

DUKE POWER COMPANY

P.O. BOX 33189  
CHARLOTTE, N.C. 28242

HAL B. TUCKER  
VICE PRESIDENT  
NUCLEAR PRODUCTION

TELEPHONE  
(704) 373-4531

May 23, 1984

Mr. Harold R. Denton, Director  
Office of Nuclear Reactor Regulation  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555

Attention: Ms. E. G. Adensam, Chief  
Licensing Branch No. 4

Re: Catawba Nuclear Station  
Docket Nos. 50-413 and 50-414

Dear Mr. Denton:

Section 6.2.7 of the Catawba Safety Evaluation Report discusses Confirmatory Item 18, Fracture Prevention of Containment Pressure Boundary. This section notes that additional information is needed by the Staff to confirm that the lowest temperatures which will be experienced by the limiting materials of the reactor containment pressure boundary under the conditions cited by GDC 51 will be in compliance with the temperatures identified in the Staff's analysis.

Enclosure 1 addresses compliance with GDC 51 for power piping and mechanical penetrations. Enclosure 2 addresses compliance with GDC 51 for containment structures.

Compliance with GDC 51 is addressed for power piping and mechanical penetrations in Enclosure 1 and for containment structures in Enclosure 2. Based on the detailed review of the containment pressure boundary materials used in the Catawba Nuclear Station, it is concluded that the requirements of GDC 51 have been met.

Very truly yours,

*Hal B. Tucker*  
EET

Hal B. Tucker

ROS/php

Attachment

cc: Mr. James P. O'Reilly, Regional Administrator  
U. S. Nuclear Regulatory Commission  
Region II  
101 Marietta Street, NW, Suite 2900  
Atlanta, Georgia 30303

NRC Resident Inspector  
Catawba Nuclear Station

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1/1*

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PDR ADOCK 05C00413  
E PDR

Mr. Harold R. Denton, Director  
May 23, 1984  
Page 2

cc: Mr. Robert Guild, Esq.  
Attorney-at-Law  
P. O. Box 12097  
Charleston, South Carolina 29412

Palmetto Alliance  
2135½ Devine Street  
Columbia, South Carolina 29205

Mr. Jesse L. Riley  
Carolina Environmental Study Group  
854 Henley Place  
Charlotte, North Carolina 28207

Enclosure 1  
Catawba Nuclear Station  
Power Piping and Mechanical Penetrations  
Compliance with GDC 51

Section 3.1, page 32 of the Catawba Final Safety Analysis Report addresses General Design Criterion 51 of Appendix A of 10CFR Part 50. This section states that the reactor containment boundary shall be designed with sufficient margin to assure that under operating, maintenance, testing, and postulated accident conditions (1) its ferritic materials behave in a nonbrittle manner and (2) the probability of rapidly propagating fracture is minimized. This section also states that the design shall reflect consideration of service temperatures and other conditions of the containment boundary material during operation, maintenance, testing and postulated accident conditions, and the uncertainties in determining (1) material properties, (2) residual, steady-state, and transient stresses, and (3) size of flaws.

Duke Power Company has complied with these commitments for mechanical penetrations through selection of materials used in design of the mechanical penetrations. These materials have proven reliable and not subject to brittle fracture in Duke Power's operating plants and in general industry service.

Mechanical penetrations for Catawba meet all code requirements. The effective code for mechanical penetrations is the 1974 edition of the ASME Boiler and Pressure Vessel Code, Section III, Subsection NC including summer 1974 addenda.

In addition to complying with the FSAR commitments and code requirements, the mechanical penetrations comply with guidelines for GDC 51 compliance of Standard Review Plan NUREG 0800 for power operation including power transient conditions. In accordance with NUREG 0800, an assessment of material fracture toughness is made using fracture toughness data presented by NUREG-0577 and ASME Section III, Summer 1977 Addenda, Subsection NC. Using this method a Permissible Lowest Service Metal Temperature (PLSMT) is established for pressure boundary materials. Applying this method to mechanical penetrations, the limiting materials are the main steam and feedwater penetration flued heads, the main steam penetration process pipe, the main steam process pipe and the main steam process pipe fittings. Each of these items is assigned a PLSMT of 107°F by NUREG 0800. Duke Power's review concludes that main steam and main feedwater operating conditions will exceed a PLSMT of 107°F during power operation including power transient conditions. During unit maintenance and testing activities, the main steam and feedwater systems will be at ambient temperatures but not pressurized such that the PLSMT would not be violated. Main steam and feedwater system components required for containment integrity during Design Basis Accidents will also be exposed to temperatures in excess of 107°F.

Sufficient margin is included in the 107°F value (30°F) to conclude that GDC 51 requirements are met by the mechanical materials identified above.

Enclosure 2  
Catawba Nuclear Station  
Containment Structures  
Compliance with GDC 51

**1. LOWEST SERVICE METAL TEMPERATURE (LSMT)**

The lowest service metal temperature is identified as the limiting temperature which will be experienced by the limiting materials of the containment pressure boundary during the performance of the containment function under operating, maintenance, testing and postulated accident conditions. Calculations based upon conservative assessment of the ambient atmospheric conditions, the insulation and enclosure provided, and the specified minimum containment atmosphere temperature show the LSMT to be 49°F for the steel containment vessel, personnel locks, penetration sleeves and penetration insert plates. The exterior face of the equipment hatch is exposed to ambient outdoor air conditions, and therefore it will experience a lower LSMT than the remainder of the steel containment. The LSMT for the equipment hatch is calculated to be 35°F.



## 2. CONTAINMENT PRESSURE BOUNDARY MATERIALS (FERRITIC)

Containment pressure boundary materials have been reviewed within the context of General Design Criterion 51. The materials of the following components were characterized with respect to fracture toughness:

### A. STEEL CONTAINMENT VESSEL, PERSONNEL LOCKS, EQUIPMENT HATCH, AND PENETRATION SLEEVES

#### 1) General

As stated in Section 3.8.2 of the Catawba FSAR, the steel containment is designed, fabricated and erected in accordance with Subsection NE of the ASME Code, 1971 Edition, including addenda through Summer 1972. This Code edition provides for material fracture toughness by requiring drop-weight tests or Charpy V-notch tests at 30° F or more below the lowest service metal temperature. This temperature was identified in the procurement specifications as 10° F for the steel containment vessel, equipment hatch and penetration sleeves, and as 48°F for the personnel lock. These temperatures are below the calculated LSMT for each component. Consistent and acceptable Charpy V-notch test results have been obtained at test temperatures at least 30°F below the specified lowest service metal temperature, insuring that the material is acceptable for its intended service.

To further demonstrate the suitability of these materials, the discussion below establishes that the service conditions for the material are well removed from the nil-ductility region. Generic nil-ductility transition temperatures for each type of material are used when data is available.

## 2. CONTAINMENT PRESSURE BOUNDARY MATERIALS (FERRITIC) (cont'd)

### A. STEEL CONTAINMENT VESSEL, PERSONNEL LOCKS, EQUIPMENT HATCH, AND PENETRATION SLEEVES (cont'd)

#### 2) Steel Containment Vessel

SA-516 Gr 60, normalized, 1", 3/4", and 11/16" thick are identified as having been applied. Typical certified mill test reports for 1" plate show Charpy V-notch test data which does not support the use of the Charpy test temperature as the LSMT within the context of the ASME Summer 1977 Addenda Class 2 rules. However, these ASME rules, NUREG/CR-3009, and CBI in-house data will support assigning a nil-ductility transition temperature of 0°F and a permissible lowest service metal temperature (PLSMT) of 30°F for these materials.

#### 3) Penetration Insert Plates

Thickened insert plates are installed in the containment vessel at some penetrations. SA-516 Gr 60, normalized, 3/4", 1 1/4", and 1 3/8" thick are identified as having been applied. Certified mill test reports for typical 1 3/8" plate were submitted for review. As was the case for the steel containment vessel itself, ASME Summer 1977 Addenda Class 2 rules, NUREG/CR-3009, and CBI in-house data will support assigning a nil-ductility transition temperature of 0°F and a PLSMT of 30°F for these materials.

#### 4) Penetration Sleeves

SA-333 Gr 6, 24" Schedule 100, 1.531" thick, normalized, is identified as a limiting material. Certified mill test report indicates that the material was Charpy V-notch tested at -30°F to criteria consistent with the ASME Summer 1977 Addenda Class 2 rules, giving a PLSMT of -30°F.

Formed, welded, and stress relieved sleeves applying normalized SA-516 Gr 60 in 3/4", 1 1/4", and 1 3/8" thicknesses are identified as limiting materials. Subsection NE rules required qualification of the forming process, including tests to determine that required impact properties are met after straining. Procedure qualification was required to be conducted using material of the same specification, grade or class, and heat treatment. Certified mill test report data for 1 3/8" thick normalized material indicate that the material, before and after fabrication, met Subsection NE Charpy V-notch requirements. While the Charpy results at -30°F do not meet ASME Summer 1977 Addenda Class 2 rules to support the test temperature as the LSMT, they do support a PLSMT of 49°F or lower. A similar analysis is applied to 3/4" and 1 1/4" thick materials.

## 2. CONTAINMENT PRESSURE BOUNDARY MATERIALS (FERRITIC) (cont'd)

### A. STEEL CONTAINMENT VESSEL, PERSONNEL LOCKS, EQUIPMENT HATCH, AND PENETRATION SLEEVES (cont'd)

#### 5) Personnel Airlock

SA-516 Gr 70, normalized, 2 1/2" thick is identified as a limiting material. Charpy V-notch mils lateral expansion data at -30° F do not meet ASME Summer 1977 Addenda Class 2 rules to support the test temperature as the LSMT. However, these rules would assign a nil-ductility transition temperature of 0°F and a PLSMT of 30°F to the material.

SA-333 Gr 6, 6" Schedule 80, 0.432" thick, and 3" Schedule 40, 0.216" thick, identified as containment pressure boundary materials, would be exempted from Charpy V-notch testing by the ASME Summer 1977 Addenda Class 2 rules. Certified mill test reports, however, indicate that the materials were Charpy tested at -50°F, to Charpy V-notch mils lateral expansion supporting a PLSMT of -50°F.

SA-350 Gr LF2 fitting, Scrd. coupling, 1"-3000#, is identified as a containment pressure boundary material. Based upon dimensioning of commercial forged steel fittings, ASME Summer 1977 Addenda Class 2 rules would exempt the material from testing. However, certified mill test reports indicate that the material was Charpy V-notch tested to energy criteria consistent with the ASME Summer 1977 Addenda Class 2 rules supporting a PLSMT of -50° F for the material.

#### 6) Equipment Hatch

SA-516 Gr 70, normalized, 3" thick, used in the hatch barrel, is identified as a limiting material. Certified mill test reports for the material show Charpy V-notch testing at -30°F. The ASME Summer 1977 Addenda Class 2 rules would require no tests if the service temperature were above 40° F. NUREG/CR-3009 Table 4.4 assigns a 90% confidence nil-ductility transition temperature of -5° F to the material. CBI in-house data shows typical nil-ductility transition temperatures for such material of -10°F and below. ASME Summer 1977 Addenda Class 2 rules can therefore assign a PLSMT of 35°F to the material.

SA-516 Gr70, normalized, 1 1/8" thick is applied for the dished hatch cover. Consistent with the analysis for the barrel above, ASME Summer 1977 Addenda Class 2 rules would assign a PLSMT of 25°F to the material.

### 3. QUALITY ASSURANCE DOCUMENTATION FOR LIMITING MATERIALS

- A. CMTR NNI File #46 (1" plate SA-516 Gr 60) (Steel Containment Vessel)
- B. CMTR NNI File #50 (1 3/8" plate SA-516 Gr 60) (penetration insert plates and fabricated penetration sleeves)
- C. CMTR NNI File #187 (24" diameter Sch 100 SA-333 Gr 6) (penetration sleeves)
- D. CMTR Lakeside Bridge and Steel, Heat #T68952 (3" plate SA-516 Gr 70) (Equipment hatch barrel)
- E. CMTR Lamco Industries Heat #67302 (2 1/2" plate SA-516 Gr 70) (personnel airlock)
- F. CMTR US Steel Heat #A01359 (6" diameter Sch 80 SA-333 Gr 6) (Personnel Airlock)
- G. CMTR US Steel Heat #N14522 (3" diameter Sch 40 SA-333 Gr 6) (Personnel Airlock)
- H. CMTR Metalloy Heat #8865304 (1" blind flange, SA-350 Gr LF2)
- I. NNI Quality Assurance package for containment plate assembly 1-3-13 (Shows forming process for thickest fabricated sleeves and stress relief of entire assembly following penetration installation.)
- J. NNI Quality Assurance package for containment insert plate assembly 113-1 (Shows thickest penetration insert plate, sleeve fabrication and stress relief of assembly after sleeve installation.)



W462181

PHOENIX STEEL CORPORATION  
CLAYMONT, DELAWARE

SPECIFICATION ASME SA 516 OR CO PIV. NUC. LONG'L V. NOTCH IMPACT Q-30 DEG F. CLAYMONT, DEL. May 19, 1975  
TO NE-2350 (SAC 111 1973 & ADDENDA)  
CHEMICAL AND PHYSICAL TESTS OF Silicon Quality Steel CUSTOMER'S ORDER NO. 5024-A-7  
CHARGED TO Newport News Industrial Corp. MILL ORDER NO. 23624-05  
Sub. of Newport News Shipbuilding  
CHIPPED TO Newport News, Va. 23606 CAR NO. PC 523042 OK

PLT No.	SLAB No.	SERIAL No.	CHEMICAL ANALYSIS								TEST PIECE		Yield Point (Min. Per Sq. In.)	Tensile Strength (Min. Per Sq. In.)	Elong. In. 8"	SIZE	
			Carbon	Mang.	Phos.	Sulfur	Si	Cu	Ni	Cr	Mn	Thickness					Net Area
Ven-Notch Charpy Impact Tested Q-30 66 F.																	
66303-26	49732	75 NUC 232	.10	.96	.017	.018	.15					.192	45300	65300	33.5	1-in 40.8/111"x336	ITEM #19
		49733 75 NUC 232										.974	49200	66900	29.7	1-in "	
		49734 75 NUC 232										.973	49200	67000	34.0	1-in "	
66504-26	49734	75 NUC 232	.10	1.20	.014	.030	.59					.990	51700	71100	30.2	1-in "	"
95515-26	49735	75 NUC 234	.09	1.13	.011	.018	.16					.205	46600	64710	32.5	1-in "	"
66767-67	49345	75 NUC 235	.09	1.14	.003	.024	.23					.976	47100	70500	26.5	1-in "	"
		49346 75 NUC 235										.992	49000	69700	31.7	1-in "	
		49347 75 NUC 235										.932	50700	69300	33.2	1-in "	
66348	75 NUC 235											.935	51300	76300	23.5	1-in "	"
		49349 75 NUC 235										.987	50400	69300	33.2	1-in "	
												.959	49400	71600	30.0	1-in "	

PLATES AND TEST PCS NORMALIZED AT 1600-1550 DEG F., HELD FOR THE MINIMUM THICKNESS AND AIR COOLED.  
SCHEMATIC AND SHOWN TO REFERENCE

By *James A. Matney*  
Super. P. Eng.

N. N. I. C.  
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*PRK*  
Mkt. & Sales Div.

W462181

PHOENIX STEEL CORPORATION  
CLAYMONT, DELAWARE

SPECIFICATION ASME SA 516 OR CO PIV. NUC. LONG'L V. NOTCH IMPACT Q-30 DEG F. CLAYMONT, DEL. May 19, 1975  
TO NE-2350 (SAC 111 1973 & ADDENDA)  
CHEMICAL AND PHYSICAL TESTS OF Silicon Quality Steel CUSTOMER'S ORDER NO. 5024-A-7  
CHARGED TO Newport News Industrial Corp. MILL ORDER NO. 23624-05  
Sub. of Newport News Shipbuilding  
SHIPPED TO Newport News, Va. 23606 CAR NO. PC 523042 OK

MULT No.	SLAB No.	SERIAL No.	CHEMICAL ANALYSIS								TEST PIECE		Yield Point (lb. Per Sq. In.)	Tensile Strength Min. Per Sq. In.	Elong. in 8"	SIZE
			Carbon	Mang.	Phos.	Sulph.	Si	Cu	Ni	Cr	Mn	Thickness				
66303-26	49732	L. Exp. .074-.073-.069														N. N. I. C. RECORD CENTER FILE COPY 46
		A. Shear 200/400/300														
		L. Exp. .057-.045-.090														
66504-26	49734	% Shear 400/500/500														OK TO SPEC  ACCEPTED - 2 of 2
		L. Exp. .070-.070-.077														
		% Shear 500/500/500														
95515-26	49735	L. Exp. .063-.050-.137														OK TO SPEC  ACCEPTED - 2 of 2
		% Shear 200/400/200														
		L. Exp. .070-.060-.070														
96722-67	49350	% Shear 100/70/600														OK TO SPEC  ACCEPTED - 2 of 2
		L. Exp. .056-.057-.063														
		% Shear 200/200/200														
66767-67	49345	L. Exp. .074-.077-.102														OK TO SPEC  ACCEPTED - 2 of 2
		A. Shear 500/500/500														
		L. Exp. .070-.070-.076														
66375-67	49347	% Shear 600/100/500														OK TO SPEC  ACCEPTED - 2 of 2
		L. Exp. .072-.070-.079														
		% Shear 500/500/500														
66767-67	49343	L. Exp. .071-.072-.024														OK TO SPEC  ACCEPTED - 2 of 2
		% Shear 100/100/100														
		L. Exp. .073-.070-.021														
66767-67	49349	% Shear 100/100/100														OK TO SPEC  ACCEPTED - 2 of 2
		L. Exp. .073-.070-.021														
		% Shear 100/100/100														

SCHEMATIC AND SHOWN TO REFERENCE

By *James A. Matney*  
Super. P. Eng.

*PRK*  
Mkt. & Sales Div.

W481-1-1

PHOENIX STEEL CORPORATION  
CLAYMONT, DELAWARE

SPECIFICATION ASME SA 516 GR 60 Normalized, Long V-Notch Impacts at Minus 30 Deg F to 1E-2350 (Sec III 1973 & Addenda) to Meet 15 Ft. Lb. Average Silicon Quality Steel

CLAYMONT, DEL May 20, 1975

CHEMICAL AND PHYSICAL TESTS OF  
CHARGED TO Newport News Industrial Corp.  
Subsidiary of Newport News Shipbuilding  
SHIPPED TO Newport News, Va. 23606

CUSTOMER'S ORDER NO. 5024-A-7  
MILL ORDER NO. 20624-05  
CAR NO. MILW 60163

MELT No.	SLAB No.	SERIAL No.	CHEMICAL ANALYSIS										TEST PIECE		Yield Point, lbs. Per Sq. In.	Tensile Strength, lbs. Per Sq. In.	Elong. 8"	SIZE
			Carbon	Manganese	Phosphorus	Sulfur	Si	Co	Ni	Cr	Mo	Thickness	See Spec.					
V-Notch Charpy Impact Tested @ 30 DEG F.																		
86805-25	65789	75 NINE 255	.10	1.20	.016	.018	.22					L-20-27-22	.736		45700	70200	29.5	1 - 30.6"x114"x336" Item #14
	65790	75 NINE 257										L-34-36-36	.722		52000	71100	23.5	1 - 30.6"x114"x336" Item #14
	65791	75 NINE 258										L-131-138-130	.733		52000	71900	29.2	1 - 30.6"x114"x336" Item #14
	65793	75 NINE 255										L-130-127-130	.737		51600	70300	30.6	1 - 30.6"x114"x336" Item #14
	65794	75 NINE 258										L-106-70-110	.726		49800	71600	30.7	1 - 30.6"x114"x336" Item #14
	65795	75 NINE 258										L-112-112-78	.700		49900	71000	31.2	1 - 30.6"x114"x336" Item #14
86793-26	49085	75 NINE 254	.10	1.01	.020	.030	.19					L-110-70-114	.724		49200	69500	31.5	2 - 24.0"x114"x336" Item #15
86813-26	49483	75 NINE 255	.11	.95	.009	.023	.23					L-76-72-76	.735		51300	71000	31.0	1 - 24.0"x114"x336" Item #15
86813-26	49486	75 NINE 255	.11	.95	.009	.020	.23					L-30-40-30	.718		49600	70500	27.5	1 - 24.0"x114"x336" Item #15
86796-26	65077	75 NINE 255	.10	1.10	.016	.023	.20					L-60-66-66	.729		47500	69600	26.0	1 - 24.0"x114"x336" Item #15
86875-26	65422	75 NINE 256	.13	1.13	.013	.030	.23					L-106-100-100	1.367		47700	68000	33.2	1 - 156.1"x112"x222" Item #30
	65423	75 NINE 256										L-33-63-60	1.375		49500	69900	29.7	1 - 24.0"x114"x336" Item #15

PLATES AND TEST PCS NORMALIZED AT 1600-1650 DEG F., HELD FOR ONE HOUR PER INCH OF THICKNESS AND AIR COOLED.

PLATES AND TEST CS NORMALIZED AT 1600-1650 DEG F., HELD FOR ONE HOUR PER INCH OF THICKNESS AND AIR COOLED.

SUBSCRIBED AND SHOWN TO RECORD ME

By *James A. Maloney*  
Vice President

N. N. I. C.  
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I certify the above figures are correct as furnished on the records of the Corporation.

*James A. Maloney*  
Vice President

W481-1-1

PHOENIX STEEL CORPORATION  
CLAYMONT, DELAWARE

SPECIFICATION ASME SA 516 GR 60 NORMALIZED LONG V NOTCH IMPACT @ -30 DEG F. TO 1E-2350 (SEC III 1973 & ADDENDA)

CLAYMONT, DEL May 20, 1975

CHEMICAL AND PHYSICAL TESTS OF Silicon Quality Steel  
CHARGED TO Newport News Industrial Corp.  
Subsidiary of Newport News Shipbuilding  
SHIPPED TO Newport News, Va. 23606

CUSTOMER'S ORDER NO. 5024-A-7  
MILL ORDER NO. 23624-05  
CAR NO. MILW 60168

MELT No.	SLAB No.	SERIAL No.	CHEMICAL ANALYSIS										TEST PIECE		Yield Point (lbs. Per sq. in.)	Tensile Strength (lbs. Per sq. in.)	Elong. in 8"	SIZE
			Carb.	Mang.	Phos.	Sulfur	Si.	Co.	Ni.	Cr.	Mo.	Thickness	Sec. Area					
86806-26	65739	L. Exp.	.016	.013	.020													
		% Shear	10%-10%-100%															
	65790	L. Exp.	.051	.074	.068													
		% Shear	30%-40%-40%															
	65791	L. Exp.	.000	.097	.005													
		% Shear	70%-70%-60%															
	65793	L. Exp.	.105	.095	.095													
		% Shear	100%-60%-100%															
	65794	L. Exp.	.009	.071	.070													
		% Shear	30%-40%-40%															
	65796	L. Exp.	.017	.013	.076													
		% Shear	70%-60%-100%															
86799-26	49085	L. Exp.	.034	.077	.005													
		% Shear	50%-40%-50%															
86813-26	49483	L. Exp.	.057	.057	.059													
		% Shear	50%-50%-50%															
	49486	L. Exp.	.021	.031	.023													
		% Shear	10%-20%-100%															
86796-26	65677	L. Exp.	.057	.056	.051													
		% Shear	30%-30%-30%															

OK TO SPEC.

OG ACCEPTED  
2 of 4 - (2 of 4-75 NITE 256-0414)

N. N. I. C.  
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SUBSCRIBED AND SHOWN TO RECORD ME

By *James A. Maloney*  
Vice President

N. N. I. C.  
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I certify the above figures are correct as furnished on the records of the Corporation.

*James A. Maloney*  
Vice President

Newport News Industrial Corporation  
Subsidiary of Newport News Shipbuilding  
A Tenneco Company

MATERIAL INVESTIGATION  
REQUEST

Date Rec'd by LAB: 9/23/75 Date Reported: 1975 File Code: M3330/58230/- Lab No.: 5849-14

Material/Condition: CARBON STEEL/AS-FORMED Heat No.: N/A Batch: 75 NNI 256 Witness: N/A

Name of Article	No. Per Group/Sheet/Line	Item	Drawing/Pattern No.	Q.O.	Control Level	Specification
PENETRATION TEST PLATE	1	SC-451-7/1/13	17	288108	5024-A	ASME NUC. SA-516 GR. 10
PLEASE IMPACT TEST PER SA-370 AS SPECIFIED IN INSTRUCTION 451-NC-TC01.						

TEST RESULTS

Distribution: T.E. BOND, NNI ENGINEERING/DESIGN  
Form 1-465 JIM STAFFIERA, NNI CA

MISCELLANEOUS TEST CHARTER

NN 2351-R IMPACT TEST NNS & DD CO. DATE REC'D: SEP 23 1975 LAB NO: 5849-2

Sample No.	Temp Ft/Lbs	Sample No.	Temp Ft/Lbs	Sample No.	Temp Ft/Lbs	Sample No.	Temp Ft/Lbs
17.1	30	46					
17.2	1	42					
17.3	1	26					

QC NO 75 NNI-256

PERFORMED BY: Bynum 9.23.75 CHECKED BY: W.W. Jern

N. N. I. C.  
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FILE COPY 150

OK TO SPEC.

75 NNI 256 (ONLY)  
4 OF 4

QUALIFICATION OF PLATE  
FORMING PER NE-4210  
(HEAT NO. 96875-26)

Newport News Industrial Corporation  
Subsidiary of Newport News Shipbuilding  
A Tenneco Company

MATERIAL INVESTIGATION  
REQUEST

Date Rec'd by LAB: 9/23/75 Date Reported: 1975 File Code: M3330/58230/- Lab No.: 5849-14

Material/Condition: CARBON STEEL/AS-FORMED Heat No.: N/A Batch: 75 NNI 256 Witness: N/A

Name of Article	No. Per Group/Sheet/Line	Item	Drawing/Pattern No.	Q.O.	Control Level	Specification
PENETRATION TEST PLATE	1	SC-451-7/1/12	16	288108	5024-A	ASME NUC. SA-516 GR. 10
PLEASE IMPACT TEST PER SA-370 AS SPECIFIED IN INSTRUCTION 451-NC-TC01.						

TEST RESULTS

Distribution: T.E. BOND, NNI ENGINEERING/DESIGN  
Form 1-465 JIM STAFFIERA, NNI CA

MISCELLANEOUS TEST CHARTER

NN 2351-R IMPACT TEST NNS & DD CO. DATE REC'D: SEP 23 1975 LAB NO: 5849-2

Sample No.	Temp Ft/Lbs	Sample No.	Temp Ft/Lbs	Sample No.	Temp Ft/Lbs	Sample No.	Temp Ft/Lbs
16.1	30	17					
16.2	1	36					
16.3	1	31					

QC NO 75 NNI-256

PERFORMED BY: Bynum 9.23.75 CHECKED BY: W.W. Jern

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OK TO SPEC.

75 NNI 256 (ONLY)  
3 OF 4

10 SUMITOMO METAL INDUSTRIES, LTD.  
STEEL TUBE WORKS

MILL CERTIFICATE

STANDARD: ASME SA333 GR.6 and ASME Sect. III, NE-2000

SPECIFICATION: Car Proposal A-No. 657

## NOTES

Mill Work No.	Lot or F.P. No.	O.D.	I.D.	Size W.T.	Unit #1	Length	No. of pcs.	Quantity Unit #1	Weight kg	Order or Job No.				
YED1542		24"		SCH100 (1.531")		147 - 187	2	32P10"	5474	5024-A-14 ITEM No.2				
Heat No.	Lot or F.P. No.	Chemical Composition %								Tensile Test 2"		Hardness	Longitudinal No. of Austenite	Impact Test at
		C	Si	Mn	P	S	Cu	Ni	Cr	Yield Point	Tensile Strength			
		30	10	29	-	-	-	-	-	24.5	42-12			-30°F 15.0 20.0
A28575	L 12	32	12	011	003					30.4	47.940		53	152.6 136.6 175.0 143.3 159.8 120.7 152.6 195.2 158.3 156.2 191.0 147.5
	1-T C 12	35	14	012	008									
	1-B C 13	34	13	012	010					27.8	46.240			
	2-T C 12	35	13	011	008					32.1	48.238			
	2-B C 12	34	14	012	010					28.4	46.733			
(T:Top, B:Bottom)														
Description of Tests														
Hydrostatic Test (5 sec. min.)		Surface & Edges		Bend		Flange		Ring Extension		Ring Pulling		HEAT TREATMENT : 900°C ± 20°C NORMALIZING		
2059 kg/cm <sup>2</sup> GOOD		GOOD		GOOD										
Surveyor To														
OK TO SPEC E.M. 1-21-76 DO ACCEPTED 76NN1021														

OK TO SPEC  
FBI 1-21-76

DO NOT ACCEPTED  
75NN1021

36.



J. CONTRACT NO.

P. O. DATE

PURCHASE ORDER NO.

GARY WORKS  
GARY, INDIANA 46402

SHIPPER'S NO.

2C9210-11 11/27/78

MILL ORDER NO.

INVOICE NO.

H00547 3 27 79

NB60360

154-15846

VEHICLE  
IDENTITY

EJE 35142

LAKESIDE BRIDGE & STEEL CO  
5300 NO 33RD ST  
MILWAUKEE WISC 53209

LAKESIDE BRIDGE & STEEL CO  
5300 NO 33RD ST  
MILWAUKEE WISCONSIN

SHIP  
TO

BEING DULY SWORN ACCORDING  
TO LAW, DEPOSES AND SAYS  
THAT THE CHEMICAL ANALYSES  
AND/OR TEST RESULTS SHOWN  
IN THIS REPORT ARE CORRECT  
AS CONTAINED IN THE RECORDS  
OF THE COMPANY.

BY:

A. BELKIN

MGR QUALITY ASSURANCE

PLATES CARBON ASME SA516-76/1977/SUMMER 1977

ADDENDA GRADE 70 PRESSURE VESSEL QUALITY NORMALIZE

PLATE AND SUB-SECTION NE OF SECTION III OF ASME

1977 EDITION WITH SUMMER 1977 ADDENDA SUB-

\*\*SEE BELOW

MILL THE APPLICABLE PROVISIONS OF 10CFR PART 21 APPLY

DATE

STATE OF INDIANA

COUNTY OF LAKE

SUBSCRIBED AND SWORN TO BEFORE ME

THIS 4 DAY OF APRIL 1979

NOTARY PUBLIC

MY COMMISSION EXPIRES MARCH 14, 1982

## MATERIAL DESCRIPTION

QUAN-  
TITY

WEIGHT

HEAT NO.

TEST OR PIECE  
IDENTITY

YIELD PT.

TENSILE STR

ELONGATION %

% RED.  
OF AREA

BEN

THICKNESS  
OR SECTIONWIDTH, DIA  
OR FT. WT.

LENGTH

3.0000" 60.000" 180 10-28

1

9189

T68952

01 W2

+ 54000

82500

29.0

+ 46400

83000

29.0

FULL SIZE CHARPY IMPACTS FT LBS - 57-54-53

FULL SIZE CHARPY IMPACTS FT LBS - 31-31-39

PLATES AND TEST SPECIMENS NORMALIZED 1660 F FCE TEMP AND HELD 96 MIN FCE TIME  
LONGITUDINAL V-NOTCH CHARPY IMPACTS AT MINUS 30 F TO 20 FT LBS MIN

+NORMALIZED

+NORMALIZED AND STRESS RELIEVED

\*\*48900

780000

29.0

\*\*48000

77000

28.0

\*\*PARAGRAPHS NE-2100 NE-2200 NE-2300 NE-2400 NE-2500 NE-2600 NE-2700 THOSE PARAGRAPHS APPLICABLE TO PLATE PRODUCT FURNISH  
NORMALIZED TEST SPECIMENS PLUS NORMALIZED AND STRESS RELIEVED TEST SPECIMENS FOR 8 HOURS FURNISH ONE TENSILE TEST IN  
NORMALIZED CONDITION ONLY IMPACTS IN BOTH CONDITIONS QUALITY ASSURANCE CERT REQ TO MEET CHARPY V-NOTCH LONGITUDINAL  
IMPACT TESTS EA PLATE AS HEAT TREATED AT 20 FT/LBS AT MINUS 30 DEG F HEATING AND COOLING RATES PER NE-4623 SPECIAL  
SPEC REQ B THE APPLICABLE PROVISIONS OF 10 CFR PART 21 APPLY

SYSEUL 3.0050 EXT.

AVG GR. SIZE 107

AT NO	TYPE	C	MN	P	S	SI	CU	NI	CR	MO	SN	AL	N	V	B	TI	CB	CO
8952	HEAT	23	1D8	019	015	23												

TEST SPECIMENS STRESS RELIEVED AT 1150 PLUS OR MINUS 25F WITH CONTROLLED HEATING AND COOLING. FCE  
DID NOT EXCEED 800F AT CHARGE RATE OF HEATING ABOVE 800 DID NOT EXCEED 133F PER HOUR. HELD AT TEMP  
3 HR. COOLED TO 800F. RATE OF COOLING TO 800 DID NOT EXCEED 133F PER HOUR

QUALITY ASSURANCE CERT NO. N1618 EXPIRES JANUARY 21, 1980

3D

LAKESIDE BRIDGE &amp; STEEL CO.



# STANDARD CERTIFIED TEST REPORT

## TUBULAR PRODUCTS

LORAIN 3F  
3" STD. M6 WORKS

1-5-76 DATE

**ITEM NO.** 1  
**GRADE** 6  
**TREATMENT** NORMALIZED 1175°F, AIR COOLED, FURNACE TIME 45.0 MIN.  
**CUSTOMER NAME** CAPITAL PIPE & STEEL PRODUCTS INC. - ATTN: SELMA BERMAN  
**ADDRESS** P.O. Box 471  
**CITY AND STATE** POLA CYNARD T.A. 11004

**U.S. STEEL ORDER NO.** 75459-00  
**INVOICE NO.** KC 11055  
**CUSTOMER'S ORDER NO.** ASKE SA333V

ITEM NO.	CODE OR LOT NO.	SIZE O. D.	WT/FT OR WALL THICKNESS	HEAT NUMBER	MIN. HYDRO. TEST PRESSURE P.S.I.	MECHANICAL PROPERTIES			CHEMICAL ANALYSIS (%)							
						YIELD STRENGTH P.S.I. POINT	TENSILE STRENGTH P.S.I.	ELONG. IN. 1/2	C	Mn	P	S	Si	Mo		
1		3.2	216	N14522	2500	55000	79900	37.0	23.91	0.06	0.024	0.17			CK.	
									22.94	0.05	0.024	0.16			L.	
.158 INCH WIDTH SIZE CHAMPY 1 INCH IMPACT FT/LBS AT -63°F																
AVE.																
FT/LBS - 34.5 - 32.0 - 13.0 - 26.5 ✓																
% SHEAR - 80 - 80 - 30 - 63 ✓																
THERMAL EXPANSION - 0.68 - 0.65 - 0.29 - 0.54 ✓																

Lamco Industries  
P.O.# J1396-5817  
S.O.# LN0902-A  
Ch# P-34729  
Item# 1  
WJW 02 AUG 14 1978

FLATTENING TEST OK

P/N 32297-01

NET 4 REV. 300  
USS CAT. NO. 8372 00  
01.003.0241

We hereby certify that the above figures are correct, as contained in the records of the company

HT.N14522

11/5/76  
CHECKED TO SEC. III MC  
AND C12 ATTACHED THRU WINT '73  
HENTZ  
11 C-7



STANDARD SWORN TEST REPORT  
TUBULAR PRODUCTS

MATERIAL *Seamless Pressure Pipe*  
GRADE *Normalized 1600°F for 62 Min. Quenched*  
NAME *Crystal Pipe & Steel Products Inc.*  
ADDRESS

DATE *5-12-75*  
GRADE *6 ASME SA333*  
*6 ASTM A333*  
CUSTOMER'S ORDER NO. *67332-30*  
U.S. STEEL ORDER NO. *AH 02315*  
*356-02415*

*Longitudinal tensile tests*

GRADE NO. CON.	SIZE INCH.	HEAT NO.	HEAT TREATMENT	TENSILE STRENGTH P.S.I.	MECHANICAL PROPERTIES			CHEMICAL ANALYSIS (%)					
					YIELD STRENGTH P.S.I.	TENSILE STRENGTH P.S.I.	ELONGATION IN 2" %	C	Mn	P	S	Si	Mo
842	6.625	432	A01359	2800	50600	71280	45.0	17	111	009	020	17	check
			A01359	2800	50790	69800	44.0	17	106	010	013	16	check
								17	108	009	017	16	Ladle

*Flattening tests satisfactory*

*Full size longitudinal CVN's specimens at minus -50°F*

	FT.LBS.	%SHEAR	LAT. EXP.
<i>A01359</i>	<i>95</i>	<i>66</i>	<i>.078</i>
	<i>78</i>	<i>49</i>	<i>.064</i>
	<i>82</i>	<i>53</i>	<i>.068</i>

*Full size longitudinal CVN's specimens at minus -50°F stress relieved at 1100°F*

	FT.LBS.	%SHEAR	LAT. EXP.
<i>A01359</i>	<i>67</i>	<i>51</i>	<i>.059</i>
	<i>52</i>	<i>43</i>	<i>.047</i>
	<i>35</i>	<i>37</i>	<i>.035</i>

Lamco Ind.  
P.O.# 11396-6817  
S.O.# LN-0902-A  
Ch# H-81226  
Item# 2  
WJW 02 AUG 14 1978

DATE OF *12th* DAY OF *May* 1975  
COUNTY OF *Allegheny*  
SUBSCRIBED AND SWORN TO before me this  
NOTARY PUBLIC

*Leo Sauer*  
*Leo Sauer*  
*John 11/5/76*  
UNITED STATES STEEL CORPORATION, NATIONAL WORKS  
CHECKED TO SEC III  
ITEM: Chief Metallurgist

COMMISSION EXPIRES  
HT. A01359  
P/N 32301-06  
D/N 32302-06





PRECISION MANUFACTURERS FOR THE PETROCHEMICAL POWER NUCLEAR INDUSTRY

(713) 675-4341

7809 MARKET STREET ROAD

HOUSTON, TEXAS 77029

Customer **Mobil Oil Corp.**

Date Shipped

Date **2-8-77**

Customer Order No.

**31-57776**

Our Order No.

**30019**

ITEM	DESCRIPTION	SPECIFICATIONS
5.	1/2" 3000# Sord Cplg ✓	ASME SA350 LF2 ✓
6.	1" Ditto ✓	Ditto ✓

ITEM	HEAT NO.	CARBON	MANG.	PHOS.	SUL.	SIL.	CHROME	NICKEL	MOLY	CU.	CO.	OTHER	OTH
5.	Requirements	.30 <sub>MAX</sub>	1.35 <sub>MAX</sub>	.035	.040	.15 <sub>MAX</sub>							
	83P332	.24 ✓	1.28 ✓	.019 ✓	.027 ✓	.23 ✓		Charpy	-50°F ✓	40-20-30 ✓			
6.	Requirements	.30 <sub>MAX</sub>	1.35 <sub>MAX</sub>	.035	.040	.15 <sub>MAX</sub>							
	0865304	.265 ✓	.88 ✓	.013 ✓	.024 ✓	.19 ✓		Charpy	-50°F ✓	70-84-65 ✓			
	Requirements	MAX	MAX			MAX							
	Requirements	MAX	MAX			MAX							

ITEM		YIELD PSI	TENSILE	ELONGATION	REDUCTION	HARDNESS
5.	Requirements	36,000 MIN	70,000-95,000 MIN	22% MIN	30% MIN	
	Actual	60,100 ✓	88,800 ✓	31% ✓	64.1% ✓	
6.	Requirements	36,000 MIN	70,000-95,000 MIN	22% MIN	30% MIN	
	Actual	57,500 ✓	82,000 ✓	30% ✓	67% ✓	
	Requirements	MIN	MIN	MIN	MIN	
	Actual					
	Requirements	MIN	MIN	MIN	MIN	
	Actual					

ITEM	SPECIAL TESTING
	We certify that the above material complies with ASME SA350. Heat treating in accordance with ASME SA350 LF2. Above fittings are capable of withstanding a hydrostatic test pressure as prescribed by ASME Specs. The above fittings complies with ASME Section III Class MC-1971 Edition with Addenda thru Winter 1974.

WE CERTIFY THAT THE CHEMICAL ANALYSIS AND PHYSICAL TEST RESULTS APPLYING ON THE ABOVE ORDER NUMBER ARE CORRECT AND TRUE TO THE BEST OF OUR KNOWLEDGE AND BELIEF.

Sworn and subscribed to before me

**2-8-77**

METALLOY INC.

Eleanor Graham

P.O. D15529

WJW AUG 14 1978 3/15/77

# NDE RECORD

JOB ORDER NO. 5024A  
JOB ORDER LOCATION 500 SHOP  
REV. F1  
DATE 8-28-76  
MIL NO. 451-NC-A-10-23

DRG. NO. 288133  
INSPECTOR D.J. Dwyer  
DATE 7-21-76

JOINT NO.	BASE MATERIAL	PLATE	PIPE	FIT-UP	APPLICATION REQUIRING NDE	TYPE	NDE / COMPLETED INSPECTOR / LEVEL	DATE
101	1904	"	"	"	FINAL A-3100	MT	Boyd II	8-28-76
"	"	"	"	"	FINAL A-3100	MT	Boyd II	8-28-76
102	1904	"	"	"	FINAL A-3100	MT	Boyd II	8-28-76
"	"	"	"	"	FINAL A-3100	MT	Boyd II	8-28-76
103	1904	"	"	"	FINAL A-3100	MT	Boyd II	8-28-76
"	"	"	"	"	FINAL A-3100	MT	Boyd II	8-28-76
104	1904	"	"	"	FINAL A-3100	MT	Boyd II	8-28-76
"	"	"	"	"	FINAL A-3100	MT	Boyd II	8-28-76
105	1904	"	"	"	FINAL A-3100	MT	Liberty II	9-3-76
"	"	"	"	"	FINAL A-3100	MT	Liberty II	9-3-76

\* INDICATE ACTUAL WALL THICKNESS FOR PIPE JOINTS THAT REQUIRE RT

COMPLETE AND IN ACCORDANCE WITH DRAWING AND PROCEDURES

WELDING SUPERVISOR

INSPECTION SUPERVISOR

J. T. Bolten 9/13/76

# SHIP-OUT INSPECTION REPORT

FINAL INSPECTION OF MATERIAL LISTED  
HAS BEEN COMPLETED AND IS RELEASED FOR SHIPMENT  
FILE NO. 5024A  
INSPECTION DATE 9-11-76  
DATE 9-16-76

COMPANY FURN. MAT'L. ☒  
CUSTOMER FURN. MAT'L. ☐  
OTHER ☐

CYLINDER PLT. ASSY 1-3-13 CONSISTING OF THE FOLLOWING ITEMS:

DRG. NO.	DRG. ITEM	P.O. ITEM	QTY	DESCRIPTION	75 NNI 121	75 NNI 010	75 NNI 218	75 NNI 056	76 NNI 020	75 NNI 067 &	75 NNI 256	75 NNI 256	75 NNI 256
288133	1901		1	CYLINDER PLT.									
ASSY	1902		1	WCB PLT.									
(19)	1903		1	STIFFENER F.B.G. PLT.									
	1904		5	CHOCK STIFFENER WCB PLTS									
	1905		4	PENETRATIONS									
	1906		2	PENETRATIONS									
	1907		2	PENETRATIONS									
	1908		1	PENETRATION									
	1909		1	PENETRATION									

APPROVED BY QA

J. T. Bolten 9/15/76

THIS COMPLETES PARTIALLY COMPLETED  
THIS CLEARS PARTIALLY CLEARED NR

APPROVED BY DATE  
N/A N/A

APPLICABLE DATA  
NMI CHARGE P.O./I.D. NO. 451-N  
NMI SHIPMENT NO. 37 (5024-A-40)

SHIPPED TO  
DUKE POWER COMPANY ATTN: D. G. Beam

Catauba Nuclear Station

Newport, South Carolina

ENGINEERING INSTRUCTION  
451-NC-500

QA INSPECTOR  
J. T. Bolten 9-15-76

CUSTOMER INSPECTOR  
J. T. Bolten 9/14/76

AUTHORIZED INSPECTOR  
N/A

- 2 - NNI Records Center
- 1 - Duke Power Company (documentation package)
- 1 - NNI QA, Bldg 86, 3rd floor

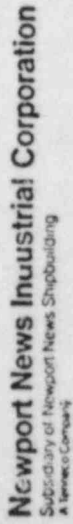












### WELD HISTORY RECORD

[illegible][illegible][illegible]

**Newport News Industri Corporation**  
Subsidiary of Newport News Shipbuilding  
A Tenneco Company

000, 270, 283, 286, 289, 311, 315

RADIOGRAPHIC TECHNIQUE (OVERV)										DATE 11-1-75	
NAT ENR SERV. ST.		REF'S & SD. CO.		REMARKS ON BACK		ORIENTATION NO.		PROJECT		218-146E	
P-21A		FA		MA		10-1-2		218-146E		8 <sup>3</sup>	
WELD ID.		SOURCE TYPE		WELD SIZE		SOURCE I.D.		218-146E		8 <sup>3</sup>	
SNDP		R.S.		SND		SHIPWAY		218-146E		8 <sup>3</sup>	
TIME		20:41-24		TS		134		218-146E		8 <sup>3</sup>	
SON IDENTIFICATION		CORRECTION		EXPOSURE		FILM		218-146E		8 <sup>3</sup>	
EXPOSED BY		HARDIS		FILM NUMBER NO.		52		218-146E		8 <sup>3</sup>	
ACCEPTED		<input checked="" type="checkbox"/>		MT		<input type="checkbox"/>		GR/RT		<input type="checkbox"/>	
REASON				DEFECT LENGTH		REP		VIR ENCL.		8 <sup>3</sup>	
LINE NO.		LOT NO.		INTSPPR/TER		834/1441		834/1441		8 <sup>3</sup>	

[illegible]

RADIOGRAPHIC TECHNIQUE									
Remains on back DATE 10-15-75 STRUCTURE PENETRATION									
R ORIENTATION NO. 1-2									
NBS & DD CO 10-10 1-10-15 A+B 288-108B									
SOURCE TYPE SOURCE SIZE SOURCE A.D. SURFIS IRIG 142 1/8" 48 1/2									
SHIPWAY STD SETUP N341-441A1 M.S.									
TR 1 1/4" 1 1/2" PENNY SHIN 1/4									
SOURCE POSITION SOURCE ANGLE 30° 1" AA P517									
FILM HOLDER NO. 150 INC 112 TO BE INTERR. 14									
MT GR/PT RET REP VIR ENCL.									
DEFECT LENGTH									
INT. CONTROL 15 1975									
LOT NO.									
REASON									
ACCEPTED 12									
EXPOSED BY P. G. R.									
REEL I.D. 0024A									
UNIT 1									
DATE 10-15-75									
PH 1-2									
NBS & DD CO									
REMAINS ON BACK									
DATE 10-15-75									
STRUCTURE PENETRATION									
R									
ORIENTATION NO. 1-2									
NBS & DD CO									
10-10 1-10-15 A+B 288-108B									
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STRUCTURE PENETRATION									
R									
ORIENTATION NO. 1-2									
NBS & DD CO									
10-10 1-10-15 A+B 288-108B									
SOURCE TYPE SOURCE SIZE SOURCE A.D. SURFIS									
IRIG 142 1/8" 48 1/2									

N. N. I. C.  
RECORD CENTER  
FILE COPY 16

PENETRATION SEAM  
JOINT #15 1-10-13 1-10-14 & 1-10-15

JOB ORDER NO.	DWG. NO.	REV.	MATERIAL	JOINT NO.	BASE MATERIAL ITEM TO ITEM	PLATE	" PIPE	FIT-UP	APPLICATION REQUIRING NDE	TYPE	NDE ACCOMPLISHED INSPECTOR/ LEVEL	DATE
502 V A JOD ORDER LOCATION	288133	F1	SUB SHOP	A554	1906	X		Bolt E 7-22-76	FINAL A-510C	MT	Bapt II	8-28
				" "	" "	X		"	BOLT A-510C	MT	Carpenter	8-13
				" "	" "	X		"	155 PA33 A-510C	MT	Bapt II	8-17
				" "	" "	X		"	FINAL A-510C	MT	Bapt III	8-28
505	1906	X							FINAL A-510C	UT	Bapt II	8-27
"	"	X							FINAL A-510C	UT	Bapt II	8-27
506	1906	X							FINAL A-510C	MT	Bapt II	8-28
"	"	X							Bolt A-510C	MT	Carpenter II	8-11
"	"	X						"	155 PA33 A-510C	MT	Bapt II	8-17
"	"	X						"	FINAL A-510C	MT	Bapt II	8-28
506	1906	X							FINAL A-510C	UT	Bapt II	8-27
"	"	X							FINAL A-510C	UT	Bapt II	8-27

\* INDICATE ACTUAL WALL THICKNESS FOR PIPE JOINTS THAT REQUIRE IT

REMARKS:	COMP

J0<sup>m</sup> 535 seam # 1-10-4

COMPLETE AND IN ACCORDANCE WITH DRAWING AND  
PROCEDURES

WELDING SUPERVISOR

9-11-77

INSPECTION SUPERVISOR

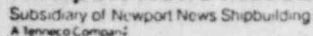
9/13/76

1871

1-462

002352





## WELD

N. N. I. C.  
RECORD CENTER  
FILE COPY 160

ULTRASONIC TEST DATA										DATE	
NN FORM 2321 (REV. 1)										8-27-70	
HULL		FR		ORIENTATION NO.		STRUCTURE UNIT		MATERIAL		THICKNESS	
5024-A		-		300 Below		ASST-1-33		Steel		3/4	
PROCEDURE		TEST SURFACE		MATERIAL		THICKNESS		SIGNAL		CALC. BLOCK	
F22-7191		A+B		STEEL		3/4		TRANSDUCER NO. 22-66		CALC. BLOCK	
				(INSTRUMENT)		TYPE 256		TYPE 256		FREQ. 2.25	
				NO. 7-440		SIZE 3/4"		ANG. 1/2"		NO. 8	
LOCATION	LENGTH	DEPTH	ZONE LOCATION	MAX. SIG.	BEAM DIRECTION	INCIDENTAL REF. TYPE	DISPOSITION	REMARKS		LOC. OF STENCILING	
					7/4"		0	4-1/2" loc. 1		FWD	
					L		0	0-1		AFT	
								1-2		TOP	
								2-3		BOTTOM	
								3-0		INBD	
										OUTBD	
										PORT	
										STBD	
							C.O.-2X				
NODE USED						DISPOSITION			BEAM DIRECTION		
1ST HALF 2ND HALF 1ST HALF 2ND HALF						O - SATISFACTORY (-) - REJECTABLE			F - FWD, PORT, IN, UP		
1ST NODE 1ST NODE 2ND NODE 2ND NODE						R - REJECTABLE OF 5			A - AFT, STBD, OUT, DOWN		
DEFECT TYPE						LENGTH			LONGITUDINAL WELD		
W - WELD REINFORCEMENT						* * 1/8" OR LESS			TRANSVERSE WELD		
D - DELAYS - LAMINAR									FOR COMPRESSIONAL		
S - STRUCTURE									PART OF LAP REPORT		
L - LACK OF FUSION											
PERFORMED BY											





Newport News Industries Corporation  
Subsidiary of Newport News Shipbuilding  
A Tenneco Company

# NDE RECORD

CPA 270, 283, 286, 289, 300, 320

JOB ORDER NO. 5024M	DWG. NO. 288133	REV. F1	MII NO. 451-AC-X10-23
JOB ORDER LOCATION SUB SHOP	INSPECTOR D.J. Long	DATE 9-11-76	DATE 7-21-76

JOINT NO. A554 1-3-13	BASE MATERIAL ITEM TO ITEM	PLATE	PIPE	FIT-UP	APPLICATION REQUIRING NDE	TYPE	NDE ACCOMPLISHED INSPECTOR/ LEVEL	DATE
507	1908 1901	X		REVE THIN PLATE	FINAL A-5100	MT	Lakey II	8-30-76
"	"	"	"	"	B-5100	MT	Barnes I	8-17-76
"	"	"	"	"	1ST PASS	MT	Barnes II	8-17-76
"	"	"	"	"	FINAL B-5100	MT	Lakey II	8-30-76
507	1908 1901	X			FINAL A-5100	UT	Budman	8-27-76
"	"	"	"		FINAL B-5100	UT	Budman	8-27-76
508	1909 1901	X		PL 2 7-22-76	FINAL A-5100	MT	Lakey II	8-28-76
"	"	"	"	"	B-5100	MT	Barnes II	8-17-76
"	"	"	"	"	1ST PASS	MT	Barnes II	8-17-76
"	"	"	"	"	FINAL B-5100	MT	Lakey II	8-28-76
508	1909 1901	X			FINAL A-5100	UT	MURRAY II	8-27-76
"	"	"	"		FINAL B-5100	UT	MURRAY II	8-27-76

\* INDICATE ACTUAL WALL THICKNESS FOR PIPE JOINTS THAT REQUIRE RT

REMARKS: Jo 507 seam 1-20-1 Jo 508 seam 1-12-1	COMPLETE AND IN ACCORDANCE WITH DRAWING AND PROCEDURES WELDING SUPERVISOR R.H. Williams 9-11-76 INSPECTION SUPERVISOR J.F. Bldn 9/13/76
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002353

RADIOGRAPHIC TECHNIQUE		DATE 10-16-75	
MM 1268 (REV. 3)	NNS & DD CO.	Remarks on back	ORIENTATION NO. 1-2
5024A	FR	STRUCTURE	1-2
WELD I.D.	10-10-1-10-4 A+B	288-108B	
STATUS	SOURCE TYPE	SOURCE SIZE	SOURCE I.D.
0	IR	1/8 X 8	752
SHOT	SKIDS	SHIPWAY	STO SETUP
AS			7341-441
TIME	TM 1 1/4	TS 1 1/2	30 AS TM
SOURCE POSITION	SOURCE ANGLE 90°	S.F.D. 24"	FILM AA
EXPOSED BY	Vogelweide	FILM HOLDER NO.	200
ACCEPTED	MT	GR/RT	RET
REASON	DEFECT LENGTH	INCHES TO BE INTERP.	14
LINE NO.	LOT NO.	DATE	17 1975

RADIOGRAPHIC TECHNIQUE		DATE 10-15-75	
MM 1268 (REV. 3)	NNS & DD CO.	Remarks on back	ORIENTATION NO. 1-2
5024A	FR	STRUCTURE	1-2
WELD I.D.	10-10-1-10-5 A+B	288-108B	
STATUS	SOURCE TYPE	SOURCE SIZE	SOURCE I.D.
0	IR-8192	1/8 X 8	752
SHOT	SKIDS	SHIPWAY	STO SETUP
AS			7341-441
TIME	TM 1 1/4	TS 1 1/2	30
SOURCE POSITION	SOURCE ANGLE 90°	S.F.D. 24"	FILM AA
EXPOSED BY	Pachetti	FILM HOLDER NO.	144
ACCEPTED	MT	GR/RT	RET
REASON	DEFECT LENGTH	INCHES TO BE INTERP.	14
LINE NO.	LOT NO.	DATE	17 1975

RADIOGRAPHIC TECHNIQUE		DATE 10-16-75	
MM 1268 (REV. 3)	NNS & DD CO.	Remarks on back	ORIENTATION NO. 1-2
5024A	FR	STRUCTURE	1-2
WELD I.D.	10-10-1-10-6 A+B	288-108B	
STATUS	SOURCE TYPE	SOURCE SIZE	SOURCE I.D.
0	IR	1/8 X 8	752
SHOT	SKIDS	SHIPWAY	STO SETUP
AS			7341-441
TIME	TM 1 1/4	TS 1 1/2	30 AS TM
SOURCE POSITION	SOURCE ANGLE 90°	S.F.D. 24"	FILM AA
EXPOSED BY	Vogelweide	FILM HOLDER NO.	272
ACCEPTED	MT	GR/RT	RET
REASON	DEFECT LENGTH	INCHES TO BE INTERP.	14
LINE NO.	LOT NO.	DATE	17 1975

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PENETRATION SEAM  
JOINT 1-10-4 1-10-5 1-10-6

RADIOGRAPHIC TECHNIQUE										Remarks on back		DATE 2-11-76	
HULL 1268 (REV. 3)										HNS & DD CO.		ORIENTATION NO. 1-2	
WELD NO. 1 J1-20-1 A1R 288-108										STRUCTURE		Penet	
STATUS 0		SOURCE TYPE 12197		SOURCE SIZE 1/2" x 1/8"		SOURCE I.D. 1/4"		CURIES 18					
SHIP 2-25		SKIDS		SHIPWAY		STD SHIPWAY		MATERIAL MS					
TIME 2 1/2		FM 1/4		TS 1/4		PENNY 30		SHIM 1/16					
SOURCE POSITION 1.5		SOURCE ANGLE 40		S.F.D. 16"		FILM AA		717					
EXPOSED BY Nelson		FILM HOLDER NO. 56		INCHES 20		INTERP.							
ACCEPTED <input checked="" type="checkbox"/>		MT <input type="checkbox"/>		GR/RT <input type="checkbox"/>		RET <input type="checkbox"/>		REP <input type="checkbox"/>		VIR ENCL. <input type="checkbox"/>			
REASON		DEFECT LENGTH		SPECS N341/241		DATE 2-11-76							
LINE NO.		LOT NO. Lw II		REMARKS									

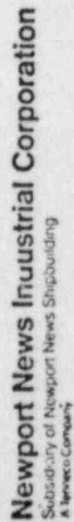
RADIOGRAPHIC TECHNIQUE										Remarks on back		DATE 2-11-76	
HULL 1268 (REV. 3)										HNS & DD CO.		ORIENTATION NO. 1-2	
WELD NO. 1 J1-20-2 A1R 288-108										STRUCTURE		Penet	
STATUS 0		SOURCE TYPE 12197		SOURCE SIZE 1/2" x 1/8"		SOURCE I.D. 1/4"		CURIES 78					
SHIP 2-25		SKIDS		SHIPWAY		STD SHIPWAY		MATERIAL MS					
TIME 2 1/2		FM 1/4		TS 1/4		PENNY 30		SHIM 1/16					
SOURCE POSITION 1.5		SOURCE ANGLE 40		S.F.D. 16"		FILM AA		717					
EXPOSED BY Nelson		FILM HOLDER NO. 5		INCHES 20		INTERP.							
ACCEPTED <input checked="" type="checkbox"/>		MT <input type="checkbox"/>		GR/RT <input type="checkbox"/>		RET <input type="checkbox"/>		REP <input type="checkbox"/>		VIR ENCL. <input type="checkbox"/>			
REASON		DEFECT LENGTH		SPECS N341/441		DATE 2-11-76							
LINE NO.		LOT NO. Lw II		REMARKS									

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PENETRATION SEAM  
JOINT #'S 1-20-1 & 1-20-2

ULTRASONIC TEST DATA										DATE 8-27-76	
HULL 507-A1B										ORIENTATION NO. 1-3-13	
PROCEDURE X03-7-241										TEST SURFACE A/B	
MATERIAL MS										THICKNESS 3/4"	
DISPOSITION										TRANSducer NO. 66445	
TYPE 702-A										TYPE C FREQ 2.25	
NO. 721204										SIZE 3/4" ANGLE 60°	
REMARKS										CALC BLOCK	
16" 60° S										NO. 1	
0-1										FWD	
1-2										AFT	
2-3										TOP	
3-0										BOTTOM	
CO-OK 5-08										INBD	
										OUTBD	
										PORT	
										STBD	
NODE USED										DISPOSITION	
1ST HALF 2ND HALF 1ST HALF 2ND HALF										O - SATISFACTORY (-) - REJECTABLE	
1ST NODE 1ST NODE 2ND NODE 2ND NODE										R - REJECTABLE PENDING REP. OF R	
DEFECT TYPE										LENGTH	
W - WELD REINFORCEMENT N - INCLUSION										* * 1/8" OR LESS	
D - DELAYS - LAMINAR C - POROSITY										PERFORMED BY D.J. Bachman	
E - STRUCTURE C - CRACK										L - LACK OF FUSION	
BEAM DIRECTION										F - FWD, PORT, UP	
										A - AFT, STBD, OUT, DOWN	
										L - LONGITUDINAL WELD	
										T - TRANSVERSE WELD	
										CO - COMPRESSIONAL	
										PART OF LAB. REPORT	

ULTRASONIC TEST DATA										DATE 8-27-76	
HULL 507-A1B										ORIENTATION NO. 1-3-13	
PROCEDURE X03-7-241										TEST SURFACE A/B	
MATERIAL Steel										THICKNESS 3/4"	
DISPOSITION										TRANSducer NO. 111406	
TYPE 702-A										TYPE 26 FREQ 2.25	
NO. 74440										SIZE 3/4" ANGLE 70°	
REMARKS										CALC BLOCK	
4 20° 60°										NO. 1	
0-1										FWD	
1-2										AFT	
2-3										TOP	
3-0										BOTTOM	
CO-OK										INBD	
										OUTBD	
										PORT	
										STBD	
NODE USED										DISPOSITION	
1ST HALF 2ND HALF 1ST HALF 2ND HALF										O - SATISFACTORY (-) - REJECTABLE	
1ST NODE 1ST NODE 2ND NODE 2ND NODE										R - REJECTABLE PENDING REP. OF R	
DEFECT TYPE										LENGTH	
W - WELD REINFORCEMENT N - INCLUSION										* * 1/8" OR LESS	
D - DELAYS - LAMINAR C - POROSITY										PERFORMED BY M. W. W. W.	
E - STRUCTURE C - CRACK										L - LACK OF FUSION	
BEAM DIRECTION										F - FWD, PORT, UP	
										A - AFT, STBD, OUT, DOWN	
										L - LONGITUDINAL WELD	
										T - TRANSVERSE WELD	
										CO - COMPRESSIONAL	
										PART OF LAB. REPORT	



## WELD HISTORY RECORD

[illegible]

**Newport News Industrial Corporation**  
Subsidiary of Newport News Shipbuilding  
A Teneco Company

## WELD HISTORY RECORD

[illegible]

COMPLETE & IN ACCORDANCE WITH DWG. & PROCEDURES  
D.J. Long / Jim Stiffner 3-30-76





Newport News Indust. Corporation  
Subsidiary of Newport News Shipbuilding  
A Tenneco Company

# NDE RECORD

091, 270, 283, 286, 289, 303, 320

JOB ORDER NO. <b>5024H</b>	DWG. NO. <b>288133</b>	REV. <b>F1</b>	MII NO. <b>451-NC-X10-23</b>
JOB ORDER LOCATION <b>SUB 5110P</b>	INSPECTOR <b>D.J. Long</b>	DATE <b>9-11-76</b>	DATE <b>7-22-76</b>

JOINT NO. ASSY 1-3-13	BASE MATERIAL ITEM TO ITEM	PLATE	PIPE	FIT-UP	APPLICATION REQUIRING NDE	TYPE	NDE ACCOMPLISHED INSPECTOR/ LEVEL	DATE
509	1907 1901	X		DJL E 7-22-76	FINAL A-S100	MT	Schooty I	8-28-76
"	"	X		"	B-S100 ROOT	MT	Schooty II	8-19-76
"	"	X		"	1st PASS B-S100	MT	Schooty II	8-20-76
"	"	X		"	FINAL B-S100	MT	Schooty II	8-28-76
509	1907 1901	X			FINAL A-S100	UT	Buckman	8-27-76
"	"	X			FINAL B-S100	UT	Buckman	8-27-76
510	1907 1901	X		DJL E 7-22-76	FINAL A-S100	MT	Schooty II	8-28-76
"	"	X		"	B-S100 ROOT	MT	Schooty II	8-19-76
"	"	X		"	1st PASS B-S100	MT	Schooty II	8-20-76
"	"	X		"	FINAL B-S100	MT	Schooty II	8-28-76
510	1907 1901	X			FINAL A-S100	UT	Buckman	8-27-76
"	"	X			FINAL B-S100	UT	Buckman	8-27-76

\* INDICATE ACTUAL WALL THICKNESS FOR PIPE JOINTS THAT REQUIRE RT

REMARKS JO* 509 SEAM = 1-16-3 JO* 510 SEAM = 1-16-4	COMPLETE AND IN ACCORDANCE WITH DRAWING AND PROCEDURES WELDING SUPERVISOR <i>PLANNING</i> 9-11-76 INSPECTION SUPERVISOR <i>J.F. Bell</i> 9/13/76
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002354

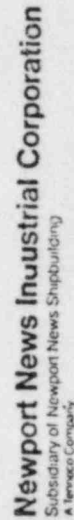
RADIOGRAPHIC TECHNIQUE				DATE 6-16-75	
NH 1258 (REV. 31)				Remarks on back	
WELD NO. 5124A		ORIENTATION NO. 1-2		STRUCTURE NO. 21	
WELD ID. 72-12-1-12-1		SOURCE SIZE 1/8 X 1/8		CURIES 73	
STATUS 0	SOURCE TYPE FRED	SHIELDING SKIDS	SHIPWAY	STO SETUP 23.41.44	MAT'L SHIN
TIME 2 1/2 min	TH 1 1/2	TS 1 1/2	WNNY 20.15.11	FILM K A	SIZE 9 X 17
SOURCE POSITION 713	SOURCE ANGLE 90	S.F.D. 20	FILM K A	INCHES TO RE INTERP.	
EXPOSED BY Vogelrode	FILM HOLDER NO. 2				
ACCEPTED <input checked="" type="checkbox"/>	MT <input type="checkbox"/>	GR/RT <input type="checkbox"/>	RET <input type="checkbox"/>	REP <input type="checkbox"/>	VIR ENCL <input type="checkbox"/>
REASON	DEFECT LENGTH	DATE 10/21/75			
LINE NO.	LOT NO.	10/21/75			

PENETRATION SEAM  
JOINT # 1-12-1

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**Newport News Industrial Corporation**  
Subsidiary of Newport News Shipbuilding  
A Tenneco Company

RADIOGRAPHIC TECHNIQUE		NBSA D.D. CO.		Repairs on back		DATE 10-5-75	
NBS 1248 (REV. 3)		ORIGINAL NO.		C		STRUCTURE	
5034A		1-2		PENETRATION			
WELD		1-16-2 A+B		288-108 B			
S.T.A.N.		SOURCE TYPE		SOURCE SIZE		CURIES	
IR-6		1/2		1/8 x 1/8		72	
SHOTS		SHOTS		D.T.O. SETUP		WALL	
K.S.		SHIM 1/4		334-441 A1		A15	
TIME 7 1/2 MIN		PENT		30		712 1/4	
SOURCE POSITION		FILM		A		712 1/4	
EXPOSED BY		FILM HOLDER NO.		INCHES TO BE INTERP.		1/4	
ACCEPTED <input checked="" type="checkbox"/>		MT <input type="checkbox"/>		GR/RT <input type="checkbox"/>		REP <input type="checkbox"/>	
REASON		DEFECT LENGTH		VIR ENCL.			
LINE NO.		LOT NO.		DATE		10-5-75	
100		100		100		100	

RADIOGRAPHIC TECHNICIAN		Remarks on back	
NAT. T.S. (REV. 3)		ORIENTATION NO.	
5034A	16	1-2	
WELD.	1	16-16	
STATUS	SOURCE TYPE	SOURCE SIZE	
SPRS.	25 x 19 1/2	1/8 x 7/8	
	BRIDS	SHIPWAY	
TIME	7 1/2 MIN.	TS 1/58	
SOURCE POSITION	SOURCE ANGLE	30°	
EXP. BY	3	FILM	
EXP. NO.	1	FILM NO.	
REASON	MT	203	
ACCEPTED	GR/RT	RET	
	MT	DEFECT LENGTH	
		16-16	
LINE NO.	LOT NO.	N341-AA1	
		DATE	
		10-15-75	
		SIGNATURE	
		M. S.	
		SHIM 1/4	
		SIZE	
		7 x 17	
		INCHES TO BE INT. P.	
		15 1/2	
		REP	
		VIR ENCL.	
		16-16	
		DATE	
		10-15-75	

RADIOGRAPHIC TECHNIQUE		Remarks on back	
LINE NO.	LOT NO.	DATE	TIME
1	1-16-41	10-16-48	10:15
2	1-16-41	10-16-48	10:15
3	1-16-41	10-16-48	10:15
4	1-16-41	10-16-48	10:15
5	1-16-41	10-16-48	10:15
6	1-16-41	10-16-48	10:15
7	1-16-41	10-16-48	10:15
8	1-16-41	10-16-48	10:15
9	1-16-41	10-16-48	10:15
10	1-16-41	10-16-48	10:15
11	1-16-41	10-16-48	10:15
12	1-16-41	10-16-48	10:15
13	1-16-41	10-16-48	10:15
14	1-16-41	10-16-48	10:15
15	1-16-41	10-16-48	10:15
16	1-16-41	10-16-48	10:15
17	1-16-41	10-16-48	10:15
18	1-16-41	10-16-48	10:15
19	1-16-41	10-16-48	10:15
20	1-16-41	10-16-48	10:15
21	1-16-41	10-16-48	10:15
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23	1-16-41	10-16-48	10:15
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33	1-16-41	10-16-48	10:15
34	1-16-41	10-16-48	10:15
35	1-16-41	10-16-48	10:15
36	1-16-41	10-16-48	10:15
37	1-16-41	10-16-48	10:15
38	1-16-41	10-16-48	10:15
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66	1-16-41	10-16-48	10:15
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70	1-16-41	10-16-48	10:15
71	1-16-41	10-16-48	10:15
72	1-16-41	10-16-48	10:15
73	1-16-41	10-16-48	10:15
74	1-16-41	10-16-48	10:15
75	1-16-41	10-16-48	10:15
76	1-16-41	10-16-48	10

[illegible]

N.N.I.C.  
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N. N. I. C.  
RECORD CENTER  
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INDEX RECORD

JOB ORDER NO.	URG. NO.	REV.	MIL NO.
5324A	288/33	F'	457-20-X10-20
JOB ORDER LOCATION	INSPECTOR	DATE	

500 SHIP	Dg. day 9-11-76
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JOINT NO. R354 1-3-13	BASE MATERIAL ITEM TO ITEM	PLATE	PIPE	FIT-UP	APPLICATION REQUIRING NDE	TYPE	NDE ACCOMPLISHED INSPECTOR LEVEL	DATE
	1911	-	X		X BASE METAL EXCAVATION	MT	Schubert II	9-11-79
	4	-	X		FINISH	MT	Schubert II	9-11-79

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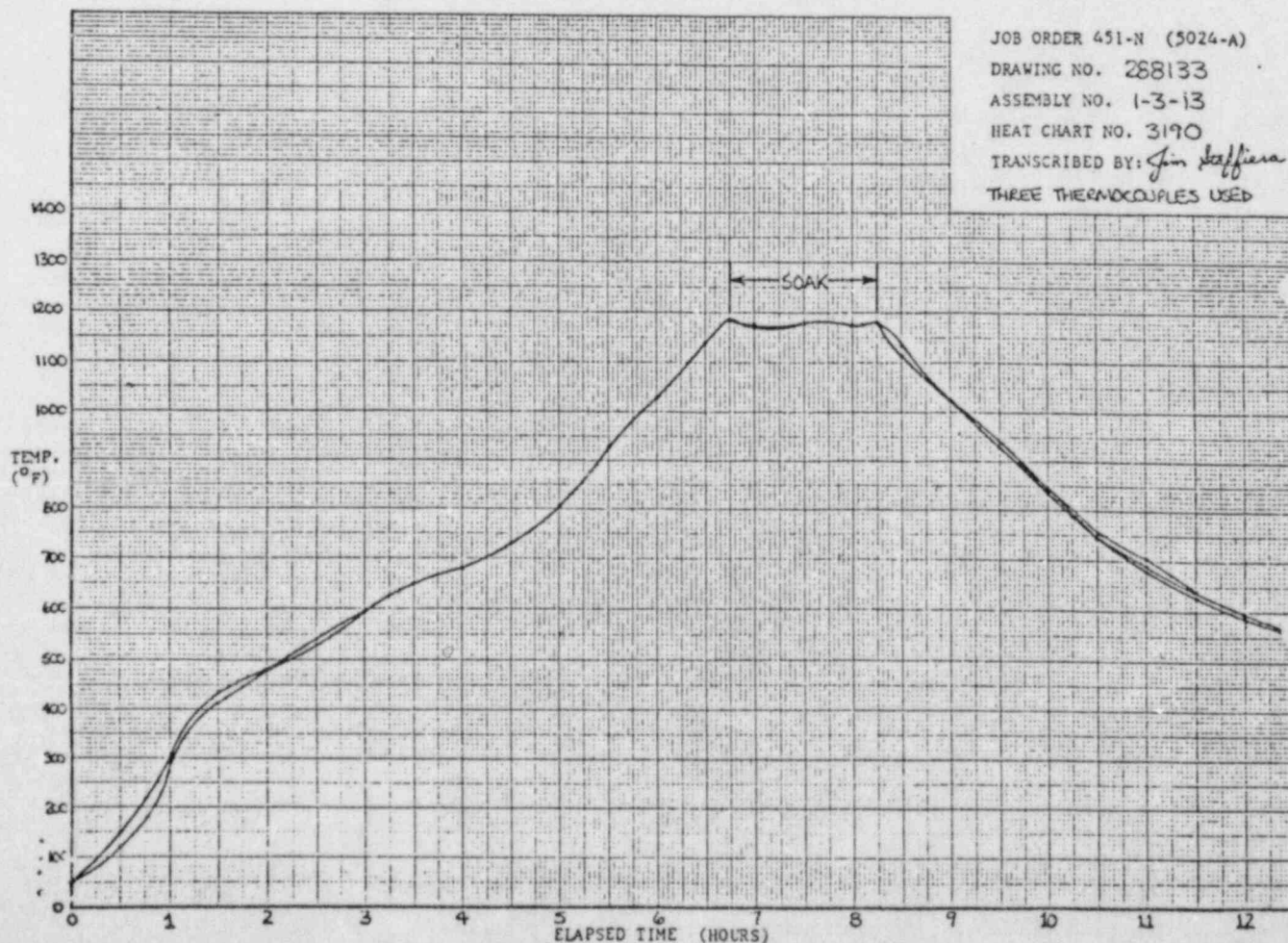
REMARKS	COMPLETE AND IN ACCORDANCE WITH DRAWING AND PROCEDURES
# Base metal repairs made by	

P.T. CLARK TANK ATTACHMENT,  
 C.C.T. APPROX 20 PLACES  
 WELDING SUPERVISOR  
 B.L. W. 11.

11-11-76	11
INSPECTION SUPERVISOR	11

J. T. Caldwell	9/13/76
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000639





NEWPORT NEWS SHIPBUILDING AND DRY DOCK COMPANY  
NEWPORT NEWS, VIRGINIA

SHIPPING NOTICE

FOR: NEWPORT NEWS INDUSTRIAL CORPN.  
(A TENNECO CO.)

DATE  
FEBRUARY 28, 1977

CUSTOMER'S ORDER  
A-98512

NEWPORT NEWS, VIRGINIA 23602

ORDER  
5024-A (451-N)

CUSTOMER'S REQ'N.

N.N. CHARGE  
5024-A-00907

N.N. FILE  
5924-A

CUSTOMER  
DUKE POWER CO.  
CHARLOTTE, NORTH CAROLINA

DUKE POWER CO.  
C/O D.G. BEAM  
CATAWBA NUCLEAR STATION  
SOUTH CAROLINA HIGHWAY 274  
NEWPORT, SOUTH CAROLINA

MARKS

NNI / CORPN. - JOB ORDER 451-N (NNS JO 5024-A)

DATE  
2/28/77

ROUTED TO  
ROSS TRUCKING CO.

CHARGE  
PREPAID

TRAILER  
D-59

NUMBER PACKAGES  
14 -PCS.

NET WT.  
15,980 #

PACKAGES

CONTENTS

- 6 - DOME INSERT WELDMENT ASSEMBLIES 111-1 THRU 111-6  
DWG. 288113 - "B"
- 6 - DOME INSERT WELDMENT ASSEMBLIES 111-7 THRU 111-12  
DWG. 288113 - "B"
- 1 - SHELL INSERT WELDMENT ASSEMBLY 113-1 - DWG. 288229
- 1 - SHELL INSERT WELDMENT ASSEMBLY 113-2 - DWG. 288229

AS PER LIST ATTACHED.

ORDER NOT COMPLETE

LESS DUNNAGE

NET

16,140

160

15,980

COPY TO:-

- 2-CC. CATAWBA NUCLEAR STATION, P.O. BOX 223, CLOVER, SOUTH CAROLINA 29770  
ATTN: D.S. BEAM
- 1-CC. FRANK H. BEARD, JR., NNI, BLDG. 86
- 2-CC. J.C. NEFF, ACCOUNTS PAYABLE, NNI, BLDG. 520, 4TH FLOOR
- 1-CC. R. MACLAUCHLIN W/COPY B/L - NNI, BLDG. 520, 4TH FLOOR
- 1-CC. JIM MITCHELL, X10, BLDG. 211
- 1-CC. 073 ACCOUNTS RECEIVABLE



Newport News Industrial Corporation

Subsidiary of Newport News Shipbuilding

A Tenneco Company

SHIP-OUT  
INSPECTION  
REPORT

FINAL INSPECTION OF MATERIAL LISTED  
HAS BEEN COMPLETED AND IS RELEASED FOR SHIPMENT

☒ COMPANY FURN. MAT'L.  
☐ CUSTOMER FURN. MAT'L.  
☐ OTHER

INSPECTION DATE  
2-15-77  
DATE  
2-16-77

DWG. NO. DWG. ITEM P.O. ITEM QTY DESCRIPTION

288229 Δ

AS34 113-1

113-1

1

SHELL INSERT WELDMENT CONSISTING  
OF THE FOLLOWING ITEMS.

INSERT PLT. 75 NNI 256

113-2

1

PENETRATION 75 NNI 036

APPROVED BY QA

APPROVED BY  
DATE  
3-11-77

THIS COMPLETES (PARTIALLY COMPLETES) N/A REV. N/A  
THIS CLEARS (PARTIALLY CLEARS) NR N/A DATED

APPLICABLE INSPECTIONS

EACH CHECKED INSPECTION HAS BEEN PERFORMED ON EACH ITEM LISTED ABOVE

VISUAL INSPECTION

- ☒ MARKING
- ☒ SURFACE CLEANLINESS
- ☐ GRADE
- ☒ AS REC'D FOR SHIPOUT
- ☐ PRIM. CLEAN TAG.
- ☐ PLUG WARNING TAG
- ☐ DIMENSIONAL INSP.
- ☒ WELD PREP
- ☒ OVERALL

DOCUMENTATION

- ☒ MANUFACTURE CERT.
- ☐ SHIPPING PAPERS
- ☐ EQUIPMENT HISTORY

OTHER (SPECIFY)

SHIPPING TRANSPORTATION  
TRUCK-MOSS TRAILER D59

REMARKS  
D.J. Long

APPLICABLE DATA

NNI CHARGE/P.O. (J.O. NO.) 451-N NNI SHIPMENT NO. 172 (5024-A-172)

SHIPPED TO  
DUKE POWER COMPANY ATTN: D.G. BEAM  
CATAWBA NUCLEAR STATION

NEWPORT SOUTH CAROLINA

ENGINEERING INSTRUCTION REV. B

QA INSPECTOR  
James E. Stallina 2-17-77

CUSTOMER INSPECTOR  
Milton Walker 2-22-77

AUTHORIZED INSPECTOR N/A DATE

DISTRIBUTION

- 2-NNI RECORDS CENTER
- 1-DUKE POWER COMPANY (DOCUMENTATION PACKAGE)
- 1-NNI QA, BLDG 86, 3RD FLOOR

TO	ID	GA	SD	CEXX	RAS	SHIPMENT NUMBER
						5024-A-175



DUKE POWER COMPANY  
QUALITY ASSURANCE DEPARTMENT  
SUPPLIER QUALITY ASSURANCE CERTIFICATION

Name of Supplier Newport News Industrial Corporation Date FEBRUARY 23, 1977  
Address of Supplier Plant 230 41st Street Mill Power Order No. A-98512  
Newport News, Virginia 23607 Duke Item or Req. No. 1144.09-1  
Spec. No. CNS-1144.09-1 Rev 4  
Supplier ID Nos. As noted per attached Shipout Inspection Reports X12-310-311-313 & 314  
Description of Component(s) or Material(s) DOVE INSERT ASSEMBLIES 111-1 THROUGH 111-12  
SHELL INSERT ASSEMBLIES 113-1 & 113-2

☒ Attached Documentation covers all Components/Materials on Mill Power Order.  
☒ Attached Documentation covers partial shipment of Components/Materials on Mill Power Order.

The following listed tests, inspections and reports have been completed as required by the specification:

<input checked="" type="checkbox"/> Physical & Chemical Analysis	<input checked="" type="checkbox"/> Major Repair Records & Charts
<input type="checkbox"/> Hydro (Test Pressure - PSIG)	<input checked="" type="checkbox"/> Personnel Qualifications on Record
<input type="checkbox"/> Design Report	<input checked="" type="checkbox"/> Stress Report
<input checked="" type="checkbox"/> Radiographic Test	<input checked="" type="checkbox"/> Ultrasonic Test
<input type="checkbox"/> Penetrant Test	<input checked="" type="checkbox"/> Repair NDE
<input type="checkbox"/> Operating Test	<input type="checkbox"/> Performance Curve
<input checked="" type="checkbox"/> Dimensional Check	<input checked="" type="checkbox"/> Deviation Record <u>SEE 1) BELOW</u>
	<input checked="" type="checkbox"/> Heat Treatment
	<input checked="" type="checkbox"/> Magnetic Particle
	<input type="checkbox"/> Cleanliness
	<input type="checkbox"/> ASME Data Report

- 1) NONCONFORMITY REPORTS 451-N-112-7-35 & M53-4
- 2) \_\_\_\_\_
- 3) \_\_\_\_\_

This certifies that the listed Component(s) or Material(s) conform to the requirements of the above referenced Duke Power drawing including all codes, standards, test requirements and Quality Assurance requirements.

QA RECORDS APPROVED

QA REPRESENTATIVE

DATE 2-8-77

James E. Stephens FOR L.H. HARRISON  
Supplier Representative Authorized Signature

Title QA Manager Date 2-23-77

(See Instructions)

PACKAGING AND SHIPPING REQUIREMENTS

Specification No. CNS-1144.09-1 Date FEBRUARY 23, 1977

1. ITEM CLASSIFICATION (ANSI N45.2.2 - 1972)

Level A B C D Special  
Special \_\_\_\_\_

2. PACKAGING (ANSI N45.2.2 - 1972, Section 3 and Appendix A3)

Level A B C D Special  
Special Instructions \_\_\_\_\_

3. SHIPPING (ANSI N45.2.2 - 1972, Section 4.2)

Carrier Open Closed Special  
Special Instructions \_\_\_\_\_

Shipment via Train Truck Plane Barge Ship Other

Description of other means \_\_\_\_\_

4. LOADING & TRANSIT (ANSI N45.2.2 - 1973, Section 4.3)

Special Instructions for loading, rigging, handling, preservative coatings, seals, stacking and vandalism precautions \_\_\_\_\_

Newport News Industrial Corporation Instruction 451-NC-5001

5. IDENTIFICATION AND MARKING (ANSI N45.2.2 - 1972, Appendix A3.9)

Item Markings Newport News Industrial Corporation drawing and item/assembly numbers and Quality Control numbers

Container Markings Uniform freight classification rules

