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SUBJECT: Forwards response to 970811 RAI re ASME Section XI inservice
 insp relief requests required to support Cycle 9 refueling
 outage. Response addresses listed relief requests. Withdrawal
 of relief requests 2-SPT-9, 2-SPT-11 & 2-SPT-12, requested.

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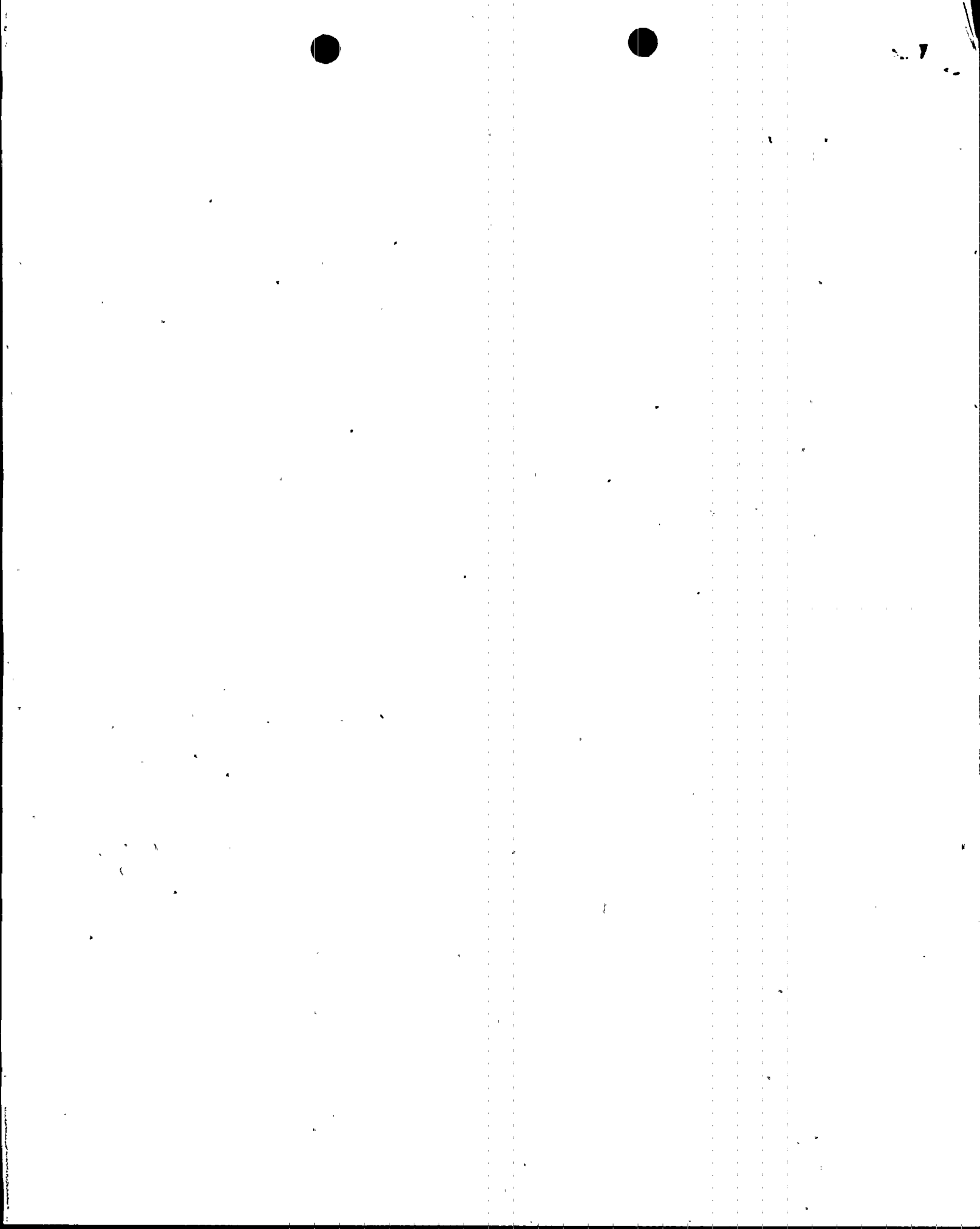
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Tennessee Valley Authority, Post Office Box 2000, Decatur, Alabama 35609-2000

Christopher M. (Chris) Crane
Vice President, Browns Ferry Nuclear Plant

September 9, 1997

10 CFR 50.55a

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

Gentlemen:

In the Matter of)
Tennessee Valley Authority)

Docket No. 50-260

BROWNS FERRY NUCLEAR PLANT (BFN) - UNIT 2 - AMERICAN SOCIETY
OF MECHANICAL ENGINEERS (ASME) SECTION XI, INSERVICE
INSPECTION AND SYSTEM PRESSURE TEST PROGRAMS - RELIEF
REQUESTS TO SUPPORT THE CYCLE 9 REFUELING OUTAGE, RESPONSE TO
REQUEST FOR ADDITIONAL INFORMATION (TAC NO. M99004)

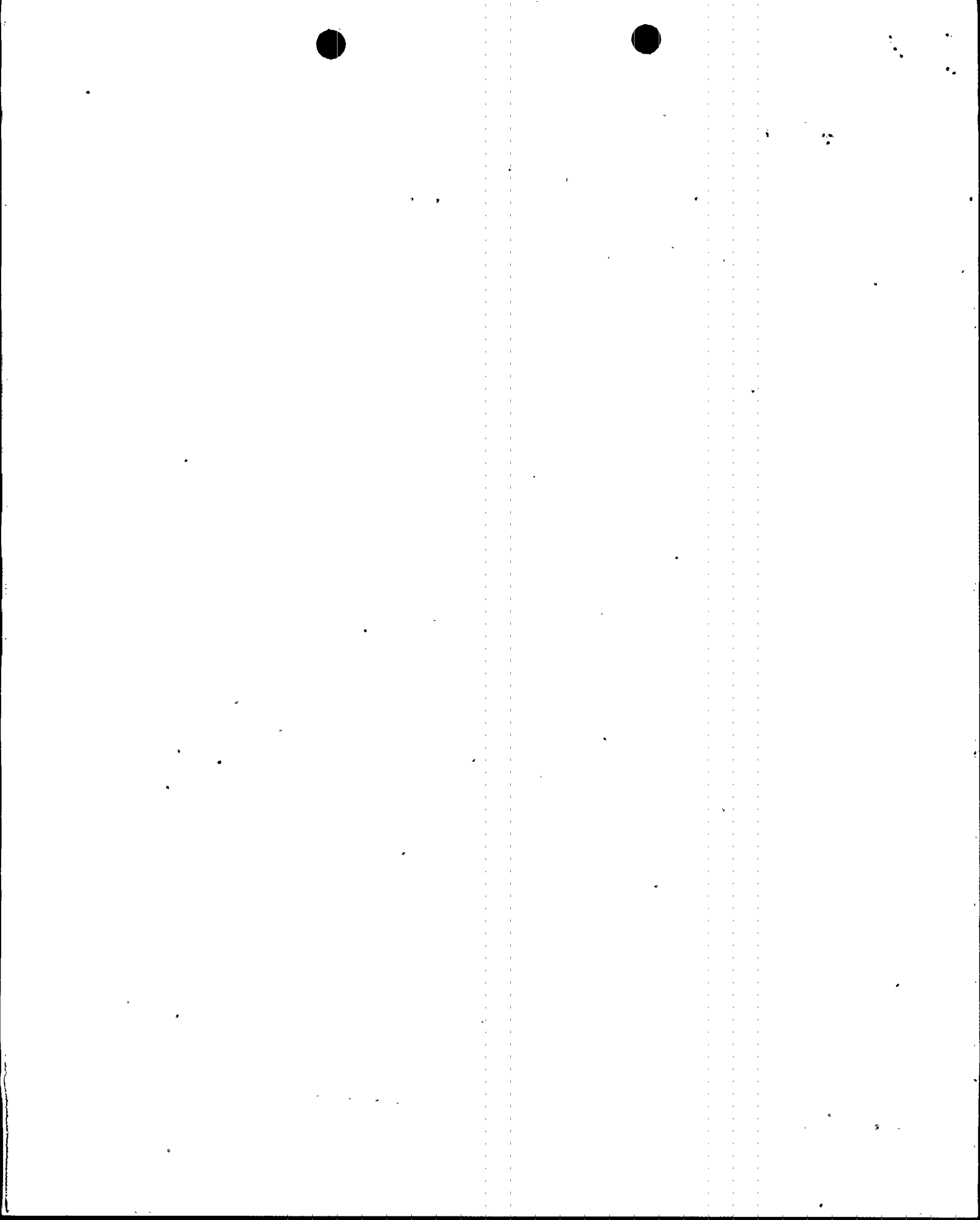
This letter provides TVA's response to the NRC request for
additional information (RAI), dated August 11, 1997,
regarding BFN Unit 2, ASME Section XI Inservice Inspection
relief requests required to support the Cycle 9 refueling
outage. This response addresses relief requests 2-SPT-10
and 2-ISI-7. Relief requests 2-SPT-9, 2-SPT-11,
and 2-SPT-12 are being withdrawn; however, TVA may resubmit
the requests at a later date.

Enclosure 1 to this letter provides TVA's response to NRC's
RAI regarding relief requests 2-SPT-10 and 2-ISI-7.
Enclosure 2 provides revisions to requests for
relief 2-SPT-10 and 2-ISI-7 that incorporate the additional
conditions for acceptance requested by NRC.

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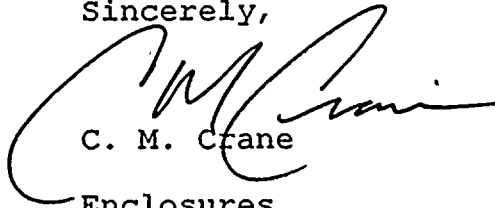
U.S. Nuclear Regulatory Commission

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September 9, 1997

There are no new commitments contained in this letter. If you have any questions, please telephone me at (205) 729-2636.

Sincerely,



C. M. Crane

Enclosures

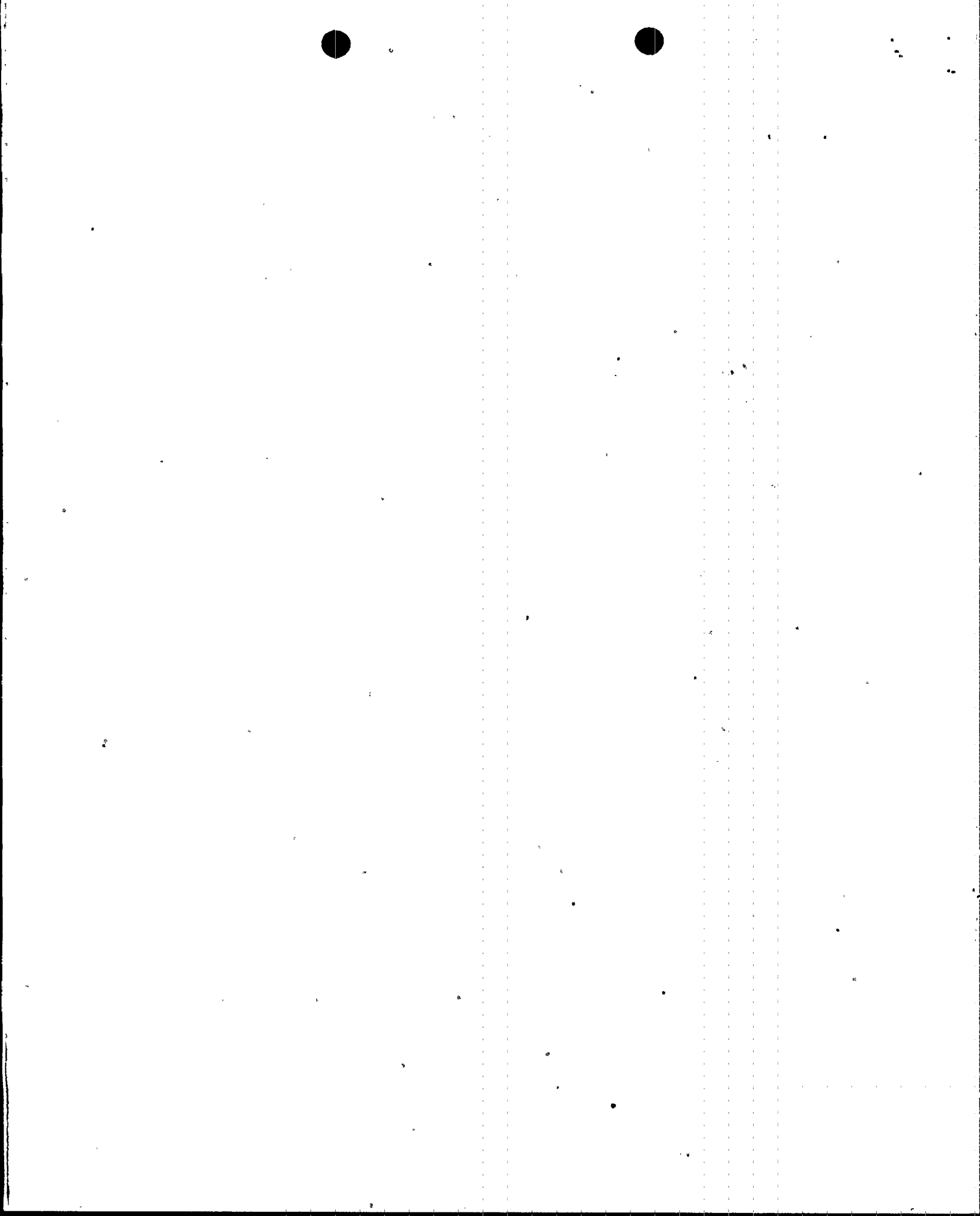
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ENCLOSURE 1

TENNESSEE VALLEY AUTHORITY
BROWNS FERRY NUCLEAR PLANT (BFN)
UNIT 2

AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME) SECTION XI,
INSERVICE INSPECTION (ISI) AND SYSTEM PRESSURE TEST (SPT) PROGRAMS
(SECOND INSPECTION INTERVAL)

RESPONSE TO NRC REQUEST FOR ADDITIONAL INFORMATION (RAI)

Introduction

By letter dated June 4, 1997, TVA submitted requests for relief required to support the BFN Unit 2 refueling outage scheduled to begin on September 26, 1997. This enclosure provides TVA's response to NRC's request for additional information, dated August 11, 1997, for requests for relief 2-SPT-10 and 2-ISI-7. The NRC RAIs are restated below followed by TVA's response.

NRC Request

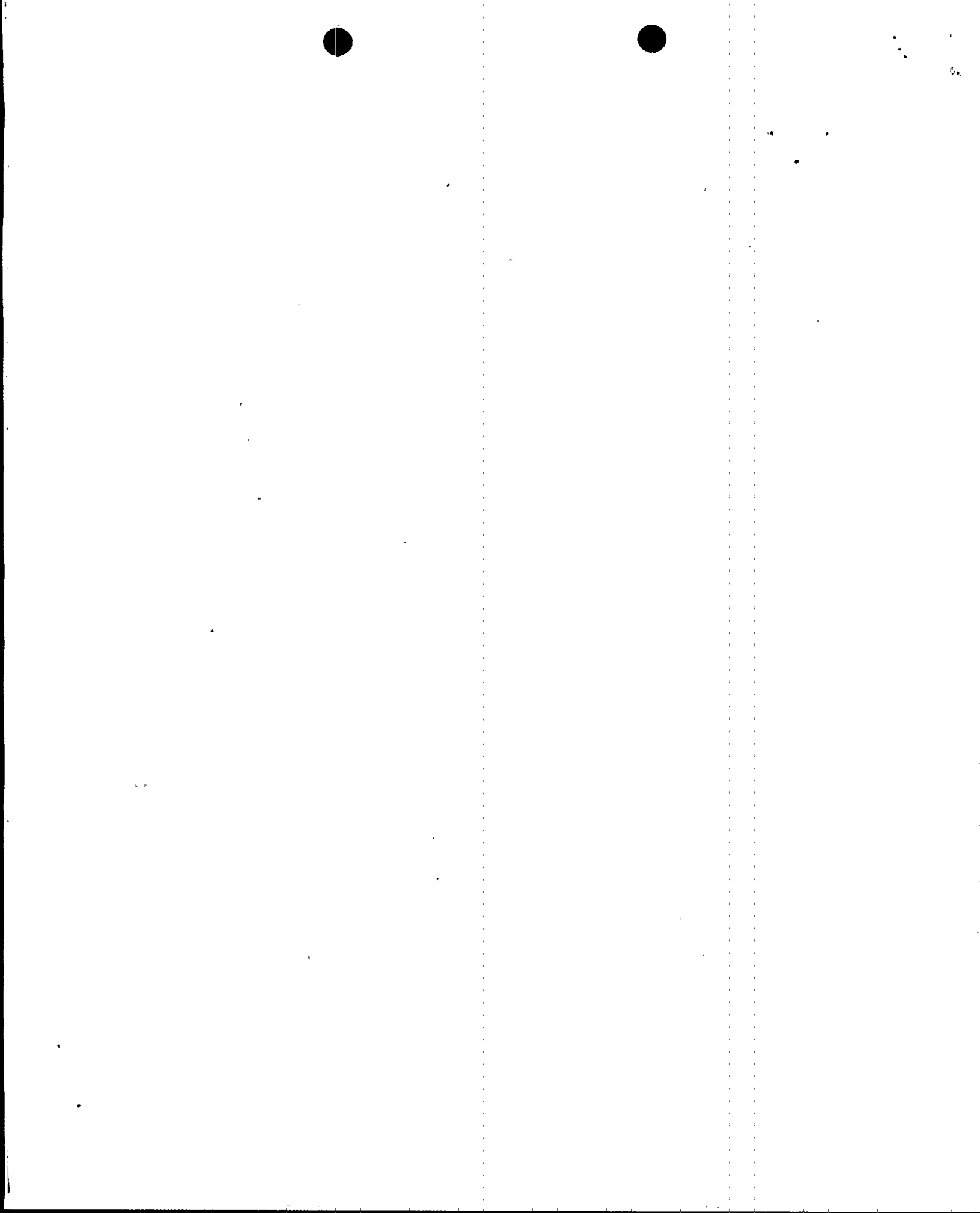
The licensee must state the specific paragraph of the Regulations under which each proposed alternative or request for relief is submitted. The licensee should review the current submittal and provide the required reference to ensure that each proposed alternative or request for relief is evaluated in accordance with the appropriate criteria.

TVA Response

TVA has revised relief requests 2-SPT-10 and 2-ISI-7 to cite only one specific paragraph of the Regulations to be considered for evaluation.

NRC Request

For Code Case N-546, Alternative Requirements for Qualification of VT-2 Visual Examination Personnel, the NRC staff finds this alternative to Code requirements acceptable only if the licensee commits to: 1) Developing procedural guidelines for obtaining consistent, quality VT-2 examinations; 2) document and maintain records to verify the qualification of persons selected to



perform VT-2 visual examinations; and 3) implement independent review and evaluation of leakage by persons other than those that performed the VT-2 visual examinations.

TVA Response

TVA agrees to the conditions stated above. A revision to 2-SPT-10 is included in Enclosure 2..

NRC Request

The licensee's submittal is unclear as to which interval the relief(s) apply. Relief requests and or proposed alternatives are only approved for a specific interval. The cover letter dated June 4, 1997, states that:

"In Enclosure 1, TVA is submitting four permanent relief requests to the Unit 2 ASME Section XI system pressure test requirements," and

"In Enclosure 2, TVA is submitting one permanent relief request (2-ISI-7 revised) to the BFN Unit 2 ASME Section XI inservice inspection program."

Please provide clarification regarding the reference to permanent relief requests, and describe the action the licensee proposes.

TVA Response

Each of the relief requests submitted by TVA in its June 4, 1997, letter are for the BFN Unit 2, ASME Section XI, second inspection interval. TVA identified the relief requests in Enclosures 1 and 2 as "permanent" to distinguish them from "interim" or "temporary" relief requests, i.e., for one cycle of operation. TVA fully understands that relief requests are only approved for a specific ASME Section XI Code interval. In its letter dated June 4, 1997, TVA identified, in the header, for each of the relief requests (including 2-SPT-10 and 2-ISI-7) that it was for the second inspection interval. However, to more clearly identify the inspection interval, the relief requests have been revised to provide an information "bullet" entitled "ISI Interval," to include the start date of the interval.



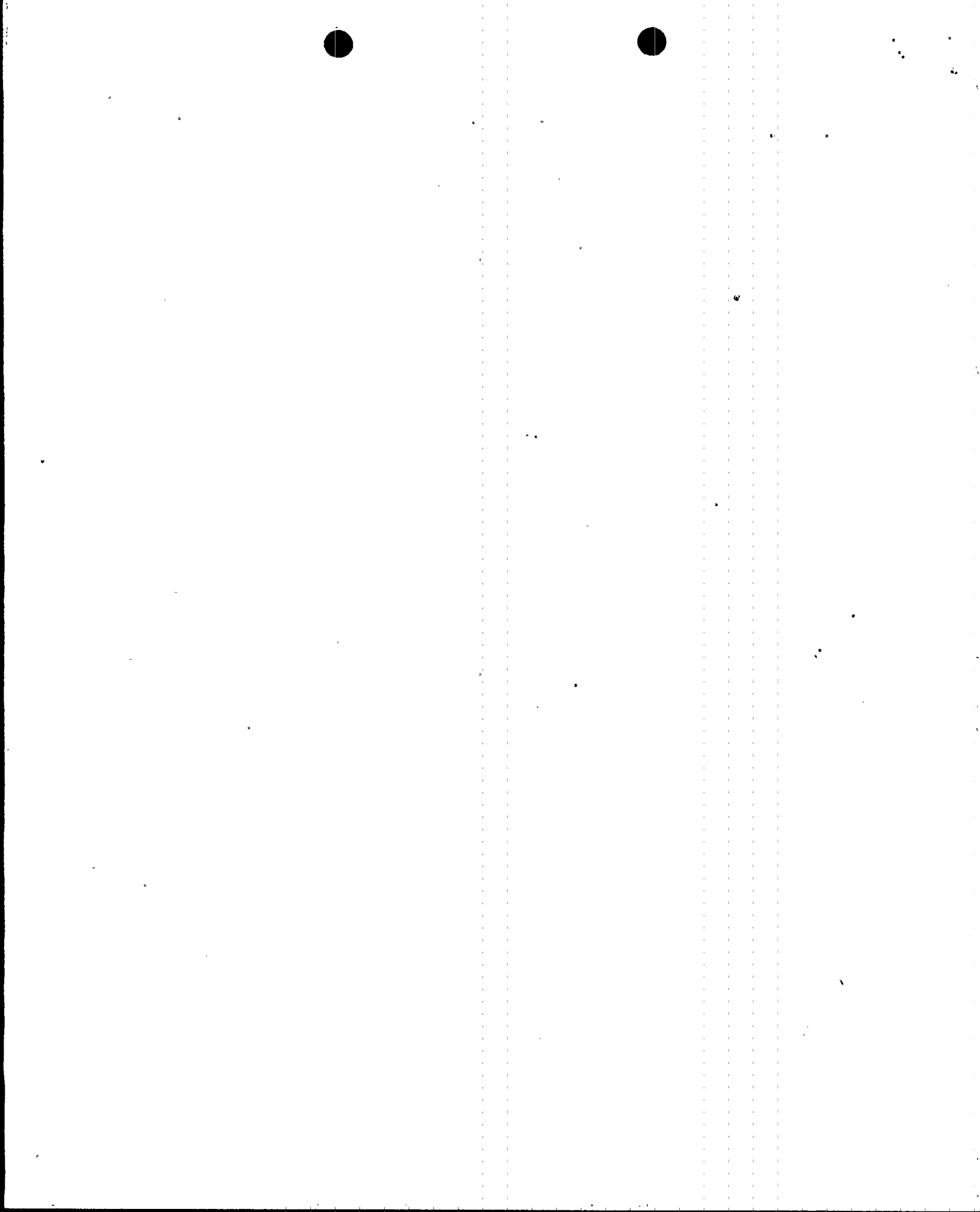
ENCLOSURE 2

TENNESSEE VALLEY AUTHORITY
BROWNS FERRY NUCLEAR PLANT (BFN)
UNIT 2

AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME) SECTION XI,
INSERVICE INSPECTION (ISI) AND SYSTEM PRESSURE TEST (SPT) PROGRAMS
(SECOND INSPECTION INTERVAL)

REVISED REQUESTS FOR RELIEF TO SUPPORT THE CYCLE 9 REFUELING OUTAGE

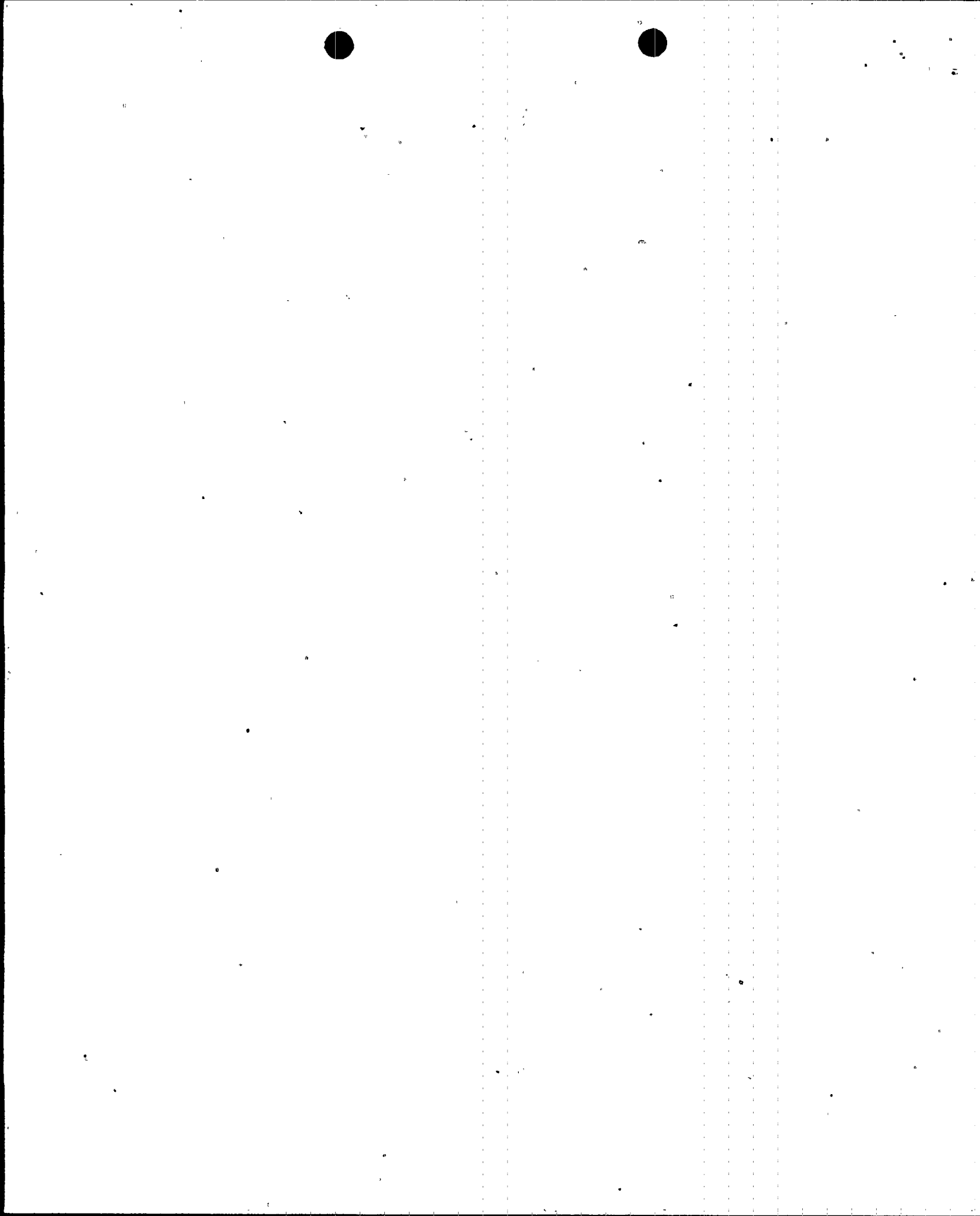
(See Attached)



TENNESSEE VALLEY AUTHORITY
BROWNS FERRY NUCLEAR PLANT (BFN)
UNIT 2
ASME SECTION XI, SYSTEM PRESSURE TEST (SPT) PROGRAM
(SECOND INSPECTION INTERVAL)

REQUEST FOR RELIEF 2-SPT-10 (REVISED)
(CODE CASE N-546)

UNIT	- BFN Unit 2
ISI INTERVAL	- Second ISI Interval (Start Date: May 24, 1992)
SYSTEMS	- Various American Society of Mechanical Engineers (ASME) Section XI Systems
COMPONENTS	- Class 1, 2, and 3 Pressure Retaining Components
CODE CLASS	- 1, 2, and 3
FUNCTION	- Pressure Retaining Boundary
ASME CODE REQUIREMENT(S)	- ASME Section XI, 1986 Edition (no Addenda), Subsection IWA-2300 requires that personnel performing VT-2 visual examinations be qualified and certified using a written, approved procedure prepared in accordance with SNT-TC-1A and the additional requirements of Division 1 of ASME Section XI.
BASIS FOR RELIEF	- In accordance with 10 CFR 50.55a(a)(3)(i) TVA proposes to use an alternative to the ASME Section XI Code requirement specified above. The use of Code Case N-546, "Alternative Requirements for Qualification of VT-2 Examination Personnel," will allow experienced plant personnel to perform VT-2 visual examinations during the performance of system pressure tests and provide an acceptable level of quality and safety.



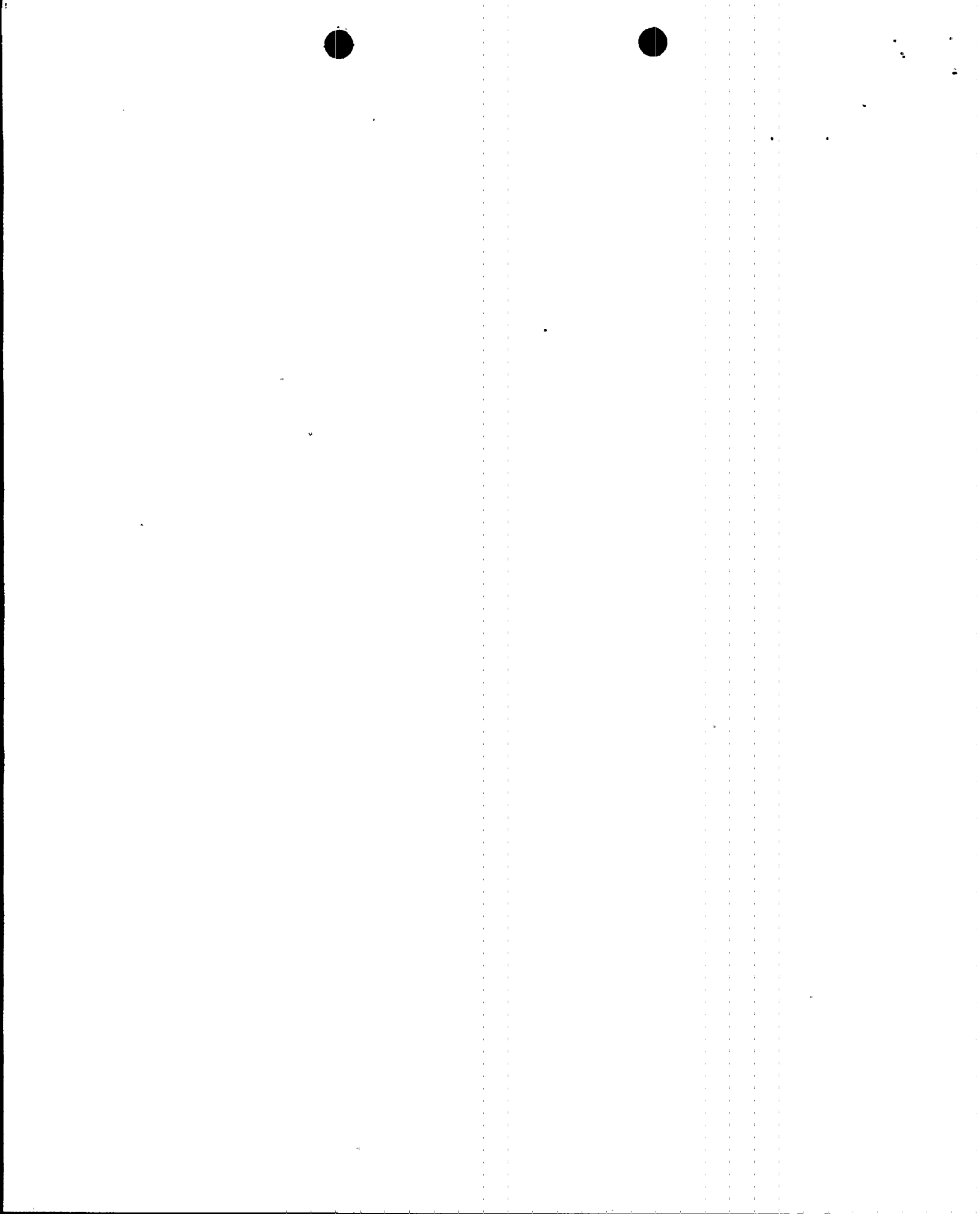
Experienced plant personnel are knowledgeable of the plant systems and routinely perform walkdowns of plant systems looking for abnormalities such as leaks in piping systems. They are more familiar with the location of piping systems and can therefore perform VT-2 examinations in a more timely manner. Using experienced plant personnel will also eliminate the need for hiring additional personnel fully certified to IWA-2300. This is especially pertinent during refueling outages when pressure tests are performed and the number of IWA-2300 certified personnel are limited.

Since the VT-2 examination is a check for the evidence of leakage, the use of plant personnel qualified to the N-546 alternative requirements, and who typically perform this type of examination during their daily activities, will not compromise the quality or safety of the systems examined.

Compliance with the specified ASME Code requirements would result in an undue hardship without a compensating increase in the level of quality and safety. TVA considers the ASME Code Case N-546 requirements to be an acceptable alternative to the qualification of VT-2 (visual examination personnel) using a written, approved procedure prepared in accordance with SNT-TC-1A and the additional requirements of ASME Section XI, Division 1.

ALTERNATIVE REQUIREMENTS

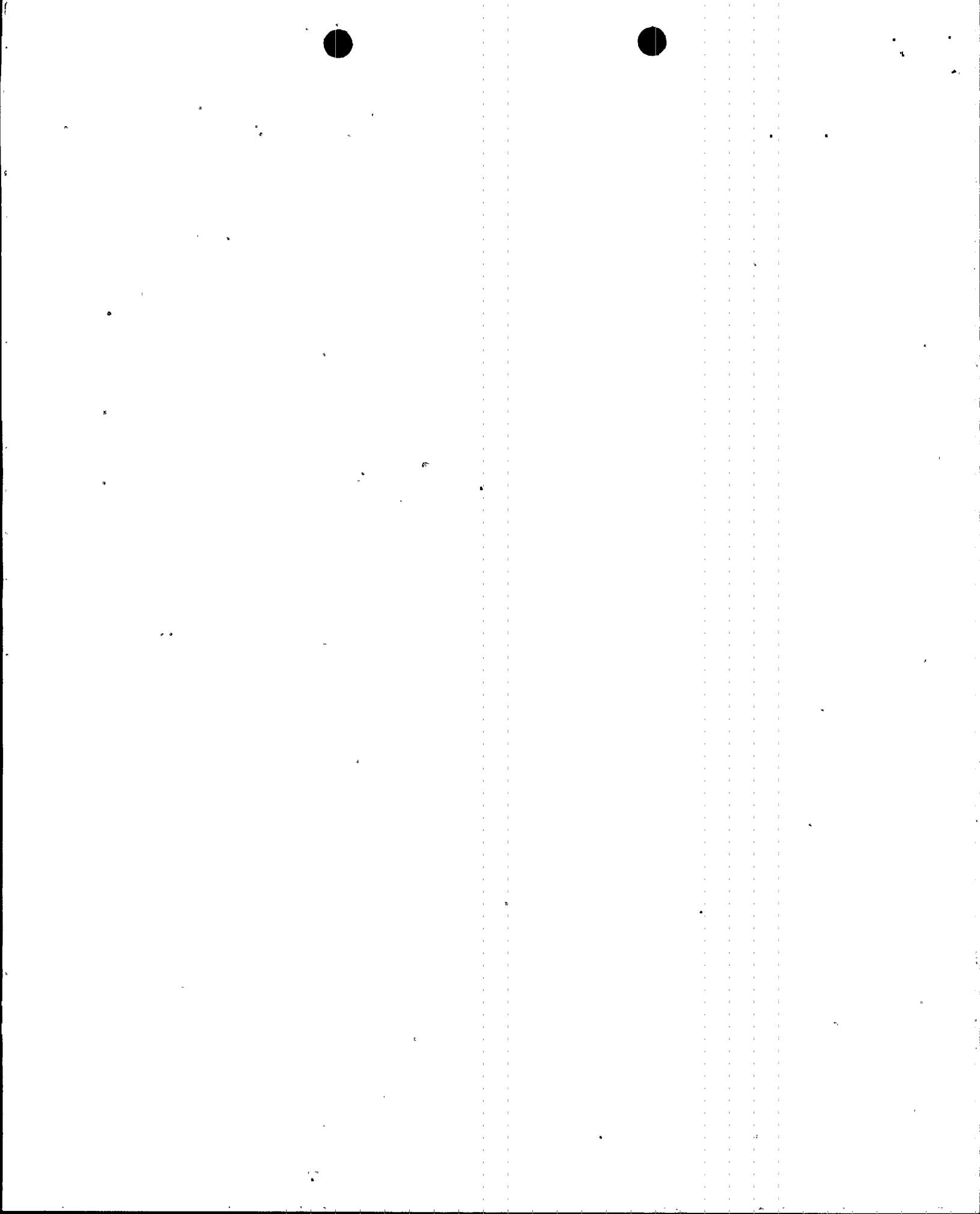
- As an alternative to the existing ASME Section XI requirements, BFN will utilize the provisions of ASME Code Case N-546 and additional criteria. ASME Code Case N-546 states:
 1. Personnel must have at least 40 hours plant walkdown experience, such as that gained by licensed and non-licensed plant operators, local leak rate personnel, system engineers, and inspection and non-destructive examination personnel.



2. Individuals must have at least four hours of training in Section XI requirements and plant specific procedures for visual examinations.
3. Each person must meet (annual) vision test requirements in accordance with the 1995 Edition of the ASME Section XI Code, Paragraph IWA-2321.

In addition to the requirements of ASME Code Case N-546, TVA will also:

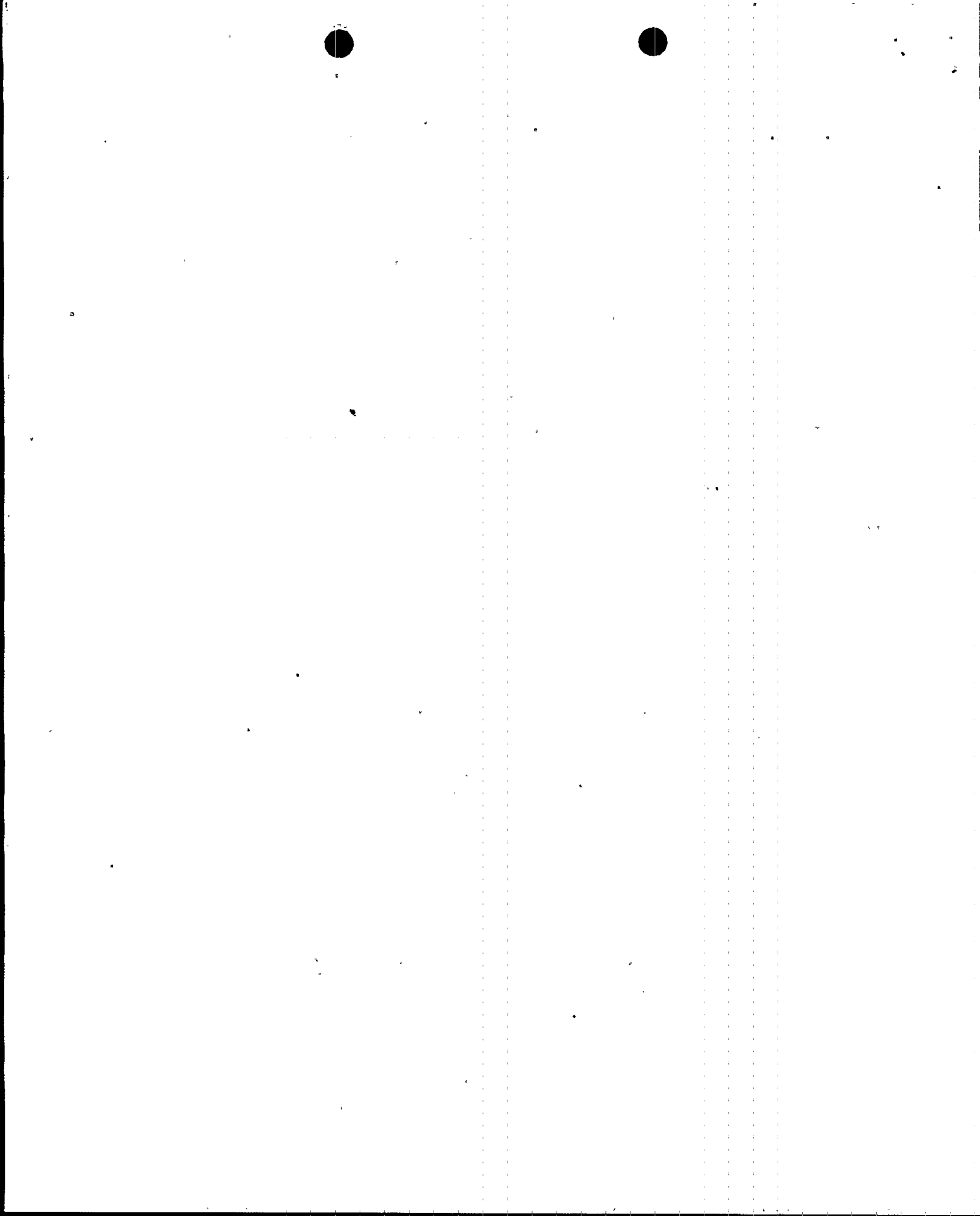
1. Develop procedural guidelines for obtaining consistent quality VT-2 visual examinations.
2. Document and maintain records to verify the qualifications of personnel selected to perform VT-2 visual examinations.
3. Implement independent review and evaluation of leakage by persons other than those that performed the VT-2 visual examinations.



TENNESSEE VALLEY AUTHORITY
BROWNS FERRY NUCLEAR PLANT (BFN)
UNIT 2
ASME SECTION XI, INSERVICE INSPECTION (ISI) PROGRAM
(SECOND INSPECTION INTERVAL)

REQUEST FOR RELIEF 2-ISI-7 (REVISED)

UNIT	- BFN Unit 2
ISI INTERVAL	- Second ISI Interval (Start Date: May 24, 1992)
COMPONENTS	- Class 1 Integral Welded Attachments (See Attached List)
CODE CLASS	- 1
EXAMINATION CATEGORY	- B-K-1, Integral Attachments for Piping, Pumps, and Valves
ITEM NUMBER	- B10.10, Piping, Integrally Welded Attachments
ASME CODE REQUIREMENT(S)	- ASME Section XI, 1986 Edition (no addenda), Table IWB-2500-1, Examination Category B-K-1 integrally welded attachments greater than or equal to 5/8 inch thickness, Figure IWB-2500-15.
BASIS FOR RELIEF	- In accordance with 10 CFR 50.55a(g)(5)(iii) TVA has determined that the above Code inspection requirements are impractical for certain integrally welded supports. For those supports, (see attached list) TVA is requesting relief from the ASME Section XI, 1986 Edition (no addenda), Table IWB-2500-1, Examination Category B-K-1, Item B10.10, requirements to perform a volumetric or surface examination, as applicable, of essentially 100 percent of the examination volume/area.

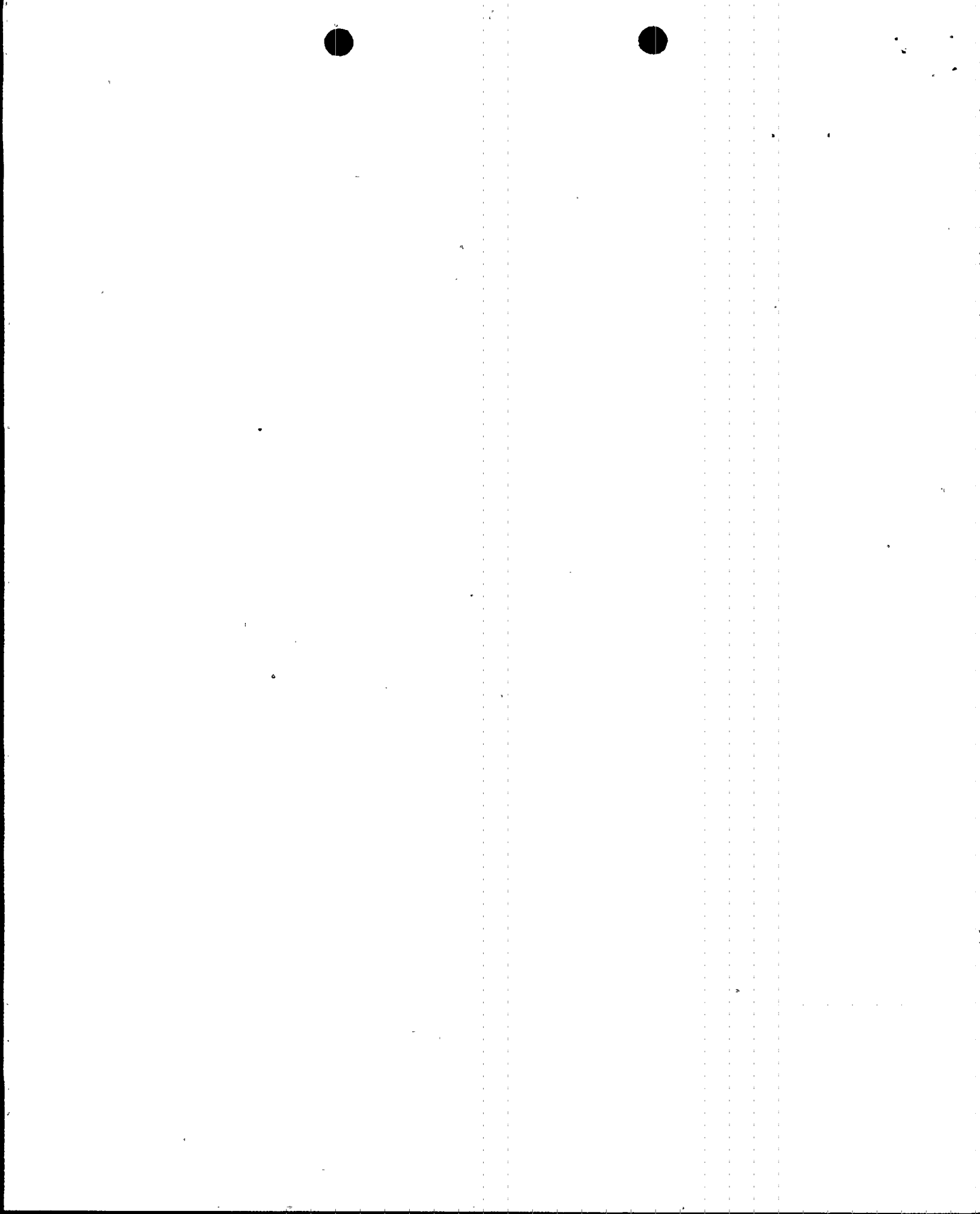


In some cases this examination would require the removal of support members to achieve the coverage required by the ASME Code. Estimates for the duration and costs for activities associated with the temporary removal, examination, and reinstallation of these ASME Class 1 supports are listed below:

<u>Activity</u>	<u>Duration</u> (man-hrs)
Engineering evaluation of temporary support	20
Craft time for support member removal, installation of temporary support, and support reinstallation	100
Quality Control verification of activity	5

Examination of the accessible areas of the integral attachment welds for the nine supports (see attached list) without removal of support members would result in an estimated savings of approximately \$40,000 for personnel and materials, and approximately 55 man-rem of exposure, which equates to \$550,000 during the remaining BFN Unit 2 inservice inspection intervals. This equates to a total savings of \$590,000 for the nine supports.

The limitations encountered during the performance of surface examinations are caused by component configuration. Based on a construction permit date prior to January 1, 1971, and the requirements of 10 CFR 50.55a(g)(1) and 10 CFR 50.55a(g)(4), BFN components (including supports) must meet the requirements of ASME Section XI, to the extent practical within the limitations of design, geometry, and materials of construction of the components. BFN Unit 2 was not designed to provide access for ASME Section XI examinations of this type.



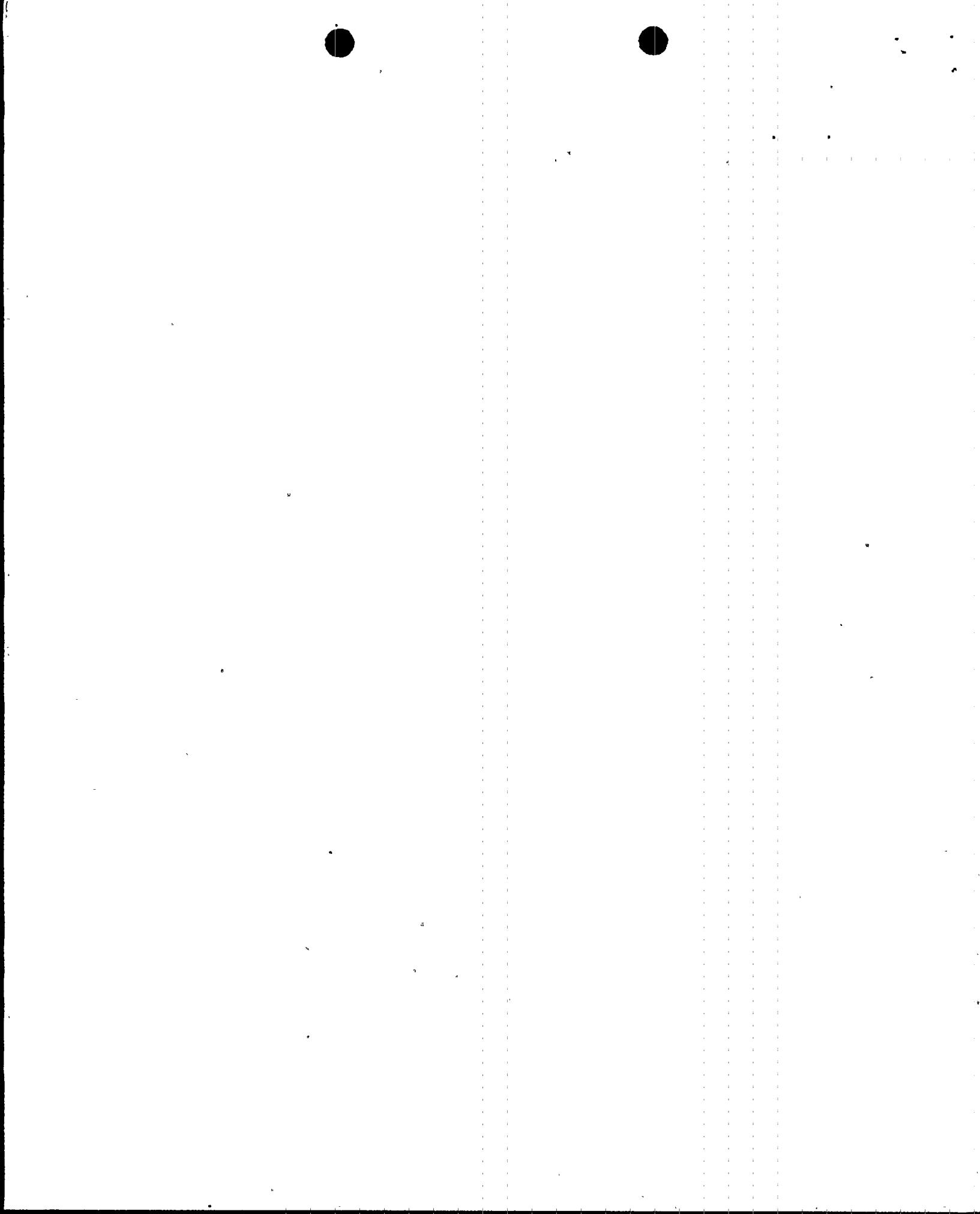
The surface examination of the subject integral attachments (for the accessible surfaces only) provides an effective assessment of the structural integrity of the integral attachments.

**ALTERNATE
EXAMINATIONS**

- Perform the required examination from Table IWB-2500-1, Examination Category B-K-1, Item Number B10.10, for the accessible examination volume/area only, of the support integral attachments (see attached list) without removal of support members.

Note:

The examination of the accessible areas of integral attachments without removal of support members was approved for a future Code revision by the ASME Section XI committee during their March 1995 meeting and incorporated into the 1995 ASME Section XI Addenda.



TENNESSEE VALLEY AUTHORITY
 BROWNS FERRY NUCLEAR PLANT (BFN)
 UNIT 2
 (SECOND INSPECTION INTERVAL)
 ASME SECTION XI, INSERVICE INSPECTION (ISI) PROGRAM
 REQUEST FOR RELIEF 2-ISI-7 (REVISED)

ATTACHMENT

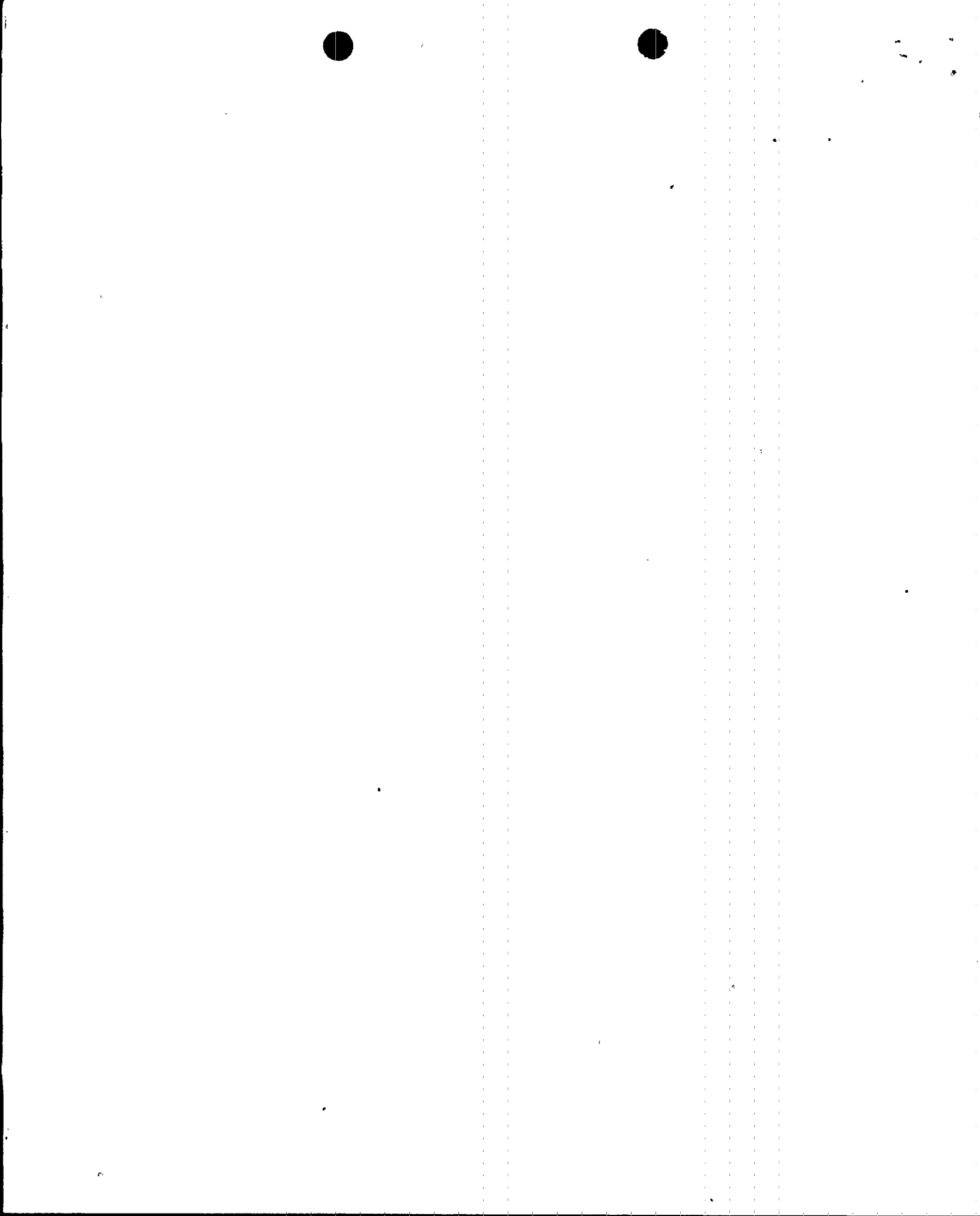
<u>SUPPORT NO.</u>	<u>SYSTEM</u>	<u>CODE CAT.</u>	<u>ITEM NO.</u>	<u>IWA THICKNESS</u>	<u>ISI DRAWING</u>	<u>EXAM %</u>	<u>REMARKS</u>
2-47B415S0009	Feedwater	B-K-1	B10.10	0.75 inches	ISI-0277-C	63%	The integrally welded attachment is box shaped and welded on both sides. Access is limited to the exterior weld and portions of the weld on the opposite sides that are not on the interior of the box shape.
2-47B415H0002	Feedwater	B-K-1	B10.10	1.625 inches	ISI-0277-C	88%	The integrally welded attachment consists of 4 lugs (1-5/8" wide by 2" long) which are welded on three sides with a pipe clamp on the un-welded end. The pipe clamp is on a vertical section of a 12" Feedwater line and the examination was limited by the pipe clamp.
2-47B415H0004	Feedwater	B-K-1	B10.10	1.625 inches	ISI-0277-C	88%	The integrally welded attachment consists of 4 lugs (1-5/8" wide by 2" Long) which are welded on three sides with a pipe clamp on the un-welded end. The pipe clamp is on a vertical section of a 12" Feedwater line and the examination was limited by the pipe clamp.



TENNESSEE VALLEY AUTHORITY
BROWNS FERRY NUCLEAR PLANT (BFN)
UNIT 2
(SECOND INSPECTION INTERVAL)
ASME SECTION XI, INSERVICE INSPECTION (ISI) PROGRAM
REQUEST FOR RELIEF 2-ISI-7 (REVISED)

ATTACHMENT

<u>SUPPORT NO.</u>	<u>SYSTEM</u>	<u>CODE CAT.</u>	<u>ITEM NO.</u>	<u>IWA THICKNESS</u>	<u>ISI DRAWING</u>	<u>EXAM %</u>	<u>REMARKS</u>
2-47B415H0006	Feedwater	B-K-1	B10.10	1.625 inches	ISI-0277-C	88%	The integrally welded attachment consists of 4 lugs (1-5/8" wide by 2" Long) which are welded on three sides with a pipe clamp on the un-welded end. The pipe clamp is on a vertical section of a 12" Feedwater line and the examination was limited by the pipe clamp.
2-47B415H0008	Feedwater	B-K-1	B10.10	1.5 inches	ISI-0277-C	88%	The integrally welded attachment consists of 4 lugs (1-1/2" wide by 2" Long) which are welded on three sides with a pipe clamp on the un-welded end. The pipe clamp is on a vertical section of a 12" Feedwater line and the examination was limited by the pipe clamp.
2-47B415H0010	Feedwater	B-K-1	B10.10	1.56 inches	ISI-0277-C	88%	The integrally welded attachment consists of 4 lugs (1-9/16" wide by 2" Long) which are welded along both vertical sides with a pipe clamp on the un-welded end. The pipe clamp is on a vertical section of a 12" Feedwater line and the examination was limited by the pipe clamp.



TENNESSEE VALEY AUTHORITY
 BROWNS FERRY NUCLEAR PLANT (BFN)
 UNIT 2
 (SECOND INTERVAL)
 ASME SECTION XI, INSERVICE INSPECTION (ISI) PROGRAM
 REQUEST FOR RELIEF 2-ISI-7 (REVISED)

ATTACHMENT

<u>SUPPORT NO.</u>	<u>SYSTEM</u>	<u>CODE CAT.</u>	<u>ITEM NO.</u>	<u>IWA THICKNESS</u>	<u>ISI DRAWING</u>	<u>EXAM %</u>	<u>REMARKS</u>
2-47B415H0012	Feedwater	B-K-1	B10.10	1.625 inches	ISI-0277-C	88%	The integrally welded attachment consists of 4 lugs (1-1/2" wide by 2" Long) which are welded on three sides with a pipe clamp on the un-welded end. The pipe clamp is on a vertical section of a 12" Feedwater line and the examination was limited by the pipe clamp.
2-47B415S0023	Feedwater	B-K-1	B10.10	2.0 inches	ISI-0277-C	21%	The integrally welded attachment consists of 4 lugs inside a circular frame with shims adjacent to the lugs. The examination is limited by the structural frame and shims.
2-47B415S0025	Feedwater	B-K-1	B10.10	2.0 inches	ISI-0277-C	21%	The integrally welded attachment consists of 4 lugs inside a circular frame with shims adjacent to the lugs. The examination is limited by the structural frame and shims.

