric examination of the RPV circumferential and longitudinal shell welds as defined by Figures IWB-2500-1 and -2.

Licensee's Code Relief Request: Relief is requested from examining 100% of the Code-required volume of the following RPV shell welds:

Circumferential Welds (Item B1.11)

2RPV-AA	2RPV-AC
2RPV-AB	2RPV-AD

Longitudinal Welds (Item B1.12)

2RPV-BA	2RPV-BD	2RPV-BG
2RPV-BB	2RPV-BE	2RPV-BH
2RPV-BC	2RPV-BF	2RPV-BJ



Licensee's Proposed Alternative Examination: None. The Licensee states that volumetric examinations will be performed to the maximum extent possible. All Code-required leakage and hydrostatic tests will be performed.

Licensee's Basis for Requesting Relief: The Licensee states that the automated examination of the RPV shell welds listed above is partially limited due to vessel weld transitions, RPV stabilizers, RPV ID plate, nozzles, and mechanical limitations of the scanning equipment. The extent and causes of the specific limitations are shown in Table 1 of the relief request.

Evaluation: Based on the Licensee's submittal, it is noted that a significant percentage of the Code-required volumetric examination of the subject welds, as well as the Code-required leakage and hydrostatic tests, will be performed. The volumetric examination of these welds, to the extent required by the Code, is impractical because of the limitations discussed above. To fully comply with the Section XI requirements would necessitate major redesign of the RPV stabilizers, nozzles, etc., along with modifications of the mechanical scanning equipment.

Conclusions: Based on the above evaluation, it is concluded that the limited Section XI volumetric examination of the subject welds, along with the Code-required leakage and hydrostatic tests, ensures an acceptable level of inservice structural integrity. Compliance with the specific requirements of Section XI would result in hardship or unusual difficulties without a compensating increase in the level of quality and safety. Therefore, it is recommended that relief be granted as requested.



3.1.1.4 Request for Relief RR-IWB-7, Examination Category B-A, Items B1.21, B1.22, and B1.40, Reactor Pressure Vessel Circumferential and Meridional Head Welds and Head-to-Flange Weld

Code Requirement: Section XI, Table IWB-2500-1, Examination Category B-A, Items B1.21 and B1.22 require a 100% volumetric examination of the reactor pressure vessel circumferential and meridional head welds as defined by Figure IWB-2500-3. Item B1.40 requires both 100% surface and volumetric examinations of the reactor pressure vessel head-to-flange weld as defined by Figure IWB-2500-5.

Licensee's Code Relief Request: Relief is requested from examining 100% of the Code-required volume of the following reactor pressure vessel top head and bottom head welds:

<u>Item No.</u>	<u>Weld Number</u>	<u>Item No.</u>	<u>Weld Number</u>
B1.22	RPV-DA	B1.22	RPV-DF
B1.22	RPV-DB	B1.21	RPV-DG
B1.22	RPV-DC	B1.21	RPV-DR
B1.22	RPV-DD	B1.40	RPV-AG
B1.22	RPV-DE		

Licensee's Proposed Alternative Examination: None. The Licensee states that volumetric examinations will be performed to the maximum extent possible, including the use of additional angles when examining head-to-flange weld RPV-AG. Surface examinations for weld RPV-AG and leakage and hydrostatic tests for all the welds will be performed as required by ASME Section XI.

Licensee's Basis for Requesting Relief: The Licensee states that accessibility for the manual volumetric examinations on the bottom head welds above is limited due to interference with the CRD penetrations and the vessel support skirt. Approximately 12 to 24 inches on each end of welds RPV-DG and DR can be examined due to interference with the CRD penetration housings. Approximately 12 inches cannot be examined on each



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of the other bottom head welds due to interference with the RPV support skirt. The top head-to-flange weld RPV-AG can only be examined from the head side due to flange configuration.

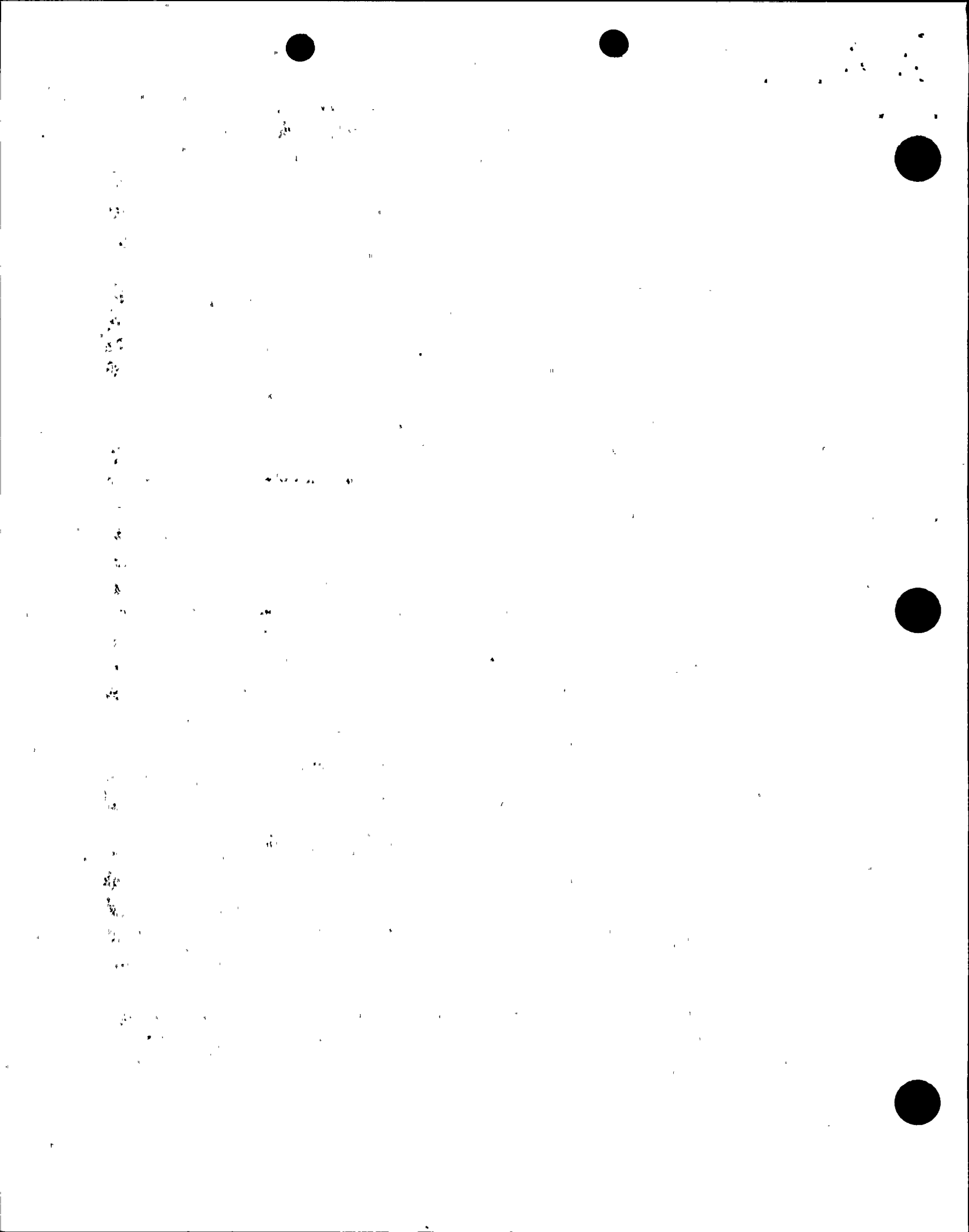
The Licensee feels that a significant percentage of the Code-required examination can be performed, and that to fully comply with the Section XI requirements would necessitate hardships or unusual difficulties without a compensating increase in the level of quality or safety.

Evaluation: The volumetric examination of the subject welds, to the extent required by the Code, is impractical because of the flange configuration for weld RPV-AG and because of the design of the bottom head assembly. An acceptable percentage of the Code-required inservice volumetric examinations will be performed. The present design of the RPV prohibits complete examination per the requirements of the Code.

Conclusions: Based on the above evaluation, it is concluded that the limited Section XI volumetric examinations of the subject welds, including the Code-required surface examination of weld RPV-AG and the Code-required leakage and hydrostatic tests, ensure an acceptable level of inservice structural integrity. Compliance with the specific requirements of Section XI would result in hardship or unusual difficulties without a compensating increase in the level of quality or safety. Therefore, it is recommended that relief be granted as requested.

3.1.1.5 Request for Relief RR-IWB-13, Examination Category B-G-1, Items B6.10 and B6.30, Reactor Pressure Vessel Bolting

Code Requirement: Section XI, Table IWB-2500-1, Examination Category B-G-1, Item B6.10 requires a 100% surface examination of the RPV closure head nuts and Item B6.30 requires both 100%



surface and volumetric examinations of the RPV closure studs, when removed, as defined by Figure IWB-2500-12.

Licensee's Code Relief Request: Relief is requested from performing the Code-required surface examination of the RPV closure head studs and nuts.

Licensee's Proposed Alternative Examination: The Licensee states that, in lieu of the surface examination, a VT-1 visual examination of all RPV studs will be performed when the studs are removed from the vessel. This will supplement the volumetric examination required by the Code.

Licensee's Basis for Requesting Relief: The Licensee reports that the reactor vessel closure head studs are Parkerized. Parkerizing, which is similar to anodizing, is a thin film deposited on the reactor vessel studs and nuts for corrosion protection. This film interferes with the ability to perform a liquid penetrant type examination on the studs. The Licensee states that the magnetic particle examination method is not practical on stud threads, as a result, surface examination methods will not provide valid results. The reactor vessel studs can be volumetrically examined in accordance with ASME Section XI requirements.

Evaluation: The Code required surface examination may be conducted by either a magnetic particle or a liquid penetrant method. The liquid penetrant type examination of the RPV closure head studs and nuts is impractical because the studs and nuts have received the corrosion treatment discussed above. However, the Licensee has not provided technical justification for not performing the magnetic particle examination of the RPV closure head studs and nuts.

Until the Licensee provides explicit technical justification to support the determination that the magnetic particle



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examination of the RPV closure head studs and nuts is impractical, the granting of relief should not be considered.

Conclusions: Based on the above evaluation, it is concluded that the Licensee may be able to perform the Code-required surface examination of the RPV closure head studs and nuts using the magnetic particle method. Therefore, relief should be denied until the Licensee provides explicit technical justification to support the determination that the magnetic particle examination of the RPV closure head studs and nuts is impractical.

3.1.2 Pressurizer (Does not apply to BWRs)

3.1.3 Heat Exchangers and Steam Generators (No relief requests)

3.1.4 Piping Pressure Boundary

3.1.4.1 Request for Relief RR-IWB-4, Examination Category B-K-1, Item B10.10, Integral Welded Attachments for Class 1 Piping

Code Requirement: Section XI, Table IWB-2500-1, Examination Category B-K-1, Item B10.10 requires a 100% volumetric or surface examination, as defined by Figures IWB-2500-13, -14, and -15, of integrally welded attachments on Class 1 piping whose attachment base material design thickness is 5/8 inch and greater.

Licensee's Code Relief Request: Relief is requested from examining 100% of the Code-required volume or surface of the following Main Steam and Feedwater piping integral attachments to supports:

<u>Weld Numbers</u>	<u>Interference</u>
2FWS-47-13-FW312 through 315	Permanent plate
2FWS-47-14-FW304 through 307	Permanent plate
2FWS-47-18-FW300 through 305	Permanent plate
2MSS-01-13-FW320 through 323	Permanent clamp
2MSS-01-13-FW324 through 331	Permanent plate



(continued)

<u>Weld Numbers</u>	<u>Interference</u>
2MSS-01-14-FW320 through 323	Permanent plate
2MSS-01-14-FW334 through 337	Permanent plate
2MSS-01-15-FW310 through 317	Permanent clamp
2MSS-01-15-FW320 through 323	Permanent plate
2MSS-01-15-FW332 through 335	Permanent clamp
2MSS-01-16-FW308 through 315	Permanent clamp
2MSS-01-16-FW324 through 327	Permanent plate
2MSS-01-16-FW334, 336, 338	Permanent plate

Licensee's Proposed Alternative Examination: None. The Licensee states that the required surface or volumetric examinations will be performed to the maximum extent possible.

Licensee's Basis for Requesting Relief: The Licensee states that the accessibility for examination of the integral attachment welds listed above is limited to approximately 75% of the required weld examination area due to permanent interferences.

The Licensee feels that a significant percentage of the Code-required examination can be performed, and that in order to fully comply with the Section XI requirements would require redesign or an unusually large quantity of manhours without a compensating increase in the level of quality or safety.

Evaluation: The volumetric or surface examination of the subject welds, to the extent required by the Code, is impractical because of the permanent interferences listed above. An acceptable percentage (approximately 75%) of the Code-required examination of these welds will be performed. The present design of these piping attachments prohibits complete examination per the requirements of the Code.

Conclusions: Based on the above evaluation, it is concluded that the limited Section XI examination of the subject welds



ensures an acceptable level of inservice structural integrity. Compliance with the specific requirements of Section XI would result in hardship or unusual difficulties without a compensating increase in the level of quality and safety. Therefore, it is recommended that relief be granted as requested.

3.1.4.2 Request for Relief RR-IWB-5 (Part 1 of 2), Examination Category B-F, Item B5.10, Reactor Pressure Vessel Nozzle-to-Safe End Weld, and Examination Category B-J, Item B9.11, Pressure Retaining Circumferential Welds in Class 1 Piping

NOTE: See the evaluation of this request for relief under Section 3.1.7.1 of this report.

3.1.4.3 Request for Relief RR-IWB-6, Examination Category B-J, Items B9.11 and B9.31, Pressure Retaining Welds in Class 1 Piping

Code Requirement: Section XI, Table IWB-2500-1, Examination Category B-J, Items B9.11 and B9.31 require both 100% volumetric and surface examinations of the Class 1 circumferential piping welds and branch pipe connection welds, nominal pipe size 4 inches and greater, as defined by Figures IWB-2500-8, -9, -10, and -11.

Licensee's Code Relief Request: Relief is requested from examining 100% of the Code-required volume of the following stainless steel piping welds in the Reactor Coolant, Residual Heat Removal, and Reactor Water Cleanup systems:

<u>Item No.</u>	<u>Weld Number</u>	<u>Configuration</u>	<u>Examination from</u>
B9.11	2RCS-64-00-SW003	pipe-to-flange	pipe side only
B9.11	2RCS-64-00-FWA01	pipe-to-safe end	pipe side only
B9.11	2RCS-64-00-FWA05	elbow-to-pump	elbow side only
B9.11	2RCS-64-00-FWB01	pipe-to-safe end	pipe side only
B9.11	2RCS-64-00-FWB08	elbow-to-valve	elbow side only
B9.11	2RCS-64-00-FWB12	pipe-to-sweepolet	pipe side only
B9.31	2RCS-64-00-SW017	pipe-to-sweepolet	pipe side only



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<u>Item No.</u>	<u>Weld Number</u>	<u>Configuration</u>	<u>Examination from</u>
B9.31	2RCS-64-00-SW051	pipe-to-sweepolet	pipe side only
B9.31	2RCS-64-00-FWA24	pipe-to-sweepolet	pipe side only
B9.11	2RHS-66-55-FW001	pipe-to-tee	pipe side only
B9.11	2WCS-09-05-SW025	pipe-to-flange	pipe side only
B9.11	2WCS-09-05-SW020	pipe-to-tee	pipe side only

Licensee's Proposed Alternative Examination: None. The Licensee states that, although the Section XI Code-required coverage for volumetric examination cannot be obtained, the latest UT techniques will be employed and the results compared to the baseline data. All Code-required surface examinations, leakage, and hydrostatic tests will be performed.

Licensee's Basis for Requesting Relief: The Licensee states that the accessibility for volumetric examination for these welds is limited due to piping system design and fitting configuration. The specific fitting configuration and side from which the examination can be performed are listed above. These welds can only be examined from one side using the UT techniques specified on the applicable line of the matrix contained in the relief request.

The Licensee feels that one-sided scans and the surface examinations that will be employed provide a reasonable degree of confidence in the integrity of these welds.

Evaluation: For all of the subject welds, except the sweepolet welds, the volumetric examination to the extent required by the Code is impractical because of the piping system design and fitting configuration. These systems would have to be redesigned and refabricated in order to complete the remainder.

In the letter dated November 25, 1987, the NRC requested that the Licensee provide further justification to support the determination of impracticality for the sweepolet welds and



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discuss the attempts that have been made to examine the welds from the sweepolet side.

The Licensee's response to the NRC's RAI with regard to this relief request states:

"The subject welds were not examined from the sweepolet side during the Preservice Inspection (PSI). In our judgement, we determined that it was impractical to perform examinations from the sweepolet side due to the ID/OD relationship. Relief Request No. RR-IWB-6 was based on the PSI determination.

"These welds will be reinspected during the mid-cycle outage presently scheduled for September of 1988. During these inspections we will attempt to examine the welds from the sweepolet side. Upon completion of these inspections, RR-IWB-6 will be revised to incorporate the results of the examinations."

Until the additional information is submitted and RR-IWB-6 is revised, the granting of relief should not be considered since the sweepolet welds may not require relief. If relief is still required after the welds are examined, the revised relief request should discuss the attempts that have been made to examine the pipe-to-sweepolet welds from the sweepolet side, provide explicit technical justification to support the determination of impracticality, and estimate the percentage of the Code-required examination that cannot be performed.

Conclusions: Sweepolet welds: Based on the above evaluation, it is concluded that the Licensee may be able to perform the Code-required volumetric examination of all or significant portions of the pipe-to-sweepolet welds for which relief is requested. Therefore, relief for the sweepolet welds should be denied until the information as discussed above is submitted by the Licensee.

All other welds (pipe-to-flange, pipe-to-safe end, elbow-to-pump, elbow-to-valve, and pipe-to-tee): Based on the above evaluation, it is concluded that the limited Section XI volumetric examination, along with the Code-required surface



examinations, leakage, and hydrostatic tests, ensure an acceptable level of inservice structural integrity. Compliance with the specific requirements of Section XI would result in hardship or unusual difficulties without a compensating increase in the level of quality and safety. Therefore, for all of the welds other than the sweepolet welds, relief should be granted as requested.

3.1.4.4 Request for Relief RR-IWB-8, Examination Category B-F, Item B5.10, Reactor Pressure Vessel Nozzle-to-Safe End Weld, and Examination Category B-J, Item B9.11, Class 1 Pressure Retaining Circumferential Piping Weld

Code Requirement: Section XI, Table IWB-2500-1, Examination Category B-F, Item B5.10 requires both 100% volumetric and surface examination of the RPV nozzle-to-safe end welds, nominal pipe size 4 inches or greater, as defined by Figure IWB-2500-8.

Examination Category B-J, Item B9.11 requires both 100% volumetric and surface examinations of the pressure retaining circumferential welds, nominal pipe size 4 inches or greater, of Class 1 piping as defined by Figure IWB-2500-8.

Licensee's Code Relief Request: Relief is requested from examining 100% of the Code-required volume of RPV instrumentation nozzle-to-safe end butt welds RPV-KB29 and 30 (nozzle 9) and circumferential piping weld 2-RCS-64-00-FWA06.

Licensee's Proposed Alternative Examination: None. The Licensee states that volumetric examinations will be performed to the maximum extent possible, employing the latest UT techniques as described in Attachment 1 of the relief request. All Code-required surface examinations, leakage, and hydrostatic tests will be performed.



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Licensee's Basis for Requesting Relief: The Licensee states that the volumetric examination of these welds is impaired due to interferences caused by varying degrees of austenitic weld overlays. The ultrasonic responses encountered during the performance of the PSI examination are described in the report contained in Attachment 1 of the relief request.

Although Class 1 piping welds are sampled and another weld could have been chosen that did not have an interfering condition, it is felt that this particular weld is subject to unique stress conditions because it attaches to a Reactor Coolant Pump. Therefore, a limited examination of this weld provides more meaningful data than a complete examination on some other weld which experiences similar stress conditions to other examined welds.

Evaluation: As discussed in Attachment 1 of the relief request, a study was performed on a representative sample of the austenitic piping systems due to the beam redirection problems encountered during examination of the stainless steel piping at Nine Mile Point, Unit 2. It was concluded that a beam redirection condition existed in virtually all longitudinal and circumferential shop welds. This condition was observed when a 45 degree transducer was placed on the crown of the weld and a 0 degree reflection from the weld I.D. resulted. Rotating the transducer 180 degrees on the weld still resulted in this 0 degree reflection. Longitudinal and shear wave modes both exhibited this characteristic. Consequently, neither the 45 degree shear nor longitudinal beam was penetrating the weld at the desired angle.

From this study, the Licensee concluded the following:

- "1. *Scanning on or through the weld itself was ineffective.*
2. *A one-sided examination would be a limited examination whenever the weld was required to be penetrated.*



3. *The upper 2/3 T examination area would be limited to examination of the weld fusion zone only.*
4. *To address this condition, an Examination Matrix would have to be established to identify every weld configuration that would be encountered in the field. Each of these examination conditions would then be given a letter designation and then matched to a corresponding technique or set of techniques to achieve the coverage requirements of the specific procedure being used.*
5. *For the examination of field welds within the upper 2/3T, the matrix would include the option of using shear wave techniques to examine the fusion zone if the longitudinal wave method exhibited beam redirection or if weld contour problems precluded effective examination. This is consistent with the established methodology used with shop welds.*
6. *Examination of the inner 1/3T Code-required volume and area of IGSCC concern would be optimized by the use of two angles and would be scanned at IGSCC sensitivity for the entire examination."*

The volumetric examination of the subject welds, to the extent required by the Code, is impractical because of the limitations caused by the varying degrees of austenitic weld overlays. The limited volumetric examination, along with the Code-required surface examinations and leakage and hydrostatic tests, will provide adequate assurance of the continued structural integrity of the piping.

The Licensee should continue to monitor the development of new or improved examination techniques. As improvements in these areas are achieved, the Licensee should incorporate these techniques in the next inspection interval ISI program plan examination requirements.

Conclusions: Based on the above evaluation, it is concluded that the limited Section XI volumetric examinations of the subject welds, along with the Code-required surface examinations and leakage and hydrostatic tests, ensure an acceptable level of inservice structural integrity. Compliance



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with the specific requirements of Section XI would result in hardship or unusual difficulties without a compensating increase in the level of quality and safety. Therefore, it is recommended that relief be granted as requested.

3.1.4.5 Request for Relief RR-IWB-9, Examination Category B-F, Item B5.10, Reactor Pressure Vessel Nozzle-to-Safe End Welds

Code Requirement: Section XI, Table IWB-2500-1, Examination Category B-F, Item B5.10 requires both 100% volumetric and surface examinations of the RPV nozzle-to-safe end welds, nominal pipe size 4 inches or greater, as defined by Figure IWB-2500-8.

Licensee's Code Relief Request: Relief is requested from examining 100% of the Code-required volume of the following RPV nozzle-to-safe end welds:

<u>Weld No.</u>	<u>Nozzle No.</u>	<u>Extent of Coverage %</u>		<u>Cause of Limitation</u>
		<u>Perp.</u>	<u>Parallel</u>	
RPV-KB01	N1A	64.9	100	Nozzle blend
RPV-KB02	N1B	75.4	85.2	Nozzle blend
RPV-KB03	N2A	71.3	94.3	Nozzle blend
RPV-KB04	N2B	76.6	100	Nozzle blend
RPV-KB05	N2C	74.3	91.4	Nozzle blend
RPV-KB06	N2D	76.6	100	Nozzle blend
RPV-KB07	N2E	69	100	Nozzle blend
RPV-KB08	N2F	76.6	100	Nozzle blend
RPV-KB09	N2G	76.6	100	Nozzle blend
RPV-KB10	N2H	64.4	67.9	Nozzle blend
RPV-KB11	N2J	76.6	100	Nozzle blend
RPV-KB12	N2K	68.2	76.8	Nozzle blend
RPV-KB17	N4A	66.1	75.5	Nozzle blend, Insulation support
RPV-KB18	N4B	61.7	74.8	Nozzle blend, Insulation support
RPV-KB19	N4C	22.7	22.5	Nozzle blend, Insulation support
RPV-KB20	N4D	75.9	94.4	Nozzle blend, Insulation support
RPV-KB21	N4E	45.3	40.1	Nozzle blend, Insulation support
RPV-KB22	N4F	56	66.5	Nozzle blend, Insulation support
RPV-KB23	N5A	36.5	43.7	Nozzle blend, Insulation support
RPV-KB24	N6A	40.2	58.9	Nozzle blend, Insulation support



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Weld No.	Nozzle No.	Extent of Coverage %		Cause of Limitation
		Perp.	Parallel	
RPV-KB25	N6B	45.2	54.3	Nozzle blend
RPV-KB26	N6C	60.5	61.8	Nozzle blend
RPV-KB32	N16A	30.9	31.1	Nozzle blend, Bioshield wall

Licensee's Proposed Alternative Examination: The Licensee states that volumetric examinations will be performed to the maximum extent possible employing the ultrasonic testing (UT) techniques described in Attachment 1 of the relief request. All Code-required surface examinations, leakage, and hydrostatic tests will be performed.

Licensee's Basis for Requesting Relief: The Licensee states that the automated examination of these welds is physically limited to the extent indicated above due to nozzle blend, insulation supports, and the bioshield wall. Other limitations, due to the inability of the examination to distinguish the weld root from the inside diameter notch on the calibration standard, are discussed in Attachment 1 of the relief request.

Attachment 1 of the relief request states:

"Relief on the limited examination volume of the 45 degree L axial examination is required: The limited volume is the perpendicular examination of the inner 1/3T (Approx.) to 1/2 inch on both sides of the weld centerline. This volume was scanned and recorded; however, the ability to evaluate is minimal due to signals from the weld root. The pictorial data from this area are preserved on UDRPS as a baseline for direct comparison to ISI data.

"During the 45 degree perpendicular examination on both calibration blocks (N1 and N2), the indication from the notch could not be distinguished from the root indication. Both calibration blocks had the weld root ground off for just a long enough distance to put in the notch. Even though we are using a 45 degree longitudinal wave there are also some dissimilar material and beam skew indications. The beam skew indications are the result of dendrites, and can occur at a depth of from (0.7)(T) to beyond (T), whenever the ultrasonic beam enters the weld in the 45 degree longitudinal axial examination.



"Since this examination cannot distinguish weld root from the ID (inside diameter) notch, we cannot "size" to code requirements in the root area of the weld.

"The 0 degree examination establishes the existence and location of ID Geometry; however, dissimilar materials, because of their different velocities, sometimes show up as slight thickness changes. It is therefore possible to establish if a particular angle beam indication is probably coming from geometry or a dissimilar metal interface.

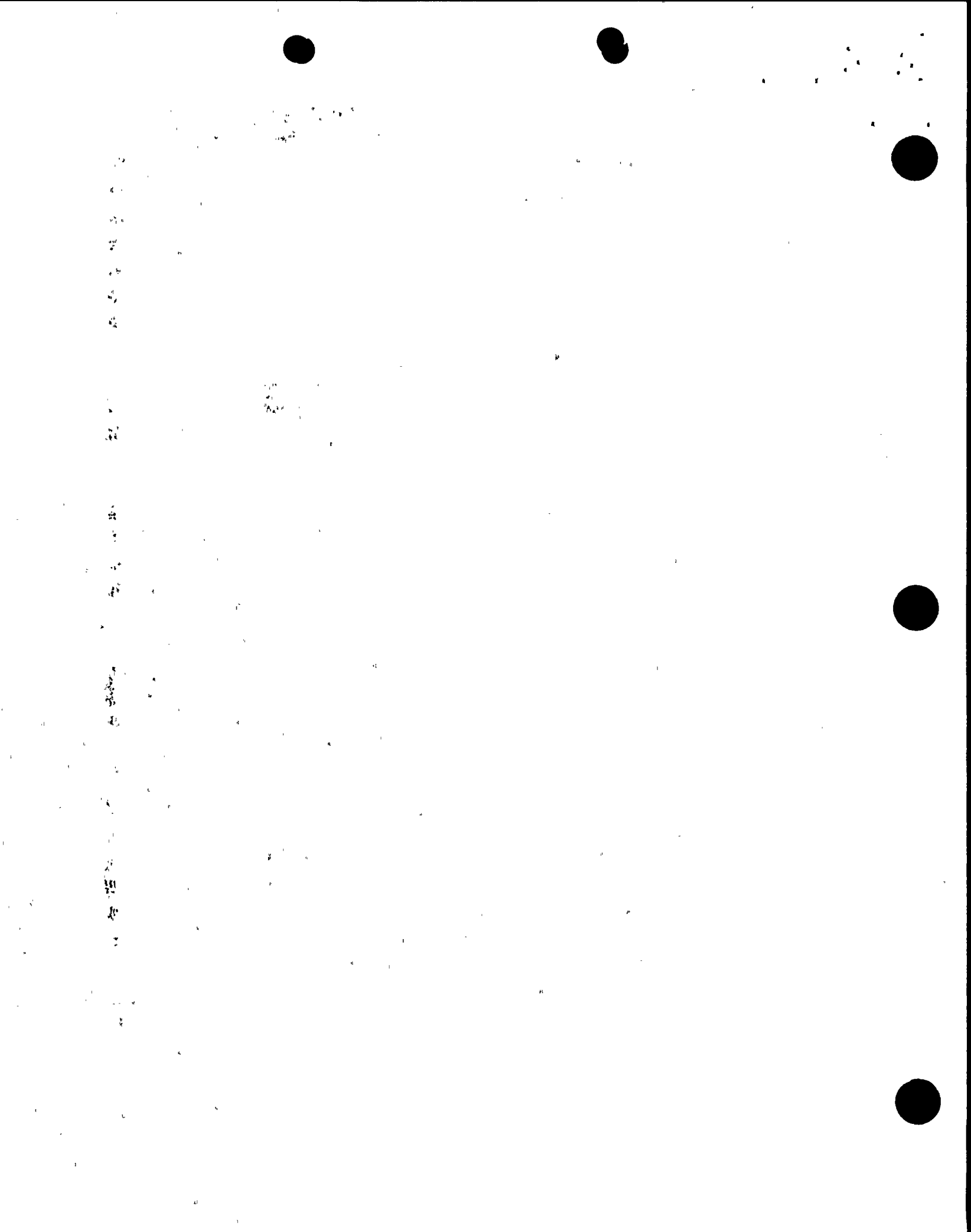
"Manual examination cannot reduce any detection or discrimination problems. Special manual techniques may help in sizing specific indicators.

"The additional "unlimited" examinations performed on this volume are:

- o The 45 degree L parallel examination with the sensitivity increased to provide a noise level suitable for IGSCC baseline data.
- o A perpendicular baseline IGSCC examination covering the inner 1/3T in the safe end material with a 52 degree shear wave.
- o The specific weld inspection data sheet defines in detail the extent of coverage obtained from each examination performed."

Evaluation: The subject welds are partially inaccessible; however, significant portions of the perpendicular and parallel ultrasonic coverage of the nozzles can and will be completed. The ability to evaluate flaws in the weld root area is limited because of the method of fabricating these nozzle-to-safe end welds.

With regard to the limitation due to dissimilar material and beam skew, the development of new or improved examination techniques should continue to be monitored. As improvements in these areas are achieved, the Licensee should incorporate these techniques in the next inspection interval ISI program plan examination requirements.



Conclusions: Based on the above evaluation, it is concluded that the limited Section XI volumetric examinations of the subject welds, along with the Code-required surface examinations and Code-required leakage and hydrostatic tests, ensure an acceptable level of inservice structural integrity. Compliance with the specific requirements of Section XI would result in hardship or unusual difficulties without a compensating increase in the level of quality and safety. Therefore, it is recommended that relief be granted as requested.

3.1.4.6 Request for Relief RR-IWB-10, Examination Category B-J, Item B9.11, Pressure Retaining Circumferential Welds in Class 1 Piping

Code Requirement: Section XI, Table IWB-2500-1, Examination Category B-J, Item B9.11 requires both 100% volumetric and surface examinations of the Class 1 circumferential piping welds 4 inches and greater nominal pipe size as defined by Figure IWB-2500-8.

Licensee's Code Relief Request: Relief is requested from performing 100% of the Code-required volumetric examination of Recirculation System piping welds 2RCS-64-00-FWA17, FWB19, and FWA21.

Licensee's Proposed Alternative Examination: None. The Licensee states that volumetric examination will be performed to the maximum extent possible employing the latest ultrasonic testing techniques as described in Attachment 1 of the relief request. All Code-required surface examinations, leakage, and hydrostatic tests will be performed.

Licensee's Basis for Requesting Relief: The Licensee states that the volumetric examination of the subject welds is limited to approximately 25% of the required volume due to the



following reasons: (a) the piping system design and fitting configuration allows inspection from only one side (the pipe side) of the weld; and (b) there is austenitic weld overlay on the weld that interferes with the ultrasonic examination.

The ultrasonic responses encountered while performing the examinations are described in the report contained in Attachment 1 of the relief request. Other welds in the system that are subject to similar operating conditions receive complete ASME Code Section XI volumetric examinations.

Although Class 1 piping welds are sampled and another weld could have been chosen that did not have an interfering condition, it is felt that these particular welds reflect higher stress conditions. Therefore, a limited examination of these welds provides more meaningful data than a complete examination on another weld which experiences minimum stress or stress conditions similar to other examined welds.

Evaluation: As discussed in Attachment 1 of the relief request, a study was performed on a representative sample of the austenitic piping systems due to the beam redirection problems encountered during examination of the stainless steel piping at Nine Mile Point, Unit 2. It was concluded that a beam redirection condition existed in virtually all longitudinal and circumferential shop welds. This condition was observed when a 45 degree transducer was placed on the crown of the weld and a 0 degree reflection from the weld I.D. resulted. Rotating the transducer 180 degrees on the weld still resulted in this 0 degree reflection. Longitudinal and shear wave modes both exhibited this characteristic. Consequently, neither the 45 degree shear nor longitudinal beam was penetrating the weld at the desired angle.

From this study, the Licensee concluded the following:

- "1. Scanning on or through the weld itself was ineffective.



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2. *A one-sided examination would be a limited examination whenever the weld was required to be penetrated.*
3. *The upper 2/3 T examination area would be limited to examination of the weld fusion zone only.*
4. *To address this condition, an Examination Matrix would have to be established to identify every weld configuration that would be encountered in the field. Each of these examination conditions would then be given a letter designation and then matched to a corresponding technique or set of techniques to achieve the coverage requirements of the specific procedure being used.*
5. *For the examination of field welds within the upper 2/3T, the matrix would include the option of using shear wave techniques to examine the fusion zone if the longitudinal wave method exhibited beam redirection or if weld contour problems precluded effective examination. This is consistent with the established methodology used with shop welds.*
6. *Examination of the inner 1/3T Code-required volume and area of IGSCC concern would be optimized by the use of two angles and would be scanned at IGSCC sensitivity for the entire examination."*

The volumetric examination of the subject welds, to the extent required by the Code, is impractical because of the limitations caused by the varying degrees of austenitic weld overlays and the fitting configuration. The limited volumetric examination, along with the Code-required surface examinations and leakage and hydrostatic tests, will provide adequate assurance of the continued structural integrity of the piping.

The development of new or improved examination techniques should continue to be monitored. As improvements in these areas are achieved, the Licensee should incorporate these techniques in the next inspection interval ISI program plan examination requirements.

Conclusions: Based on the above evaluation, it is concluded that the limited Section XI volumetric examination, along with the Code-required surface examinations and leakage and



hydrostatic tests, ensure an acceptable level of inservice structural integrity. Compliance with the specific requirements of Section XI would result in hardships or unusual difficulties without a compensating increase in the level of quality and safety. Therefore, it is recommended that relief be granted as requested.

3.1.5 Pump Pressure Boundary

3.1.5.1 Request for Relief RR-IWB-11, Examination Category B-L-2, Item B12.20, Internal Surfaces of Class 1 Pump Casings

Code Requirement: Section XI, Table IWB-2500-1, Examination Category B-L-2, Item B12.20 (pump casings) requires a visual examination (VT-3) of the internal surfaces of at least one pump in each group of pumps performing similar functions in the system. This examination may be performed on the same pump selected for volumetric examination of welds. This examination may be performed at the end of the 10-year interval.

Licensee's Code Relief Request: The Licensee requests relief from performing the Code-required visual examination (VT-3) of internal surfaces of the pump casings of reactor coolant recirculation pumps 2RCS-P1A and 2RCS-P1B.

Licensee's Proposed Alternative Examination: None. The Licensee states that, as standard maintenance practice dictates, when a recirculation pump is disassembled for maintenance, a VT-3 examination of the internal casing pressure boundary surfaces will be performed. The pump maintenance procedure will address the need for this examination while the pump is disassembled.

Licensee's Basis for Requesting Relief: The Licensee states:
"The basis for this relief request is predicated on the following two points:

1. *The hardships associated with pump disassembly far exceeds*



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any beneficial safety improvements that might be achieved by such an examination; and

2. The structural integrity afforded by the pump casing material utilized will not significantly degrade over the lifetime of the pump.

"It is expected that approximately 1000 man-hours and 50 man-rem exposure would be required to disassemble, inspect, and reassemble one pump. Performing this visual examination under adverse conditions such as high dose rate (30-40 R/hr) and poor as-cast surface condition, realistically, provides little additional information as to the pump casing integrity.

"The recirculation pump casing material, cast stainless steel (ASTM A351-CF-8M), is widely used in the nuclear industry and has performed extremely well. The presence of some delta ferrite (typically 5% or more) imparts substantially increased resistance to intergranular stress corrosion cracking. The delta ferrite also results in improved pitting corrosion resistance in chloride containing environments."

The Licensee feels that adequate safety margins are inherent in the basic pump design and that the health and safety of the public will not be adversely affected by performing the visual examination of the pump internal pressure boundary surfaces only when the pumps are required to be disassembled for maintenance. Furthermore, both pumps will be VT-2 examined every refueling outage during leakage tests and once in the interval during hydrostatic tests.

Evaluation: The visual examination is to determine whether unanticipated severe degradation of the casing is occurring due to phenomena such as erosion, corrosion, or cracking. However, previous experience during examination of pumps at other plants has not shown any significant degradation of pump casings. The concept of visual examination if the pump is disassembled for maintenance is acceptable. The disassembly of the pumps for the sole purpose of inspection is a major effort and, in addition to the possibility of additional wear or damage to the internal surfaces of the pumps, could result in personnel receiving large amounts of radiation exposure. However, if the pumps are disassembled for maintenance, the internal surfaces



would be examined, in which case relief would not be required for those particular pumps.

Conclusions: Based on the above evaluation, it is concluded that compliance with the specific requirements of Section XI would result in hardship or unusual difficulties without a compensating increase in the level of quality and safety. Therefore, it is recommended that: (a) the Licensee's proposal to perform the visual examination (VT-3) of the internal surfaces of the pumps, whenever they are made accessible due to disassembly for maintenance purposes, should be accepted; and (b) relief should be granted at the end of the interval if one of the subject pumps, for which a visual examination is required, has not been disassembled for maintenance.

3.1.6 Valve Pressure Boundary

3.1.6.1 Request for Relief RR-IWB-5 (Part 2 of 2), Examination Category B-M-1, Item B12.40, Pressure Retaining Valve Body Weld

NOTE: See the evaluation of this request for relief in Section 3.1.7.1 of this report.

3.1.6.2 Request for Relief RR-IWB-12, Examination Category B-M-2, Item B12.50, Internal Surfaces of Class 1 Valve Bodies

Code Requirement: Section XI, Table IWB-2500-1, Examination Category B-M-2, Item B12.50 (Valve Body, Exceeding 4 in. Nominal Pipe Size) requires a visual examination (VT-3) of the internal surfaces of valve bodies. The examinations are limited to one valve within each group of valves that are of the same constructional design, such as globe, gate, or check valve, and manufacturing method, and that perform similar functions in the system such as containment isolation and system over-pressure protection. The examination may be performed on the same valve selected for volumetric



examination. This examination may be performed at the end of the 10-year interval.

Licensee's Code Relief Request: Relief is requested from performing the Code-required visual (VT-3) examination of all Class 1 valves greater than 4 inches nominal pipe size as listed in the relief request.

Licensee's Proposed Alternative Examination: None. The Licensee states that, when a valve within a particular valve grouping is disassembled for maintenance, the internal pressure boundary surface of the valve body will be examined to meet the Section XI requirement for that group of valves. The valve maintenance procedure will address the need for this examination.

Licensee's Basis for Requesting Relief: The Licensee reports that the Class 1 systems contain 78 of these valves, which have been divided into 35 groups based on similar functions and the same constructional design and manufacturing method. The specific valves and groups are listed in Table 1 of the relief request. If examinations were performed in accordance with the Code, 35 valves would be required to be disassembled for inspection each interval.

The Licensee states that the requirement to disassemble primary system valves for the sole purpose of performing a visual examination of the internal pressure boundary surfaces has only a very small potential of increasing plant safety margins and a very disproportionate impact on expenditures of plant manpower and radiation exposure. Furthermore, performing these visual examinations on poor as-cast surfaces provides little additional information as to the valve body integrity.

For approximately 20% of these valves, the reactor vessel core must be completely unloaded and the vessel drained to permit disassembly for examination.



The performance of both carbon and stainless cast and forged valve bodies used to construct these valves has been excellent in all BWR applications. Based on this experience and both industry and regulatory acceptance of these alloys, continued excellent service performance is anticipated.

A more practical approach, that would essentially provide an equivalent sampling program and significantly reduced radiation exposure to plant personnel, is to inspect the internal pressure boundary of only those valves that require disassembly for maintenance. This would still provide a reasonable sampling of primary system valves and give adequate assurance that the integrity of these components is being maintained.

Evaluation: The visual examination is to determine whether unanticipated severe degradation of the valve body is occurring due to phenomena such as erosion, corrosion, or cracking. However, previous experience during examination of valves at other plants has not shown any significant degradation of valve bodies. The concept of visual examination if the valve is disassembled for maintenance is acceptable. The disassembly of the valves for the sole purpose of inspection is a major effort and, in addition to the possibility of additional wear or damage to the internal surfaces of the valves, could expose personnel to large amounts of radiation. However, if the valves are disassembled for maintenance, the internal surfaces would be examined, in which case relief would not be required for those particular valves.

Conclusions: Based on the above evaluation, it is concluded that compliance with the specific requirements of Section XI would result in hardship or unusual difficulties without a compensating increase in the level of quality and safety. Therefore, it is recommended that: (a) the Licensee's proposal to perform the visual examination (VT-3) of the internal



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surfaces of the valves, whenever they are made accessible due to disassembly for maintenance, should be accepted; and (b) relief should be granted at the end of the interval if one of the subject valves, for which a visual examination is required, has not been disassembled for maintenance.

3.1.7 General

3.1.7.1 Request for Relief RR-IWB-5, Examination Category B-F, Item B5.10, Reactor Pressure Vessel Nozzle-to-Safe End Weld; Examination Category B-J, Item B9.11, Pressure Retaining Circumferential Welds in Class 1 Piping; and Examination Category B-M-1, Item B12.40, Pressure Retaining Valve Body Weld

Code Requirement: Section XI, Table IWB-2500-1, Examination Category B-F, Item B5.10 requires both 100% volumetric and surface examination of the RPV nozzle-to-safe end welds, nominal pipe size 4 inches or greater, as defined by Figure IWB-2500-8.

Examination Category B-J, Item B9.11 requires both 100% surface and volumetric examinations of the pressure retaining circumferential welds, nominal pipe size 4 inches or greater, of Class 1 piping as defined by Figure IWB-2500-8.

Examination Category B-M-1, Item B12.40 requires a 100% volumetric examination of the Class 1 valve body welds, nominal pipe size 4 inches and greater, as defined by Figure IWB-2500-17.

Licensee's Code Relief Request: Relief is requested from examining 100% of the Code-required volume of the following welds:



<u>Item No.</u>	<u>Weld Number</u>	<u>% Access. for Vol. Exam.</u>	<u>Interference</u>
B9.11	2ICS-57-07-FW021	85%	Socket-o-let
B9.11	2MSS-01-13-FW007	95%	Valve taper
B9.11	2MSS-01-15-SW014	98%	Permanent Weld-o-let
B9.11	2MSS-01-15-FW006	98%	Permanent restraint
B5.10	RPV-KB-13	98%	Permanent welded attachment
B12.40	VWHYV7B	90%	Valve body configuration

Licensee's Proposed Alternative Examination: None. The Licensee states that volumetric examination will be performed to the maximum extent possible. Surface examinations, when required, and all system leakage and hydrostatic tests will be performed as required by ASME Section XI.

Licensee's Basis for Requesting Relief: The Licensee states that the accessibility for volumetric examination of these welds is limited due to permanent interferences. With the exception of one weld, all welds are capable of receiving 90% or greater examination coverage. The Licensee states that an ASME Section XI Code Committee is currently working on a Code case and associated Code revision to allow a 10% reduction in coverage, provided that the reduction in coverage is due to access or configuration conditions. Additionally, the Licensee feels that adequate confidence in weld integrity can be achieved because the corresponding weld, on other piping loops which experience nearly identical condition, can be 100% examined.

Evaluation: The volumetric examination of the subject welds, to the extent required by the Code, is impractical because of the obstructions discussed above. A significant percentage of the Code-required volumetric examinations will be performed. Other similar welds, on other piping loops which experience nearly identical conditions, will receive full Code



examinations. Thus, the overall inservice integrity of the pressure boundary will be verified by sampling.

Conclusions: Based on the above evaluation, it is concluded that the limited Section XI volumetric examinations of the subject welds, along with the surface examinations, if required, and the Code-required leakage and hydrostatic tests, ensure an acceptable level of inservice structural integrity. Compliance with the specific requirements of Section XI would result in hardship or unusual difficulties without a compensating increase in the level of quality and safety. Therefore, it is recommended that relief be granted as requested.

3.2 Class 2 Components

3.2.1 Pressure Vessels

3.2.1.1 Request for Relief RR-IWC-5 (Part 1 of 3), Examination Categories C-A and C-B, Pressure Retaining Vessel Welds and Pressure Retaining Nozzle-to-Vessel Welds

NOTE: See the evaluation of this request for relief under Section 3.2.5.1 of this report.

3.2.2 Piping

3.2.2.1 Request for Relief RR-IWC-2, Examination Category C-F-1, Item C5.11, Class 2 Pressure Retaining Piping Welds in the Suppression Pool Area

Code Requirement: ASME Code Case N-408, Table 2500-1, Category C-F-1, Item C5.11 requires both surface and volumetric examinations of 7.5%, but not less than 28 welds, of all non-exempt Category C-F-1 welds.



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Licensee's Code Relief Request: Relief is requested from performing the Code-required volumetric and surface examinations of the following stainless steel piping welds on the Residual Heat Removal and Core Spray Systems:

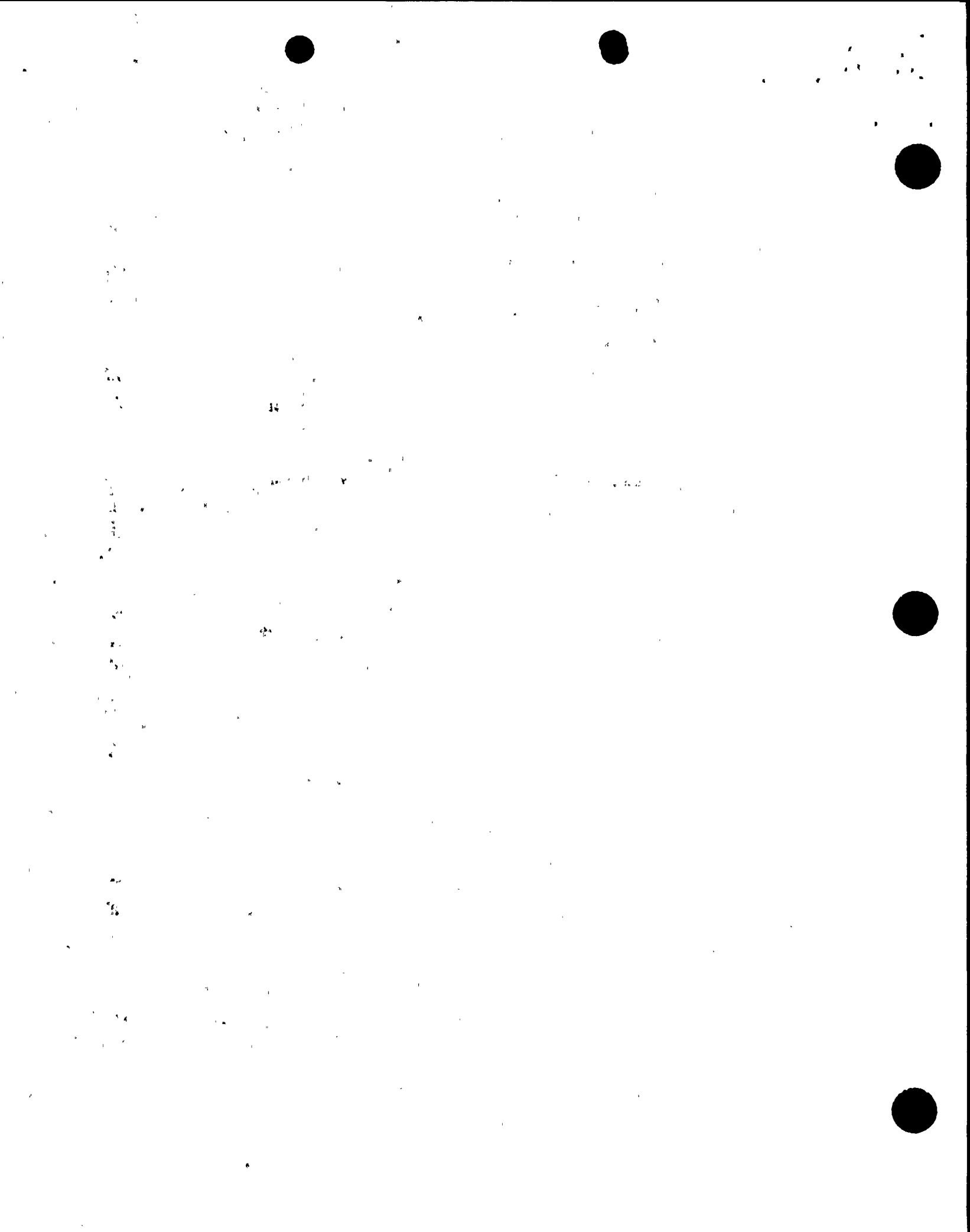
2CSH-25-05-FW012	2RHS-66-13-FW029
2CSH-25-05-FW013	2RHS-66-22-FW021
2CSH-25-05-FW014	2RHS-66-22-FW022
2CSL-26-01-FW026	2RHS-66-22-FW023
2CSL-26-01-FW027	2RHS-66-22-FW029
2CSL-26-01-FW028	2RHS-66-23-FW018
2CSL-26-01-FW035	2RHS-66-23-FW019
2RHS-66-13-FW023	2RHS-66-23-FW020
2RHS-66-13-FW024	2RHS-66-23-FW022
2RHS-66-13-FW025	

Licensee's Proposed Alternative Examination: None. The Licensee states that volumetric and surface examinations will be performed on all accessible Category C-F-1 welds.

Licensee's Basis for Requesting Relief: The Licensee reports that these welds are inaccessible for volumetric and surface examination because they are located under water in the suppression pool. Since they are on pump suction piping, which is under water, postulated cracks in these welds are not detrimental to the safety function of their associated systems.

Class 2 welds are selected for examination based on the selection process found in Code Case N-408. For stainless steel welds (Category C-F-1), this Code Case requires that 7.5% of all stainless welds, or a minimum of 28, shall be selected. Since there are only 36 Class 2 welds of this type, 28 are required per the Code Case. However, 19 are inaccessible as stated above, therefore, only 17 welds can be examined.

Evaluation: The subject welds are submerged in the suppression pool and are thus inaccessible for the Code-required volumetric and surface examinations. Therefore, the Code-required volumetric and surface examinations are impractical. All of



the accessible Category C-F-1 welds of these systems will receive volumetric and surface examinations.

Conclusions: Based on the above evaluation, it is concluded that compliance with the specific requirements of Section XI would result in hardship or unusual difficulties without a compensating increase in the level of quality and safety. Therefore, it is recommended that relief be granted as requested.

3.2.2.2 Request for Relief RR-IWC-3, Examination Category C-C, Item C3.20, Integral Welded Attachments on Class 2 Piping Submerged in the Suppression Pool

Code Requirement: Section XI, Table IWC-2500-1, Examination Category C-C, Item C3.20 requires a 100% surface examination of the integrally welded attachments on Class 2 piping as defined by Figure IWC-2500-5.

Licensee's Code Relief Request: Relief is requested from performing the Code-required surface examination of Class 2 integral attachment welds 26-01-CSL-FW313 and 26-01-CSL-FW314 on CSL pump suction piping.

Licensee's Proposed Alternative Examination: None.

Licensee's Basis for Requesting Relief: The Licensee states that these welds are inaccessible for surface examination because they are located in the suppression pool. Since these pumps are subject to testing per IWP, loss of integrity of suction piping would be detected during quarterly pressure, differential pressure, and flow rate testing.

Evaluation: The two CSL system integrally welded attachments are submerged in the suppression pool and are thus inaccessible for the Code-required surface examination. Therefore, the



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Code-required surface examination is impractical.

Conclusions: Based on the above evaluation, it is concluded that compliance with the specific requirements of Section XI would result in hardship or unusual difficulties without a compensating increase in the level of quality and safety. Therefore, it is recommended that relief be granted as requested.

3.2.2.3 Request for Relief RR-IWC-4, Examination Category C-C, Item C3.20, Control Rod Drive Piping System Integral Welded Attachments

Code Requirement: Section XI, Table IWC-2500-1, Examination Category C-C, Item C3.20 requires a 100% surface examination of the integrally welded attachments on Class 2 piping as defined by Figure IWC-2500-5.

Licensee's Code Relief Request: Relief is requested from examining 100% of the Code-required surface of the 144 Class 2 integral attachment welds on piping lugs to the Control Rod Drive System listed in the relief request.

Licensee's Proposed Alternative Examination: None. The Licensee states that the surface examinations will be performed to the maximum extent possible.

Licensee's Basis for Requesting Relief: The Licensee states that the accessibility to perform surface examinations of these welds is limited due to interferences with the tube steel of their associated supports. Figure 1 of the relief request contains a sketch which shows the typical configuration of these welds, including the area accessible for surface examination and the limiting permanent interferences. The position of the tube steel relative to the lug is required for the support to perform its design function. There are 144 RDS integral attachment welds that are partially obstructed by

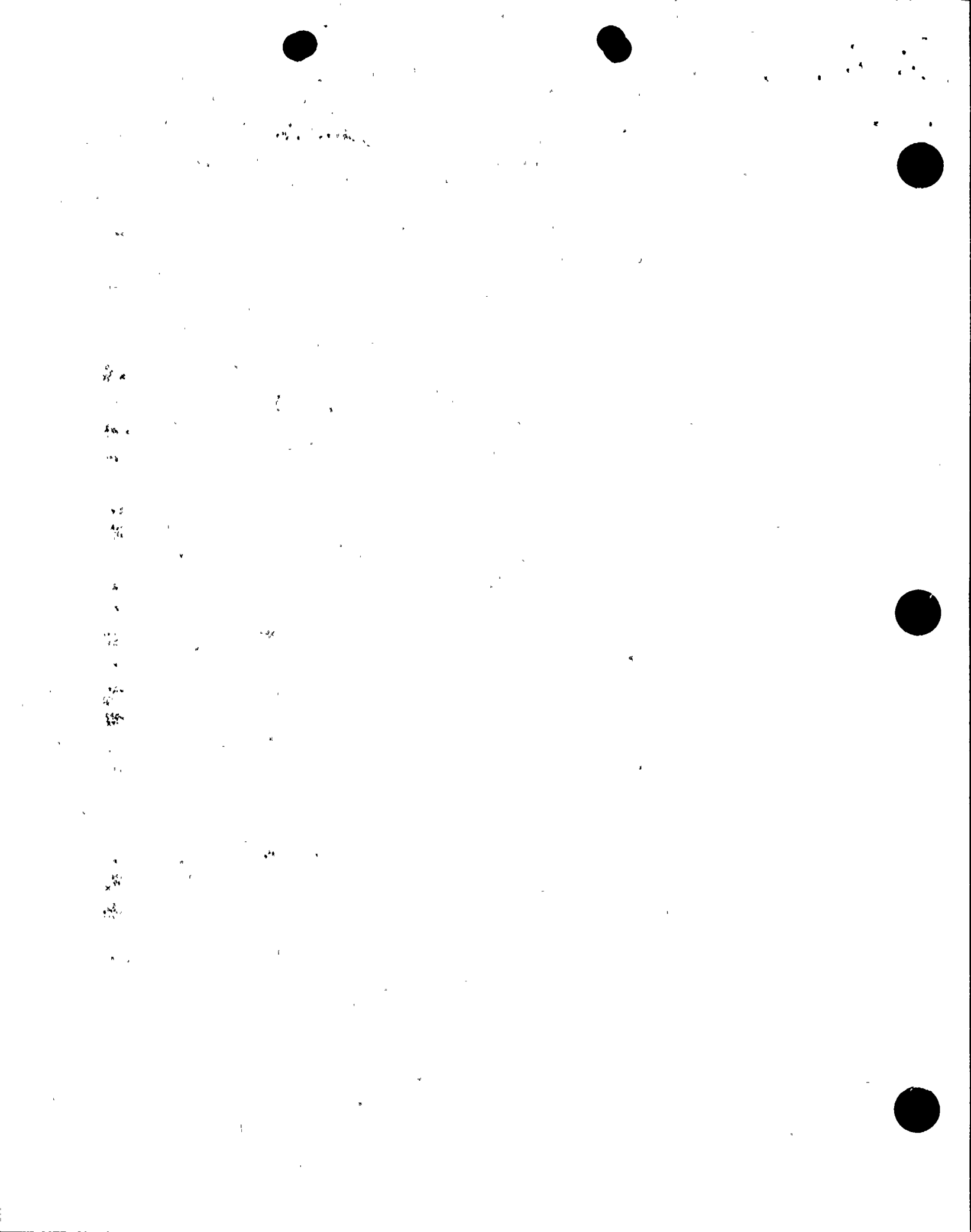


component supports. For 128 of these welds, the obstructed portion is not accessible for either magnetic particle or liquid penetrant examination. For 16 of these welds, the obstructed portion is accessible for liquid penetrant examination. However, the obstruction does not permit access to prepare the weld for examination. For all 144 welds, the unobstructed portion will be examined in accordance with Code requirements. Request for Relief RR-IWC-4 will be revised later to reflect the actual limitations for both the magnetic particle and liquid penetrant methods.

The Licensee feels that a significant portion of the Code-required examination can be performed, and that in order to fully comply with the Section XI requirements, major redesign and modification would be required without a compensating increase in the level of quality or safety.

Evaluation: Based on the access limitations and the design of the integrally welded attachments, the surface examination, to the extent required by the Code, is impractical. Major redesign and modification would be required in order to complete the remainder.

Conclusions: Based on the above evaluation, it is concluded that the limited Section XI surface examination of the subject welds ensures an acceptable level of inservice structural integrity. Compliance with the specific requirements of Section XI would result in hardship or unusual difficulties without a compensating increase in the level of quality and safety. Therefore, it is recommended that relief be granted as requested.



3.2.2.4 Request for Relief RR-IWC-5 (Part 2 of 3), Examination Categories C-C, C-F-1, and C-F-2, Piping Integrally Welded Attachments and Class 2 Pressure Retaining Piping Welds

NOTE: See the evaluation of this request for relief under Section 3.2.5.1 of this report.

3.2.3 Pumps

3.2.3.1 Request for Relief RR-IWC-1, Examination Category C-C, Item C3.30, Integral Welded Attachments on Pumps (RHR, HPCS, and LPCS Pumps), and Examination Category C-G, Item C6.10, Pressure Retaining Pump Casing Welds

Code Requirement: Section XI, Table IWC-2500-1, Examination Category C-C, Item C3.30 requires a 100% surface examination of the integrally welded attachments of Class 2 pumps as defined by Figure IWC-2500-5. Examination Category C-G, Item C6.10 requires a 100% surface examination of Class 2 pump casing welds as defined by Figure IWC-2500-8. In case of multiple pumps of similar design, size, function, and service in a system, the examination of only one pump among each group of multiple pumps is required. The examination may be performed from either the inside or outside surface of the component. The pumps initially selected for examination shall be reexamined over the service lifetime of the component.

Licensee's Code Relief Request: Relief is requested from performing the Code-required surface examinations of the casing welds and integral attachment welds for the following pumps:

Integral Attachment Welds for the Following Pumps:

2RHS*P1A/[PW121A]	2CSH*P1/[PW220, 221, 222, 223]
2RHS*P1B/[PW121B]	2CSL*P1/[PW319]
2RHS*P1C/[PW121C]	



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Casing Welds for the Following Pumps:

2RHS*P1A/[PW111A, 112A, 113A, 116A, 118A]
2RHS*P1B/[PW111B, 112B, 113B, 116B, 118B]
2RHS*P1C/[PW111C, 112C, 113C, 116C, 118C]
2CSH*P1/[PW207, 208, 209, 212, 217, 218, 219]
2CSL*P1/[PW311, 312, 315]

Licensee's Proposed Alternative Examination: None. The Licensee states that surface examinations will be performed on the welds of one of the pumps within a multiple grouping whenever required pump maintenance or repair makes the welds accessible for examination. Multiple groupings of Class 2 pumps are established in Appendix D of the examination plan, Section I.

Licensee's Basis for Requesting Relief: The Licensee reports that each of the pump casings are installed in a concrete pit, thereby making the exterior of the casing welds and the entire integral attachment welds inaccessible for surface examination. Examination of the casing welds would require either disassembly of the pump or removal of the pump from the concrete pit. Examination of the integral attachment welds would require lifting the pump from the pit. The hardships associated with pump disassembly or lifting from the concrete pit would far exceed any beneficial safety improvements that might be achieved by such an examination.

The Licensee states that, since these pumps are subject to testing per IWP, loss of integrity of the pump casing welds would be detected during quarterly pressure, differential pressure, and flow rate testing. Failure of integral attachment welds would be detected by quarterly vibration measurements. Furthermore, pump casing integrity is verified during system leakage and hydrostatic testing.

Evaluation: The concept of surface examination of the pump integral attachment and casing welds if the pump is

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disassembled for maintenance is acceptable. The disassembly of the pumps for the sole purpose of inspection is a major effort and, in addition to the possibility of additional damage to the pumps, could result in exposing personnel to large amounts of radiation. However, if the pumps are disassembled for maintenance, the welds would be examined, in which case relief would not be required for those particular pumps.

Conclusions: Based on the above evaluation, it is concluded that compliance with the specific requirements of Section XI would result in hardship or unusual difficulties without a compensating increase in the level of quality and safety. Therefore, it is recommended that: (a) the Licensee's proposal to perform the surface examination of the integral attachment and casing welds of the pumps, whenever they are made accessible due to disassembly for maintenance purposes, should be accepted; and (b) relief should be granted at the end of the interval if one of the subject pumps, for which surface examination is required, has not been disassembled for maintenance.

3.2.4 Valves

3.2.4.1 Request for Relief RR-IWC-5 (Part 3 of 3), Examination Category C-G, Valve Body Welds

NOTE: See the evaluation of this request for relief under Section 3.2.5.1 of this report.



3.2.5 General

3.2.5.1 Request for Relief RR-IWC-5, Examination Categories C-A, C-B, C-C, C-F-1, C-F-2, and C-G, Pressure Retaining Vessel Welds, Pressure Retaining Nozzle-to-Vessel Welds, Piping Integrally Welded Attachments, Class 2 Pressure Retaining Piping Welds, and Valve Body Welds, Respectively

Code Requirement: Section XI, Table IWC-2500-1, Examination Category C-A, Items C1.10 and C1.20 both require a 100% volumetric examination of the Class 2 pressure vessel shell circumferential welds at gross structural discontinuities only and head-to-shell welds as defined by Figure IWC-2500-1.

Examination Category C-B, Item C2.21 requires both 100% volumetric and surface examinations of all Class 2 nozzle-to-shell (or head) welds. Item C2.22 requires a 100% volumetric examination of all Class 2 nozzle inside radius sections. These examinations are to be as defined by Figure IWC-2500-4(a) or (b).

Examination Category C-C, Item C3.20 requires a 100% surface examination of the integrally welded attachments on Class 2 piping as defined by Figure IWC-2500-5.

ASME Code Case N-408, Table 2500-1, Category C-F-1, Item C5.11, and Category C-F-2, Item C5.51, both require 100% surface and volumetric examinations of 7.5%, but not less than 28 welds, of all non-exempt Class 2 piping welds as defined by Figure IWC-2500-7.

Examination Category C-G, Item C6.20 requires a 100% surface examination of Class 2 valve body welds as defined by Figure IWC-2500-8. In case of multiple valves of similar design, size, function, and service in a system, the examination of



only one valve among each group of multiple valves is required. The examination may be performed from either the inside or outside surface of the component.

Licensee's Code Relief Request: Relief is requested from examining 100% of the Code-required volumetric and/or surface examinations of the following welds in the Residual Heat Removal and Core Spray systems:

<u>Weld Number</u>	<u>Exam. Category/ Item Number</u>	<u>Percent Coverage Vol./Surf.</u>	<u>Interference</u>
HW-100A	C-A/C1.20	99/100	Welded attachments
HW-101A	C-A/C1.10	98/100	Adjacent nozzle weld
HW-102A	C-B/C2.21	90/100	Adjacent flange weld
HW-103A	C-B/C2.21	95/100	Sock-o-let
HW-105A	C-B/C2.22	75/100	Nozzle configuration
2CSH-25-09-FW300	C-C/C3.20	NA/55	Concrete structure
2CSH-25-09-FW305	C-C/C3.20	NA/55	Concrete structure
2RHS-66-16-FW304	C-C/C3.20	NA/95	Floor sleeve
2RHS-66-18-FW311	C-C/C3.20	NA/60	Permanent restraint
2RHS-66-18-FW312	C-C/C3.20	NA/60	Permanent restraint
2RHS-66-20-FW303	C-C/C3.20	NA/70	Permanent restraint
2RHS-66-20-FW304	C-C/C3.20	NA/70	Permanent restraint
2RHS-66-20-FW305	C-C/C3.20	NA/70	Permanent restraint
2RHS-66-20-FW306	C-C/C3.20	NA/70	Permanent restraint
2RHS-66-57-FW305	C-C/C3.20	NA/85	Permanent restraint
2RHS-66-57-FW306	C-C/C3.20	NA/85	Permanent restraint
2RHS-66-57-FW307	C-C/C3.20	NA/45	Permanent tube steel
2RHS-66-13-FW021	C-F-1/C5.11	50/100	One side S.S. exam.
2RHS-66-22-FW019	C-F-1/C5.11	50/100	One side S.S. exam.
2RHS-66-19-SW026	C-F-2/C5.51	95/100	Weld configuration
VWHCV118-C,D	C-G/C6.20	NA/80	Welded attachment
VWMOV1C-B,C,D	C-G/C6.20	NA/85	Permanent stiffener plate
VWMOV2A-A,B,C	C-G/C6.20	NA/90	Permanent stiffener plate
VWMOV112-B,C,D	C-G/C6.20	NA/85	Permanent stiffener plate

Licensee's Proposed Alternative Examination: None. The Licensee states that the required examinations will be performed to the maximum extent possible. System leakage and hydrostatic testing will be performed on all pressure retaining welds as required by ASME Section XI.



Licensee's Basis for Requesting Relief: The Licensee states that the accessibility to perform the required examinations is limited due to permanent interferences.

The Licensee feels that a significant portion of the Code-required examinations can be performed, and that in order to fully comply with the Section XI requirements, major redesign and modification would be required without a compensating increase in the level of quality or safety.

Evaluation: Due to the permanent interferences listed above, the volumetric and/or surface examinations of the subject welds, to the extent required by the Code, are impractical. A significant percentage of the Code-required examinations will be performed.

Conclusions: Based on the above evaluation, it is concluded that the limited Section XI examinations of the subject welds ensure an acceptable level of inservice structural integrity. Compliance with the specific requirements of Section XI would result in hardship or unusual difficulties without a compensating increase in the level of quality and safety. Therefore, it is recommended that relief be granted as requested.

3.3 Class 3 Components (No relief requests)

3.4 Pressure Tests (No relief requests)

3.5 General

3.5.1 Ultrasonic Examination Techniques (No relief requests)



3.5.2 Exempted Components

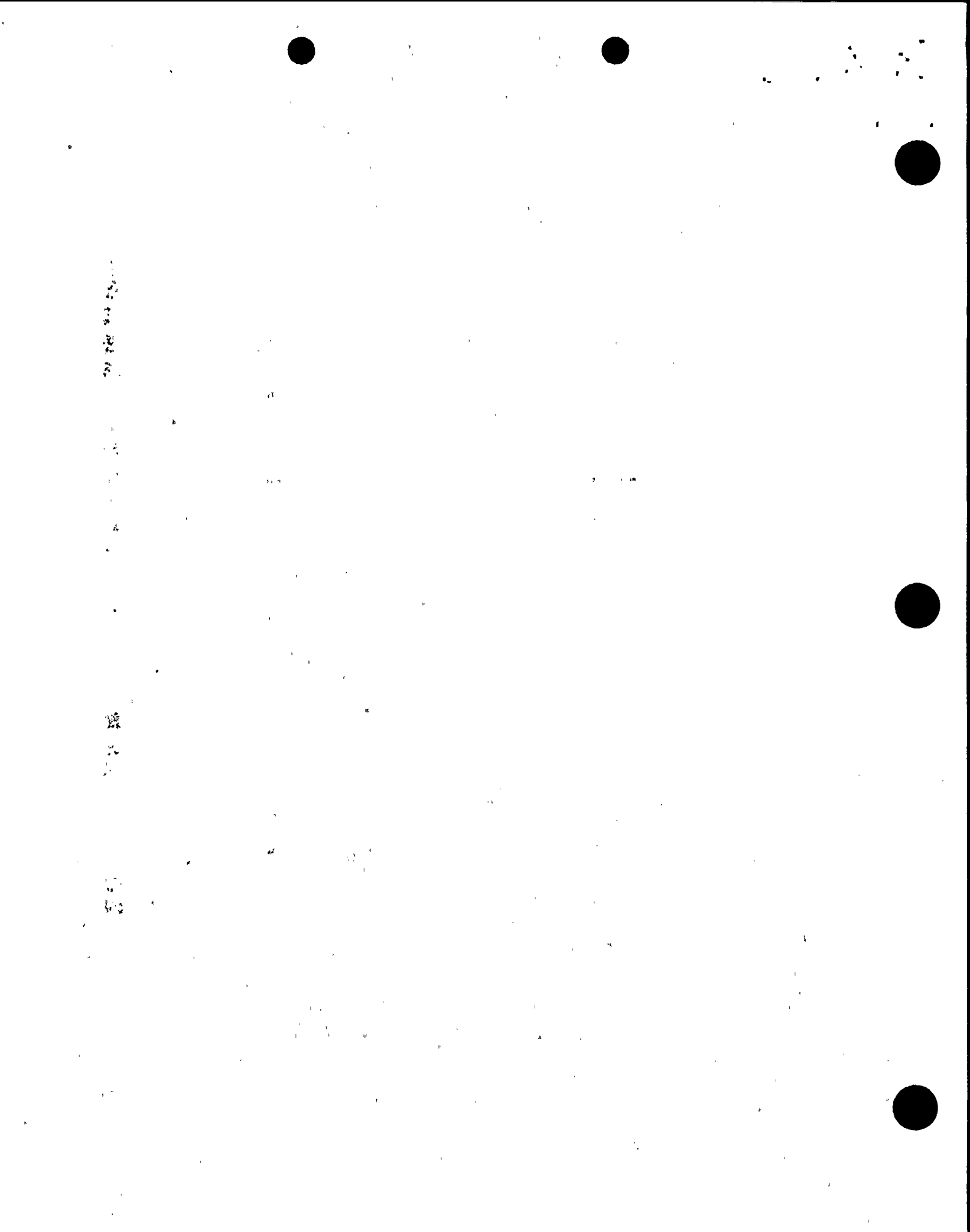
3.5.2.1 Request for Relief RR-IWD-1, Exemption from VT-3 Visual Examination of Integral Attachments and Supports for Class 3 Pressure Retaining Piping Downstream of the Last Shutoff Valve on Open-Ended Systems

Code Requirement: Section XI, paragraph IWD-2520 states that the integral attachments for component supports and restraints within the boundary of each system specified in the Examination Categories of Table IWD-2500-1 shall be subject to the VT-3 visual examination of IWA-2213. The VT-3 visual examination shall be performed at the frequency specified in Table IWD-2500-1.

Licensee's Code Relief Request: Relief is requested from performing the Code-required VT-3 visual examination of integral attachments and supports for Class 3 pressure retaining piping downstream of the last shutoff valve on open-ended systems.

Licensee's Proposed Alternative Examination: None. The Licensee states that the piping downstream of the last shutoff valve on open-ended systems will be exempted from examination of integral attachments and supports, provided that piping does not contain water during normal plant operating conditions. This portion will receive pressure tests in accordance with the requirements of Section XI.

Licensee's Basis for Requesting Relief: The Licensee proposes to exempt the portion of piping downstream of the last shutoff valve on open-ended systems provided that piping does not contain water during normal plant operating conditions. This is consistent with the exemption used for Class 2 systems, using approved Section XI Code Case N-408 and the 1983 Edition, Winter 1983 Addenda and later editions and addenda. It is the



Licensee's opinion that it is not the intent of the ASME Code for Class 3 exemptions to be more stringent than Class 2 exemptions. Furthermore, the piping in question is normally empty and is beyond or downstream of that part of the system which performs a safety related function.

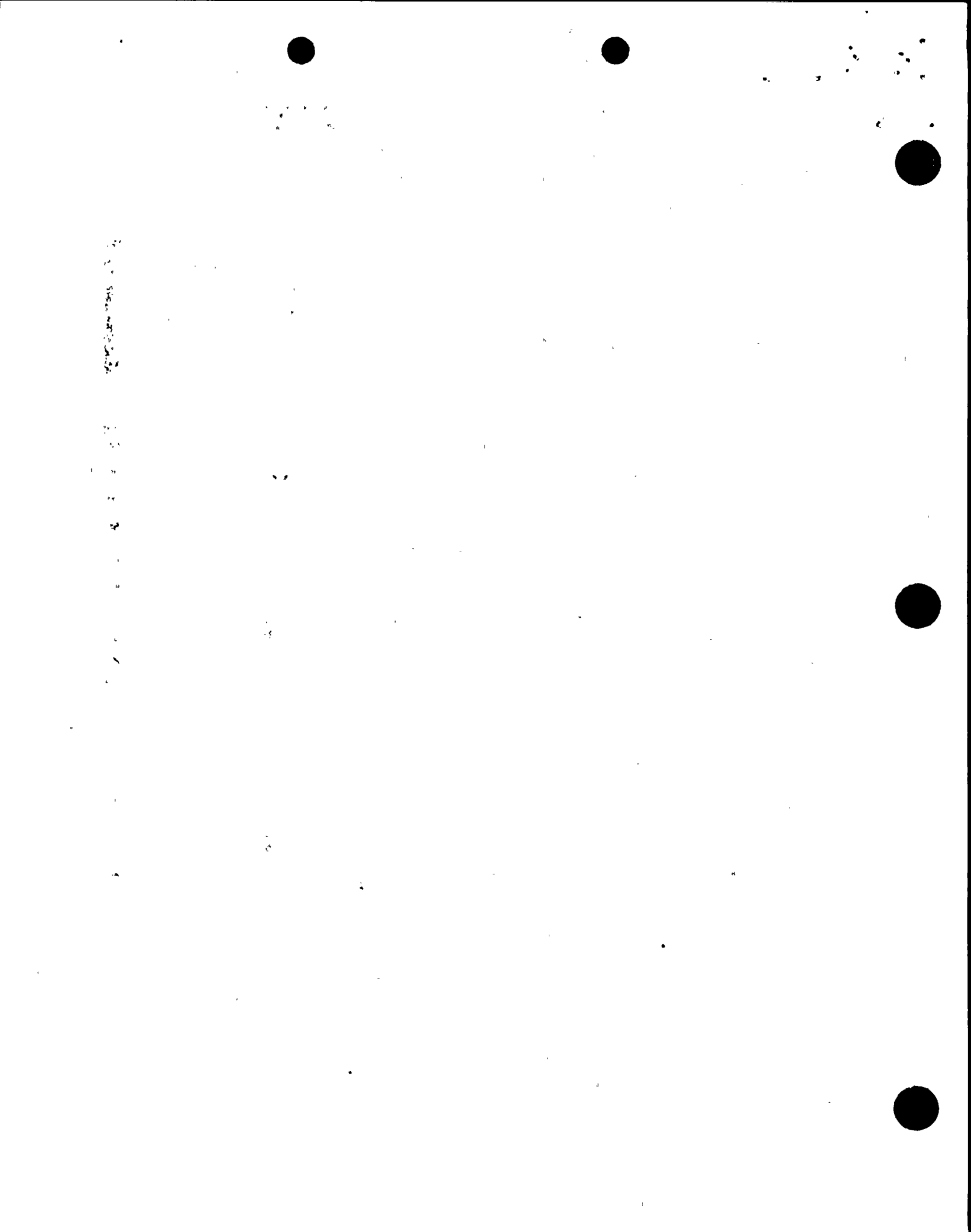
Evaluation: Section XI Code Case N-408 and 83W83 and later editions and addenda of Section XI exempt from inservice examinations Class 2 piping and other components of any size beyond the last shutoff valve in open-ended portions of systems that do not contain water during normal plant operating conditions. It is not the intent of the ASME Code for Class 3 exemptions to be more stringent than Class 2 exemptions. Failure to perform the Code-required VT-3 visual examination of the subject integral attachments and supports of the Class 3 piping downstream of the last shutoff valve on open-ended systems will not significantly affect plant quality or safety.

Conclusions: Based on the above evaluation, it is concluded that relief should be granted as requested.

3.5.3 Other

3.5.3.1 Request for Relief RR-IWF-1, Examination Category F-C, Item F3.50, Spring Type Supports, Constant Load Type Supports, Shock Absorbers, and Hydraulic and Mechanical Type Supports

Code Requirement: Section XI, Table IWF-2500-1, Examination Category F-C, Item F3.50 requires a 100% visual (VT-4) examination of spring type supports, constant load type supports, shock absorbers, and hydraulic and mechanical type snubbers as defined by Figure IWF-1300-1.



Licensee's Code Relief Request: Relief is requested from performing the Code-required visual (VT-4) examination of spring type supports, constant load type supports, shock absorbers, and hydraulic and mechanical type snubbers.

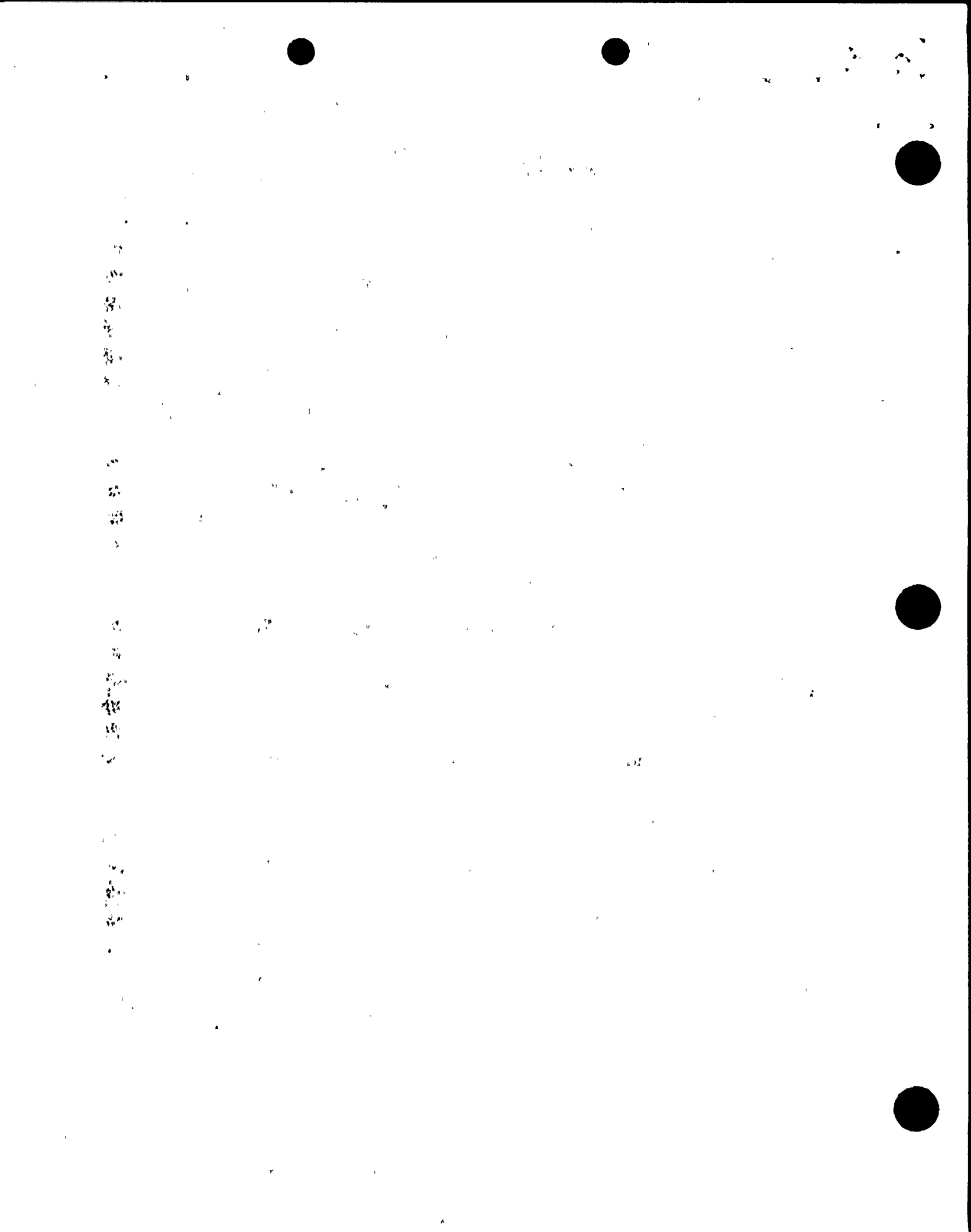
Licensee's Proposed Alternative Examination: The Licensee states that the examination method applicable to those component supports selected for examination during the first 10-year inspection interval will be limited to VT-3. The VT-3 method used will incorporate the requirements found in the definition of VT-4 as addressed in 83S83 of Section XI.

Licensee's Basis for Requesting Relief: The Licensee proposes to combine the examination requirements of both the VT-3 and VT-4 methods into one examination method known as VT-3. The definition of VT-3 as it applies to the Nine Mile Point, Unit 2, examination procedure incorporates the operability, functional adequacy, verification of settings, and freedom of motion aspects of the current VT-4 examination method.

This approach is consistent with that found in later Code editions of ASME Section XI and, therefore, reflects current and future ASME philosophy.

Evaluation: The VT-3 and VT-4 visual examinations have been combined as the VT-3 visual examination in the later editions of the Code (83W84) to more clearly define the visual examination requirements. The VT-3 visual examination requirement in 83W84 is equivalent to the Code requirements of 83S83 and, therefore, is an acceptable alternative.

Conclusions: Based on the above evaluation, it is concluded that the proposed alternative examination is equivalent to the Code-required examination and ensures an acceptable level of inservice structural integrity. Therefore, it is recommended that relief be granted as requested.



4. CONCLUSION

Pursuant to 10 CFR 50.55a(g)(6), it has been determined that certain Section XI required inservice examinations are impractical. In all cases except Requests for Relief RR-IWB-6, in part, and RR-IWB-13, the Licensee has demonstrated that either the proposed alternatives would provide an acceptable level of quality and safety or that compliance with the requirements would result in hardships or unusual difficulties without a compensating increase in the level of quality and safety. For Request for Relief Nos. RR-IWB-6, in part, and RR-IWB-13, it is concluded that the Licensee has not provided information to support the determination that the Code requirement is impractical.

This technical evaluation has not identified any practical method by which the existing Nine Mile Point Nuclear Station, Unit 2, can meet all the specific inservice inspection requirements of Section XI of the ASME Code. Requiring compliance with all the exact Section XI required inspections would require redesign of a significant number of plant systems, sufficient replacement components to be obtained, installation of the new components, and a baseline examination of these components. Even after the redesign efforts, complete compliance with the Section XI examination requirements probably could not be achieved. Therefore, it is concluded that the public interest is not served by imposing certain provisions of Section XI of the ASME Code that have been determined to be impractical. Pursuant to 10 CFR 50.55a(g)(6), relief is allowed from these requirements that are impractical to implement.

With regard to the components which will receive limited ISI examinations and for which relief is granted, the Licensee should continue to monitor the development of new or improved examination techniques. As improvements in these areas are achieved, the Licensee should incorporate these techniques in the ISI program plan examination requirements.

Based on the review of the Nine Mile Point Nuclear Station, Unit 2, First 10-Year Interval Inservice Inspection Program Plan, Revision 0, the



Licensee's response to the NRC's Request for Additional Information, and the recommendations for granting relief from the ISI examination requirements that have been determined to be impractical, it is concluded that the Nine Mile Point Nuclear Station, Unit 2, First 10-Year Interval Inservice Inspection Program Plan, Revision 0, with the exception of Requests for Relief RR-IWB-6, in part, and RR-IWB-13, is acceptable and in compliance with 10 CFR 50.55a(g)(4).

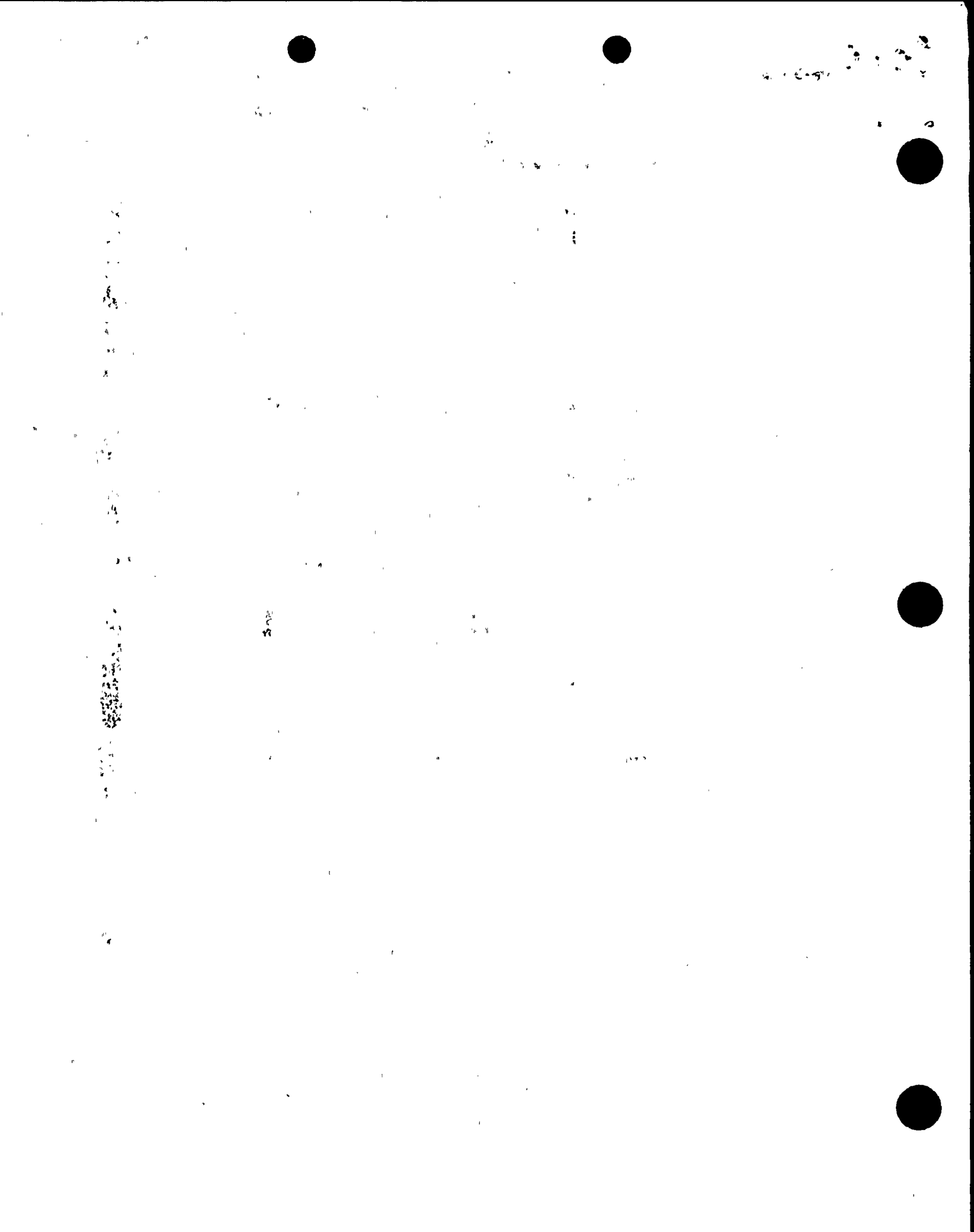


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5. REFERENCES

1. Code of Federal Regulations, Volume 10, Part 50.
2. American Society of Mechanical Engineers Boiler and Pressure Vessel Code, Section XI, Division 1:
1974 Edition through Summer 1975 Addenda
1983 Edition through Summer 1983 Addenda
3. Nine Mile Point Nuclear Station, Unit 2, First 10-Year Interval Inservice Inspection Program Plan, Revision 0, July 30, 1987.
4. NUREG-0800, Standard Review Plans, Section 3.6.1, "Plant Design for Protection Against Postulated Piping Failures in Fluid Systems Outside Containment," Section 5.2.4, "Reactor Coolant Boundary Inservice Inspection and Testing," and Section 6.6, "Inservice Inspection of Class 2 and 3 Components," July 1981.
5. Letter, dated November 25, 1987, M.F. Haughey (NRC) to C.V. Mangan [Niagara Mohawk Power Corporation (NMPC)], request for additional information.
6. Letter, dated February 12, 1988, C.V. Mangan (NMPC) to NRC, Licensee's response to the NRC's request for additional information.
7. Regulatory Guide 1.147, Revision 5, "Inservice Inspection Code Case Acceptability, ASME Section XI Division 1," August 1986.
8. Regulatory Guide 1.150, "Ultrasonic Testing of Reactor Vessel Welds During Preservice and Inservice Examinations," Revision 1, February 1983.
9. NUREG-0313, "Technical Report on Material Selection and Processing Guidelines for BWR Coolant Pressure Boundary Piping," Revision 1, July 1980.
10. NUREG-0619, "BWR Feedwater Nozzle and Control Rod Drive Return Line Nozzle Cracking," November 1980.



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13 ABSTRACT (200 words or less)

This report presents the results of the evaluation of the Nine Mile Point Nuclear Station, Unit 2, First 10-Year Interval Inservice Inspection (ISI) Program Plan, Revision 0, submitted July 30, 1987, including the requests for relief from the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code Section XI requirements which the Licensee has determined to be impractical. In Section 2 of this report, the ISI Program Plan is evaluated for (a) compliance with the appropriate edition/addenda of Section XI, (b) acceptability of the examination sample, (c) exclusion criteria, and (d) compliance with ISI-related commitments identified during the Nuclear Regulatory Commission (NRC) review before granting an Operating License. The requests for relief from the ASME Code requirements which the Licensee has determined to be impractical for the first 10-year inspection interval are evaluated in Section 3 of this report.

14 DOCUMENT ANALYSIS - a. KEYWORDS/DESCRIPTORS

b. IDENTIFIERS/OPEN-ENDED TERMS

15 AVAILABILITY STATEMENT

Unlimited

16 SECURITY CLASSIFICATION

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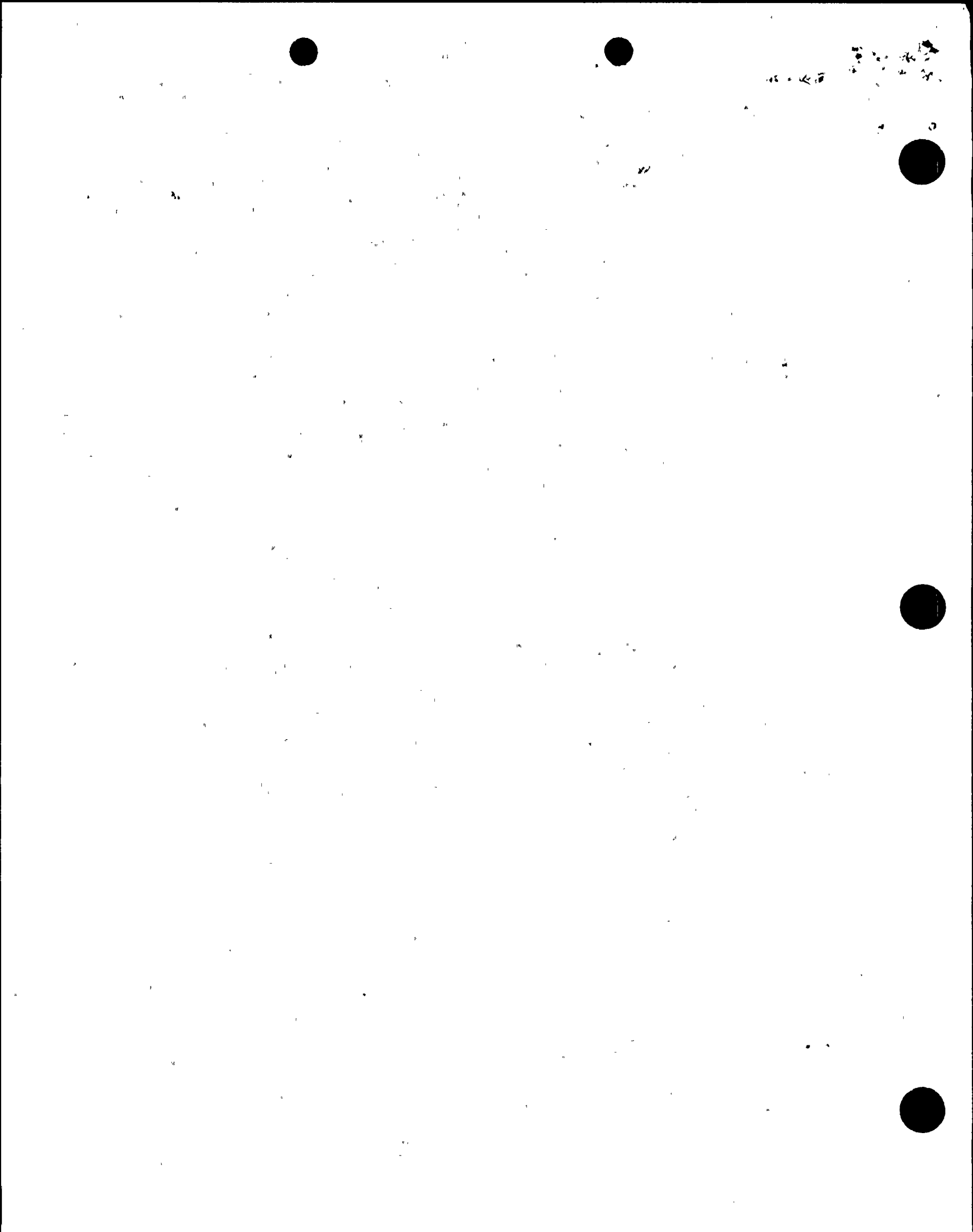
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18 PRICE



Mr. Lawrence Burkhardt III

- 2 -

The staff has denied relief from the code requirements where the necessary findings could not be made (RR-IWB-13, and RR-IWB-6 as initially submitted). The relief requested in RR-IWB-6, as revised, has been granted.

For the relief that is being granted, we have determined that the Code requirements are impractical and that the relief requests are authorized by law and will not endanger life, property or the common defense and security and are 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.

The requests for relief comply with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter 1. Accordingly, relief from certain provisions of Section XI of the ASME Boiler and Pressure Vessel Code and the applicable addenda is hereby granted, as described in the enclosed Safety Evaluation.

This completes our efforts in response to your submittals as listed above and their associated TAC Nos. 66071 and 75152.

Sincerely,
ORIGINAL SIGNED BY,

Robert A. Capra, Director
Project Directorate I-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Enclosures:

1. Safety Evaluation
2. TER No. EGG-ESM-7888

cc w/enclosures:
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2. The second part of the document discusses the specific measures that have been taken to improve the living standards of the population.

3. The third part of the document discusses the future prospects of the country and the role of the government in the development of the economy.

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