Wisconsin Electric POWER COMPANY
231 W. MICHIGAN, P.O. BOX 2046, MILWAUKEE, WI 53201

July 6, 1984

Mr. H. R. Denton, Director
Office of Nuclear Reactor Regulation
U. S. NUCLEAR REGULATORY COMMISSION
Washington, D. C. 20555

Attention: Mr. J. R. Miller, Chief
Operating Reactors, Branch 3

Gentlemen:

DOCKET NOS. 50-266 AND 50-301
ASME SECTION XI, RELIEF REQUESTS
POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2

In accordance with 10 CFR 50.55a(g)(5)(iii), Wisconsin Electric Power Company (licensee) requests inservice inspection relief for the second ten-year inspection interval for Point Beach Nuclear Plant, Units 1 and 2. Attachment 1 provides the supportive information for the relief requests from specific ASME Section XI code requirements for Unit 1. Attachment 2 provides the supportive information for the relief requests from specific ASME Section XI code requirements for Unit 2.

In addition, amplifying discussion is provided concerning previously granted relief as documented in Mr. Miller's letter to Mr. Fay of March 29, 1984. In that letter, relief was granted for Units 1 and 2 from the requirement to perform surface examinations of three piping-to-penetration cap welds in the auxiliary coolant and safety injection systems provided that the first weld in the process pipe outside containment be subject to the required ASME code examination. The NRC staff evaluation of these relief requests (RR-2-5 and RR-1-5) states that assurance of the weld's structural integrity must be provided. Upon review of the relief request evaluation, it was determined that the buried welds inside the penetration are shop welds. Additionally, the first welds outside containment were determined to be shop welds on some of the lines in question and field welds on others. Since the shop weld outside containment on a line will more closely match the buried weld in welding process and manufacturing conditions than the field weld, we feel that the representative weld is the first shop weld outside containment. Therefore, Wisconsin Electric will inspect the first shop weld outside of containment in the system to meet the requirements of the granted relief.

A047
1/1

Also, it should be noted that in the Wisconsin Electric letter to the NRC dated August 20, 1982, and the subsequent response letter from the NRC dated March 29, 1984, the designator for the second weld of relief request RR-1-5 is incorrect. The correct designator is AC-10-RHR-1006-8 vice AC-10-RHR-1006-25. The designator is correct on the isometric drawings which were included with the Wisconsin Electric letter dated August 20, 1982.

In Wisconsin Electric's January 13, 1983 letter to the NRC, relief requests for both Unit 1 and Unit 2 were submitted. Response has been received on all relief requests submitted except relief request RR-1-9 for Unit 1. This relief request is identical to RR-2-9 for Unit 2 which was granted in the NRC letter dated March 29, 1984. Please review and respond to relief request RR-1-9 for Unit 1.

In your March 29, 1984 letter, relief requests RR-1-1 and RR-2-1, which relate to visual examination of the reactor vessel interior surfaces for Units 1 and 2, were denied. These requests were denied on the basis that the removal of the core barrel is not necessary to adequately perform the inspection. We understand this to mean that a visual inspection (VT-3) of the vessel interior surface above the core barrel during a normal refueling outage is adequate to satisfy your requirements. This is based on the fact that, normally, the core is not completely unloaded during a refueling outage which limits the vessel interior accessible surface to the area above the core barrel. If, for reasons other than inservice inspection, the fuel is unloaded during the refueling outage for which the vessel interior surfaces visual inspection is scheduled, an evaluation of accessibility to other areas of vessel interior surface will be made. If there are other accessible areas at that time, the scope of the examination area will be increased to include those areas.

Wisconsin Electric requests the Commission's acceptance of our proposed implementation of your alternatre requirements. In addition, we also request NRC's approval of the ASME Section XI relief requests as presented above and in Attachments 1 and 2.

Please contact us if additional information is needed.

Very truly yours,

C. W. Fay

Vice President-Nuclear Power

C. W. Fay
Attachments

Copy to NRC Resident Inspector

ATTACHMENT 1

UNIT 1 RELIEF REQUESTS

Relief Request No.	Description
RR-1-10	Residual Heat Removal Heat Exchanger Primary Side Nozzle to Shell Welds
RR-1-11	Regenerative Heat Exchanger Nozzle Inside Radius Sections

Component

Residual Heat Removal Heat Exchangers

Exam Area

Primary Side Nozzle-to-Shell Welds
RHR-A-N1
RHR-A-N2
RHR-B-N1
RHR-B-N2

Isometric or Component Drawing

Figure 1
Westinghouse Electric Corp. 4836-2
Figures B-4 and B-5

ASME Section XI Category

C-B

ASME Section XI Item Number

C2.20

ASME Section XI Examination Requirement

A surface and volumetric examination of each nozzle-to-shell weld every 10 years.

Alternative Examination

A surface examination will be performed on the entire reinforcing plate weld every 10 years. In addition, a visual (VT-2) examination for leakage will be conducted each inspection period during the system pressure test.

Reason for Limitation

The volumetric examination is not possible due to the reinforcing plate configuration and inaccessibility to the vessel interior. The reinforcing plate is welded to the nozzle and shell and completely covers the nozzle-to-shell weld. Figure 1 shows the details of the nozzle-to-shell weld and welded reinforcing plate. The welded reinforcing plate by its size and space next to the nozzle outside diameter, prevents adequate UT coverage of the nozzle-to-shell weld. An ultrasonic signal transmitted at the plate surface would simply be reflected by the plate's backwall. The diameter of the reinforcing plate is such that

an ultrasonic wave propagated from the nearest shell or nozzle surface would not provide adequate coverage of the nozzle-to-shell weld. The best surface from which to examine the nozzle-to-shell weld is the inside surface of nozzle. But this area is not accessible without disassembly of the heat exchanger requiring approximately 40 man-hours of effort in a general area radiation field of 50-100 mRem per hour. The actual examination of the nozzle-to-shell weld from the inside surface of the RHR heat exchanger would require approximately 1 man-hour of effort in a radiation field of 35 Rem per hour for the "A" RHR heat exchanger or 12 Rem per hour for the "B" RHR heat exchanger. Based upon these configurations, the examination of the nozzle-to-shell weld by ultrasonics is impractical and contrary to ALARA concepts.

CALCULATION SHEET

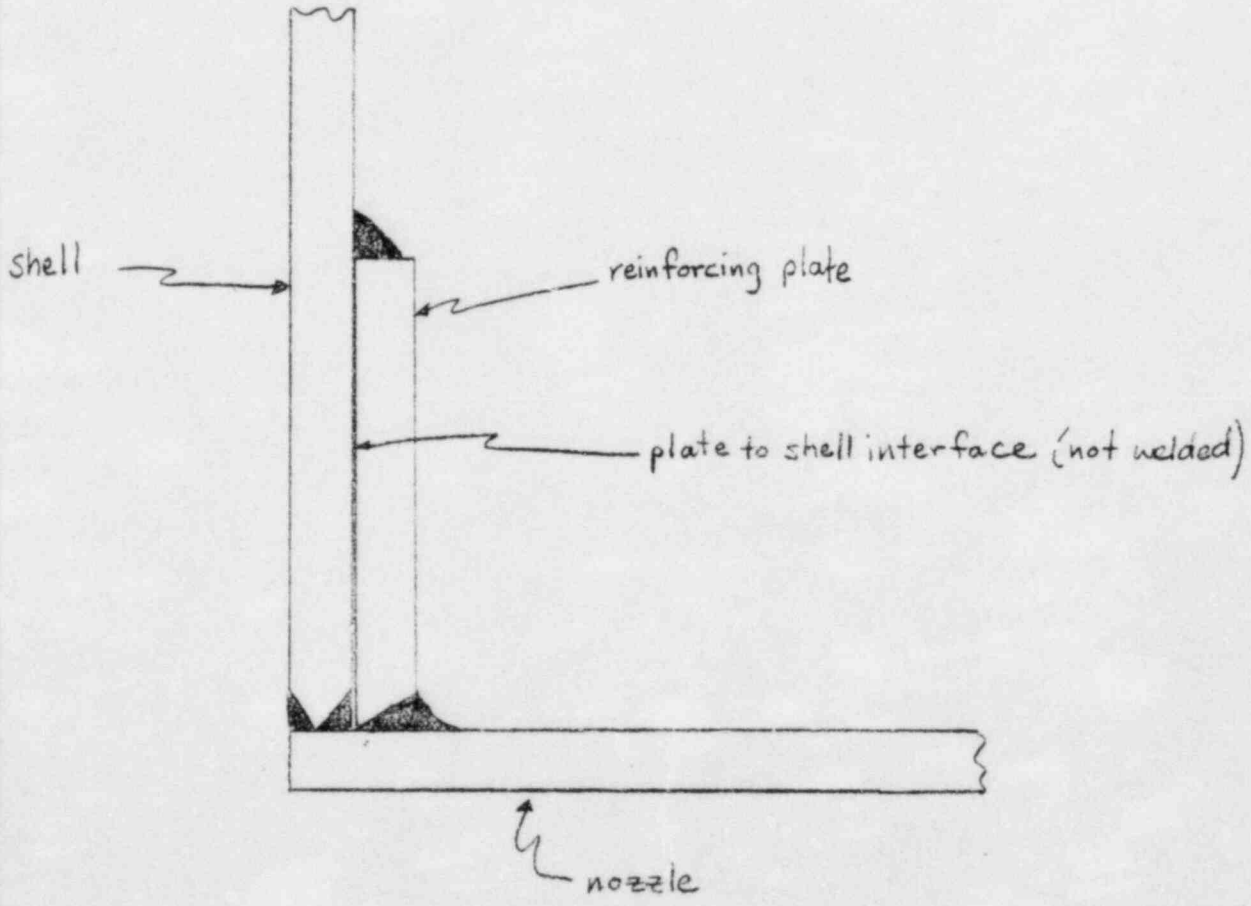
SHEET 1 OF 1

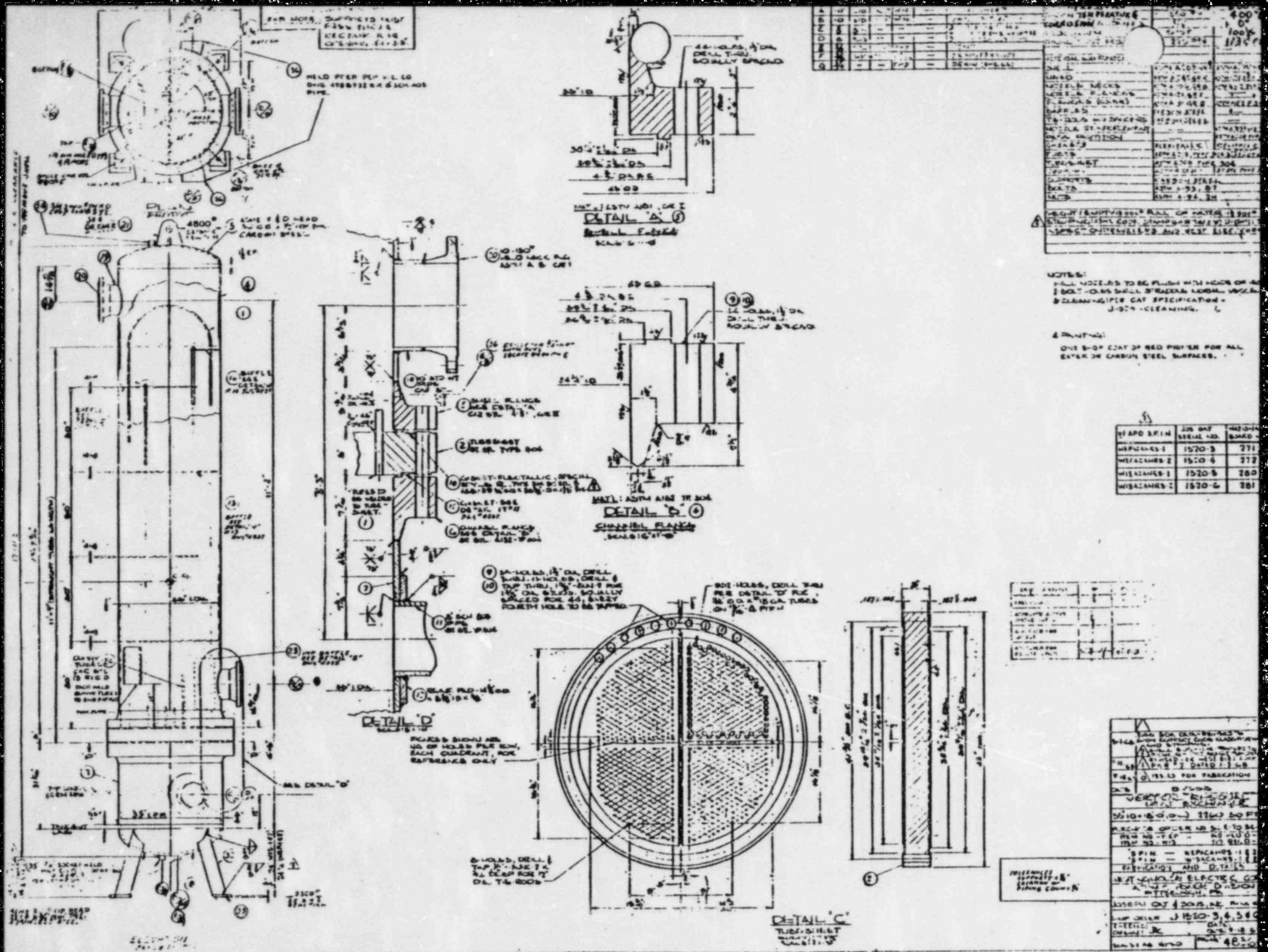
FILE No.

SUBJECT RESIDUAL HEAT REMOVAL HEAT EXCHANGER NOZZLE AREA - FIGURE 1

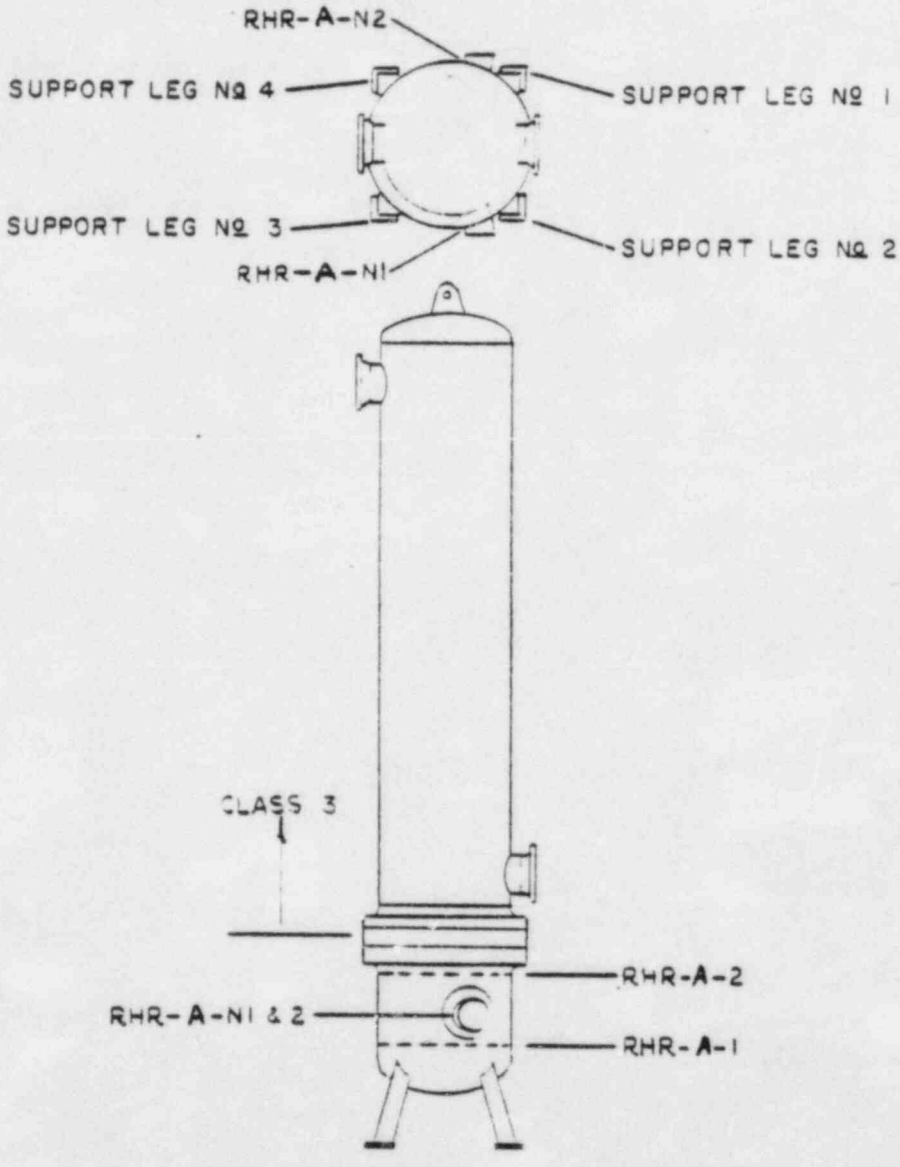
MADE BY SMP DATE 6/19/89

CHKD. BY DATE



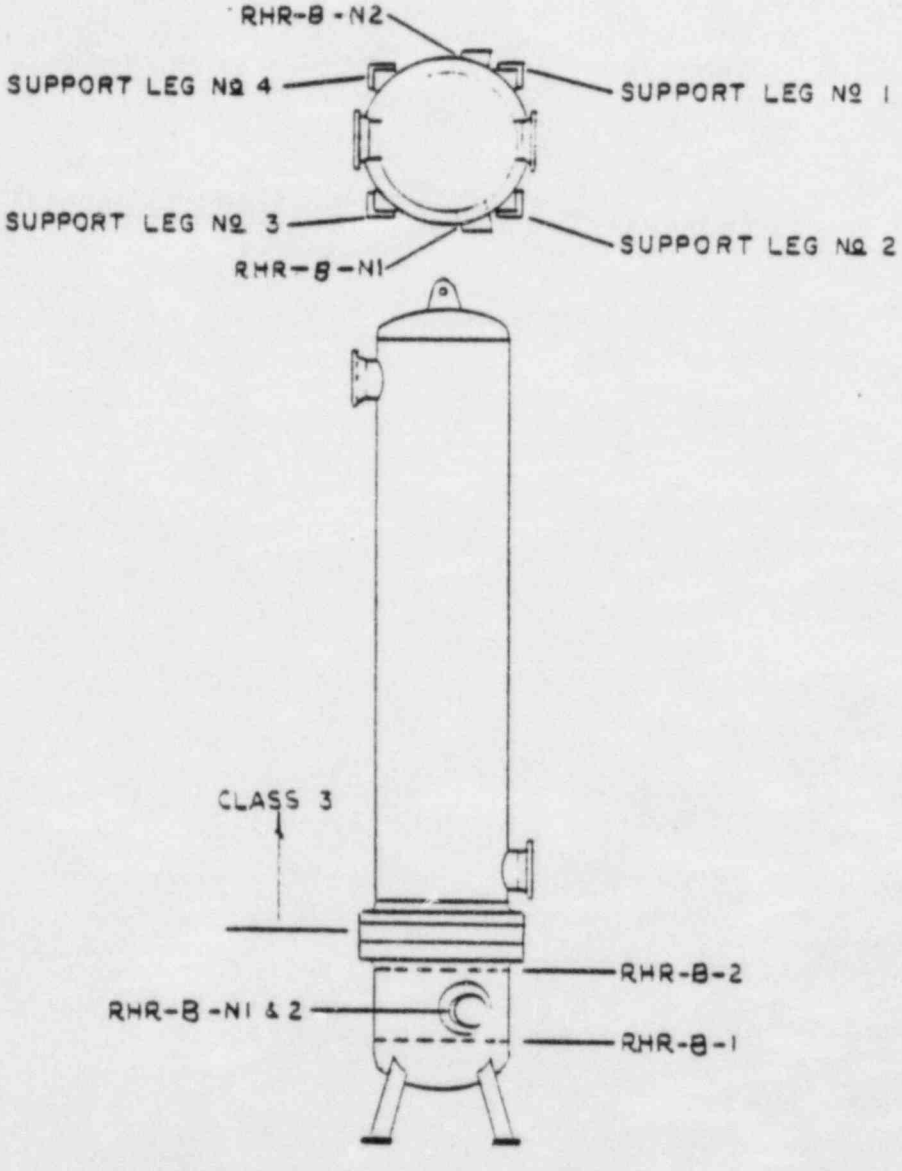

DETAIL 'A'
DETAIL 'B'
DETAIL 'C'
DETAIL 'D'
NOTES:
1 SPIN — WISACAMES-1
2 SPIN — WISACAMES-2
FABRICATED AND TESTED BY

POINT BEACH UNIT 1



RESIDUAL HEAT REMOVAL HEAT EXCHANGER "A"

FIGURE B-4



RESIDUAL HEAT REMOVAL HEAT EXCHANGER "B"

FIGURE B-5

Component

Regenerative Heat Exchanger

Exam Area

Nozzle inside radius sections (IRS)
RHE-N1-IRS
RHE-N4-IRS
RHE-N5-IRS
RHE-N8-IRS
RHE-N9-IRS
RHE-N12-IRS

Isometric or Component Drawings

Sentry Equipment Corp. AO4195-A10-4
Figure B-3

ASME Section XI Category

B-D

ASME Section XI Item Number

B3.160

ASME Section XI Examination Requirement

A volumetric examination of each nozzle inside radius section every 10 years.

Alternative Examination

None

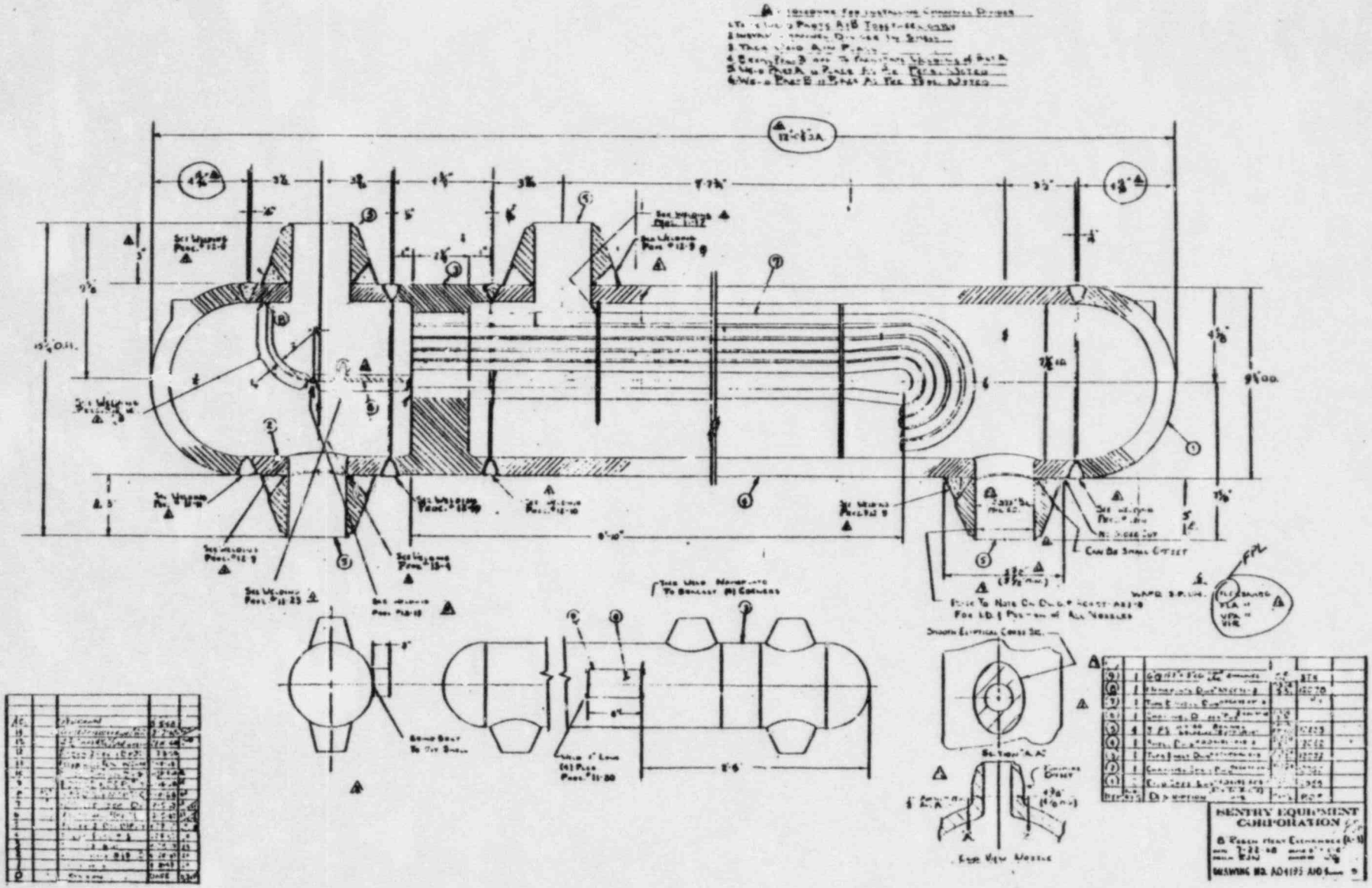
Reason for Limitation

The attached drawing depicts the regenerative heat exchanger (RHE) with cross-sectional views of the nozzle areas. The side view illustration shows that the vessel surface is perpendicular to the nozzle axis. The end view illustration shows the relationship between the nozzle and the curved vessel surface. Therefore, the angle between the nozzle axis and the vessel surface is not constant around the circumference of the nozzle. Because of this complex nozzle/vessel geometry, constantly changing angles and examination parameters would be required to direct sound into the inner radius area. Since the nozzle and vessel diameters are both small, the changes in angles required would

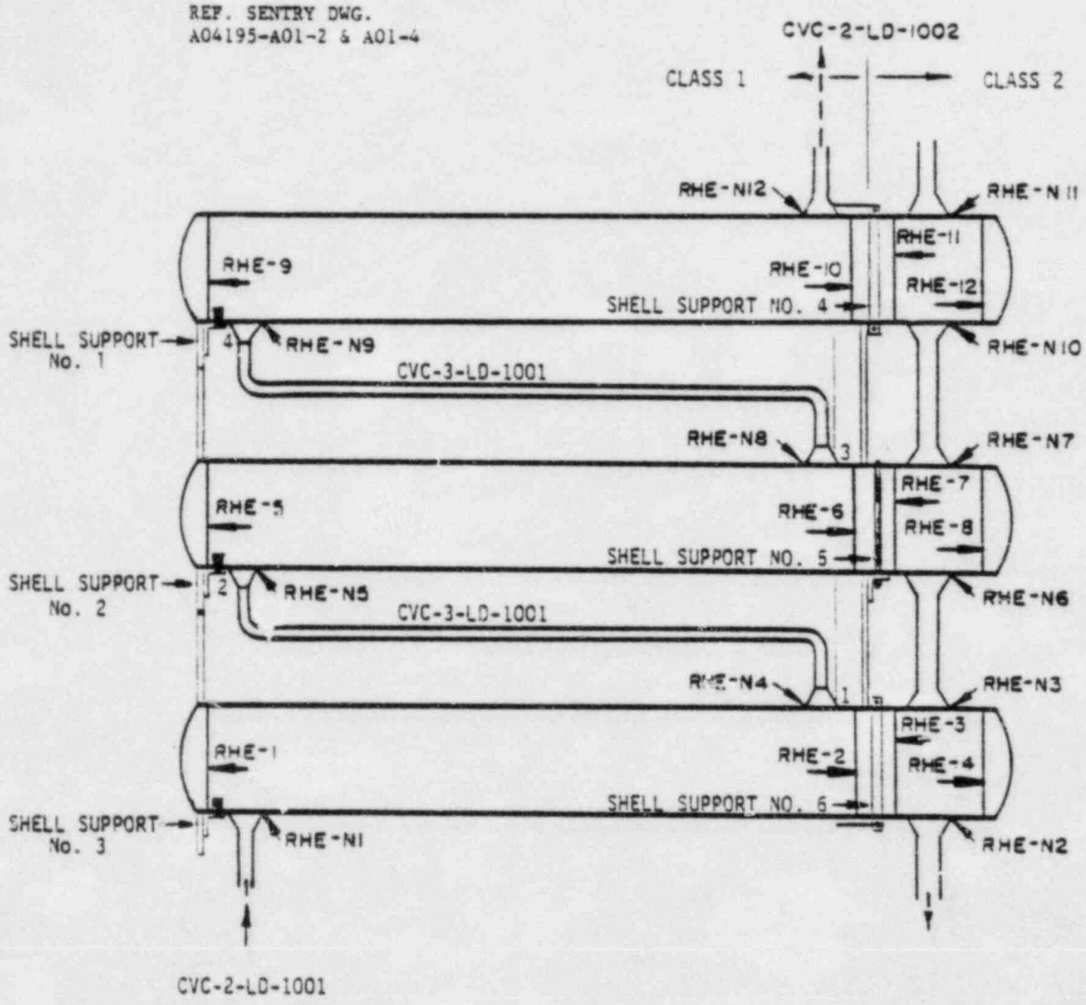
be great and continually varying as the examination surface (shell surface) varies while scanning about the nozzle. Access to the examination surface is also restricted by circumferential shell welds which limit the extent of the examination.

In addition to the geometric considerations, the radiation field associated with this component is significant. Contact readings at the surface of the RHE nozzles before removal of the insulation are approximately 4R/Hr. The radiation field at 18 inches is approximately 1.5R/Hr. Contact readings after removal of insulation have been as high as 7R/Hr.

Considering the complexity of the geometry and the limitations on access all within the high radiation field associated with this component, the technique to conduct this exam would need to be so complex that unacceptable personnel radiation exposures would result. Therefore, a volumetric examination of these nozzle IRS's is impractical.



Drawing A04195-A10-4, Rev. 7



REGENERATIVE HEAT
EXCHANGER

FIGURE B-3

ATTACHMENT 2

UNIT 2 RELIEF REQUESTS

Relief Request No.	Description
RR-2-10	Residual Heat Removal Heat Exchanger Primary Side Nozzle-to-Shell Welds
RR-2-11	Regenerative Heat Exchanger Nozzle Inside Radius Sections

Component

Residual Heat Removal Heat Exchangers

Exam Area

Primary side nozzle-to-shell welds
RHR-A-N1
RHR-A-N2
RHR-B-N1
RHR-B-N2

Isometric or Component Drawing

Figure 1
Westinghouse Electric Corp. 4836-2
Figures B-4 and B-5

ASME Section XI Category

C-B

ASME Section XI Item Number

C2.20

ASME Section XI Examination Requirement

A surface and volumetric examination of each nozzle-to-shell weld every 10 years.

Alternative Examination

A surface examination will be performed on the entire reinforcing plate weld every 10 years. In addition, a visual (VT-2) examination for leakage will be conducted each inspection period during the system pressure test.

Reason for Limitation

The volumetric examination is not possible due to the reinforcing plate configuration and inaccessibility to the vessel interior. The reinforcing plate is welded to the nozzle and shell and completely covers the nozzle-to-shell weld. Figure 1 shows the details of the nozzle-to-shell weld and welded reinforcing plate. The welded reinforcing plate by its size and space next to the nozzle outside diameter prevents adequate UT coverage of the nozzle-to-shell weld. An ultrasonic signal transmitted at the plate surface would simply be reflected by the plate's backwall. The diameter of the reinforcing plate is such that an ultrasonic wave

propagated from the nearest shell or nozzle surface would not provide adequate coverage of the nozzle-to-shell weld. The best surface from which to examine the nozzle-to-shell weld is the inside surface of nozzle. But this area is not accessible without disassembly of the heat exchanger requiring approximately 40 man-hours of effort in a general area radiation field of 50-100 mRem per hour. The actual examination of the nozzle-to-shell weld from the inside surface of the RHR heat exchanger would require approximately 1 man-hour of effort in a radiation field of 20 Rem per hour for the "A" RHR heat exchanger or 25 Rem per hour for the "B" RHR heat exchanger. Based upon these considerations, the examination of the nozzle-to-shell weld by ultrasonics is impractical and contrary to ALARA concepts.

CALCULATION SHEET

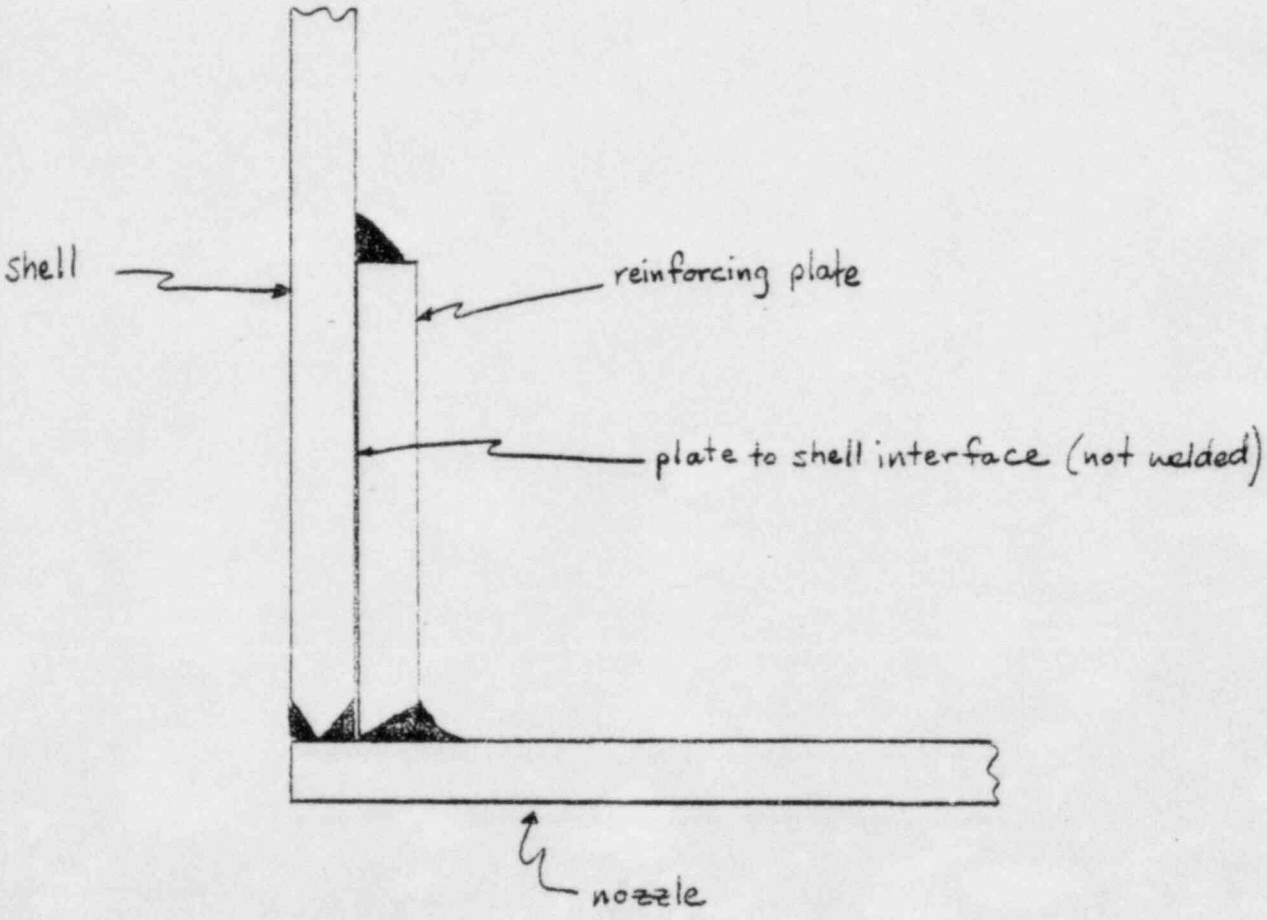
SHEET 1 OF 1

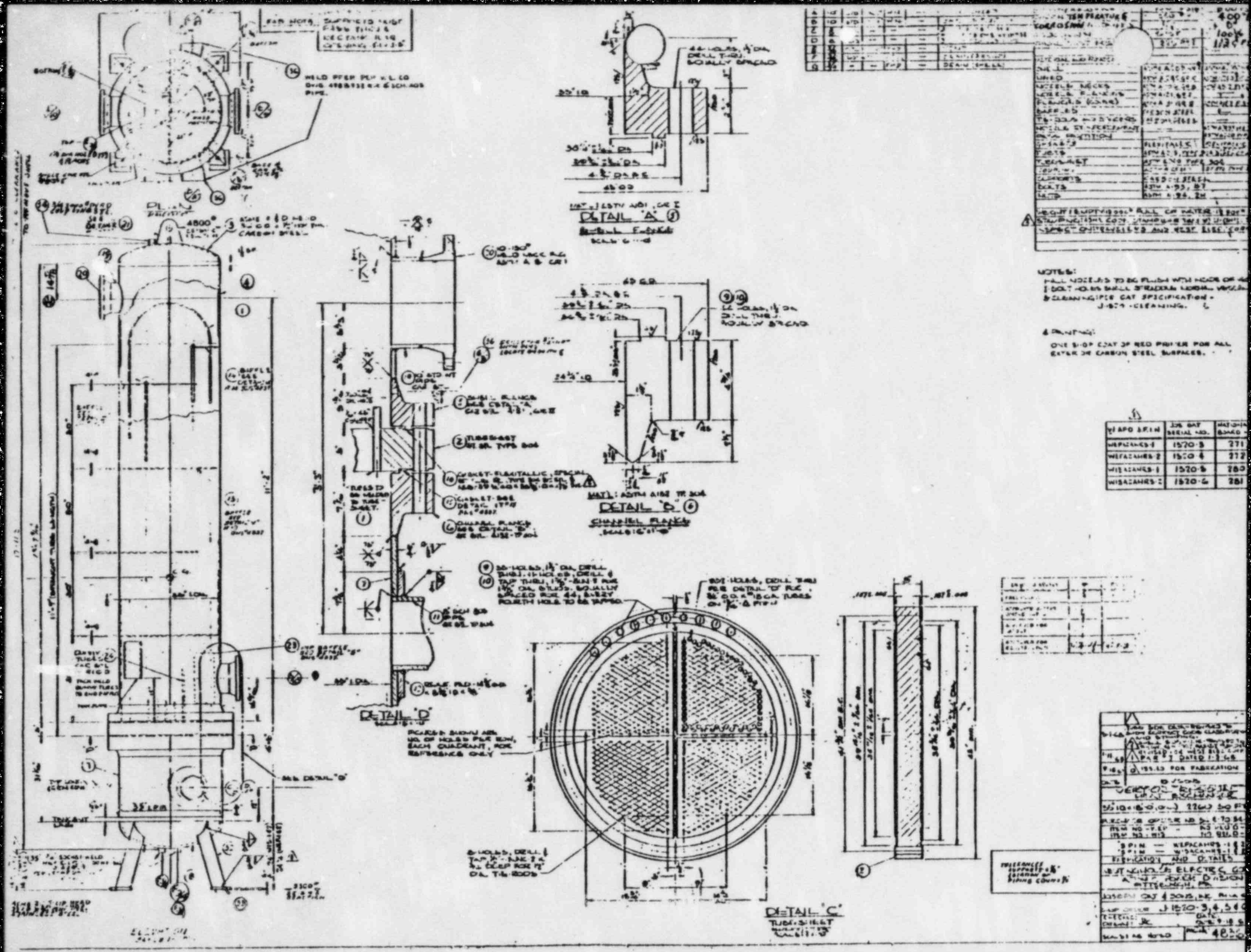
FILE No.

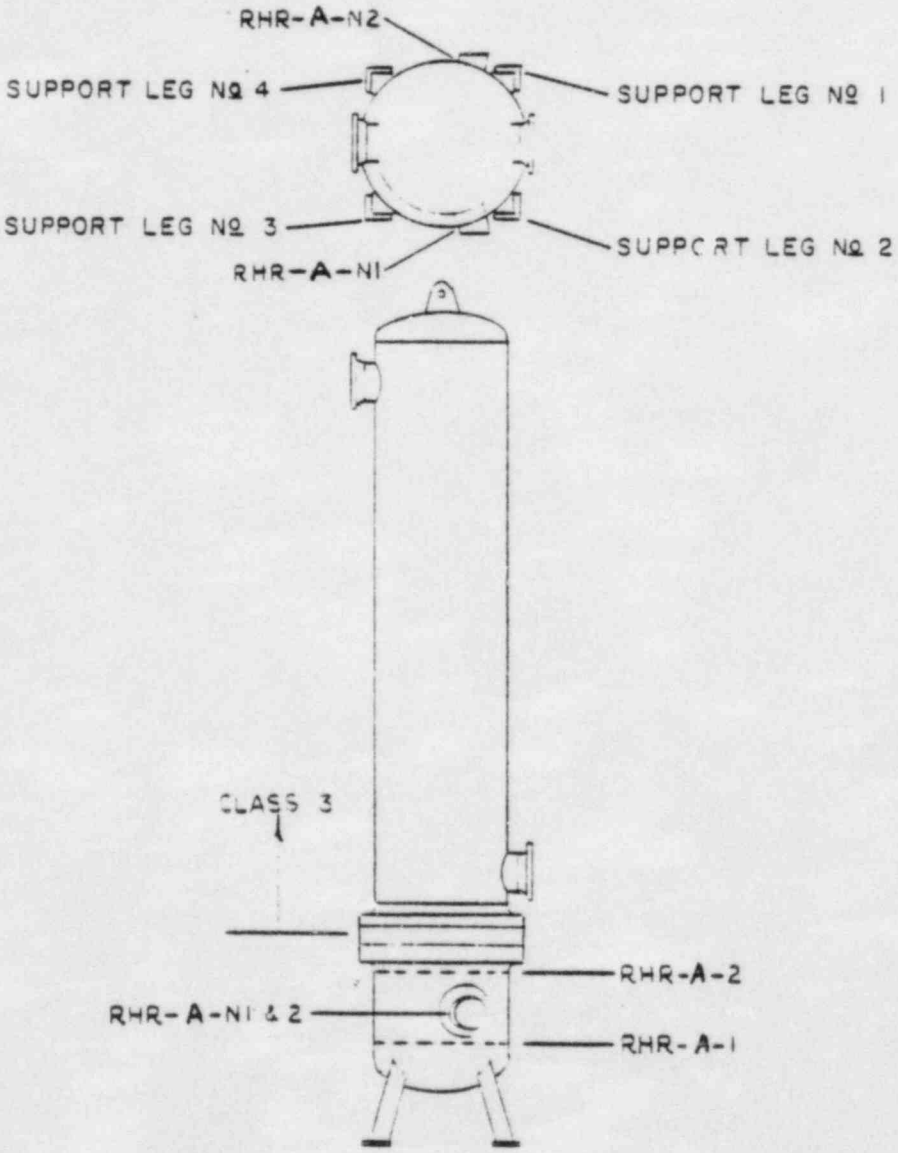
SUBJECT RESIDUAL HEAT REMOVAL HEAT EXCHANGER NOZZLE AREA - FIGURE 1

MADE BY SMP DATE 6/19/89

CHKD. BY DATE

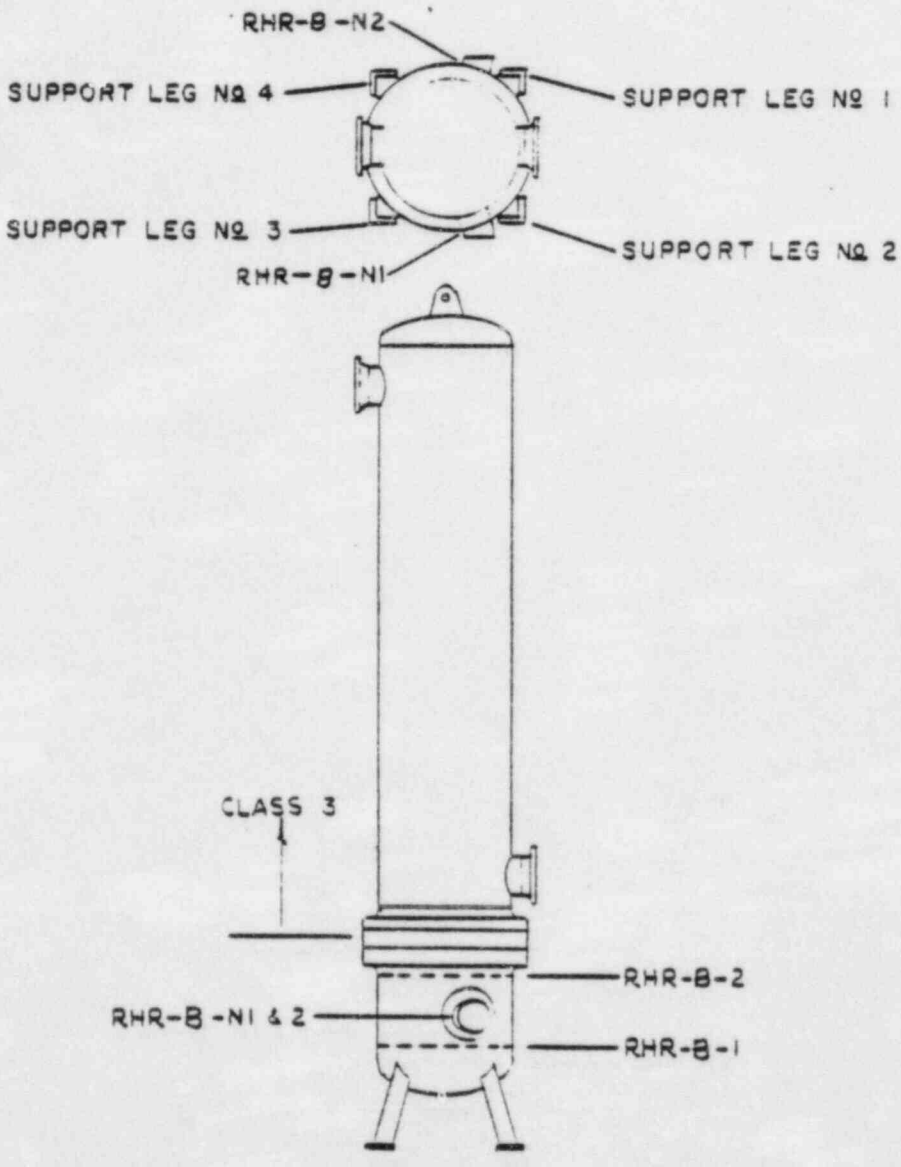



DETAIL 'A'
DETAIL 'B'
DETAIL 'C'
DETAIL 'D'
NOTES:
PAINTING:
ONE 5.0 F COAT OF RED PRIMER FOR ALL OUTER OR CARBON STEEL SURFACES.



RESIDUAL HEAT REMOVAL HEAT EXCHANGER "A"

FIGURE B-4



RESIDUAL HEAT REMOVAL HEAT EXCHANGER "B"

FIGURE B-5

Component

Regenerative Heat Exchanger

Exam Area

Nozzle inside radius sections (IRS)
RHE-N1-IRS
RHE-N4-IRS
RHE-N5-IRS
RHE-N8-IRS
RHE-N9-IRS
RHE-N12-IRS

Isometric or Component Drawing

Sentry Equipment Corp. A04195-A10-4
Figure B-3

ASME Section XI Category

B-D

ASME Section XI Item Number

B3.160

ASME Section XI Examination Requirement

A volumetric examination of each nozzle inside radius section every 10 years.

Alternative Examination

None

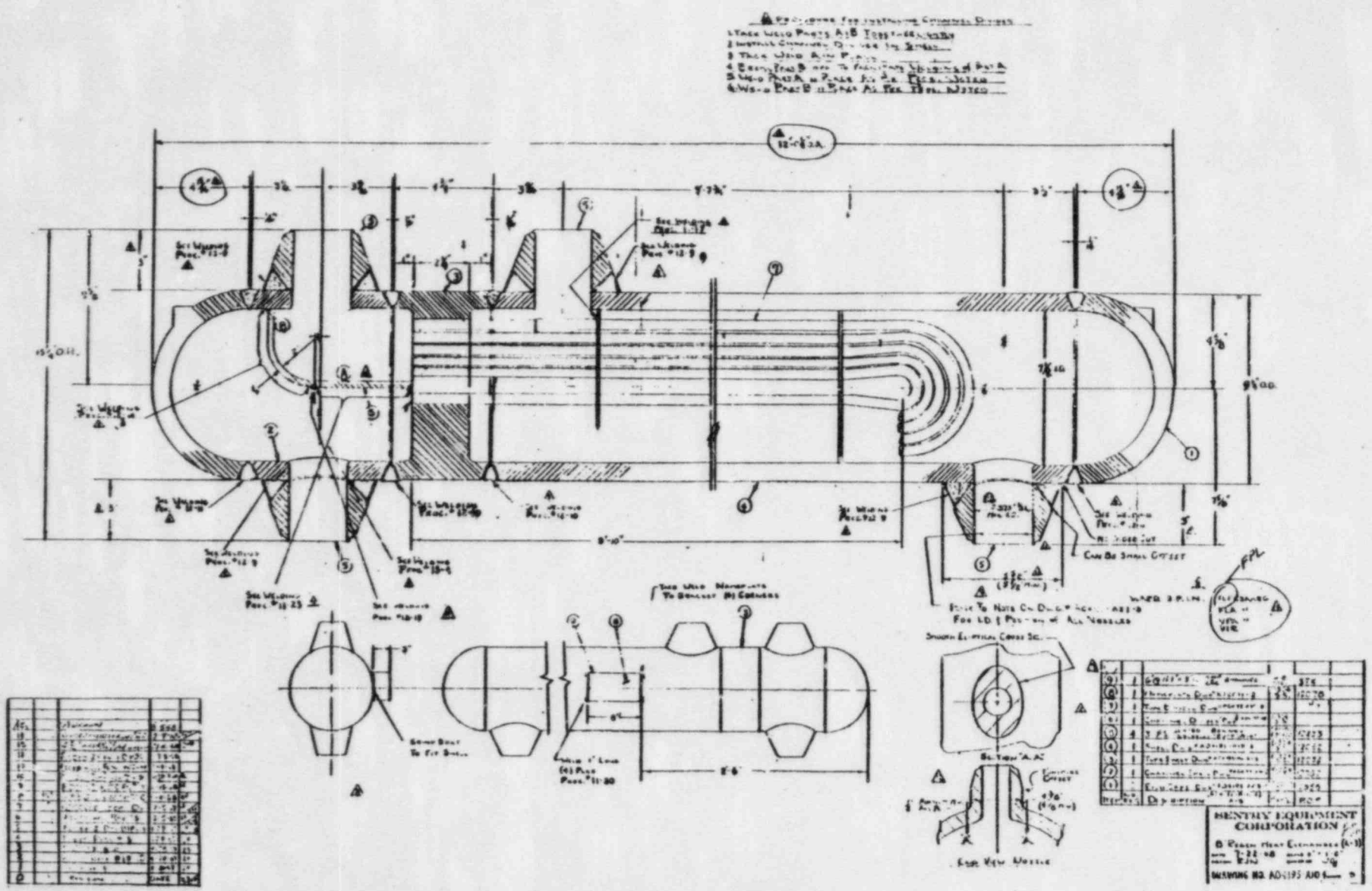
Reason for Limitation

The attached drawing depicts the regenerative heat exchanger (RHE) with cross-sectional views of the nozzle areas. The side view illustration shows that the vessel surface is perpendicular to the nozzle axis. The end view illustration shows the relationship between the nozzle and the curved vessel surface. Therefore, the angle between the nozzle axis and the vessel surface is not constant around the circumference of the nozzle. Because of this complex nozzle/vessel geometry, constantly changing angles and examination parameters would be required to direct sound into the inner radius area. Since the nozzle and vessel diameters are both small, the changes in angles

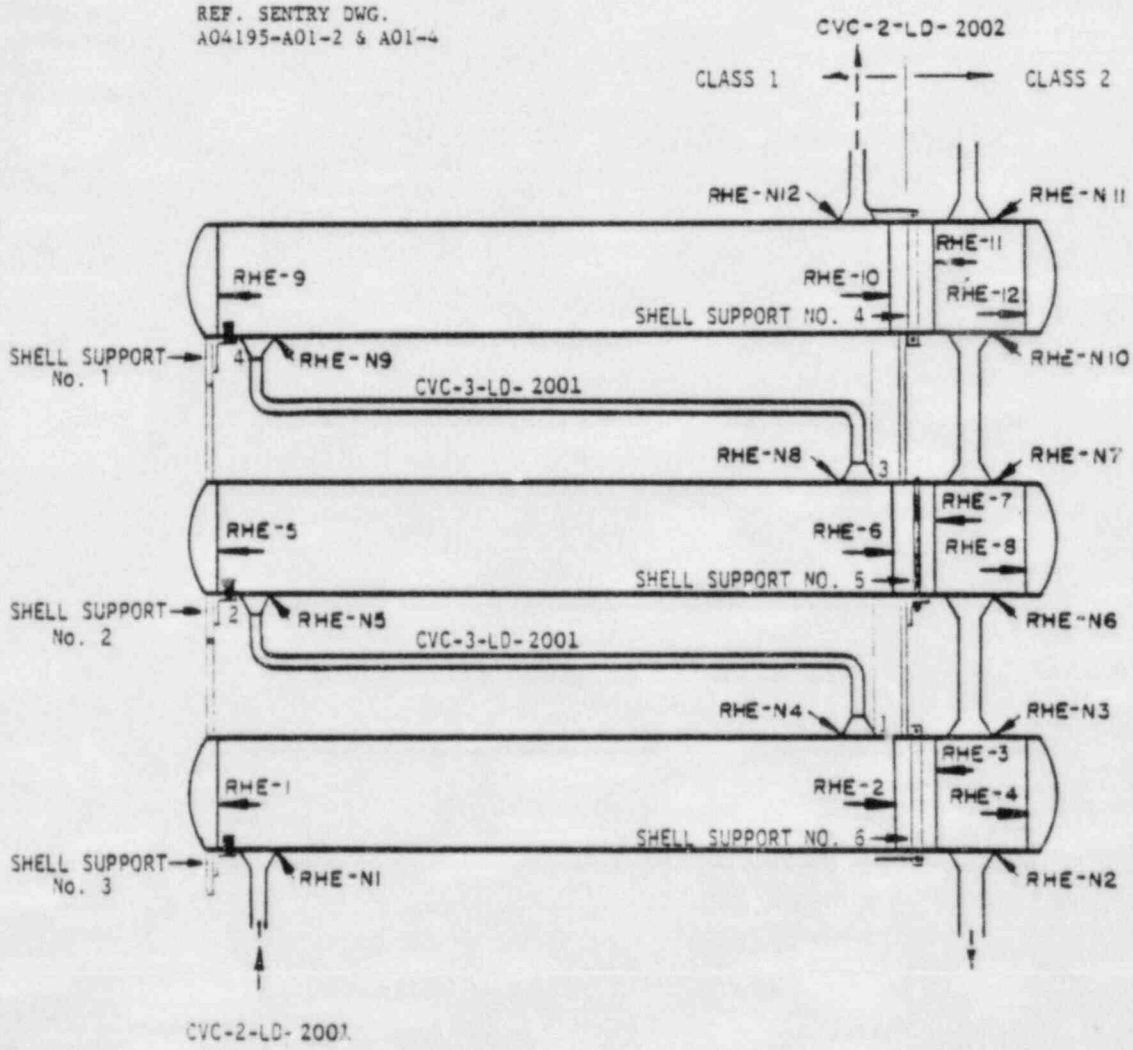
be great and continually varying as the examination surface (shell surface) varies while scanning about the nozzle. Access to the examination surface is also restricted by circumferential shell welds which limit the extent of the examination.

In addition to the geometric considerations, the radiation field associated with this component is significant. Contact readings at the surface of the RHE nozzles before removal of the insulation are approximately 4R/Hr. The radiation field at 18 inches is approximately 1.5R/Hr. Contact readings after removal of insulation have been as high as 7R/Hr.

Considering the complexity of the geometry and the limitations on access all within the high radiation field associated with this component, the technique to conduct this exam would need to be so complex that unacceptable personnel radiation exposures would result. Therefore, a volumetric examination of these nozzle IRS's is impractical.



Drawing A04195-A10-4, Rev. 7



REGENERATIVE HEAT
EXCHANGER

FIGURE B-3