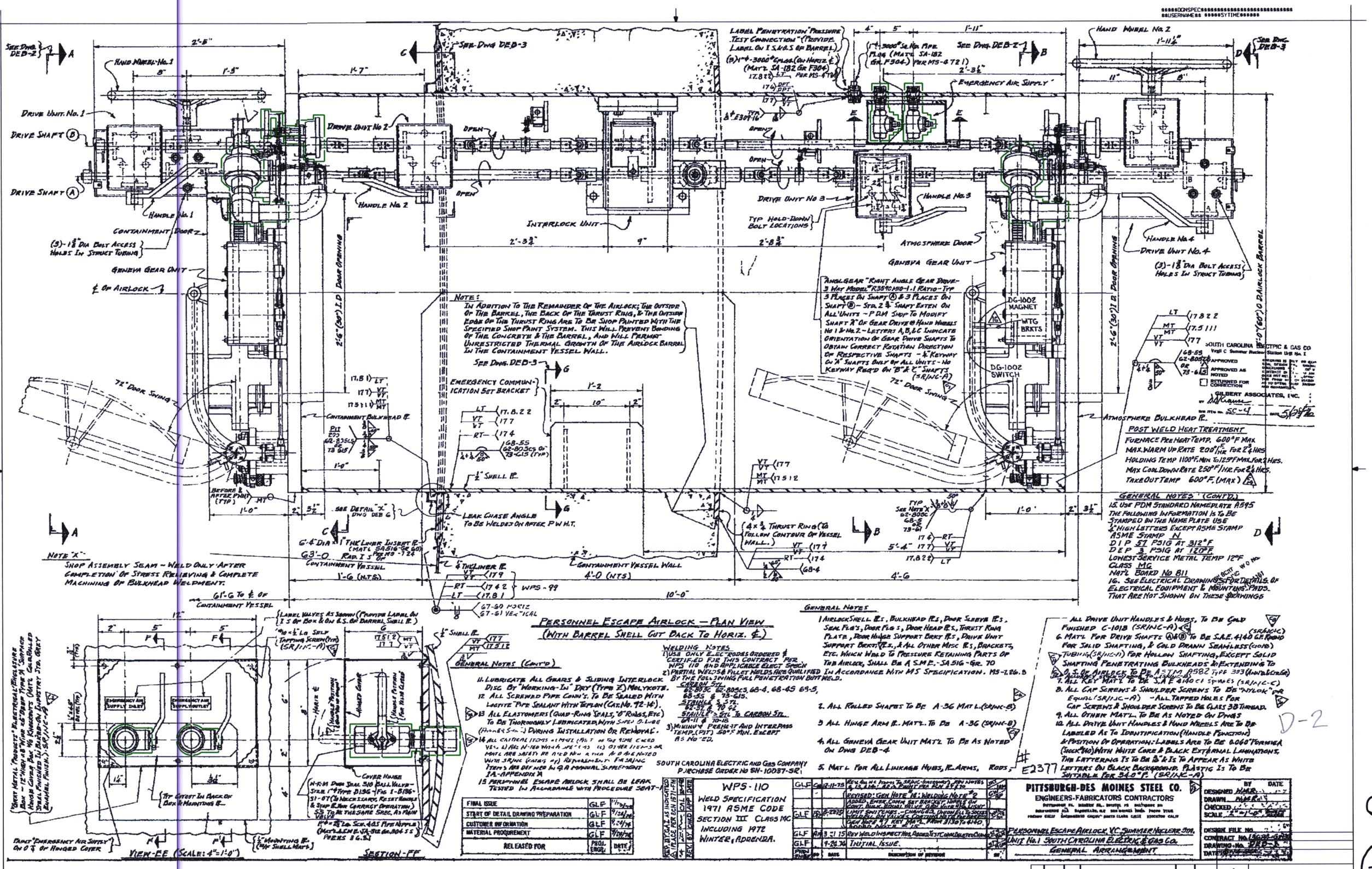
SEE DWG DEB-2
A
HAND WHEEL No. 1
2'-5"
8"
1'-5"
1'-7"
C
SEE DWG DEB-3
DRIVE UNIT No. 1
DRIVE SHAFT (B)
DRIVE SHAFT (A)
DRIVE UNIT No 2
OPEN
HANDLE No. 1
HANDLE No. 2
CONTAINMENT DOOR
(3)-1⅛" DIA BOLT ACCESS HOLES IN STRUCT TUBING
GENEVA GEAR UNIT
℄ OF AIRLOCK
2'-6" (30") I.D DOOR OPENING
INTERLOCK UNIT
2'-3¾"
9"
LABEL PENETRATION "PRESSURE TEST CONNECTION" (PROVIDE LABEL ON I.S. OR O.S. OF BARREL)
(2) ¼"-3000# SPLAG (ON HORIZ ℄) (MAT'L SA-182 GR F304) PER MS-4721
17.822 LT
17.4 DPT
17 DPT VT
¼" E309-16 TYP
SEE DWG. DEB-2
B
4" 5" 1'-11"
¼" 3000# SA. NPA PIPE FLGS (MAT'L SA-182 GR. F304) PER MS-4721
2'-3½"
EMERGENCY AIR SUPPLY
E
DRIVE UNIT No 3
TYP HOLD-DOWN BOLT LOCATIONS
2'-8¾"
HANDLE No. 3
ATMOSPHERE DOOR
GENEVA GEAR UNIT
"ANGL-GEAR" RIGHT ANGLE GEAR DRIVE-3 WAY MODEL "R3310M10-1:1 RATIO-TYP 3 PLACES ON SHAFT (A) & 3 PLACES ON SHAFT (B) - STD. 2¾" SHAFT EXTEN ON ALL UNITS - P.D.M. SHOP TO MODIFY SHAFT "A" OF GEAR DRIVE @ HAND WHEELS No 1 & No. 2 - LETTERS A, B, & C INDICATE ORIENTATION OF GEAR DRIVE SHAFTS TO OBTAIN CORRECT ROTATION DIRECTION OF RESPECTIVE SHAFTS - ¼" KEYWAY ON "A" SHAFTS ONLY OF ALL UNITS - NO KEYWAY REQ'D ON "B" & "C" SHAFTS (SR/NC-A)
DG-100Z MAGNET
WTG BRKTS
DG-100Z SWITCH
HAND WHEEL No. 2
1'-11½"
11"
8"
SEE DWG. DEB-3
D
HANDLE No. 4
DRIVE UNIT No. 4
(3)-1⅛" DIA BOLT ACCESS HOLES IN STRUCT TUBING
2'-6" (30") I.D DOOR OPENING
5'-0" (60") O.D AIRLOCK BARREL
NOTE:
IN ADDITION TO THE REMAINDER OF THE AIRLOCK; THE OUTSIDE OF THE BARREL, THE BACK OF THE THRUST RING, & THE OUTSIDE EDGE OF THE THRUST RING ARE TO BE SHOP PAINTED WITH THE SPECIFIED SHOP PAINT SYSTEM. THIS WILL PREVENT BONDING OF THE CONCRETE & THE BARREL, AND WILL PERMIT UNRESTRICTED THERMAL GROWTH OF THE AIRLOCK BARREL IN THE CONTAINMENT VESSEL WALL.
SEE DWG. DEB-3
G
EMERGENCY COMMUNICATION SET BRACKET
1'-2
2"
10"
2"
LT (17.8.22)
VT VT (177)
RT (174)
(68-55 62-805C & 73-615) (TYP)
½" SHELL ℄
72" DOOR SWING
CONTAINMENT BULKHEAD ℄
PIT 270 62-805C & 73-615
1'-0"
BEFORE & AFTER PWHT (TYP)
MT
2" 5½"
SEE DETAIL "X" DWG DEB G
LEAK CHASE ANGLE TO BE WELDED ON AFTER P.W.H.T.
C
6'-4" DIA
1" THK LINER INSERT ℄ (MAT'L SA516-Gr 60) Pipe #13-"124"
63'-0" RAD. I.S. ℄
CONTAINMENT VESSEL
1'-6 (N.T.S.)
¼" THK LINER ℄
VT VT (179)
RT (174.2) WPS-99
LT (17.8.1)
GT-60 HORIZ
GT-61 VERTICAL
℄ CONTAINMENT VESSEL WALL
4'-0 (NTS)
10'-0"
4'-6
61'-6 TO ℄ OF CONTAINMENT VESSEL
4 x ¾ THRUST RING (TO FOLLOW CONTOUR OF VESSEL WALL.)
VT VT (177)
MT MT (175.12)
RT (174)
(68-4)
TYP SEE NOTE X 62-805C 68-5 OR 73-61
50°
17.6 RT
17 VT VT
5'-4"
17.822 LT
1'-0"
2" 3½"
L A
L B
D
NOTE "X"
SHOP ASSEMBLY SEAM - WELD ONLY AFTER COMPLETION OF STRESS RELIEVING & COMPLETE MACHINING OF BULKHEAD WELDMENT.
ATMOSPHERE BULKHEAD ℄
POST WELD HEAT TREATMENT
FURNACE PRE HEAT TEMP. 600°F MAX.
MAX. WARM UP RATE 200°/HR FOR 2¾ HRS.
HOLDING TEMP 1100°F MIN. TO 1250°F MAX. FOR 2 HRS.
MAX. COOL DOWN RATE 250°/HR. FOR 2¾ HRS.
TAKE OUT TEMP 600°F. (MAX)
GENERAL NOTES (CONT'D.)
15. USE PDM STANDARD NAMEPLATE A595
THE FOLLOWING INFORMATION IS TO BE STAMPED ON THE NAME PLATE USE ¼" HIGH LETTERS EXCEPT ASME STAMP
ASME STAMP N
D I P 57 PSIG AT 312°F
D E P 3 PSIG AT 120°F
LOWEST SERVICE METAL TEMP 12°F
CLASS MC
NAT'L BOARD No 811
16. SEE ELECTRICAL DRAWINGS FOR DETAILS OF ELECTRICAL EQUIPMENT & MOUNTING PADS. THAT ARE NOT SHOWN ON THESE DRAWINGS
LT 17.8.2.2
MT 17.5.11
VT 177
68-55 62-805C OR 73-615
APPROVED
APPROVED AS NOTED
RETURNED FOR CORRECTION
SOUTH CAROLINA ELECTRIC & GAS CO
Virgil C Summer Nuclear Station Unit No. 1
GILBERT ASSOCIATES, INC.
SC-4
5/9/78
LABEL VALVES AS SHOWN (PROVIDE LABEL ON I.S. OR BOX & ON O.S. OF BARREL SHELL ℄)
"#10 x ½" LG SELF TAPPING SCREW (TYP) (SR/INC-A)
"GREY METAL 'PRODUCTS' ELECTRICAL ENCLOSURE BOX - 12" HIGH x 8" WIDE x 5" DEEP TYP. 3/4" SURFACE HINGE COVER, BOX TO RECEIVE (3) KNOCKOUTS (MAT'L GALVANIZED STEEL FINISHED TO RECEIVE ON EXPOSED STD. GREY BAKING FINISH.) SR/INC-A
17"
2" 5" 5"
F F
6"
8" HAVE ℄
EMERGENCY AIR SUPPLY INLET
EMERGENCY AIR SUPPLY OUTLET
2½" DIA (TYP)
2" DIA (TYP)
2½"
12"
¾"
TYP CUTOUT IN BACK OF BOX TO MOUNTING ℄
4"
2"
6"
8"
HANDLE POSITION (SHOWN IN OPEN POSITION)
HANDLE POSITION (FOR VALVE CLOSED)
LOCKED CHAIN
COVER HINGE
(N-S-M DOOR SEAL 310 BALL VALVE - STAR 1" TYPE B13G - FIG 1-B136 - S1-0T (TO HOLD STARS, RESET HANDLE & STOP ℄ FOR CORRECT OPERATION) SS TO BE THE SAME SPEC. AS MAIN VALVE
¾" x ¾" LG. SCH. 40S PIPE NIPPLE (MAT'L ASME SA-312 GR. 304 SS PIPING B6.21
¾" MOUNTING ℄ (FOR SHELL MARK)
PAINT "EMERGENCY AIR SUPPLY" ON O ℄ OF HINGED COVER
M M'
VIEW-EE (SCALE: 4"=1'-0")
SECTION-FF
½" SHELL ℄
VT VT (177)
MT MT (175.12)
PERSONNEL ESCAPE AIRLOCK - PLAN VIEW
(WITH BARREL SHELL CUT BACK TO HORIZ. ℄)
GENERAL NOTES (CONT'D)
11. LUBRICATE ALL GEARS & SLIDING INTERLOCK DISC BY "WORKING-IN" DRY (TYPE Z) MOLYKOTE.
12 ALL SCREWED PIPE CONN'S. TO BE SEALED WITH LOCTITE "PIPE SEALANT WITH TEFLON (CAT. No. 92-14").
13 ALL ELASTOMERS (QUAD-RING SEALS, "O" RINGS, ETC) TO BE THOROUGHLY LUBRICATED WITH SILICONE LUBE (DOW CORNING 3-4) DURING INSTALLATION OR REMOVAL.
14 ALL CRITICAL ITEMS AS MAT'L LISTED ON THE SAME CHECK VEL. a) ALL N-STD WELDS (PLT TO PIPE ETC) b) OTHER ITEMS OR MAT'L ARE SAFETY RELATED AND AS NOTED WITH SR/INC (CATAG A) REQUIREMENTS FOR SR/INC ITEMS ARE DEFINED IN Q.A. MANUAL SUPPLEMENT 1A-APPENDIX A
15 PERSONNEL ESCAPE AIRLOCK SHALL BE LEAK TESTED IN ACCORDANCE WITH PROCEDURE SEAT-1
WELDING NOTES
1) USE ONLY E-LEC-RODES ORDERED & CERTIFIED FOR THIS CONTRACT PER WPS 110 AND APPLICABLE ELECT SPECS
2) PARTIAL WELDS & FILLET WELDS ARE QUALIFIED IN ACCORDANCE WITH MS SPECIFICATION. MS-1.26.B BY THE FOLLOWING FULL PENETRATION BUTT WELD.
CARBON STL. 62-805C 62-805C3, 68-4, 68-45 69-5, 68-55 & 73-615.
STAINLESS STL. 82-317 & 70-52
STAINLESS STL TO CARBON STL. GA-11 & 70-18.
3) MINIMUM PREHEAT AND INTERPASS TEMP. (PIT) 50°F MIN. EXCEPT AS NOTED
SOUTH CAROLINA ELECTRIC AND GAS COMPANY PURCHASE ORDER No SN-10087-SR1
General Notes
1 AIRLOCK SHELL PLS., BULKHEAD PLS., DOOR SLEEVE PLS., SEAL PLG'S, DOOR PLG'S, DOOR HEAD PLS., THRUST RING PLATE, DOOR HINGE SUPPORT BRKT PLS., DRIVE UNIT SUPPORT BRKT PLS., & ALL OTHER MISC PLS, BRACKETS, ETC. WHICH WELD TO PRESSURE RETAINING PARTS OF THE AIRLOCK, SHALL BE A.S.M.E. - SA516 - GR. 70
2. ALL ROLLED SHAPES TO BE A-36 MAT'L (SR/INC-B)
3 ALL HINGE ARM PL. MAT'L. TO BE A-36 (SR/INC-B)
4. ALL GENEVA GEAR UNIT MAT'L TO BE AS NOTED ON DWG DEB-4.
5. MAT'L FOR ALL LINKAGE HUBS, PL. ARMS, RODS, ALL DRIVE UNIT HANDLES & HUBS, TO BE COLD FINISHED C-1018 (SR/INC-A)
6. MAT'L FOR DRIVE SHAFTS (A) & (B) TO BE S.A.E. 4140 CF ROUND FOR SOLID SHAFTING, & COLD DRAWN SEAMLESS (CIOID) TUBING (SR/INC-A) FOR HOLLOW SHAFTING, EXCEPT SOLID SHAFTING PENETRATING BULKHEADS & EXTENDING TO O.S. OF AIRLOCKS TO BE ASTM A582 TYPE 303 (ANNEALED)
7. ALL KEY MAT'L TO BE S.A.E 4140 CF SQUARES (SR/INC-C)
8. ALL CAP SCREWS & SHOULDER SCREWS TO BE "NYLOK" OR EQUAL (SR/INC-A) - ALL TAPPED HOLES FOR CAP SCREWS & SHOULDER SCREWS TO BE CLASS 3B THREAD.
9. ALL OTHER MAT'L. TO BE AS NOTED ON DWGS
10. ALL DRIVE UNIT HANDLES & HAND WHEELS ARE TO BE LABELED AS TO IDENTIFICATION (HANDLE FUNCTION) & POSITION OF OPERATION: LABELS ARE TO BE 0.060" FORMICA (STOCK #110) WITH WHITE CORE & BLACK EXTERNAL LAMINATIONS. THE LETTERING IS TO BE ⅜" & IS TO APPEAR AS WHITE LETTERS ON BLACK BACKGROUND. PLASTIC IS TO BE SUITABLE FOR 340°F. (SR/INC-A)
E2377
D-2
FINAL ISSUE GLF 9/14/76
START OF DETAIL DRAWING PREPARATION GLF 9/24/76
CUSTOMER INFORMATION GLF 9/24/76
MATERIAL PROCUREMENT GLF 9/24/76
RELEASED FOR PROJ. ENGR. DATE
WPS-110
WELD SPECIFICATION 1971 ASME CODE SECTION III CLASS MC INCLUDING 1972 WINTER ADDENDA.
GLF Cal 12-11-75 Rev. Gen. N.C. Items To SR/NC (Interpass) Rev. Notes 6, 13, & 14 Inc. #2 A. Paint Per A Pur. # 5
Revised: Gen. Note 14: Welding Note #2 Added Inner Comm. Set Bracket, Notes on Cont. Bulk., Bonnet, Notes on Gen. Notes on Right Hand Unit Sht. Lengths - Changed Thrust Ring to Socket Weld Detail, Valves Changed to Screwed Ends
GLF 9-24-76 Gen. Note #1, Key Mat'l. From 3135 to 4140.
GLF 3-21-75 Rev. Weld Inspection Hold Points, Test Connection Detail
GLF 9-24-74 Initial Issue.
PROJ ENGR DATE DESCRIPTION OF REVISION BY
PITTSBURGH-DES MOINES STEEL CO.
ENGINEERS-FABRICATORS CONTRACTORS
PERSONNEL ESCAPE AIRLOCK V.C. SUMMER NUCLEAR STA. UNIT No. 1 SOUTH CAROLINA ELECTRIC & GAS CO.
GENERAL ARRANGEMENT
BY DATE
DESIGNED M.M.R.
DRAWN M.M.R.
CHECKED
SCALE 2" = 1'-0"
DESIGN FILE NO.
CONTRACT No. 1-3-74-2-1-0
DRAWING No. DEB-1
DATE 5/9/78
PLEX Drawing TR00160-006
DESIGN ENGINEERING
S. C. SUMMER NUCLEAR STATION JENKINSVILLE, S. C.
MADE CHECKED LE APPROVAL
SCALE 1/4" = 1'-0"
1MS-05-141
1
DRAWING NUMBER SHT. NUMBER REV
NO. DATE BY REVISION DES. BY LE APPROVAL
1/4"=1'-0" 0 5' 10' 15' 20'