

DUKE POWER COMPANY
POWER BUILDING
422 SOUTH CHURCH STREET, CHARLOTTE, N. C. 28201

A. C. THIES
SENIOR VICE PRESIDENT
PRODUCTION AND TRANSMISSION

P. O. Box 2178

May 6, 1974

Mr. Norman C. Moseley, Director
Directorate of Regulatory Operations
U. S. Atomic Energy Commission
Region II - Suite 818
230 Peachtree Street, Northwest
Atlanta, Georgia 30303

Re: Oconee Nuclear Station
Docket Nos. 50-269, -270, -287

Dear Mr. Moseley:

Please find attached additional information concerning the Dresser
electromatic pressurizer relief valves at Oconee Nuclear Station.
This information consists of welding procedure qualifications and
radiography data, and is forwarded in response to informal requests
by Mr. C. E. Murphy and Mr. J. C. Bryant of your staff.

Very truly yours,

A.C. Thies

A. C. Thies

ACT:vr

Attachment

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RECORD OF WELDING PROCEDURE QUALIFICATION TESTS

Special Dresser Valve Ref: Dresser Specification
Specification No. WS-97 (Rev 2) Seal (Root) WS 65 Fill Date 4-29-74
Welding Process GTA (Root) SMA (Filled) Manual or Machine Manual
Material Specification A 376-304 H_o A 376-304 H P-No. 8 (HT# 56957) to P-No. 8 (HT# 56957)
Thickness (if pipe, diameter and wall thickness) 4" ID X .875 Wall Thickness
Thickness Range this test qualifies 3/16" to 1-3/4"

Filler Metal Group No. F- 5 & 7
Weld Metal Analysis No. A- A8
Describe Filler Metal if not included in Table Q-11.2
or QN-11.2 N/A
For oxyacetylene welding—State if Filler Metal is sil-
icon or aluminum killed.

FLUX OR ATMOSPHERE
Flux Trade Name or Composition N/A
Inert Gas Composition Argon Shield
Trade Name Air Product Flow Rate 15 cfm
Is Backing Strip used? None
Preheat Temperature Range 60 F Minimum
Interpass Temperature Range 350 F Maximum
Postheat Treatment 850 for 2 hours

WELDING PROCEDURE
Single or Multiple Pass Multiple
Single or Multiple Arc Single
Position of Groove 2G (Horizontal)
(Flat, horizontal, vertical, or overhead; if vertical, state whether upward or downward)

(See Pars. & Figs. Q-2 & Q-3, or QN-2 & QN-3)

FOR INFORMATION ONLY
Filler Wire—Diameter 3/32-ER-308 & 3/32-E-308
HT# 13177 Lot# D108G1B

Trade Name McKay Arcaloy
Type of Backing Nitrogen
Forehand or Backhand N/A

WELDING TECHNIQUES
Joint Dimensions Accord with Test Memo of 4-26-74
GTA 70 volts 14 inches per min. N/A
SMA 75 DC 25 polarity Straight
Reverse

REDUCED SECTION TENSILE TEST (Figs. Q-6 and QN-6)

Specimen No.	Dimensions		Area	Ultimate Total Load, lb.	Ultimate Unit Stress, psi	Character of Failure and Location
	Width	Thickness				
2GA Q.6(B)	.614	.752	.4617	40,700	88,147	Ductile Base Metal
2GB Q.6(B)	.624	.749	.4674	42,000	89,863	Ductile Base Metal

GUIDED BEND TESTS (Figs. Q-7.1, Q-7.2, QN-7.1, QN-7.2, QN-7.3)

Type and Figure No.	Result	Type and Figure No.	Result
2G1 Q.7.1	No Defect	2G3 Q.7.1	No Defect
2G2 Q.7.1	No Defect	2G4 Q.7.1	No Defect

Results of Filler Weld Tests, Fig. Q-9(c) N/A

Welder's Name W G Bartlett

Clock No. 933 Stamp No. 288

Who by virtue of these tests meets welder performance requirements.

Test Conducted by Duke Power Company

Laboratory—Test No. N/A

per R. N. Davis

We certify that the statements in this record are correct and that the test welds were prepared, welded and tested in accordance with the requirements of Section IX of the ASME Code.

Signed Duke Power Company

Date 4-29-74

* RECOMMENDED FORM Q-1 FROM SECTION IX, "WELDING QUALIFICATIONS"

POOR
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DUKE POWER COMPANY

CONSTRUCTION DEPARTMENT

OCONEE NUCLEAR 1-3

SENECA, S. C. 29678

P. O. BOX 1284

TELEPHONE: AREA 603
ED2-4631

April 26, 1974

Memo to J F Blair
C R Baldwin

From Ray Hollins

POOR
ORIGINAL

Re: Welding Procedure

Welding Procedure is to be qualified as set forth below:

- 1) Base Material: 4-inch minimum diameter by 1/2 minimum wall,
type 304 stainless steel

Record base material heat number and forward
to Engineering office

- 2) Joint Configuration: Compound Bevel or V Bevel
Open Butt

- 3) Welding Process: First layer: Gas tungsten arc
Remainder: Shielded metal arc

- 4) Filler Metal: Gas Tungsten Arc: ER 308
Shielded Metal Arc: E 308

Record filler material heat numbers and forward to
Engineering Office

- 5) Preheat: None - Room temperature

- 6) Interpass Temperature: 350°F maximum

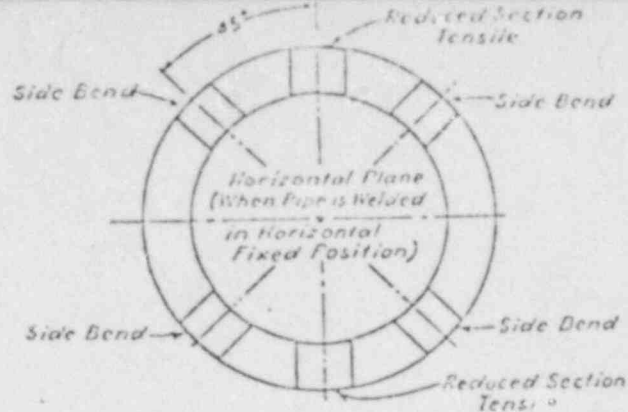
- 7) Gas Flow Rate: 20 CHF (Argon required) Maximum

- 8) Gas Backing: Use nitrogen for the first three layers
Gas backing not to be used for remainder

- 9) Post Weld Heat Treatment: 850 F for 2 hours

- 10) Number of Coupons Welded: 1 - 2G

- 11) Bends and Tensile Pulls: For each coupon welded, prepare and test
four (4) side bend specimens and two (2)
tensile pull specimens as shown on attached
sheet.



FIGS. Q-13.2(b) & QN-13.2(b) ORDER OF REMOVAL OF TEST SPECIMENS FROM WELDED PIPE (FOR PIPE OVER $\frac{1}{2}$ IN. THICK, MAY BE USED ALSO FOR THICKNESS $\frac{1}{8}$ TO $\frac{1}{2}$ IN.)

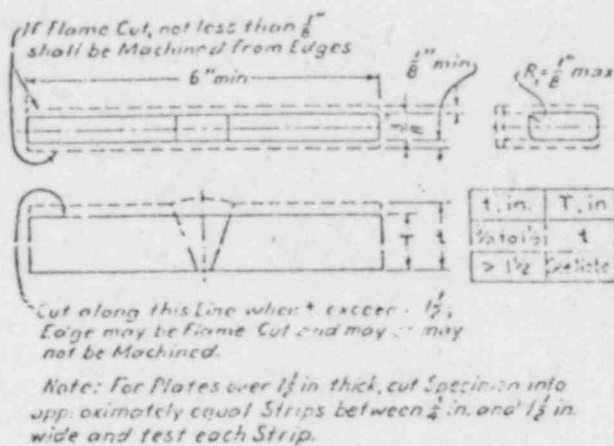
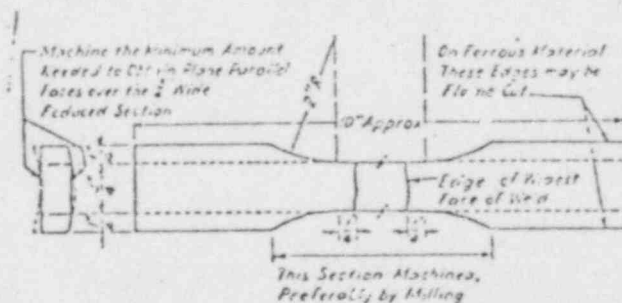


FIG. Q-7.1 SIDE-BEND SPECIMEN FOR FERROUS MATERIALS



FIGS. Q-6(b) & QN-6(b) REDUCED-SECTION TENSION SPECIMEN (PIPE)

Manufacturer or Arc Products Div.
Distributor Chemetron Corp.
Address P.O. Box 517, Hanover, Pa.
Date June 1, 1971
Specification MIL-E-22220/2B
Type MIL-308-16
Diameter & Length 3/32" x 9"
Inspection Level A
Lot No. D108G1B

P.O. W78878
Customer's Name Duke Power Co.
c/o J.C. Rogers, Seneca, S. C.
Customer's Order No. 8-230
Core Wire Heat No. 12362C
Lot Identification MIL-E-0022200E
Para 4, 4, 6, 1
Ferrite Content
Percent Ferrite (Average) 4%
Test No. 92

Groove Weld Test

Carbon .05
Chromium 19.20
Nickel 9.61
Molybdenum N/A
Columbium N/A
Tungsten N/A

Test No. BA Chem Pad 3 6
Amperage 70 70 N/A N/A
Grinding during 8A Test Plate Preparation
3/ N/A
Operator Error (Layer Nos.) None

Chemistry was taken from X Chem Pad Groove Weld

X-Ray Results Satisfactory
Concentricity % 3%
Covering Moisture (QPL) % @ 1800° F. 0.6% Max

We hereby certify that the above material has been tested in accordance with the listed specification and is in conformance with all requirements

State of Penna.
County of York

Subscribed and sworn to before me
this 1st day of June 19 71

ARC PRODUCTS MANUFACTURING DIV.
CHEMETRON CORP.

SEAL Notary Public

By G. W. Folcomer III
G. W. Folcomer III

My commission expires: 12/4/72

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This is to certify that the original copy of this report has been properly signed and notarized.