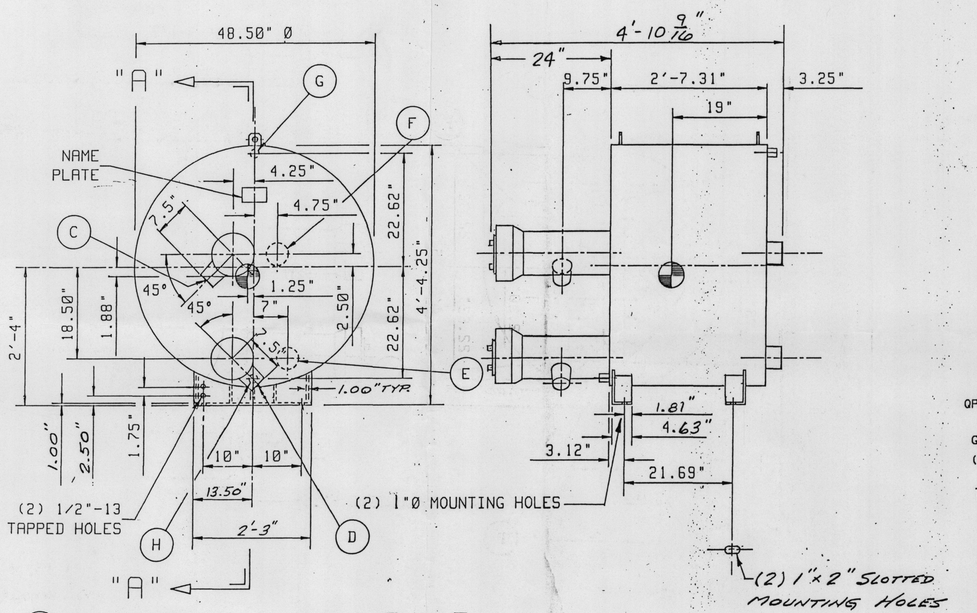
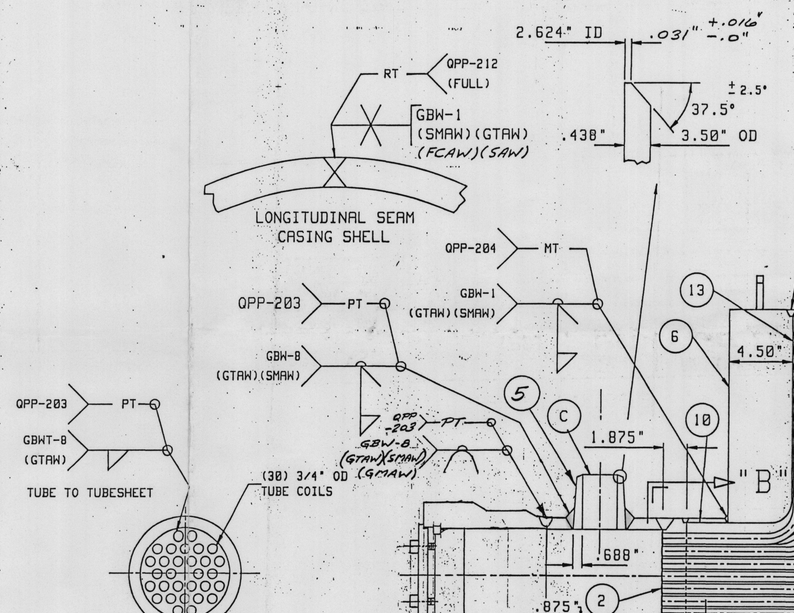
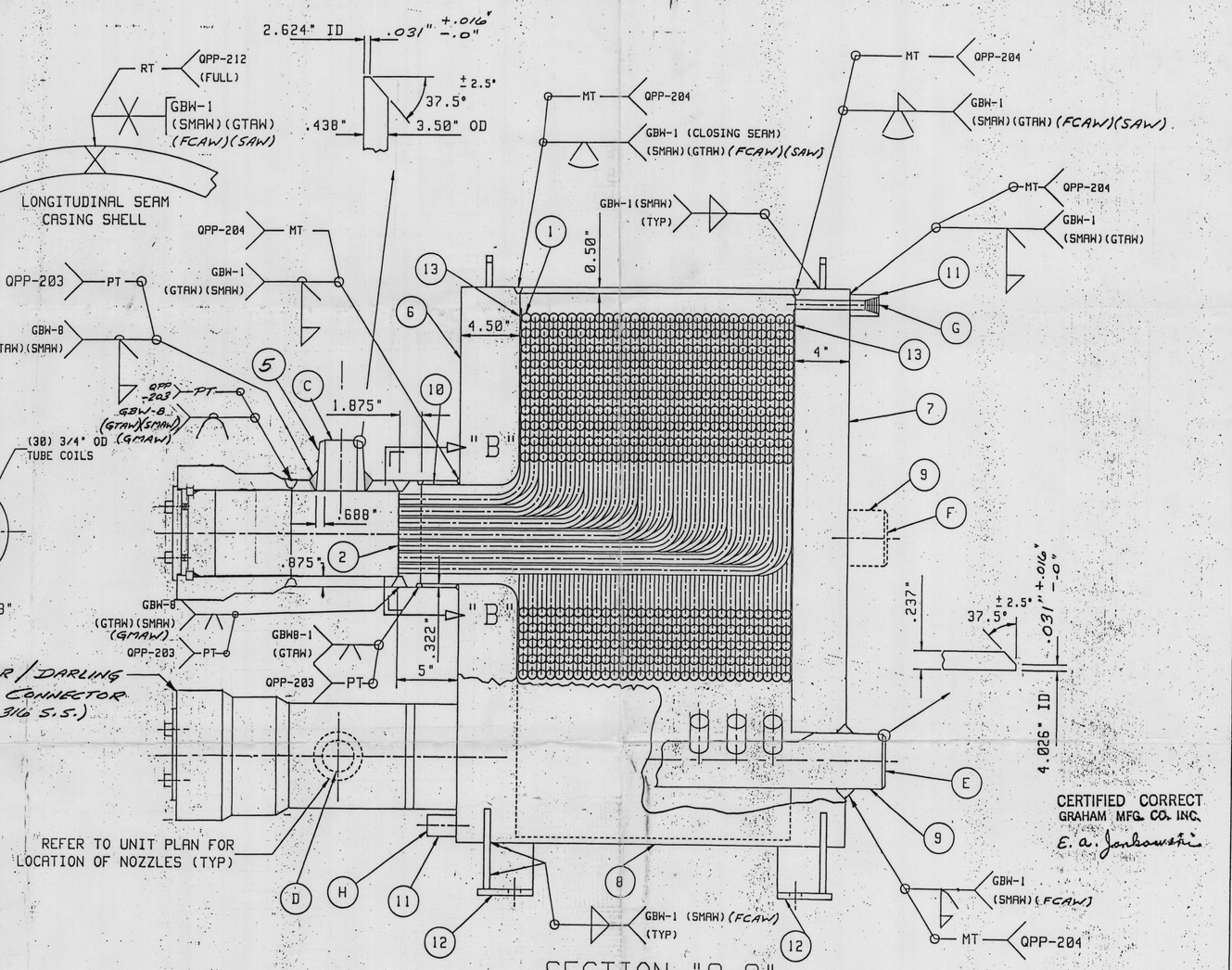


- (C) TUBE SIDE INLET ---- 3" SCH. 160 (.438") — END BEVELED FOR CONSUMABLE INSERT WELDING
- (D) TUBE SIDE OUTLET --- 3" SCH. 160 (.438") — END BEVELED FOR CONSUMABLE INSERT WELDING
- (E) SHELL SIDE INLET --- 4" SCH. 40 (.237") — END BEVELED FOR CONSUMABLE INSERT WELDING
- (F) SHELL SIDE OUTLET -- 4" SCH. 40 (.237") — END BEVELED FOR CONSUMABLE INSERT WELDING
- (G) SHELL SIDE VENT ---- 1"- 3000# SOCKET WELD
- (H) SHELL SIDE DRAIN --- 1"- 3000# SOCKET WELD

UNIT PLAN





SECTION "A-A"

"NUCLEAR SAFETY RELATED"
Q.A. CONDITION #1

SUPPORT STRESSES

LOAD CASE	σx (PSI)	σy (PSI)	ALLOWABLE (REF Z)
NORMAL OP.			.6Sy=
NORMAL OP. + OBE			.6Sy=
NORMAL OP. + SSE			.8Sy=

NOZZLE LOADING

TUBE SIDE INLET & OUTLET	Fa (LB)	Fsr (LB)	Mt (IN-LB)	Mbr (IN-LB)
NORMAL OP.	842	842	11000	11000
NORMAL OP. + OBE	1684	1684	12000	12000
NORMAL OP. + SSE	2105	2105	14380	14380

SHELL SIDE INLET & OUTLET	Fa (LB)	Fsr (LB)	Mt (IN-LB)	Mbr (IN-LB)
NORMAL OP.	634	634	6420	6420
NORMAL OP. + OBE	1268	1268	12840	12840
NORMAL OP. + SSE	1585	1585	16050	16050

MATERIAL LIST

PART NO.	PART NAME	MATERIAL	SPEC.	REMARKS
1	TUBE COILS	T-316L S.S.	SA-213	.070 BWG, SML'S, ULTRASONIC TESTED
2	TUBE SHEET	T-316L S.S.	SA-240	PLATE
3	TUBE SIDE CHANNEL BODY	T-316L S.S.	SA-182	FORGED BAR
5	CHANNEL NOZZLE	T-316L S.S.	SA-182	FORGED BAR
6	CASING BASE PLATE	CARB. STEEL	SA-516-70	PLATE
7	CASING END PLATE	CARB. STEEL	SA-516-70	PLATE
8	CASING SHELL	CARB. STEEL	SA-516-70	PLATE
9	CASING NOZZLE PIPE	CARB. STEEL	SA-106-B	SEAMLESS PIPE
10	CASING PIPE TO TUBE SHEET	CARB. STEEL	SA-106-B	SEAMLESS PIPE
11	SOCKET WELD CPLG	FORGED STEEL	SA-105	
12	SUPPORTS	CARB. STEEL	SA-516-70	PLATE
13	FLOWSEAL	T-304 S.S.		

CUSTOMER ------ DUKE POWER COMPANY
CUST. ORD. NO.- F50325-K4
GRAHAM JOB NO.- 94-18792 HC
DESIGN -------- A.S.M.E. SECT. III, CL-3 (1989); NO ADDENDA
CONSTRUCTION -- A.S.M.E.
INSPECTION ---- A.S.M.E. & CUSTOMER
STAMPING ------ A.S.M.E. ("N" STAMP REQ'D)
PAINT --------- COMM GRIT BLAST CARBON STEEL (SSPC-SP10-63)
(1) PRIME COAT - VALSPAR CORPORATION #89-R-10-00 (RED) 2.5 D.F.T.
(1) FINISH COAT - VALSPAR CORPORATION #89-C-3-00 (IVORY) 5.0 D.F.T.
PER DUKE POWER CO. NUCLEAR COATING SPEC. 5001-1, REV 12/1/78 (REV. 1)
TAG ----------- F50325-K4, 2209350952N
DUKE POWER CO. SPECIFICATION NO: OSS-0201.00-00-0002 REV.-2

"FOR INSPECTION PURPOSES ONLY"

UNCONTROLLED COPY

ESTIMATED WEIGHT
EMPTY----6600 LBS
FLOODED--8100 LBS

	M.A.W.P.	TEST PRESS	DESIGN TEMP
SHELL SIDE	200 PSIG	300 PSIG	350°F
TUBE SIDE	2500 PSIG	3750 PSIG	600°F

C.E.	REV	DESCRIPTION	C.E.	Q.C.	MADE	CHKD	DATE
	0	ORIGINAL ISSUE	---	---	---	---	---

CERTIFIED CORRECT
GRAHAM MFG. CO. INC.
E. A. Jankowski

GRAHAM MANUFACTURING CO., INC.
20 FLORENCE AVE. BATAVIA, NEW YORK

LETDOWN COOLER (PLUGGABLE DESIGN)
SD-269
9512110176
12/4/95

QUAL CONTROL APPROVAL FAS — DATE 2-23-95

SCALE	MADE	CHKD	APPD	DATE	DWG. NO.	REV
NONE	PS	EJ	MWD	2-10-95	NU-D-1149-1	.0

9512120487