MISSISSIPPI POWER & LIGHT COMPANY
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P. O. BOX 1640, JACKSON, MISSISSIPPI 39205

June 29, 1984

NUCLEAR LICENSING & SAFETY DEPARTMENT

U. S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Washington, D. C. 20555

Attention: Mr. Harold R. Denton, Director

Dear Mr. Denton:

SUBJECT: Grand Gulf Nuclear Station
Units 1 and 2
Docket Nos. 50-416 and
50-417
License No. NPF-13
File: 0260/L-860.0/L-952.0/
M-189.0
Inservice Inspection to
ASME Section XI (Request
Nos. I-00001 through
I-00011)
AECM-84/0335

This letter transmits requests for relief (Nos. I-00001 through I-00011) from ASME Section XI Code requirements for the Inservice Inspection of eleven items for the Grand Gulf Nuclear Station (GGNS) Unit 1 in accordance with 10CFR50.55a(g)(5)(IV).

The attachment delineates the information with regard to such relief requests for your review.

If you have any questions or require further information, please contact this office.

Yours truly,

FSE

L. F. Dale
Director, Nuclear Licensing
& Safety

GS/JGC:db

Attachment: Request for Relief from ASME Section XI

cc: (See Next Page)

A047
1/40

MGdb 1

MISSISSIPPI POWER & LIGHT COMPANY

cc: Mr. J. B. Richard (w/a)
Mr. R. B. McGehee (w/a)
Mr. N. S. Reynolds (w/a)
Mr. G. B. Taylor (w/a)

Mr. Richard C. DeYoung, Director (w/a)
Office of Inspection & Enforcement
U. S. Nulear Regulatory Commission
Washington, D.C. 20555

Mr. J. P. O'Reilly, Regional Administrator (w/a)
U. S. Nuclear Regulatory Commission
Region II
101 Marietta St., N.W., Suite 2900
Atlanta, Georgia 30323

MGdb 2

INSERVICE INSPECTION RELIEF REQUESTS
FOR GRAND GULF NUCLEAR STATION
(I-00001 THROUGH I-00011)

GRAND GULF NUCLEAR STATION
UNIT 1
REQUEST FOR RELIEF NO. I-00001

INSERVICE INSPECTION
OF PIPE SUPPORTS WITHIN GUARD PIPES

I. Component:

Internal process pipe supports (guides #2 and #3) are inaccessible for inservice inspection because they are located inside guard pipes. The affected internal supports and their associated piping systems are as follows:

Guide#	Support Identification	System
2	Q1E51G001C09	Reactor Core Isolation Cooling
2	Q1E51G004C03	Main Steam to RCIC
3	Q1E51G001C08	Reactor Core Isolation Cooling
3	Q1G33G002C04	Reactor Water Cleanup
3	Q1B21G021C02	Main Steam Drain
2	Q1B21G021H02	Main Steam Drain
3	Q1B21G531C01	Main Steam
3	Q1B21G531C02	Main Steam
3	Q1B21G531C03	Main Steam
3	Q1B21G531C04	Main Steam

Sketch 1 is attached for clarification.

II. Code:

These supports were fabricated in accordance with Section III, Subsection NF, requirements. Applicable inservice inspection is to be performed in accordance with ASME Section XI, 1977 Edition through and including Summer 1979 Addenda.

III. Code requirements:

The component supports are required to be inservice examined once every 10 years in accordance with Section XI, Tables IWF-2500-1 and IWF-2500-2.

IV. Information to support the determination that the code requirement is impractical:

The component suports were provided for the guard pipes as required by stress analysis to act as restraints which limit lateral movement and as dead weight supports for the process pipe within the guard pipe. These inaccessible supports are located inside guard pipes that extend from the drywell wall through the containment building to the auxiliary building. During installation of the process pipe and guard pipe assembly between drywell wall and the first outboard isolation valve, the supports were accessible for examination because of the installation sequence used. After guard pipe components were assembled and welded in place, the access to the supports was no longer available.

GRAND GULF NUCLEAR STATION
UNIT 1
REQUEST FOR RELIEF NO. I-00001

INSERVICE INSPECTION
OF PIPE SUPPORTS WITHIN GUARD PIPES

V. Specific relief requested:

Permission is requested to delete all visual examinations for the supports identified.

VI. Reason why relief should be granted

Exemption is requested for inservice visual examination of these component supports for the following reasons:

1. The supports are inaccessible because they are located in guard pipes which are filled with reflective insulation that cannot be removed.

2. These supports were visually inspected in accordance with ASME Section III, Subsection NF.

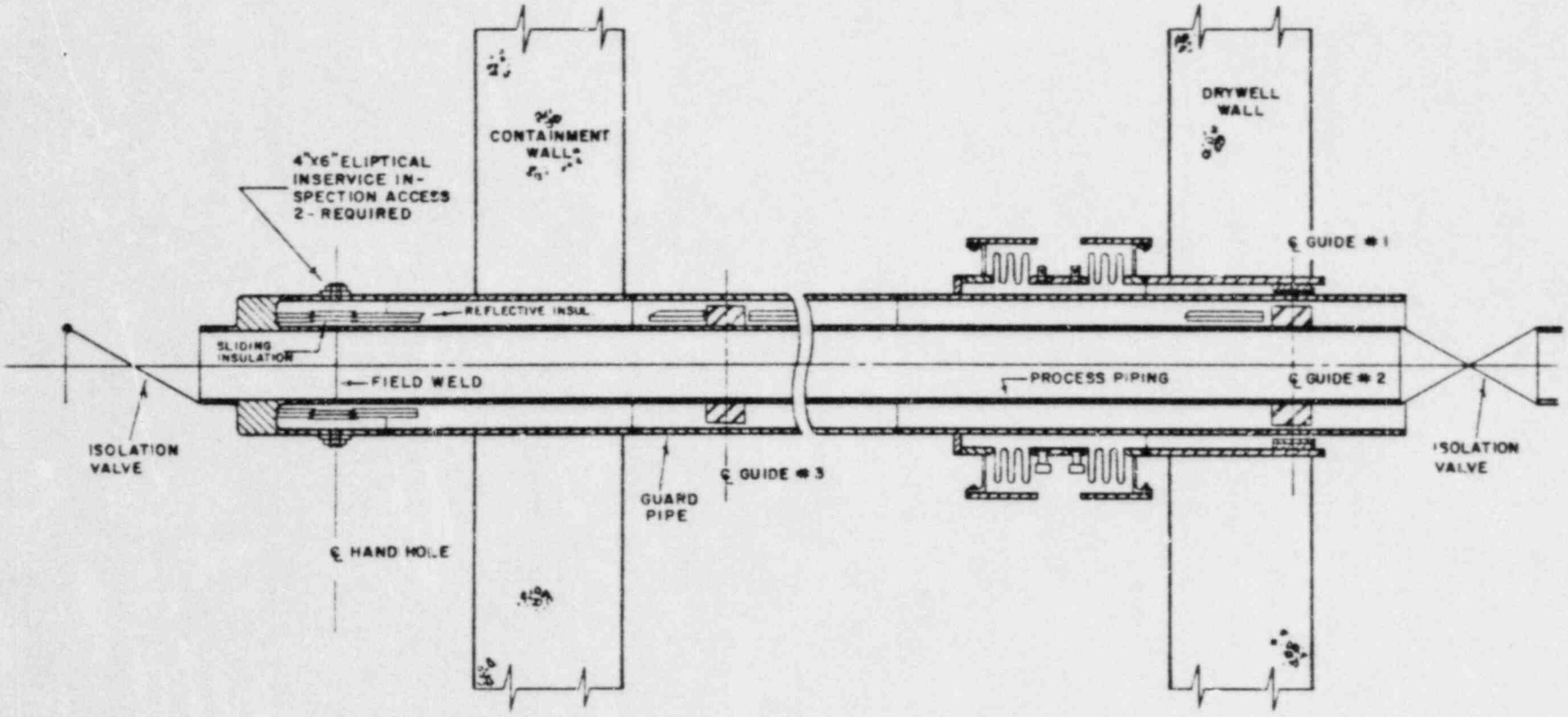
3. These supports were preservice examined in accordance with ASME Section XI.

4. These supports serve as pipe guides to restrict lateral movement of the pipe to which they are attached. In addition, these supports also serve as dead weight support for the process pipe. Additional restraints are provided outside the no-break zone as required by pipe break analysis. The failure of any of these inaccessible supports would not damage the pressure boundary of the process pipe or affect the integrity of the guard pipe.

VII. Alternative testing:

No alternative testing is proposed at this time.

GRAND GULF NUCLEAR STATION - UNIT 1
INSERVICE INSPECTION
REQUEST FOR RELIEF NO. I-00001



VERTICAL SECTION THRU GUARD PIPE ASSEMBLY

GRAND GULF NUCLEAR STATION
UNIT I

GRAND GULF NUCLEAR STATION
UNIT 1

RELIEF FOR REQUEST NO. I-00002

INSERVICE INSPECTION
OF PRESSURE RETAINING WELD IN SCRAM DISCHARGE VOLUME PIPING

I.	Component:	An inaccessible portion of weld No. 91 on the scram discharge volume piping (12" EBB line) is located in the Control Rod Drive Hydraulic (C11) System. (See the attached sketch)
II.	Code:	The subject pressure retaining piping weld was designed and fabricated to ASME Section III, Class 2 requirements. Applicable inservice inspections are to be performed in accordance with ASME Section XI, 1977 Edition through and including Summer 1979 Addenda.
III.	Code requirement:	Class 2 pressure retaining piping welds are required to be volumetrically and surface examined once every ten-year interval in accordance with ASME Section XI, Table IWC-2500-1, Category C-F.
IV.	Information to support the determination that the code requirement is impractical:	The installation of a bracket directly above the circumferential weld No. 91 has limited the accessibility to the weld for ultrasonic examination. The inaccessible portion of the weld is approximately 5.5 inches of the circumference of the 12 inch NPS pipe, or 14 percent of the weld length.
V.	Specific relief requested:	Permission is requested to obtain a relief from the requirement to volumetrically examine the portion of weld No. 91 inaccessible due to the installed bracket.
VI.	Reasons why relief should be granted	Request for exemption from inservice volumetric (ultrasonic) examination of the inaccessible portion of this weld should be granted for the following reasons:

1. The entire weld was examined by radiography and passed in accordance with ASME Section III, Class 2 requirements.

2. The entire weld was surface examined (liquid penetrant) and passed in accordance with ASME Section XI, Table IWC-2500-1 Category C-F requirements.

GRAND GULF NUCLEAR STATION
UNIT 1

RELIEF FOR REQUEST NO. I-00002

INSERVICE INSPECTION
OF PRESSURE RETAINING WELD IN SCRAM DISCHARGE VOLUME PIPING

3. The accessible portion of this weld was volumetrically examined using ultrasonic techniques and passed in accordance with ASME Section XI, Table IWC 2500-1 requirements.

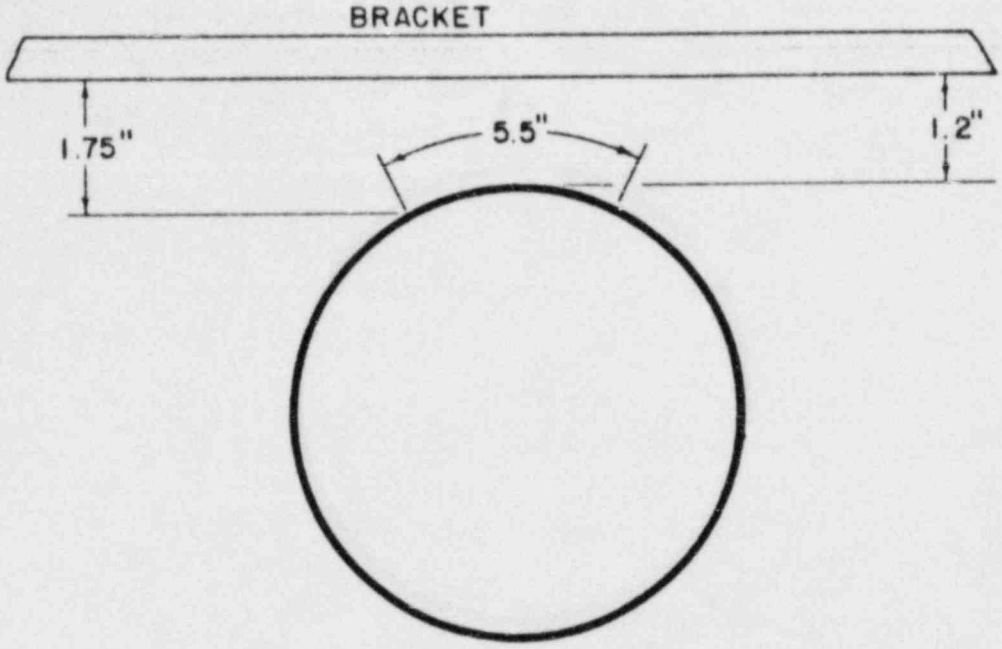
4. This weld has been hydrostatically tested in accordance with ASME Section III, Class 2 requirements.

5. This weld will be subject to a system functional test and a system hydrostatic test in accordance with ASME Section XI, Table IWC 2500-1 requirements.

6. The portion of this weld inaccessible for volumetric examination will be surface examined each inspection interval in accordance with ASME Section XI, Table IWC 2500-1, Category C-F requirements.

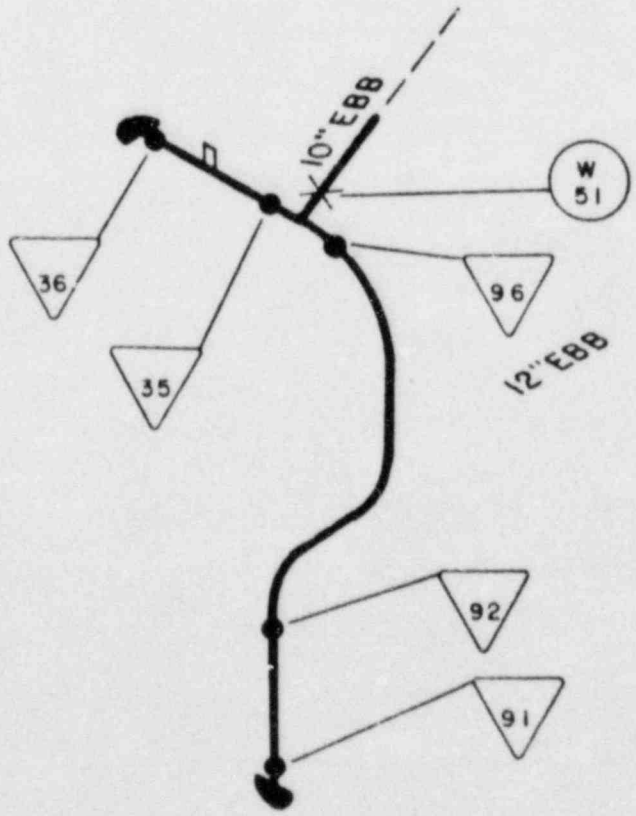
VII. Alternative

The accessible portion of the weld will be volumetrically and surface examined each inspection interval in accordance with ASME Section XI, Table IWC 2500-1. Portion of the weld which cannot be volumetrically examined would be surface examined in accordance with ASME Section XI, Table IWC 2500-1, Category C-F requirements. Should indications be found, an engineering evaluation will be made to determine if the inaccessible portion of the weld has been affected. The inaccessible portion of this weld represents approximately 14 percent of the total weld length.



DETAIL of 91

5.5" INACCESSIBLE DUE TO BRACKET



GRAND GULF NUCLEAR STATION
UNIT 1
REQUEST FOR RELIEF NO. I-00003

INSERVICE INSPECTION
OF CIRCUMFERENTIAL DISSIMILAR METAL WELD

I. Component: Circumferential dissimilar metal weld (FW-13) between reactor core isolation cooling (RCIC) line 20"-HBB-53 and 20"-HCB-29. Line 20"-HCB-29 is the RCIC turbine exhaust sparger.

II. Code: The subject pressure retaining, circumferential, dissimilar metal weld is fabricated in accordance with ASME Section III, Class 2 requirements. Inservice inspection is to be performed in accordance with ASME Section XI, 1977 Edition through and including Summer 1979 Addenda.

III. Code requirements: The pressure retaining, circumferential, dissimilar metal, Class 2 weld is required to be surface (PT or MT) and volumetrically (ultrasonically) inspected once every ten-year interval in accordance with ASME Section XI, Table IWB-2500-1, Examination Category C-F, Item #C5.21, Note (1) (c).

IV. Information to support the determination that the code requirement is impractical: The implementation of the code requirement is impractical as the subject weld is in constant contact with the water in the suppression pool. When the suppression pool is at its lowest level (Post-LOCA 111'-4 3/4"), the subject weld is submerged under 6'-4 3/4" of water.

V. Specific relief request: Permission is requested to exempt RCIC turbine exhaust sparger weld (FW-13) from inservice inspection, except as noted in alternative testing.

VI. Reasons why relief should be granted: Request for exemption should be granted for the following reasons:

1. The subject weld has been volumetrically examined by radiography and found acceptable in accordance with ASME Section III, Class 2 requirements.

2. The subject weld will only be exposed to design pressure and temperature a small percentage of the time the plant operates. The balance of that time, it will see static conditions at near atmospheric pressure, along with relatively low temperatures.

3. The open area of the sparger hole is over 300% of the cross sectional area of the pipe itself. The steam will flow through the sparger relatvely unimpeded, permitting only low pressure buildup in the pipe.

GRAND GULF NUCLEAR STATION
UNIT 1
REQUEST FOR RELIEF NO. I-00003

INSERVICE INSPECTION
OF CIRCUMFERENTIAL DISSIMILAR METAL WELD

VII. Alternative

No alternative testing is proposed at this time. However, if the suppression pool is drained for other reasons, inspection of the weld will be performed.

GRAND GULF NUCLEAR STATION
UNIT 1
REQUEST FOR RELIEF NO. I-00004

INSERVICE INSPECTION PROGRAM
RPV LOWER HEAD-TO-SHELL WELD A-A

I. Component: The lower one-half of Unit 1 reactor pressure vessel lower-head-to shell weld A-A.

II. Code: The Unit 1 reactor pressure vessel was designed and fabricated to ASME Section III, Class 1 requirements. Applicable inservice inspections are to be performed in accordance with the ASME Section XI, 1977 Edition with addenda through and including Summer 1979 Addenda.

III. Code requirements: The upper portion of this weld is a circumferential shell weld and is required to be volumetrically examined for essentially 100% of the weld length once during the first 10-year inservice inspection interval, in accordance with ASME Section XI, Table IWB-2500-1, Category B-A, Item B1.11. The lower portion of this weld is a circumferential head weld and is thus required to be volumetrically examined for essentially 100% of the weld length, once every 10-year inservice inspection interval, in accordance with ASME Section XI, Table IWB-2500-1, Category B-A, Item B1.21.

IV. Information to support the determination that the code requirement is impractical: The A-A weld joins the lowest ring of circumferential shell plates on the reactor pressure vessel (RPV) to the RPV bottom head and is located 80.66 inches above vessel zero. The bottom of the core is located at 216.31 inches above vessel zero. The weld is approximately 135.65 inches below the bottom of the core. In addition, the weld is approximately 91.2 inches below the centerlines of the recirculation pump suction nozzels (N1 nozzels) and approximately 98.4 inches below the centerlines of the recirculation pump discharge nozzle (jet pump suction nozzle-N2).

The upper portion of the A-A weld is a typical circumferential shell weld. Automated ultrasonic examination procedure and equipment have been developed which will permit the required inservice volumetric inspections to be performed remotely. The lower portion of the A-A weld is a circumferential head weld. Due to the curved geometry of this portion of the weld, automated means for ultrasonic examinatin of this portion of the weld have not been developed; thus, this portion of the weld must be ultrasonically examined by manual procedure.

GRAND GULF NUCLEAR STATION
UNIT 1
REQUEST FOR RELIEF NO. I-00004

INSERVICE INSPECTION PROGRAM
RPV LOWER HEAD-TO-SHELL WELD A-A

IV. Information to support the determination that the code requirement is impractical: (Continued)

The containment design of Grand Gulf Nuclear Station Unit 1 is designated Mark III. A feature of this design is that an annulus space of approximately 30 inches width exists between the reactor vessel outer circumference and the biological shield wall inner circumference. The examiners must enter this annulus space to perform manual ultrasonic examination of the A-A weld. Contact radiation levels on, and area radiation levels near, the recirculation inlet and outlet nozzles, recorded at other BWR plants during the first three to six years of reactor operation have been in the range of 200 mR/hr to 2000 mR/hr. We anticipate the area radiation levels at the A-A weld to be approximately the same as those near the nozzels due to their proximity to each other, the constricted space in annulus, the proximity to the core, which is treated as an area source, and possible reflection from the metallic insulation on the inner surface of the biological shield wall. For purposes of estimating exposure, we have assumed an area radiation level at the A-A weld of 800 mR/hr at the end of the first 40 month inservice inspection period. The level is expected to increase as the plant ages.

Due to the large amount of weld area required to be examined and the nature of the radiation sources in the area, shielding is not practical. Such shielding would need to shield the entire body, would be heavy and difficult to move and would require significant exposure to erect and move.

Based on the results of the examinations performed during the preservice inspections, it is estimated that 16 man-hours will be required to perform the required manual ultrasonic examinations. This time does not include the time required for personnel to enter and exit the annulus space; however, it does include an allowance for the extra time required by personnel due to wearing protective clothing and for mapping three recordable, but not reportable indications, which were found during preservice inspections.

GRAND GULF NUCLEAR STATION
UNIT 1
REQUEST FOR RELIEF NO. I-00004

INSERVICE INSPECTION PROGRAM
RPV LOWER HEAD-TO-SHELL WELD A-A

We estimate that the manual ultrasonic examination of the A-A weld will require approximately 12,800 millirem of personnel exposure. Entry and exit of the annulus region plus support personnel exposure during the examinations is estimated to require an additional 1,700 millirem for a total estimated exposure of 14,500 millirem.

V. Specific relief requested:

Permission is requested to delete all ultrasonic inservice inspections of the lower one-half (Category B-A, Item B1.21 requirement) of the entire circumference of the A-A weld, except as noted under alternate examinations.

VI. Reasons why relief should be granted

Relief from the ultrasonic inservice inspection of the A-A weld is requested for the following reasons.

1. The upper one-half (Category B-A, Item B1.11) of the A-A weld was examined by remote ultrasonics as a preservice inspection in accordance with ASME Section XI and no recordable indications were found.

2. The lower one-half (Category B-A, Item B1,21) of the A-A w ld was examined by manual ultrasonics as a preservice inspection in accordance with ASME Section XI and a total of three recordable, but not reportable, indications were found. The examination report shows that the indications are outside the heat affected zone of the weld.

3. The entire reactor pressure vessel was subjected to a hydrostatic pressure test in accordance with ASME Section III.

4. The upper one-half of the A-A weld will be examined by remote ultrasonics during the first inservice inspection interval in accordance with the requirements of ASME Section XI.

GRAND GULF NUCLEAR STATION
UNIT 1
REQUEST FOR RELIEF NO. I-00004

INSERVICE INSPECTION PROGRAM
RPV LOWER HEAD-TO-SHELL WELD A-A

5. The entire reactor pressure vessel will be subjected to a system leakage test at each refueling outage and to a system hydrostatic test during each inservice inspection interval in accordance with the requirements of ASME Section XI.

VII. Alternative examinations:

Instead of examining the entire lower one-half of the A-A weld, we propose to perform manual ultrasonic examinations only of the section of the weld in which the three recordable indications were found (approximately a 12 inch by 12 inch surface area), once per inservice inspection interval. We will monitor the sizes of the indications and, if any of the indications appears to be increasing in size, we will evaluate the indications and take appropriate actions, which may include ultrasonic examinations of other sections of the weld. The anticipated exposure for performing the alternative examination would be less than 500 mrem.

GRAND GULF NUCLEAR STATION
UNIT 1
REQUEST FOR RELIEF NO. I-00005

INSERVICE INSPECTION PROGRAM
RPV SEAM WELD A-B LOWER HALF

I. Component: The lower half of seam weld AB of the Unit 1 reactor pressure vessel (See Sketch #1).

II. Code: The Unit 1 reactor pressure vessel was designed and fabricated to ASME Section III, Class 1 requirements. Applicable inservice inspections are to be performed in accordance with the ASME Section XI, 1977 Edition with addenda through and including Summer 1979 Addenda.

III. Code requirements: Seam weld A-B is a circumferential shell weld and it is required to be volumetrically examined for essentally 100% of the weld length, once during the first 10-year inservice inspection interval, in accordance with ASME Section XI, Table IWB-2500-1, Category B-A, Item B1.11.

IV. Information to support the determination that the code requirements is impractical.

The circumferential weld AB joins together ring 1 and ring 2 of the reactor pressure vessel (RPV) and is located 210.66 inches above vessel zero. The bottom of the core is located at 215.31 inches above vessel zero. The weld is approximately 4.65 inches below the bottom of the core. The centerlines of the recirculation pump discharge nozzles (jet pump suction nozzles-N2) and the recirculation pump suction nozzles (N1 nozzles) are located approximately 30.96 inches and 37.92 inches respectively below the weld.

The upper portion of seam AB is a typical circumferential shell weld. An automated ultrasonic examination procedure and equipment have been developed which will permit the required inservice volumetric inspections to be performed remotely.

However, due to the nozzle interference with the automated ultrasonic equipment and the irregular geometry on the lower portion of weld AB, remote examination is not possible. Therefore, this portion of the weld must be examined by the manual procedure.

The containment design of Grand Gulf Nuclear Station Unit 1 is designated Mark III. A feature of this design is an annulus space of approximately 30 inches width which exists between the reactor vessel outer circumference and the biological shield wall inner circumference. The examiners must enter this annulus space to perform the manual ultrasonic examination of

GRAND GULF NUCLEAR STATION
UNIT 1
REQUEST FOR RELIEF NO. I-00005

INSERVICE INSPECTION PROGRAM
RPV SEAM WELD A-B LOWER HALF

IV. Information to support the determination that the code requirements is impractical. (Continued)

weld AB. Since we have no actual radiation data from GGNS, we are basing our estimates on data from other plants. The information we received from the other BWR plants indicated that seam AB is located in a radiation field of approximately 8-10 R/hr. This is a conservative estimate for the end of the first fuel cycle (first re-fueling outage). The actual exposures will probably be less; however, the area and contact readings can be expected to rise as the plant ages.

Based on the results of the preservice inspections, it is estimated that 16 man-hours will be required to perform the manual ultrasonic examinations of weld AB. This time also does not include the time required for personnel to enter and exit the annulus space; however, it does include an allowance for the extra time required by personnel due to wearing protective clothing and for mapping four recordable, but not reportable indications, which were found during the preservice examination.

As stated earlier, personnel performing manual ultrasonic examinations on this particular weld will be subject to very high area radiation fields, in the neighborhood of 8-10 R/hr. Even assuming GGNS daily and weekly administrative whole body limits are waived and the inspectors are allowed to accumulate their entire GGNS quarterly administrative limit of 2500 millirem in one dose, personnel stay times in this area would be less than 20 minutes.

We estimate that the manual ultrasonic examination of the AB weld will require approximately 128,000 millirem of exposure per 10-year interval or 42,666 millirem each inspection period. The calculations do not include exposure to support personnel.

Due to the large amount of weld area required to be examined and the nature of the radiation sources in the area, temporary shielding is not practical. Such shielding would need to protect the entire body, would be heavy and difficult to move and would require significant exposure to erect in and remove from the annulus region. If the shielding were worn on the body (lead vests, for example), the extra weight of the shielding would slow personnel entry and exit, thus negating any advantages.

GRAND GULF NUCLEAR STATION
UNIT 1
REQUEST FOR RELIEF NO. I-00005

INSERVICE INSPECTION PROGRAM
RPV SEAM WELD A-B LOWER HALF

V. Specific relief requested: Permission is requested to delete all ultrasonic inservice inspection on the lower one-half (Category B-A Item B1.11 requirements) of the entire circumference of the AB weld, except as noted under alternate examinations.

VI. Reasons why relief should be granted: Relief from ultrasonic inservice inspection of weld AB is requested for the following reasons:

1. The entire reactor pressure vessel was subjected to a hydrostatic pressure test in accordance with ASME Section III.

2. The entire reactor pressure vessel will be subjected to a system leakage test at each refueling outage and to a system hydrostatic test each inservice inspection interval in accordance with the requirements of ASME Section XI.

3. The upper one-half (Category B-A, Item B1.11) of the AB weld was examined by remote ultrasonics as a preservice inspection in accordance with ASME Section XI and 13 recordable, but not reportable, indications were found.

4. The lower one-half (Category B-A, Item B1.11) of the AB weld was examined by manaual ultrasonics as a preservice inspection in accordance with ASME Section XI and a total of four recordable, but not reportable, indications were found. These indications were laminar reflectors in the base metal and are located outside the heat affected zone of the weld.

5. Based on the information we received from other BWR plants, we have estimated that the manual ultrasonic examination on weld AB could require as many as 48 examiners.

6. Weld AB will be examined by remote ultrasonics from the #2 ring side of the weld during the first inservice inspection interval (1st 10 years). It

GRAND GULF NUCLEAR STATION
UNIT 1
REQUEST FOR RELIEF NO. I-00005

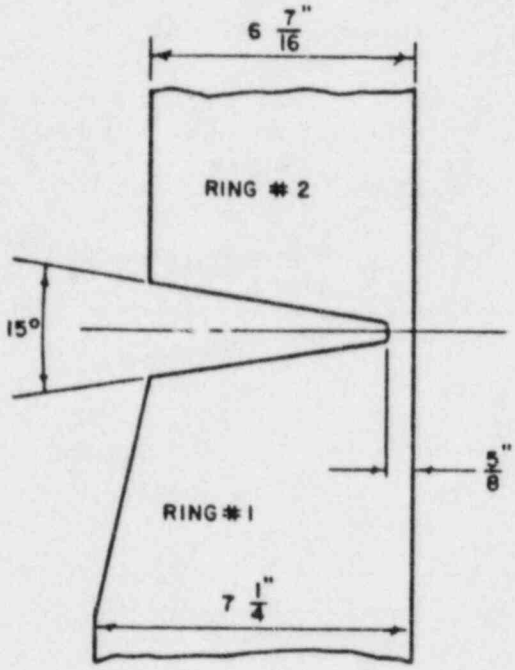
INSERVICE INSPECTION PROGRAM
RPV SEAM WELD A-B LOWER HALF

is not practical to perform a remote ultrasonic examination from the #1 ring side of the weld due to nozzle interference. (See attached drawing). However, a minimum of 70% coverage of the weld will be attained with the 0°, 45°, 60° transducers scanning from the #2 ring. Full coverage is not possible with the remote equipment because of the seam configuration.

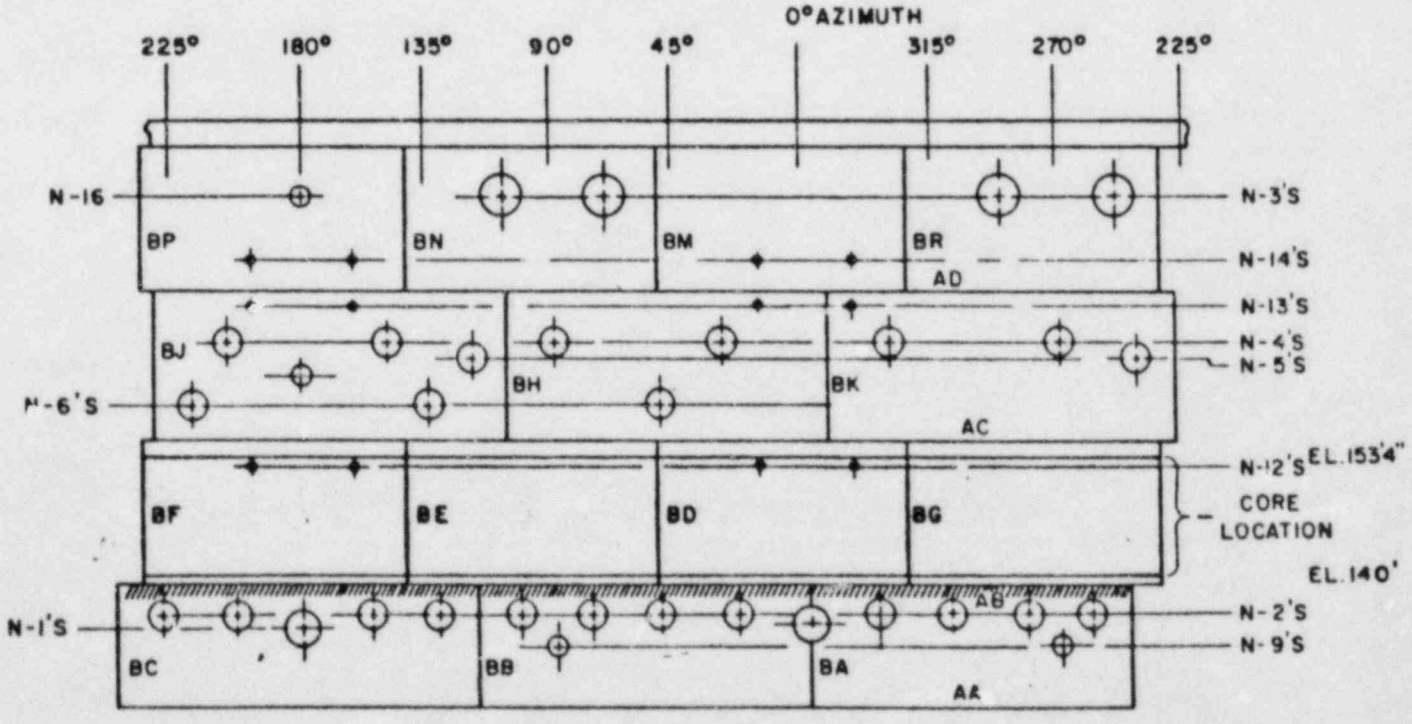
VII. Alternative examinations:

Instead of examining the entire lower one-half of the AB weld, we propose to perform manual ultrasonic examinations only on the section of the weld in which the four recordable indications were found (approximately a 13 inch by 22 inch surface area), once per inservice inspection interval. We will monitor the sizes of the indications and, if any of the indications appear to be increasing in size, we will evaluate the indications and take appropriate action, which may include ultrasonic examinations of other sections of the weld. The anticipated exposure for performing these alternative examinations would be less than 4600 mrem.

GRAND GULF NUCLEAR STATION UNIT 1
INSERVICE INSPECTION REQUIREMENTS
REQUEST FOR RELIEF NO. I-00005



NO. 1&2 GIRTH SEAM
AB



//// AREAS INACCESSIBLE TO REMOTE ULTRASONIC EXAMINATION

RPV DEVELOPED ELEVATION

NOT DRAWN TO SCALE

GRAND GULF NUCLEAR STATION
UNIT 1
REQUEST FOR RELIEF NO. I-00006

INSERVICE INSPECTION PROGRAM
RPV SEAM WELD AC

I. Component: Section of seam weld AC of Unit 1 reactor pressure vessel. (See Sketch #1).

II. Code: The Unit 1 reactor pressure vessel was designed and fabricated to ASME Section III, Class 1 requirements. Applicable inservice inspections are to be performed in accordance with the ASME Section XI, 1977 Edition with addenda through and including Summer 1979 Addenda.

III. Code requirements: This weld is a circumferential shell weld and is thus to be volumetrically examined for essentially 100% of the weld length, once during the first 10 year inservice inspection interval, in accordance with ASME Section XI, Table IWB-2500-1, Category B-A, Item B1.11.

IV. Information to support the determination that the code requirement is impractical: The circumferential weld AC joins together ring 2 and ring 3 of the reactor pressure vessel (RPV) and is located 388.84 inches above vessel zero. The top of core is located 366.61 inches above vessel zero, and the seam is 22.23 inches above the top of the core.

Both the upper and lower portions of seam AC are typical circumferential shell welds. Automated ultrasonic examination procedure and equipment have been developed which will permit the required inservice volumetric inspections to be performed remotely. However, due to the nozzle interference with the automated ultrasonic equipment, a remote examination is not possible. Therefore, this portion of the weld must be examined by the manual procedure.

Except for areas around the N6 nozzles and the N12 nozzles, seam AC was examined with the automated ultrasonic equipment. Approximately 23 inches on each side of each N6 nozzle's centerline and 18 inches on each side of each N12 nozzle's centerline required manual ultrasonic inspection. The nozzles are located so close to the seam that they interfere with the automated equipment.

The containment design of Grand Gulf Nuclear Station Unit 1 is designated Mark III. A feature of this design is that an annulus space of approximately 30 inches width exist, between the reactor vessel outer circumference and the biological shield wall inner circumference.

GRAND GULF NUCLEAR STATION
UNIT 1
REQUEST FOR RELIEF NO. I-00006

INSERVICE INSPECTION PROGRAM
RPV SEAM WELD AC

IV. Information to support the determination that the code requirements is impractical: (Continued)

The examiners must enter this annulus space to perform the manual ultrasonic examination on weld AC. Since we have no actual radiation data from GGNS, we based our estimates on data from other plants. The information we received from the other BWR plants indicated the AC weld is located in a radiation field of approximately 8-10 R/hr. These are conservative estimates for the end of the first fuel cycle (first refueling outage). The actual exposures will probably be less; however, the area and contact readings can be expected to rise as the plant ages.

The total length of weld subject to manual inspection is approximately 23.5 feet; therefore it will take approximately 4 hours to perform the manual inspection on weld AC. This estimation includes an allowance for the extra time required by personnel due to wearing protective clothing, but it does not include the time required by personnel to enter and exit the annulus area.

As stated earlier, personnel performing manual ultrasonic examinations on this particular weld will be subject to very high area radiation fields, in the neighborhood of 8-10 R/hr. Even assuming GGNS daily and weekly administrative whole body limits are waived and the inspectors are allowed to accumulate their entire GGNS quarterly administrative limit of 2500 mrem for one dose, personnel stay times in this area would be less than 20 minutes.

Our calculations indicate that seam AC will require approximately 32,000 millirem of personnel exposure per 10-year interval or 10,666 millirem each inspection period. These figures do not include radiation exposure to support personnel.

Due to the amount of weld area required to be examined and the nature of the radiation sources in the area, temporary shielding is not practical. Such shielding would need to protect the entire body, would be heavy and difficult to move and would require significant exposure to erect in and remove from the annulus region.

GRAND GULF NUCLEAR STATION
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REQUEST FOR RELIEF NO. I-00006

INSERVICE INSPECTION PROGRAM
RPV SEAM WELD AC

V. Specific relief requested:

Permission is requested to delete all manual ultrasonic inservice inspection on the areas of weld AC affected by the presence of intruding N6 and N12 nozzles. This length consists of approximately 23.5 ft out of total 138 ft circumference of the AC weld on both sides (approximately 69 ft for one side). Therefore, approximately 83 percent of the required examinations are performed by the remote method.

VI. Reasons why relief should be granted:

Relief from the manual ultrasonic inservice inspection of weld AC is requested for the following reasons:

1. The entire reactor pressure vessel was subject to a hydrostatic pressure test in accordance with ASME Section III.

2. The entire reactor pressure vessel will be subject to a system leakage test at each refueling outage and to a system hydrostatic test each inservice inspection interval in accordance with the requirements of the ASME Section XI.

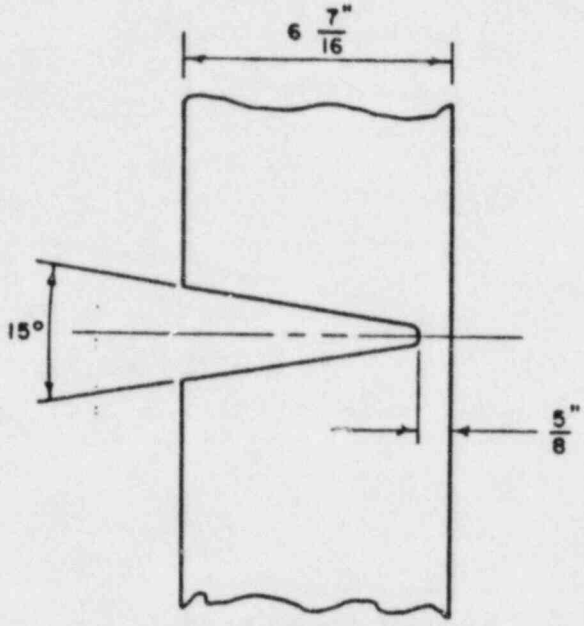
3. The entire AC weld, except for the areas around N6 and N12 nozzles, was examined by remote ultrasonics from both sides of the weld as a preservice inspection in accordance with ASME Section XI and 19 recordable, but not reportable indications were found. Manual ultrasonic inspection of the areas not scanned by the remote equipment revealed no recordable indications.

4. The accessible AC weld will be examined by remote ultrasonics during the first inservice inspection interval (1st 10 years) in accordance with the requirements of ASME Section XI. Complete coverage of the weld around the N6 and N12 nozzles will be attained with the 0°, 45°, & 60° transducers scanning from the side of the seam opposite the nozzles.

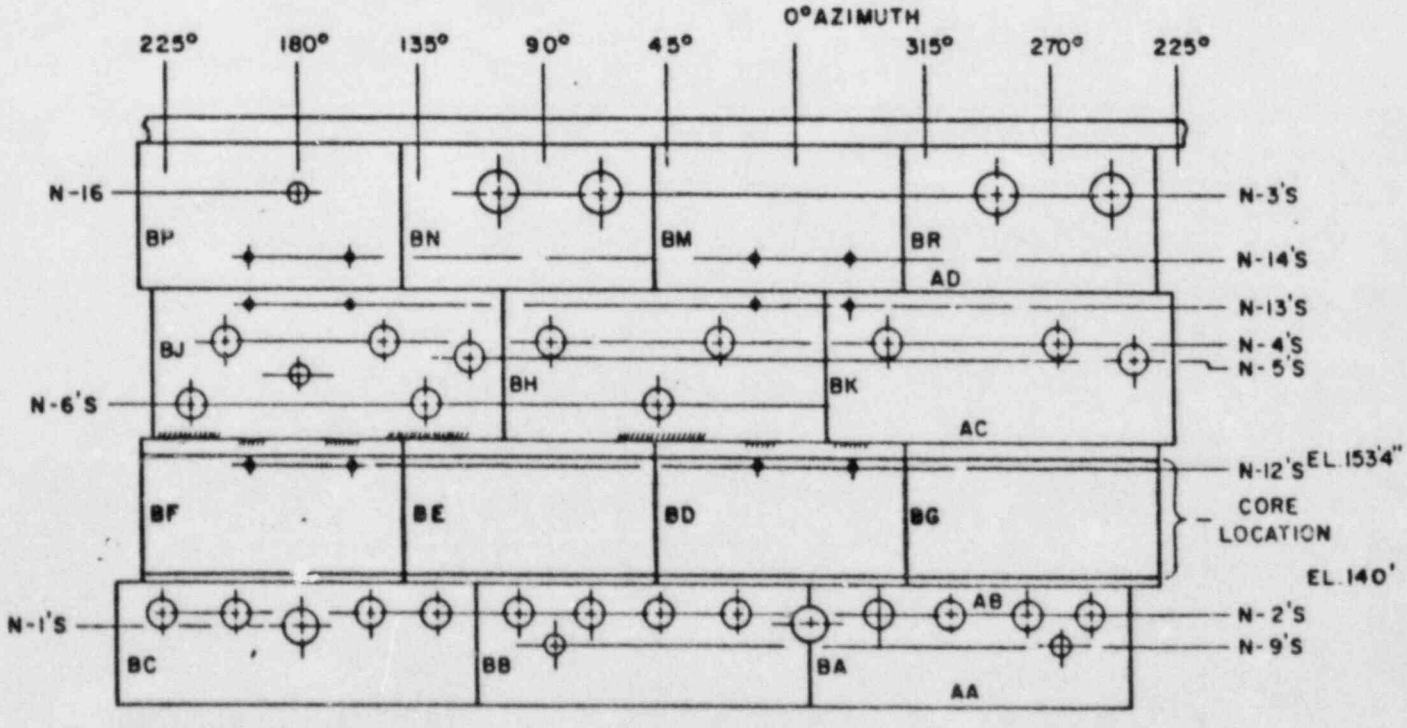
VII. Alternate examinations:

Since weld AC did not have any recordable indications by manual examination, no alternate examinations are planned for this seam.

GRAND GULF NUCLEAR STATION UNIT 1
INSERVICE INSPECTION REQUIREMENTS
REQUEST FOR RELIEF NO. I-00006



NO. 2 & 3 RINGS TOGETHER
GIRTH SEAM
AC



//// AREAS INACCESSIBLE TO REMOTE ULTRASONIC EXAMINATION ONLY FROM SIDE OF WELD AS SHOWN

RPV DEVELOPED ELEVATION

NOT DRAWN TO SCALE

GRAND GULF NUCLEAR STATION
UNIT 1
REQUEST FOR RELIEF NO. I-00007

INSERVICE INSPECTION
OF PIPING WELDS WITHIN GUARD PIPES

I.	Component:	ASME Section III Class 1 pressure retaining circumferential welds located in Feedwater Loops A and B (B21), Main Steam (B21), Main Steam Drain (B21), Reactor Core Isolation Cooling (E51), Residual Heat Removal (E12) and Reactor Water Clean-up (G33) piping. These welds are located on system piping inside guard pipes, which extend beyond the containment. The applicable welds are listed on Table 1.
II.	Code:	These welds were designed and fabricated to ASME Section III, Class 1 requirements. Applicable inservice inspection is to be performed in accordance with ASME Section XI, 1977 Edition through and including summer of 1979 Addenda.
III.	Code requirements:	Class 1 pressure retaining piping welds are required to be volumetrically and surface examined once each ten-year inspection interval in accordance with ASME Section XI, Table IWB 2500-1, Examination Category B-J.
IV.	Information to support the determination that the code requirement is impractical:	The circumferential welds joining the flued head and the process pipe are encapsuled by the portion of the guard pipe which protrudes beyond the containment. To comply with the inservice inspection requirements of ASME Section XI, two 4 x 6 inch elliptical access ports spaced 180 degree apart are provided for access to the welds. During the development of the access port design, the inservice contractor had indicated that the ports were adequate to permit performance of ultrasonic examination of the entire weld. After fabrication and installation of the process pipe, guard pipe and the flued head, it was determined that the entire length of the weld is not accessible through the two access ports. Approximately 50% of the weld is accessible for inservice inspection.
V.	Specific relief requested:	Permission is requested to permit only ultrasonic examination of the accessible areas of the weld, except as noted under alternate examination.
VI.	Reasons why relief should be granted:	Exemption is requested for the inservice inspection of inaccessible portions of welds located inside guard pipes for the following reason:

GRAND GULF NUCLEAR STATION
UNIT 1
REQUEST FOR RELIEF NO. I-00007

INSERVICE INSPECTION
OF PIPING WELDS WITHIN GUARD PIPES

VI. Reasons why relief should be granted: (Continued)

1. All but two of these lines were designed to high energy pipe break criteria. The exceptions are Q1E12G012W47 and Q1E51G001W12 which are classified as moderate energy pipes.

2. These welds were designed and fabricated in accordance with ASME Section III, Class 1 requirements and were examined by radiographic and liquid penetrant techniques.

3. These welds have satisfactorily passed both liquid penetrant and ultrasonic examination in accordance with ASME Section XI, Class 1 requirements.

4. Class 1 isolation valves in the process pipe on both sides of the guard pipes are capable of completely isolating each pipe in the event of a pipe failure.

5. The guard pipes have been designed and constructed in accordance with ASME Section III, Class 2 requirements and were hydrostatically tested in accordance with ASME Section III, Class 2 requirements.

6. The guard pipes are open to the drywell environment; thus, any leakage due to weld failure will be contained within the drywell. The guard pipes will prevent any leakage from escaping to the Containment Building.

7. The process pipes inside the guard pipes were hydrostatically tested in accordance with ASME Section III, Class I requirements.

8. The process piping inside each guard pipe assembly will be subject to periodic pressure tests in accordance with ASME Section XI, Table IWB-2500-1, Category B-P, requirements.

VII. Alternate examination:

The accessible length of each weld will be ultrasonically examined in accordance with ASME Section XI, Table IWB-2500-1, Examination Category B-J. Should signs of weld deterioration or discrepancies be noted during regular inspections, evaluation of the conditions will be made.

GRAND GULF NUCLEAR STATION
UNIT 1
REQUEST FOR RELIEF NO. I-00007

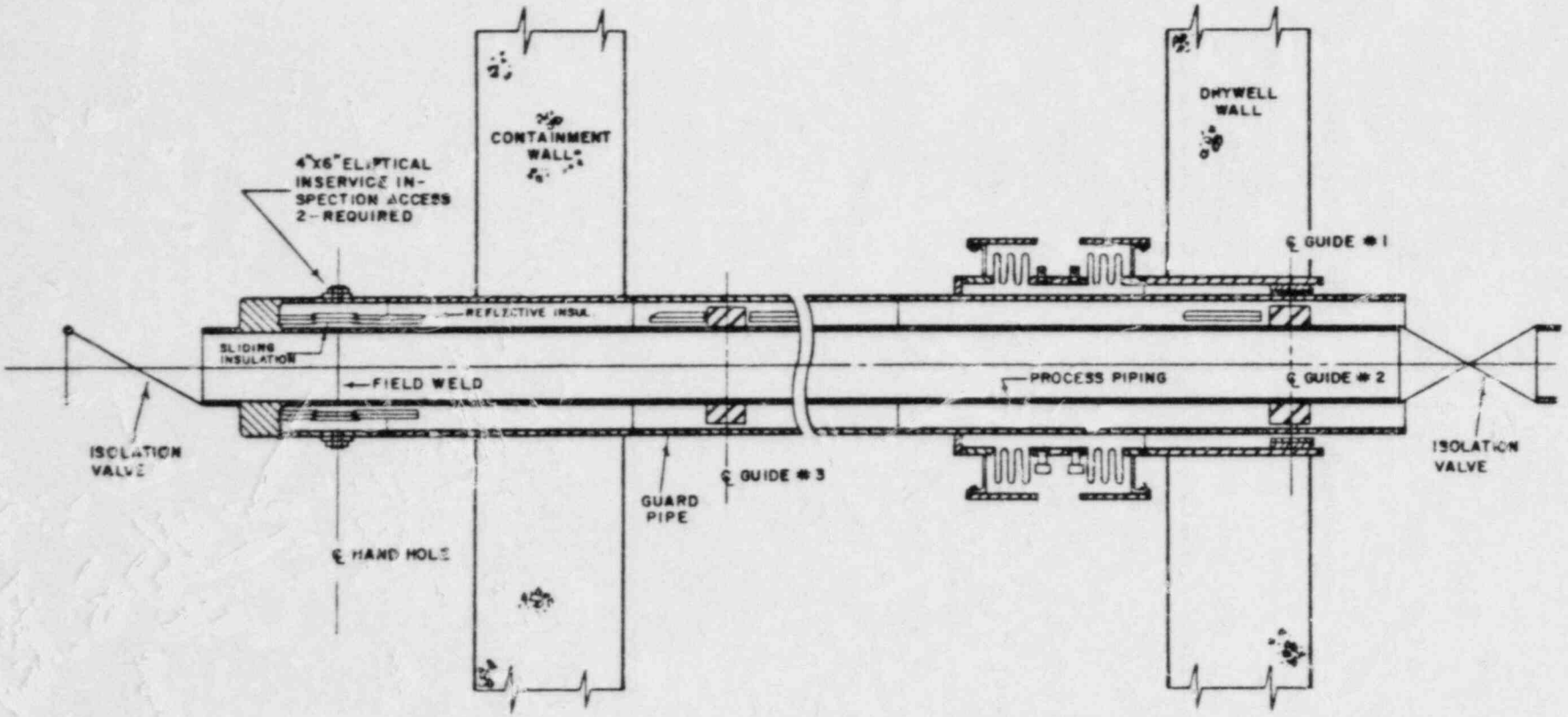
INSERVICE INSPECTION
OF PIPING WELDS WITHIN GUARD PIPES

NOTE: In addition, a relief request No. 00001 based on the above logic for four (4) welds on main steam pipes was submitted earlier with the Unit 1 preservice inspection. The Nuclear Regulatory Commission accepted this request for relief in GGNS Safety Evaluation Report, Supplement #2.

GRAND GULF NUCLEAR STATION UNIT 1
REQUEST FOR RELIEF NO. I-00007

TABLE 1

ITEM NO.	SYSTEM NO.	WELD NO.	ISO NO.	PIPE SIZE	COMPONENT	APPROX EXAM AREA	TYPE SCAN	CLASS	REASON FOR LIMITATIONS
1	B21	G12-C1-A	MS-11-9	28"	PIPE TO PIPE	53%	T	1	GUARD PIPE
2	B21	G12-A1-A	MS-11-3	28"	PIPE TO PIPE	53%	T	1	GUARD PIPE
3	B21	G12-D1-A	MS-11-12	28"	PIPE TO PIPE	53%	T	1	GUARD PIPE
4	B21	G12-B1-A	MS-11-6	28"	PIPE TO PIPE	53%	T	1	GUARD PIPE
5	B21	W2	FW-11-1	24"	PIPE TO PIPE	50%	T	1	GUARD PIPE
6	B21	W18	FW-11-7	24"	PIPE TO PIPE	50%	T	1	GUARD PIPE
7	B21	W9	SD-11-2	3"	PIPE TO PIPE	50%	T	1	GUARD PIPE
8	E12	W47	RH-11-1	20"	PIPE TO PIPE	50%	T	1	GUARD PIPE
9	E51	W12	RI-8-9	6"	PIPE TO PIPE	50%	T	1	GUARD PIPE
10	E51	W7	RI-11-3	10"	PIPE TO PIPE	50%	T	1	GUARD PIPE
11	G33	W18	CU-11-3	6"	PIPE TO PIPE	50%	T	1	GUARD PIPE



VERTICAL SECTION THRU GUARD PIPE ASSEMBLY

GRAND GULF NUCLEAR STATION
UNIT I

GRAND GULF NUCLEAR STATION
UNIT 1
REQUEST FOR RELIEF NO. I-00008

INSERVICE INSPECTION
OF CONTROL ROD DRIVE AND IN-CORE HOUSINGS WELDS & FLANGE BOLTING

I. Component: Peripheral control rod drive housing welds (tube-to-tube, tube-to-flange) and bolting located on CRD housings.

II. Code: These portions of the CRD and in-core housing were designed and fabricated to the ASME Section III, Class I requirements. Applicable inservice inspections are to be performed in accordance with ASME Section XI, 1977 Edition through and including Summer 1979 Addenda.

III. Code requirements:

1. Welds located in 10% of the peripheral CRD housings require surface examination (dye penetrant) during each ten-year inservice inspection interval in accordance with ASME Section XI, Table IWB-2500-1, Examination Category B-O.

2. Pressure retaining bolting for the flange-to-flange joints, located on te CRD and incore housings, are required to be visually examined (VT-1) once every ten-year inspection interval in accordance with ASME Section XI, Table IWB-2500-1, Examination Category B-G-2.

IV. Information to support the determination that code requirements are impractical: The weld areas and bolting are not accessible for inspection unless the control rod drive (CRD) support structure is removed. A 360 degree surface examination cannot be accurately accomplished from the outside, due to interference from adjacent CRD housings. Inspection of the weld from the inside of the CRD housing would require that the control rod drive mechanism be removed, which could result in damage to the drive. With removal of the drive, a small amount of reactor water would escape to the CRD cavity area, possibly causing contamination of personnel and equipment. The time frame associated with the CRD support structure removal and CRD mechanism would be approximately six (6) man hours per drive. Dosage received by personnel in this interval cannot justify the inspection process to possibly find a fault which could be discovered by excessive leakage in the drywell sump monitored per Operating License Manual (Technical Specification) limits in effect.

V. Specific relief requested: Permission is requested to exempt from inservice inspection, the peripheral CRD housing welds (tube-to-tube, tube-to-flange), the eight (8) bolts associated

GRAND GULF NUCLEAR STATION
UNIT 1
REQUEST FOR RELIEF NO. I-00008

INSERVICE INSPECTION
OF CONTROL ROD DRIVE AND IN-CORE HOUSINGS WELDS & FLANGE BOLTING

V. Specific relief requested: (Continued) with each flange of 193 CRD housings and the four (4) bolts associated with each flange of 58 incore housings.

VI. Reasons why relief should be granted: Request for exemption from inservice inspection should be granted for the following reasons:

1. The peripheral CRD housing welds have been examined by radiography and liquid penetrant methods and have been hydrostatic tested in accordance with ASME Section III code requirements.

2. All incore and CRD Housing bolting has been examined in accordance with the requirements of ASME Section III, which exceed the Section XI (VT-1) visual examination requirements.

3. The welds and bolting will be subject to hydrostatic testing per the requirements of ASME Section XI upon completion of each outage.

4. If the welds and/or bolts fail while in operation, the maximum leakage rate, by calculation, will occur at the peripheral CRD housing tube-to-flange weld. The maximum calculated leak rate is 681 gpm. By criteria established in subarticle IWB-1200, "exemptions by make up capacity", the normal makeup capability for GGNS is 878 gpm, which exceeds the calculated maximum leakage.

5. Leak detection is provided with the leakage detection system, with continuous monitoring in the control room.

6. The CRD housing supports would prevent ejection of the housings in case of total failure of the welds or bolts.

7. Removal of the control rod drive support structure would result in hardships with no compensatory increase in the level of quality and safety.

VII. Alternate testing: None

NOTE: A similar request for relief from pre-service inspection requirements was accepted by NRC in GGNS Safety Evaluation Report, Supplement #2.

GRAND GULF NUCLEAR STATION
UNIT 1
REQUEST FOR RELIEF NO. I-00009

INSERVICE INSPECTION
OF PUMP CASING WELDS

I. Component: Pump casing welds located within the surrounding concrete pump support encasement for the following pumps (see attached list and sketches):

PUMP	PUMP NO.	SKETCH NO.
Residual Heat Removal (RHR)	1E12 C002B	RH-8-12
Low Pressure Core Spray (LPCS)	1E21 C001	LP-9-4
High Pressure Core Spray (HPCS)	1E22 C001	HP-8-10

II. Code: LPCS, HPCS and the RHR "B" pumps were designed and fabricated to the ASME Section III, Class 2 requirements. Applicable inservice inspection is to be performed in accordance with ASME Section XI, 1977 Edition through and including Summer 1979 Addenda.

III. Code requirements: The pressure retaining welds located on the LPCS, HPCS and RHR "B" pumps are required to be surface examined (magnetic particle) once every ten-year interval in accordance with the ASME Section XI, Table IWC-2500-1 Category C-G.

IV. Information to support the determination that the code requirements are impractical: Inaccessible pump casing welds are located where the concrete pump support encasement only allows a 3" clearance between the pump casing and the concrete encasement wall (see attached drawing for details of the design). Due to this limited accessibility, it is impractical to surface examine those portions of the welds located within the surrounding concrete pump support encasement.

V. Specific relief requested: Permission is requested to exempt from inservice inspection the inaccessible portions of the pump casing welds listed on Table 1.

VI. Reasons why relief should be granted: Request for an exemption should be granted for the following reasons:

1. These welds have been volumetrically examined by radiography and passed in accordance with the ASME Section III, Class 2 requirements.

2. The accessible length of each applicable weld will be surface examined (magnetic particle method) in accordance with ASME Section XI.

GRAND GULF NUCLEAR STATION
UNIT 1

REQUEST FOR RELIEF NO. I-00009
(Continued)
INSERVICE INSPECTION
OF PUMP CASING WELDS

3. The failure of these welds, thus leading to failure of the pump, would have no adverse effect on plant safety, as redundant emergency core cooling systems are provided.

4. Annunciators (i.e., low suction pressure, discharge pressure abnormal, etc.) are provided in the control room, along with other system indicators, to alert the operators to abnormal operating conditions.

5. The systems, including the pumps, are tested at least once per 31 days per Operating License Manual (Technical Specifications) requirements to ensure operability.

6. Pumps will be subject to a system pressure test in accordance with ASME Section XI, Class 2 requirements.

7. Approximately 87 percent of the welds on the subject pump, which require surface examination, are accessible. Performance of the required examinations on these accessible welds should ensure that generic degradation is not occurring in these pump casing welds.

VII. Alternate testing: None

NOTE: A similar request for relief from pre-service inspection of the welds has been accepted by the NRC in GGNS Safety Evaluation Report, Supplement #2.

GRAND GULF NUCLEAR STATION
UNIT 1

REQUEST FOR RELIEF NO. I-00009
INSERVICE INSPECTION

TABLE 1

LIST OF PUMP CASING WELDS

E12 - RHR PUMP "B" CASING

WELDS SURFACE THAT SHALL BE EXAMINED

DH-1	DH-4	DH-7	DH-25	SB-5
DH-2	DH-5	DH-11	SB-3	SB-6
DH-3	DH-6	DH-12	SB-4	SB-7

WELDS THAT CAN BE PARTIALLY EXAMINED

SB-2 (18" Accessible, 54" inaccessible)

WELDS THAT CANNOT BE SURFACE EXAMINED

SB-1 (Inaccessible)

E21 - LPCS PUMP CASING

WELDS SURFACE THAT SHALL BE EXAMINED

DH-1	DH-4	DH-7	DH-27	SB-5
DH-2	DH-5	DH-11	SB-3	SB-6
DH-3	DH-6	DH-12	SB-4	SB-7

WELDS THAT CAN BE PARTIALLY EXAMINED

SB-2 (3" accessible, 69" Inaccessible)

WELDS THAT CANNOT BE EXAMINED

SB-1 (Inaccessible)

E22 - HPCS PUMP CASING

WELDS SURFACE THAT SHALL BE EXAMINED

DH-1	DH-4	DH-7	DH-19	SB-6
DH-2	DH-5	DH-11	DH-28	SB-7
DH-3	DH-6	DH-12	SB-5	

WELDS THAT CAN BE PARTIALLY EXAMINED

SB-4 (68" Accessible, 4" Inaccessible)

WELDS THAT CANNOT BE EXAMINED

SB-1 (Inaccessible)
SB-2 (Inaccessible)
SB-3 (Inaccessible)

GRAND GULF NUCLEAR STATION
UNIT 1

REQUEST FOR RELIEF NO. I-00010

INSERVICE INSPECTION
OF PRESSURE RETAINING WELDS

I.	Component:	Inaccessible portions of Class I and Class II pressure retaining piping welds located on residual heat removal (RHR, E12), reactor core isolation cooling (RCIC, E51), main steam (MS, B21) recirculation (Recirc., B33), and reactor water cleanup (RWCU, G33) systems. (See Table 1 for details.)
II.	Code:	These portions of the pressure retaining piping welds were designed and fabricated to the ASME Section III, Class 1 and Class 2 requirements. Applicable inservice inspections are to be performed in accordance with the ASME Section XI, 1977 Edition through and including Summer 1979 Addenda.
III.	Code requirements:	Class 1 and Class 2 pressure retaining piping welds are required to be volumetrically and surface examined, essentially 100% of the weld, once every ten-year interval in accordance with ASME Section XI, Table IWB-2500-1, Category B-J, Table IWC-2500-1, Category C-F.
IV.	Information to support the determination that the code requirements are impractical:	Portions of welds that were preservice examined have physical obstructions due to design. Due to this limited accessibility, it is impractical to volumetrically examine 100% of the welds listed on Table 1.
V.	Specific relief requested:	Permission is requested to exempt from volumetric examination the inaccessible portions of the Class 1 and Class 2 welds listed on Table 1.
VI.	Reasons why relief should be granted:	Request for an exemption should be granted for the following reasons:

1. The inaccessible portions of listed welds were examined by radiography, passed in accordance with ASME Section III, Class 1 and Class 2 requirements.

2. The inaccessible portions of listed welds were surface examined (magnetic particle or liquid penetrant), passed in accordance with ASME III and/or XI, Class 1 and Class 2 requirements.

3. The inaccessible portions of listed piping welds will be subject to a system leakage test after each refueling outage for Class 1, and each inspection period for Class 2 in accordance with ASME Section XI requirements.

GRAND GULF NUCLEAR STATION
UNIT 1

REQUEST FOR RELIEF NO. I-00010
(Continued)
INSERVICE INSPECTION
OF PRESSURE RETAINING WELDS

4. The inaccessible portions of listed piping welds will be subject to a system hydrostatic test each inspection interval in accordance with ASME Section XI, Class 1 and 2 requirements.

5. The portions of listed welds inaccessible for volumetric examination will be surface examined each inspection interval, in accordance with ASME Section XI.

6. Accessible portions of listed welds will be volumetrically and surface examined each inspection interval in accordance with ASME Section XI. Should indications be found, an engineering evaluation will be made to determine if the inaccessible portions of listed welds have been affected.

7. Leak detection is provided, by way of the leakage detection system with continuous monitoring, for the RWCU, RECIRC, RHR, RCIC, and MS systems.

8. The failure of any of these welds would have no adverse effect on plant safety as there is isolation capability and/or shut down capability as part of the plant design.

VII. Alternative testing:

All the welds identified in Table 1 will be inspected twice by volumetric examination during the 10-year interval.

GRAND GULF NUCLEAR STATION UNIT 1
RELIEF REQUEST NO. I-00010
TABLE 1

ITEM NO.	SYSTEM NO.	WELD NO.	ISO NO.	PIPE SIZE	COMPONENT	LIMITED AREA	TYPE SCAN	CLASS	REASON FOR LIMITATIONS
1	E12	G014-FW-44	RH-8-8	6"	VALVE TO ELBOW	42%	T	1	RADIUS OF ELBOW
2	B21	G9-C1-B-L/B	MS-11-8	28"	ELBOW SEAM SEAM	50%	T	1	RUPTURE RESTRAINT
3	E51	G004 8-8-1	RI-8-2	6"	ELBOW TO ELBOW	32%	T	2	ELBOW RADIUS
4	B21	G11-D1-B-L/B	MS-11-11	28"	ELBOW SEAM	50%	T	1	RUPTURE RESTRAINT
5	B21	G8-A1-B-L/B	MS-11-2	28"	ELBOW SEAM	50%	T	1	RUPTURE RESTRAINT
6	B21	G030 FW-23	FW-8-2	24"	VALVE TO PIPE	5%	T	1	SOCK-O-LET
7	B21	G030 FW-36	FW-8-4	24"	VALVE TO PIPE	5%	T	1	SOCK-O-LET
8	B21	G026 FW-17	FW-11-7	6"	PIPE TO TEE	5%	T	1	SOCK-O-LET
9	B21	G001-W4	MS-11-3	28"	VALVE TO PIPE	13%	T	1	RUPTURE RESTRAINT
10	B21	G001-W4	MS-11-9	28"	VALVE TO ELBOW	13%	T	1	RUPTURE RESTRAINT
11	B21	G9-C1-B-L/A	MS-11-8	28"	ELBOW SEAM	50%	T	1	RUPTURE RESTRAINT

GRAND GULF NUCLEAR STATION UNIT 1
REQUEST FOR RELIEF NO. I-00010
TABLE 1
(Continued)

ITEM NO.	SYSTEM NO.	WELD NO.	ISO NO.	PIPE SIZE	COMPONENT	LIMITED AREA	TYPE SCAN	CLASS	REASON FOR LIMITATIONS
12	B33	G5-B1-E	RR-11-9	24"	PIPE TO SWEEP-O-LET	5%	T	1	SWEEP-O-LET
13	E51	G004-7-8-4	RI-8-1	10"	REDUCER TO TEE	19%	T	2	TEE
14	E51	G004-7-8-9	RI-8-1	10"	REDUCER TO TEE	19%	T	2	TEE
15	E51	G004-7-8-8	RI-8-1	10"	REDUCER TO TEE	19%	T	2	TEE
16	B33	G024-W2	RR-11-19	4"	ELBOW TO TEE	24%	T	1	TEE
17	G33	G002-W179	CU-8-7	4"	ELBOW TO VENTURI	8%	T	3	ELBOW RADIUS
18	B21	G11-D1-B-L/A	MS-11-11	28"	ELBOW SEAM	50%	T	1	RUPTURE RESTRAINT
19	B21	G001 W9	MS-11-12	28"	VALVE TO PIPE	13%	T	1	RUPTURE RESTRAINT
20	B21	G8-A1-B-L/A	MS-11-2	28"	ELBOW SEAM	50%	T	1	RUPTURE RESTRAINT
21	E51	G001 W1	RI-8-12	6"	VALVE TO ELBOW	16"	T	2	ELBOW RADIUS
22	E51	G001 W40	RI-11-4	6"	PIPE TO VALVE	21"	T	1	ELBOW RADIUS

GRAND GULF NUCLEAR STATION
UNIT 1

REQUEST FOR RELIEF NO. I-00011

INSERVICE INSPECTION
OF THERMAL TEE SLEEVE WELDS

I. Component: Thermal tee sleeve welds D011-A-1 and D011-B-1 located on the residual heat removal (RHR) return from reactor water cleanup (RWCU) line (see attached sketch for location of the welds).

II. Code: Pressure retaining thermal tee sleeve welds D011-A-1 and D011-B-1 were fabricated in accordance with ASME Section III, Class 2 requirements. Inservice inspections are to be performed in accordance with ASME Section XI, 1977 Edition through and including Summer 1979 Addenda.

III. Code requirements: Thermal tee sleeve welds are required to be surface (magnetic particle) and volumetrically (ultrasonic) inspected once every ten-year inservice inspection interval in accordance with ASME Section XI, Table IWB-2500-1, Examination Category C-F, Item #CF.21.

IV. Information to support the determination that the code requirement is impractical: Due to the design of the thermal tee sleeve, there is not sufficient area to perform a meaningful ultrasonic examination. Also, the position of the thermal sleeve, as well as lack of internal access, precludes the use of radiography.

V. Reason why relief should be granted: Request for exemption from inservice volumetric (ultrasonics and radiography) inspections of thermal tee welds D011-A-1 and D011-B-1 on the RHR return to RWCU line, should be granted for the following reasons:

1. The thermal tee welds have been volumetrically examined by radiography and found acceptable in accordance with ASME Section III, Class 2 requirements.

2. The thermal tee welds have been surface examined by magnetic particle and found acceptable in accordance with ASME Section XI, Class 2 requirements.

3. The thermal tee welds will be subject to magnetic particle inspection every ten-year interval in accordance with ASME Section XI, Class 2 requirements.

4. Thermal tee welds will be subject to a system pressure test in accordance with ASME Section XI, Class 2 requirements.

GRAND GULF NUCLEAR STATION
UNIT 1

REQUEST FOR RELIEF NO. I-00011
(Continued)
INSERVICE INSPECTION
OF THERMAL TEE SLEEVE WELDS

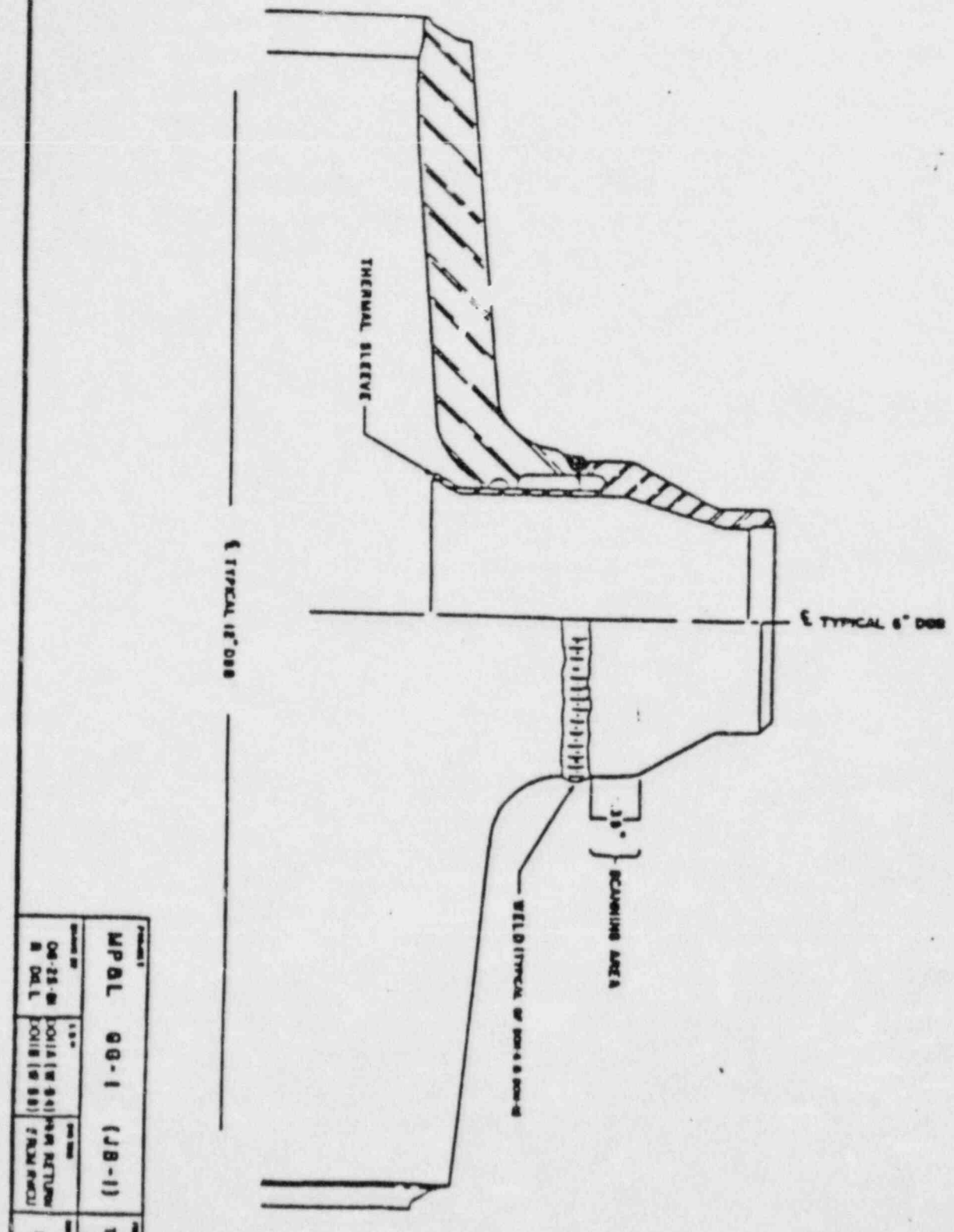
5. Leak detection is provided for the main steam tunnel, via the leak detection system in the control room which would detect a leak in the thermal tee sleeve weld.

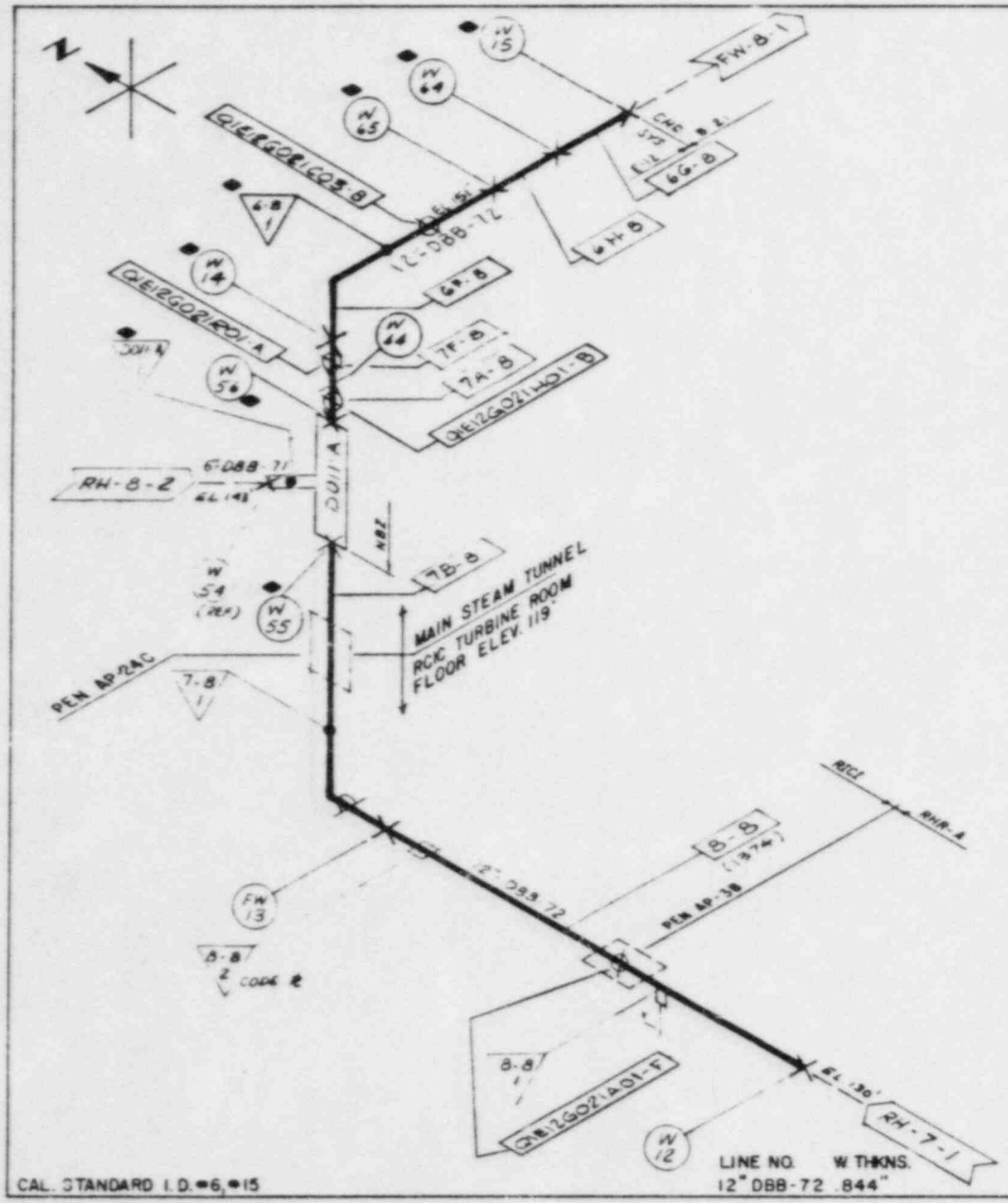
6. The system design would allow for isolation of the thermal sleeve without adversely affecting plant safety.

VI. Alternative testing:

Our inservice inspection plan requires that the thermal tee sleeve weld be examined twice during the ten-year interval by the magnetic particle technique.

GRAND GULF NUCLEAR STATION
UNIT 1
INSERVICE INSPECTION
REQUEST FOR RELIEF NO. I-00011



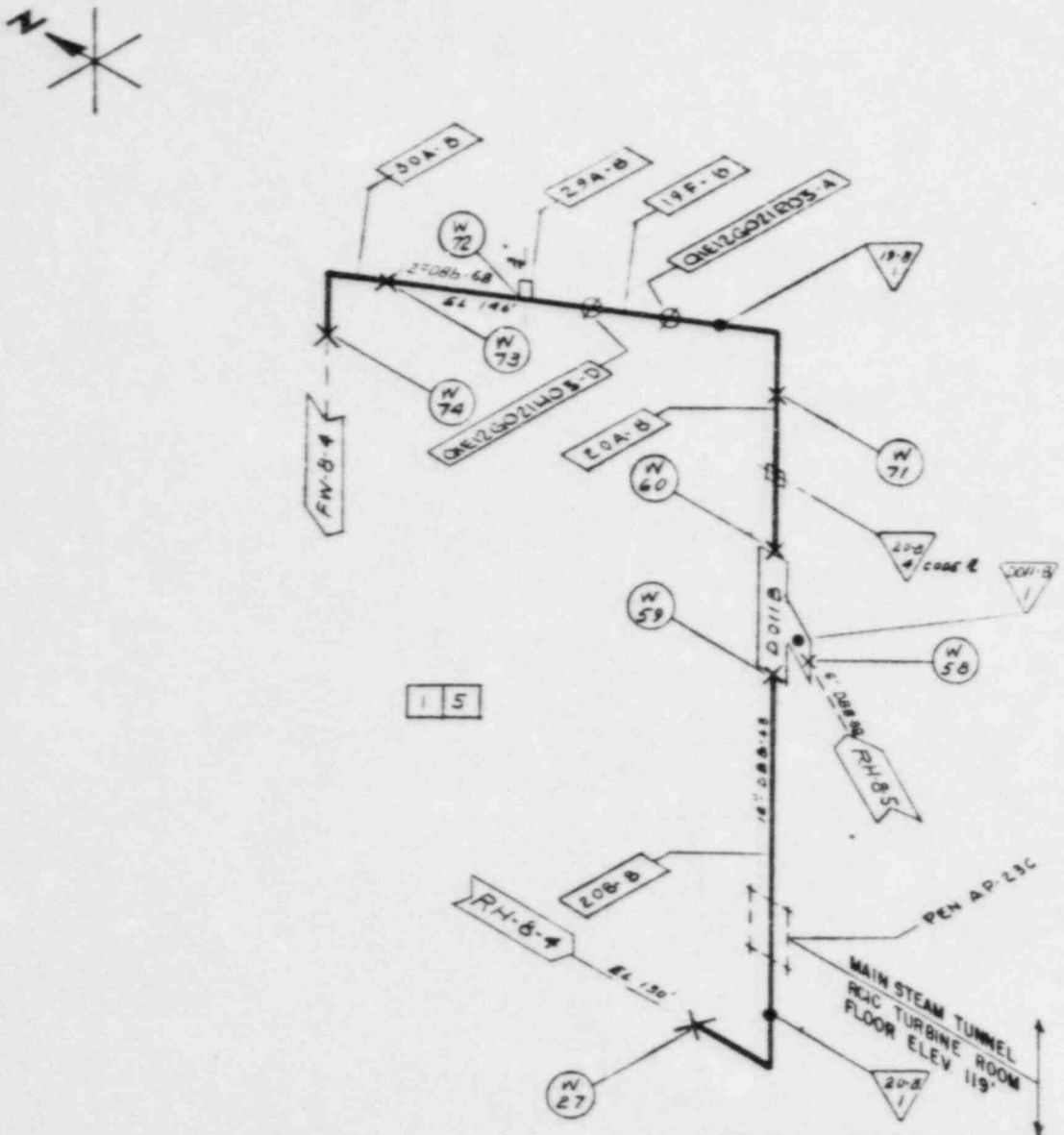


MPL NO 1812 GO21	WELD DESCR.	CODE CAT.	TYPE EXAM.	EXAM. TIME PERIOD	ACCESS SATIS.	I.D. MARK COMP.
W-12	"C"	CF	U.T.	3	A338	YES
W-13	"C"	CF	U.T.	3	A338	YES
7-8-1	"C"	CF	U.T.	3	A338	YES
W-55	"C"	CF	U.T.	3	A339	YES
W-56	"C"	CF	U.T.	3	A339	YES
W-44	"C"	CF	U.T.	3	A339	YES
W-14	"C"	CF	U.T.	3	A340	YES
6-8-1	"C"	CF	U.T.	3	A340	YES
W-65	"E"	CF	U.T.	3	A340	YES
W-64	"E"	CF	U.T.	3	A341	YES
W-15	"C"	CF	U.T.	3	A341	YES
W-12	"C"	CF	M.T.	3	A338	YES
W-13	"C"	CF	M.T.	3	A338	YES
7-8-1	"C"	CF	M.T.	3	A338	YES
W-55	"C"	CF	M.T.	3	A339	YES
W-56	"C"	CF	M.T.	3	A339	YES
W-44	"C"	CF	M.T.	3	A339	YES
W-14	"C"	CF	M.T.	3	A340	YES
6-8-1	"C"	CF	M.T.	3	A340	YES
W-65	"E"	CF	M.T.	3	A340	YES
W-64	"E"	CF	M.T.	3	A341	YES
W-15	"C"	CF	M.T.	3	A341	YES
A01-F	HANGER	FA	V.T.3	3	A341	N/A
H01-B	HANGER	FB	V.T.3	NOT CHOSEN	A342	N/A
R01-A	HANGER	FC	V.T.3	* (20) 1, 2, 3	A342	N/A
C03-B	HANGER	FB	V.T.3	NOT CHOSEN	A342	N/A
● D011-A-1	"J"	CF	M.T.	1, 3	A343	YES
● D011-A-1	"J"	CF	U.T.	RELIEF REQUEST I-00011	A343	YES
R01-A	HANGER	FC	V.T.4	*	A342	N/A

● REF. R.R. I-00011

◆ NO BREAK ZONE
* PER MP&L TECH. SPEC.
(20) INSP. AT LEAST EVERY 18 MTHS.

MP&L GG-1 (JB-1)			DWN. 04-11-77 S. GRAUS	IBSE NSO ATLANTA	REV. 2	SHT.
SYSTEM: RHR RETURN FROM RWCU	LOCATION: STM. TUN.	REF. ISO.: M-1328K REV. 20	REF. P&ID: M-1077A REV. 19	DWG. NO.: RH-8 PAGE 1 of 1		1



MPL NO. 1E12G021	WELD DESCR.	CODE CAT.	TYPE EXAM.	EXAM. TIME PERIOD	ACCESS SATIS.	I.D. MARK COMPL.
W-27	"C"	CF	U.T.	2	A352	YES
20-8-1	"C"	CF	U.T.	2	A352	YES
W-59	"C"	CF	U.T.	2	A352	YES
W-58	"C"	CF	U.T.	2	A353	YES
W-60	"C"	CF	U.T.	2	A353	YES
W-71	"C"	CF	U.T.	2	A353	YES
19-8-1	"C"	CF	U.T.	2	A354	YES
W-73	"C"	CF	U.T.	2	A354	YES
W-74	"C"	CF	U.T.	2	A354	YES
W-27	"C"	CF	M.T.	2	A352	YES
20-8-1	"C"	CF	M.T.	2	A352	YES
W-59	"C"	CF	M.T.	2	A352	YES
W-58	"C"	CF	M.T.	2	A353	YES
W-60	"C"	CF	M.T.	2	A353	YES
W-71	"C"	CF	M.T.	2	A353	YES
19-8-1	"C"	CF	M.T.	2	A354	YES
W-73	"C"	CF	M.T.	2	A354	YES
W-74	"C"	CF	M.T.	2	A354	YES
R03-A	HANGER	FC	V.T.3	✱ (■), 2, 3	A355	N/A
H03-D	HANGER	FC	V.T.3	NOT CHOSEN	A355	N/A
● D011-B-1	"J"	CF	M.T.	1, 2	A355	YES
● D011-B-1	"J"	CF	U.T.	RELIEF REQUEST I-00011	A355	YES
R03-A	HANGER	FC	V.T.4	✱	A355	N/A
H03-D	HANGER	FC	V.T.4	3	A355	N/A

✱ PER MP&L TECH SPEC
● REF RR I-00011
(■) INSP AT LEAST EVERY 18 MTHS

CAL. STANDARD I.D. ●15, ●12

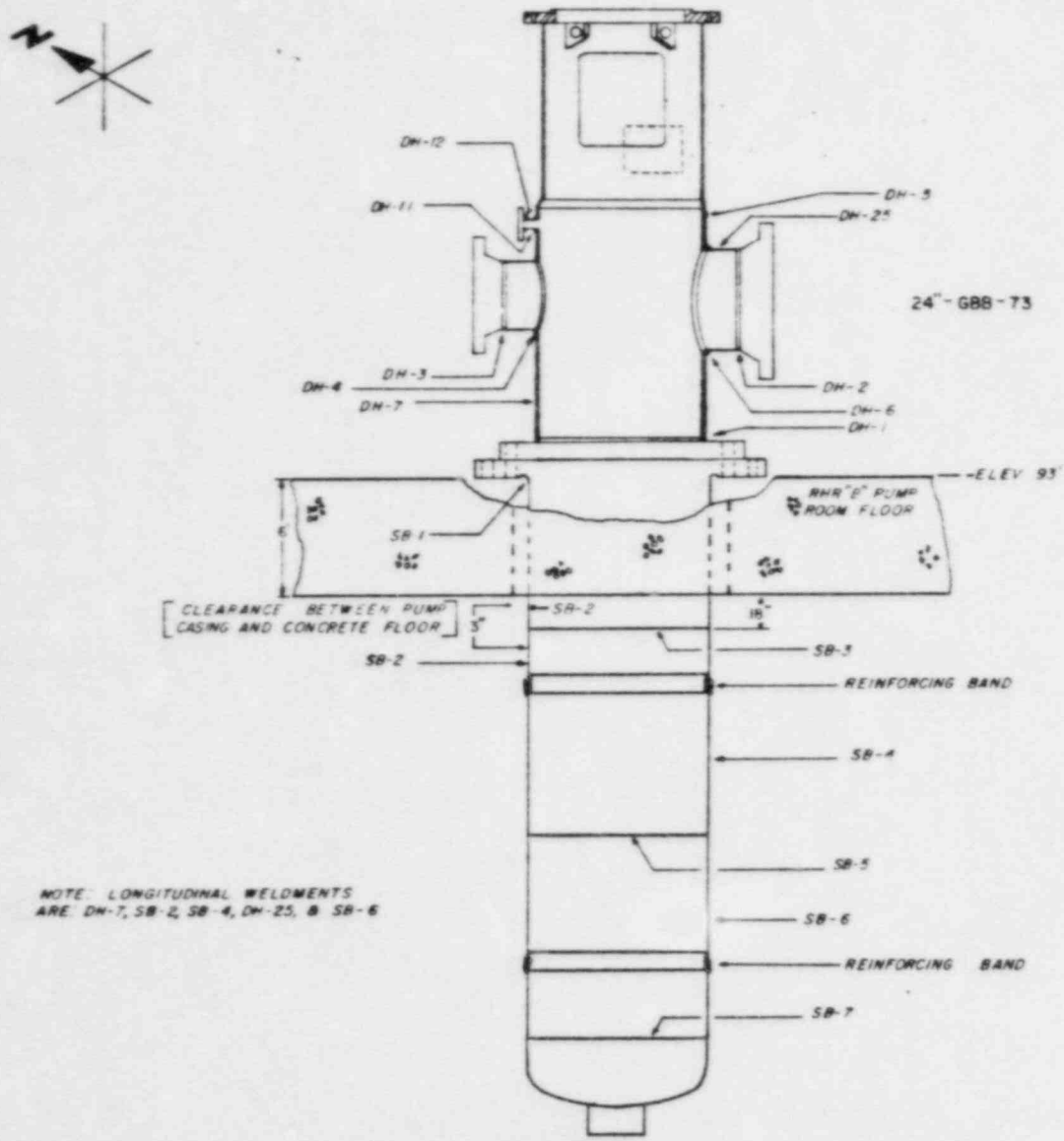
LINE NO. 12" DBB-68 W. THKNS. .844"

RH-0-28

GENERAL ELECTRIC

PROJECT			MADE BY		REV	SHT
MP&L GG-1 (JB-1)			06-12-80 SULLIVAN	I&SE-HSO ATLANTA	0	
SYSTEM	LOCATION	REF DWG	REF PKG	ISI DWG NO.	ISI NO.	
RHR RETURN FROM RWCU	STM. TUN.	M-1328K REV 20	M-1085B REV 20	RH-8 PAGE 1 of 1	3	

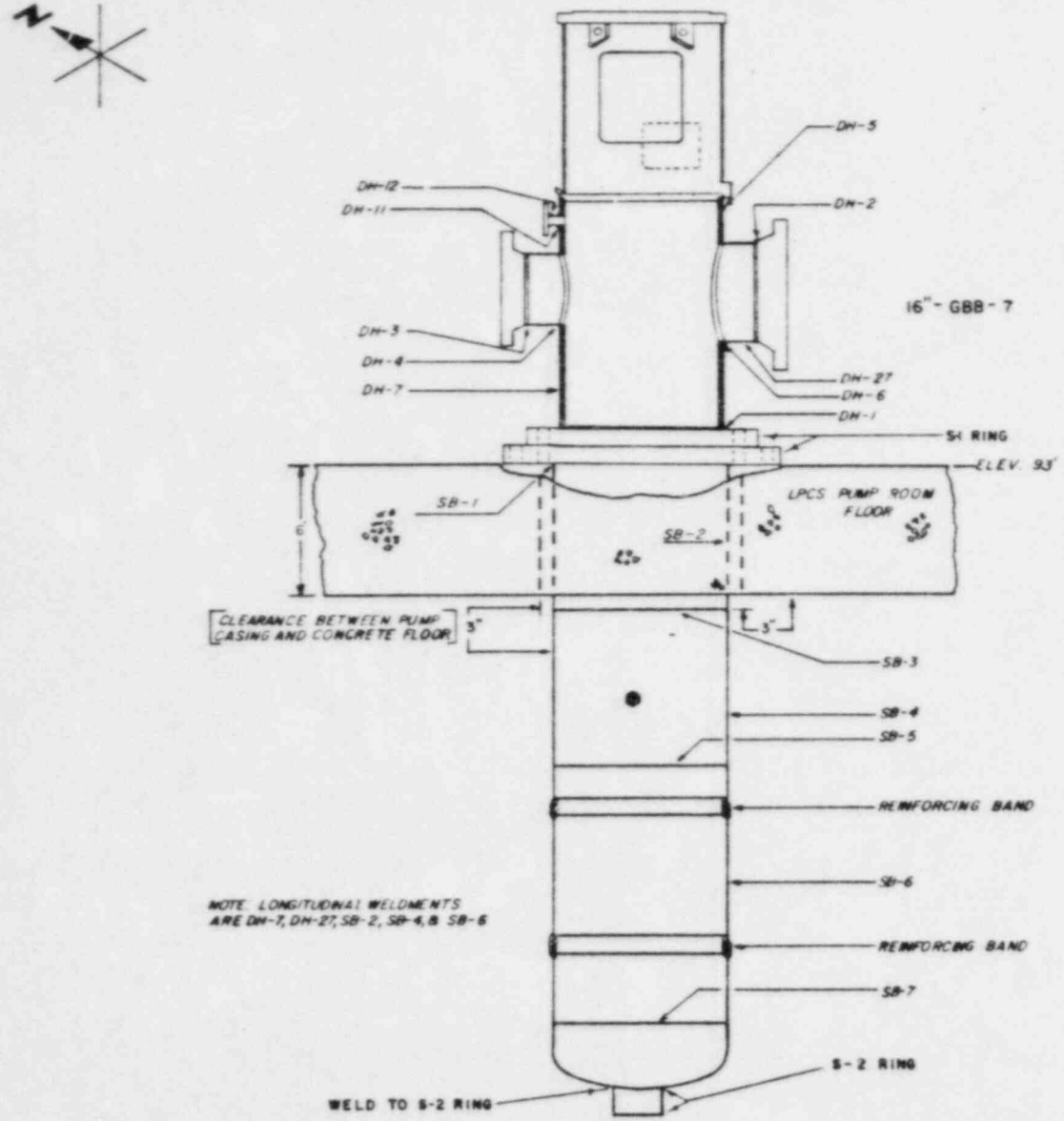
GRAND GULF NUCLEAR STATION - UNIT 1
INSERVICE INSPECTION
REQUEST FOR RELIEF NO. I-00009



MPL NO (E12GOIO)	WELD DESCR	CODE CAT	TYPE EXAM	EXAM TIME PERIOD	ACCESS SATIS	ID SAME COMPL

PROJECT MP&L GG-1 (JB-1)			MADE BY D. HUDNALL 09-02-8		IB SE-NSO ATLANTA	REV 0
SYSTEM RHR B	LOCATION AUX BLDG.	REF DWG M-13488 REV 14	REF P&ID M-1085A REV 22		IS DWG NO RH-8 PAGE 2 of 2	ISH NO 12

GRAND GULF NUCLEAR STATION - UNIT 1
INSERVICE INSPECTION
REQUEST FOR RELIEF NO. I-00009

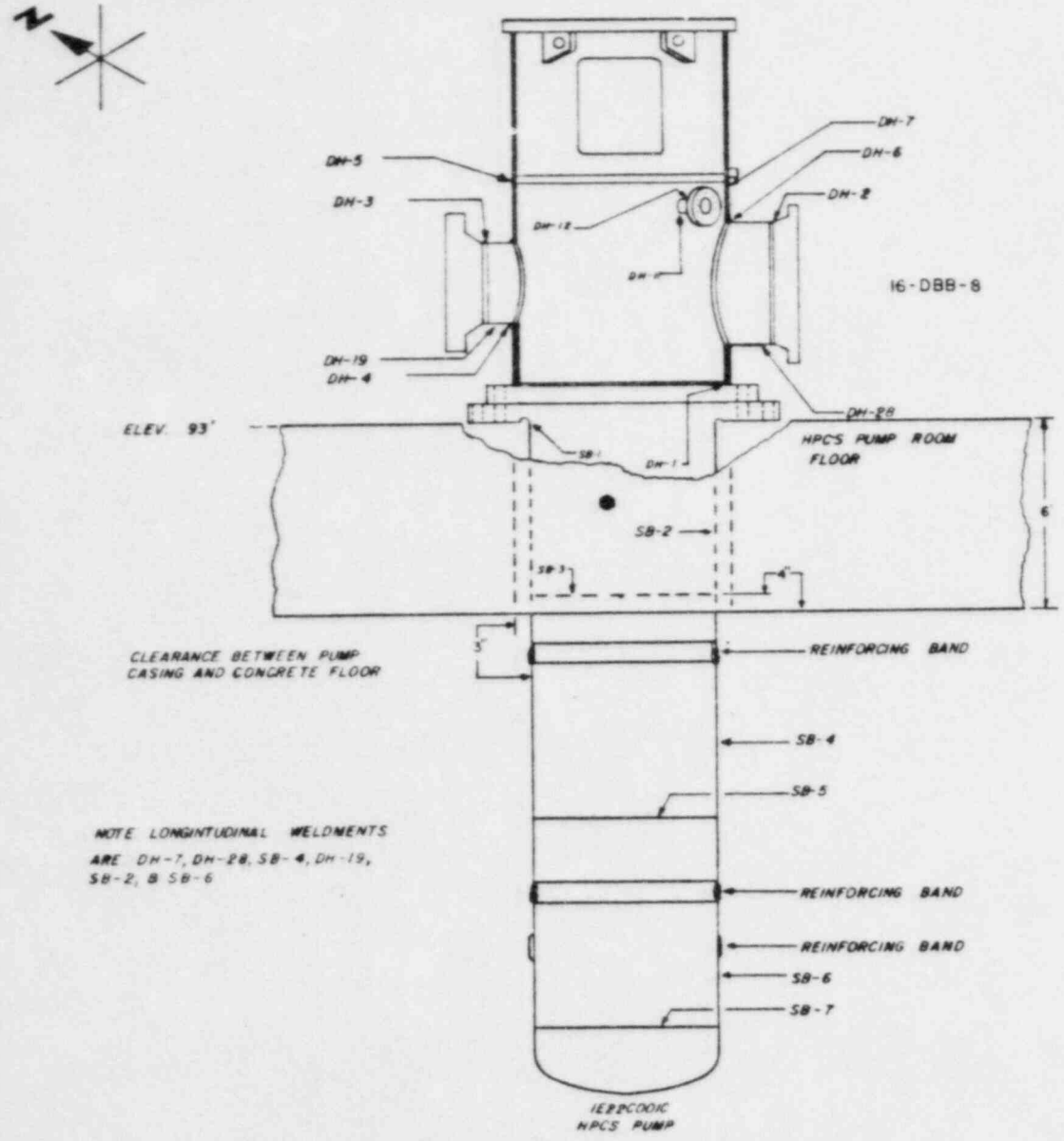


MPL NO. (E21GD01)	WELD DESCR	CODE CAT	TYPE EXAM	EXAM TIME PERIOD	ACCESS SATIS	I.D. MARK COMPL
S1	SUPPORT	F-B	V.T.-3		A1701	N/A
S2	SUPPORT	F-B	V.T.-3		A1701	N/A

● EQUIP SUPPORT, SEE DWG. NO. P-1287A

PROJECT			MADE BY	I&SE - NSD		
MP&L GG-1 (JB-1)			D. HUDNALL 09-02-81	ATLANTA		
SYSTEM	LOCATION	REF. DWG.	REF. P&ID	ISI DWG. NO.	SH. NO.	
LPCS	AUX BLDG.	M-1350A REV 22	M-1087 REV 19	LP-9 PAGE 2 of 2	4	

GRAND GULF NUCLEAR STATION - UNIT 1
INSERVICE INSPECTION
REQUEST FOR RELIEF NO. I-00009



NOTE LONGITUDINAL WELDMENTS ARE DH-7, DH-28, SB-4, DH-19, SB-2, & SB-6

NPL NO 1E22C001	WELD DESCR	CODE CAT	TYPE EXAM	EXAM TIME PERIOD	ACCESS BATIS	EXAM COMPL
S1 ●	SUPPORT	F8	VT 3		A1703	N/A
S2 ●	SUPPORT	F8	VT 3		A1703	N/A

● EQUIP SUPPORT SEE DWG P-1286A

PROJECT		MADE BY			
MP&L GG-1 (JB-1)		D HUDNALL 09-03-81		BASE-N50 ATLANTA	APP / DATE
SYSTEM	LOCATION	REF DWG	REF PBIC	IS DWG NO	SH NO
HPCS	AUX BLDG	M-1349A REV 19	M-1086 REV 16	MP-8 PAGE 2 of 2	10