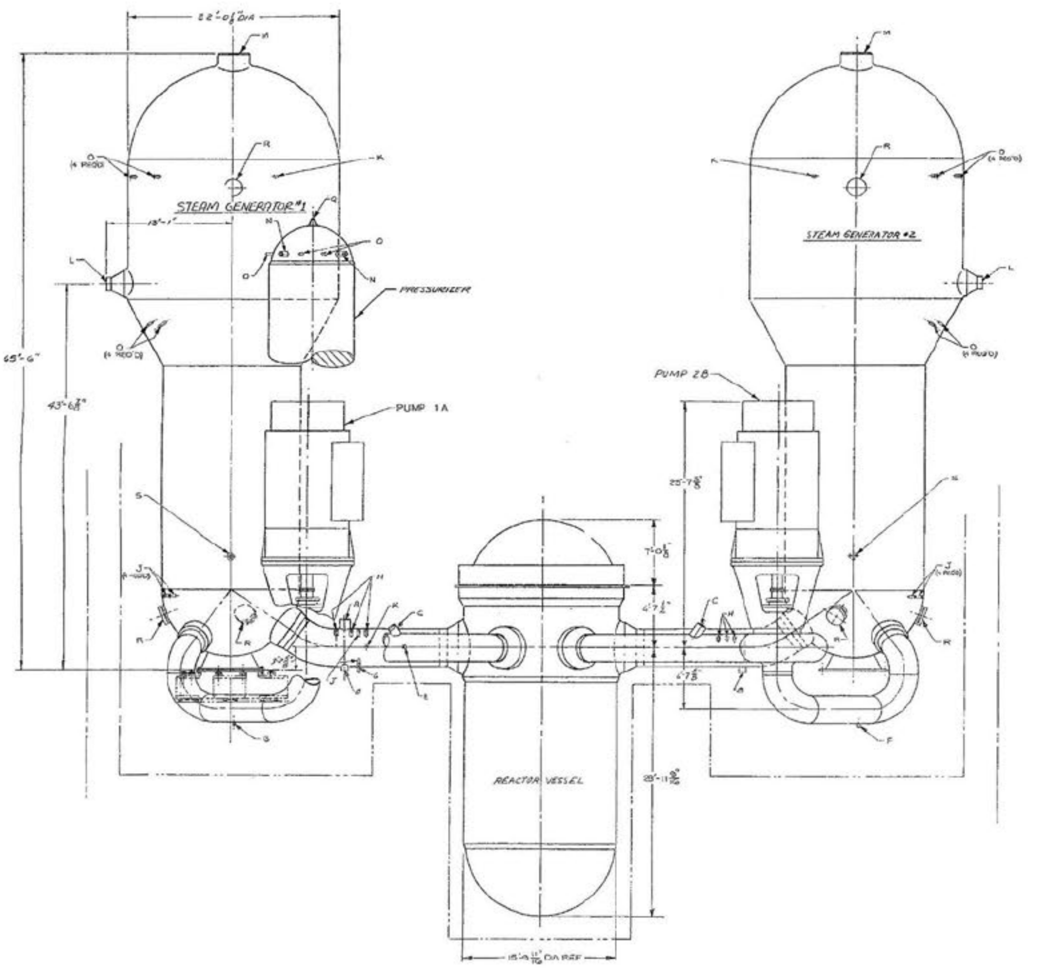
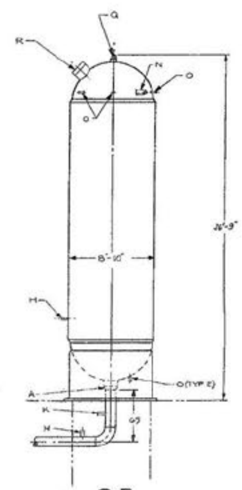


VIEW **A-A**
(SEE DWG. E-9270-210-200)



VIEW **B-B**
(SEE DWG E-9270-210-200)

2. THIS DRAWING IS TO BE USED FOR INFORMATION AND GUIDANCE ONLY. REFERENCES SHALL BE USED FOR DETAILED DIMENSIONS.
1. SEE DWG. NO. E-9270-210-200 FOR PLAN AND REFERENCE DWGS.

E-9270-210-201 | 03

THIS DWG. ALSO EXISTS AS FSAR FIGURE 5.1-2

ORIGINAL

received

CONTRACT NO. 9270

COMBUSTION DIVISION

SCALE N.T.S. DO NOT SCALE DWG

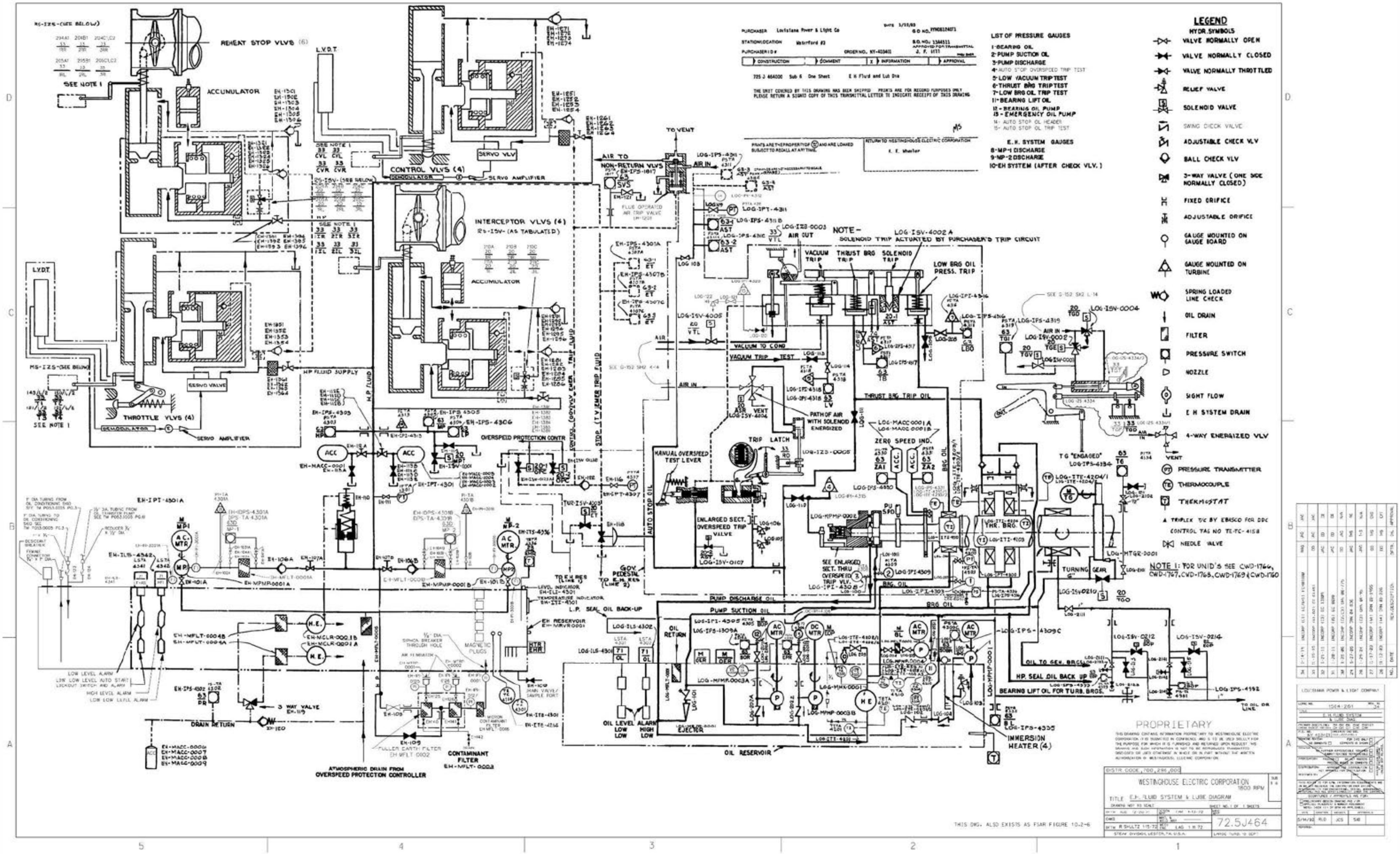
LOUISIANA POWER & LIGHT
WATERFORD - UNIT NO. 3

REACTOR COOLANT SYSTEM ARRANGEM'T
— ELEVATION —

E-9270-210-201 | 03

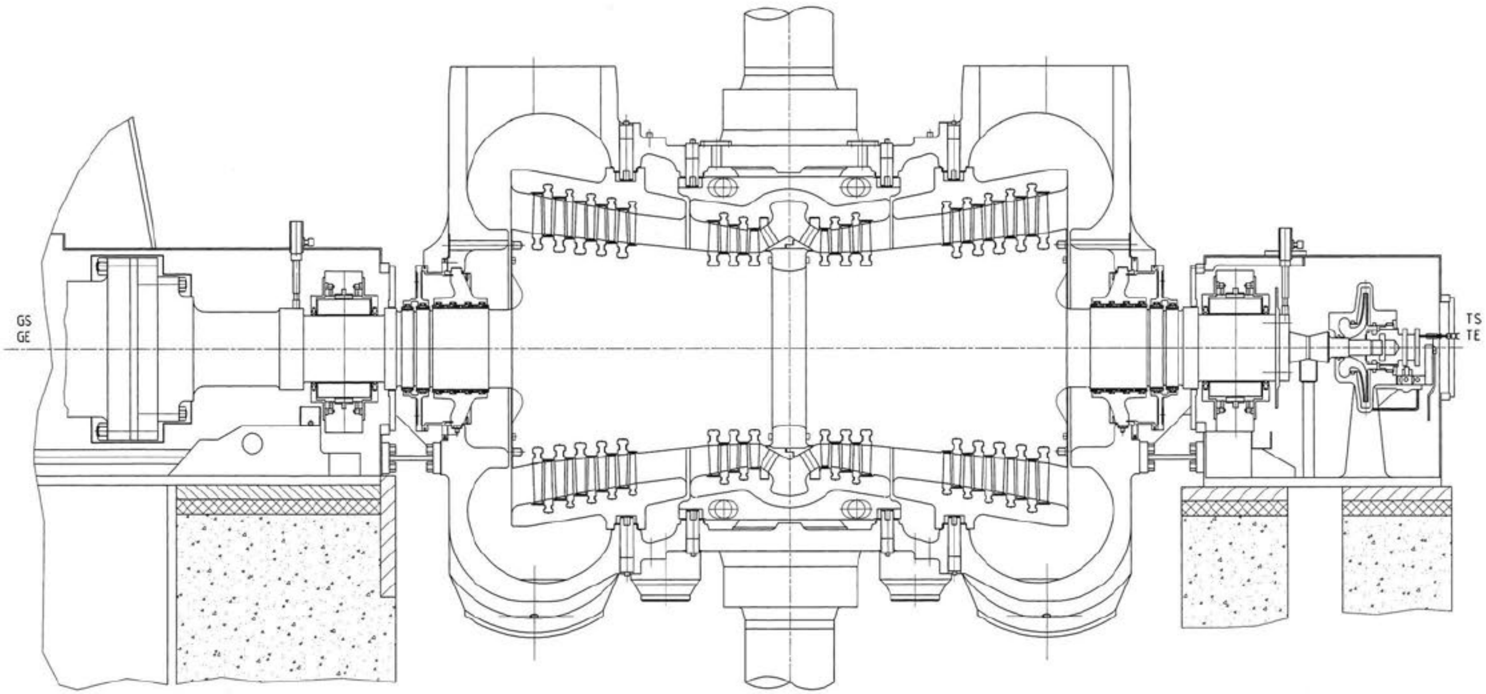
LOUISIANA POWER & LIGHT COMPANY
WATERFORD 3 S.E.S.

1564-22



PURCHASER Louisiana Power & Light Co
DATE 3/11/83
STATION/LOCATION Waterford #3
PURCHASER I D #
ORDER NO. NY-403401
APPROVED FOR TRANSMITTAL J. F. Hill
CONSTRUCTION
COMMENT
X INFORMATION
APPROVAL
725 J 464000 Sub 6 One Sheet E H Fluid and Lub Dia
THE UNIT COVERED BY THIS DRAWING HAS BEEN SHIPPED PRINTS ARE FOR RECORD PURPOSES ONLY
PLEASE RETURN A SIGNED COPY OF THIS TRANSMITTAL LETTER TO INDICATE RECEIPT OF THIS DRAWING
PRINTS ARE THE PROPERTY OF (W) AND ARE LOANED SUBJECT TO RECALL AT ANY TIME.
RETURN TO WESTINGHOUSE ELECTRIC CORPORATION
K. E. Wheeler
LIST OF PRESSURE GAUGES
1-BEARING OIL
2-PUMP SUCTION OIL
3-PUMP DISCHARGE
4-AUTO STOP OVERSPEED TRIP TEST
5-LOW VACUUM TRIP TEST
6-THRUST BRG TRIP TEST
7-LOW BRG OIL TRIP TEST
11-BEARING LIFT OIL
12-BEARING OIL PUMP
13-EMERGENCY OIL PUMP
14-AUTO STOP OIL HEADER
15-AUTO STOP OIL TRIP TEST
E. H. SYSTEM GAUGES
8-MP-1 DISCHARGE
9-MP-2 DISCHARGE
10-EH SYSTEM (AFTER CHECK VLV.)
LEGEND
HYDR. SYMBOLS
VALVE NORMALLY OPEN
VALVE NORMALLY CLOSED
VALVE NORMALLY THROTTLED
RELIEF VALVE
SOLENOID VALVE
SWING CHECK VALVE
ADJUSTABLE CHECK VLV
BALL CHECK VLV
3-WAY VALVE (ONE SIDE NORMALLY CLOSED)
FIXED ORIFICE
ADJUSTABLE ORIFICE
GAUGE MOUNTED ON GAUGE BOARD
GAUGE MOUNTED ON TURBINE
SPRING LOADED LINE CHECK
OIL DRAIN
FILTER
PRESSURE SWITCH
NOZZLE
SIGHT FLOW
E H SYSTEM DRAIN
4-WAY ENERGIZED VLV
PRESSURE TRANSMITTER
THERMOCOUPLE
THERMOSTAT
TRIPLEX T/C BY EBASCO FOR DDC CONTROL TAG NO TE-TC-4158
NEEDLE VALVE
NOTE 1: FOR UNID'S SEE CWD-1766, CWD-1767, CWD-1768, CWD-1769 & CWD-1760
REHEAT STOP VLVS (6)
ACCUMULATOR
L.V.D.T.
CONTROL VLVS (4)
SERVO VLV
SERVO AMPLIFIER
DEMODULATOR
INTERCEPTOR VLVS (4)
THROTTLE VLVS (4)
SERVO VALVE
HP FLUID SUPPLY
OVERSPEED PROTECTION CONTR
AIR TO NON-RETURN VLVS
TO VENT
FLUID OPERATED AIR TRIP VALVE
NOTE - LOG-ISV-4002A SOLENOID TRIP ACTUATED BY PURCHASER'S TRIP CIRCUIT
VACUUM TRIP
THRUST BRG TRIP
SOLENOID TRIP
LOW BRG OIL PRESS. TRIP
VACUUM TO COND
VACUUM TRIP TEST
THRUST BRG TRIP OIL
PATH OF AIR WITH SOLENOID ENERGIZED
TRIP LATCH
MANUAL OVERSPEED TEST LEVER
ENLARGED SECT. OVERSPEED TRIP VALVE
ZERO SPEED IND.
AUTO STOP OIL
T G "ENGAGED"
TURNING GEAR
THK. BRG.
PUMP DISCHARGE OIL
PUMP SUCTION OIL
L.P. SEAL OIL BACK-UP
OIL RETURN
OIL LEVEL ALARM
EJECTOR
OIL RESERVOIR
IMMERSION HEATER (4)
OIL TO GEN. BRGS
HP. SEAL OIL BACK UP
BEARING LIFT OIL FOR TURB. BRGS.
TO OIL DR LINE
EH RESERVOIR
LEVEL INDICATOR
TEMPERATURE INDICATOR
LOW LEVEL ALARM
LOW LOW LEVEL AUTO START LOCKOUT SWITCH AND ALARM
HIGH LEVEL ALARM
LOW LOW LEVEL ALARM
3 WAY VALVE
DRAIN RETURN
FULLER EARTH FILTER
CONTAMINANT FILTER EH-MFLT-0002
ATMOSPHERIC DRAIN FROM OVERSPEED PROTECTION CONTROLLER
PROPRIETARY
DISTR. CODE 700,296,000
WESTINGHOUSE ELECTRIC CORPORATION
1800 RPM
TITLE E.H. FLUID SYSTEM & LUBE DIAGRAM
DRAWING NOT TO SCALE
SHEET NO. 1 OF 1 SHEETS
DFTM R SHULTZ 1-15-72
LAG 1-11-72
72.5J464
STEAM DIVISION, LESTER, PA. U.S.A.
THIS DWG. ALSO EXISTS AS FSAR FIGURE 10.2-6

SIEMENS WESTINGHOUSE			
Dampfturbine STEAM TURBINE	WATERFORD UNIT 3		
Dampfdruck STEAM PRESSURE	52.23 bar (757.5 psia) - YEAR 2005 UPGRADE	Dampftemperatur STEAM TEMPERATURE	266.6 °C (511.9°F) - YEAR 2005 UPGRADE
Drehzahl SPEED	1800 rpm	HD Abdampfdruck HP EXHAUST PRESSURE	13.31 bar (193.1 psia) - YEAR 2005 UPGRADE
Leistung RATED CAPACITY	1239 MW - YEAR 2005 UPGRADE		
Siemens AG Power Generation			



10728-002000

THIS DRAWING SUPPLEMENTS THE ORIGINAL DRAWING 740J818

c	21.10.2004	Bhatia	Jambajew	SUPPLEMENT NOTE ADDED
b	26.04.2004	Bhatia		Shape of SBC rectified in account of shaft ?? diameter at outer casing
INDEX	DATUM DATE	NAME NAME	GEPRUEFT CHECKED	AENDERUNGSBESCHREIBUNG/DESCRIPTION OF CHANGE
ENTST. AUS/ORIG. OF				GRUND/REASON

SIEMENS Westinghouse

NOV 2 3 2004

Laengsschnitt

LONGITIONAL SECTION

Siemens AG Power Generation			10728-002000	C	00

AutoCAD

Ø	11-17-05	ISSUED PER ER-W3-2003-0053-000	JAG	THS	DV
NO.	DATE	REVISION DESCRIPTION	BY	CH	APPROVED

WATERFORD 3 S.E.S.

LDRAC NO. 1564-928 SH.3 REV. NO. 0

TITLE ASSEMBLY LONGITUDINAL SECTION THRU TURBINE UPRATE

PRIMARY DISCIPLINE: M C E I&C OTHER

IMPLEMENTING DOC. (I.E. DCP, ETC.): ER-W3-2003-0053-000

DRAWING REVIEW: FOR INFO ONLY / NO COMMENTS / COMMENTS AS SHOWN

DRAWING STATUS: NO FURTHER REPRODUCIBLE REQUIRED / SUBMIT REVISED REPRODUCIBLE

FABRICATION: PROCEED / DO NOT PROCEED / PROCEED BASED ON COMMENTS

DISTRIBUTION: APPROVED FOR DISTRIBUTION / NOT APPROVED FOR DISTRIBUTION

REVIEWED BY: DATE:

THIS SECTION COMPLETED BY ENGINEERING UNLESS NOT REQUIRED.

THIS REVIEW IS FOR WATERFORD 3 INFORMATION REQUIREMENTS AND IN NO WAY RELIEVES THE CONTRACTOR FROM ENTIRE RESPONSIBILITY FOR ENGINEERING, DESIGN, WORKMANSHIP, MATERIAL, AND ALL OTHER LIABILITY UNDER THE CONTRACT.

SIGNATURES / APPROVALS ARE FOR:

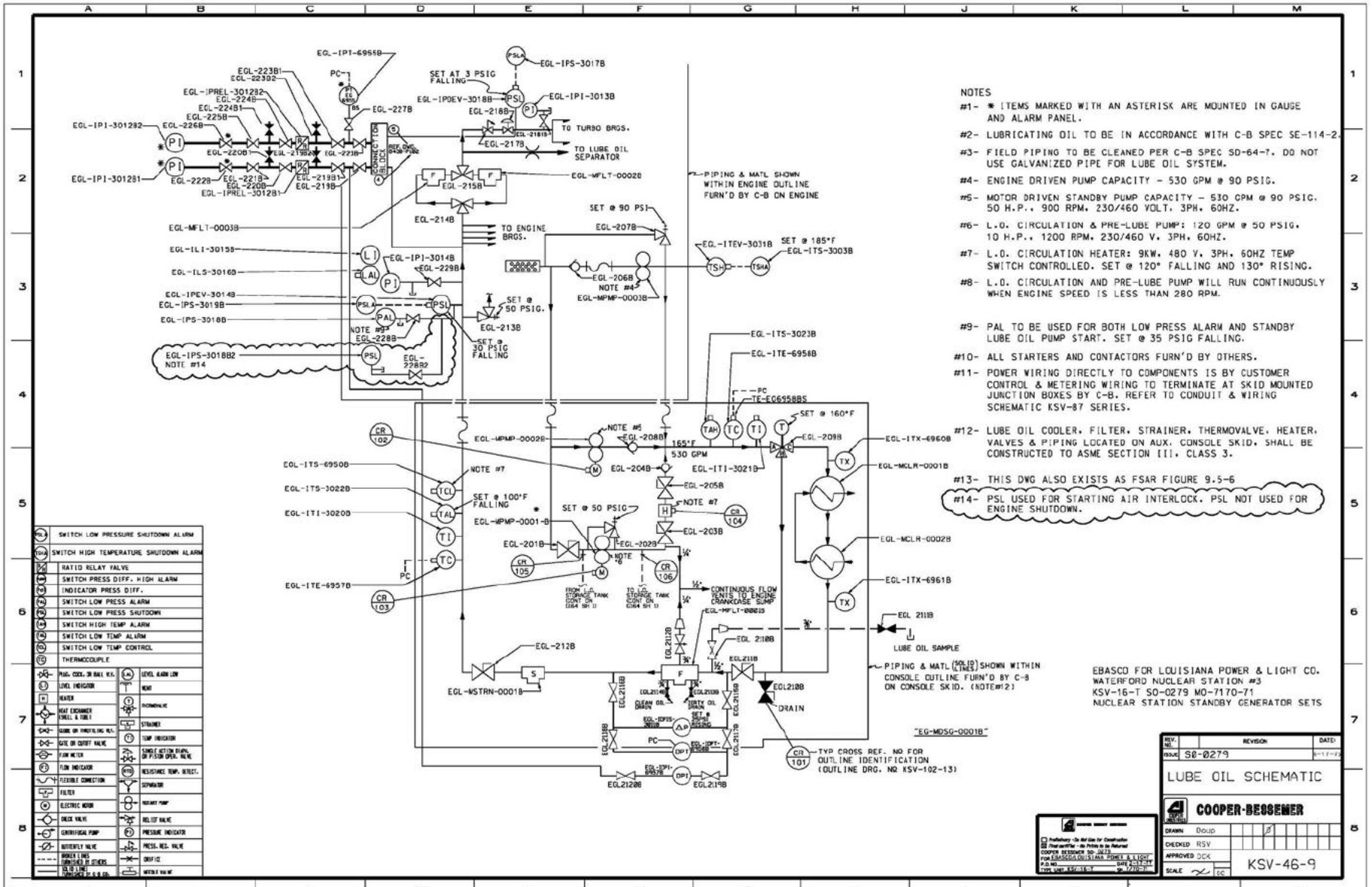
PRELIMINARY DESIGN DRAWING AND / OR
APPLIQUE PLACEMENT & NUMBER ASSIGNMENT
NOTE: CHECK (1) OR BOTH AS APPLICABLE.

DATE	DRAFTER	CHECKER	APPROVALS

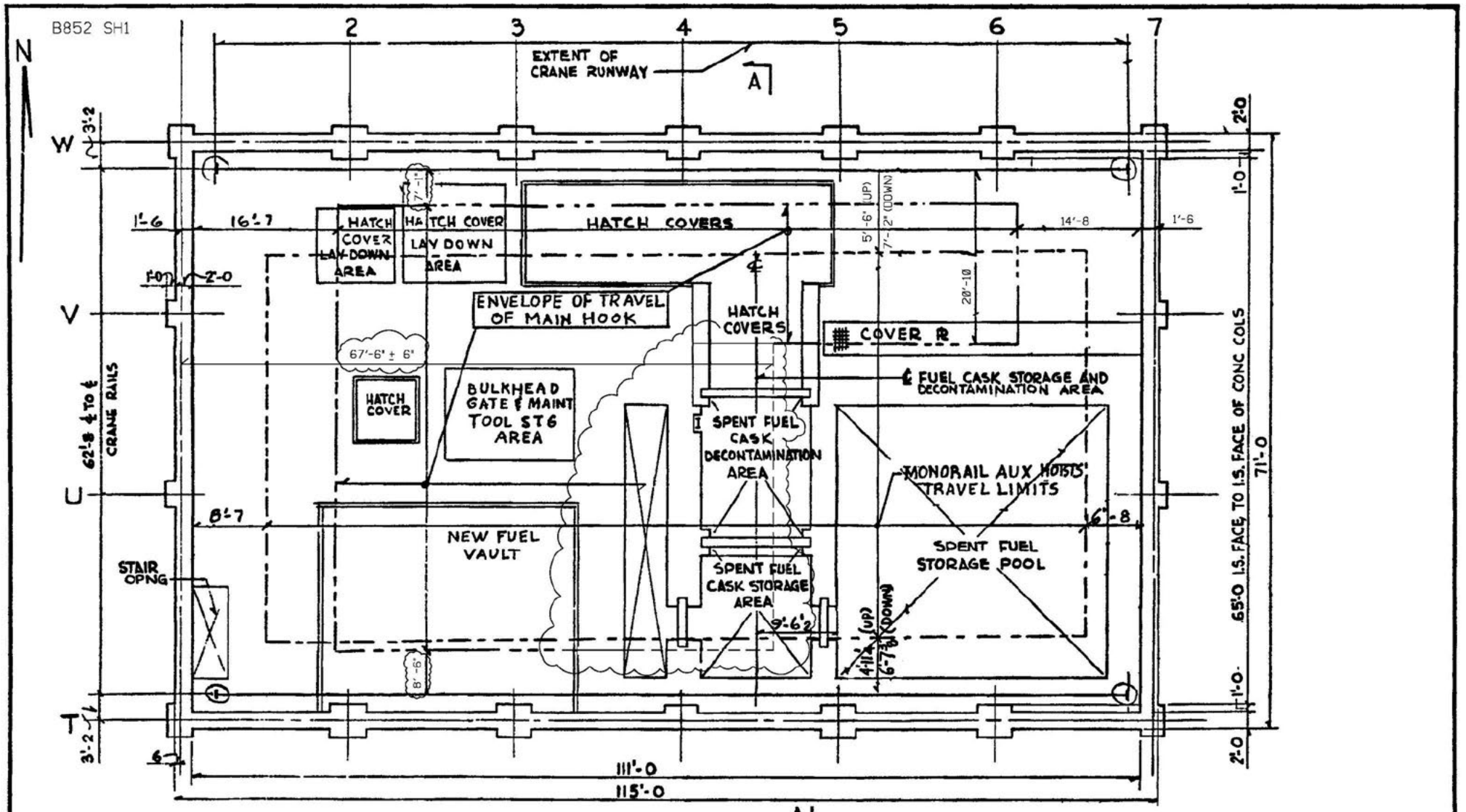
REMARKS:

FILENAME: IDEAS

E:\CADBKOUT\177A2W01.DGN 11/17/2005 04:41:07 PM


NOTES
#1- * ITEMS MARKED WITH AN ASTERISK ARE MOUNTED IN GAUGE AND ALARM PANEL.
#2- LUBRICATING OIL TO BE IN ACCORDANCE WITH C-B SPEC SE-114-2.
#3- FIELD PIPING TO BE CLEANED PER C-B SPEC SD-64-7. DO NOT USE GALVANIZED PIPE FOR LUBE OIL SYSTEM.
#4- ENGINE DRIVEN PUMP CAPACITY - 530 GPM @ 90 PSIG.
#5- MOTOR DRIVEN STANDBY PUMP CAPACITY - 530 GPM @ 90 PSIG. 50 H.P., 900 RPM, 230/460 VOLT, 3PH, 60HZ.
#6- L.O. CIRCULATION & PRE-LUBE PUMP: 120 GPM @ 50 PSIG. 10 H.P., 1200 RPM, 230/460 V, 3PH, 60HZ.
#7- L.O. CIRCULATION HEATER: 9KW, 480 V, 3PH, 60HZ TEMP SWITCH CONTROLLED. SET @ 120° FALLING AND 130° RISING.
#8- L.O. CIRCULATION AND PRE-LUBE PUMP WILL RUN CONTINUOUSLY WHEN ENGINE SPEED IS LESS THAN 280 RPM.
#9- PAL TO BE USED FOR BOTH LOW PRESS ALARM AND STANDBY LUBE OIL PUMP START. SET @ 35 PSIG FALLING.
#10- ALL STARTERS AND CONTACTORS FURN'D BY OTHERS.
#11- POWER WIRING DIRECTLY TO COMPONENTS IS BY CUSTOMER CONTROL & METERING WIRING TO TERMINATE AT SKID MOUNTED JUNCTION BOXES BY C-B. REFER TO CONDUIT & WIRING SCHEMATIC KSV-87 SERIES.
#12- LUBE OIL COOLER, FILTER, STRAINER, THERMOVALVE, HEATER, VALVES & PIPING LOCATED ON AUX. CONSOLE SKID, SHALL BE CONSTRUCTED TO ASME SECTION III, CLASS 3.
#13- THIS DWG ALSO EXISTS AS FSAR FIGURE 9.5-6
#14- PSL USED FOR STARTING AIR INTERLOCK. PSL NOT USED FOR ENGINE SHUTDOWN.
PIPING & MATL SHOWN WITHIN ENGINE OUTLINE FURN'D BY C-B ON ENGINE
PIPING & MATL (SOLID LINES) SHOWN WITHIN CONSOLE OUTLINE FURN'D BY C-B ON CONSOLE SKID. (NOTE#12)
TYP CROSS REF. NO FOR OUTLINE IDENTIFICATION (OUTLINE DRG. NO KSV-102-13)
"EG-MDSG-0001B"
EBASCO FOR LOUISIANA POWER & LIGHT CO.
WATERFORD NUCLEAR STATION #3
KSV-16-T SO-0279 MO-7170-71
NUCLEAR STATION STANDBY GENERATOR SETS
SWITCH LOW PRESSURE SHUTDOWN ALARM
SWITCH HIGH TEMPERATURE SHUTDOWN ALARM
RATIO RELAY VALVE
SWITCH PRESS DIFF. HIGH ALARM
INDICATOR PRESS DIFF.
SWITCH LOW PRESS ALARM
SWITCH LOW PRESS SHUTDOWN
SWITCH HIGH TEMP ALARM
SWITCH LOW TEMP ALARM
SWITCH LOW TEMP CONTROL
THERMOCOUPLE
LEVEL ALARM LOW
HORN
THERMOVALVE
STRAINER
TEMP INDICATOR
SINGLE ACTION DIAPH. OPERATION OPER. VALVE
RESISTANCE TEMP. DETECT.
SEPARATOR
ROTARY PUMP
RELIEF VALVE
PRESSURE INDICATOR
PRESS. REG. VALVE
ORIFICE
METER RUN W/
BROKEN LINES FURNISHED BY OTHERS
SOLID LINES FURNISHED BY C-B CO.
WATERFORD 3 S.E.S.
LORAC NO. 1564-2044
REV. NO. 21
TITLE EMERG. DIESEL GEN. "B" OIL SCHEMATIC & NOTES
P.O. NO. NY-483517
DRAWING STATUS: NO FURTHER REPRODUCIBLE REQUIRED
FABRICATION: PROCEED
DISTRIBUTION: APPROVED FOR DISTRIBUTION
REVIEWED BY:
REV. NO. 21
DRAWING SO-0279
LUBE OIL SCHEMATIC
COOPER-BESSEMER
DRAWN Doup
CHECKED RSV
APPROVED DCK
SCALE
KSV-46-9

B852 SH1



A THIS DWG ALSO EXISTS AS FSAR FIG. #9.1-18

INDICATES MAIN HOOK TRAVEL LIMITS

INDICATES AUX HOIST TRAVEL LIMITS

REV.	DATE	BY	APPROVAL	
9	4-1-15	JAG	DD	DD
8	4-16-81	JAG	RJC	N/A
7	2-25-93	LLB	RJC	N/A

EBASCO SERVICES INCORPORATED
NEW YORK

DIV. A-S BR. P.G.
SCALE 3/32"=1'-0 CH. HM
DATE APR 6, 1973
APPROVED

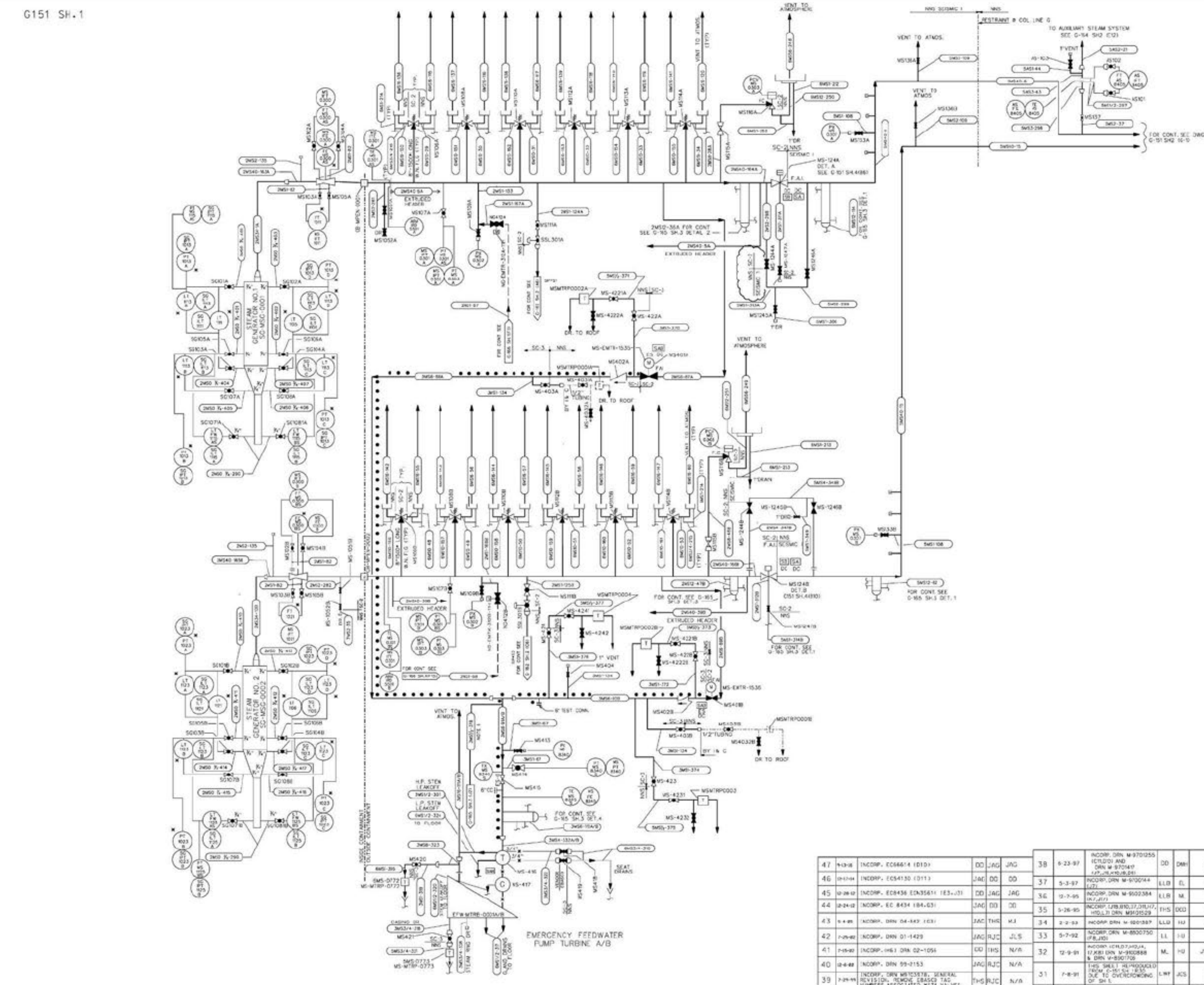
LOUISIANA POWER AND LIGHT CO.
WATERFORD S.E.S. UNIT NO.3
1977-1165 MW INSTALLATION
FUEL HANDLING BUILDING
CRANE CLEARANCE DIAGRAM

B852
SHEET 1

Ridgway's LOK-IN 12-15-69

INCORP. EC14270 ECN23049, EC30731 & EC30504 ECN30539

G151 SH.1



REFERENCE DRAWINGS

BALANCE OF PLANT-
VALVES AND SPECIALTIES LIST ---------------- 5817.0748

BALANCE OF PLANT PIPING LINE LIST ------------ 5817.0758

INSTRUMENT SCHEMATIC AND LOGIC DIAGRAMS
(PIPE, VALVES & INSTR. SYMBOLS) -------------- 1564-B-431

INSTRUMENT LIST ------------------------------ 1564-B-434

NOTES

1. ✱ DENOTES EQUIPMENT SUPPLIED BY VENDOR
2. EQUIPMENT IDENTIFIED WITH THE FOLLOWING CODE LETTERS REQUIRE CLASS 1E POWER SOURCE:

   CODE [SA] [SB] [SAB]

   A.C. POWER SOURCE FROM CHANNEL SA,SB, OR SAB RESPECTIVELY.

   CODE [SA DC] [SB DC] [SAB DC]

   D.C. POWER SOURCE FROM CHANNEL SA,SB OR SAB RESPECTIVELY.
3. ●●●● DENOTES ELECTRICALLY HEAT TRACED PIPING.
4. FOR DRAIN PIPING ASSEMBLIES FROM LP. HEATER SHELL SAFETY VALVES SEE G-177 SH 2 DETAIL F
5. FOR STEAM GENERATOR BLOWDOWN SYSTEM SEE G-164 SH 5
6. LINE 3MS1½-378 IS A CASCADING DRAIN LINE LINKING LOW POINTS IN THE PIPE TO VERTICAL LINES.
7. VALVE POSITIONS ON DRAWING ARE FOR REFERENCE ONLY, AND MAY BE DIFFERENT THAN SHOWN. ACTUAL POSITIONS AND LOCKING REQUIREMENTS ARE CONTROLLED BY OPERATIONS DEPARTMENT PROCEDURES.

NUCLEAR SAFETY RELATED IN PART ONLY

THIS DWG. ALSO EXISTS AS FSAR FIGURE 10.2-4 SH1

NO.	DATE	REVISION DESCRIPTION	BY	CH	APPROVED
47	9-13-18	INCORP. EC66614 (D10)	DD	JAG	JAG
46	12-17-14	INCORP. EC54130 (D11)	JAG	DD	DD
45	12-28-12	INCORP. EC8436 EC35611 (E3,J3)	DD	JAG	JAG
44	12-24-12	INCORP. EC 8434 (B4,G3)	JAG	DD	DD
43	5-4-05	INCORP. DRN 04-642 (E3)	JAG	THS	MJ
42	7-25-02	INCORP. DRN 01-1429	JAG	RJC	JLS
41	7-15-02	INCORP. (H6) DRN 02-1056	DD	THS	N/A
40	12-6-99	INCORP. DRN 99-2153	JAG	RJC	N/A
39	7-29-99	INCORP. DRN M9103578. GENERAL REVISION. REMOVE EBASCO TAG NUMBERS ASSOCIATED WITH VALVES.	THS	RJC	N/A

NO.	DATE	REVISION	BY	CH	RELEASED	
38	6-23-97	INCORP. DRN M-9701255 (C11,D10) AND DRN M-9701417 (J7,J8,H10,J8,D6)	DD	DMH	RT	
37	5-3-97	INCORP. DRN M-9700144 (J7)	LLB	DL	RJC	
36	12-7-95	INCORP. DRN M-9502384 (K7,J17)	LLB	ML	N/A	
35	5-26-95	INCORP. (J18,B10,J7,D11,H7, H10,L7) DRN M9101529	THS	DDD	JSR	
34	2-2-93	INCORP DRN M-9201587	LLB	HJ	RJC	
33	5-7-92	INCORP. DRN M-8800750 (F8,J10)	LL	HJ	JC	
32	12-9-91	INCORP. (C11,D7,H12,J4, I7,K8) DRN M-9100888 & DRN M-8901705	ML	HJ	JW	JH
31	7-8-91	THIS SHEET REPRODUCED FROM G-151 SH 1 (R35) DUE TO OVERCROWDING OF SH 1.	LWF	JCS	SAB	

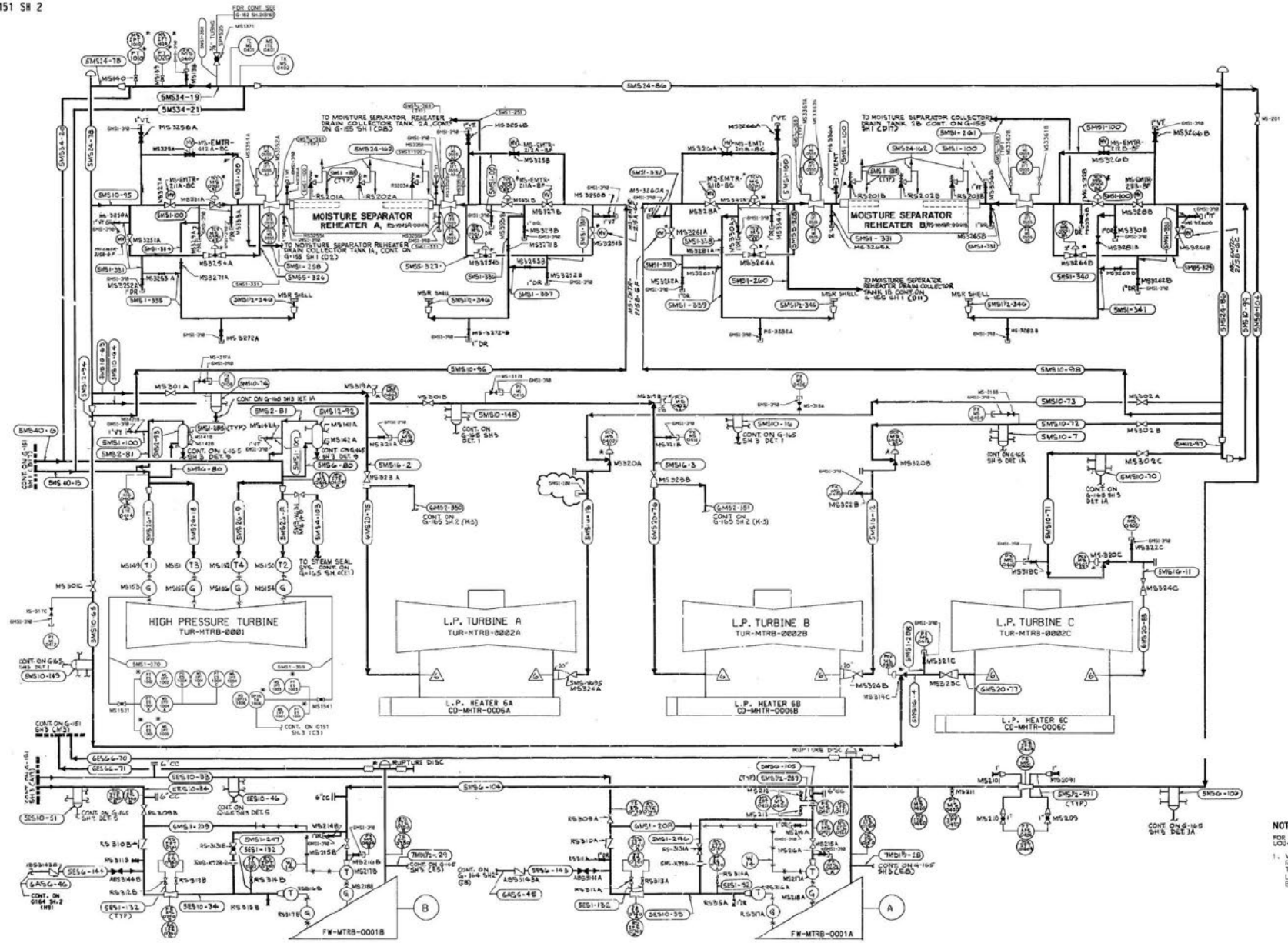
LOUISIANA POWER & LIGHT COMPANY
WATERFORD S.E.S. UNIT NO. 3
1165 MW INSTALLATION

FLOW DIAGRAM
MAIN & EXTRACTION STEAM SYSTEM

EBASCO SERVICES INCORPORATED

SCALE NONE	RELEASED S. BROTHERS	DATE 7-8-91
DIV. MECH.		G151
DR. L. FISCHER		
CH. J. SCHNEIDER		SH. 1

G151 SH 2



STEAM GENERATOR FEEDWATER PUMP TURBINES

NOTES:

FOR REFERENCE DRAWINGS AND NOTES SEE LOU-1564-G-151 SH.1

1. VALVE POSITIONS ON DRAWING ARE FOR REFERENCE ONLY, AND MAY BE DIFFERENT THAN SHOWN. ACTUAL POSITIONS AND LOCKING REQUIREMENTS ARE CONTROLLED BY OPERATIONS DEPARTMENT PROCEDURES.

THIS DWG. ALSO EXISTS AS FSAR FIGURE 10.2-4 SH2

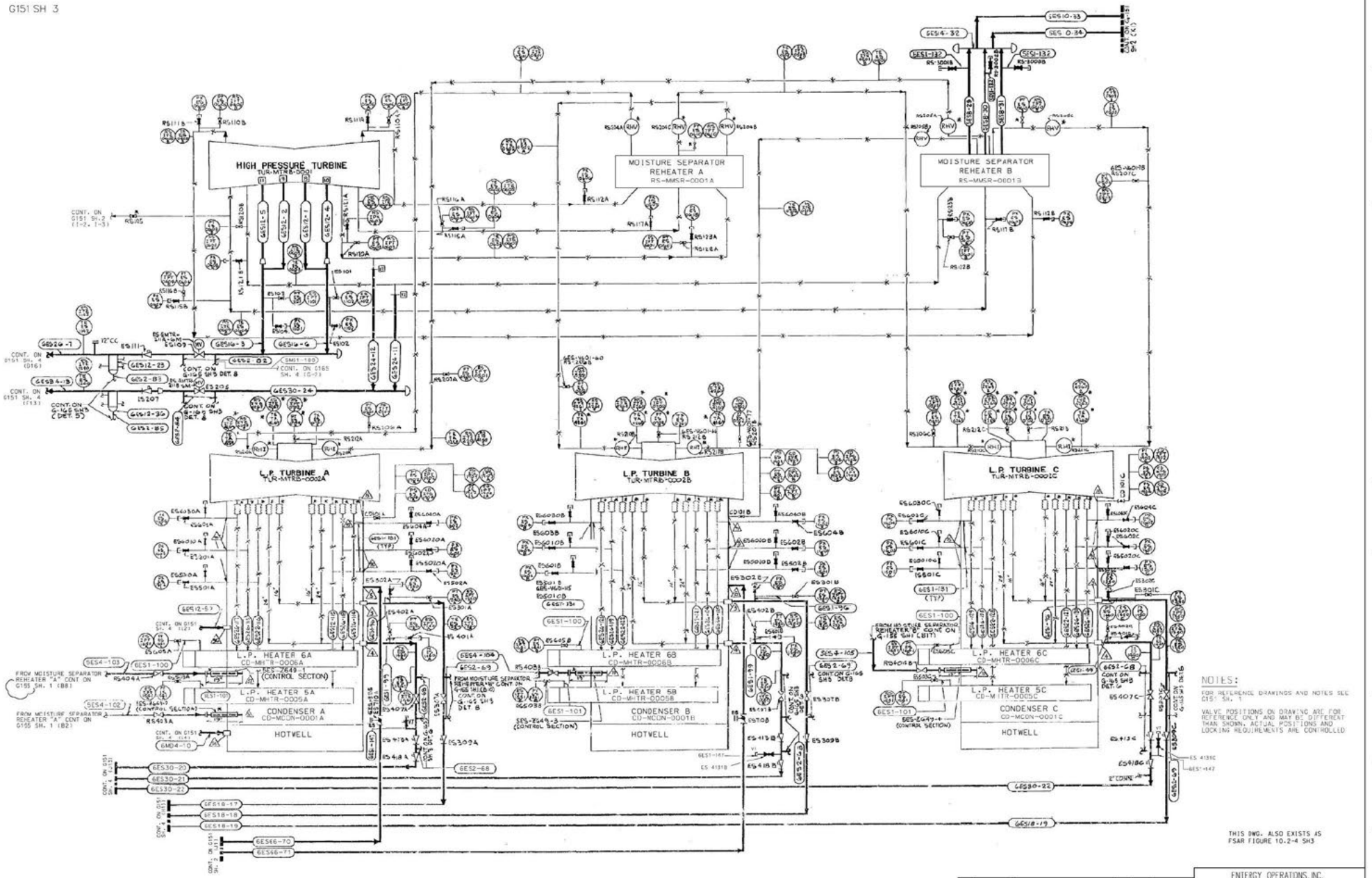
NO.	DATE	REVISION	BY	CH	APPROVED
39	8-25-15	INCORP. (F8) EC 58931	JAG	DD	DD
38	12-1-06	INCORP. (133) DRN 06-1010	DD	JG	N/A
37	7-15-05	INCORP. (133) DRN 05-1039	JAG	THS	N/A
36	2-1-05	INCORP. DRN 04-1983 (B5-B12)	DD	THS	N/A
35	10-7-03	INCORP. (K1) DRN 03-1506	DD	THS	N/A

ENTERGY OPERATIONS, INC.
WATERFORD S.E.S. UNIT NO. 3
1165 MW INSTALLATION

FLOW DIAGRAM MAIN & EXTRACTION STEAM SYSTEMS

SCALE: NONE	APPROVED RC ROSSI	DATE: 1-30-84
DIV. MECH	DR JZH	G151 SH 2
DR. F. VARGAS	CBF	JAJ
CH. G. BLAIR		

G151 SH 3



NOTES:

FOR REFERENCE DRAWINGS AND NOTES SEE G151 SH. 1

VALVE POSITIONS ON DRAWING ARE FOR REFERENCE ONLY AND MAY BE DIFFERENT THAN SHOWN. ACTUAL POSITIONS AND LOCKING REQUIREMENTS ARE CONTROLLED

THIS DWG. ALSO EXISTS AS FSAR FIGURE 10.2-4 SH3

NO.	DATE	REVISION	BY	CH	APPROVED
33	1-23-16	INCORP. EC 66211 (U1)	JAG	DD	DD
32	1-25-13	INCORP. EC 42753 (R2, L2)	JAG	DD	DD
31	05-31-05	INCORP. DRN 05-783 (C1, E4)	JAG	DD	NE
30	03-05-01	INCORP. DRN 96-1674. GENERAL REVISION. REMOVE EBASCO TAG NUMBERS ASSOCIATED WITH VALVES.	THS	RJC	N/A

ENTERGY OPERATIONS, INC.
WATERFORD S.E.S. UNIT NO. 3
1165 MW INSTALLATION

FLOW DIAGRAM
MAIN & EXTRACTION STEAM SYSTEMS

SCALE: NONE	APPROVED RC ROSSI	DATE: 1-30-84
DIV. MECH.	DW JZH	G151 SH 3
DR. F. VARGAS	CBF JAJ	
CH. G. BLAIR		

G152 SH 1

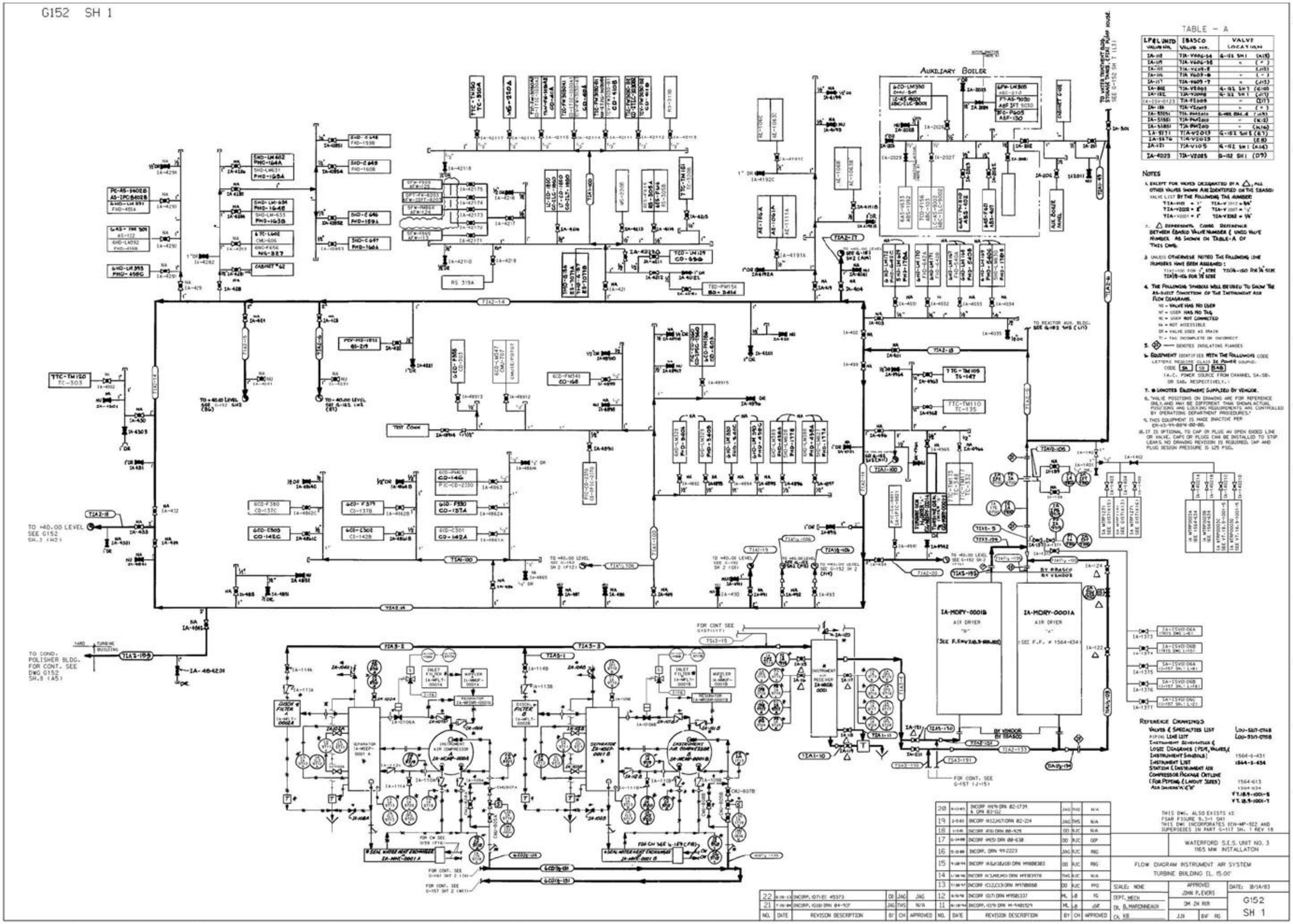


TABLE - A

LP&L UNID VALVE NO.	EBASCO VALVE NO.	VALVE LOCATION
IA-118	TIA-V606-34	G-152 SH 1 (K15)
IA-119	TIA-V606-38	" (")
IA-111	TIA-V609-8	(J15)
IA-116	TIA-V609-6	" (")
IA-117	TIA-V609-7	" (J15)
IA-802	TIA-V2003	G-152 SH 7 (C10)
IA-182	TIA-V2008	G-152 SH 1 (J17)
IA-ISV-0123	TIA-F2009	" (J17)
IA-186	TIA-V2009	" (")
IA-51251	TIA-PM2010	G-152 SH. 4 (K9)
IA-51881	TIA-PM2010	" (K12)
IA-51851	TIA-PM2010	" (K16)
IA-5171	TIA-V2013	G-152 SH 5 (E7)
IA-5676	TIA-V2015	(E8)
IA-121	TIA-V105	G-152 SH 1 (K14)
IA-4023	TIA-V2025	G-152 SH 1 (D7)

NOTES

1. EXCEPT FOR VALVES DESIGNATED BY A △, ALL OTHER VALVES SHOWN ARE IDENTIFIED ON THE EBASCO VALVE LIST BY THE FOLLOWING TAG NUMBER:
   - TIA-V101 = 3" TIA-V2012 = 3/4"
   - TIA-V2002 = 2" TIA-V2007 = 1/2"
   - TIA-V2001 = 1" TIA-V2002 = 3/8"
2. △ REPRESENTS CROSS REFERENCE BETWEEN EBASCO VALVE NUMBER & UNID VALVE NUMBER AS SHOWN ON TABLE-A OF THIS DWG.
3. UNLESS OTHERWISE NOTED THE FOLLOWING LINE NUMBERS HAVE BEEN ASSIGNED:
   - TIA1-100 FOR 1" SIZE TIA1/4-150 FOR 1/4" SIZE
   - TIA3/8-106 FOR 3/8" SIZE
4. THE FOLLOWING SYMBOLS WILL BE USED TO SHOW THE AS-BUILT CONDITION OF THE INSTRUMENT AIR FLOW DIAGRAMS.
   - NU = VALVE HAS NO USER
   - NT = USER HAS NO TAG
   - NC = USER NOT CONNECTED
   - NA = NOT ACCESSIBLE
   - DR = VALVE USED AS DRAIN
   - TI = TAG INCOMPLETE OR INCORRECT
5. ◈ —— DENOTES INSULATING FLANGES
6. EQUIPMENT IDENTIFIED WITH THE FOLLOWING CODE LETTERS REQUIRE CLASS IE POWER SOURCE. CODE [SA] [SB] [SAB] (A.C. POWER SOURCE FROM CHANNEL SA, SB, OR SAB, RESPECTIVELY.)
7. ● DENOTES EQUIPMENT SUPPLIED BY VENDOR.
8. "VALVE POSITIONS ON DRAWING ARE FOR REFERENCE ONLY, AND MAY BE DIFFERENT THAN SHOWN. ACTUAL POSITIONS AND LOCKING REQUIREMENTS ARE CONTROLLED BY OPERATIONS DEPARTMENT PROCEDURES."
9. THIS EQUIPMENT IS MADE INACTIVE PER ER-W3-99-0094-00-00.
10. IT IS OPTIONAL TO CAP OR PLUG AN OPEN ENDED LINE OR VALVE. CAPS OR PLUGS CAN BE INSTALLED TO STOP LEAKS. NO DRAWING REVISION IS REQUIRED. CAP AND PLUG DESIGN PRESSURE IS 125 PSIG.

REFERENCE DRAWINGS

VALVES & SPECIALTIES LIST	LOU-5817-0768
PIPING LINE LIST	LOU-5517-0758
INSTRUMENT SCHEMATICS & LOGIC DIAGRAMS (PS/M, VALVES, & INSTRUMENT SYMBOLS)	1564-B-431
INSTRUMENT LIST	1564-B-434
STATION & INSTRUMENT AIR COMPRESSOR PACKAGE OUTLINE (FOR PIPING & LAYOUT SIZES)	1564-613
AIR DRYERS "A" & "B"	1564-634
	VT.18.9-1001-5
	VT. 18.9-1001-7

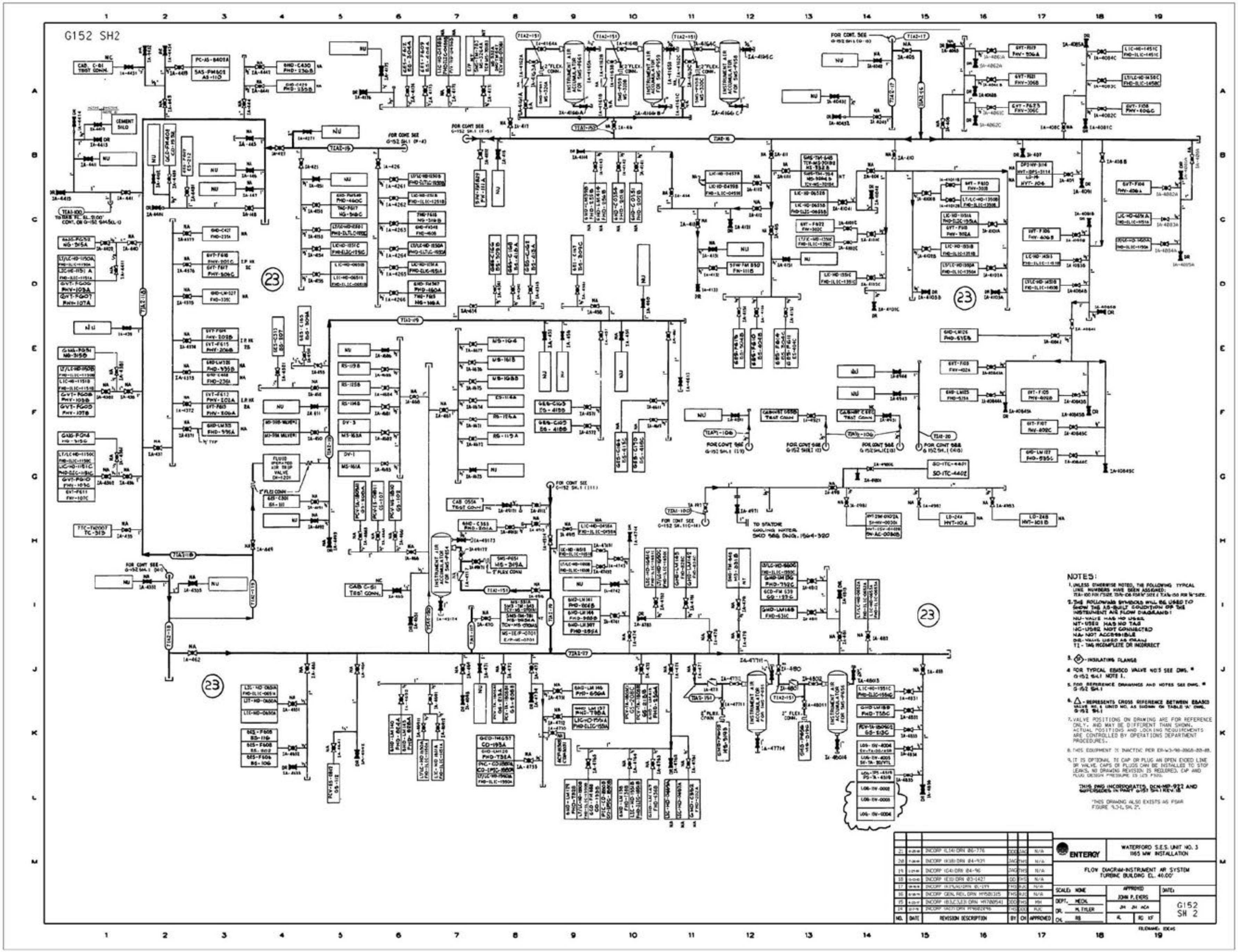
THIS DWG. ALSO EXISTS AS FSAR FIGURE 9.3-1 SH1
THIS DWG INCORPORATES ECN-MP-922 AND SUPERSEDES IN PART G-117 SH. 1 REV 18

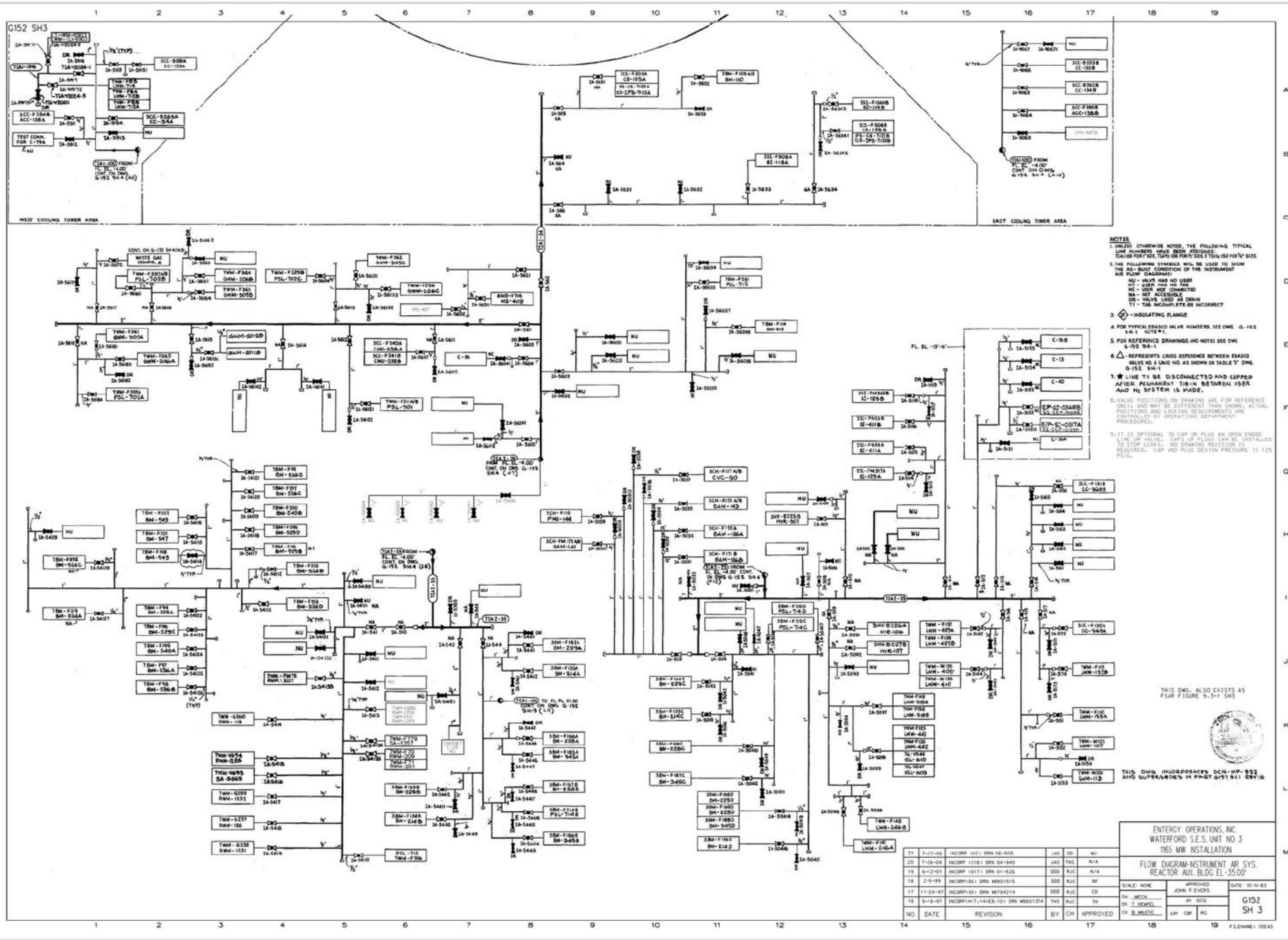
NO.	DATE	REVISION DESCRIPTION	BY	CH	APPROVED
22	6-26-13	INCORP. (27) EC 45373	DD	JAG	JAG
21	7-26-04	INCORP. (G18) DRN 04-917	JAG	THS	N/A
20	9-12-03	INCORP (H19) DRN 02-1739 & DRN 03-112	JAG	THS	N/A
19	2-5-03	INCORP (K12,H17) DRN 02-224	JAG	THS	N/A
18	1-5-01	INCORP (F8) DRN 00-929	DD	RJC	N/A
17	12-14-00	INCORP (M15) DRN 00-630	DD	RJC	GEP
16	5-31-00	INCORP. DRN 99-2223	JAG	RJC	RBG
15	9-20-99	INCORP (K6,K18,K18) DRN M9800383	DD	RJC	RBG
14	1/30-98	INCORP (K3,M8,M9) DRN M9703978	THS	RJC	N/A
13	7/30/97	INCORP (C12,C13) DRN M9700060	DD	RJC	PPO
12	8/8/96	INCORP (I17) DRN M9501337	ML	LB	RG
11	8/10/94	INCORP. (I19) DRN M-9401529	ML	LB	JSE

WATERFORD S.E.S. UNIT NO. 3
1165 MW INSTALLATON

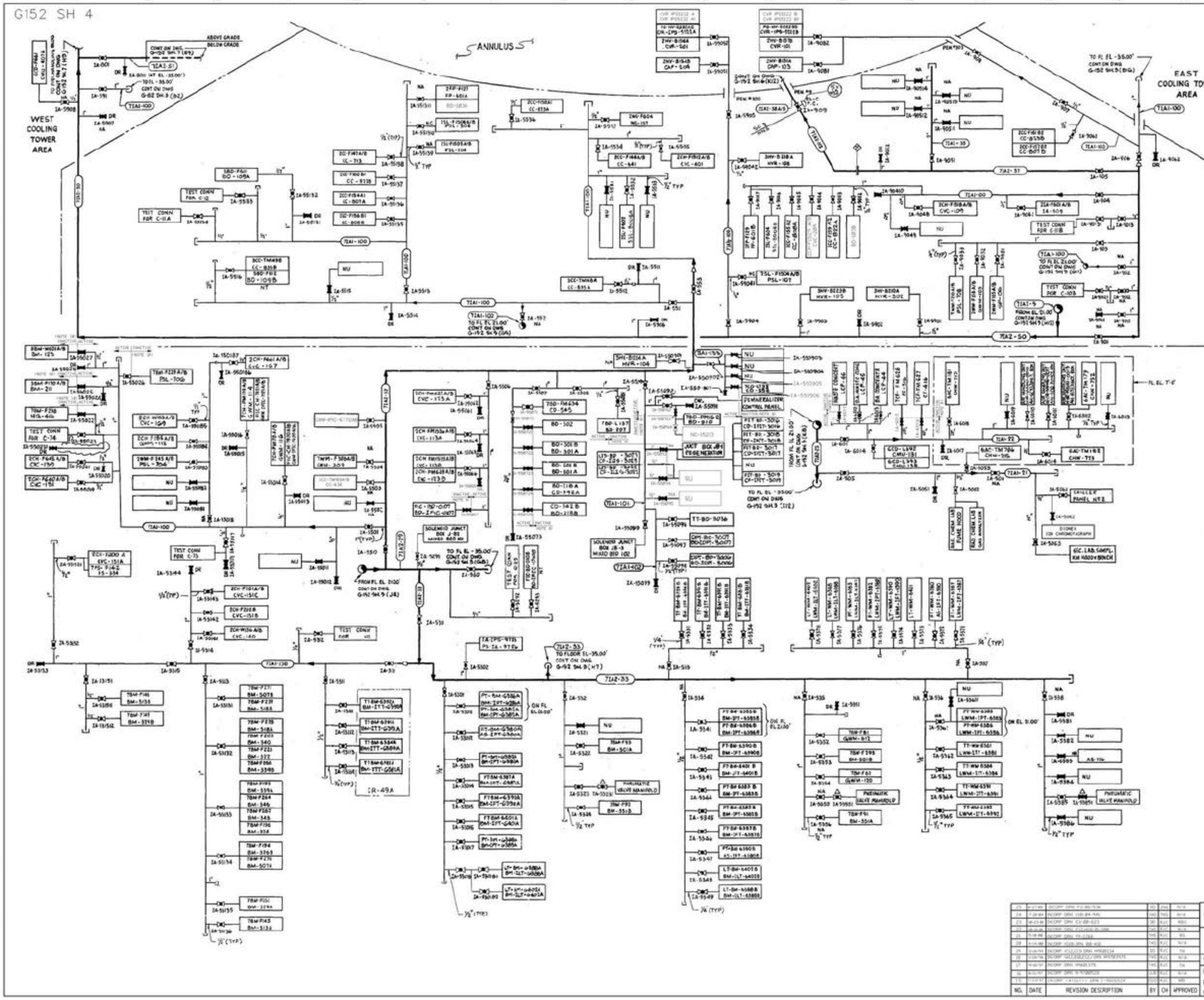
FLOW DIAGRAM INSTRUMENT AIR SYSTEM
TURBINE BUILDING EL. 15.00'

SCALE: NONE	APPROVED JOHN P. EVERS	DATE: 10/14/83
DEPT. MECH	DM ZH RER	G152 SH 1
DR. B. MARIONNEAUX	JJH BVF RG	
CK. KB		


G152 SH2
NOTES:
1. UNLESS OTHERWISE NOTED, THE FOLLOWING TYPICAL LINE NUMBERS HAVE BEEN ASSIGNED:
2. THE FOLLOWING SYMBOLS WILL BE USED TO SHOW THE AS-BUILT CONDITION OF THE INSTRUMENT AIR FLOW DIAGRAMS:
NU - VALVE HAS NO USERS
NT - USER HAS NO TAG
NC - USER NOT CONNECTED
NA - NOT ACCESSIBLE
TI - TAG INCOMPLETE OR INCORRECT
3. - INSULATING FLANGE
4. FOR TYPICAL EBASCO VALVE NO'S SEE DWG. G-152 SH.1 NOTE 1.
5. FOR REFERENCE DRAWINGS AND NOTES SEE DWG. G-152 SH.1
6. △ - REPRESENTS CROSS REFERENCE BETWEEN EBASCO VALVE NO. & UNIT NO. AS SHOWN ON TABLE 'A' DWG. G-152 SH.1
7. VALVE POSITIONS ON DRAWING ARE FOR REFERENCE ONLY, AND MAY BE DIFFERENT THAN SHOWN. ACTUAL POSITIONS AND LOCKING REQUIREMENTS ARE CONTROLLED BY OPERATIONS DEPARTMENT PROCEDURES.
9. IT IS OPTIONAL TO CAP OR PLUG AN OPEN ENDED LINE OR VALVE. CAPS OR PLUGS CAN BE INSTALLED TO STOP LEAKS. NO DRAWING REVISION IS REQUIRED. CAP AND PLUG DESIGN PRESSURE IS 125 PSIG.
"THIS DRAWING ALSO EXISTS AS FSAR FIGURE 9.3-1, SH. 2".
ENTERGY
WATERFORD S.E.S. UNIT NO. 3
1165 MW INSTALLATION
FLOW DIAGRAM-INSTRUMENT AIR SYSTEM
TURBINE BUILDING EL. 40.00'
SCALE: NONE
APPROVED
JOHN P. EVERS
DATE:
DEPT. MECH.
DR. M. TYLER
G152
SH 2
NO.
DATE
REVISION DESCRIPTION
BY
CH
APPROVED
FILENAME: IDEAS


G152 SH3
WEST COOLING TOWER AREA
EAST COOLING TOWER AREA
NOTES:
1. UNLESS OTHERWISE NOTED, THE FOLLOWING TYPICAL LINE NUMBERS HAVE BEEN ASSIGNED: T1AI-00 FOR 1" SIZE, T1AV-00 FOR ½" SIZE & T1AN-150 FOR ¾" SIZE.
2. THE FOLLOWING SYMBOLS WILL BE USED TO SHOW THE AS-BUILT CONDITION OF THE INSTRUMENT AIR FLOW DIAGRAMS:
NU - VALVE HAS NO USER
NT - USER HAS NO TAG
NC - USER NOT CONNECTED
NA - NOT ACCESSIBLE
DR - VALVE USED AS DRAIN
TI - TAG INCOMPLETE OR INCORRECT
3. (IF) - INSULATING FLANGE
4. FOR TYPICAL EBASCO VALVE NUMBERS, SEE DWG. G-152 SH-1 NOTE #1.
5. FOR REFERENCE DRAWINGS AND NOTES SEE DWG G-152 SH-1
6. △ - REPRESENTS CROSS REFERENCE BETWEEN EBASCO VALVE NO. & UNID NO. AS SHOWN ON TABLE "B" DWG. G-152 SH-1
7. ★ LINE TO BE DISCONNECTED AND CAPPED AFTER PERMANENT TIE-IN BETWEEN FSAR AND N2 SYSTEM IS MADE.
8. VALVE POSITIONS ON DRAWING ARE FOR REFERENCE ONLY, AND MAY BE DIFFERENT THAN SHOWN. ACTUAL POSITIONS AND LOCKING REQUIREMENTS ARE CONTROLLED BY OPERATIONS DEPARTMENT PROCEDURES.
9. IT IS OPTIONAL TO CAP OR PLUG AN OPEN ENDED LINE OR VALVE. CAPS OR PLUGS CAN BE INSTALLED TO STOP LEAKS. NO DRAWING REVISION IS REQUIRED. CAP AND PLUG DESIGN PRESSURE IS 125 PSIG.
THIS DWG. ALSO EXISTS AS FSAR FIGURE 9.3-1 SH3
THIS DWG. INCORPORATES DCN-MP-922 AND SUPERSEDES IN PART G-157 SH1 REV 18
ENTERGY OPERATIONS, INC.
WATERFORD S.E.S. UNIT NO. 3
1165 MW INSTALLATION
FLOW DIAGRAM-INSTRUMENT AIR SYS.
REACTOR AUX. BLDG. EL. 35.00'
SCALE: NONE
APPROVED JOHN F. EVERS
DATE: 10-14-83
DV. MECH.
DR. T. HEMPEL
CK. B. MLETIC
JH GCG
AJH CBF RG
G152 SH 3
F.S.FILENAME: IDEAS
NO. DATE REVISION BY CH APPROVED
21 7-17-06 INCORP (421) DRN 06-505 JAC DD NU
20 7-26-04 INCORP (518) DRN 04-940 JAC TWG N/A
19 6-12-01 INCORP (817) DRN 01-526 DDD RJC N/A
18 2-5-99 INCORP1061 DRN M9801515 DDD RJC RF
17 11-24-97 INCORP1051 DRN M9704214 DDD RJC CD
16 9-18-97 INCORP1117,1141E8.101 DRN M9801374 THS RJC TH

G152 SH 4



NOTES:

1. UNLESS OTHERWISE NOTED, THE FOLLOWING TYPICAL LINE NO's HAVE BEEN ASSIGNED: 7IA1-100 FOR 1" SIZE, 7IA1/2-106 FOR 1/2" SIZE AND 7IA3/4-150 FOR 3/4" SIZE.
2. THE FOLLOWING SYMBOLS WILL BE USED TO SHOW THE AS-BUILT CONDITION OF THE INSTRUMENT AIR FLOW DIAGRAMS:
   - NU - VALVE HAS NO USER
   - NT - USER HAS NO TAG
   - NC - USER NOT CONNECTED
   - NA - NOT ACCESSIBLE
   - DR - VALVE USED AS DRAIN
   - TI - TAG INCOMPLETE OR INCORRECT
3. ◇ - INSULATING FLANGE
4. FOR TYPICAL EBASCO VALVE NUMBERS, SEE NOTE DWG. G-152 SH. 1
5. FOR REFERENCE DWGS & NOTES SEE DWG. G-152 SH. 1
6. △ - REPRESENTS CROSS REFERENCE BETWEEN EBASCO VALVE NO. & LWNC NT AS SHOWN ON TABLE "A" DWG. G-152 SH. 1
7. VALVE POSITIONS ON DRAWING ARE FOR REFERENCE ONLY, AND MAY BE DIFFERENT THAN SHOWN. ACTUAL POSITIONS AND LOCKING REQUIREMENTS ARE CONTROLLED BY OPERATIONS DEPARTMENT PROCEDURES.
8. THIS EQUIPMENT IS INACTIVE PER ER-W3-[illegible].
9. THIS EQUIPMENT IS INACTIVE PER ER-W3-[illegible].
10. THIS EQUIPMENT IS INACTIVE PER ER-W3-[illegible].
11. IT IS OPTIONAL TO CAP OR PLUG AN OPEN ENDED LINE OR VALVE. CAPS OR PLUGS CAN BE INSTALLED TO STOP LEAKS. NO DRAWING REVISION IS REQUIRED. CAP AND PLUG DESIGN PRESSURE IS 125 PSIG.

NUCLEAR SAFETY RELATED IN PART ONLY

THIS DWG. ALSO EXISTS AS FSAR FIGURE 9.3-1 SH4

THIS DRAWING INCORPORATED [illegible] AND SUPERSEDES IN PART G-157 SH. 1 REV. 15

NO.	DATE	REVISION DESCRIPTION	BY	CH	APPROVED
25	[illegible]	[illegible]	[illegible]	[illegible]	N/A
24	[illegible]	[illegible]	[illegible]	[illegible]	N/A
23	[illegible]	[illegible]	[illegible]	RJC	[illegible]
22	[illegible]	[illegible]	[illegible]	RJC	N/A
21	[illegible]	[illegible]	[illegible]	RJC	[illegible]
20	[illegible]	[illegible]	[illegible]	RJC	N/A
19	[illegible]	[illegible]	[illegible]	RJC	[illegible]
18	[illegible]	[illegible]	[illegible]	RJC	N/A
17	[illegible]	[illegible]	[illegible]	RJC	[illegible]
16	[illegible]	[illegible]	[illegible]	RJC	N/A
15	[illegible]	[illegible]	[illegible]	RJC	[illegible]

ENTERGY

WATERFORD S.E.S. UNIT NO. 3
1165 MW INSTALLATION

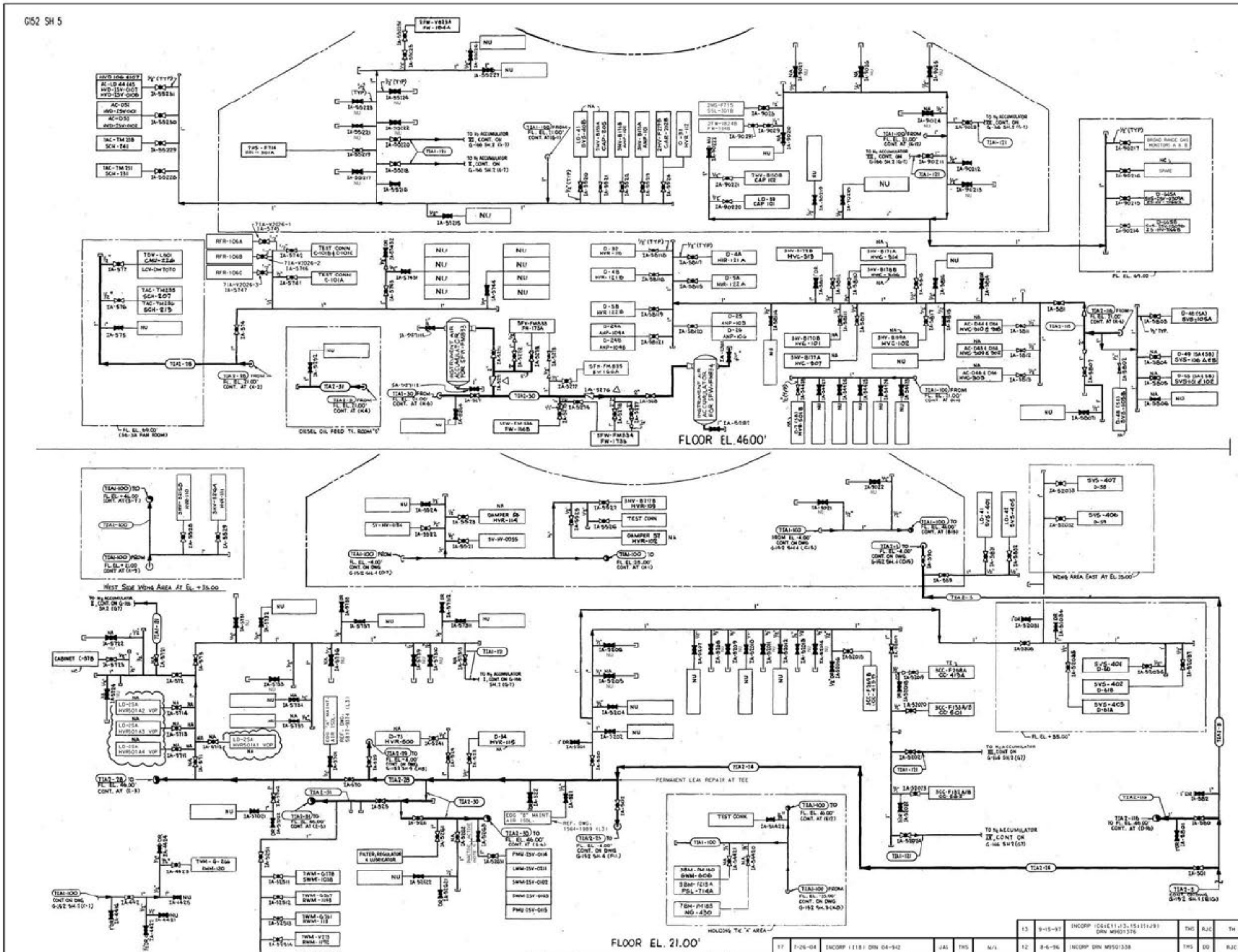
FLOW DIAGRAM-INSTRUMENT AIR SYSTEM
REACTOR AUX. BLDG. EL -4.00' & 7.00'

SCALE: NONE
DEPT. MECH
DR. M. TYLER
CH. BM
APPROVED JOHN EVERS
DATE: 10/14/87

G152
SH 4

FILENAME: IDEAS

G152 SH 5



NOTES

1. UNLESS OTHERWISE NOTED, THE FOLLOWING TYPICAL LINE NUMBERS HAVE BEEN ASSIGNED: TIA1-100 FOR 1" SIZE, TIA¾-100 FOR ¾" SIZE & TIA½-100 FOR ½" SIZE.
2. THE FOLLOWING SYMBOLS WILL BE USED TO SHOW THE AS-BUILT CONDITION OF THE INSTRUMENT AIR FLOW DIAGRAMS.
   - NU – VALVE HAS NO USER
   - NT – USER HAS NO TAG
   - NC – USER NOT CONNECTED
   - NA – NOT ACCESSIBLE
   - DR – VALVE USED AS DRAIN
   - TI – TAG INCOMPLETE OR INCORRECT
3. ◇ – INSULATING FLANGE
4. FOR TYPICAL EBASCO VALVE NOS SEE NOTE 1 ON DWG G-152 SH. 1
5. FOR REFERENCE DRAWINGS AND NOTES SEE DWG G-152 SH. 1
6. △ REPRESENTS CROSS REFERENCE BETWEEN EBASCO VALVE NO & UNID NO AS SHOWN ON TABLE 'A' DWG G-152 SH. 1
7. ★ LINE TO BE DISCONNECTED AND CAPPED AFTER PERMANENT TIE-IN BETWEEN USER AND NS SYSTEM IS MADE.
8. VALVE POSITIONS ON DRAWING ARE FOR REFERENCE ONLY, AND MAY BE DIFFERENT THAN SHOWN. ACTUAL POSITIONS AND LOCKING REQUIREMENTS ARE CONTROLLED BY OPERATIONS DEPARTMENT PROCEDURES.
9. THIS EQUIPMENT IS INACTIVE PER ER-W3-98-0868-00-00
10. IT IS OPTIONAL TO CAP OR PLUG AN OPEN ENDED LINE OR VALVE. CAPS OR PLUGS CAN BE INSTALLED TO STOP LEAKS. NO DRAWING REVISION IS REQUIRED. CAP AND PLUG DESIGN PRESSURE IS 126 PSIG.

THIS DRAWING INCORPORATES PMI-MF-922, FCR MP24116 SUPERSEDES IN PART G-197 SH.1 REV 18

THIS DWG. ALSO EXISTS AS FSAR FIGURE 9.3-1 SH5

NO.	DATE	REVISION	BY	CH	APPROVED
21	5-22-13	INCORP EC 44732 (J1,J3)	JAG	DD	DD
20	6-6-12	INCORP EC 37658 (K9)	JAG	DD	DD
19	2-7-12	INCORP EC 34493 (J4)	DD	JAG	JAG
18	11-16-11	INCORP EC32886 (C3)	JAG	DD	DD
17	7-26-04	INCORP (I18) DRN 04-942	JAG	THS	N/A
16	11-16-01	INCORP (L6, I18) DRN 01-201	THS	RJC	N/A
15	8-4-99	INCORP (A5, A10) DRN 00-1150	DD	RJC	N/A
14	8-4-99	INCORP DRN (B16) 19901158	THS	DD	N/A
13	9-15-97	INCORP (C6;E11,13,15;I11;J9) DRN M9601376	THS	RJC	TH
12	8-6-96	INCORP DRN M9501338	THS	DD	RJC
11	5-26-95	INCORP (H19,K4,I7) DRN M9401521	THS	DD	JSR
10	2-2-93	INCORP DRN M-9201387	LLB	HU	RJC
9	10-21-92	INCORP DRN (C3) M9102910	ML	LB	JSR

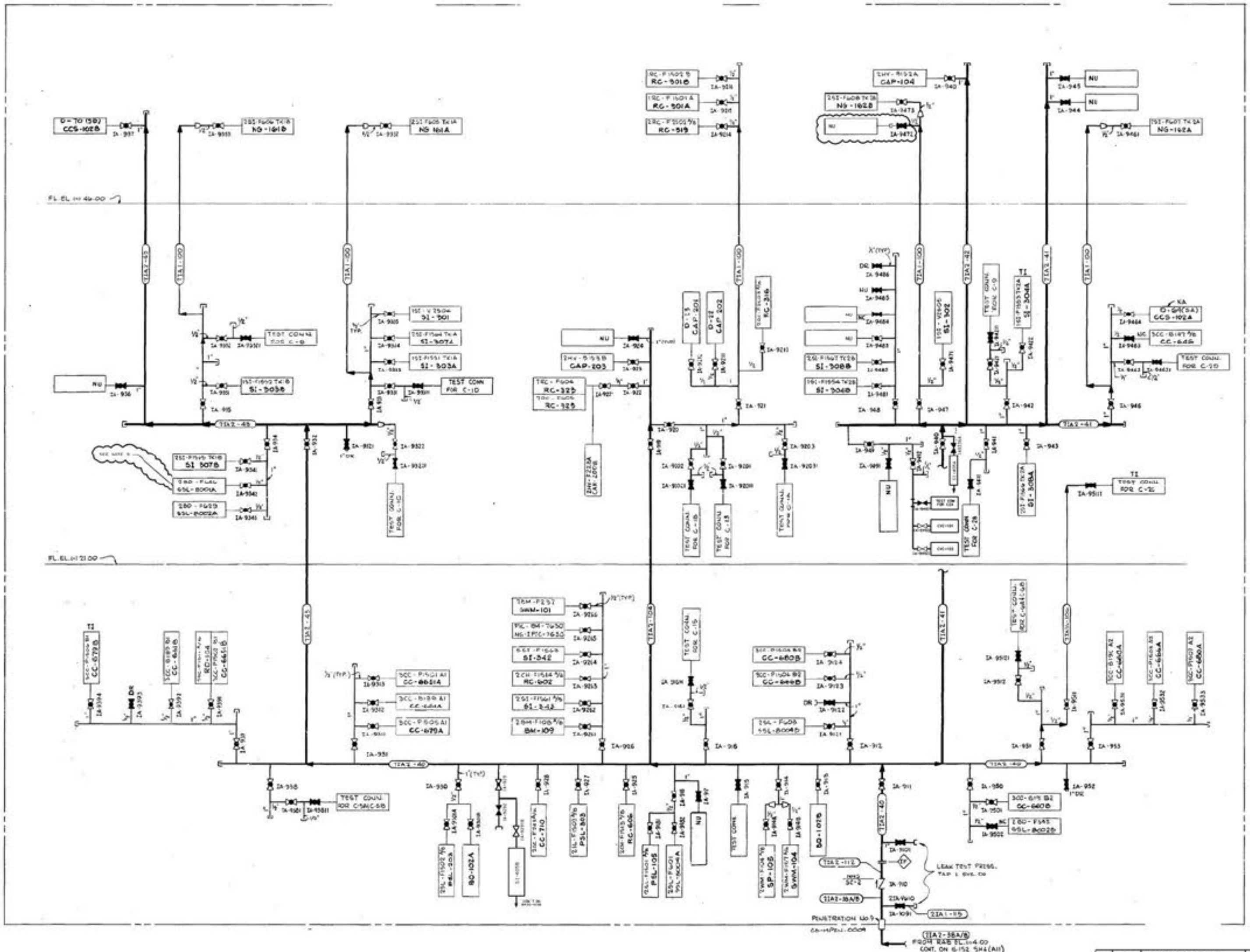
ENTERGY OPERATIONS, INC.
WATERFORD S.E.S. UNIT NO. 3
1165 MW INSTALLATION

FLOW DIAGRAM-INSTRUMENT AIR SYS.
REACTOR AUX. BLDG. EL 21.00' & UP

SCALE: NONE | APPROVED JOHN P. EVERS | DATE: 10-14-83
DIV. MECH
DR. T. HEMPLE
CK. B. MILETIC
JH QCQ
AJH CBF RG

G152 SH5

G152 SH6



NOTES
1. UNLESS OTHERWISE NOTED THE FOLLOWING TYPICAL LINE NUMBERS HAVE BEEN ASSIGNED: TIA1-100 FOR 1" SIZE, TIA½-106 FOR ½" SIZE, & TIA⅜-150 FOR ⅜" SIZE
2. THE FOLLOWING SYMBOLS WILL BE USED TO SHOW THE AS-BUILT CONDITION OF THE INSTRUMENT AIR FLOW DIAGRAMS.
   - NU - VALVE HAS NO USER
   - NT - USER HAS NO TAG
   - NC - USER NOT CONNECTED
   - NA - NOT ACCESSIBLE
   - DR - VALVE USED AS DRAIN
   - TI - TAG INCOMPLETE OR INCORRECT
3. ◇ - INSULATING FLANGE
4. FOR TYPICAL EBASCO VALVE NO'S SEE DWG. G-152 SH 1 NOTE 1.
5. FOR REFERENCE DRAWINGS AND NOTES SEE DWG. G-152 SH 1
6. △ - REPRESENTS CROSS REFERENCE BETWEEN EBASCO VALVE NO. & UNID NO. AS SHOWN ON TABLE 'A' DWG. G-152 SH 1
7. VALVE POSITIONS ON DRAWING ARE FOR REFERENCE ONLY, AND MAY BE DIFFERENT THAN SHOWN. ACTUAL POSITIONS AND LOCKING REQUIREMENTS ARE CONTROLLED BY OPERATIONS DEPARTMENT PROCEDURES.
8. IT IS OPTIONAL TO CAP OR PLUG AN OPEN ENDED LINE OR VALVE. CAPS OR PLUGS CAN BE INSTALLED TO STOP LEAKS. NO DRAWING REVISION IS REQUIRED. CAP AND PLUG DESIGN PRESSURE IS 125 PSIG.
9. VALVE SSL8001A IS GAGGED IN THE CLOSED POSITION WITH AIR REMOVED.

NUCLEAR SAFETY RELATED IN PART ONLY

THIS DWG. INCORPORATES DCN-MP-922, AND SUPERSEDES IN PART G-157 SH 1 REV 16.

THIS DWG. ALSO EXISTS AS FSAR FIGURE 9.3-1 SH6

NO.	DATE	REVISION DESCRIPTION	BY	CH	APPROVED
16	12-20-12	INCORP EC8435 ECN41065 (B12,F2,H18)	JAG	DD	DD
15	6-2-08	INCORP EC 1782 (K7,F13) & EC 1784 (K7)	DD	JAG	JAG
14	7-28-04	INCORP DRN 04-943 (G18)	JAG	THS	N/A
13	1-27-98	INCORP (K12) M9703978	THS	RJC	N/A
12	8-11-97	INCORP (K7,K11) M9700529	DDD	RJC	N/A
11	10-4-96	INCORP (I11) M9602093	ML	LLB	RJC
10	8-8-96	INCORP (D11) M9501336	ML	LLB	RJC
9	10-24-95	INCORP (E11 & G13) DRN M-9501947	ML	LLB	WR
8	5-25-95	INCORP (K12,G19) DRN M9401529	THS	DDD	JSR
7	2-2-93	INCORP DRN M-9201387	LLB	HU	RJC

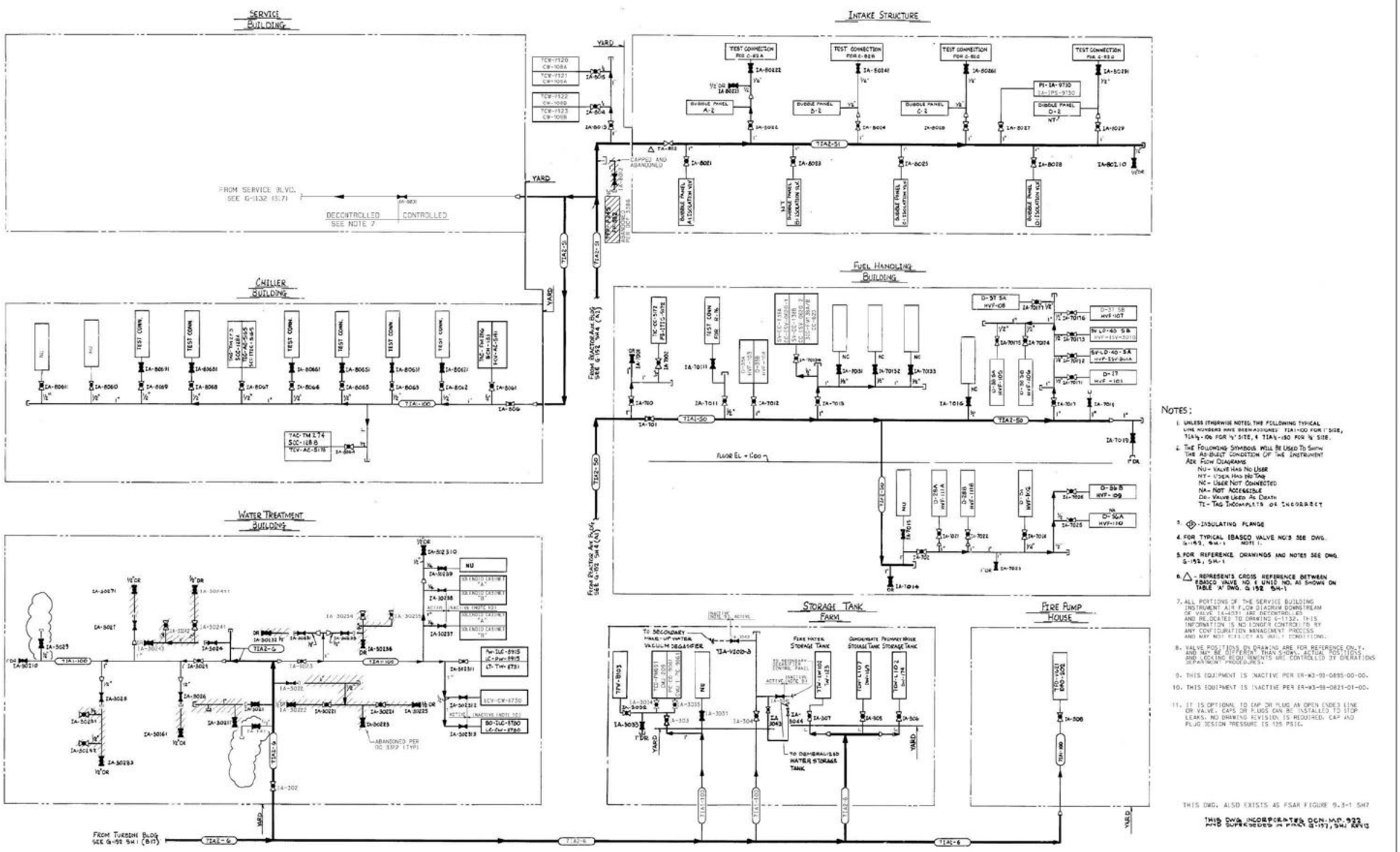
ENTERGY

WATERFORD S.E.S. UNIT NO. 3
1165 MW INSTALLATION

FLOW DIAGRAM-INSTRUMENT AIR SYSTEM
REACTOR CONTAINMENT BLDG.

SCALE: NONE
DEPT. MECH
DR. HJK
CH. RB
APPROVED JOHN P. EVERS
DH JJH ACA
SH RC
DATE: 10/14/83
G152 SH 6

G152 SH7



NOTES:

1. UNLESS OTHERWISE NOTED, THE FOLLOWING TYPICAL LINE NUMBERS HAVE BEEN ASSIGNED: TIA1-100 FOR 1" SIZE, TIA½-106 FOR ½" SIZE, & TIA½-150 FOR ½" SIZE.
2. THE FOLLOWING SYMBOLS WILL BE USED TO SHOW THE AS-BUILT CONDITION OF THE INSTRUMENT AIR FLOW DIAGRAMS.
   - NU - VALVE HAS NO USER
   - NT - USER HAS NO TAG
   - NC - USER NOT CONNECTED
   - NA - NOT ACCESSIBLE
   - DB - VALVE USED AS DEATH
   - TI - TAG INCOMPLETE OR INCORRECT
3. ⊘ - INSULATING FLANGE
4. FOR TYPICAL IDASCO VALVE NO'S SEE DWG. G-193, SH-1 NOTE 1.
5. FOR REFERENCE DRAWINGS AND NOTES SEE DWG. G-152, SH-1
6. △ - REPRESENTS CROSS REFERENCE BETWEEN IDASCO VALVE NO & UNID NO. AS SHOWN ON TABLE 'A' DWG. G 152 SH-1
7. ALL PORTIONS OF THE SERVICE BUILDING INSTRUMENT AIR FLOW DIAGRAM DOWNSTREAM OF VALVE IA-4531 ARE DECONTROLLED AND RELOCATED TO DRAWING G-1132. THIS INFORMATION IS NO LONGER CONTROLLED BY ANY CONFIGURATION MANAGEMENT PROCESS AND MAY NOT REFLECT AS-BUILT CONDITIONS.
8. VALVE POSITIONS SHOWN ON DRAWING ARE FOR REFERENCE ONLY, AND MAY BE OPERATED OTHER THAN SHOWN. ACTUAL POSITIONS AND LOCKING REQUIREMENTS ARE CONTROLLED BY OPERATIONS DEPARTMENT PROCEDURES.
9. THIS EQUIPMENT IS INACTIVE PER ER-W3-99-0895-00-00.
10. THIS EQUIPMENT IS INACTIVE PER ER-W3-99-0821-01-00.
11. IT IS OPTIONAL TO CAP OR PLUG AN OPEN ENDED LINE OR VALVE. CAPS OR PLUGS CAN BE INSTALLED TO STOP LEAKS. NO DRAWING REVISION IS REQUIRED. CAP AND PLUG DESIGN PRESSURE IS 125 PSIG.

THIS DWG. ALSO EXISTS AS FSAR FIGURE 9.3-1 SH7

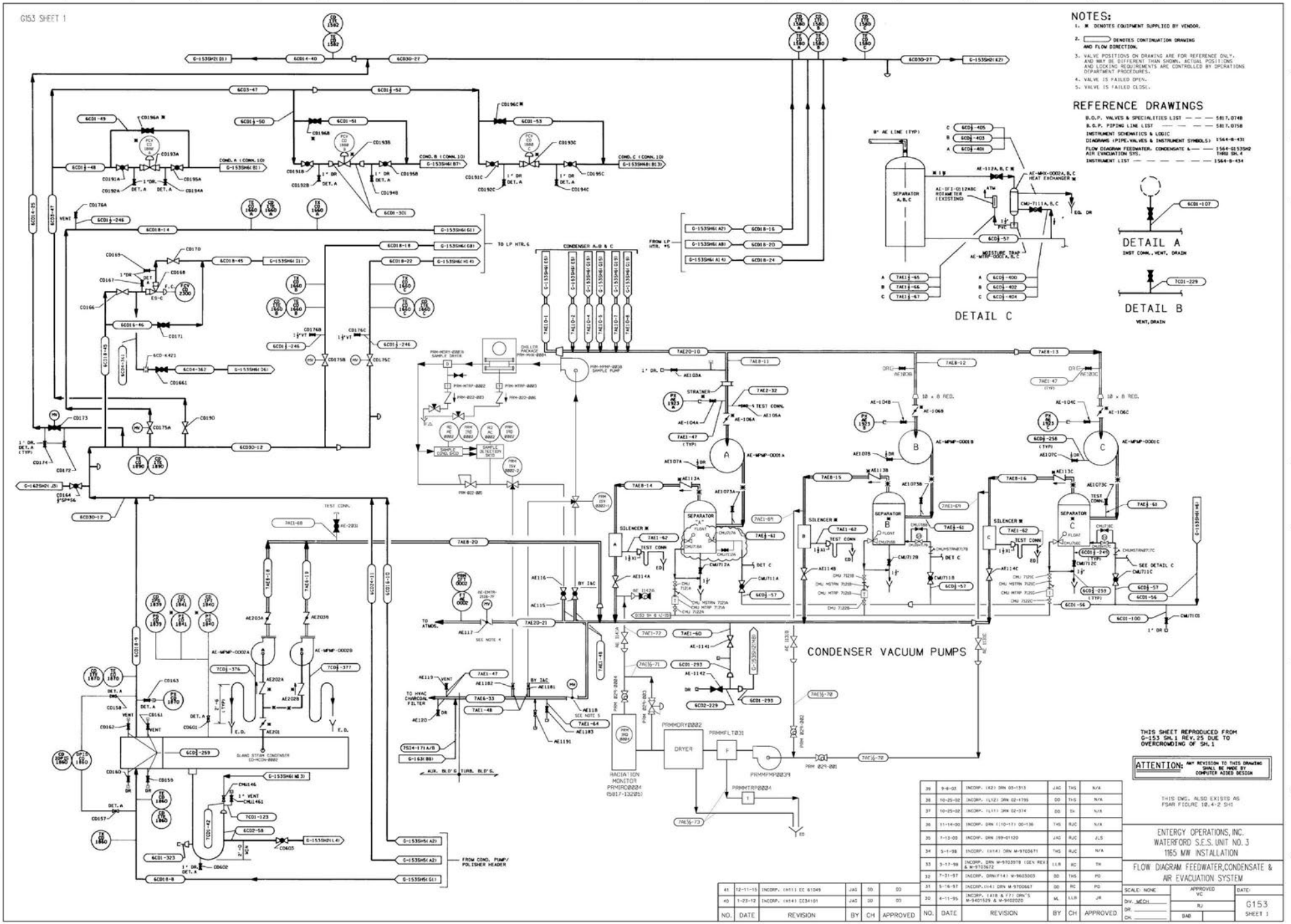
THIS DWG. INCORPORATES DCN: M.D. 932 AND SUPERSEDES IN PART G-157, SHT. REV 13

NO.	DATE	REVISION	BY	CH	APPROVED
20	12-7-17	INCORP (11,J4) EC 21862	DD	JAG	JAG
19	1-26-04	INCORP (J,I7) DRN 04-044	DD	THS	N/A
18	11-17-03	INCORP (J,I10) DRN 03-1424	DD	THS	N/A
17	8-16-01	INCORP 01-92	JAG	RJC	N/A
16	2-14-00	INCORP (J,I1,+11) DRN 99-2249	THS	RJC	RBG
15	1-28-98	INCORP (J,I1) DRN M9703978	THS	RJC	N/A
14	7-11-96	INCORP (E3) DRN M-9602095	DD	THS	RJC

ENTERGY OPERATIONS, INC.
WATERFORD S.E.S. UNIT NO. 3
1165 MW INSTALLATION

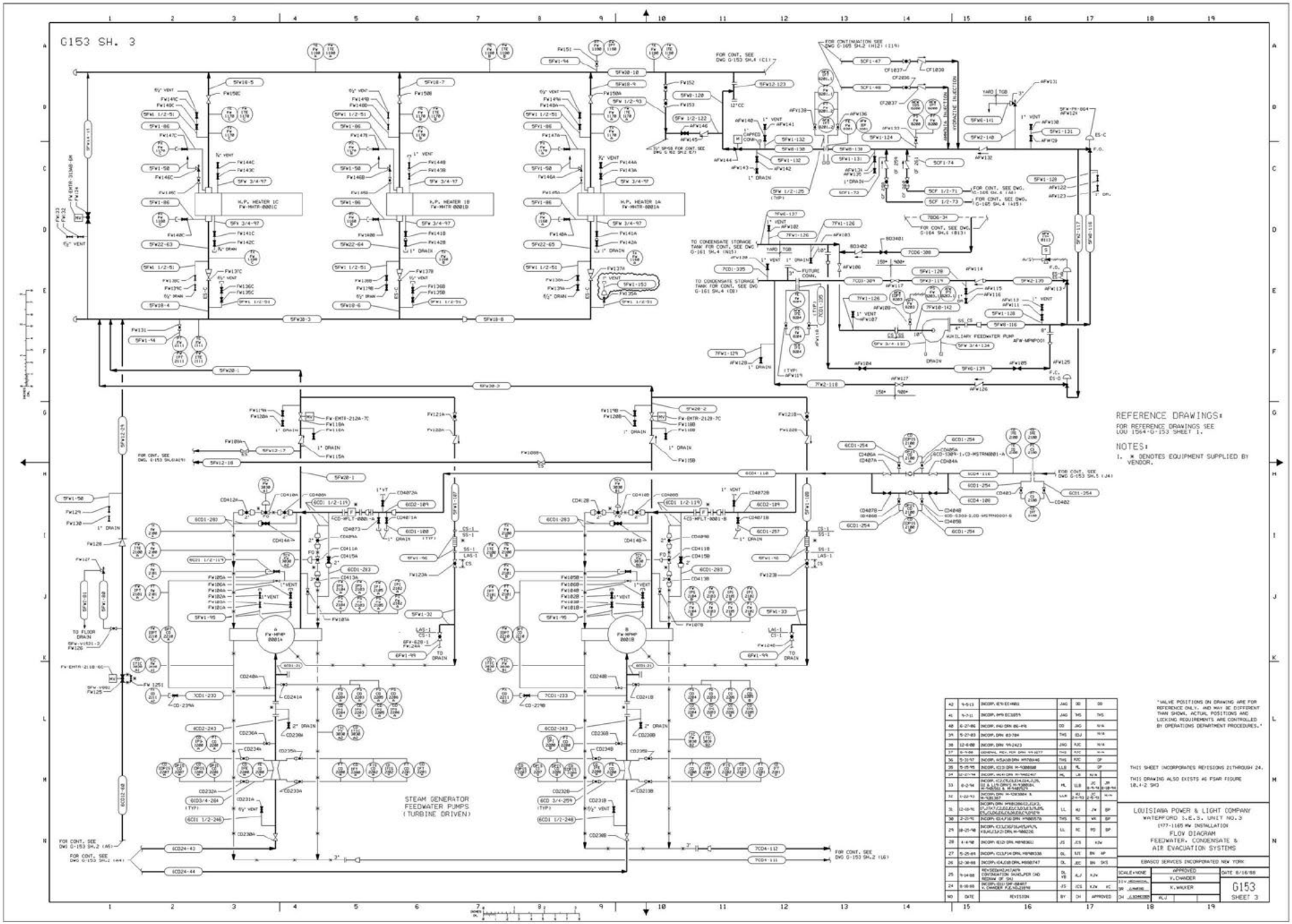
FLOW DIAGRAM-INSTRUMENT AIR SYS. MISCELLANEOUS BLDGS.

SCALE: NONE | APPROVED JOHN P. EVERS | DATE: 10-14-83
DIV. MECH | JR QCG
DR. MARIONNEAUX | CH. BUSCARELLO | JJH QSF | RG
G152SH7

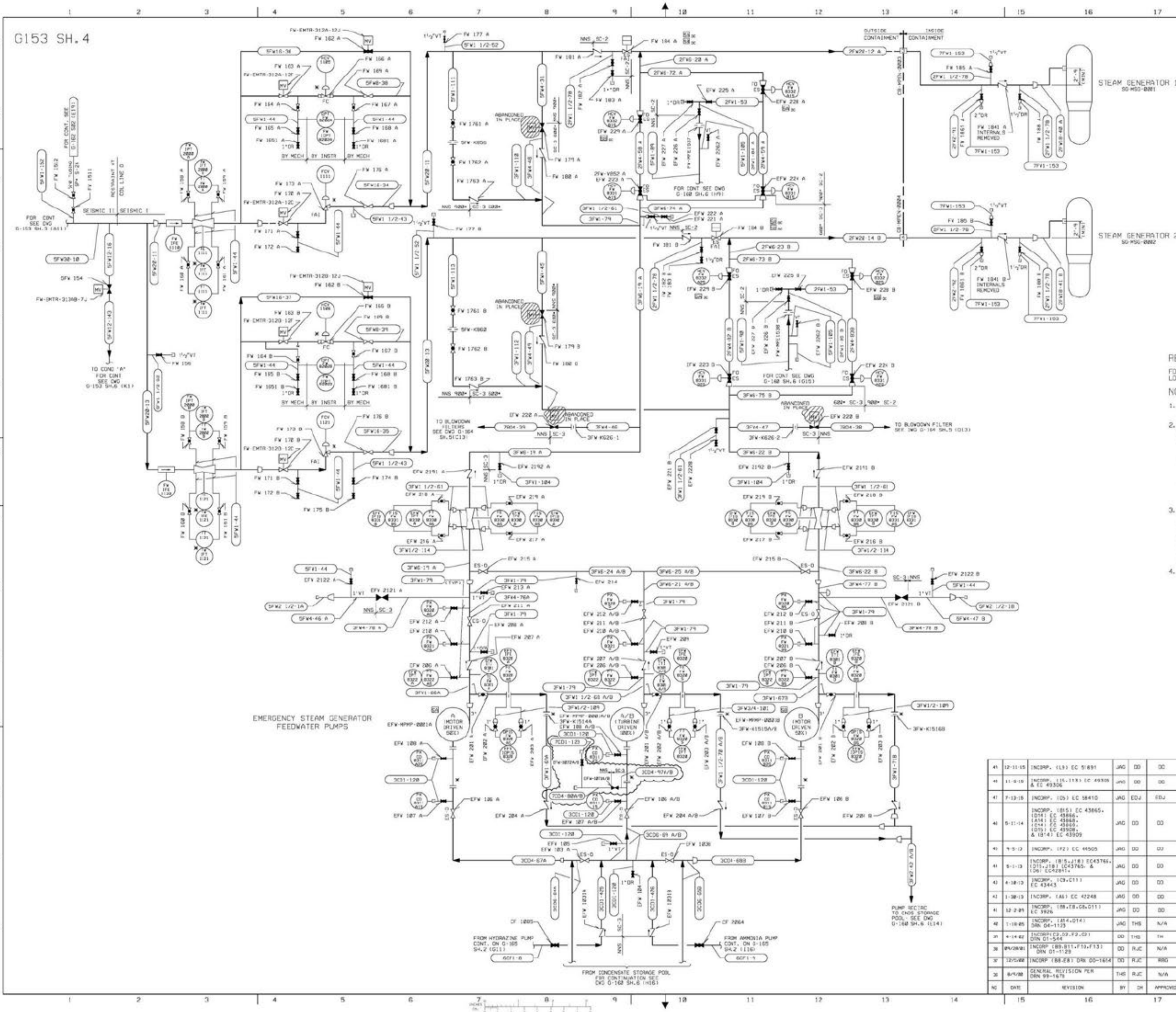


NO.	DATE	REVISION	BY	CH	APPROVED
41	12-11-15	INCORP. (NT1) EC 61049	JAG	DD	DD
40	1-23-12	INCORP. (N14) EC34101	JAG	DD	DD
39	9-6-02	INCORP. (K2) DRN 05-1313	JAG	THS	N/A
38	10-25-02	INCORP. (L12) DRN 02-1795	DD	THS	N/A
37	10-25-02	INCORP. (L11) DRN 02-374	DD	TH	N/A
36	11-14-00	INCORP. DRN (10-17) 00-136	THS	RJC	N/A
35	7-13-00	INCORP. DRN 199-01120	JAG	RJC	JLS
34	5-1-98	INCORP. (N14) DRN M-9703671	THS	RJC	N/A
33	3-17-98	INCORP., DRN M-9703978 (DEN REV & M-9703672	LLB	RC	TH
32	7-31-97	INCORP. DRN(F14) M-9603003	DD	THS	PD
31	5-16-97	INCORP.(V4) DRN M-9700667	DD	RC	PD
30	4-11-95	INCORP. 1418 & F71 DRN'S M-9401529 & M-9402020	ML	LLB	JR

NO.	DATE	REVISION	BY	CH	APPROVED


G153 SH. 3
STEAM GENERATOR FEEDWATER PUMPS (TURBINE DRIVEN)
H.P. HEATER 1C FW-HHTR-0001C
H.P. HEATER 1B FW-HHTR-0001B
H.P. HEATER 1A FW-HHTR-0001A
AUXILIARY FEEDWATER PUMP AFW-MPMP001
A FW-MPMP 0001A
B FW-MPMP 0001B
REFERENCE DRAWINGS:
FOR REFERENCE DRAWINGS SEE LOU 1564-G-153 SHEET 1.
NOTES:
1. * DENOTES EQUIPMENT SUPPLIED BY VENDOR.
VALVE POSITIONS ON DRAWING ARE FOR REFERENCE ONLY. AND MAY BE DIFFERENT THAN SHOWN. ACTUAL POSITIONS AND LOCKING REQUIREMENTS ARE CONTROLLED BY OPERATIONS DEPARTMENT PROCEDURES.
THIS SHEET INCORPORATES REVISIONS 21THROUGH 24.
THIS DRAWING ALSO EXISTS AS FSAR FIGURE 10.4-2 SH3
LOUISIANA POWER & LIGHT COMPANY
WATERFORD S.E.S. UNIT NO.3
(977-1165 MW INSTALLATION
FLOW DIAGRAM
FEEDWATER, CONDENSATE & AIR EVACUATION SYSTEMS
EBASCO SERVICES INCORPORATED NEW YORK
SCALE=NONE
APPROVED
V.CHANDER
K.WALKER
DATE 8/16/88
G153
SHEET 3

G153 SH.4



REFERENCE DRAWINGS

FOR REFERENCE DRAWINGS SEE LOU 1564-G-153, SHEET 1

NOTES:

1. ✱ DENOTES EQUIPMENT SUPPLIED VENDOR.
2. EQUIPMENT IDENTIFIED WITH THE FOLLOWING CODE LETTERS REQUIRE CLASS IE POWER SOURCE:

   CODE
   SA SB SAB — A.C. POWER SOURCE FROM CHANNEL SA, SB, OR SAB RESPECTIVELY.
   SA✱ SB✱ SAB✱ — D.C. POWER SOURCE FROM CHANNEL SA, SB, OR SAB RESPECTIVELY.
3. VALVE POSITIONS ON DRAWING ARE FOR REFERENCE ONLY, AND MAY BE DIFFERENT THAN SHOWN. ACTUAL POSITIONS AND LOCKING REQUIREMENTS ARE CONTROLLED BY OPERATIONS DEPARTMENT PROCEDURES.
4. PIPE CAP SHOWN IS AN ALTERNATE DESIGN.

THIS DRAWING ALSO EXISTS AS FSAR FIGURE 10.4-2 SH 4

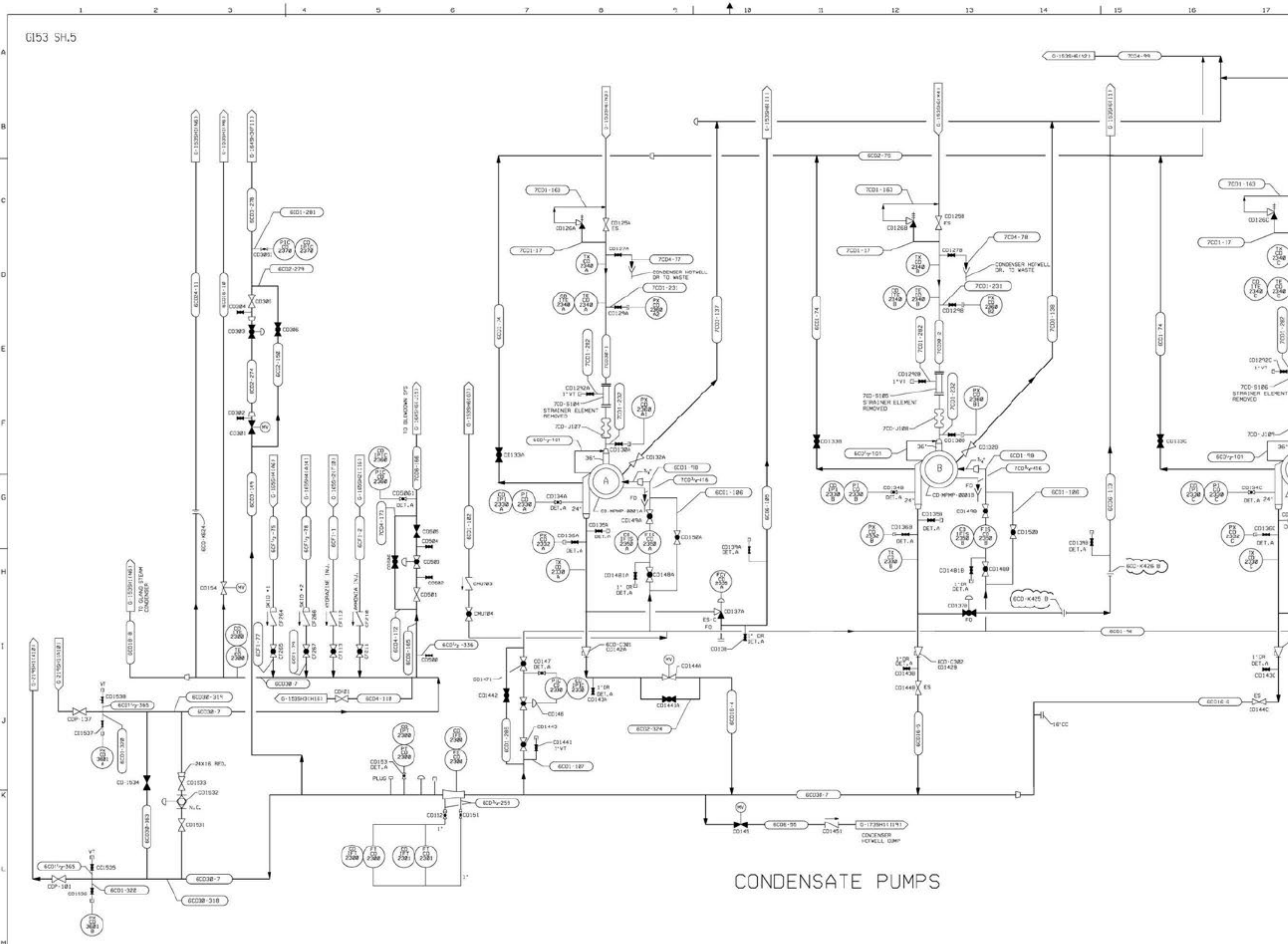
NO	DATE	REVISION	BY	CH	APPROVED
49	12-11-15	INCORP. (L9) EC 51891	JAG	DD	DD
48	11-9-15	INCORP. (J5, J13) EC 49305 & EC 49306	JAG	DD	DD
47	7-13-15	INCORP. (D5) EC 58410	JAG	EDJ	EDJ
46	5-11-14	INCORP. (B15) EC 43865, (D14) EC 43866, (A14) EC 43868, (C14) EC 43869, (D15) EC 43908, & (B14) EC 43909	JAG	DD	DD
45	9-5-13	INCORP. (F2) EC 44505	JAG	DD	DD
44	5-1-13	INCORP. (B15, J18) EC43766, (D15, J18) EC43765, & (D6) EC42841.	JAG	DD	DD
43	4-18-13	INCORP. (C9, C11) EC 43443	JAG	DD	DD
42	1-30-13	INCORP. (A6) EC 42248	JAG	DD	DD
41	12-2-09	INCORP. (B8, E8, G8, G11) EC 3926	JAG	DD	DD
40	1-18-05	INCORP. (A14, D14) DRN 04-1123	JAG	THS	N/A
39	4-14-02	INCORP (C2, D2, F2, G2) DRN 01-544	DD	THS	TH
38	09/20/01	INCORP (B9, B11, F10, F13) DRN 01-1129	DD	RJC	N/A
37	12/5/00	INCORP (B8-E8) DRN 00-1614	DD	RJC	RBG
36	8/9/00	GENERAL REVISION PER DRN 99-1679	THS	RJC	N/A

STATE OF LOUISIANA
REGISTERED PE

LOUISIANA POWER & LIGHT COMPANY
WATERFORD S.E.S. UNIT NO.3
1977-1165 MW INSTALLATION
FLOW DIAGRAM
FEEDWATER, CONDENSATE & AIR EVACUATION SYSTEMS

EBASCO SERVICES INCORPORATED NEW YORK

SCALE: NONE	APPROVED	DATE 7/31/84
DIV. MECHANICAL		G153 SHEET 4
DR		
CH		



CONDENSATE PUMPS

NOTE:

FOR NOTES & REF. DRAWINGS SEE G-153 SH.1

THIS SHEET ADDED AND REPRODUCED FROM G-153 SH.1 REV.25 DUE TO OVERCROWDING OF SH.1 PER SMP-1565R2

VALVE POSITIONS ON DRAWING ARE FOR REFERENCE ONLY, AND MAY BE DIFFERENT THAN SHOWN. ACTUAL POSITIONS AND LOCKING REQUIREMENTS ARE CONTROLLED BY OPERATIONS DEPARTMENT PROCEDURES.

ATTENTION: ANY REVISION TO THIS DRAWING SHALL BE MADE BY COMPUTER AIDED DESIGN

THIS DWG. ALSO EXISTS AS FSAR FIGURE 10.4-2 SH5

NO	DATE	REVISION	BY	CH	APPROVED
7	3-20-18	INCORP EC 72371	MAG	EDJ	EDJ
6	2-3-16	INCORP EC 62545	JAD	DD	DD
5	6-7-00	REMOVED EBASCO TAG NUMBERS PER DRN 99-1679, AND INCORP DRN 99-2002	LLB	RJC	N/A
4	5-15-95	INCORP DRN M-9400458 (F4) & M-9402527 (F6,B11,J13,J15,J17,K17)	LLB	MR	DEF
3	2-1-90	INCORP DRN M-9201387	LLB	HU	RJC
2	12-2-91	INCORP. (D4,D8,D9,D12, D17,E9,F13,F18,G12,H7, H16,K1,M11) DRN M-9100558 & M-9200571	ML	HU JMW	EP
1	3-30-89	[illegible]	DL	[illegible]	[illegible]

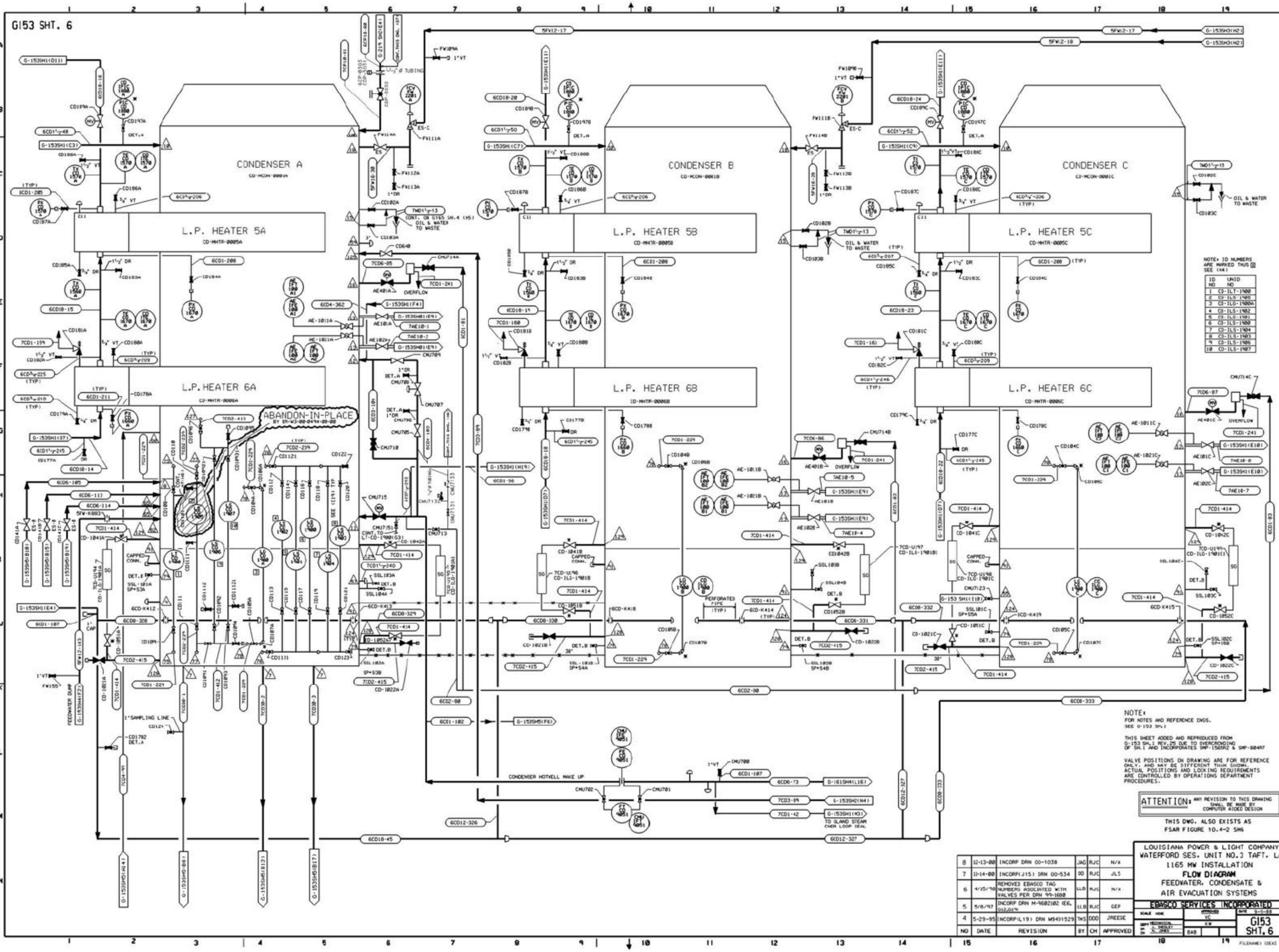
LOUISIANA POWER & LIGHT COMPANY
WATERFORD SES. UNIT NO.3 TAFT, LA.
1165 MW INSTALLATION

FLOW DIAGRAM
FEEDWATER, CONDENSATE & AIR EVACUATION SYS.

EBASCO SERVICES INCORPORATED

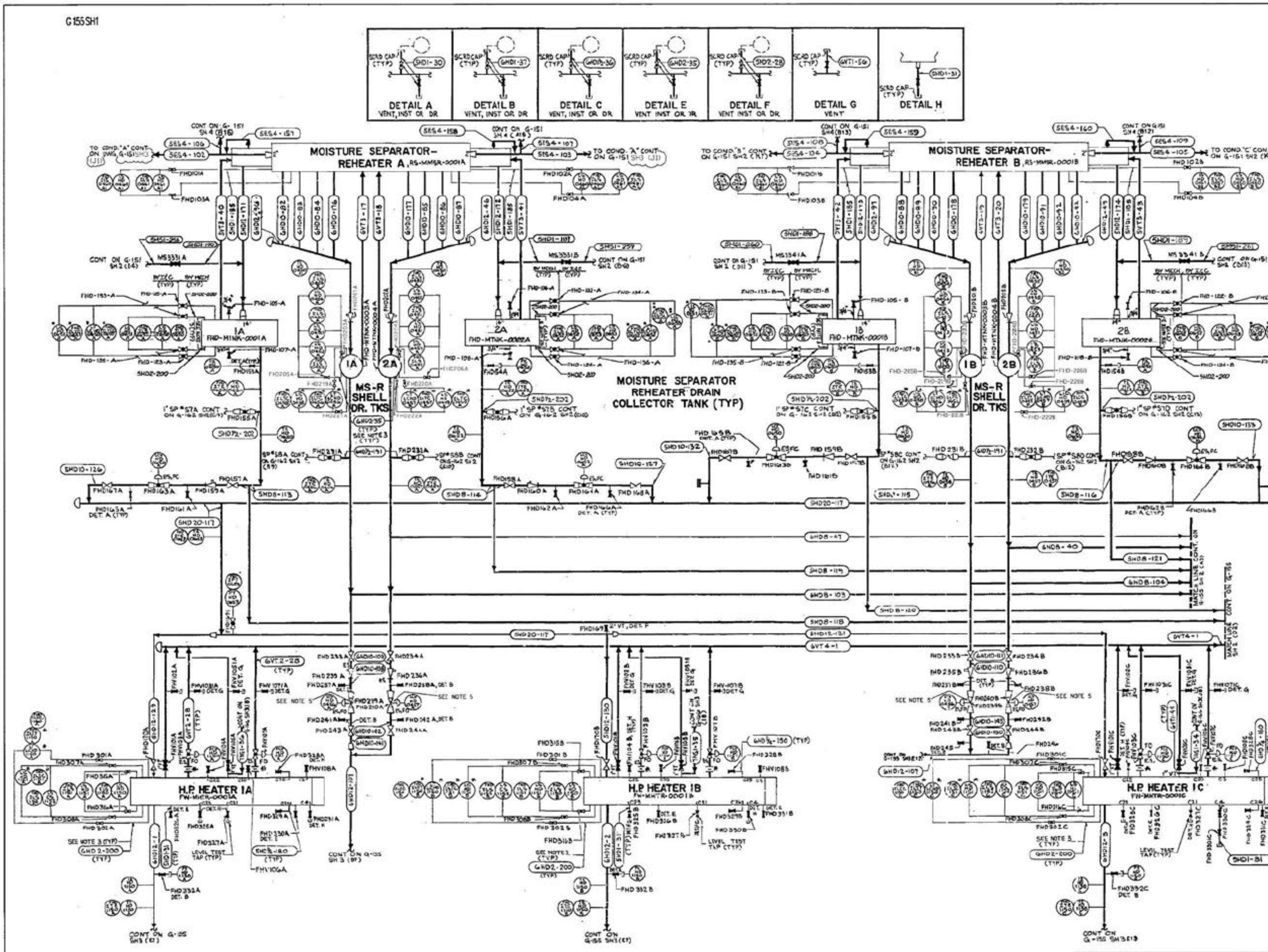
SCALE NONE | APPROVED | DATE 9-1-88
DEPT MECHANICAL

G153
SH.5


G153 SHT. 6
CONDENSER A
CONDENSER B
CONDENSER C
L.P. HEATER 5A
L.P. HEATER 5B
L.P. HEATER 5C
L.P. HEATER 6A
L.P. HEATER 6B
L.P. HEATER 6C
ABANDON-IN-PLACE
CONDENSER HOTWELL MAKE UP
FEEDWATER DUMP
1"SAMPLING LINE
NOTE:
FOR NOTES AND REFERENCE DWGS.
SEE G-153 SH.1
THIS SHEET ADDED AND REPRODUCED FROM
G-153 SH.1 REV.25 DUE TO OVERCROWDING
OF SH.1 AND INCORPORATES SMP-1565R2 & SMP-004R7
VALVE POSITIONS ON DRAWING ARE FOR REFERENCE
ONLY, AND MAY BE DIFFERENT THAN SHOWN.
ACTUAL POSITIONS AND LOCKING REQUIREMENTS
ARE CONTROLLED BY OPERATIONS DEPARTMENT
PROCEDURES.
ATTENTION: ANY REVISION TO THIS DRAWING SHALL BE MADE BY COMPUTER AIDED DESIGN
THIS DWG. ALSO EXISTS AS
FSAR FIGURE 10.4-2 SH6
LOUISIANA POWER & LIGHT COMPANY
WATERFORD SES. UNIT NO.3 TAFT, LA.
1165 MW INSTALLATION
FLOW DIAGRAM
FEEDWATER, CONDENSATE &
AIR EVACUATION SYSTEMS
EBASCO SERVICES INCORPORATED
DATE 9-9-88
G153
SHT. 6
FILENAME: IDEAS

NO	DATE	REVISION	BY	CH	APPROVED
8	12-13-00	INCORP DRN 00-1038	JAG	RJC	N/A
7	11-14-00	INCORP(J15) DRN 00-534	DD	RJC	JLS
6	4/25/90	REMOVED EBASCO TAG NUMBERS ASOCIATED WITH VALVES PER DRN 99-1680	LLB	RJC	N/A
5	5/8/97	INCORP DRN M-9602102 (E6, G12,G19)	LLB	RJC	GEP
4	5-29-95	INCORP(L19) DRN M9401529	THS	DDD	JREESE

G155SH1



REFERENCE DRAWINGS

B.O.P. VALVES & SPECIALTIES LIST — LOU-SBT.014B
B.O.P. PIPING LINE LIST — LOU-SBT-015B
INSTRUMENT SCHEMATICS & LOGIC.
DIAGRAMS (PIPE, VALVES & INSTRUMENT SYMBOLS) — 1564-B-431
FLOW DIAGRAM HEATER DRAIN & VENT SYSTEMS — 1564-G-155 SH2
INSTRUMENT LIST — 1564-B-434

NOTES:

1. * DENOTES EQUIPMENTS SUPPLIED BY VENDOR
2. ~ DENOTES ULTRASONIC FLOW TRANSMITTER
3. FOR INSTRUMENTATION DETAILS SEE INSTALLATION DETAILS LOU-1564-B-430.
4. VALVE POSITIONS ON DRAWING ARE FOR REFERENCE ONLY. AND MAY BE DIFFERENT THAN SHOWN. ACTUAL POSITIONS AND LOCKING REQUIREMENTS ARE CONTROLLED BY OPERATIONS DEPARTMENT PROCEDURES."
5. AIR SUPPLY DISCONNECTED. MANUAL ACTUATION ONLY.

THIS DWG. ALSO EXISTS AS FSAR FIGURE 10.4-4 SH1

NO.	DATE	REVISION DESCRIPTION	BY	CH	APPROVED
37	8-23-16	INCORP (G1,G8) DC 56211	JAC	DD	DD
36	10-4-12	INCORP (E5,C12) DC 25080	JAC	DD	DD
35	5-3-06	INCORP (C13) DRN 05-320	JD	JAC	N/A

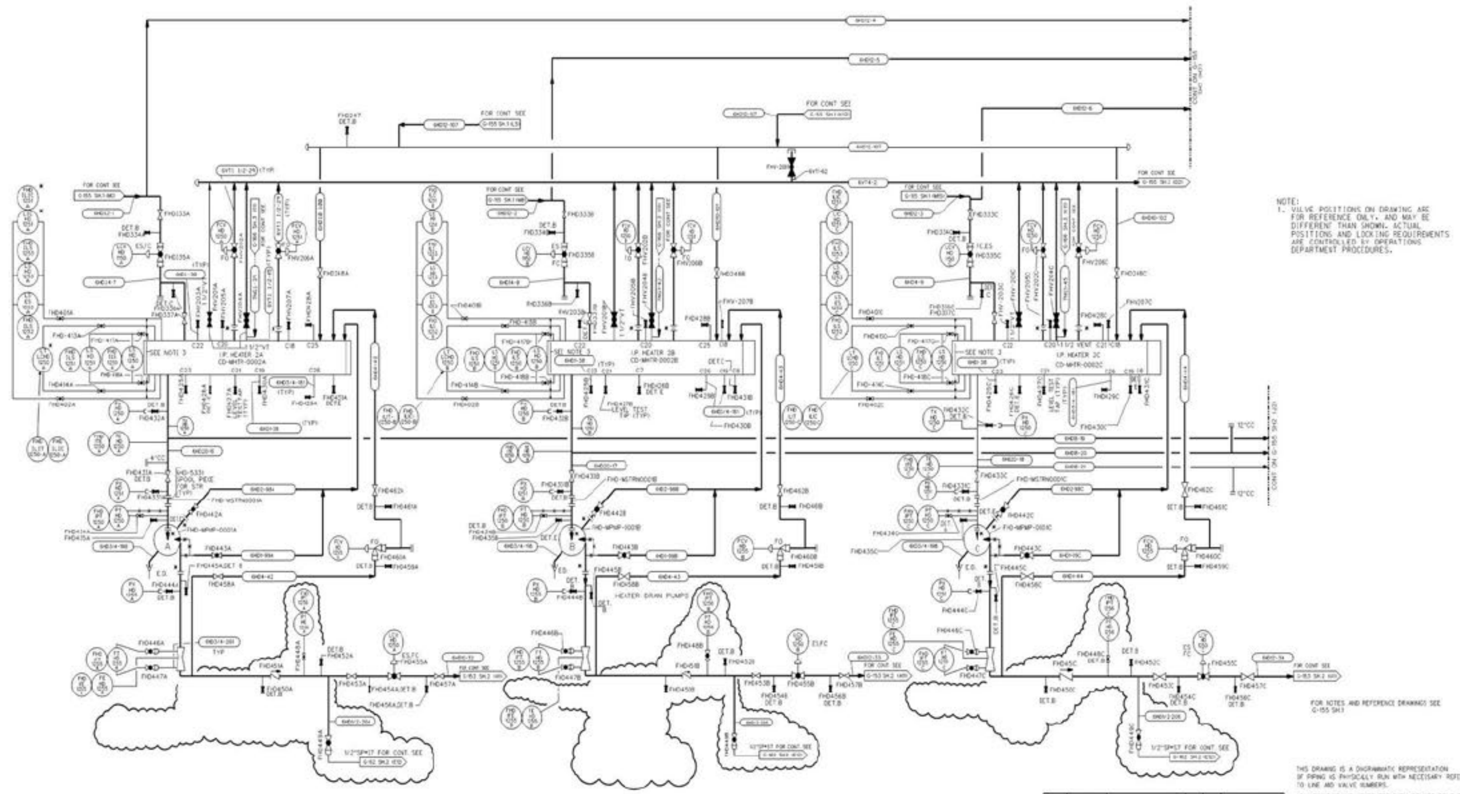
NO.	DATE	REVISION	BY	CH	APPROVED
34	2-11-98	GENERAL REVISION PER DRN M-9703978	LLB	RJC	N/A
33	12-9-97	INCORP DRN M-9704418	LLB	RJC	GEP
32	4-23-97	INCORP DRN M9700542(15,113,119)	DD	THS	MH
31	6-19-95	INCORP DRN M9500628	THS	DD	N/A
30	3-30-95	INCORP DRN M-9301030 (A4,7,11,14) AND DRN M-9301453 (F10,F17) AND DRN M-9401529 (I18)	DD	THS	RTF
29	2-1-93	INCORP DRN M-91203181	LLB	KU	RC
28	12-17-91	INCORP DRN M-9101400, M9101527, M-9131226, M-9101173.	LL		

ENTERGY OPERATIONS, INC.
WATERFORD S.E.S. UNIT NO. 3
1165 MW INSTALLATION

FLOW DIAGRAM
HEATER DRAIN & VENT SYSTEMS

SCALE: NONE	APPROVED RC ROSSI	DATE: 12/30/83
DIV. MECH	JZH	C 155 SHEET 1
DR. F. VARGAS		
CH. G. BLAIR	CB WF / JAJ JM	

G-155 SH. 3



NOTE:
1. VALVE POSITIONS ON DRAWING ARE FOR REFERENCE ONLY, AND MAY BE DIFFERENT THAN SHOWN. ACTUAL POSITIONS AND LOCKING REQUIREMENTS ARE CONTROLLED BY OPERATIONS DEPARTMENT PROCEDURES.

FOR NOTES AND REFERENCE DRAWINGS SEE G-155 SH.1

THIS DRAWING IS A DIAGRAMMATIC REPRESENTATION OF PIPING AS PHYSICALLY RUN WITH NECESSARY REFERENCE TO LINE AND VALVE NUMBERS.

LOW POINT DRAINS, VENTS ETC. THEY DO NOT RELIEVE E-E FROM RESPONSIBILITY FOR SYSTEM DESIGN INCLUDING PROCESS REQUIREMENTS AND PIPING DESIGN CRITERIA AS PRESENTED ON EBASCO FF SQ. 1064-7.
E-E NO. E-1270-210-100

THIS DWG. ALSO EXISTS AS FSAR FIGURE 10.4-4 SH3

NO.	DATE	REVISION	BY	CH	RELEASED	
30	10/21/07	INCORP. EC-3536	JAG	DD	DD	
29	7/3/00	INCORP. DRN 00-750	JAG	RJC	N/A	
28	2/17/98	GENERAL REVISION PER DRN M-9701970	LLB	RJC	N/A	
27	5/12/97	INCORP DRN M-970102 (G2,7,13)	LLB	RJC	N/A	
26	12-27-94	INCORP. (E11) DRN M-9402302	ML	LB		
25	11-18-94	INCORP DRN M-9203400 (E11) & M-9401529(E7)	LLB	ML	JSR	–
24	2-1-93	INCORP DRN M-9221287	LLB	HU	RJC	–
23	12-10-91	INCORP DRN M9101630 (H4,8,15)	DDC	HU	JW	JH
22	7-8-91	THIS SHEET REPRODUCED FROM G-155 SH.3 R21 DUE TO OVERCROWDING OF SHEET 3	LWF	JCS	SAB	

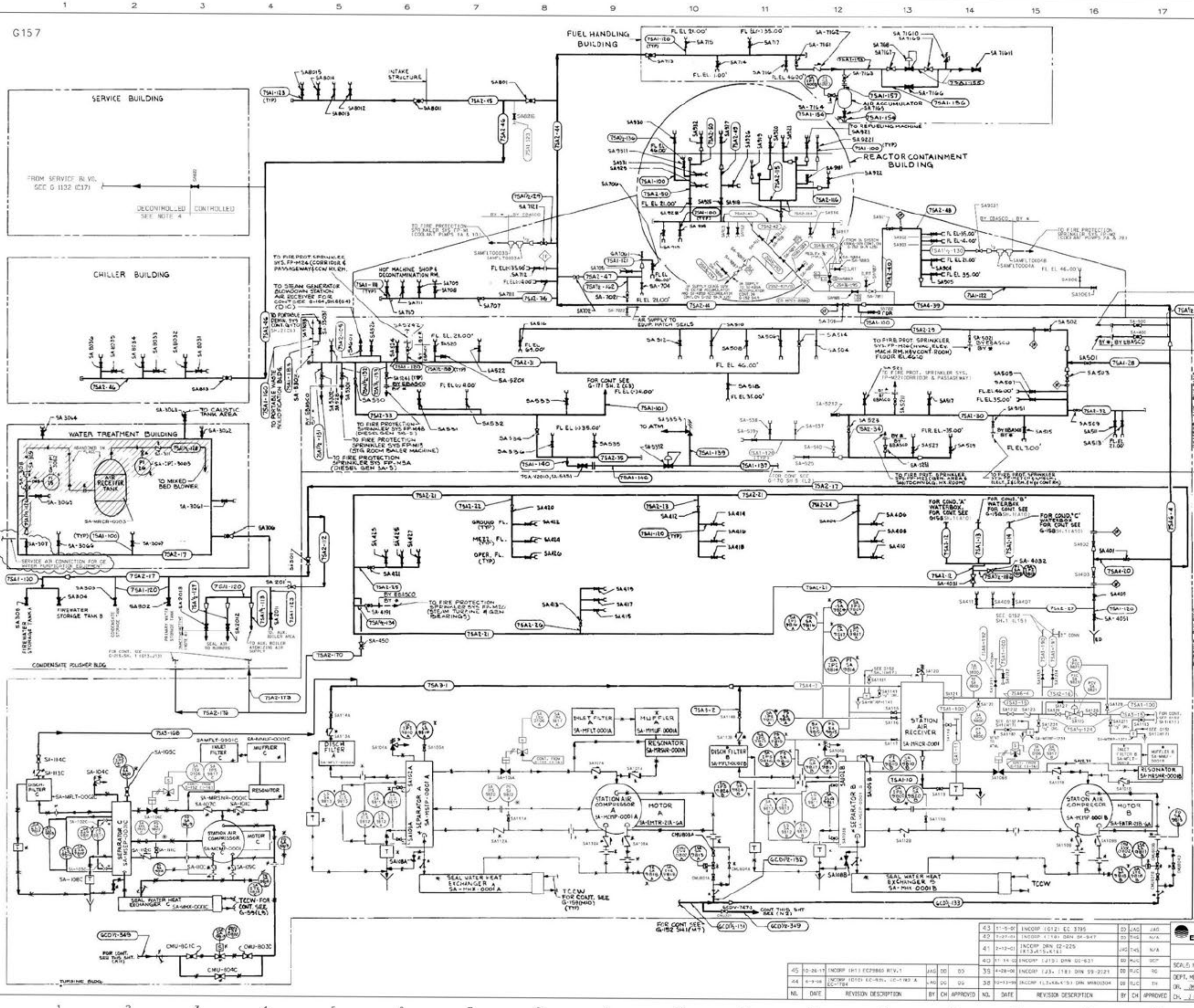
LOUISIANA POWER & LIGHT COMPANY
WATERFORD S.E.S. UNIT NO. 3
1165 MW INSTALLATION

FLOW DIAGRAM
HEATER DRAIN & VENT SYSTEMS

EBASCO SERVICES INCORPORATED

SCALE NONE
RELEASED S.BROTHERS
DATE 7-8-91
DIV. MECH.
DR. L.FISCHER
CH. J.SCHEIDER
G155 SH. 3

G157



NOTES:
1. * DENOTES EQUIPMENT SUPPLIED BY VENDOR.
2. EQUIPMENT IDENTIFIED WITH THE FOLLOWING CODE LETTERS REQUIRE CLASS IE POWER SOURCE: CODE [SA] [SB] [SAB]
A.C. POWER SOURCE FROM CHANNEL SA SB, OR SAB RESPECTIVELY.
3. (IF) DENOTES INSULATING FLANGE.
4. ALL PORTIONS OF THE SERVICE BUILDING STATION AIR FLOW DIAGRAM DOWNSTREAM OF VALVE 7SA-V2002-2 ARE DECONTROLLED AND RELOCATED TO DRAWING G-1132. THIS INFORMATION IS NO LONGER CONTROLLED BY ANY CONFIGURATION MANAGEMENT PROCESS AND MAY NOT REFLECT AS BUILT CONDITIONS.
5. VALVE POSITIONS IN DRAWING ARE FOR REFERENCE ONLY, AND MAY BE DIFFERENT THAN SHOWN. ACTUAL POSITIONS AND LOCKING REQUIREMENTS ARE CONTROLLED BY OPERATIONS DEPARTMENT PROCEDURES.
6. THIS EQUIPMENT MADE INACTIVE PER CR-W3-99-0894-00-00.
7. IT IS OPTIONAL TO CAP OR PLUG AN OPEN ENDED LINE OR VALVE. CAPS OR PLUGS CAN BE INSTALLED TO STOP LEAKS. NO DRAWING REVISION IS REQUIRED. CAP AND PLUG DESIGN PRESSURE IS 125 PSIG.

REFERENCE DRAWINGS:
VALVES & SPECIALITIES LIST ____ LOU-5817.074B
PIPING LINE LIST ____ LOU-5817.075B
INSTRUMENTS SCHEMATICS AND LOGIC DIAGRAMS (PIPE, VALVES AND INSTRUMENT SYMBOLS) ____ 1564-B-431
INSTRUMENT LIST ____ 1564-B-484
STATION & INSTRUMENT AIR COMPRESSOR PACKAGE OUTLINE (FOR PIPING LAYOUT & SIZES) ____ 1564-613
INSTRUMENT AIR SYSTEM ____ 1564-G-152 SH.1

NUCLEAR SAFETY RELATED IN PART ONLY

THIS DWG. ALSO EXISTS AS FSAR FIGURE 9.3-1 SHB

NO.	DATE	REVISION DESCRIPTION	BY	CH	APPROVED
45	10-26-17	INCORP (H1) EC29860 REV.1	JAG	DD	DD
44	6-9-06	INCORP (D10) EC-931, EC-1182 & EC-1784	JAG	DG	DG
43	11-5-07	INCORP (G12) EC 3795	DD	JAG	JAG
42	7-27-04	INCORP (J18) DRN 04-947	DD	THS	N/A
41	2-13-03	INCORP DRN 02-225 (K13, K15, K16)	JAG	THS	N/A
40	11-14-02	INCORP (J15) DRN 02-631	DD	RJC	DCF
39	4-28-00	INCORP (J3, I18) DRN 99-2121	DD	RJC	RG
38	10-13-99	INCORP (L3, K8, K15) DRN M9800304	DD	RJC	TH

ENTERGY

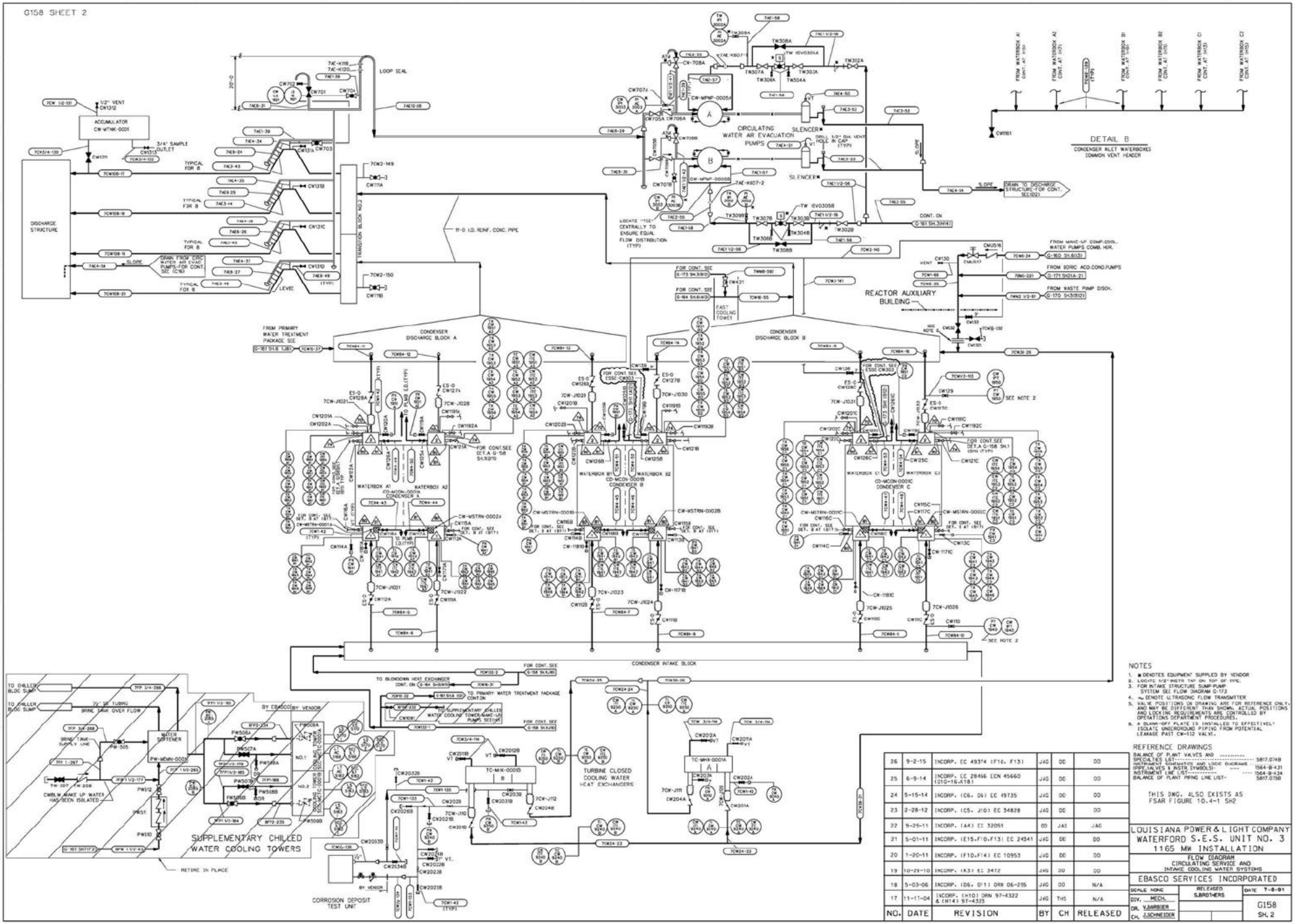
WATERFORD S.E.S. UNIT NO. 3
1165 MW INSTALLATION

FLOW DIAGRAM
SERVICE AIR SYSTEM

SCALE: NONE
DEPT. MECH
DR. JHA
CH. J. HANNICK
APPROVED
CARL CAPI
PK JM JAJ
DATE: 10-15-83

G157

FILENAME: IDEAS



NOTES

1. ■ DENOTES EQUIPMENT SUPPLIED BY VENDOR
2. LOCATE 1/2" INSTR TAP ON TOP OF PIPE.
3. FOR INTAKE STRUCTURE SUMP PUMP SYSTEM SEE FLOW DIAGRAM G-173
4. ⏦ DENOTE ULTRASONIC FLOW TRANSMITTER
5. VALVE POSITIONS ON DRAWING ARE FOR REFERENCE ONLY AND MAY BE DIFFERENT THAN SHOWN. ACTUAL POSITIONS AND LOCKING REQUIREMENTS ARE CONTROLLED BY OPERATIONS DEPARTMENT PROCEDURES.
6. A BLANK-OFF PLATE IS INSTALLED TO EFFECTIVELY ISOLATE UNDERGROUND PIPING FROM POTENTIAL LEAKAGE PAST CW-112 VALVE.

REFERENCE DRAWINGS

BALANCE OF PLANT VALVES AND SPECIALTIES LIST	5817.074B
INSTRUMENT SCHEMATICS AND LOGIC DIAGRAMS (PIPE, VALVES & INSTR. SYMBOLS)	1564-B-431
INSTRUMENT LINE LIST	1564-B-434
BALANCE OF PLANT PIPING LINE LIST	5817.075B

THIS DWG. ALSO EXISTS AS FSAR FIGURE 10.4-1 SH2

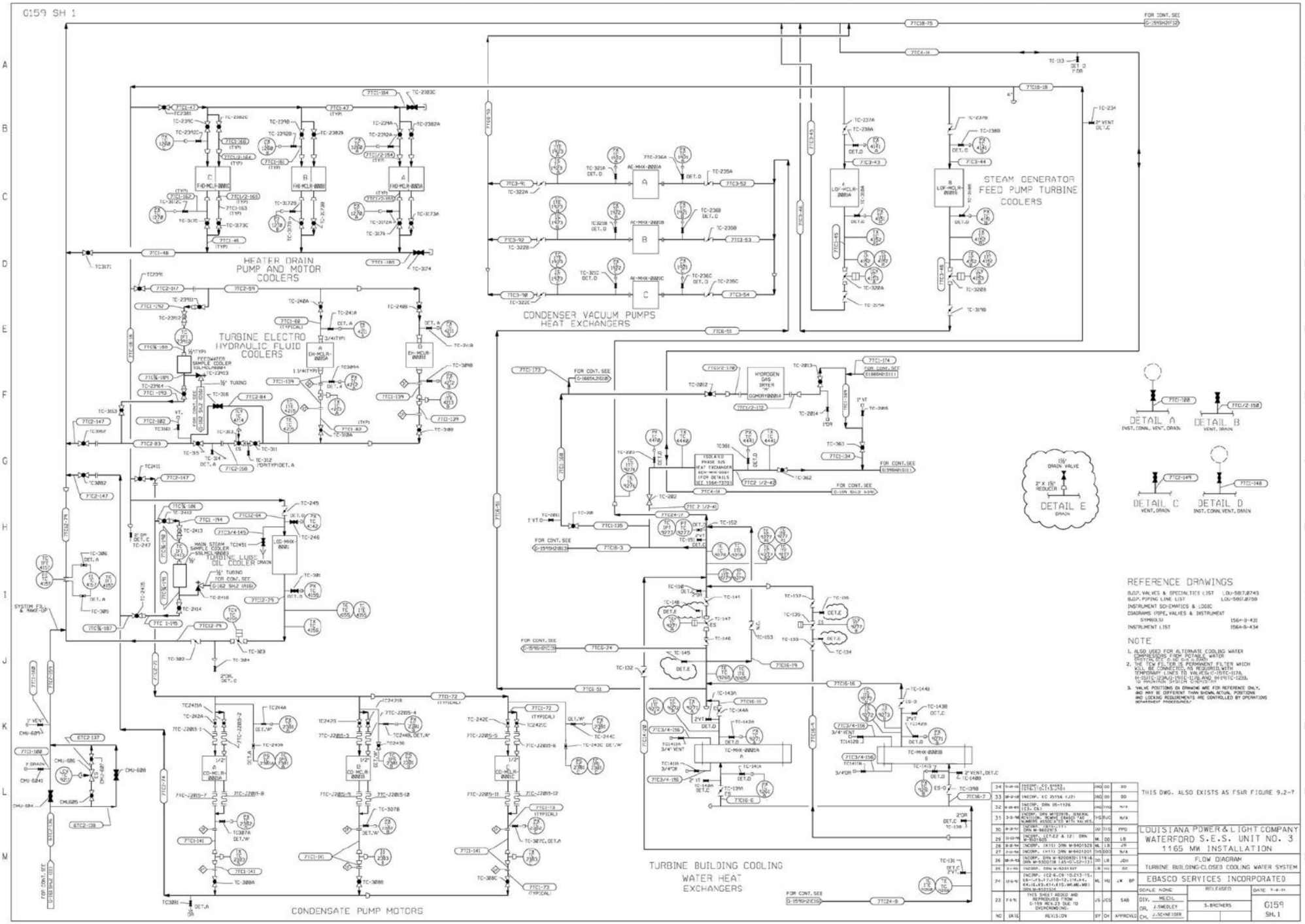
NO.	DATE	REVISION	BY	CH	RELEASED
26	9-2-15	INCORP. EC 49374 (F16, F13)	JAG	DD	DD
25	6-9-14	INCORP. EC 28466 ECN 45660 (D10-16,X18)	JAG	DD	DD
24	5-15-14	INCORP. (C6, D6) EC 49735	JAG	DD	DD
23	2-28-12	INCORP. (C5, J10) EC 34828	JAG	DD	DD
22	9-29-11	INCORP. (A4) EC 32051	DD	JAS	JAG
21	5-01-11	INCORP. (E15,F10,F13) EC 24341	JAG	DD	DD
20	1-20-11	INCORP. (F10,F14) EC 10953	JAG	DD	DD
19	10-28-10	INCORP. (K3) EC 34772	JAG	DD	DD
18	5-03-06	INCORP. (D6, D11) DRN 06-255	JAG	DD	N/A
17	11-11-04	INCORP. (H10) DRN 97-4322 & (H14) 97-4323	JAG	THS	N/A

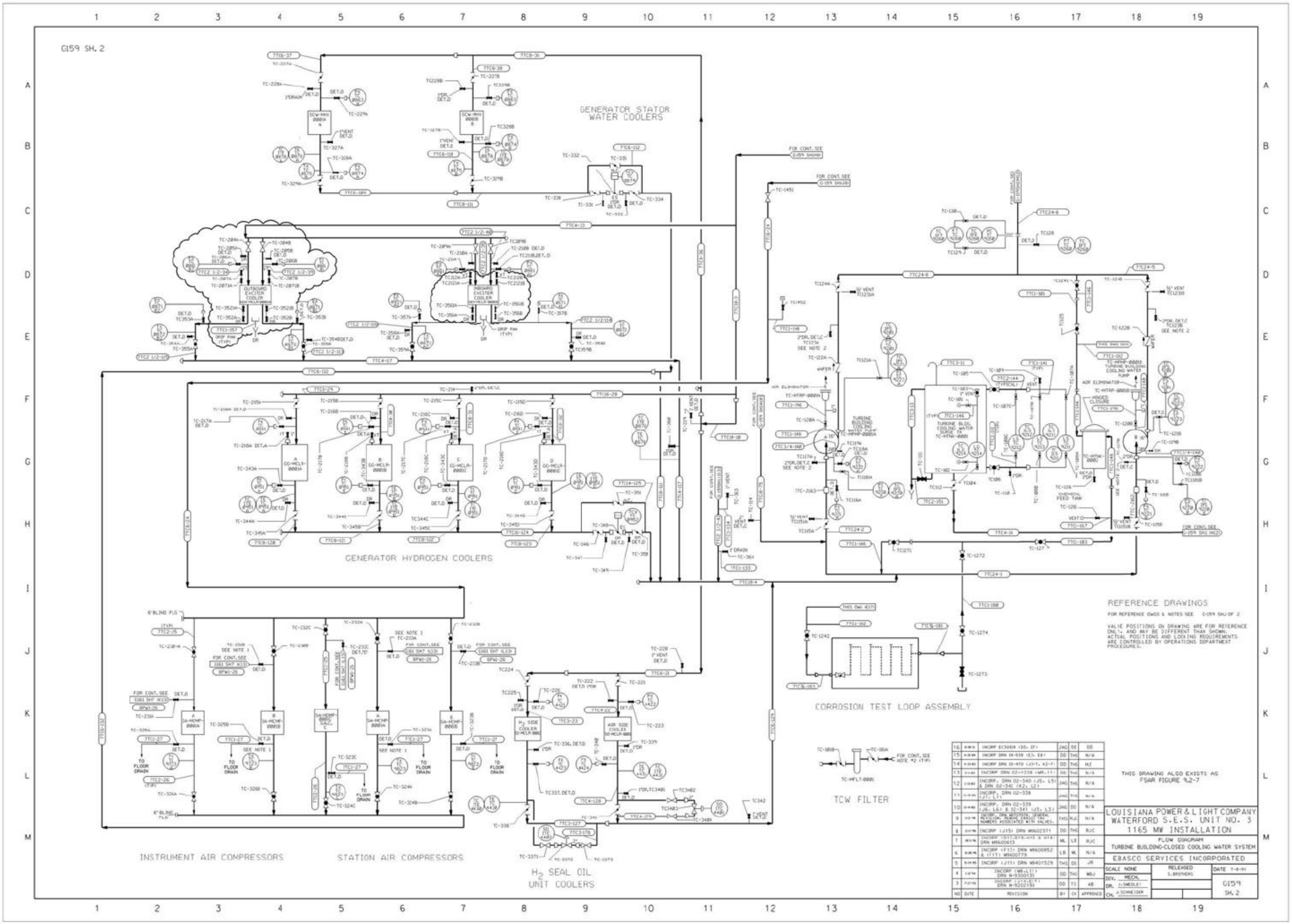
LOUISIANA POWER & LIGHT COMPANY
WATERFORD S.E.S. UNIT NO. 3
1165 MW INSTALLATION

FLOW DIAGRAM
CIRCULATING SERVICE AND INTAKE COOLING WATER SYSTEMS

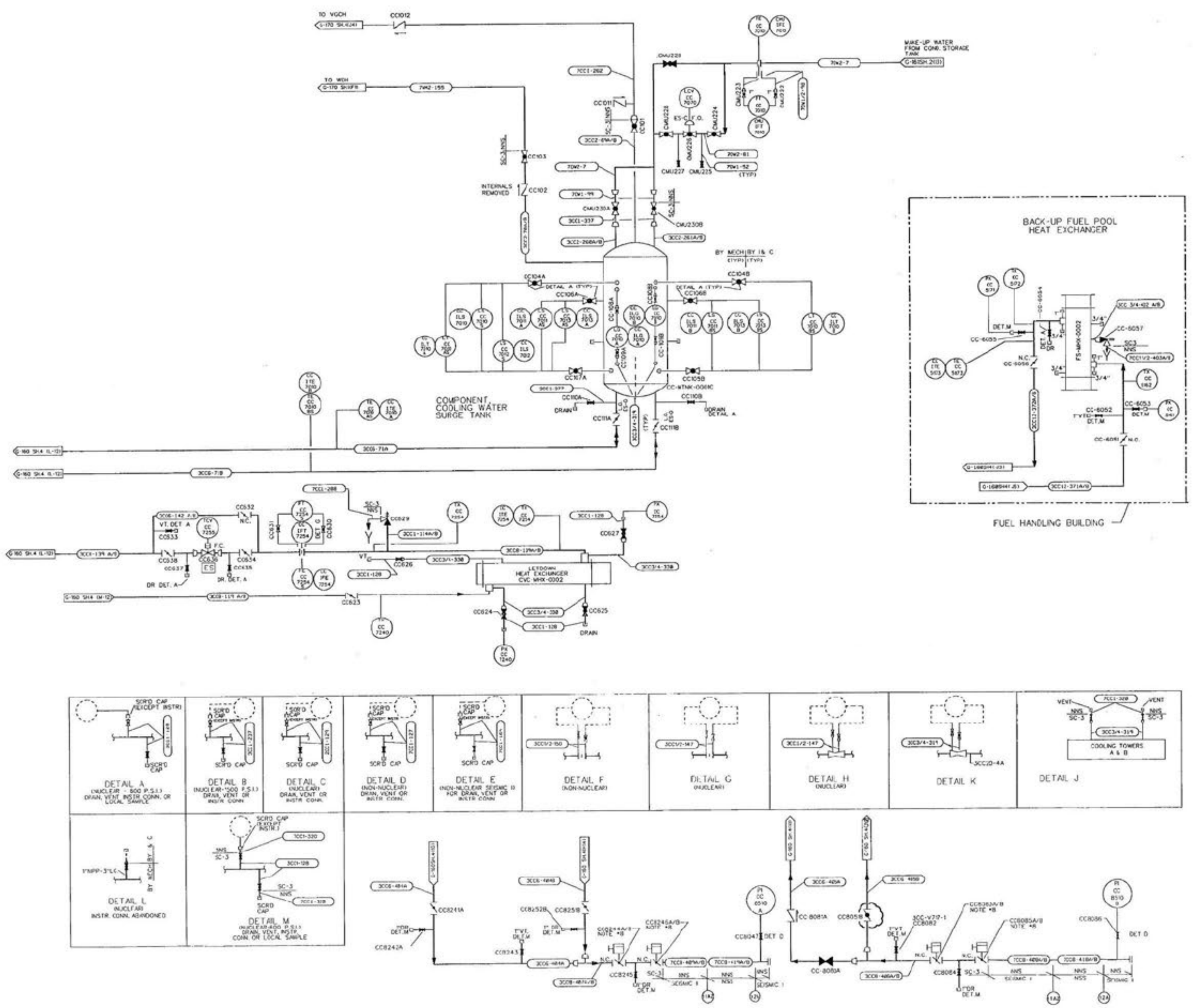
EBASCO SERVICES INCORPORATED

SCALE NONE	RELEASED S.BROTHERS	DATE 7-8-91
DIV. MEDAL		G158
DR. YARRIER		SH. 2
CK. SCHNEIDER		


G159 SH 1
HEATER DRAIN PUMP AND MOTOR COOLERS
TURBINE ELECTRO HYDRAULIC FLUID COOLERS
CONDENSER VACUUM PUMPS HEAT EXCHANGERS
STEAM GENERATOR FEED PUMP TURBINE COOLERS
TURBINE LUBE OIL COOLER
CONDENSATE PUMP MOTORS
TURBINE BUILDING COOLING WATER HEAT EXCHANGERS
DETAIL A
DETAIL B
DETAIL C
DETAIL D
DETAIL E
REFERENCE DRAWINGS
NOTE
THIS DWG. ALSO EXISTS AS FSAR FIGURE 9.2-7
LOUISIANA POWER & LIGHT COMPANY
WATERFORD S.E.S. UNIT NO. 3
1165 MW INSTALLATION
FLOW DIAGRAM
TURBINE BUILDING-CLOSED COOLING WATER SYSTEM
EBASCO SERVICES INCORPORATED
G159
SH. 1


0159 SH. 2
GENERATOR STATOR WATER COOLERS
GENERATOR HYDROGEN COOLERS
CORROSION TEST LOOP ASSEMBLY
REFERENCE DRAWINGS
TCW FILTER
INSTRUMENT AIR COMPRESSORS
STATION AIR COMPRESSORS
H2 SEAL OIL UNIT COOLERS
LOUISIANA POWER & LIGHT COMPANY
WATERFORD S.E.S. UNIT NO. 3
1165 MW INSTALLATION
FLOW DIAGRAM
TURBINE BUILDING-CLOSED COOLING WATER SYSTEM
EBASCO SERVICES INCORPORATED
THIS DRAWING ALSO EXISTS AS FSAR FIGURE 9.2-7

G160 SH1



REFERENCE DRAWINGS

VALVES AND SPECIALITY LIST ———— 5817.074A
PIPING LINE LIST ———— 5817.075A
INSTRUMENT SCHEMATICS AND LOGIC
DIAGRAMS (PIPE VALVE AND INSTRUMENT SYMBOLS) ———— 1564-B-431
INSTRUMENT LIST ———— 1564-B-434

NOTES:

1. SAFETY CLASS 2 AND 3 PIPING IS SEISMIC CLASS I
2. ALL LOCAL INSTRUMENTATION TO BE LOCATED OUTSIDE RADIATION SHIELDED AREAS.
3. • DENOTES EQUIPMENT SUPPLIED BY VENDOR
4. S.C.-SAFETY CLASS
5. EQUIPMENT IDENTIFIED WITH THE FOLLOWING CODE LETTERS REQUIRE CLASS IE POWER SOURCE.
   CODE:
   SA SB SAB — A.C. POWER SOURCE FROM CHANNEL SA, SB OR SAB RESPECTIVELY.
   SA DC, SB DC, SAB DC — D.C. POWER SOURCE FROM CHANNEL SA, SB OR SAB RESPECTIVELY
6. THE C.E.D.M. COOLERS AND RADIATION MONITORS ARE NON-NUCLEAR SAFETY, SEISMIC CLASS I
7. THE CONDENSATE STORAGE POOL AND LINER IS CLASSIFIED AS A STRUCTURE AND THEREFORE NOT ASSIGNED A SAFETY CLASS, BUT IS DESIGNED AND CONSTRUCTED AS SEISMIC CATEGORY 1 UNDER THE 10 CFR 50 APPENDIX B REQUIREMENTS. THE LINER AND NOZZLES ARE CONSTRUCTED TO ASME SECTION VIII CODE REQUIREMENTS USING ASME SECTION II MATERIALS.
8. VALVE OPERATORS FOR CC8083 A/B, CC8085A/B, CC8244A/B AND CC8246A/B AT COORD. L8, 9, 12 & 13 ARE NOT CONNECTED TO EITHER AIR OR ELECTRICAL POWER SOURCES.
9. VALVE POSITIONS ON DRAWING ARE FOR REFERENCE ONLY, AND MAY BE DIFFERENT THAN SHOWN. ACTUAL POSITIONS AND LOCKING REQUIREMENTS ARE CONTROLLED BY OPERATIONS DEPARTMENT PROCEDURES.

NUCLEAR SAFETY RELATED

THIS DRAWING ALSO EXISTS AS FSAR FIGURE 9.2-1 SH

ENTERGY

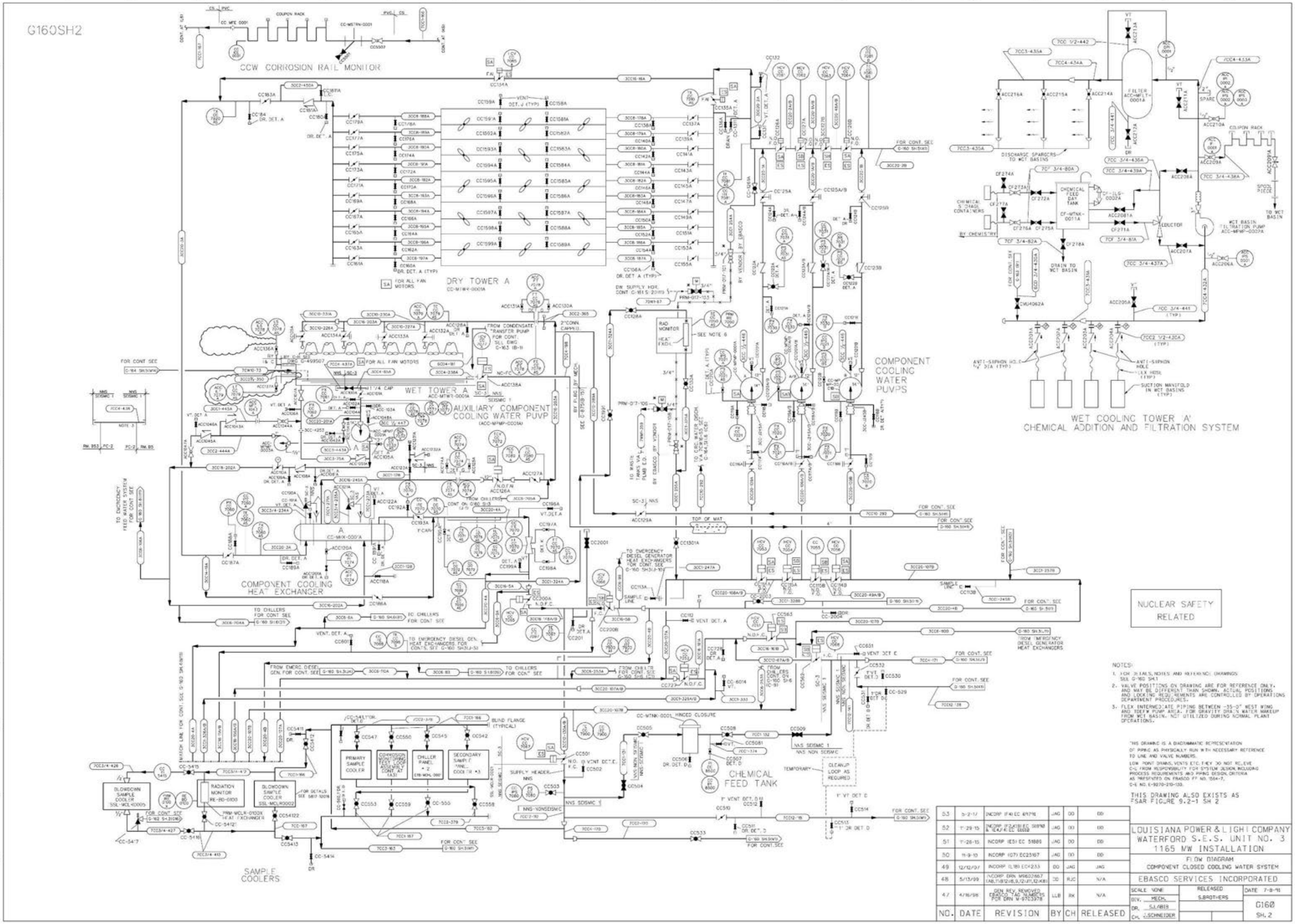
WATERFORD S.E.S. UNIT NO. 3
1165 MW INSTALLATION

FLOW DIAGRAM
COMPONENT CLOSED COOLING WATER SYSTEM

NO.	DATE	REVISION DESCRIPTION	BY	CH	APPROVED
50	[illegible]	INCORP (MI) EC75061	JAD	RAS	RAS
49	[illegible]	INCORP (F8,I3) DRN M9602866	DD	RJC	N/A
48	[illegible]	INCORP (M11,L12) DRN M96000?7	DD	RJC	KEN

SCALE: NONE | APPROVED S. BROTHERS | DATE: 7-8-91
DEPT. MECH.
DR. K. BARBER
CH. J. SCHNEIDER
NONE

G160
SH. 1



NOTES:

1. FOR DETAILS, NOTES AND REFERENCE DRAWINGS SEE G-160 SH.1
2. VALVE POSITIONS ON DRAWING ARE FOR REFERENCE ONLY, AND MAY BE DIFFERENT THAN SHOWN. ACTUAL POSITIONS AND LOCKING REQUIREMENTS ARE CONTROLLED BY OPERATIONS DEPARTMENT PROCEDURES.
3. FLEX INTERMEDIATE PIPING BETWEEN -35-0" WEST WING AND TDEFW PUMP AREA. FOR GRAVITY DRAIN WATER MAKEUP FROM WCT BASIN. NOT UTILIZED DURING NORMAL PLANT OPERATIONS.

THIS DRAWING IS A DIAGRAMMATIC REPRESENTATION OF PIPING AS PHYSICALLY RUN WITH NECESSARY REFERENCE TO LINE AND VALVE NUMBERS.

LOW POINT DRAINS, VENTS ETC. THEY DO NOT RELIEVE C-E FROM RESPONSIBILITY FOR SYSTEM DESIGN, INCLUDING PROCESS REQUIREMENTS AND PIPING DESIGN CRITERIA AS PRESENTED ON EBASCO FF NO. 1564-7, C-E NO. E-9270-210-130.

THIS DRAWING ALSO EXISTS AS FSAR FIGURE 9.2-1 SH 2

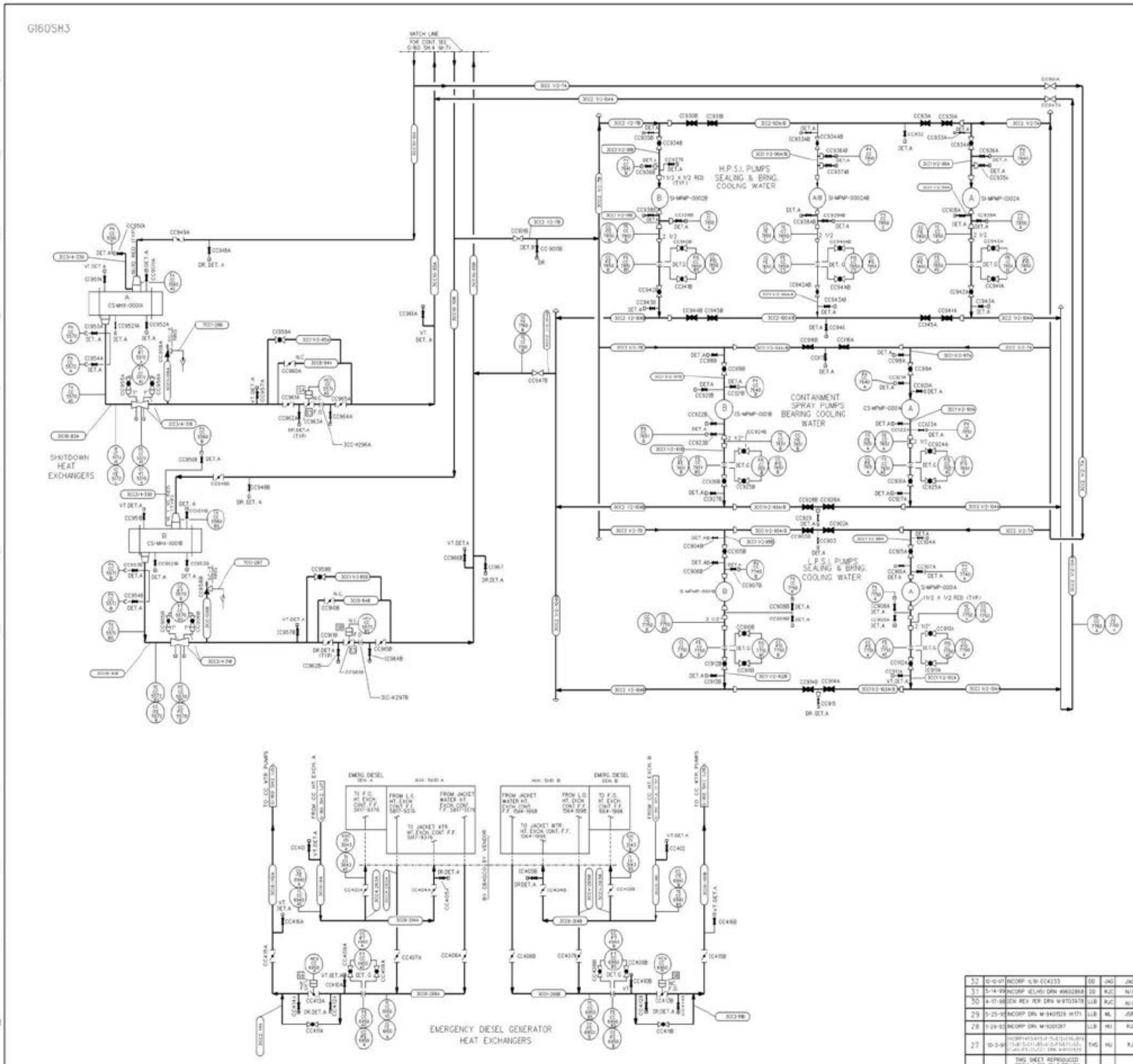
NO.	DATE	REVISION	BY	CH	RELEASED
53	5-2-17	INCORP (F4) EC 69791	JAG	DD	DD
52	1-29-15	INCORP (F2,K18) EC 58990 & (E4,F4) EC 51618	JAG	DD	DD
51	1-26-15	INCORP (E5) EC 51886	JAG	DD	DD
50	11-9-10	INCORP (G7) EC25167	JAG	DD	DD
49	12/12/07	INCORP (L18) EC4233	DD	JAG	JAG
48	5/13/99	INCORP DRN M9602867 (A8,I1-8,I2,I6,9,I2) J11,I2,K8)	DD	RJC	N/A
47	4/16/98	GEN. REV. REMOVED EBASCO TAG NUMBERS PER DRN M-9703978	LLB	RK	N/A

LOUISIANA POWER & LIGHT COMPANY
WATERFORD S.E.S. UNIT NO. 3
1165 MW INSTALLATION

FLOW DIAGRAM
COMPONENT CLOSED COOLING WATER SYSTEM

EBASCO SERVICES INCORPORATED

SCALE NONE | RELEASED S.BROTHERS | DATE 7-8-91
DIV. MECH.
DR. S.LABIB
CH. J.SCHNEIDER
G160 SH. 2



NOTES:
FOR DETAILS, NOTES AND REFERENCE DWGS. SEE G-160 SH.1

NUCLEAR SAFETY RELATED IN PART ONLY

THIS DRAWING IS A DIAGRAMMATIC REPRESENTATION OF PIPING AS PHYSICALLY RUN WITH NECESSARY REFERENCE TO LINE AND VALVE NUMBERS.

LOW POINT DRAINS, VENTS ETC. THEY DO NOT RELIEVE C-E FROM RESPONSIBILITY FOR SYSTEM DESIGN, INCLUDING PROCESS REQUIREMENTS AND PIPING DESIGN, CRITERIA AS PRESENTED ON EBASCO FF NO. 1564-7.

C-E NO. E-9270-210-130.

VALVE POSITIONS ON DRAWING ARE FOR REFERENCE ONLY, AND MAY BE DIFFERENT THAN SHOWN. ACTUAL POSITIONS AND LOCKING REQUIREMENTS ARE CONTROLLED BY OPERATIONS DEPARTMENT PROCEDURES.

THIS DRAWING ALSO EXISTS AS FSAR FIGURE 9.2-1 SH3

NO.	DATE	REVISION	BY	CH	RELEASED
32	10-12-07	INCORP (L9) EC4233	DD	JAG	JAG
31	5-14-99	INCORP (E)(H5) DRN #9602868	DD	RJC	N/A
30	4-17-98	GEN REV PER DRN M-9703978	LLB	RJC	N/A
29	5-25-95	INCORP DRN M-9401529 (K17)	LLB	ML	JSR
28	1-29-93	INCORP DRN M-9201287	LLB	MJ	RJC
27	10-3-9[illegible]	[illegible]	THS	MJ	RJC
26	7-8-91	THIS SHEET REPRODUCED FROM G-160 SH.3 REV.24 DUE TO OVERCROWDING OF SH.3	SL	JCS	SAB

LOUISIANA POWER & LIGHT COMPANY
WATERFORD S.E.S. UNIT NO. 3
1165 MW INSTALLATION

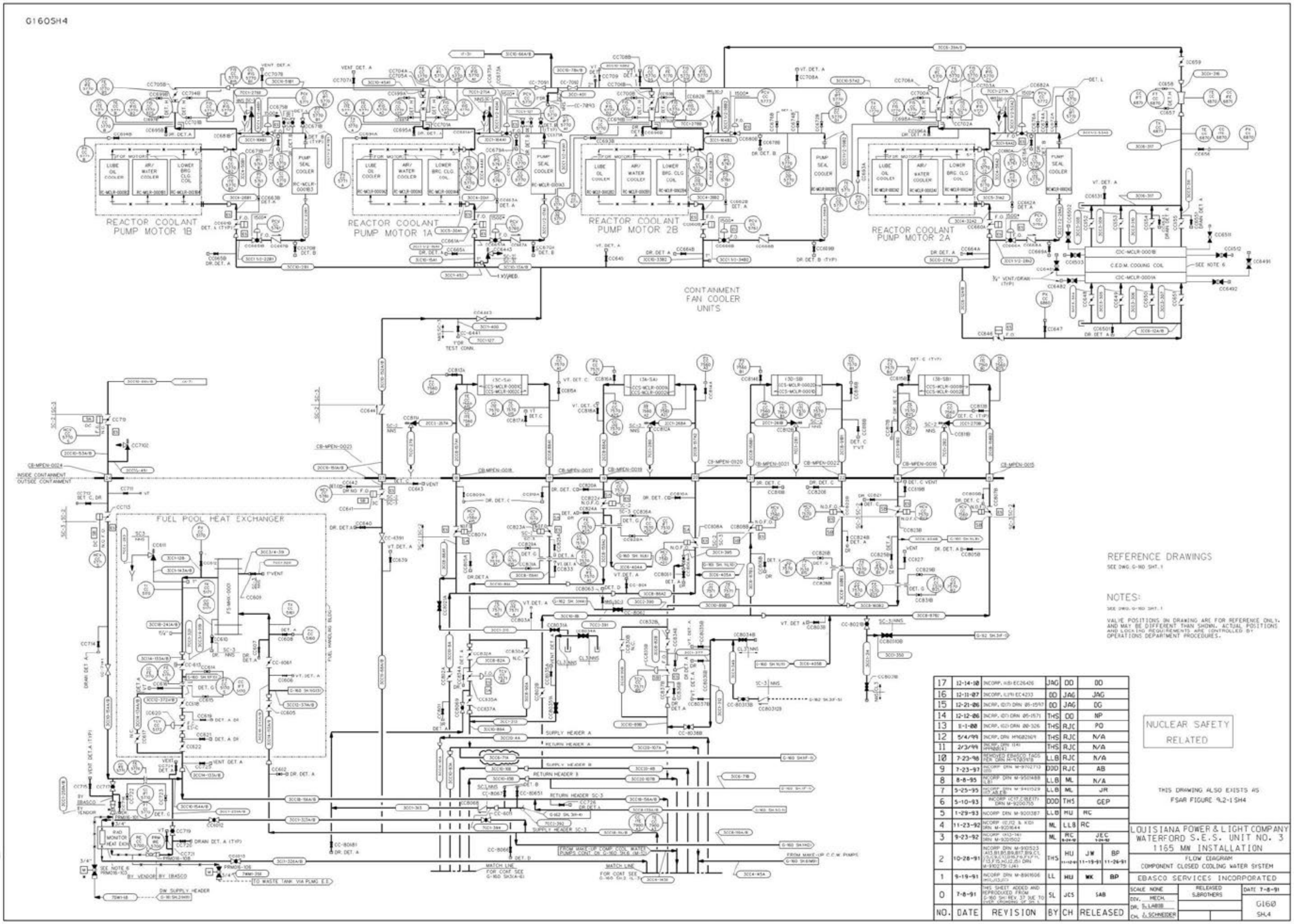
FLOW DIAGRAM
COMPONENT CLOSED COOLING WATER SYSTEM

EBASCO SERVICES INCORPORATED

SCALE NONE | RELEASED S.BROTHERS | DATE 7-8-91
DIV. MECH.
DR. S.LABIB
CH. J.SCHNEIDER

G160
SH. 3

G160SH4



REFERENCE DRAWINGS

SEE DWG. G-160 SHT.1

NOTES:

SEE DWG. G-160 SHT.1

VALVE POSITIONS ON DRAWING ARE FOR REFERENCE ONLY, AND MAY BE DIFFERENT THAN SHOWN. ACTUAL POSITIONS AND LOCKING REQUIREMENTS ARE CONTROLLED BY OPERATIONS DEPARTMENT PROCEDURES.

NUCLEAR SAFETY RELATED

THIS DRAWING ALSO EXISTS AS FSAR FIGURE 9.2-1 SH4

NO.	DATE	REVISION	BY	CH	RELEASED	
17	12-14-10	INCORP. (K8) EC26426	JAG	DD	DD	
16	12-11-07	INCORP. (L9) EC4233	DD	JAG	JAG	
15	12-21-06	INCRP. (D17) DRN 05-1597	DD	JAG	DG	
14	12-12-06	INCRP. (D7) DRN 05-1571	THS	DD	NP	
13	11-1-00	INCRP. (G2) DRN 00-326	THS	RJC	PO	
12	5/4/99	INCRP. DRN M9602169	THS	RJC	N/A	
11	2/3/99	INCRP. DRN (I4) M9900(4)	THS	RJC	N/A	
10	7-23-98	REMOVED EBASCO TAGS PER DRN M-9703978	LLB	RJC	N/A	
9	7-23-97	INCORP DRN M-9702713 (E1)	DDD	RJC	AB	
8	8-8-95	INCORP DRN M-9500488 (L8)	LLB	ML	N/A	
7	5-25-95	INCORP DRN M-9401529 (B7,A8,E8)	LLB	ML	JR	
6	5-10-93	INCORP (C17,C18,E17) DRN M-9200755	DDD	THS	GEP	
5	1-29-93	INCORP DRN M-9201387	LLB	HU	RC	
4	11-23-92	INCORP (I2,J12 & K10) DRN M-9201644	ML	LLB	RC	
3	9-23-92	INCORP (K13-14) DRN M-9201502	ML	RC 9-24-92	JEC 9-24-92	
2	10-28-91	INCORP DRN M-910523 (A13,B1,B5,B9,B17,B19,C1, C5,C9,C13,D16,F6,F9,F11, F13,F15,H3,J2,J5) DRN M-910275 (J4)	THS	HU 11-12-91	JW 11-19-91	BP 11-26-91
1	9-19-91	INCORP DRN M-890606 (H11,J13,J17)	LL	HU	WK	BP
0	7-8-91	THIS SHEET ADDED AND REPRODUCED FROM G-160 SH1 REV. 37 DUE TO OVER CROWDING OF SH. 1	SL	JCS	SAB	

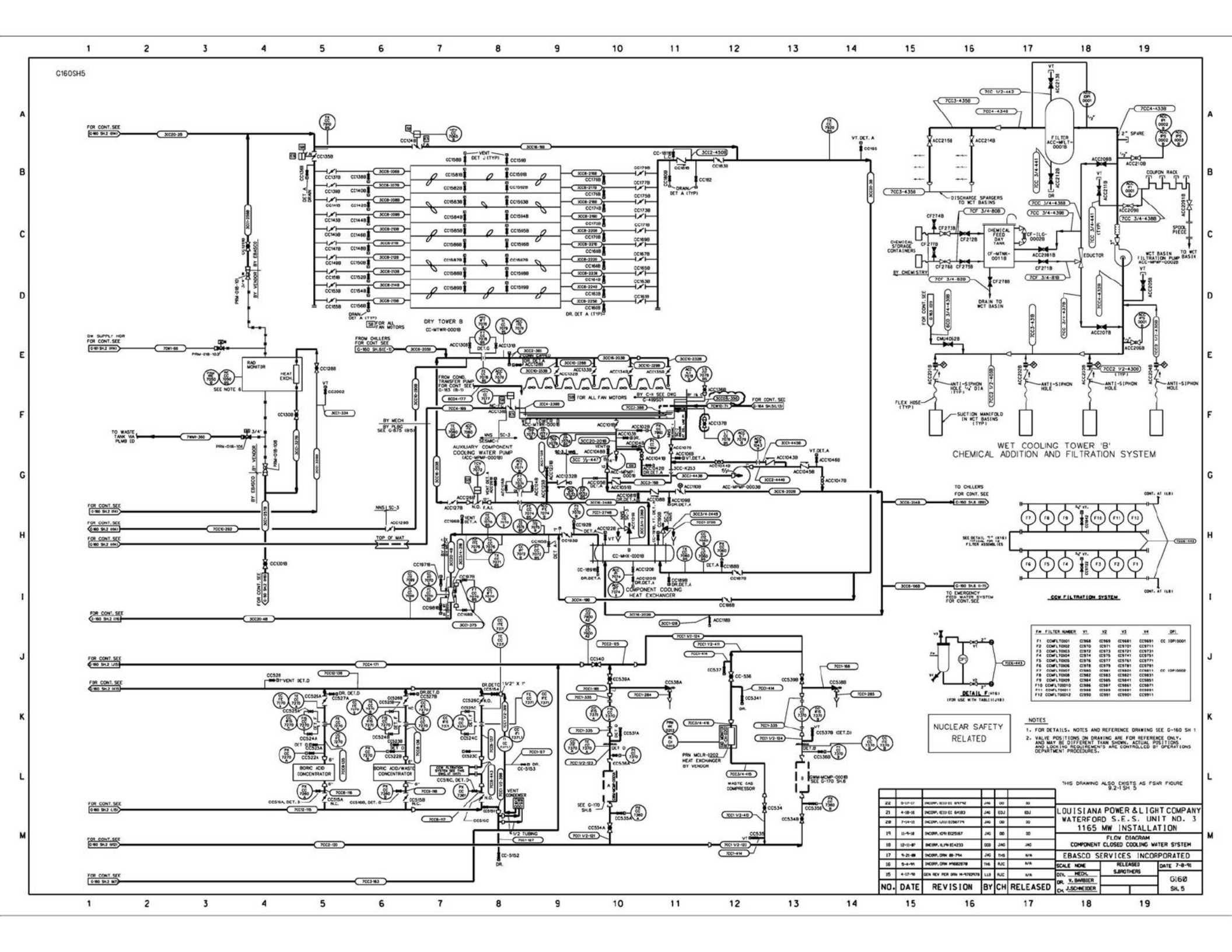
LOUISIANA POWER & LIGHT COMPANY
WATERFORD S.E.S. UNIT NO. 3
1165 MW INSTALLATION

FLOW DIAGRAM
COMPONENT CLOSED COOLING WATER SYSTEM

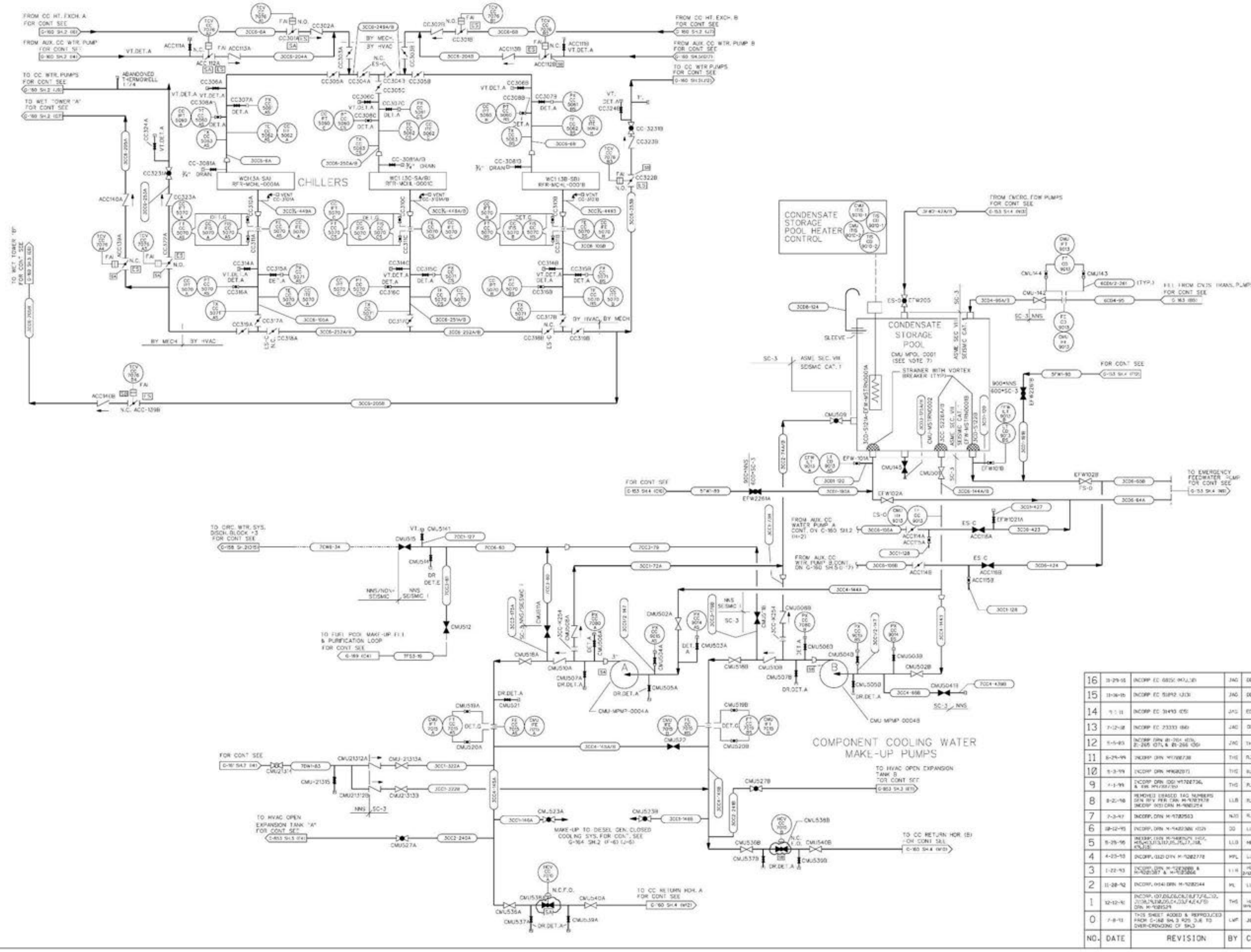
EBASCO SERVICES INCORPORATED

SCALE NONE | RELEASED S.BROTHERS | DATE 7-8-91
DIV. MECH.
DR. S. LABOB
CH. J. SCHNEIDER

G160
SH.4


G160SH5
WET COOLING TOWER 'B'
CHEMICAL ADDITION AND FILTRATION SYSTEM
CCW FILTRATION SYSTEM
DETAIL 'F'
NUCLEAR SAFETY RELATED
NOTES
1. FOR DETAILS, NOTES AND REFERENCE DRAWING SEE G-160 SH 1
2. VALVE POSITIONS ON DRAWING ARE FOR REFERENCE ONLY, AND MAY BE DIFFERENT THAN SHOWN. ACTUAL POSITIONS AND LOCKING REQUIREMENTS ARE CONTROLLED BY OPERATIONS DEPARTMENT PROCEDURES.
THIS DRAWING ALSO EXISTS AS FSAR FIGURE 9.2-1 SH 5
LOUISIANA POWER & LIGHT COMPANY
WATERFORD S.E.S. UNIT NO. 3
1165 MW INSTALLATION
FLOW DIAGRAM
COMPONENT CLOSED COOLING WATER SYSTEM
EBASCO SERVICES INCORPORATED
SCALE NONE
RELEASED
DATE 7-8-91
DIV. MECH.
DR. Y. BARBIER
CH. J. SCHNEIDER
S.BROTHERS
G160
SH. 5
NO. DATE REVISION BY CH RELEASED

G160 SHEET 6



NOTES:

FOR DETAILS, NOTES AND REFERENCE DWGS SEE G160 SH.1

VALVE POSITIONS ON DRAWING ARE FOR REFERENCE ONLY, AND MAY BE DIFFERENT THAN SHOWN. ACTUAL POSITIONS AND LOCKING REQUIREMENTS ARE CONTROLLED BY OPERATIONS DEPARTMENT PROCEDURES.

NUCLEAR SAFETY RELATED

THIS DRAWING ALSO EXISTS AS FSAR FIGURE 9.2-1 SH 6

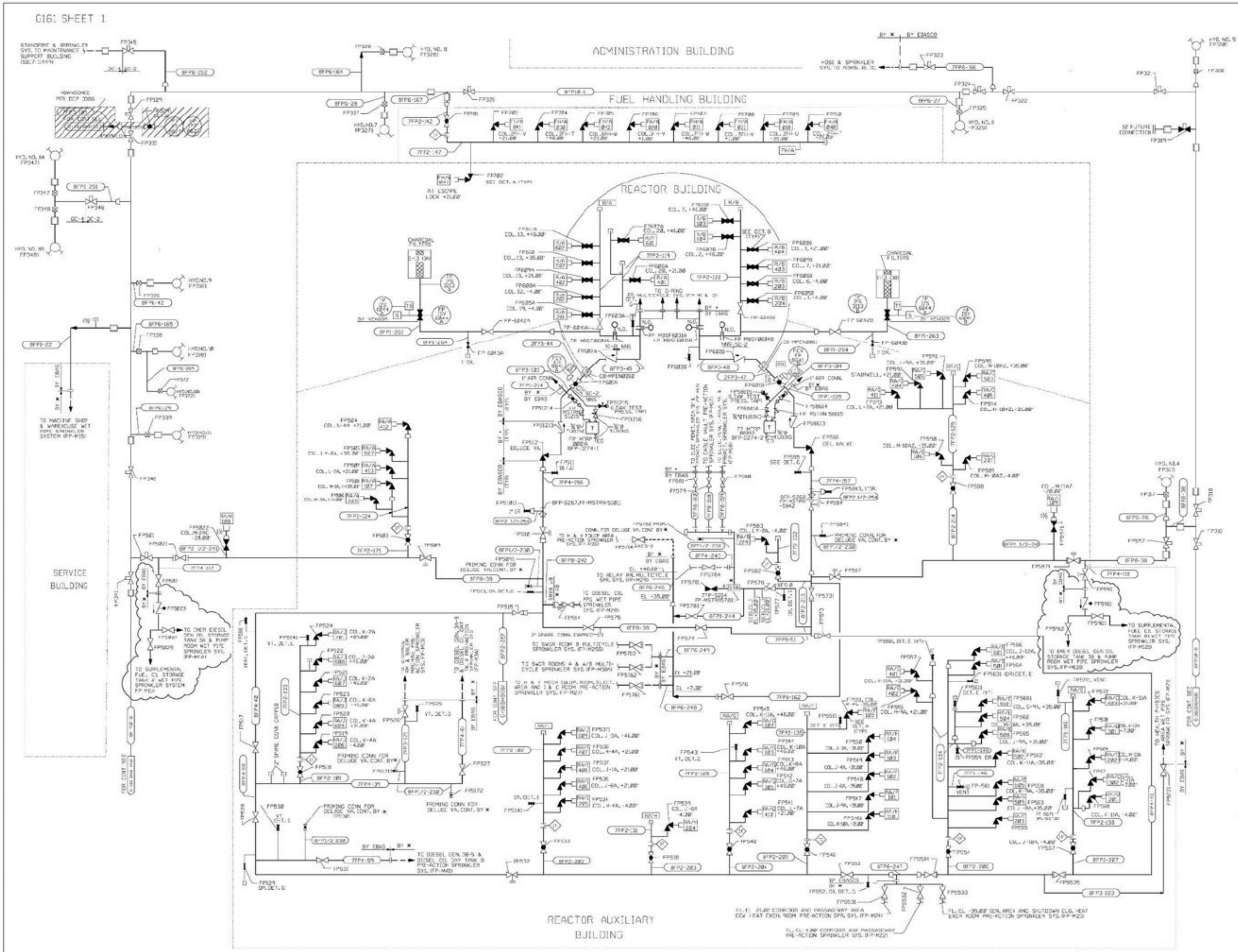
NO.	DATE	REVISION	BY	CH	RELEASED
16	10-29-15	INCORP EC 6815C (M7,L10)	JAG	DD	DD
15	11-30-15	INCORP EC 51892 (J13)	JAG	DD	DD
14	9-1-11	INCORP EC 31493 (C5)	JAG	EDJ	EDJ
13	7-12-08	INCORP EC 23333 (B6)	JAG	DD	DD
12	5-5-03	INCORP DRN 01-264 (D3), 01-265 (D7), & 01-266 (D6)	JAG	THS	MJ
11	6-29-99	INCORP DRN 9700738	THS	RJC	TH
10	5-3-99	INCORP DRN M9802071	THS	RJC	N/A
9	4-1-99	INCORP DRN (DG) 9700736, & [illegible]	THS	RJC	TH
8	8-21-98	REMOVED EBASCO TAG NUMBERS GEN REV PER DRN M-9703978 INCORP (K5) DRN M-9801254	LLB	RJC	KTK
7	7-3-97	INCORP. DRN M-9700563	NJO	RJC	DEP
6	10-12-95	INCORP. DRN M-9400306 (I12)	DD	LLB	N/A
5	5-25-95	INCORP. DRN M-9400525 [illegible]	LLB	MPL	JR
4	4-23-93	INCORP. (I12) DRN M-9202778	MPL	LLB	PPD
3	1-22-93	INCORP. DRN M-9203088 & M-9201387 & M-9203066	LLB	HU 2/02/93	RC 2/03/93 JEC 2/17/93
2	11-20-92	INCORP. (H14) DRN M-9202144	ML	LLB	RJC
1	12-12-91	INCORP. (D7,D5,D6,C8,E8,F7,F6,J12, J13,I8,J9,I10,D5,C4,D3,F4,E4,F9) DRN M-9101529	THS	HU	JW BF
0	7-8-91	THIS SHEET ADDED & REPRODUCED FROM G-160 SH.3 R25 DUE TO OVER-CROWDING OF SH.3	LWF	JCS	SAD

LOUISIANA POWER & LIGHT COMPANY
WATERFORD S.E.S. UNIT NO. 3
1165 MW INSTALLATION

FLOW DIAGRAM
COMPONENT CLOSED COOLING WATER SYSTEM

EBASCO SERVICES INCORPORATED

SCALE NONE	RELEASED S.BROTHERS	DATE 7-8-91
DIV. MECH.		G160 SH. 6
DR. L.FISCHER		
CH. J.SCHNEIDER		



NOTE

1. POTABLE WATER INFORMATION PREVIOUSLY ON THIS DRAWING HAS BEEN TRANSFERRED TO G161SH7.
2. +00.00' DENOTES HOSE CONNECTION AT FLOOR LEVEL INDICATED.
3. ALL HOSE CONNECTIONS DETAIL 'A' UNLESS OTHERWISE NOTED.
4. ALL SHUTOFF VALVES AT HOSE CONNECTIONS DET.A SEE G061SH5 ARE ANGLE TYPE GLOBE VALVES.
5. VALVE POSITIONS ON DRAWING ARE FOR REFERENCE ONLY, AND MAY BE DIFFERENT THAN SHOWN. ACTUAL POSITIONS AND LOCKING REQUIREMENTS ARE CONTROLLED BY OPERATIONS DEPARTMENT PROCEDURES.

REFERENCE DRAWINGS

VALVE & SPECIALTIES LIST --------5817,8748
PIPING LINE LIST ---------------5817,8758
INSTRUMENT SCHEMATICS AND LOGIC DIAGRAMS (PIPE, VALVES AND INSTRUMENT SYMBOLS)------ 1564-B-431
INSTRUMENT LIST --------------1564-B-434

LEGEND

- -INSULATING FLANGE
- -BY VENDOR
- -HOSE CONNECTION
- -CURB BOX CONTROL VALVE
- -STRAIN RELIEF CPLG (DRESSER MFG)
- -FIRE HYDRANT

NUCLEAR SAFETY RELATED IN PART ONLY

THIS DRAWING AS ALSO EXISTS AS FSAR FIGURE 9.5.1-1 SH2

NO.	DATE	REVISION	BY	CH	APPROVED
39	[illegible]	INCORP EC 46755 (I2) & EC46756 (H14)	JAG	RAS	RAS
38	[illegible]	INCORP EC 52491 (C7)	JAG	DC	DD
37	[illegible]	INCORP EC 23546 (D9,I11)	JAG	DC	DD
36	[illegible]	INCORP EC 23189 (G2)	JAG	DC	DD
35	[illegible]	INCORP DRN D6-878 (H7,H8,G9,L12,J16)	DD	JAG	N/A
34	[illegible]	INCORP. DRN D6-538 (VALVE DESIGNATION DELETIONS)	DD	JAG	N/A
33	[illegible]	INCORP. DRN C6-577 (J14)	JAG	THS	N/A
32	[illegible]	INCORP. DRN (D6,D11,D12) M9700636 & M9705519, GENERAL REVISION, REMOVE ERASED TAG NUMBERS ASSOCIATED WITH VALVES.	[illegible]	[illegible]	[illegible]
31	[illegible]	INCORP DRN M-9602090 (L3,I7,J7)	LLB		
30	[illegible]	INCORP DRN M-9600858 (H5)	DDD	THS	N/A
29	[illegible]	INCORP DRN M-9600829 (E3)	THS	DD	N/A
28	[illegible]	INCORP DRN M-9500713(C3,J2)	LLB	ML	GEP
27	[illegible]	INCORP (F10) DRN M9600600	THS	DDD	P. OLA
26	[illegible]	INCORP (E3) DRN M-9500618	ML	LLB	G. PAYNE
25	[illegible]	INCORP. DRN M-9403141 (A1-3,C1,C2)	THS	DDD	G. PAYNE
24	[illegible]	INCORP. DRN M-9307102(A2) & M-9401529(D6-8,10,11,G18)	LLB	ML	G. PAYNE J. REESE

LOUISIANA POWER & LIGHT COMPANY
WATERFORD S.E.S. UNIT NO. 3
1165 MW INSTALLATION

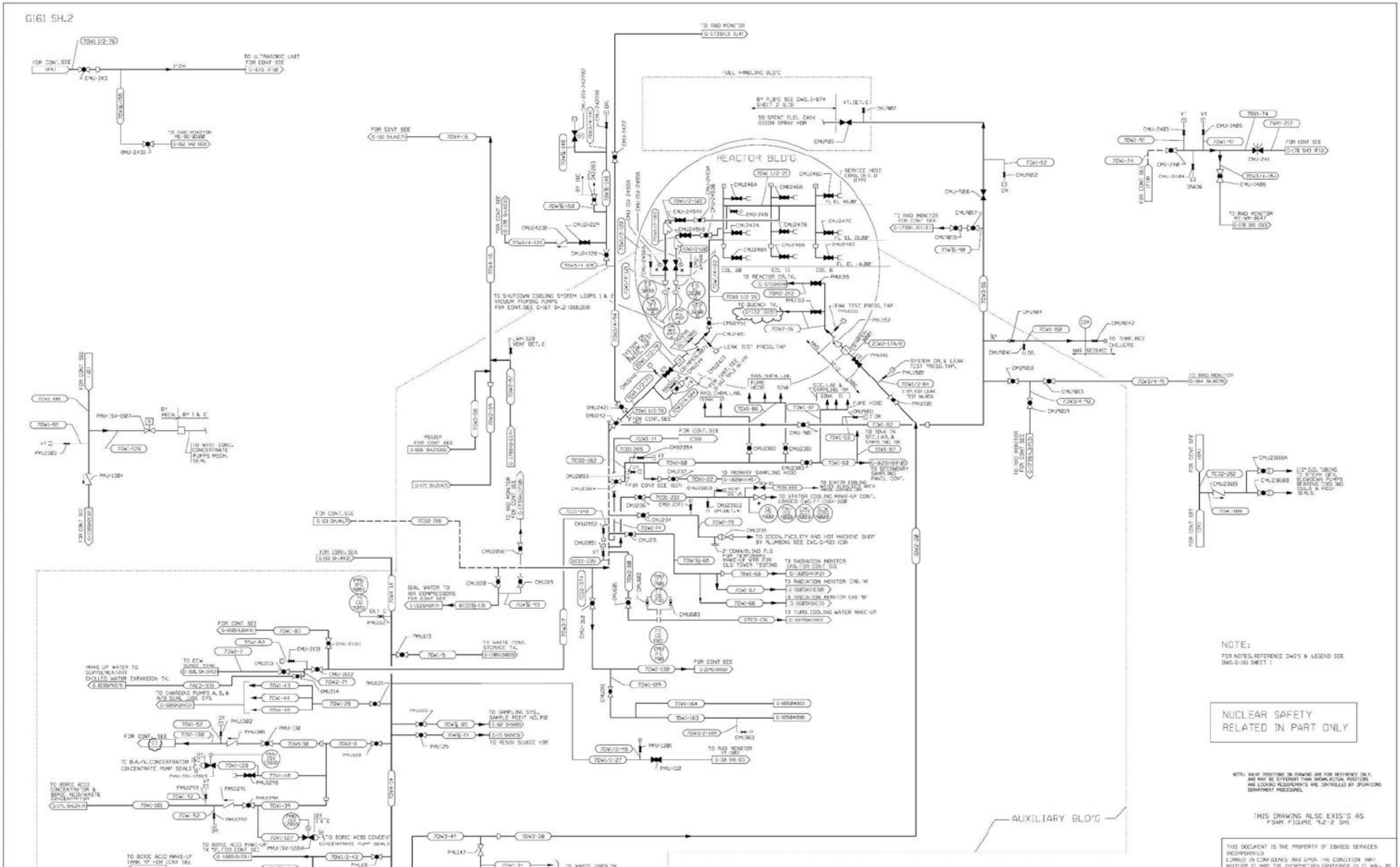
FLOW DIAGRAM
FIRE, MAKE-UP & DOMESTIC WATER SYSTEMS

EBASCO SERVICES INCORPORATED

SCALE NONE | RELEASED | DATE 7-8-91
DIV. MECH.
DR. J.SMEDLEY | S.BROTHERS
CH. J.SCHNEIDER

G161 SH.1

G161 SH.2



NOTE:
FOR NOTES, REFERENCE DWG'S & LEGEND SEE DWG. G-161 SHEET 1

NUCLEAR SAFETY RELATED IN PART ONLY

NOTE: VALVE POSITIONS ON DRAWING ARE FOR REFERENCE ONLY, AND MAY BE DIFFERENT THAN SHOWN. ACTUAL POSITIONS AND LOCKING REQUIREMENTS ARE CONTROLLED BY OPERATIONS DEPARTMENT PROCEDURES.

THIS DRAWING ALSO EXISTS AS FSAR FIGURE 9.2-2 SH1

NO.	DATE	REVISION DESCRIPTION	BY	CH	APPROVED
41	[illegible]	INCORP. [illegible]	DD	JAG	JAG
40	[illegible]	INCORP. [illegible] EC58779	JAG	DC	DJ
39	[illegible]	INCORP. [illegible]	JAG	DC	MJ
38	[illegible]	INCORP. [illegible] DRN 85-665	JAG	HS	JR
37	[illegible]	INCORP. [illegible] DRN 89-1108	JAG	HS	JR
36	[illegible]	INCORP. [illegible] DRN 89-95	DD	HS	N/A
35	[illegible]	INCORP. DRN [illegible]	LLB	RJC	N/A
34	[illegible]	INCORP. DRN [illegible] GENERAL REVISION, REMOVE EBASCO TAG NUMBERS ASSOCIATED WITH VALVES.	THS	RJC	N/A

NO.	DATE	REVISION	BY	CH	RELEASED
33	5-15-95	INCORP. DRN (18) M-9500807	LLB	ML	GEP
32	2-13-95	INCORP. DRN [illegible]	[illegible]	[illegible]	N/A
31	11-1-94	INCORP. (B3, B18, C17, C9, E12, H9, I12 & K7)) DRN'S M-9101529 & M-9401956	ML	LB	TH
30	2-1-93	INCORP. DRN M-9200[illegible] & M-9201387	LB	[illegible]	RC JW
29	9-22-92	INCORP. (F13) M-9201614	ML	RC	AJ
28	8-7-91	INCORP DRN M-8901661 (L8-M9, D8, C8, D8, F8 G23), M-8902463 (E15), M-8900169 (A7, J7, K21), M-9002288 (C11) M-9002514	LL	[illegible]	JW / SP
27	7-8-91	THIS SHEET REPRODUCED FROM G-161 SH.2 REV.26 DUE TO OVER CROWDING OF SH.2	JS	JCS	SAD

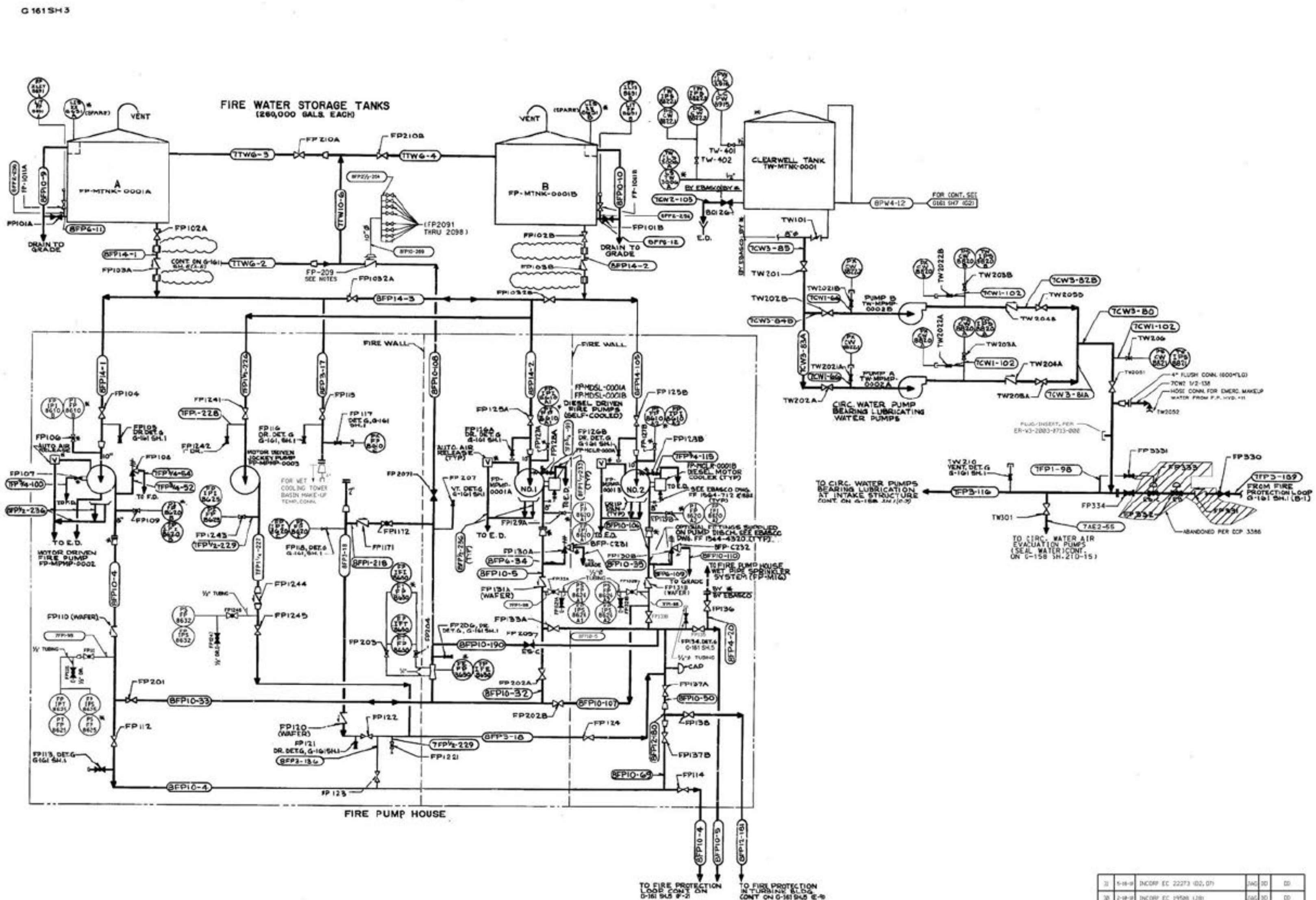
LOUISIANA POWER & LIGHT COMPANY
WATERFORD S.E.S. UNIT NO. 3
1165 MW INSTALLATION

FLOW DIAGRAM
MAKEUP AND DOMESTIC WATER SYSTEMS

EBASCO SERVICES INCORPORATED

SCALE NONE
DIV. MECH.
DR. J. SMEDLEY
CH. J. SCHNEIDER
RELEASED S. BROTHERS
DATE 7-8-91
G161
SH. 2

G 161 SH 3



NOTE

FOR NOTES, REFERENCE DRAWINGS AND LEGEND SEE DWG. G-161 SHEET 1.

VALVE POSITIONS ON DRAWING ARE FOR REFERENCE ONLY, AND MAY BE DIFFERENT THAN SHOWN. ACTUAL POSITIONS AND LOCKING REQUIREMENTS ARE CONTROLLED BY OPERATIONS DEPARTMENT PROCEDURES.

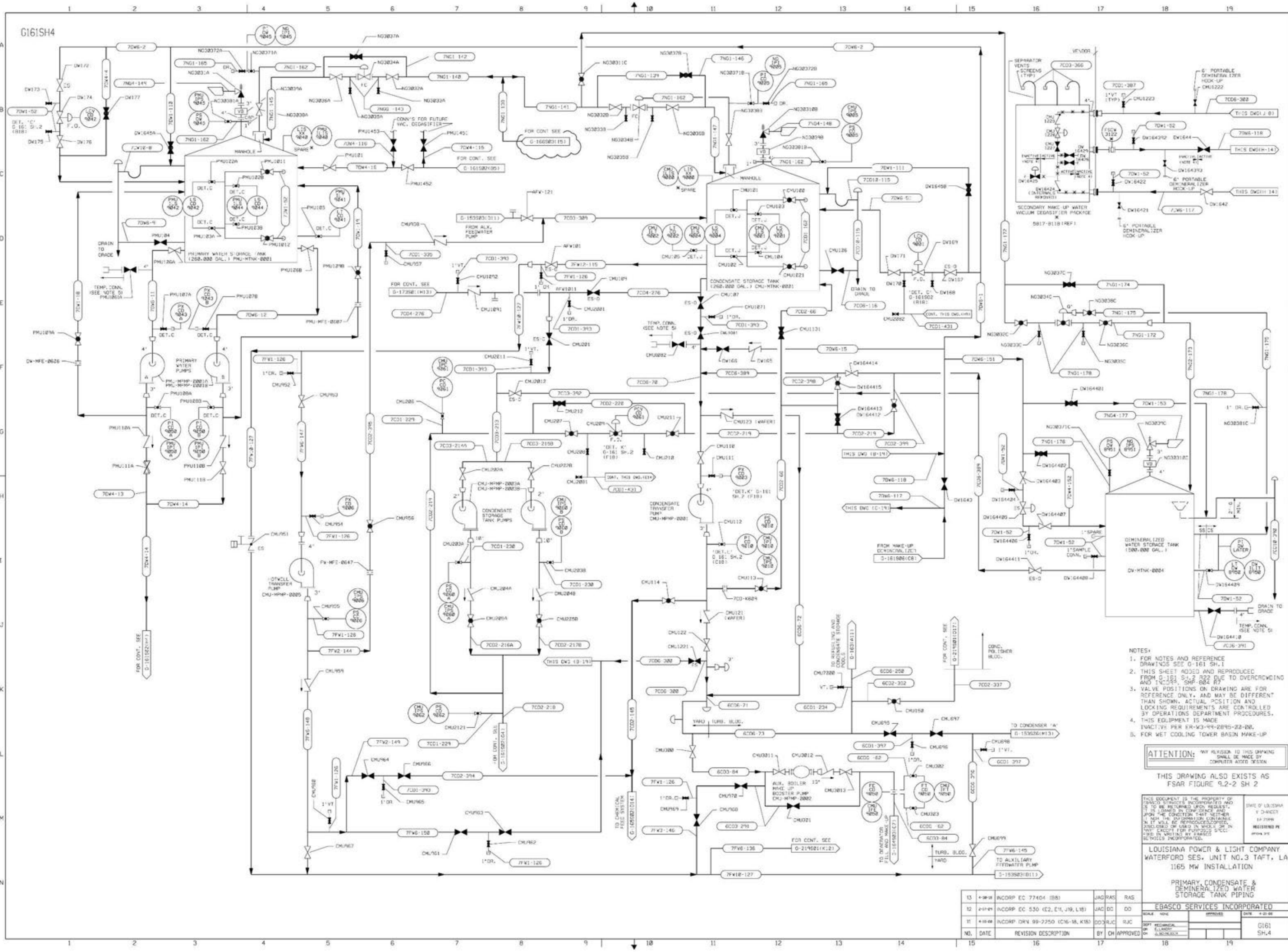
INTERNALS OF VALVE BFP-198 HAVE BEEN REMOVED.

THIS DRAWING ALSO EXISTS AS FSAR FIGURE 9.5.1-1, SH. 1

THIS DWG INCORPORATES: (E4) FCR-MP-2442; (H5) DCN-MP-1693R1; (E15) DCN-MP-722. ADDED: (GENERAL) LP&L UNID NUMBERS.

NO.	DATE	REVISION DESCRIPTION	BY	CH	APPROVED
31	5-16-91	INCORP EC 22273 (D2, D7)	JAG	DD	DD
30	2-10-10	INCORP EC 19500 (J8)	JAG	DD	DD
29	2-17-09	INCORP EC 530	JAG	DD	DD
28	6-29-06	INCORP DRN 06-539 (GEN REV. TO REMOVE SYS. DESIGN NO.'S)	DD	JAG	N/A
27	10-14-03	INCORP (G14) DRN 03-1927	DD	THS	N/A
26	3/7/98	INCORP. DRN M9803978 (GENERAL REVISION REMOVE EBASCO TAG * NUMBERS ASSOCIATED W/VALVES) & M9802631 (C3C6)	THS	[illegible]	TH
25	[illegible]	INCORP. DRN M-9602397 (D7, D8)	LLB	ML	RJC
24	[illegible]	INCORP. DRN M-9302081 (J8) AND DRN M-9400609 (J3, J8, K5)	DD	LLB	TH
23	[illegible]	INCORP. DRN M-9500944 (C5, D5, J19)	LLB	ML	N/A
22	[illegible]	INCORP. (E15, & G15) DRN M-9301103 (H18) DRN M-9401529 & M-9400992 (I5, D8)	LLB	ML	TH

ENTERGY	WATERFORD S.E.S. UNIT NO. 3 1165 MW INSTALLATION
FLOW DIAGRAM FIRE, MAKE-UP & DOMESTIC WATER SYSTEMS	
SCALE: NONE	APPROVED
DATE: 9-26-83	
DEPT. MECH. DR. C. KING CK. A. VIRGO	JOHN P. EVANS JJH JJH JAJ BWF
G161 SH. 3	


G161SH4
PRIMARY WATER STORAGE TANK (260,000 GAL.) PMU-MTNK-0001
CONDENSATE STORAGE TANK (260,000 GAL.) CMU-MTNK-0001
DEMINERALIZED WATER STORAGE TANK (500,000 GAL.)
DW-MTNK-0004
SECONDARY MAKE-UP WATER VACUUM DEGASIFIER PACKAGE
PRIMARY WATER PUMPS
CONDENSATE STORAGE TANK PUMPS
CONDENSATE TRANSFER PUMP CMU-MPMP-0001
AUX. BOILER MAKE UP BOOSTER PUMP CMU-MPMP-0002
TO CONDENSER 'A'
TO AUXILIARY FEEDWATER PUMP
NOTES:
1. FOR NOTES AND REFERENCE DRAWINGS SEE G-161 SH.1
2. THIS SHEET ADDED AND REPRODUCED FROM G-161 SH.2 R22 DUE TO OVERCROWDING AND INCORP. SMP-004 R7
3. VALVE POSITIONS ON DRAWING ARE FOR REFERENCE ONLY, AND MAY BE DIFFERENT THAN SHOWN. ACTUAL POSITION AND LOCKING REQUIREMENTS ARE CONTROLLED BY OPERATIONS DEPARTMENT PROCEDURES.
4. THIS EQUIPMENT IS MADE INACTIVE PER ER-W3-99-2095-00-00.
5. FOR WET COOLING TOWER BASIN MAKE-UP
ATTENTION: ANY REVISION TO THIS DRAWING SHALL BE MADE BY COMPUTER AIDED DESIGN
THIS DRAWING ALSO EXISTS AS FSAR FIGURE 9.2-2 SH 2
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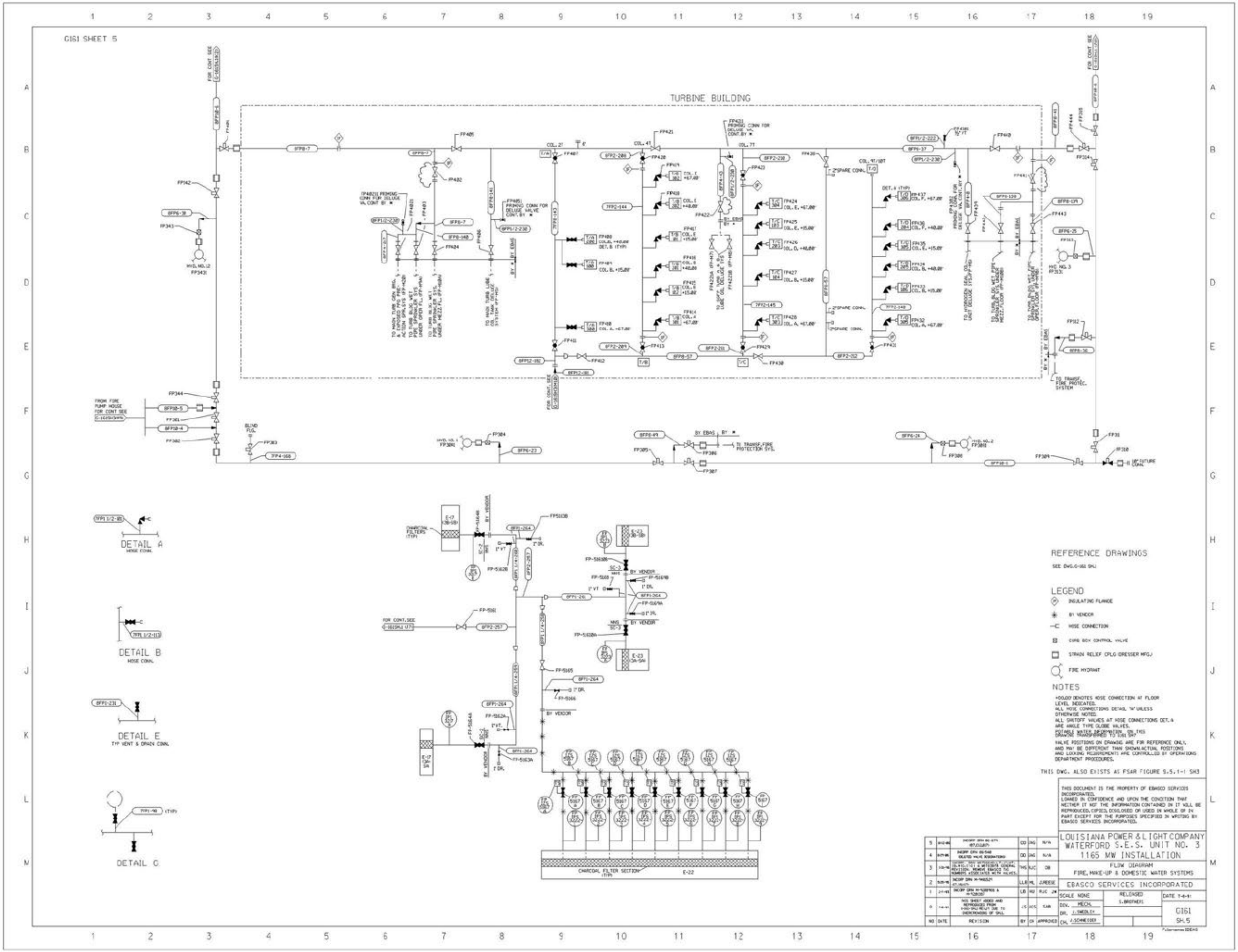
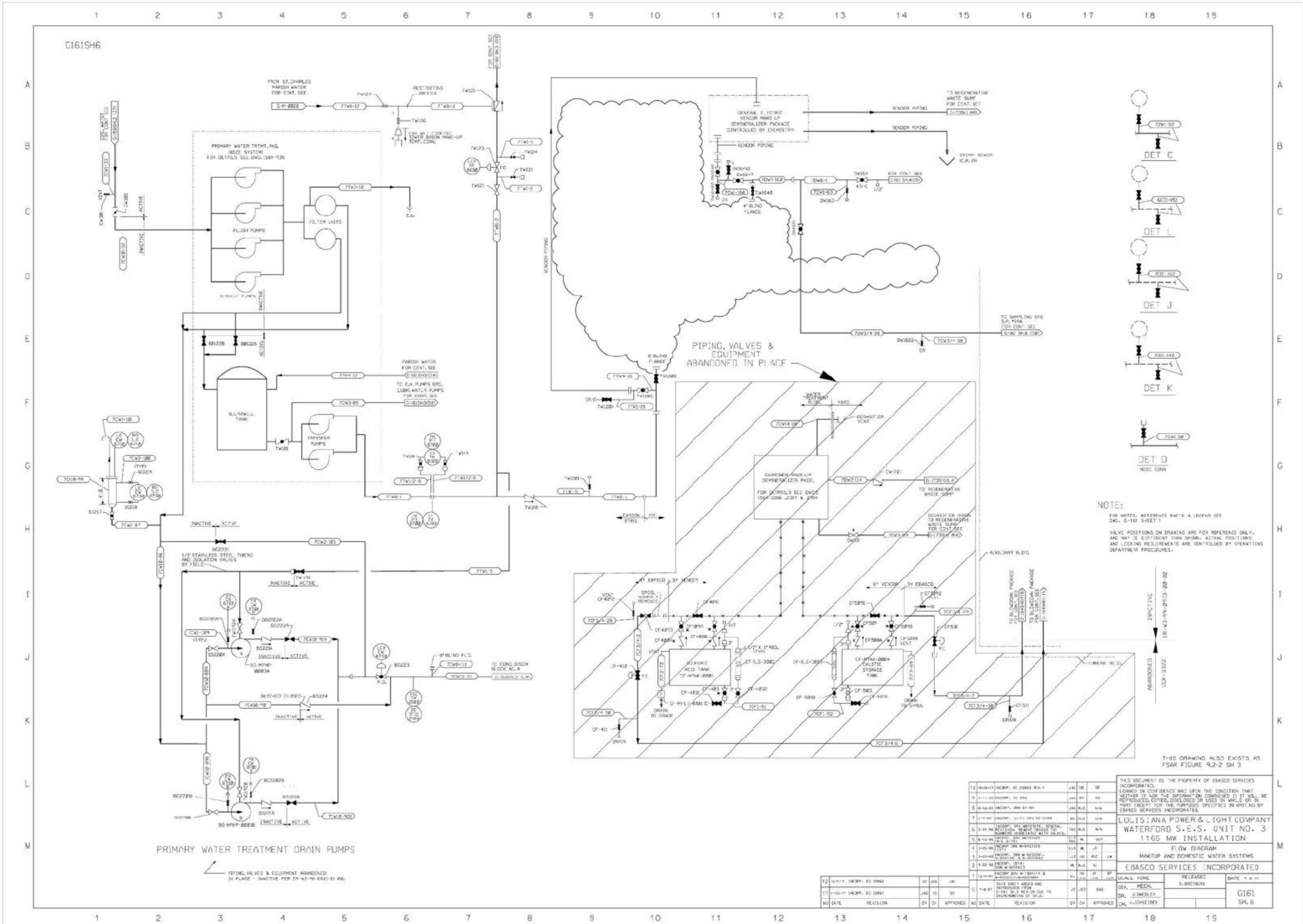
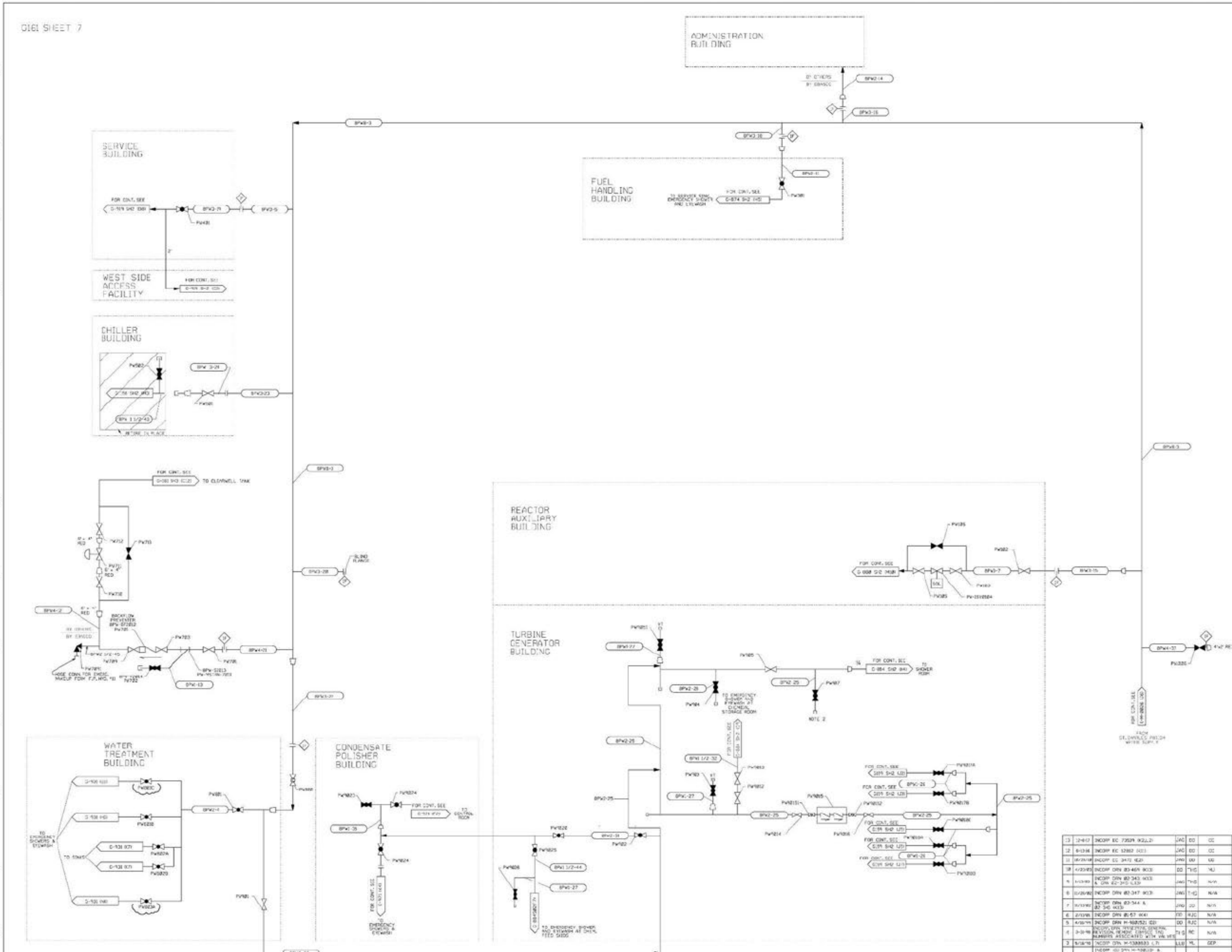
LOUISIANA POWER & LIGHT COMPANY
WATERFORD SES. UNIT NO.3 TAFT, LA.
1165 MW INSTALLATION
PRIMARY, CONDENSATE & DEMINERALIZED WATER STORAGE TANK PIPING
EBASCO SERVICES INCORPORATED
SCALE NONE
DEPT MECHANICAL
G161 SH.4
13 INCORP EC 77404 (B8) JAG RAS RAS
12 INCORP EC 530 (E2, E11, J19, L18) JAC DC DO
11 INCORP DRN 99-2250 (C16-18, K18) DOC RJC RJC
NO. DATE REVISION DESCRIPTION BY CH APPROVED


G161 SHEET 5
TURBINE BUILDING
DETAIL A
HOSE CONN.
DETAIL B
HOSE CONN.
DETAIL E
TYP VENT & DRAIN CONN.
DETAIL G
CHARCOAL FILTER SECTION
E-22
REFERENCE DRAWINGS
LEGEND
INSULATING FLANGE
BY VENDOR
HOSE CONNECTION
STRAIN RELIEF CPLG (DRESSER MFG.)
FIRE HYDRANT
NOTES
ALL HOSE CONNECTIONS DETAIL "A" UNLESS OTHERWISE NOTED.
VALVE POSITIONS ON DRAWING ARE FOR REFERENCE ONLY, AND MAY BE DIFFERENT THAN SHOWN. ACTUAL POSITIONS AND LOCKING REQUIREMENTS ARE CONTROLLED BY OPERATIONS DEPARTMENT PROCEDURES.
THIS DWG. ALSO EXISTS AS FSAR FIGURE 9.5.1-1 SH3
THIS DOCUMENT IS THE PROPERTY OF EBASCO SERVICES INCORPORATED.
LOANED IN CONFIDENCE AND UPON THE CONDITION THAT NEITHER IT NOR THE INFORMATION CONTAINED IN IT WILL BE REPRODUCED, COPIED, DISCLOSED OR USED IN WHOLE OR IN PART EXCEPT FOR THE PURPOSES SPECIFIED IN WRITING BY EBASCO SERVICES INCORPORATED.
LOUISIANA POWER & LIGHT COMPANY
WATERFORD S.E.S. UNIT NO. 3
1165 MW INSTALLATION
FLOW DIAGRAM
FIRE, MAKE-UP & DOMESTIC WATER SYSTEMS
EBASCO SERVICES INCORPORATED
SCALE NONE
RELEASED
DIV. MECH.
G161
SH.5
NO DATE REVISION BY CH APPROVED


G161SH6
FROM ST.CHARLES PARISH WATER FOR CONT. SEE
RESTRICTING ORIFICE
PRIMARY WATER TRTMT. PKG. (BOZE SYSTEM) FOR DETAILS SEE DWG. 1564-935
FLUSH PUMPS
FILTER UNITS
SERVICE PUMPS
CLEARWELL TANK
TRANSFER PUMPS
PARISH WATER FOR CONT. SEE
GENERAL ELECTRIC VENDOR MAKE UP DEMINERALIZER PACKAGE (CONTROLLED BY CHEMISTRY)
TO REGENERATIVE WASTE SUMP FOR CONT. SEE
VENDOR PIPING
STORM SEWER
PIPING, VALVES & EQUIPMENT ABANDONED IN PLACE
TO SAMPLING SYS
DEGASIFIER VENT
TO REGENERATIVE WASTE SUMP
AUXILIARY BLD'G
TURBINE BLD'G
SULFURIC ACID TANK
CAUSTIC STORAGE TANK
DRAIN TO GRADE
INACTIVE
ACTIVE
ABANDONED
DET C
DET L
DET J
DET K
DET D
HOSE CONN
NOTE:
FOR NOTES, REFERENCE DWG'S A LEGEND SEE DWG. G-161 SHEET 1
VALVE POSITIONS ON DRAWING ARE FOR REFERENCE ONLY, AND MAY BE DIFFERENT THAN SHOWN. ACTUAL POSITIONS AND LOCKING REQUIREMENTS ARE CONTROLLED BY OPERATIONS DEPARTMENT PROCEDURES.
PRIMARY WATER TREATMENT DRAIN PUMPS
PIPING, VALVES & EQUIPMENT ABANDONED IN PLACE - INACTIVE PER ER-W3-98-0821-01-00.
THIS DRAWING ALSO EXISTS AS FSAR FIGURE 9.2-2 SH 3
THIS DOCUMENT IS THE PROPERTY OF EBASCO SERVICES INCORPORATED. LOANED IN CONFIDENCE AND UPON THE CONDITION THAT NEITHER IT NOR THE INFORMATION CONTAINED IN IT WILL BE REPRODUCED, COPIED, DISCLOSED OR USED IN WHOLE OR IN PART EXCEPT FOR THE PURPOSES SPECIFIED IN WRITING BY EBASCO SERVICES INCORPORATED.
LOUISIANA POWER & LIGHT COMPANY
WATERFORD S.E.S. UNIT NO. 3
1165 MW INSTALLATION
FLOW DIAGRAM
MAKEUP AND DOMESTIC WATER SYSTEMS
EBASCO SERVICES INCORPORATED
SCALE NONE
RELEASED
DIV. MECH.
G161
SH. 6

G161 SHEET 7



NOTES:

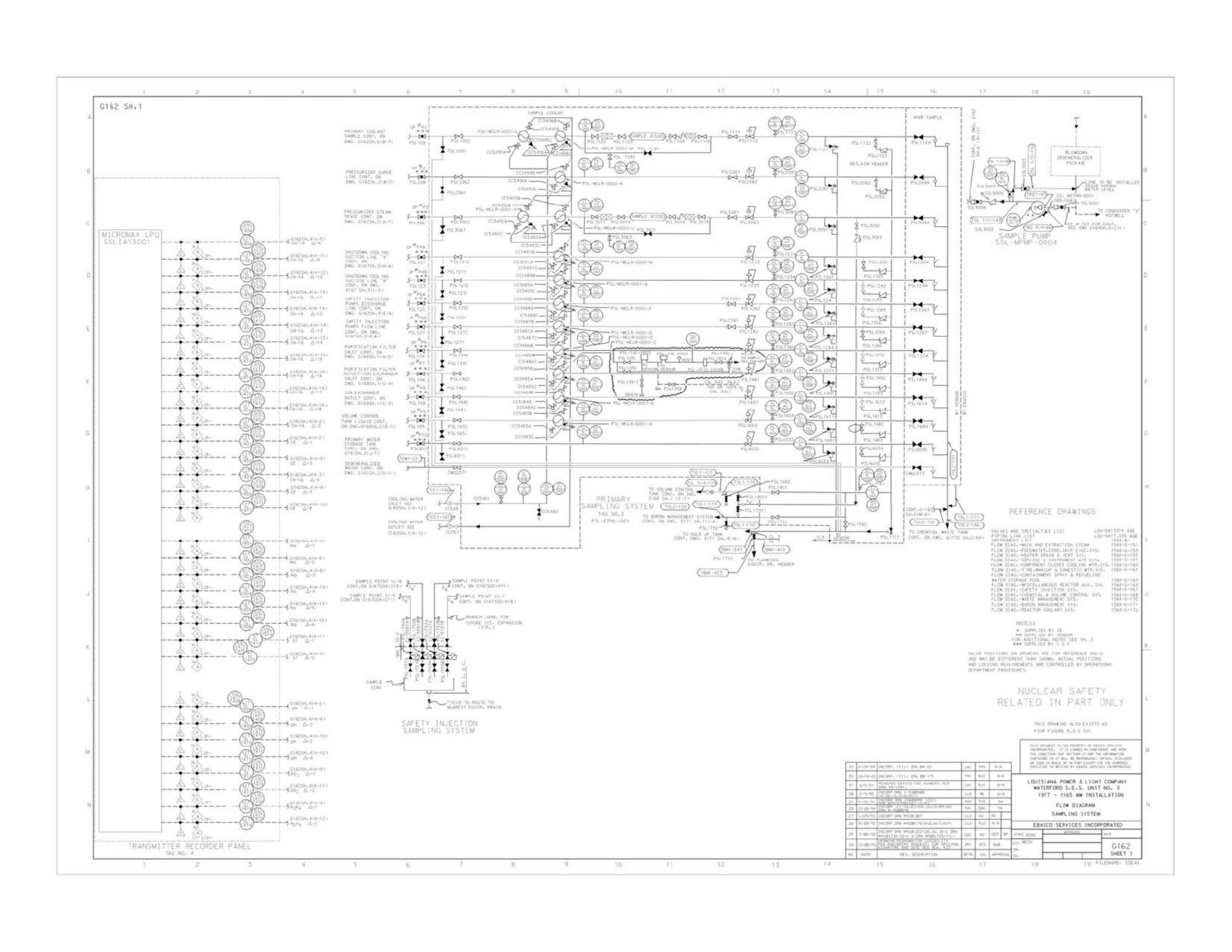
1. FOR GENERAL NOTES, REFERENCE DRAWINGS AND LEGEND SEE G-161 SHEET 1
2. OPEN HOLE IN THE FLOOR BELOW PW907 IS ABANDONED LINE BPW2-6. FOR DETAILS SEE V6.30-U80-5.
3. VALVE POSITIONS ON DRAWING ARE FOR REFERENCE ONLY, AND MAY BE DIFFERENT THAN SHOWN. ACTUAL POSITIONS AND LOCKING REQUIREMENTS ARE CONTROLLED BY OPERATIONS DEPARTMENT PROCEDURES.

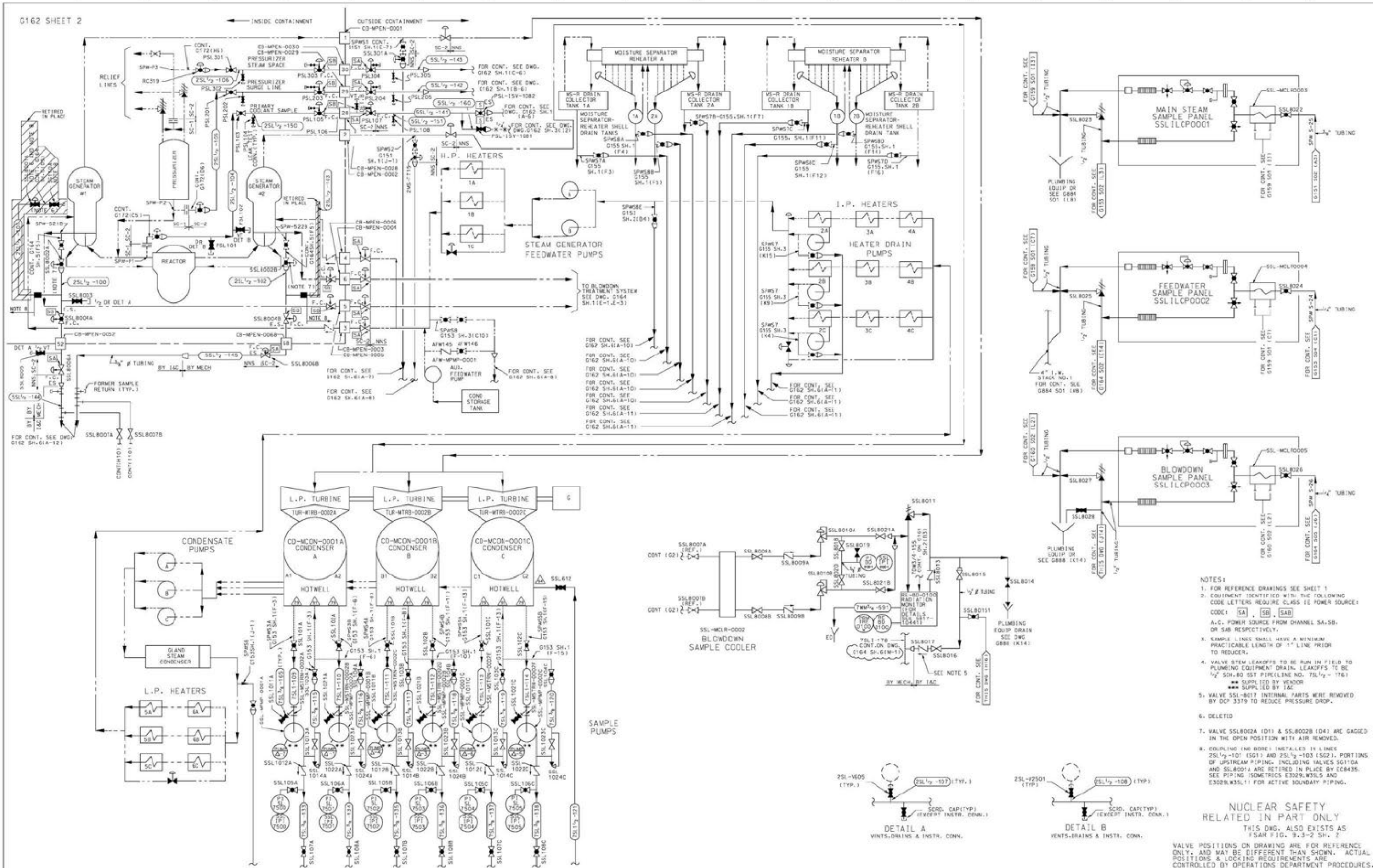
NO.	DATE	REVISION	BY	CH	RELEASED
13	12-4-17	INCORP EC 73539 (K2,L2)	JAC	DO	CC
12	6-13-16	INCORP EC 12812 (G2)	JAC	DO	CC
11	10/29/10	INCORP EC 3472 (E2)	JWG	DD	DD
10	4/23/03	INCORP DRN 03-469 (K13)	DD	THS	MJ
9	1/13/03	INCORP DRN 02-343 (K13) & DRN 02-345 (L13)	JWG	THS	N/A
8	11/20/02	INCORP DRN 02-347 (K13)	JWG	THS	N/A
7	11/13/02	INCORP DRN 02-344 & 02-345 (K13)	JWG	DD	N/A
6	2/13/96	INCORP DRN 01-57 (K4)	DD	RJC	N/A
5	4/18/99	INCORP DRN M-980521 (D3)	DD	RJC	N/A
4	3-31-98	INCORP. DRN 97-127 GENERAL REVISION, REMOVE EBASCO TAG NUMBERS ASSOCIATED WITH VALVES	THS	RC	N/A
3	5/18/98	INCORP DRN M-1380833 (L7)	LLB	ML	GEP
2	8/9/94	INCORP DRN M-930123 & M-940524 & (J3,J13,K3, K7,K9,K10,J9,J11,J13) M-940717	LB	ML	WBS
1	10/9/93	INCORP DRN M-930066	ML	LB	J. REESE
0	1-18-90	THIS SHEET ADDED AND REPRODUCED FROM G-161 SH2 R2, G-161 SH3 R3, G-161 SH5 R8 AND G-279 SH. R8.	THS	RC	J. WOYNOVSKI 2-6-90

ENTERGY OPERATIONS INC.
WATERFORD S.E.S. UNIT NO. 3
1165 MW INSTALLATION

FLOW DIAGRAM
POTABLE WATER SYSTEM

SCALE NONE	RELEASED	DATE 12-18-92
DIV. MECH.		G161
DR. J.M.W.		SH. 7
CH. B. CUMMINS		


G162 SH.1
MICROMAX LPU
SSL1AY3001
TRANSMITTER RECORDER PANEL
TAG NO. 4
PRIMARY SAMPLING SYSTEM
TAG NO.3
PSL-EPNL-001
SAMPLE COOLER
SAMPLE VESSEL
GRAB SAMPLE
REGLAIM HEADER
SAMPLE PUMP
SSL-MPMP-0004
BLOWDOWN DEMINERALIZER PACKAGE
TO CONDENSER "A" HOTWELL
TO PLUMBING EQUIP. DR. HEADER
TO CHEMICAL WASTE TANK
SAFETY INJECTION SAMPLING SYSTEM
SAMPLE SINK
REFERENCE DRAWINGS
NOTES:
NUCLEAR SAFETY RELATED IN PART ONLY
THIS DRAWING ALSO EXISTS AS FSAR FIGURE 9.5-2 SH1
LOUISIANA POWER & LIGHT COMPANY
WATERFORD S.E.S. UNIT NO. 3
1977 - 1165 MW INSTALLATION
FLOW DIAGRAM
SAMPLING SYSTEM
EBASCO SERVICES INCORPORATED
G162
SHEET 1



NOTES:

1. FOR REFERENCE DRAWINGS SEE SHEET 1
2. EQUIPMENT IDENTIFIED WITH THE FOLLOWING CODE LETTERS REQUIRE CLASS IE POWER SOURCE:
   CODE: SA , SB , SAB
   A.C. POWER SOURCE FROM CHANNEL SA, SB, OR SAB RESPECTIVELY.
3. SAMPLE LINES SHALL HAVE A MINIMUM PRACTICABLE LENGTH OF 1" LINE PRIOR TO REDUCER.
4. VALVE STEM LEAKOFFS TO BE RUN IN FIELD TO PLUMBING EQUIPMENT DRAIN. LEAKOFFS TO BE ½" SCH.80 SST PIPE(LINE NO. 7SL½ - 176)
   ** SUPPLIED BY VENDOR
   *** SUPPLIED BY I&C
5. VALVE SSL-8017 INTERNAL PARTS WERE REMOVED BY DCP 3379 TO REDUCE PRESSURE DROP.
6. DELETED
7. VALVE SSL8002A (D1) & SSL8002B (D4) ARE GAGGED IN THE OPEN POSITION WITH AIR REMOVED.
8. COUPLING (NO BORE) INSTALLED IN LINES 2SL½-101 (SG1) AND 2SL½-103 (SG2). PORTIONS OF UPSTREAM PIPING, INCLUDING VALVES SG110A AND SSL8001A ARE RETIRED IN PLACE BY EC8435. SEE PIPING ISOMETRICS E3029LW35L5 AND E3029LW35L11 FOR ACTIVE BOUNDARY PIPING.

NUCLEAR SAFETY RELATED IN PART ONLY

THIS DWG. ALSO EXISTS AS FSAR FIG. 9.3-2 SH. 2

VALVE POSITIONS ON DRAWING ARE FOR REFERENCE ONLY, AND MAY BE DIFFERENT THAN SHOWN. ACTUAL POSITIONS & LOCKING REQUIREMENTS ARE CONTROLLED BY OPERATIONS DEPARTMENT PROCEDURES.

NO.	DATE	REVISION DESCRIPTION	BY	CH	APPROVED
37	7-1-15	INCORP. EC 58294 (J13)	JAG	DD	DD
36	3-18-15	INCORP. EC 56127 (N8)	JAG	DD	DD
35	12-23-12	INCORP. EC8435 EON41085 (C1,C4,K18,L18)	JAG	DD	DD
34	12/21/02	INC. DRN 02-1116, 02-1117, 02-1118, 02-1119, 02-1120, AND 02-1121.	JAG	THG	N/A
33	10/11/00	INCORP. DRN'S 99-1392 & 00-1466	JAG	RJC	N/A
32	12/2/97	INCORP DRN M9702833 (B4)	THS	RJC	N/A
31	10/13/94	INCORP DRN M9401969 (I12)	LLB	ML	TH
30	8/2/94	INCORP DRN M9401373(A2,B4) & M-9401525 (H18)	LLB	ML	WBS
29	2/12/94	INCORP DRN M9202972 (K18,C1,D4,C1,C4)	THS	DDD	TH
28	10/19/93	INCORP DRN M9300721 (A15,I19,J19,K19)	DDD	LLB	JH
27	5/27/93	INCORP DRN M9201387	LLB	ML	RJC
26	11/20/92	DRAWING REDRAWN FOR LEGIBILITY PER ENGINEERS REQUEST. FOR ORIGINAL SIGNATURE AND DATE SEE REV. 25	KM	JCS	SAB

ENTERGY

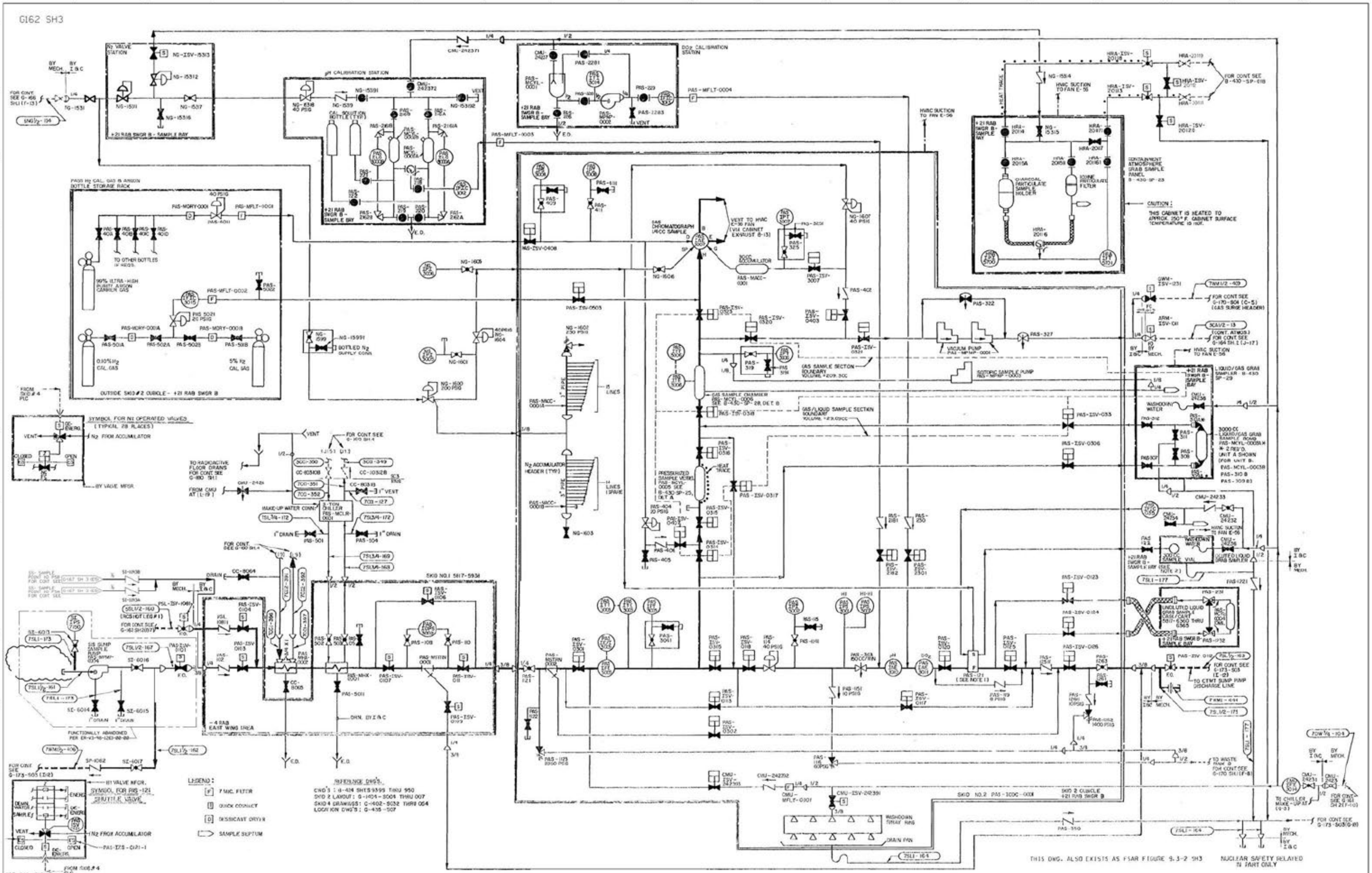
WATERFORD S.E.S. UNIT NO. 3
1165 MW INSTALLATION

FLOW DIAGRAM
SAMPLING SYSTEM

SCALE: NONE | APPROVED | DATE: 2/5/73
DEPT. MECH
DR. M.MORALES
CH. QUARTARONE

G162
SH. 2

G162 SH3



NOTE:

1.) PAS-121 OPERATES AS FOLLOWS:
   A) SOLENOID DE-ENERGIZED: VALVE ALLOWS FLOW OF SAMPLE FLUID (FLOW POSITION)
   B) SOLENOID ENERGIZED: VALVE SHUTTLES 1 SAMPLE ALIQUOT TO DILUTED LIQUID SAMPLE VIAL (SAMPLE POSITION)

2.) 1 SAMPLE ALIQUOT = .2134cc (APPROXIMATE AVERAGE VOLUME)
   1 ALIQUOT + 200cc OF DEMIN. WATER = 1000 : 1 DILUTION RATIO.

3.) UNLESS OTHERWISE NOTED, ALL TUBING IS ¼" O.D.

4.) VALVE POSITIONS ON DRAWING ARE FOR REFERENCE ONLY AND MAY BE DIFFERENT THAN SHOWN. ACTUAL POSITIONS AND LOCKING REQUIREMENTS ARE CONTROLLED BY OPERATIONS DEPARTMENT PROCEDURES.

THIS DWG. ALSO EXISTS AS FSAR FIGURE 9.3-2 SH3

NUCLEAR SAFETY RELATED IN PART ONLY

NO.	DATE	REVISION DESCRIPTION	BY	CH	APPROVED
26	6-27-02	INCORP (2) DRN 02-1000	THS	RJC	N/A
25	6-12-01	REMOVED EBASCO TAG NUMBERS PER DRN 99-1263	JWG	RJC	N/A
24	3-16-99	INCORP (1) DRN 19802171	DD	RJC	N/A
23	7-17-97	INCORP (1) DRN 19702028	ML	RJC	N/A

ENTERGY

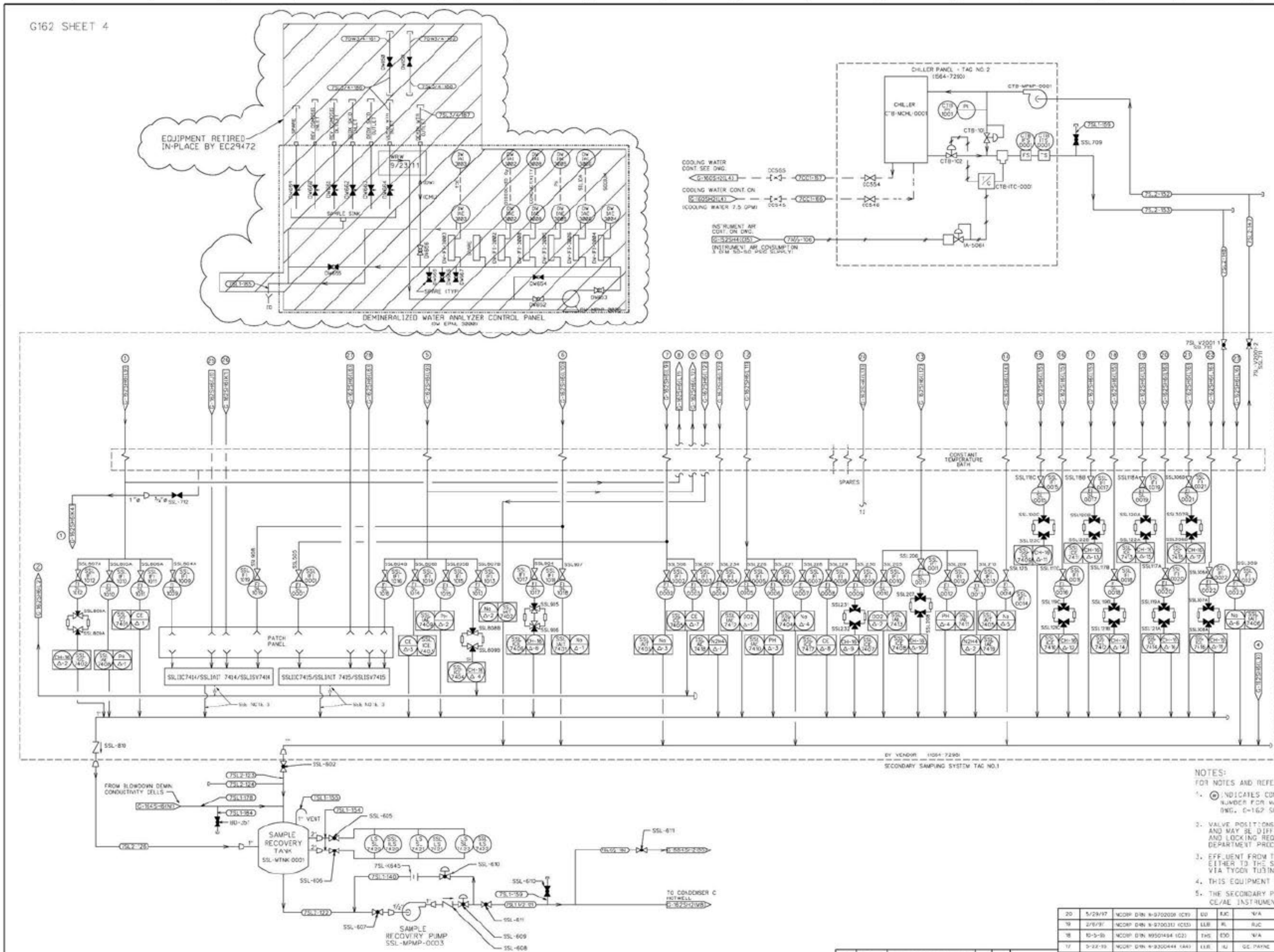
WATERFORD S.E.S. UNIT NO. 3
1165 MW INSTALLATION

FLOW DIAGRAM
POST ACCIDENT SAMPLING SYSTEM

SCALE: NONE
APPROVED
DATE:
DEPT. MECH
DR. BGRINDER
CH. RLEBLANC

G162
SH 3 OF 6

FILENAME: IDEAS



NOTES:

FOR NOTES AND REFERENCE DWGS. SEE SHEETS 1 & 2.

1. (#) INDICATES CONTINUED COORDINATE NUMBER FOR MATCHING LINE ON DWG. G-162 SH6
2. VALVE POSITIONS ON DRAWING ARE FOR REFERENCE ONLY. AND MAY BE DIFFERENT THAN SHOWN. ACTUAL POSITIONS AND LOCKING REQUIREMENTS ARE CONTROLLED BY OPERATIONS DEPARTMENT PROCEDURES."
3. EFFLUENT FROM THE SILICA MONITORS MAY BE DISCHARGED EITHER TO THE SAMPLE RECOVERY OR CHEMICAL WASTE TANKS VIA TYGON TUBING PER DIRECTION FROM CHEMISTRY DEPARTMENT.
4. THIS EQUIPMENT IS MADE INACTIVE PER ER-W3-98-0972-00-00.
5. THE SECONDARY PATCH PANEL MAY BE ROUTED TO THE CE/AE INSTRUMENTS AT THIS POINT.

THIS DWG. ALSO EXISTS AS FSAR FIGURE 9.3-2 SH4

NO.	DATE	REVISION	BY	CH	APPROVED
25	12-7-17	INCORP (B5,L18) EC 29862	DD	JAC	JAG
24	11-13-14	INCORP (I3) EC 500008863	JAG	DD	DD
23	2-28-12	INCORP (C8) EC 31795	JAG	DD	DD
22	4-3-01	INCORP (C8) DRN 00-681	DD	RJC	RBG
2'	6-15-99	INCORP. DRN M-9700917B & M9800148	THS	RJC	NE

NO.	DATE	REVISION	BY	CH	APPROVED
20	5/29/97	INCORP DRN W-9702008 (C11)	DD	RJC	N/A
19	2/6/97	INCORP DRN W-9700313 (C13)	LLB	RL	RJC
18	10-5-95	INCORP DRN M9501494 (G2)	THS	EDD	N/A
17	5-22-93	INCORP DRN W-9300444 (A4)	LLB	HJ	G.E. PAYNE
16	2-10-95	INCORP (L18) DRN M9401529 AND (H7,8) DRN M9300984	DJC	THS	JR
15	2-18-94	INCORP DRN M-9200691	THS	DDD	RW
14	1-28-93	INCORP DRN W-9201287	LLB	HJ	RJC
13	8-19-92	THIS SHEET REPRODUCED FROM G-162 SH4 R12 DUE TO OVERCROWDING OF SHEET 1 INCORP DRN M-9200709	LLB	RJC	AJ

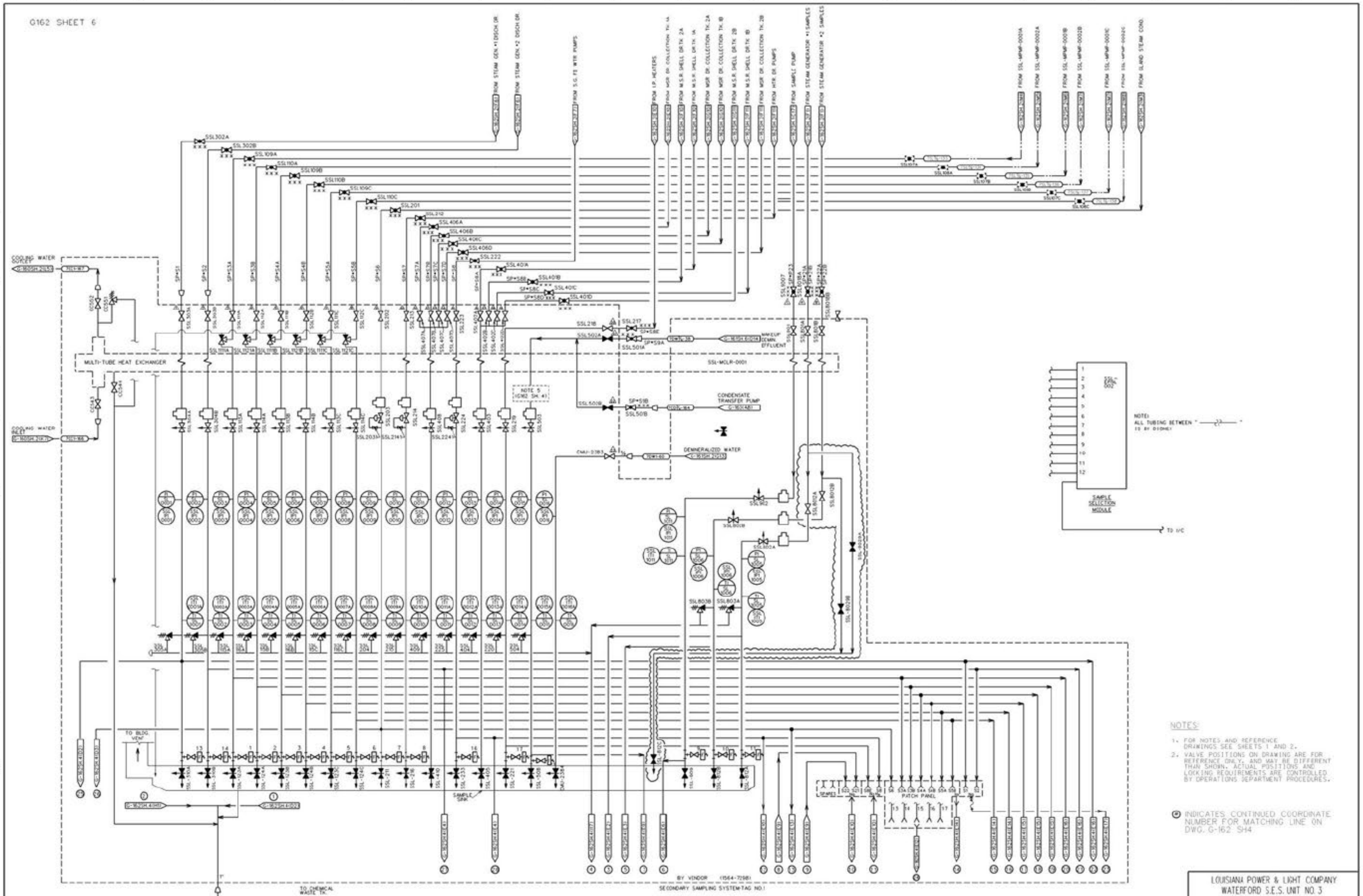
LOUISIANA POWER & LIGHT COMPANY
WATERFORD S.E.S. UNIT NO. 3
1165 MW INSTALLATION

FLOW DIAGRAM
SAMPLING SYSTEM

SCALE: NONE
APPROVED
DIV. MECH
DR. LAL
CH.

G162
SHEET 4

G162 SHEET 6



NOTES:

1. FOR NOTES AND REFERENCE DRAWINGS SEE SHEETS 1 AND 2.
2. VALVE POSITIONS ON DRAWING ARE FOR REFERENCE ONLY, AND MAY BE DIFFERENT THAN SHOWN. ACTUAL POSITIONS AND LOCKING REQUIREMENTS ARE CONTROLLED BY OPERATIONS DEPARTMENT PROCEDURES.

Ⓐ INDICATES CONTINUED COORDINATE NUMBER FOR MATCHING LINE ON DWG. G-162 SH4

NO.	DATE	REVISION	BY	CH	APPROVED	NO.	DATE	REVISION	BY	CH	APPROVED
5	1-29-04	INCORP DRN 03-1953 (M/Z)	JAG	THS	N/A	3	1-18-02	INCORP DRN 99-1390 & 00-602 (F9)	JAG	RJC	RBG
4	10-2-02	INCORP DRN 02-1122, 02-1123, 02-1124, 02-1125, 02-1126, & 02-1127.	JAG	THS	N/A	2	5-25-95	INCORP DRN M-9401519 (K17)	LLB	ML	JR
						1	2-11-94	INCORP. DRN (K1,J1, L7,L8) M-9200897	THS	DDD	RW

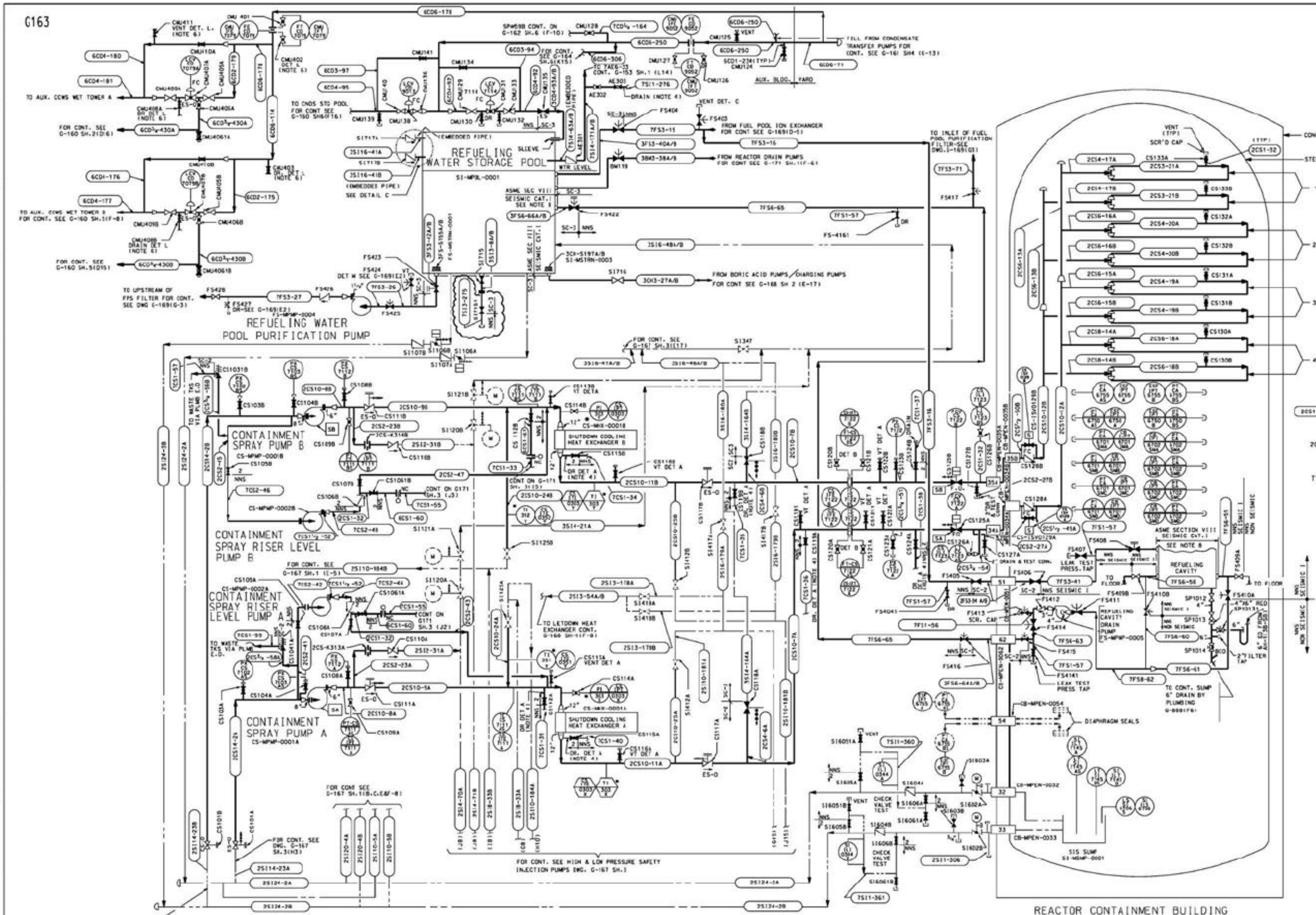
LOUISIANA POWER & LIGHT COMPANY
WATERFORD S.E.S. UNIT NO. 3
1165 MW INSTALLATION

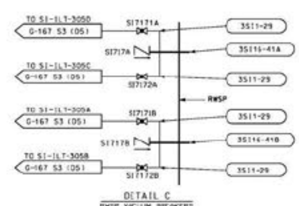
FLOW DIAGRAM
SAMPLING SYSTEM

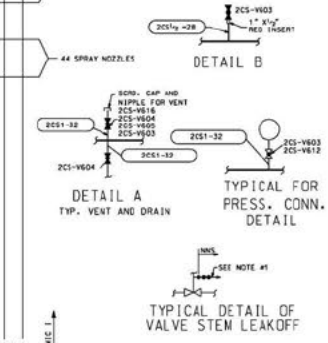
SCALE: NONE
DW: MECH
DR: LAL
CK:
APPROVED

G162
SHEET 6

FILENAME:IDEAS







NOTES:

1. VALVE STEM LEAKOFFS TO BE RUN IN FIELD TO PLUMBING EQUIPMENT DRAINS. LEAKOFFS TO BE 1/2" SCH 80 SST PIPE(LINE NO.7CS1/2-53).
2. ——— -- ——— DENOTES REFERENCE PIPING.
3. EQUIPMENT IDENTIFIED WITH THE FOLLOWING CODE LETTERS REQUIRE CLASS IE POWER SOURCE:
   CODE: SA SB SAB A.C.POWER SOURCE FROM CHANNEL SA,SB OR SAB RESPECTIVELY
4. TO WASTE TANK VIA PLUMBING EQUIPMENT DRAIN
5.
6. FOR CONDENSATE(CD)DETAILS SEE 1564-G-161
7. *INDICATES VENDOR SUPPLIED
8. THE REFUELING WATER STORAGE POOL AND LINER AND THE REFUELING CAVITY AND LINER ARE CLASSIFIED AS STRUCTURES AND THEREFORE NOT ASSIGNED A SAFETY CLASS, BUT ARE DESIGNED AND CONSTRUCTED AS SEISMIC CAT.I UNDER THE 10 CFR 50 APPENDIX B REQUIREMENTS. THE LINER AND NOZZLES ARE CONSTRUCTED TO ASME SECTION VIII CODE REQUIREMENTS USING ASME SECTION III MATERIALS.
9. VALVE POSITIONS ON DRAWING ARE FOR REFERENCE ONLY, AND MAY BE DIFFERENT THAN SHOWN. ACTUAL POSITIONS AND LOCKING REQUIREMENTS ARE CONTROLLED BY OPERATIONS DEPARTMENT PROCEDURES.

REFERENCE DRAWINGS

VALVES AND SPECIALTIES LIST _ _ _ _ 5817.074 A/B
PIPING LINE LIST _ _ _ _ _ _ _ _ _ 5817.075 A/B
INSTRUMENT SCHEMATICS AND LOGIC DIAGS. (PIPE,VALVES AND INSTR SYMBOLS) _ _ _ 1564-B-431
INSTRUMENT LIST _ _ _ _ _ _ _ 1564-B-434

NUCLEAR SAFETY RELATED

THIS DWG. ALSO EXISTS AS FSAR FIGURE 6.2-35

NO.	DATE	REV.DESCRIPTION	DFTR.	CH.	APPROVAL
43	10-13-15	INCORP EC49311 (D6)	JAG	DDD	DDD
42	6/6/11	INCORP EC29558 (A12)	JAG	DDD	DDD
41	12/23/07	INCORP EC4507 (C11)	DDD	JAG	JAG
40	5/3/06	INCORP DRN 06-285 (J15), & 06-288 (J12, K12, L12)	JAG	DDD	N/A
39	6/27/02	INCORP DRN 02-1001 (L12)	DDD	THS	N/A
38	10/5/00	REMOVED EBASCO TAG NUMBERS PER DRN 99-1316	JAG	RJC	N/A
37	3/20/00	INCORP DRN 99-2460 (K10,G6,G7,I5)	THS	RJC	GEP
36	5/13/99	INCORP DRN M9704114 (B8)	THS	RJC	TH
35	3/11/99	INCORP DRN M9802112 (L12)	THS	RJC	N/A
34	6/24/97	INCORP DRN M9701316 (N5,C5)	LLB	ML	G.PAYNE
33	1/17/97	INCORP DRN 19700114 (A6)	LLB	ML	RJC
32	2/8/96	INCORP DRN M9402442 (B1,D1)	ML	LLB	GEP
31	10/26/95	INCORP DRN M9502083 (K12)	DDD	THS	BT
30	8/11/94	INCORP DRN M9301617 (D10,D11,F18), & M9401529 (DELETE L.O. & L.C.)	THS	DDD	PPD

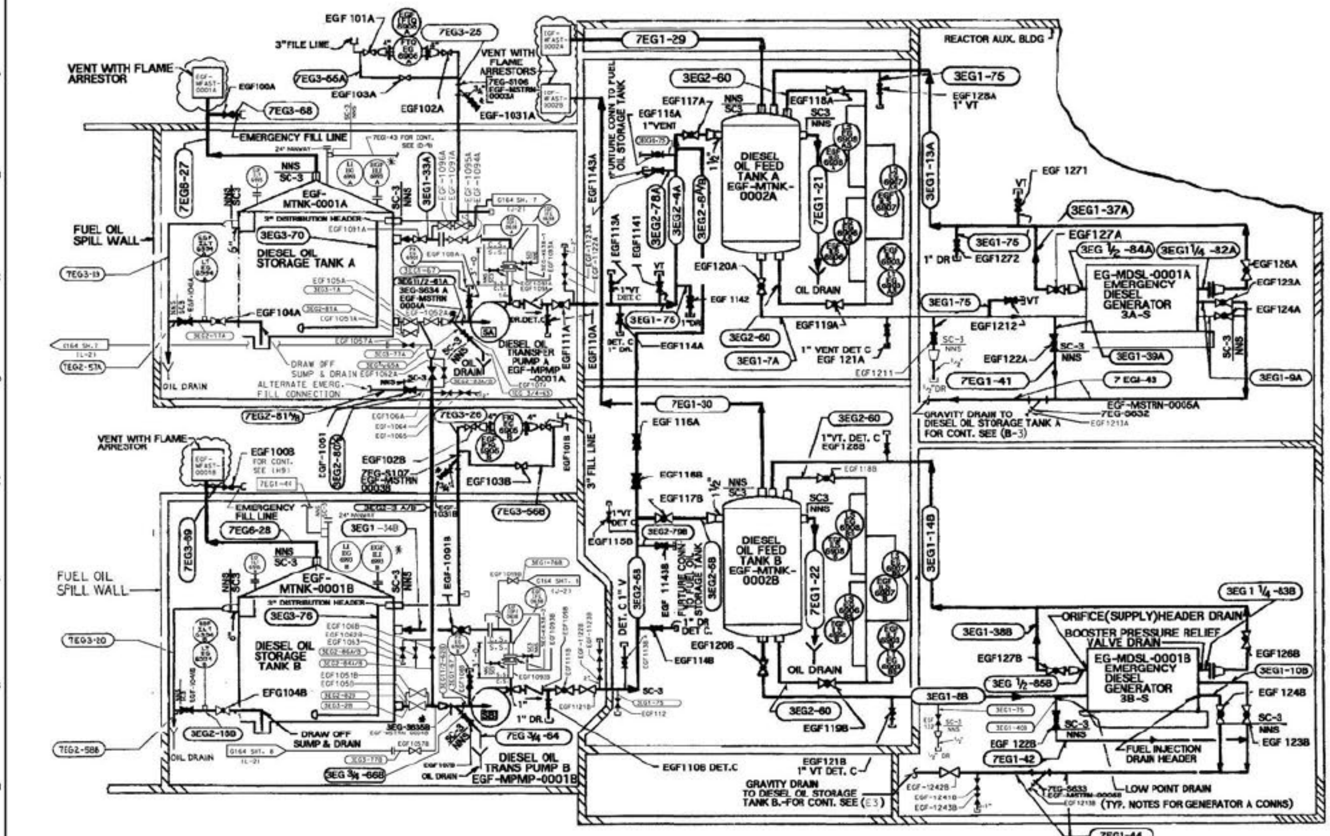
LOUISIANA POWER & LIGHT COMPANY
WATERFORD S.E.S. UNIT NO. 3
1977-1165 MW INSTALLATION

FLOW DIAGRAM
CONTAINMENT SPRAY & REFUELING WATER STORAGE POOL

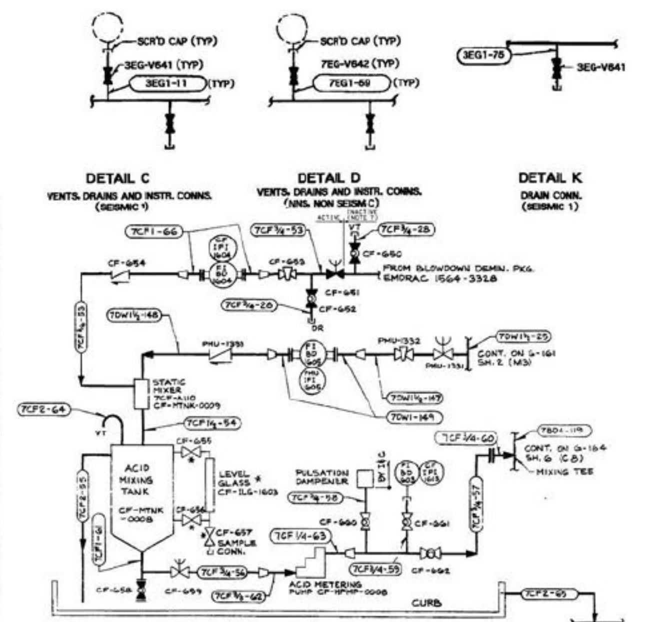
SCALE: NONE | APPROVED: BOB THWEATT | DATE: 1-18-83
DIV. MECH
DR. C.VIJKER
CH. J.RUISO

G163

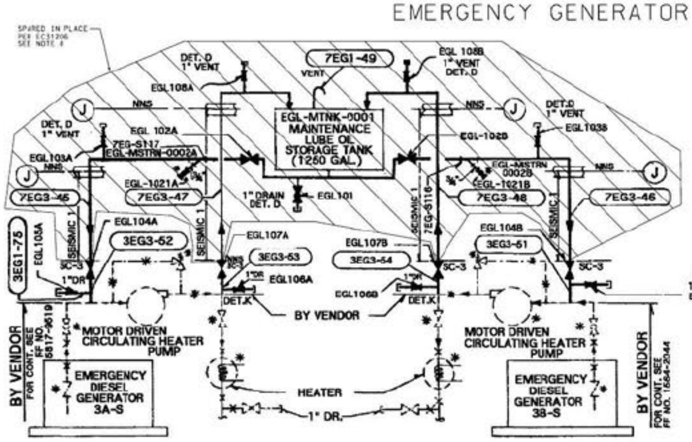
G164 SHT. 1



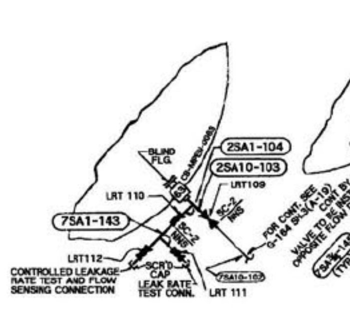
EMERGENCY GENERATOR DIESEL OIL SYSTEM



CHEMICAL FEED SYSTEM



EMERGENCY DIESEL GENERATOR LUBE OIL SYSTEM



CONTAINMENT LEAKAGE RATE TEST CONN. (AIR SUPPLY)

NOTES:

1. EQUIPMENT IDENTIFIED WITH THE FOLLOWING CODE LETTERS REQUIRE CLASS IE POWER SOURCE: CODE [SA] [SB] [SAB]
   A.C. POWER SOURCE FROM CHANNEL SA, SB OR SAB RESPECTIVELY.
2. * INDICATES VENDOR SUPPLIED
3. (IF) INDICATES INSULATING FLANGE
4. [CB] INDICATES CIRB BOX CONTROL VALVE
5. VALVE POSITIONS ON DRAWING ARE FOR REFERENCE ONLY, AND MAY BE DIFFERENT THAN SHOWN. ACTUAL POSITIONS AND LOCKING REQUIREMENTS ARE CONTROLLED BY OPERATIONS DEPARTMENT PROCEDURES.
6. THIS EQUIPMENT IS MADE INACTIVE PER ER-W3-99-0894-00-00.
7. THIS EQUIPMENT IS INACTIVE PER ER-W3-99-0973-00-00.
8. EGL104A(B) AND EGL107A(B) SERVE AS THE BOUNDARIES TO SPARED IN PLACE EQUIPMENT. ALL EQUIPMENT FROM THOSE VALVES UP TO AND INCLUDING THE LUBE OIL MAINTENANCE TANK IS SPARED IN PLACE PER EC31206.

REFERENCE DRAWINGS

VALVES AND SPECIALTIES LIST	5817.074A(B)
PIPING LINE LIST	5817.075A(B)
INSTRUMENT SCHEMATICS AND LOGIC DIAGRAMS (PIPE, VALVES & INSTR. SYMBOLS)	1564-B-431
INSTRUMENT LIST	1564-B-434
FLOW DIAGRAM MISCELLANEOUS REACTOR AUXILIARY SYSTEMS	1564-G164 SH2

SYSTEMS SHOWN ON THIS DRAWING:
1. EMERGENCY GENERATOR DIESEL OIL SYSTEM
2. EMERGENCY DIESEL GENERATOR LUBE OIL SYSTEM
3. CONTAINMENT LEAKAGE RATE TEST (AIR SUPPLY)

CONT'D

NO.	DATE	REVISION	BY	CH	APPROVED
52	10-24-18	INCORP EC 80009 (A2,A5,C2)	JAG	RAS	RAS
51	6-18-18	INCORP EC 46748 (B4,C2)	JAG	RAS	RAS
50	5-24-18	INCORP EC 46745 (H2, F5)	JAG	RAS	RAS
49	5-17-17	INCORP EC 67990 (D9)	JAG	DD	DD
48	4-30-17	INCORP EC 67955 (C9)	JAG	DD	DD
47	5-18-16	INCORP [illegible] EC 64282 & [illegible] EC 62566	JAG	DD	DD
46	5-2-16	INCORP (C4) EC 54281 & (B3,B5,D9) EC 62565	JAG	THS	THS
45	3-25-13	INCORP (G6) EC 42753	JAG	DD	DD
44	3-20-12	INCORP (J3, I19) EC 32557	JAG	THS	THS
43	10-20-11	INCORP (J6) EC 31206	JAG	DD	DD
42	[illegible]	INCORP (F5) EC 18974	JAG	DD	DD
41	5-2-11	INCORP (C5,D4,G5,H10) EC 25302	DDD	JAG	JAG
40	11-8-10	INCORP (D6) EC 19787	DDD	JAG	JAG
39	6-12-08	INCORP (B2,F2) EC 1735	DDD	JAG	JAG
38	3-11-05	INCORP (D4) DRN 04-1764	DDD	THS	DC
37	3-3-05	INCORP (C4) DRN 05-136	DDD	THS	D.DASGUPTA
36	11-28-00	INCORP (C3-G3) DRN 00-1656	DDD	RJC	RBC
35	5-10-00	INCORP. DRN'S 99-2319	THS	RJC	RG
34	4-28-00	INCORP. DRN'S 99-1402 & 99-2254	JAG	RJC	RG
33	6-10-97	INCORP (J12) DRN M-9601820A	DDD	LLB	TH
32	8-9-94	INCORP DRN M-9401529(B6,C10, D10,K10,K12,H18),M9302097(K10) & M9300537(F5,C5)	LLB	DDD	TH
31	1-28-93	INCORP DRN M-920138F	LLB	HU	RJC
30	12-10-91	INCORP DRN M8900173(E10,H10) & DRN M9101520 (D5,G5) & DRN M9101127 (E15)	DDD	HU	JW / BP

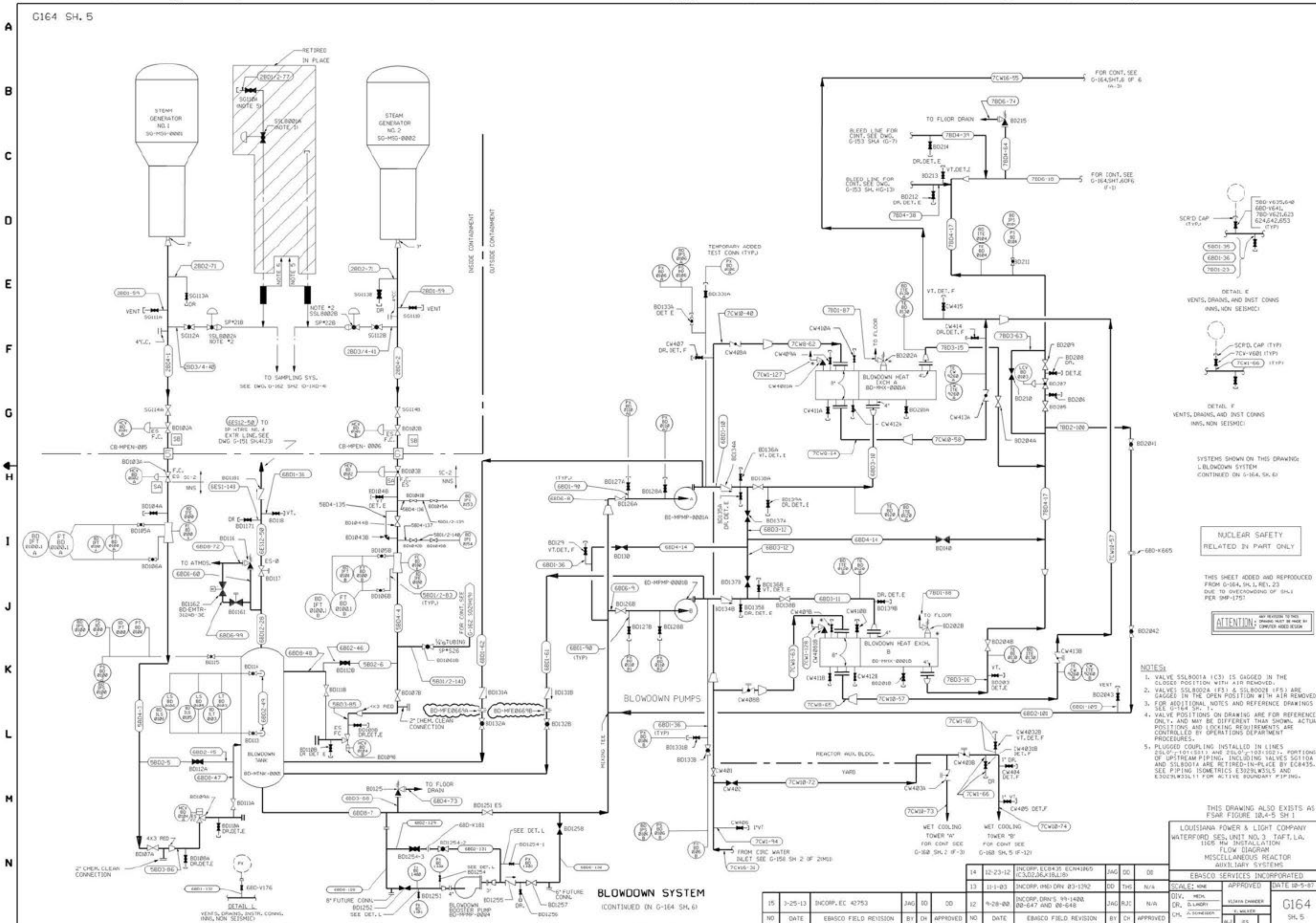
NUCLEAR SAFETY RELATED IN PART ONLY

THIS DWG. ALSO EXISTS AS FSAR FIGURE 9.5-3

ENTERGY OPERATIONS, INC.
WATERFORD S.E.S. UNIT NO. 3
1165 MW INSTALLATION

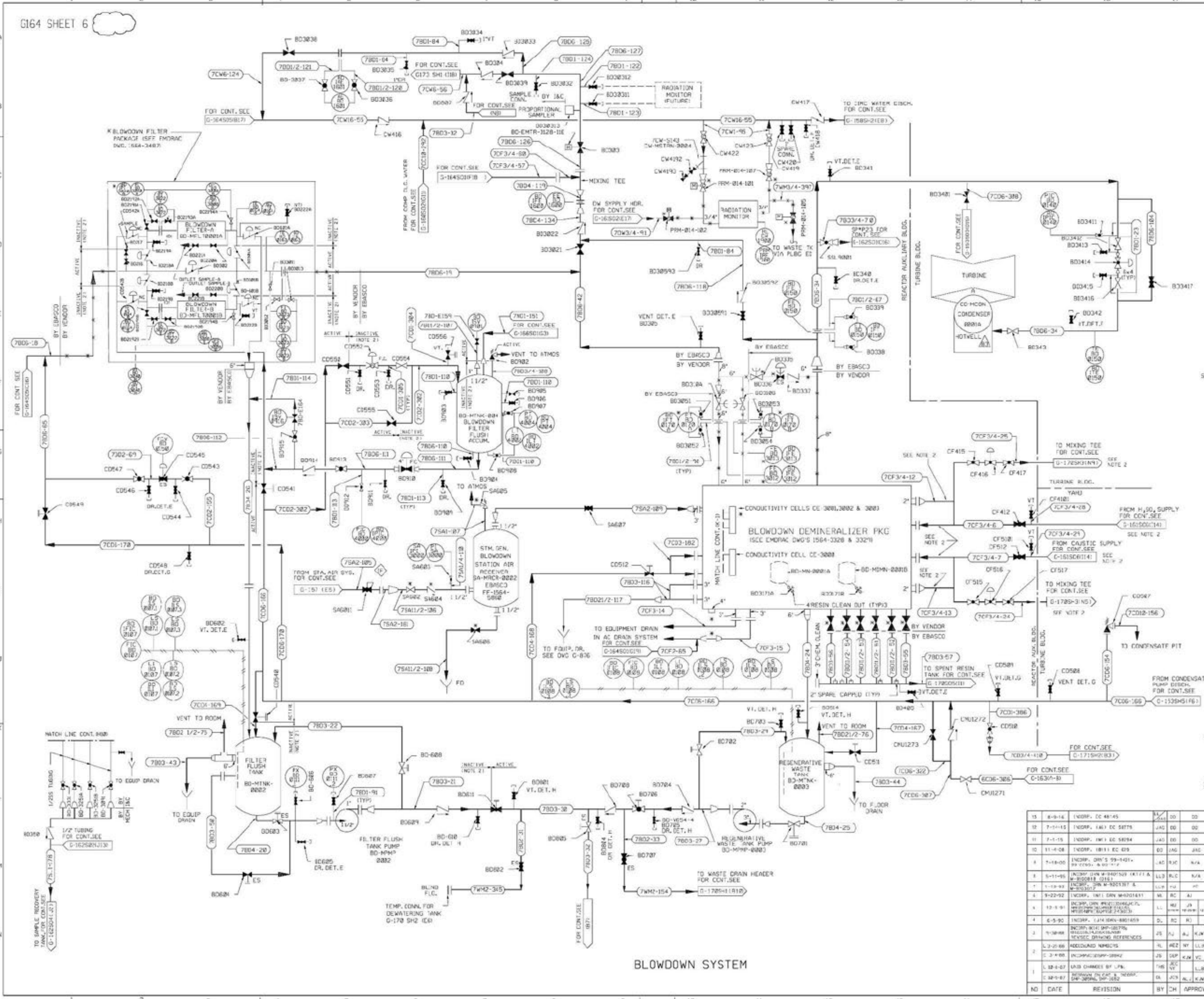
FLOW DIAGRAM
MISCELLANEOUS REACTOR
AUXILIARY SYSTEMS

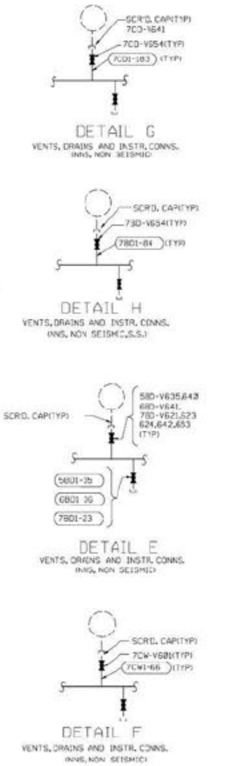
SCALE: NONE	APPROVED RS	DATE: 10-1-86
DIV. MECH. DR. IMPELL CH. JEC		G164 SHT. 1


G164 SH. 5
STEAM GENERATOR NO. 1 SG-MSG-0001
STEAM GENERATOR NO. 2 SG-MSG-0002
RETIRED IN PLACE
INSIDE CONTAINMENT
OUTSIDE CONTAINMENT
TO SAMPLING SYS. SEE DWG. G-162 SH2 (D-1&D-4)
BLOWDOWN TANK BD-MTNK-0001
BLOWDOWN PUMPS
BD-MPMP-0001A
BD-MPMP-0001B
BLOWDOWN HEAT EXCH A BD-MHX-0001A
BLOWDOWN HEAT EXCH. B BD-MHX-0001B
BLOWDOWN BOOSTER PUMP BD-MPMP-0004
REACTOR AUX. BLDG.
YARD
WET COOLING TOWER 'A' FOR CONT SEE G-160 SH. 2 (F-3)
WET COOLING TOWER 'B' FOR CONT SEE G-160 SH. 5 (F-12)
FROM CIRC WATER INLET SEE G-158 SH 2 OF 2(M3)
FOR CONT. SEE G-164,SHT.6 OF 6 (A-3)
FOR CONT. SEE G-164,SHT.6OF6 (F-1)
BLEED LINE FOR CONT. SEE DWG. G-153 SH.4 (G-7)
BLEED LINE FOR CONT. SEE DWG. G-153 SH. 4(G-13)
TO FLOOR DRAIN
DETAIL E VENTS, DRAINS, AND INST CONNS (NNS, NON SEISMIC)
DETAIL F VENTS, DRAINS, AND INST CONNS (NNS, NON SEISMIC)
DETAIL L VENTS, DRAINS, INSTR. CONNS. (NNS, NON SEISMIC)
SYSTEMS SHOWN ON THIS DRAWING: 1. BLOWDOWN SYSTEM CONTINUED ON G-164, SH. 6)
NUCLEAR SAFETY RELATED IN PART ONLY
THIS SHEET ADDED AND REPRODUCED FROM G-164, SH. 1, REV. 23 DUE TO OVERCROWDING OF SH.1 PER SMP-1757
ATTENTION: ANY REVISION TO THIS DRAWING MUST BE MADE BY COMPUTER AIDED DESIGN
NOTES:
1. VALVE SSL8001A (C3) IS GAGGED IN THE CLOSED POSITION WITH AIR REMOVED.
2. VALVES SSL8002A (F3) & SSL8002B (F5) ARE GAGGED IN THE OPEN POSITION WITH AIR REMOVED.
3. FOR ADDITIONAL NOTES AND REFERENCE DRAWINGS SEE G-164 SH. 1.
4. VALVE POSITIONS ON DRAWING ARE FOR REFERENCE ONLY, AND MAY BE DIFFERENT THAN SHOWN. ACTUAL POSITIONS AND LOCKING REQUIREMENTS ARE CONTROLLED BY OPERATIONS DEPARTMENT PROCEDURES.
5. PLUGGED COUPLING INSTALLED IN LINES 2SLO-101(SG1) AND 2SLO-102(SG2). PORTIONS OF UPSTREAM PIPING, INCLUDING VALVES SG110A AND SSL8001A ARE RETIRED-IN-PLACE BY EC8435. SEE PIPING ISOMETRICS E3029LW3SL5 AND E3029LW3SL11 FOR ACTIVE BOUNDARY PIPING.
THIS DRAWING ALSO EXISTS AS FSAR FIGURE 10.4-5 SH 1
BLOWDOWN SYSTEM
(CONTINUED ON G-164 SH. 6)
LOUISIANA POWER & LIGHT COMPANY
WATERFORD SES, UNIT NO. 3 TAFT, LA.
1165 MW INSTALLATION
FLOW DIAGRAM
MISCELLANEOUS REACTOR AUXILIARY SYSTEMS
EBASCO SERVICES INCORPORATED
SCALE: NONE
APPROVED
DATE 10-5-87
G164
SH. 5

NO	DATE	EBASCO FIELD REVISION	BY	CH	APPROVED
15	3-25-13	INCORP. EC 42753	JAG	DD	DD
14	12-23-12	INCORP. EC8435 ECN41865 (C3,D2,D6,K18,L18)	JAG	DD	DD
13	11-1-03	INCORP. (MD) DRN 03-1392	DD	THS	N/A
12	9-28-00	INCORP. DRN'S 99-1400, 00-647 AND 00-648	JAG	RJC	N/A

G164 SHEET 6





NUCLEAR SAFETY RELATED IN PART ONLY

THIS SHEET ADDED AND REPRODUCTED FROM G-164, SH.1, REV.23 DUE TO OVERCROWDING OF SH.1

1. VALVE POSITIONS ON DRAWING ARE FOR REFERENCE ONLY, AND MAY BE DIFFERENT THAN SHOWN. ACTUAL POSITIONS AND LOCKING REQUIREMENTS ARE CONTROLLED BY OPERATIONS DEPARTMENT PROCEDURES.
2. THIS EQUIPMENT IS MADE INACTIVE PER ER-W3-99-0973-00-00.

ATTENTION: ANY REVISION TO THIS DRAWING SHALL BE MADE BY COMPUTER AIDED DESIGN

NO	DATE	REVISION	BY	CH	APPROVED
13	8-9-16	INCORP. EC 48145	[illegible]	DD	DD
12	7-14-15	INCORP. (A6) EC 58775	JAG	DD	DD
11	7-1-15	INCORP. (M) EC 58194	JAG	DD	DD
10	11-4-08	INCORP. (B11) EC 679	DD	JAG	JAG
9	7-18-00	INCORP. DRN'S 99-1401, [illegible]	JAG	RJC	N/A
8	5-11-95	INCORP. DRN W-9401529 (K17) & W-9100818 (D16)	LLD	RLC	N/A
7	1-19-93	INCORP. DRN W-9201387 & W-9703017	[illegible]	[illegible]	[illegible]
6	9-22-92	INCORP. (N11) DRN W-9201611	[illegible]	RC	AJ
5	12-5-91	INCORP. DRN [illegible]	LL	[illegible]	[illegible]
4	6-5-90	INCORP. (J14) DRN-8801659	DL	RC	RJ AP
3	9-30-88	INCORP. [illegible] REVISED DRAWING REFERENCES	JS	AJ	AJ KJW VC
2	L 3-25-88	ADDED/NEW NUMBERS	RL	AEZ	NY LLB
	C 3-4-88	INCORP. [illegible]	JS	DEP	KJW VC
1	L 10-6-87	LAID CHANGES BY LP&L	THS	JEC NY	LLB
	C 10-5-87	REDRAWN ON CAE & INCORP. [illegible]	DL	JCS	AL KJW VC

THIS DRAWING ALSO EXISTS AS FSAR FIGURE 10.4-5 SH 2

STATE OF LOUISIANA
REGISTERED PE

LOUISIANA POWER & LIGHT COMPANY
WATERFORD SES. UNIT NO.3 TAFT, LA.
1165 MW INSTALLATION

FLOW DIAGRAM MISCELLANEOUS REACTOR AUXILIARY SYSTEMS

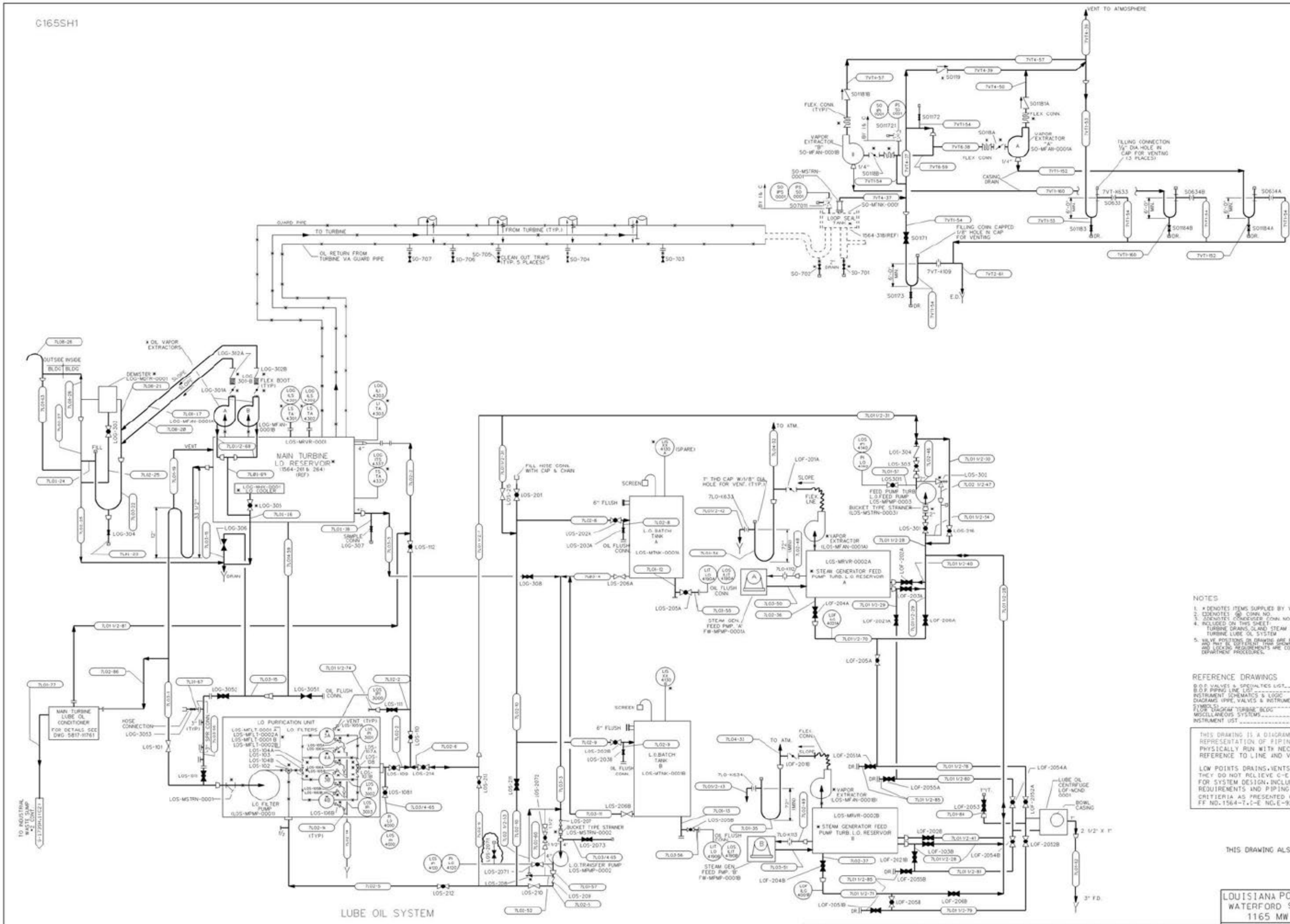
EBASCO SERVICES INCORPORATED

SCALE NONE | APPROVED VIJAYA CHANDER | DATE 10-5-87

DEPT MECHANICAL

G164 SH. 6

G165SH1



NOTES

1. * DENOTES ITEMS SUPPLIED BY VENDOR
2. ▭ DENOTES ◉ CONN. NO.
3. △ DENOTES CONDENSER CONN. NO.
4. INCLUDED ON THIS SHEET:
   TURBINE DRAINS, GLAND STEAM SEAL SYSTEM
   TURBINE LUBE OIL SYSTEM
5. VALVE POSITIONS ON DRAWING ARE FOR REFERENCE ONLY/- AND MAY BE DIFFERENT THAN SHOWN. ACTUAL POSITIONS AND LOCKING REQUIREMENTS ARE CONTROLLED BY OPERATIONS DEPARTMENT PROCEDURES.

REFERENCE DRAWINGS

B.O.P. VALVES & SPECIALTIES LIST __________ 5817.0748
B.O.P. PIPING LINE LIST __________ 5817.074B
INSTRUMENT SCHEMATICS & LOGIC DIAGRAMS (PIPE, VALVES & INSTRUMENT SYMBOLS) __________ 564-B-431
FLOW DIAGRAM TURBINE BLDG MISCELLANEOUS SYSTEMS __________ 564-GX5 SH.2
INSTRUMENT LIST __________ 564-B-434

THIS DRAWING IS A DIAGRAMMATIC REPRESENTATION OF PIPING AS PHYSICALLY RUN WITH NECESSARY REFERENCE TO LINE AND VALVE NUMBERS

LOW POINTS DRAINS, VENTS ETC.
THEY DO NOT RELIEVE C-E FROM RESPONSIBILITY FOR SYSTEM DESIGN, INCLUDING PROCESS REQUIREMENTS AND PIPING DESIGN
CRITIERIA AS PRESENTED ON EBASCO FF NO.1564-7.C-E NO.E-9210-210-130

THIS DRAWING ALSO EXISTS AS FSAR FIGURE 10.4-3

NO.	DATE		BY	CH	RELEASED	NO.	DATE		BY	CH	RELEASED
						27	11-30-95	INCORP (121) DRN M-9500567	ML	LLB	TH
30	11-29-01	INCORP.DRN 01-527	JAG	RJC	N/A	26	6-6-95	INCORP. (H)2,19 & L12) DRN M-9400529	ML	LLB	JR 7-17-95
29	10-23-01	REMOVED EBASCO TAG NO.'S PER DRN 99-1483	JAG	RJC	N/A	25	1-19-93	INCORP DRN M-9201307	LLB	HU 2-9-93	RC 2-17-93
28	5-28-97	INCORP (B13,C17) DRN M9600531	DD	RJC	JAF	24	7-8-91	THIS SHEET REPRODUCED FROM G-165 SH.1 REV. 23 DUE TO OVERCROWDING OF SH.1	LWF	JCS	SAB

LOUISIANA POWER & LIGHT COMPANY
WATERFORD S.E.S. UNIT NO. 3
1165 MW INSTALLATION

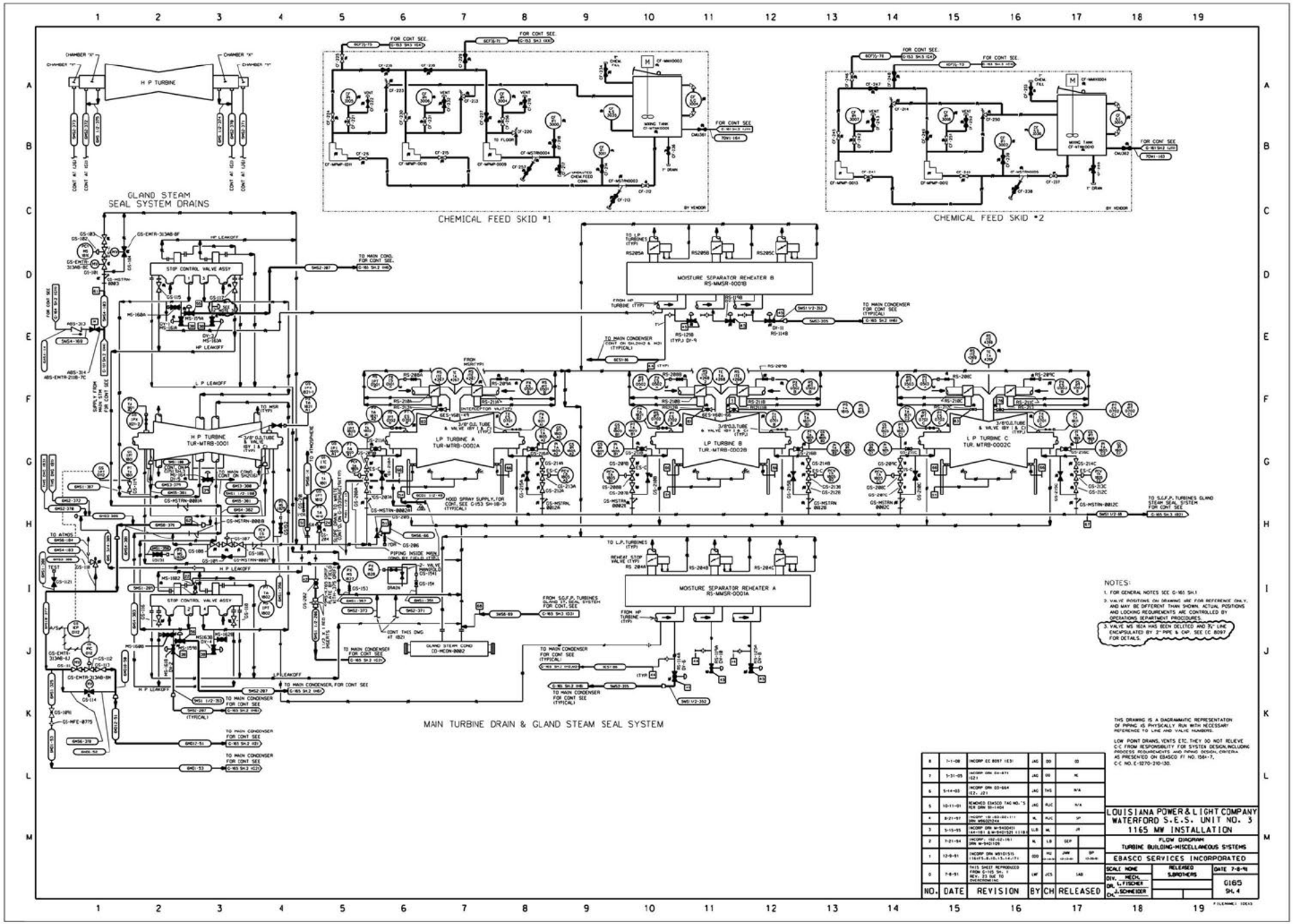
FLOW DIAGRAM
TURBINE BLDG. MISCELLANEOUS SYSTEMS

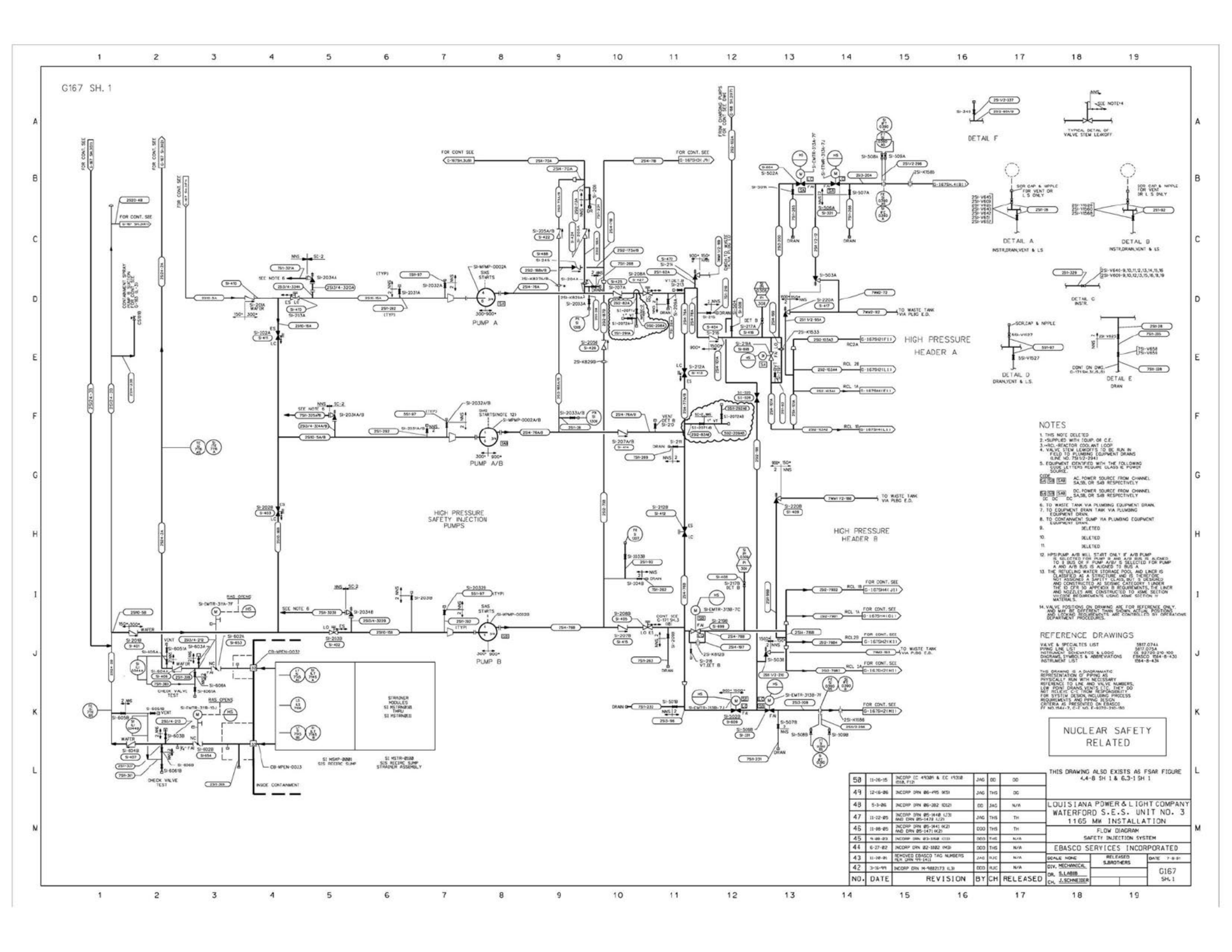
EBASCO SERVICES INCORPORATED

SCALE NONE | RELEASED S.BROTHERS | DATE 7-8-91
DIV. MECH.
DR. L.FISCHER
CH. J.SCHNEIDER

G165
SH. 1 OF 4

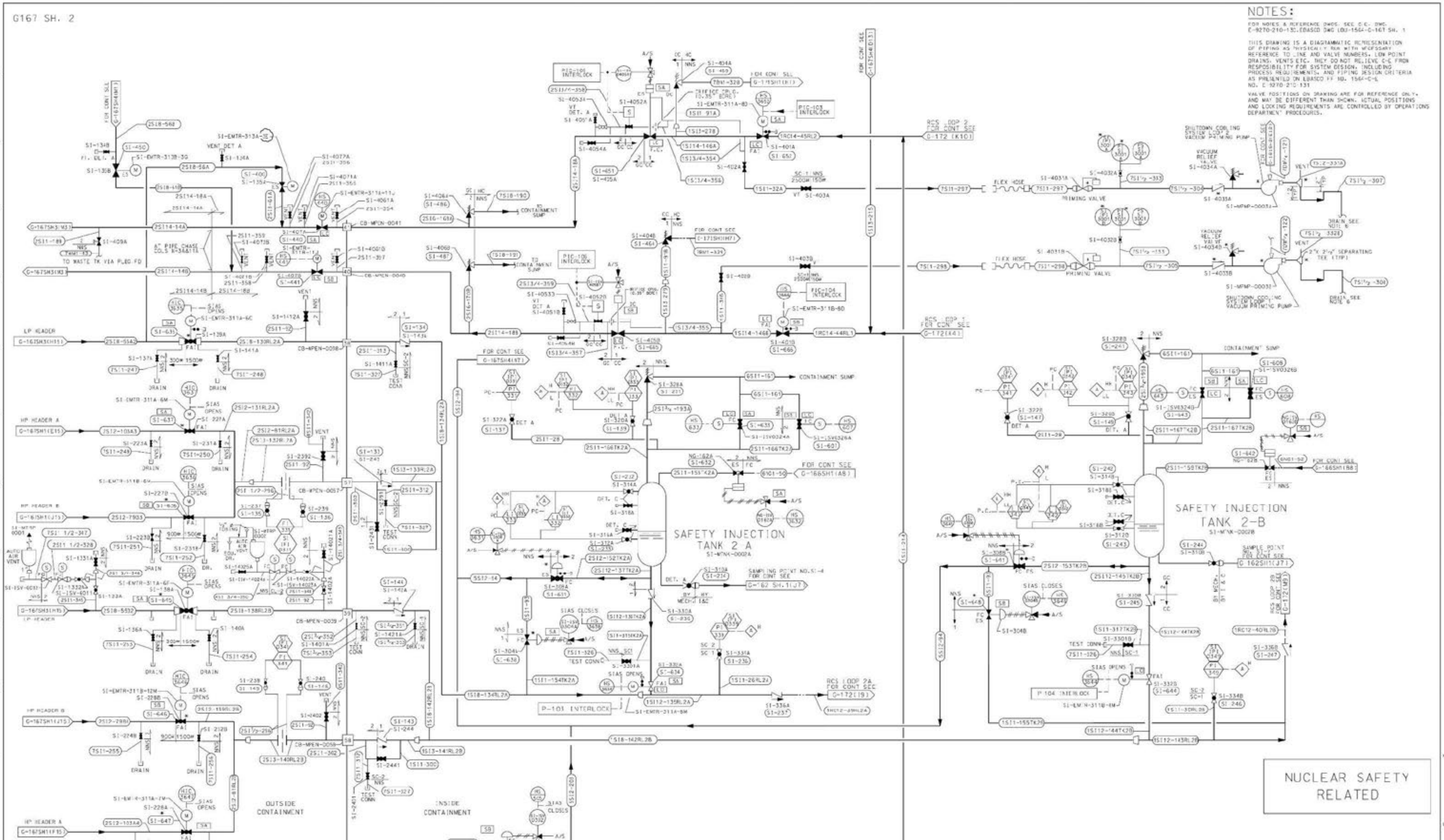
FILENAME: 30645


GLAND STEAM SEAL SYSTEM DRAINS
CHEMICAL FEED SKID #1
CHEMICAL FEED SKID #2
MAIN TURBINE DRAIN & GLAND STEAM SEAL SYSTEM
H P TURBINE TUR-MTRB-0001
LP TURBINE A TUR-MTRB-0001A
LP TURBINE B TUR-MTRB-0002B
L P TURBINE C TUR.MTRB-0002C
MOISTURE SEPARATOR REHEATER B RS-MMSR-0001B
MOISTURE SEPARATOR REHEATER A RS-MMSR-0001A
GLAND STEAM COND CD-MCON-0002
NOTES:
1. FOR GENERAL NOTES SEE G-165 SH.1
2. VALVE POSITIONS ON DRAWING ARE FOR REFERENCE ONLY, AND MAY BE DIFFERENT THAN SHOWN. ACTUAL POSITIONS AND LOCKING REQUIREMENTS ARE CONTROLLED BY OPERATIONS DEPARTMENT PROCEDURES.
3. VALVE MS 182A HAS BEEN DELETED AND 3/4" LINE ENCAPSULATED BY 2" PIPE & CAP. SEE CC 8097 FOR DETAILS.
THIS DRAWING IS A DIAGRAMMATIC REPRESENTATION OF PIPING AS PHYSICALLY RUN WITH NECESSARY REFERENCE TO LINE AND VALVE NUMBERS.
LOW POINT DRAINS, VENTS ETC. THEY DO NOT RELIEVE C-C FROM RESPONSIBILITY FOR SYSTEM DESIGN, INCLUDING PROCESS REQUIREMENTS AND PIPING DESIGN CRITERIA AS PRESENTED ON EBASCO FI NO. 1561-7, C-C NO. E-1270-210-130.
LOUISIANA POWER & LIGHT COMPANY
WATERFORD S.E.S. UNIT NO. 3
1165 MW INSTALLATION
FLOW DIAGRAM
TURBINE BUILDING-MISCELLANEOUS SYSTEMS
EBASCO SERVICES INCORPORATED
SCALE NONE
RELEASED FOR CONSTRUCTION
DATE 7-8-91
DIV. MECH.
DR. L.FISCHER
CH. J. SCHNEIDER
G165 SH. 4
NO. DATE REVISION BY CH RELEASED



NO.	DATE	REVISION	BY	CH	RELEASED
50	11-26-15	INCORP EC 49308 & EC 49352 (18, F12)	JAG	DD	DD
49	12-16-96	INCORP DRN 96-495 (KS)	JAG	THS	DG
48	5-3-96	INCORP DRN 96-282 (D12)	DD	JAG	N/A
47	11-22-95	INCORP DRN 95-1448 (L3) AND DRN 95-1479 (L2)	JAG	THS	TH
46	11-08-95	INCORP DRN 95-1441 (K2) AND DRN 95-1471 (K2)	DDG	THS	TH
45	4-28-93	INCORP DRN 93-1068 (D3)	DDG	THS	N/A
44	6-27-82	INCORP DRN 92-1002 (M3)	DDG	THS	N/A
43	11-20-91	REMOVED EBASCO TAG NUMBERS PER DRN 99-1410	JAG	RJC	N/A
42	3-19-99	INCORP DRN M-9802173 (L3)	DDG	RJC	N/A

G167 SH. 2



NOTES:

FOR NOTES & REFERENCE DWGS. SEE C-E- DWG- E-9270-210-130.EBASCO DWG LOU-1564-G-167 SH. 1

THIS DRAWING IS A DIAGRAMMATIC REPRESENTATION OF PIPING AS PHYSICALLY RUN WITH NECESSARY REFERENCE TO LINE AND VALVE NUMBERS. LOW POINT DRAINS, VENTS ETC. THEY DO NOT RELIEVE C-E FROM RESPOSIBILITY FOR SYSTEM DESIGN, INCLUDING PROCESS REQUIREMENTS, AND PIPING DESIGN CRITERIA AS PRESENTED ON EBASCO FF NO. 1564-C-E NO. E-9270-210-131

VALVE POSITIONS ON DRAWING ARE FOR REFERENCE ONLY, AND MAY BE DIFFERENT THAN SHOWN. ACTUAL POSITIONS AND LOCKING REQUIREMENTS ARE CONTROLLED BY OPERATIONS DEPARTMENT PROCEDURES.

NUCLEAR SAFETY RELATED

NO	DATE	REVISION	BY	CH	APPROVED
45	2-5-04	INCORP (B13,E13,H18,J12) DRN 04-144	DD	THS	N/A
44	11-18-03	INCORP (13,C5) ERN 03-1485	DD	THS	DVG
43	11-11-03	INCORP (D4) DRN 03-1286	DD	THS	N/A
42	11-7-03	INCORP (D5) DRN 02-1050	THS	DCC	RJG
41	10-14-03	INCORP (C3,C5) DRN 03-953	DD	THS	RF
40	10-2-03	INCORP (G5) DRN 02-945	DD	THS	TH
39	11-27-02	INCORP DRN 02-1788	THS	DD	TH
38	9-27-02	INCORP DRN 99 02 1883	THS	RJC	DJR
37	12-11-01	REMOVED EBASCO TAG NUMBERS PER DRN 99 1112	JAG	RJC	N/A
36	12-1-97	INCORP DRN M-9702835 (B1,J2,E12,H8,14,J1,10)	LB	RJC	N/A
35	7-1-97	INCORP DRN M-9801563(C2,D18)	LB	RJC	SLP
34	6-2-97	INCORP DRN (E5,H5)M9603154, (C5,K5) M970888	THS	RJC	RI
33	5-19-97	INCORP DRN I-9601257	LB	RJC	TA
32	1-15-97	INCORP DRN M-9602878	LB	ML	RJC

NO	DATE	REVISION	BY	CH	APPROVED
51	4-20-11	INCORP (B9) EC 14766	DD	JAG	JAG
50	10-1-09	INCORP (D10,E9) EC 13463 & EC 13464	DD	JAG	JAG
49	6-3-08	INCORP (H9) EC7/82 & (J9) EC1/84	DD	JAG	JAG
48	5-3-06	INCORP (C5,C3) DRN 06-283	DD	JAG	N/A
47	5-12-05	INCORP (C4) DRN 03-1285	JAG	THS	N/A
46	7-1-04	INCORP (H8) DRN 04-96	JAG	THS	N/A

NO	DATE	REVISION	BY	CH	APPROVED
53	4-11-17	INCORP (D3) EC 43934	JAG	DD	DC
52	5-9-11	INCORP (E8) EC 14767, ECN 29544	DD	JAG	JAG

THIS DRAWING ALSO EXISTS AS FSAR FIGURE NO. 4.4-8 SH 2 & 6.3-1 SH 2

LOUISIANA POWER & LIGHT COMPANY
WATERFORD SES. UNIT NO.3 TAFT, LA.

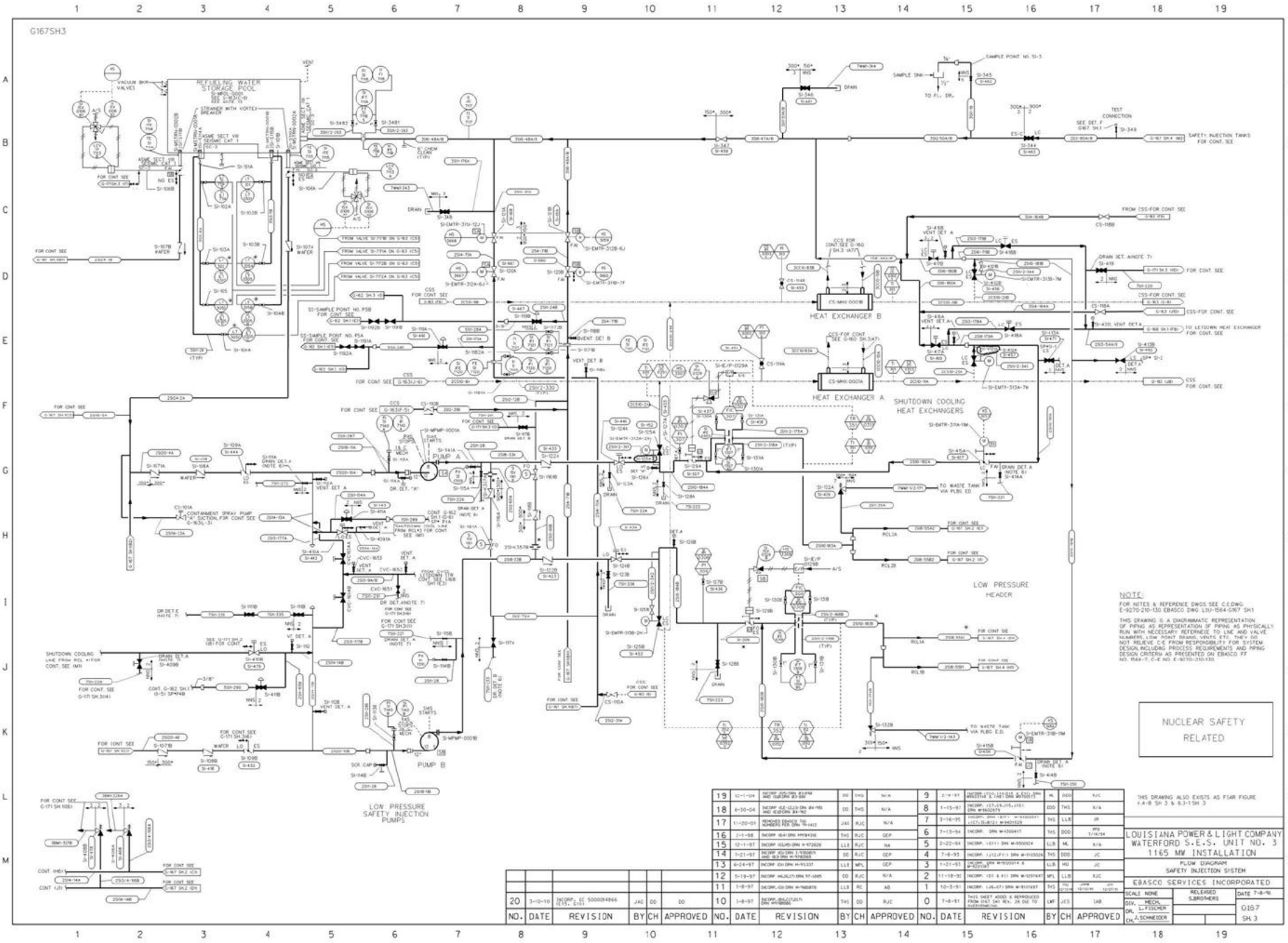
1165 MW INSTALLATION
FLOW DIAGRAM

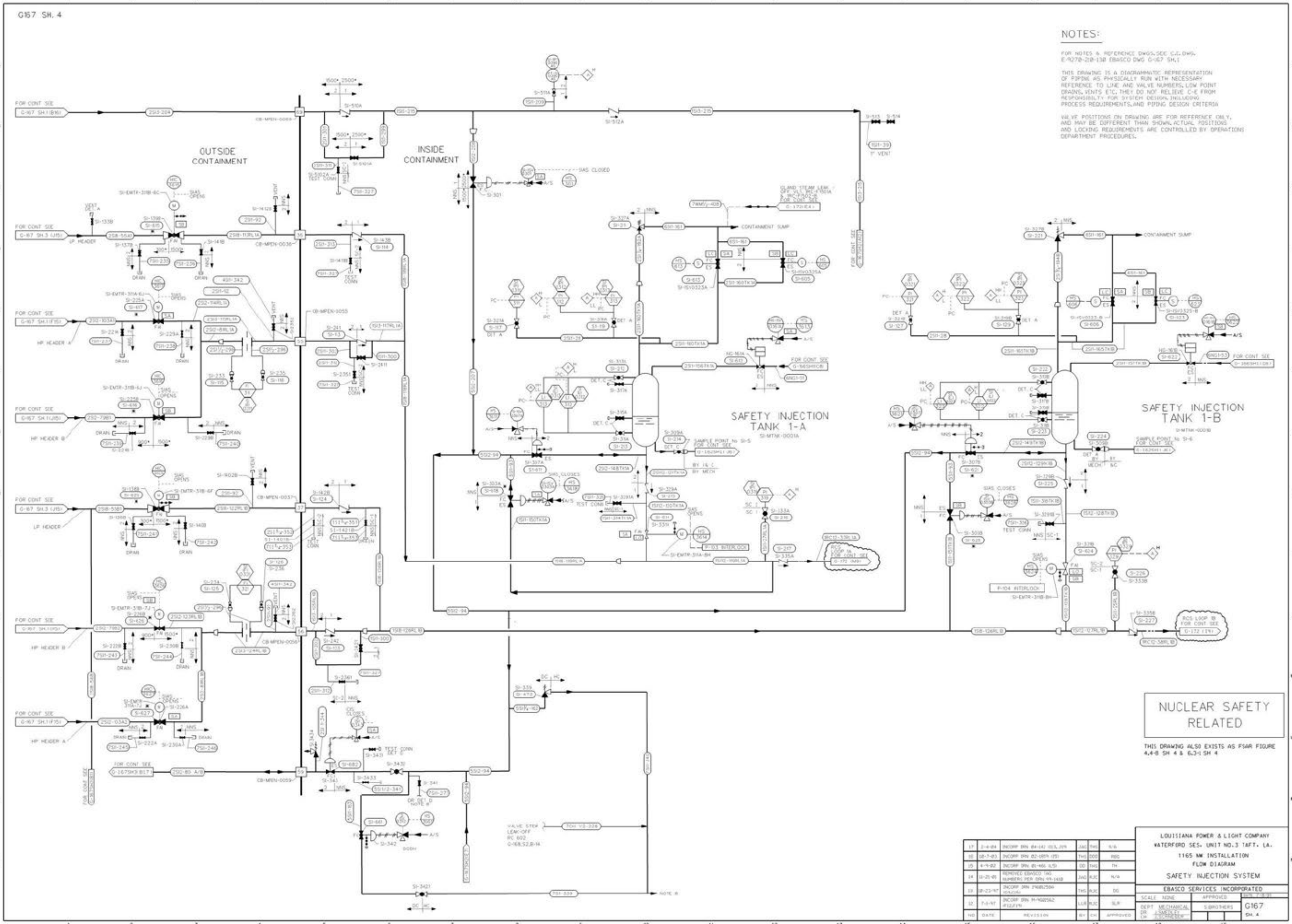
SAFETY INJECTION SYSTEM

EBASCO SERVICES INCORPORATED

SCALE NONE | APPROVED S.BROTHERS | DATE 7-8-81
DEPT MECHANICAL
DR J.SMEDLEY
CK J.SCHNEIDER

G167 SH. 2


G167SH3
REFUELING WATER STORAGE POOL
HEAT EXCHANGER B
HEAT EXCHANGER A
SHUTDOWN COOLING HEAT EXCHANGERS
LOW PRESSURE HEADER
PUMP A
PUMP B
LOW PRESSURE SAFETY INJECTION PUMPS
NOTE:
FOR NOTES & REFERENCE DWGS SEE C.E.DWG. E-9270-210-130 EBASCO DWG. L3U-1564-G167 SH.1
THIS DRAWING IS A DIAGRAMMATIC REPRESENTATION OF PIPING AS REPRESENTATION OF PIPING AS PHYSICALLY RUN WITH NECESSARY REFERNCE TO LINE AND VALVE NUMBERS, LOW POINT DRAINS, VENTS ETC. THEY DO NOT RELIEVE C.E. FROM RESPONSIBILITY FOR SYSTEM DESIGN, INCLUDING PROCESS REQUIREMENTS AND PIPING DESIGN CRITERIA AS PRESENTED ON EBASCO FF NO. 1564-7. C-E NO. E-9270-210-130
NUCLEAR SAFETY RELATED
THIS DRAWING ALSO EXISTS AS FSAR FIGURE 4.4-8 SH 3 & 6.3-1 SH 3
LOUISIANA POWER & LIGHT COMPANY
WATERFORD S.E.S. UNIT NO. 3
1165 MW INSTALLATION
FLOW DIAGRAM
SAFETY INJECTION SYSTEM
EBASCO SERVICES INCORPORATED
SCALE NONE
RELEASED S.BROTHERS
DATE 7-8-96
DSN. MECHL
DR. L. FISCHER
CH. J. SCHNEIDER
G167
SH. 3


G167 SH. 4
OUTSIDE CONTAINMENT
INSIDE CONTAINMENT
SAFETY INJECTION TANK 1-A
SAFETY INJECTION TANK 1-B
CONTAINMENT SUMP
LP HEADER
HP HEADER A
HP HEADER B
FOR CONT SEE
NOTES:
FOR NOTES & REFERENCE DWGS. SEE C.E. DWG. E-9270-210-130 EBASCO DWG G-167 SH.1
THIS DRAWING IS A DIAGRAMMATIC REPRESENTATION OF PIPING AS PHYSICALLY RUN WITH NECESSARY REFERENCE TO LINE AND VALVE NUMBERS, LOW POINT DRAINS, VENTS ETC. THEY DO NOT RELIEVE C-E FROM RESPONSIBILTY FOR SYSTEM DESIGN, INCLUDING PROCESS REQUIREMENTS, AND PIPING DESIGN CRITERIA
VALVE POSITIONS ON DRAWING ARE FOR REFERENCE ONLY, AND MAY BE DIFFERENT THAN SHOWN. ACTUAL POSITIONS AND LOCKING REQUIREMENTS ARE CONTROLLED BY OPERATIONS DEPARTMENT PROCEDURES.
NUCLEAR SAFETY RELATED
THIS DRAWING ALSO EXISTS AS FSAR FIGURE 4.4-8 SH 4 & 6.3-1 SH 4
LOUISIANA POWER & LIGHT COMPANY
WATERFORD SES. UNIT NO. 3 TAFT. LA.
1165 MW INSTALLATION
FLOW DIAGRAM
SAFETY INJECTION SYSTEM
EBASCO SERVICES INCORPORATED
SCALE NONE
APPROVED
DEPT MECHANICAL
S BROTHERS
G167
SH. 4
NO DATE REVISION BY CH APPROVED

G168 SH.1

THIS DRAWING IS A DIAGRAMMATIC REPRESENTATION OF PIPING AS PHYSICALLY RUN WITH NECESSARY REFERENCE TO LINE AND VALVE NUMBERS. LOW POINT DRAINS, VENTS, ETC. THEY DO NOT RELIEVE C-E FROM RESPONSIBILITY FOR SYSTEM DESIGN, INCLUDING PROCESS REQUIREMENTS, AND PIPING DESIGN CRITERIA AS PRESENTED ON EBASCO FF NO. 1564-5, C-E NO E-9270-210-120.

FUNCTIONALLY ABANDONED (PER DC 3432)

PROCESS RADIATION MONITOR RT-202 (FOR DETAILS SEE 5817-10445)

LETDOWN HEAT EXCHANGER

LETDOWN CONTROL VALVES

PURIFICATION ION EXCHANGER A

PURIFICATION ION EXCHANGER B

PURIFICATION ION EXCHANGER C

PURIFICATION FILTER

REGENERATIVE HEAT EXCHANGER

LETDOWN STRAINER

BORONOMETER

TYPICAL DETAIL OF VALVE STEM LEAKOFF

DET. A — VENT, INST. CONN. OR LS

DET. B — DRAIN, VENT, INST. CONN OR LS

DET. C — VENT

DET. E — VENT

DET. F — DRAIN, VENT, INST. CONN. OR LS

DET. G — DRAIN, VENT, INST. CONN. OR LS

DET. N — DRAINS & VENTS

DET. R (G6, G8) — DRAINS

DET. S (E6) — DRAIN

NOTES:

1. FOR SYMBOLS, ABBREVIATIONS & REFERENCE DWGS SEE E-9270-210-100 (EBASCO FF NO. 1564-3) AND LOU 1564-B431.
2. * = SUPPLIED BY C.E.
3. VALVE STEM LEAKOFFS TO BE RUN IN FIELD TO PLUMBING EQUIP. DRAINS. LEAKOFFS TO BE ½" SCH 80 SST PIPE (LINE NO. 7CH½-228)
4. DELETED
5. EQUIPMENT IDENTIFIED WITH THE FOLLOWING CODE LETTERS REQUIRE CLASS 1E POWER SOURCE: CODE SA SB SAB
   A.C. POWER SOURCE FROM CHANNEL SA, SB, OR SAB RESPECTIVELY.
6. FOR DETAILS OF REDUNDANT HEAT TRACING SYSTEM AND INDEPENDENT TEMPERATURE CONTROLS SEE DWG. LOU 1564 B-289 AND SPEC. LOU 1564.274B.
7. THE VENT, DRAIN, AND PX CONNECTIONS FROM HEAT TRACED LINES SHALL BE INSULATED WITH EQUIVALENT OF 1½" URETHANE TYPE INSULATION. NO HEAT TRACING IS REQ'D. IF THE PIPE NIPPLE BETWEEN THE HEADER AND ROOT VALVE DOES NOT EXCEED 6".
8. HEAT TRACE CIRCUITS ON SOME OF THE LINES ON G168 SHEET 2 HAVE BEEN DEACTIVATED. HEAT TRACE AND INSULATION ON THESE LINES MAY OR MAY NOT BE IN PLACE. REFER TO LINE LIST (5817-075A) FOR DETAILS.
9. VALVE POSITIONS ON DRAWING ARE FOR REFERENCE ONLY, AND MAY BE DIFFERENT THAN SHOWN. ACTUAL POSITIONS AND LOCKING REQUIREMENTS ARE CONTROLLED BY OPERATIONS DEPARTMENT PROCEDURES.

NUCLEAR SAFETY RELATED

THIS DRAWING ALSO EXISTS AS FSAR FIGURE 9.3-6, SH.1

NO.	DATE	REVISION DESCRIPTION	DFTR.	CH.	APPROVAL
43	11-08-09	INCORP EC 13560 ECN 16297 (G7, G6)	JAG	DD	DD
42	7-22-09	INCORP EC 16212	JAG	DD	EJ
41	2-4-04	INCORP DRN 04-145 (B8, C8, D8)	JAG	THS	N/A
40	12-13-01	REMOVED EBASCO TAG NUMBERS PER DRN 99-1415	JAG	RJC	N/A
39	11-11-00	INCORP DRN (E7) 00-328	DDD	THS	TH
38	7/28/98	INCORP DRN M9800375 (F8,A7,H4,D3,E6,E5,E4,B6,D4,)	DDD	LLB	N/A
37	12/2/97	INCORP. DRN M9702832 (D3,D4,D5,E7,F7,G6,H6)	THS	RJC	N/A
36	10/30/97	INCORP. DRN M9603042	THS	RJC	G.E.PAYNE
35	8/24/97	INCORP. (D2) DRN M9601494	THS	RJC	PD
34	12/11/95	INCORP. DRN M-9502790	RGR	LLB	TH
33	11/01/94	INCORP. (H3) DRN M-9401943	ML	LLB	TH
32	8/23/94	INCORP. (E4) DRN M-9401352 (A8,F8, D3,B1) M-9401529 & (B7,C7,D3,D4, D5,D6,D7,E5,E6,F4,F5) M-9401694	LLB	ML	TH
31	7/8/93	INCORP. (G6,B5) DRN M-9103027	THS	DDD	-
30	3/10/93	INCORP. (C6) DRN M-9001765 AND (B1) DRN M-9201387	MPL	LLB	JW
29	12/5/92	DRAWING REDRAWN FOR LEGIBILITY PER ENGINEERS REQUEST. FOR ORIGINAL SIGNATURE AND DATE SEE REV. 28	BLM	JCS	S.A.BROTHERS

LOUISIANA POWER & LIGHT COMPANY
WATERFORD S.E.S. UNIT NO. 3
1977 - 1165 MW INSTALLATION

FLOW DIAGRAM
CHEMICAL & VOLUME CONTROL SYSTEM

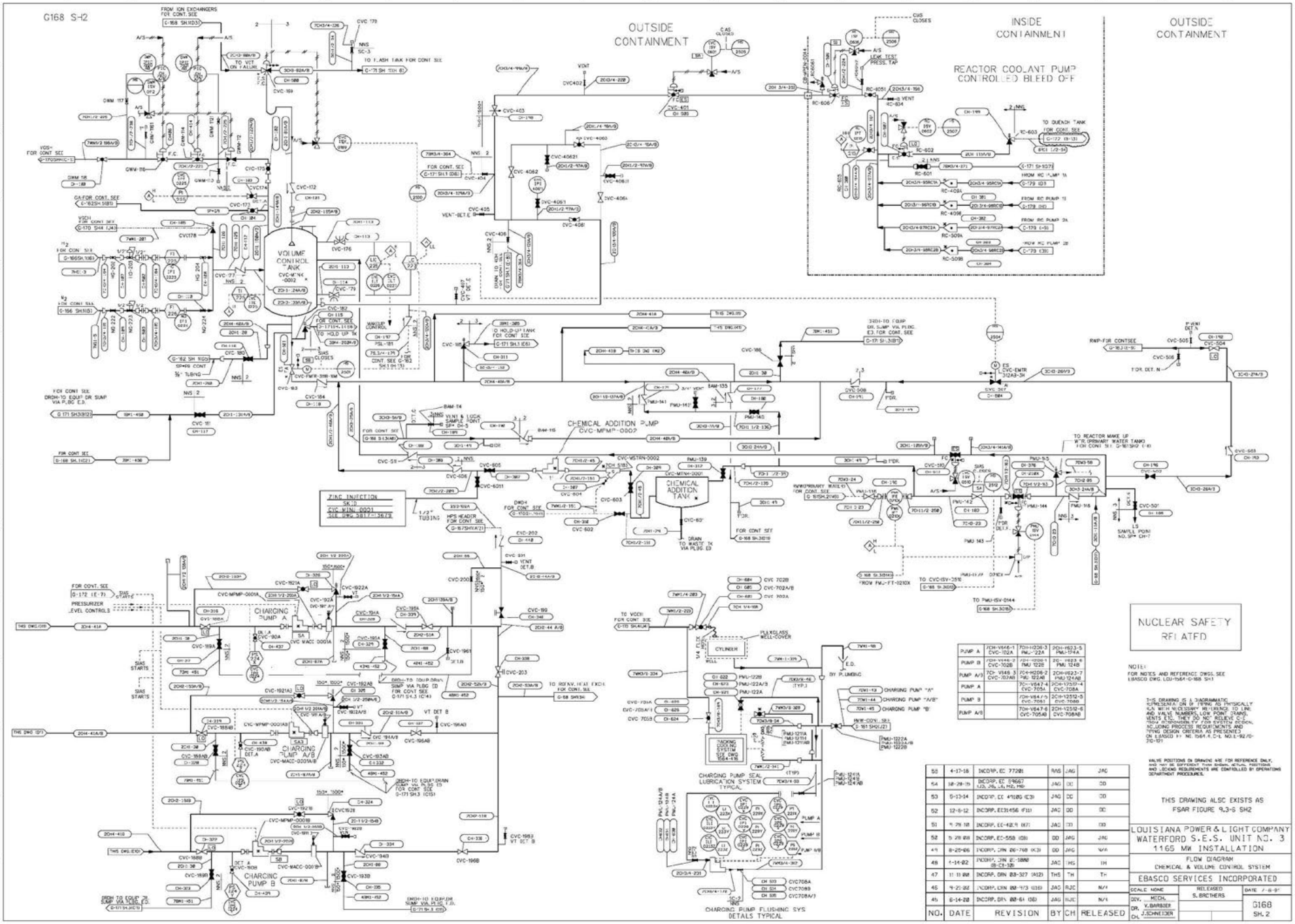
SCALE: NONE | APPROVED | DATE: 1-24-83

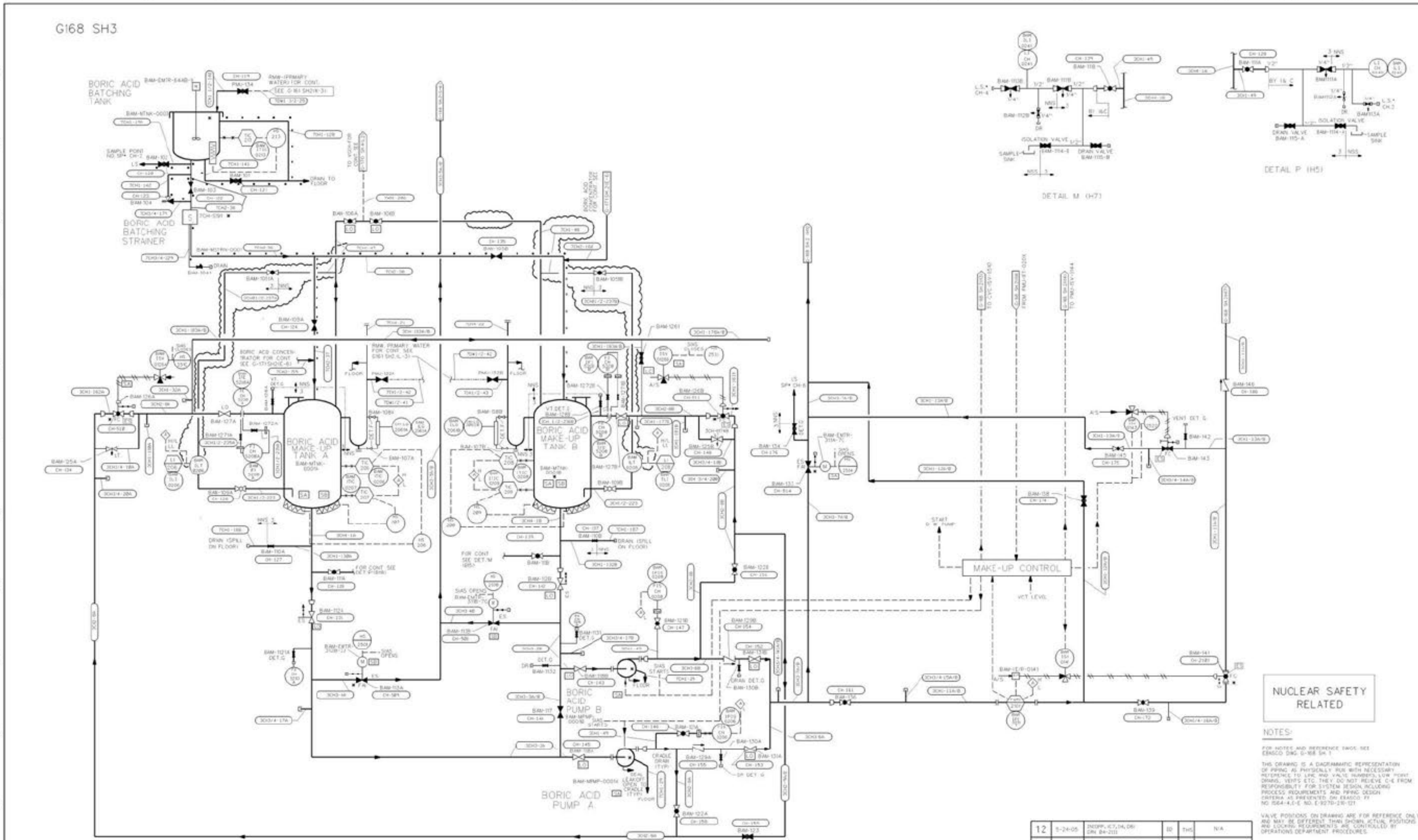
DIV. MECH
DR. R. LEMOINE
CH. G. BLAIR

JJH | OBF | JAJ

G168 SH.1

FILENAME: EB


G168 S-H2
OUTSIDE CONTAINMENT
INSIDE CONTAINMENT
OUTSIDE CONTAINMENT
REACTOR COOLANT PUMP CONTROLLED BLEED OFF
VOLUME CONTROL TANK CVC-MTNK-0002
CHEMICAL ADDITION PUMP CVC-MPMP-0002
CHEMICAL ADDITION TANK
CHARGING PUMP A
CHARGING PUMP A/B
CHARGING PUMP B
ZINC INJECTION SKID CVC-MTN-0001
CHARGING PUMP SEAL LUBRICATION SYSTEM TYPICAL
CHARGING PUMP FLUSHING SYS DETAILS TYPICAL
NUCLEAR SAFETY RELATED
LOUISIANA POWER & LIGHT COMPANY
WATERFORD S.E.S. UNIT NO. 3
1165 MW INSTALLATION
FLOW DIAGRAM
CHEMICAL & VOLUME CONTROL SYSTEM
EBASCO SERVICES INCORPORATED
G168
SH. 2



NUCLEAR SAFETY RELATED

NOTES:

FOR NOTES AND REFERENCE DWGS. SEE EBASCO DWG. G-168 SH. 1

THIS DRAWING IS A DIAGRAMMATIC REPRESENTATION OF PIPING AS PHYSICALLY RUN WITH NECESSARY REFERENCE TO LINE AND VALVE NUMBERS, LOW POINT DRAINS, VENTS ETC. THEY DO NOT RELIEVE C-E FROM RESPONSIBILITY FOR SYSTEM DESIGN, INCLUDING PROCESS REQUIREMENTS AND PIPING DESIGN CRITERIA AS PRESENTED ON EBASCO FY NO. 1564-4, C-E NO. E-9270-216-121

VALVE POSITIONS ON DRAWING ARE FOR REFERENCE ONLY, AND MAY BE DIFFERENT THAN SHOWN. ACTUAL POSITIONS AND LOCKING REQUIREMENTS ARE CONTROLLED BY OPERATIONS DEPARTMENT PROCEDURES.

THIS DRAWING ALSO EXISTS AS FSAR FIGURE 9.3-6 SH3

NO.	DATE	REVISION	BY	CH	RELEASED
12	5-24-05	INCORP. IC7, D4, D8) DRN 04-2111	[illegible]	THS	N/A
11	11-21-01	REMOVED EBASCO TAG NUMBERS PER DRN 01-1414	JAC	RJC	N/A
10	7-13-98	INCORP. [illegible] DRN M9800377	THS	RJC	N/A
9	12-18-97	INCORP. (F3, F10, F14, J17) DRN M9704488	THS	RJC	N/A
8	12-8-97	INCORP. (E10 & H7-1) DRN M9702625	SD	—	RJC
7	10-31-97	INCORP. DRN M9500640 & M9603044	THS	RJC	SEP
6	8-31-95	INCORP. (F3 & F9) DRN M9500978	RL	LLB	N/A
5	8-5-93	INCORP. [illegible] DRN M-940529	RL	LLB	JER 7-17-95
4	4-15-93	INCORP. (B15 & B19) DRN M-9000524	RL	LLB	DR MARTINS
3	1-27-93	INCORP. DRN M-920387	LLB	[illegible]	RJC [illegible]
2	11-23-92	INCORP. (G5 & K11) DRN M-920648	RL	LLB	RJC
1	11-23-91	INCORP. [illegible] DRN M-910698	THS	[illegible]	[illegible]
0	3-28-91	THIS SHEET ADDED AND REPRODUCED FROM G-168 SH. 2 REV. 28 DUE TO OVERCROWDING	SL	JCS	KW

LOUISIANA POWER & LIGHT COMPANY
WATERFORD S.E.S. UNIT NO. 3
1165 MW INSTALLATION

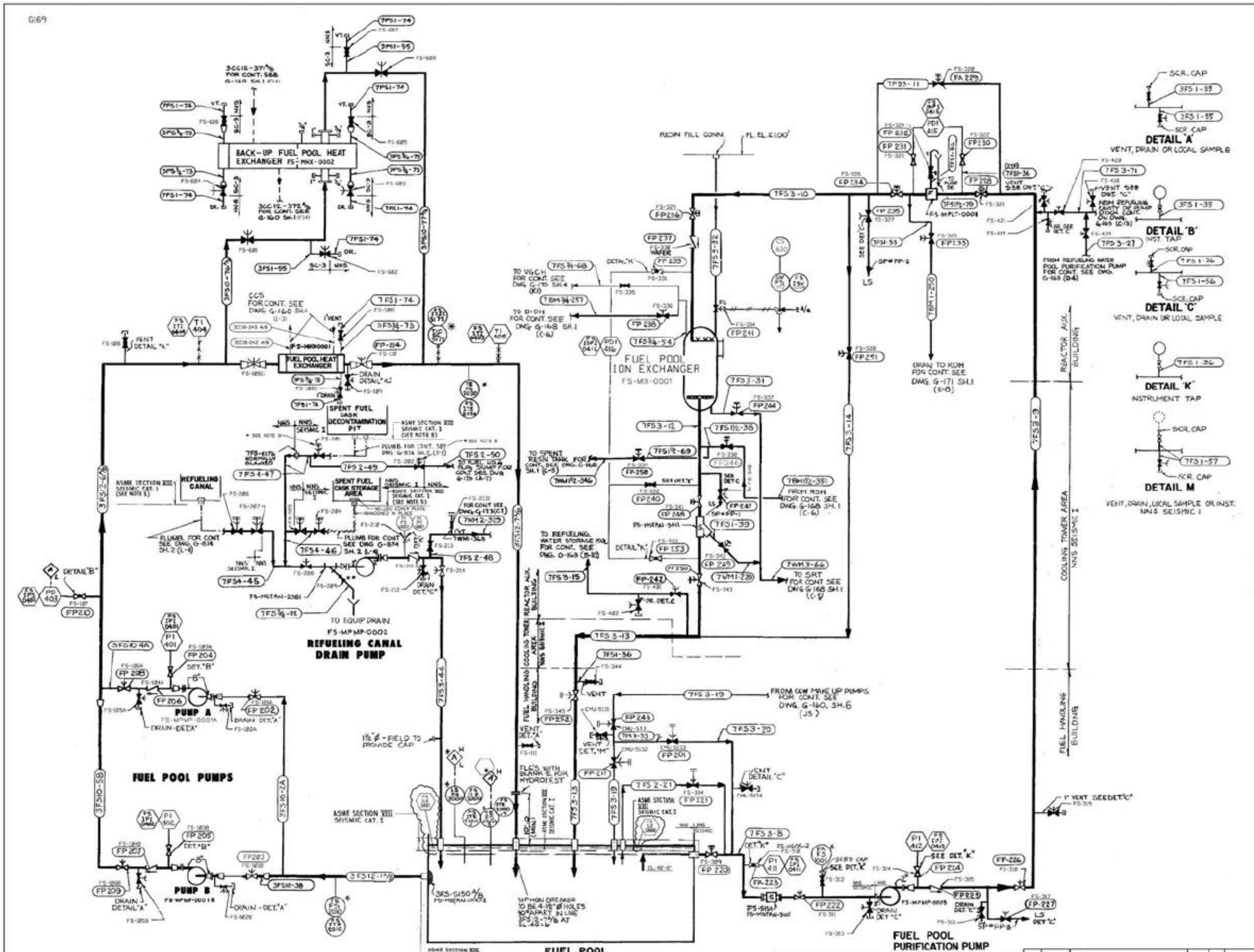
FLOW DIAGRAM
CHEMICAL & VOLUME CONTROL SYSTEM

EBASCO SERVICES INCORPORATED

SCALE NONE | RELEASED S. BROTHERS | DATE 7-8-91
DIV. MECH.
DR. S.LABIB
CH. J.SCHNEIDER

G168
SH. 3

G169



THIS DRAWING IS A DIAGRAMMATIC REPRESENTATION OF PIPING AS PHYSICALLY RUN WITH NECESSARY REFERENCE TO LINE AND VALVE NUMBERS, LOW POINT DRAINS, VENTS ETC. THEY DO NOT RELIEVE C-E FROM RESPONSIBILITY FOR SYSTEM DESIGN, INCLUDING PROCESS REQUIREMENTS, AND PIPING DESIGN CRITERIA AS PRESENTED ON EBASCO FF NO.1564-8, C-E NO.E-9270-210-140

NOTES

1- FOR SYMBOLS, ABBREVIATIONS AND REFERENCE DRAWINGS SEE E-9270-110-100 (EBASCO FF # 1564-3) & LOU 1564-B431.

2- FOR EBASCO LINE AND VALVE N°'S SEE 5817.047A AND 5817.075A RESPECTIVELY.

3- ✱ DENOTES INSTRUMENTATION FURNISHED BY EBASCO.

4- ✱✱ DENOTES FURNISHED BY STRAINER MFR.

5- THE FUEL POOL, REFUELING CANAL, SPENT FUEL CASK DECONTAMINATION PIT, SPENT FUEL CASK STORAGE AREA, WITH LINERS ARE CLASSIFIED AS STRUCTURES AND THEREFORE NOT ASSIGNED A SAFETY CLASS, BUT ARE DESIGNED AND CONSTRUCTED AS SEISMIC CATEGORY I UNDER THE 10 CFR 50 APPENDIX B REQUIREMENTS. THE LINERS AND NOZZLES ARE CONSTRUCTED TO ASME SECTION VIII CODE REQUIREMENTS USING ASME SECTION III MATERIALS.

6- VALVE POSITIONS ON DRAWING ARE FOR REFERENCE ONLY, AND MAY BE DIFFERENT THAN SHOWN. ACTUAL POSITIONS AND LOCKING REQUIREMENTS ARE CONTROLLED BY OPERATIONS DEPARTMENT PROCEDURES.

NUCLEAR SAFETY RELATED IN PART ONLY

8- VALVE FS-201 (7FS-V177) AND FS-202 (7FS-V608) ARE FLOOD BARRIERS FOR THE DESIGN BASIS FLOOD.

THIS DRAWING ALSO EXISTS AS FSAR FIGURE 9.1-4

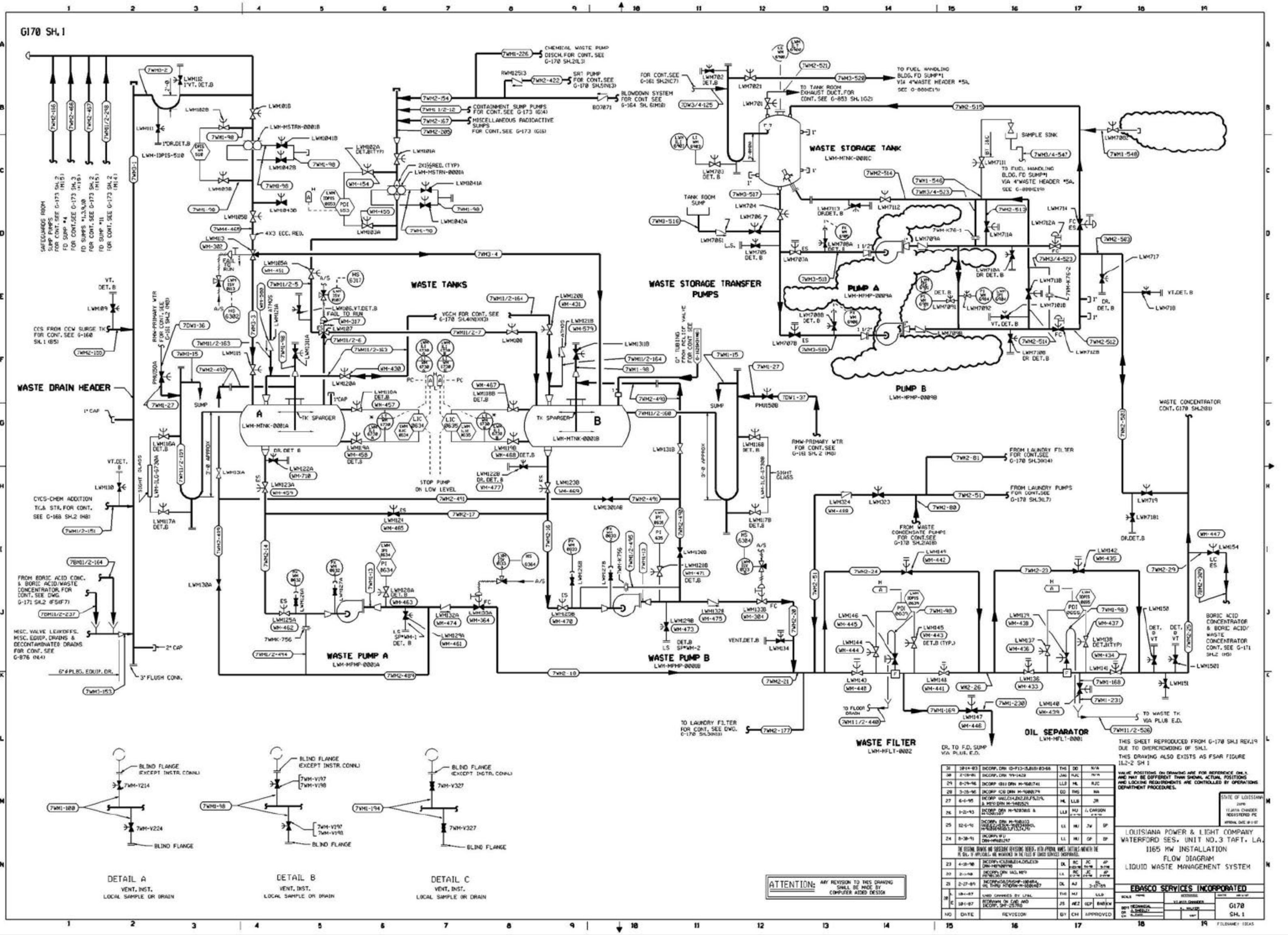
NO.	DATE	REVISION	BY	CH	APPROVED
32	11-11-15	INCORP (C5,C6) EC 48147	DD	JAG	JAG
31	7-29-15	INCORP (B7) EC 58877	JAG	DD	DD
30	8-25-14	INCORP (C7,H7) EC 52451	JAG	DD	DD
29	6-5-12	INCORP (G7) EC 36736	JAG	DD	DD
28	11-26-02	INCORP DRN 02-1694 (C5)	JAG	THS	N/A
27	11-26-01	REMOVED EBASCO TAG NUMBERS PER DRN 99-1411	JAG	RJC	N/A
26	2-22-99	INCORP (B5-6,C1,D7) DRN M9800124	THS	DD	RPP
25	9-15-98	INCORP (B1,D6,D7) DRN 09800568	DD	RJC	NEC
24	7-10-97	INCORP (C5& B4) DRN C9702441	ML	RJC	N/A
23	8-21-94	INCORP. DRN M-9300466 (B5,C1) & M-9401529 (E6,E7,B1)	LLB	ML	WDS
22	1-21-93	INCORP. DRN M-9201387 & M-9203015	LLB	HU	JEC
21	9-11-92	INCORP. (C5) DRN M-9002110	ML	RC	JEC
20	12-1-91	INCORP DRN M9101303(C4),M9101699 (B4)M9001758(E6,E7)	LL	HU	JW 12-06-91 / JH 12-27-91

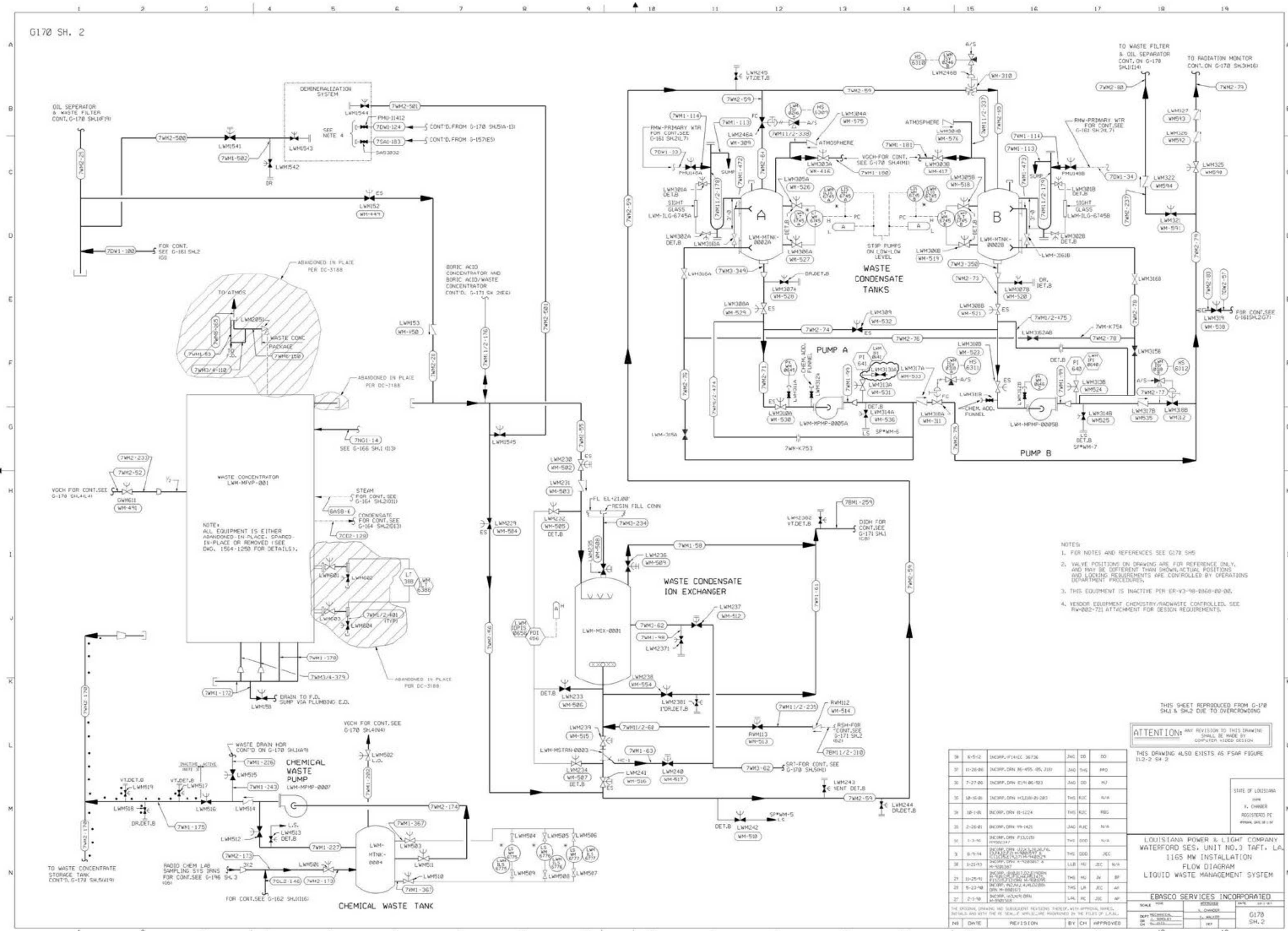
ENTERGY OPERATIONS, INC.
WATERFORD S.E.S. UNIT NO. 3
1165 MW INSTALLATION

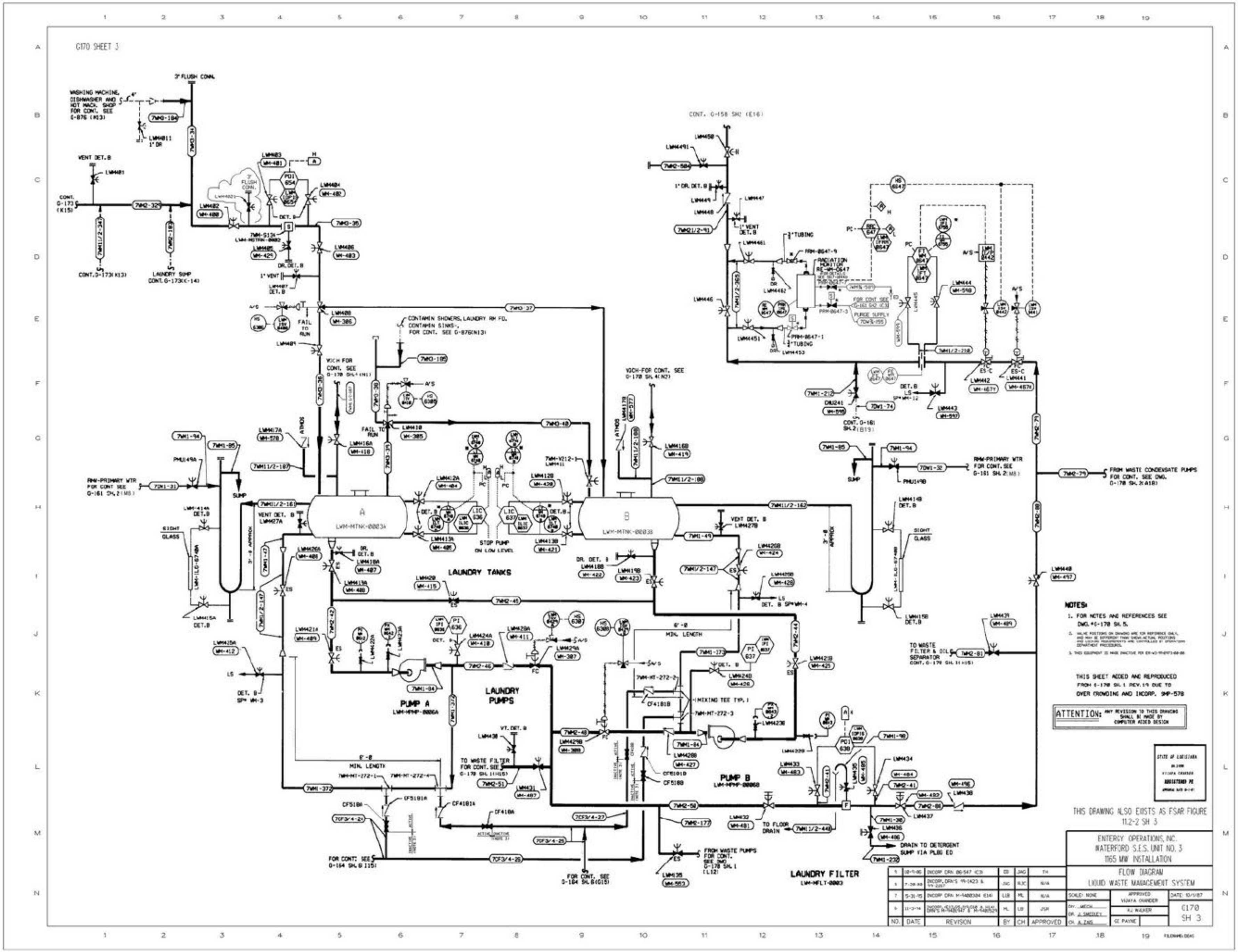
FLOW DIAGRAM
FUEL POOL SYSTEM

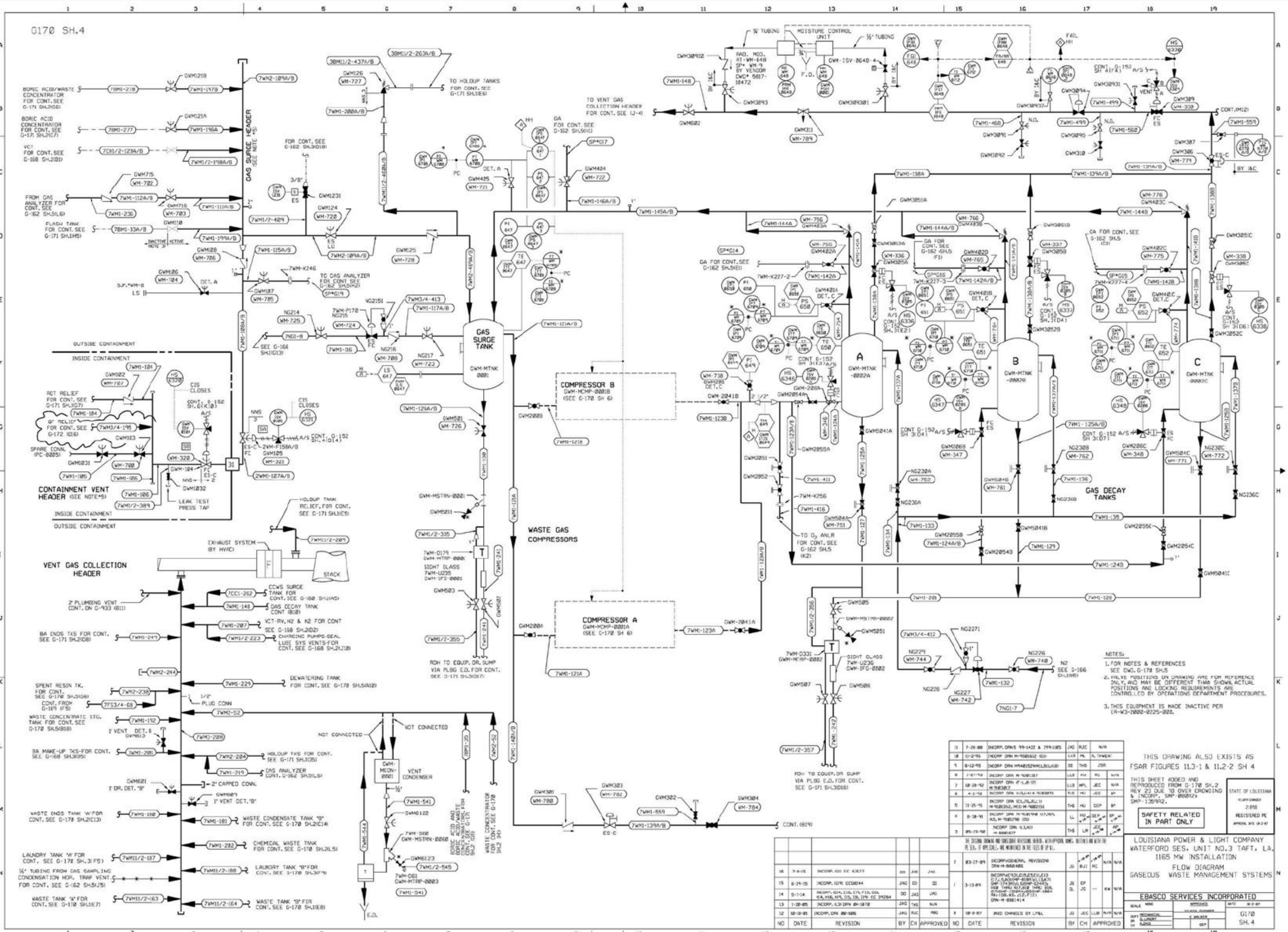
SCALE: NONE
APPROVED CARL GRAY
DATE: 2-8-85
DIV. MECH
DR SCHIEFERSTEIN
CH. J.RUSSO
JJH CBR JAJ

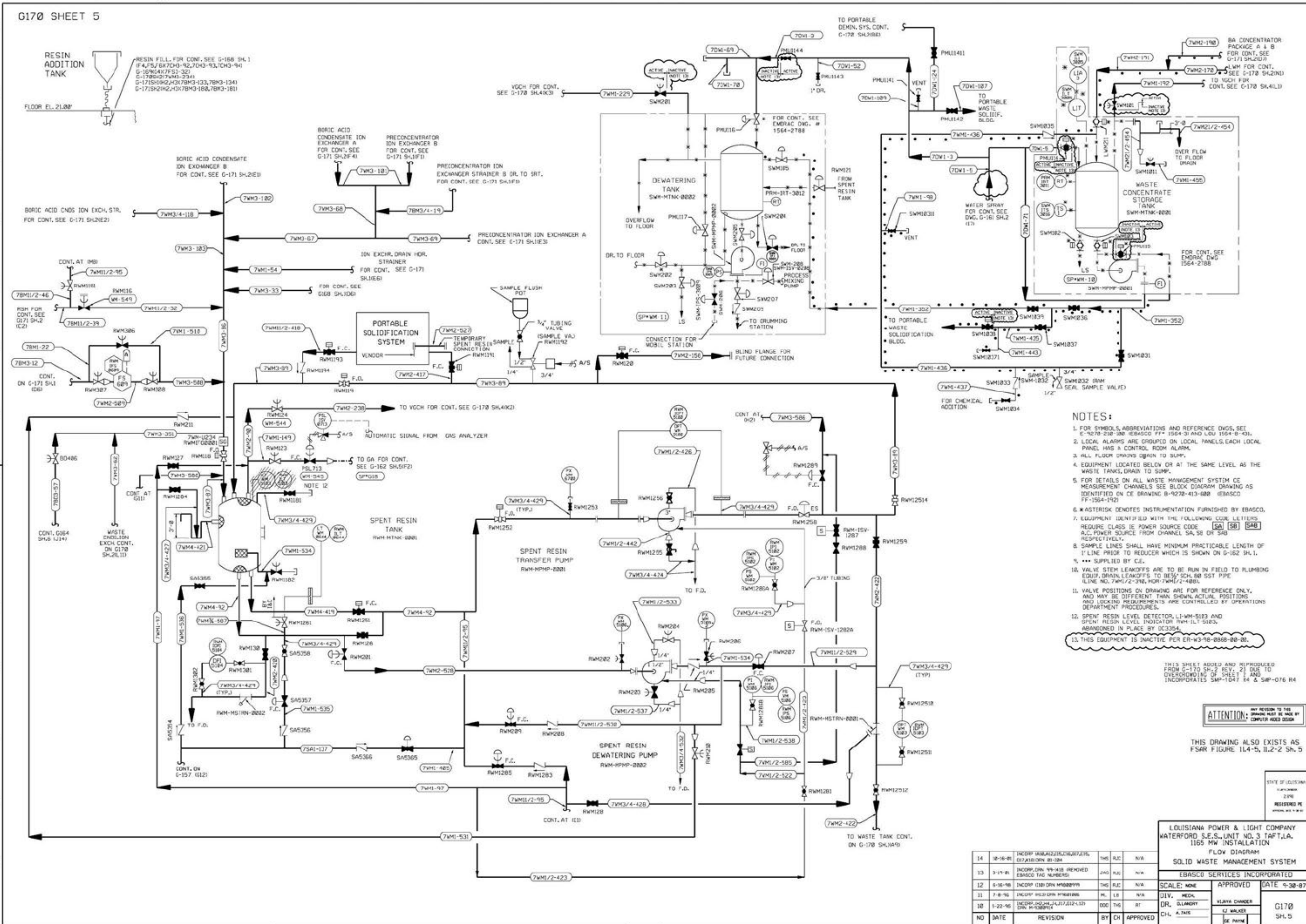
G169


G170 SH.1
WASTE DRAIN HEADER
WASTE TANKS
WASTE STORAGE TRANSFER PUMPS
WASTE STORAGE TANK
LWM-MTNK-0001C
PUMP A
LWM-MPMP-0009A
PUMP B
LWM-MPMP-0009B
LWM-MTNK-0001A
LWM-MTNK-0001B
TK SPARGER
SUMP
WASTE PUMP A
LWM-MPMP-0001A
WASTE PUMP B
LWM-MPMP-0001B
WASTE FILTER
LWM-MFLT-0002
OIL SEPARATOR
LWM-MFLT-0001
STOP PUMP ON LOW LEVEL
CHEMICAL WASTE PUMP DISCH. FOR CONT. SEE G-170 SH.2(L1)
SRT PUMP FOR CONT. SEE G-170 SH.5(N1)
BLOWDOWN SYSTEM FOR CONT. SEE G-164 SH. 6(M10)
CONTAINMENT SUMP PUMPS FOR CONT. SEE G-173 (G14)
MISCELLANEOUS RADIOACTIVE SUMPS FOR CONT. SEE G-173 (G16)
TO FUEL HANDLING BLDG. FD SUMP*1 VIA 4"WASTE HEADER *5A. SEE G-880(E19)
TO TANK ROOM EXHAUST DUCT. FOR CONT. SEE G-853 SH. 1(G2)
SAMPLE SINK
TANK ROOM SUMP
WASTE CONCENTRATOR CONT. G170 SH.2(B1)
FROM LAUNDRY FILTER FOR CONT. SEE G-170 SH.3(K4)
FROM LAUNDRY PUMPS FOR CONT. SEE G-170 SH.3(L7)
FROM WASTE CONDENSATE PUMPS FOR CONT. SEE G-170 SH.2(A10)
BORIC ACID CONCENTRATOR & BORIC ACID/ WASTE CONCENTRATOR CONT. SEE G-171 SH.2 (H5)
TO LAUNDRY FILTER FOR CONT. SEE DWG. G-170 SH.3(K1)
TO FLOOR DRAIN
DR. TO F.D. SUMP VIA PLUG E.D.
TO WASTE TK VIA PLUG E.D.
SAFEGUARDS ROOM SUMP PUMPS FOR CONT. SEE G-173 SH.2 (M13)
FD SUMP *4 FOR CONT. SEE G-173 SH.3 (M10)
FD SUMPS *1,3,9,10 FOR CONT. SEE G-173 SH.2 (M15)
FD SUMP *11 FOR CONT. SEE G-173 SH.2 (M14)
CCS FROM CCW SURGE TK FOR CONT. SEE G-160 SH.1 (B5)
CYCS-CHEM ADDITION TK.& STR. FOR CONT. SEE G-168 SH.2 (H8)
FROM BORIC ACID CONC. & BORIC ACID/WASTE CONCENTRATOR. FOR CONT. SEE DWG. G-171 SH.2 (F5)(F7)
MISC. VALVE LEAKOFFS. MISC. EQUIP. DRAINS & DECONTAMINATED DRAINS FOR CONT. SEE G-876 (N4)
6"Ø PLBG. EQUIP. DR.
3" FLUSH CONN.
RMW-PRIMARY WTR FOR CONT. SEE G-161 SH.2 (M8)
DETAIL A
VENT. INST.
LOCAL SAMPLE OR DRAIN
DETAIL B
VENT. INST.
LOCAL SAMPLE OR DRAIN
DETAIL C
VENT. INST.
LOCAL SAMPLE OR DRAIN
BLIND FLANGE
BLIND FLANGE (EXCEPT INSTR. CONN.)
ATTENTION: ANY REVISION TO THIS DRAWING SHALL BE MADE BY COMPUTER AIDED DESIGN
THIS SHEET REPRODUCED FROM G-170 SH.1 REV.19 DUE TO OVERCROWDING OF SH.1.
THIS DRAWING ALSO EXISTS AS FSAR FIGURE 11.2-2 SH 1
VALVE POSITIONS ON DRAWING ARE FOR REFERENCE ONLY AND MAY BE DIFFERENT THAN SHOWN. ACTUAL POSITIONS AND LOCKING REQUIREMENTS ARE CONTROLLED BY OPERATIONS DEPARTMENT PROCEDURES.
LOUISIANA POWER & LIGHT COMPANY
WATERFORD SES. UNIT NO.3 TAFT, LA.
1165 MW INSTALLATION
FLOW DIAGRAM
LIQUID WASTE MANAGEMENT SYSTEM
EBASCO SERVICES INCORPORATED
G170
SH. 1
NO. DATE REVISION BY CH APPROVED


G170 SH. 2
OIL SEPERATOR & WASTE FILTER CONT. G-170 SH.1(F19)
DEMINERALIZATION SYSTEM
SEE NOTE 4
CONT'D. FROM G-170 SH.5(A-13)
CONT'D. FROM G-157(E5)
FOR CONT. SEE G-161 SH.2 (G1)
ABANDONED IN PLACE PER DC-3188
TO ATMOS
WASTE CONC PACKAGE
BORIC ACID CONCENTRATOR AND BORIC ACID/WASTE CONCENTRATOR CONT'D. G-171 SH.2(E6)
WASTE CONCENTRATOR LWM-MFVP-001
NOTE: ALL EQUIPMENT IS EITHER ABANDONED-IN-PLACE, SPARED-IN-PLACE OR REMOVED (SEE DWG. 1564-1250 FOR DETAILS).
SEE G-166 SH.1 (I3)
STEAM FOR CONT. SEE G-164 SH.2(D11)
CONDENSATE FOR CONT. SEE G-164 SH.2(D13)
VGCH FOR CONT. SEE G-170 SH.4(L4)
DRAIN TO F.D. SUMP VIA PLUMBING E.D.
WASTE DRAIN HDR CONT'D ON G-170 SH.1(A9)
CHEMICAL WASTE PUMP LWM-MPMP-0007
VGCH FOR CONT. SEE G-170 SH.4(N4)
TO WASTE CONCENTRATE STORAGE TANK CONT'D. G-170 SH.5(A19)
RADIO CHEM LAB SAMPLING SYS DRNS FOR CONT. SEE G-196 SH.3 (G6)
FOR CONT. SEE G-162 SH.1(I16)
CHEMICAL WASTE TANK
WASTE CONDENSATE ION EXCHANGER
LWM-MIX-0001
RESIN FILL CONN
DIDH FOR CONT. SEE G-171 SH.1 (C8)
RSH-FOR CONT. SEE G-171 SH.2 (B2)
SR1-FOR CONT. SEE G-170 SH.5(H1)
RMW-PRIMARY WTR FOR CONT. SEE G-161 SH.2(L7)
VGCH-FOR CONT. SEE G-170 SH.4(M1)
ATMOSPHERE
LWM-MTNK-0002A
LWM-MTNK-0002B
STOP PUMPS ON LOW-LOW LEVEL
WASTE CONDENSATE TANKS
PUMP A
PUMP B
LWM-MPMP-0005A
LWM-MPMP-0005B
CHEM. ADD. FUNNEL
TO WASTE FILTER & OIL SEPARATOR CONT. ON G-170 SH.1(I14)
TO RADIATION MONITOR CONT. ON G-170 SH.1(H16)
FOR CONT. SEE G-161 SH.2(G7)
NOTES:
1. FOR NOTES AND REFERENCES SEE G170 SH5
2. VALVE POSITIONS ON DRAWING ARE FOR REFERENCE ONLY, AND MAY BE DIFFERENT THAN SHOWN. ACTUAL POSITIONS AND LOCKING REQUIREMENTS ARE CONTROLLED BY OPERATIONS DEPARTMENT PROCEDURES.
3. THIS EQUIPMENT IS INACTIVE PER ER-W3-98-0060-00-00.
4. VENDOR EQUIPMENT CHEMISTRY/RADWASTE CONTROLLED. SEE RW-002-721 ATTACHMENT FOR DESIGN REQUIREMENTS.
THIS SHEET REPRODUCED FROM G-170 SH.1 & SH.2 DUE TO OVERCROWDING
ATTENTION: ANY REVISION TO THIS DRAWING SHALL BE MADE BY COMPUTER AIDED DESIGN
THIS DRAWING ALSO EXISTS AS FSAR FIGURE 11.2-2 SH 2
STATE OF LOUISIANA
REGISTERED PE
LOUISIANA POWER & LIGHT COMPANY
WATERFORD SES. UNIT NO.3 TAFT, LA.
1165 MW INSTALLATION
FLOW DIAGRAM
LIQUID WASTE MANAGEMENT SYSTEM
EBASCO SERVICES INCORPORATED
NO DATE REVISION BY CH APPROVED
G170 SH. 2


G170 SHEET 3
LAUNDRY TANKS
LWM-MTNK-0003A
LWM-MTNK-0003B
STOP PUMP ON LOW LEVEL
LAUNDRY PUMPS
PUMP A
LWM-MPMP-0006A
PUMP B
LWM-MPMP-0006B
LAUNDRY FILTER
LWM-MFLT-0003
DRAIN TO DETERGENT SUMP VIA PLBG ED
NOTES:
1. FOR NOTES AND REFERENCES SEE DWG. #G-170 SH. 5.
THIS SHEET ADDED AND REPRODUCED FROM G-170 SH. 1 REV. 19 DUE TO OVER CROWDING AND INCORP. SMP-578
ATTENTION: ANY REVISION TO THIS DRAWING SHALL BE MADE BY COMPUTER AIDED DESIGN
THIS DRAWING ALSO EXISTS AS FSAR FIGURE 11.2-2 SH 3
ENTERGY OPERATIONS, INC.
WATERFORD S.E.S. UNIT NO. 3
1165 MW INSTALLATION
FLOW DIAGRAM
LIQUID WASTE MANAGEMENT SYSTEM
SCALE: NONE
DATE: 10/1/87
G170
SH 3
NO.
DATE
REVISION
BY
CH
APPROVED


G170 SH.4
GAS SURGE HEADER (SEE NOTE *5)
CONTAINMENT VENT HEADER (SEE NOTE*5)
OUTSIDE CONTAINMENT
INSIDE CONTAINMENT
GAS SURGE TANK GWM-MTNK 0001
COMPRESSOR B GWM-MCMP-0001B (SEE G-170 SH 6)
COMPRESSOR A GWM-MCMP-0001A (SEE G-170 SH 6)
WASTE GAS COMPRESSORS
VENT GAS COLLECTION HEADER
EXHAUST SYSTEM (BY HVAC)
STACK
GAS DECAY TANKS
A GWM-MTNK-0002A
B GWM-MTNK-0002B
C GWM-MTNK-0002C
MOISTURE CONTROL UNIT
TO VENT GAS COLLECTION HEADER FOR CONT. SEE (J-4)
NOTES:
1. FOR NOTES & REFERENCES SEE DWG. G-170 SH.5
2. VALVE POSITIONS ON DRAWING ARE FOR REFERENCE ONLY, AND MAY BE DIFFERENT THAN SHOWN. ACTUAL POSITIONS AND LOCKING REQUIREMENTS ARE CONTROLLED BY OPERATIONS DEPARTMENT PROCEDURES.
3. THIS EQUIPMENT IS MADE INACTIVE PER ER-W3-2000-0225-000.
THIS DRAWING ALSO EXISTS AS FSAR FIGURES 11.3-1 & 11.2-2 SH 4
THIS SHEET ADDED AND REPRODUCED FROM G-170 SH.2 REV 23 DUE TO OVER CROWDING & INCORP. SMP-0002R2; SMP-1359R2.
SAFETY RELATED IN PART ONLY
STATE OF LOUISIANA
REGISTERED PE
LOUISIANA POWER & LIGHT COMPANY
WATERFORD SES. UNIT NO.3 TAFT, LA.
1165 MW INSTALLATION
FLOW DIAGRAM
GASEOUS WASTE MANAGEMENT SYSTEMS
EBASCO SERVICES INCORPORATED
SCALE NONE
G170
SH. 4



NOTES:

1. FOR SYMBOLS, ABBREVIATIONS AND REFERENCE DWGS. SEE E-9270-210-100 (EBASCO FF* 1564-3) AND LOU 1564-B-431.
2. LOCAL ALARMS ARE GROUPED ON LOCAL PANELS. EACH LOCAL PANEL HAS A CONTROL ROOM ALARM.
3. ALL FLOOR DRAINS DRAIN TO SUMP.
4. EQUIPMENT LOCATED BELOW OR AT THE SAME LEVEL AS THE WASTE TANKS, DRAIN TO SUMP.
5. FOR DETAILS ON ALL WASTE MANAGEMENT SYSTEM CE MEASUREMENT CHANNELS SEE BLOCK DIAGRAM DRAWING AS IDENTIFIED ON CE DRAWING B-9270-413-000 (EBASCO FF-1564-192)
6. * ASTERISK DENOTES INSTRUMENTATION FURNISHED BY EBASCO.
7. EQUIPMENT IDENTIFIED WITH THE FOLLOWING CODE LETTERS REQUIRE CLASS IE POWER SOURCE CODE [SA] [SB] [SAB] A.C. POWER SOURCE FROM CHANNEL SA, SB OR SAB RESPECTIVELY.
8. SAMPLE LINES SHALL HAVE MINIMUM PRACTICABLE LENGTH OF 1" LINE PRIOR TO REDUCER WHICH IS SHOWN ON G-162 SH. 1.
9. ••• SUPPLIED BY C.E.
10. VALVE STEM LEAKOFFS ARE TO BE RUN IN FIELD TO PLUMBING EQUIP. DRAIN. LEAKOFFS TO BE ½" SCH. 80 SST PIPE (LINE NO. 7WM1/2-390, HOR-7WM1/2-400).
11. VALVE POSITIONS ON DRAWING ARE FOR REFERENCE ONLY, AND MAY BE DIFFERENT THAN SHOWN. ACTUAL POSITIONS AND LOCKING REQUIREMENTS ARE CONTROLLED BY OPERATIONS DEPARTMENT PROCEDURES.
12. SPENT RESIN LEVEL DETECTOR, LI-WM-5103 AND SPENT RESIN LEVEL INDICATOR RWM-ILT-5103, ABANDONED IN PLACE BY DC3354.
13. THIS EQUIPMENT IS INACTIVE PER ER-W3-98-0868-00-00.

THIS SHEET ADDED AND REPRODUCED FROM G-170 SH.2 REV. 23 DUE TO OVERCROWDING OF SHEET 2 AND INCORPORATES SMP-1047 R4 & SMP-076 R4

ATTENTION: ANY REVISION TO THIS DRAWING MUST BE MADE BY COMPUTER AIDED DESIGN

THIS DRAWING ALSO EXISTS AS FSAR FIGURE 11.4-5, 11.2-2 Sh. 5

STATE OF LOUISIANA
REGISTERED PE

NO	DATE	REVISION	BY	CH	APPROVED
14	10-16-01	INCORP (A10,A12,I15,C16,D17,E15, D17,K18) DRN 01-104	THS	RJC	N/A
13	3-19-01	INCORP. DRN 99-1418 (REMOVED EBASCO TAG NUMBERS)	JAG	RJC	N/A
12	6-16-98	INCORP (I10) DRN M9800999	THS	RJC	N/A
11	7-8-96	INCORP (H13) DRN M9601005	ML	LB	N/A
10	1-22-96	INCORP. (H2,H4,J4,J17,G12-L12) DRN M-9300914	DDD	THS	RT

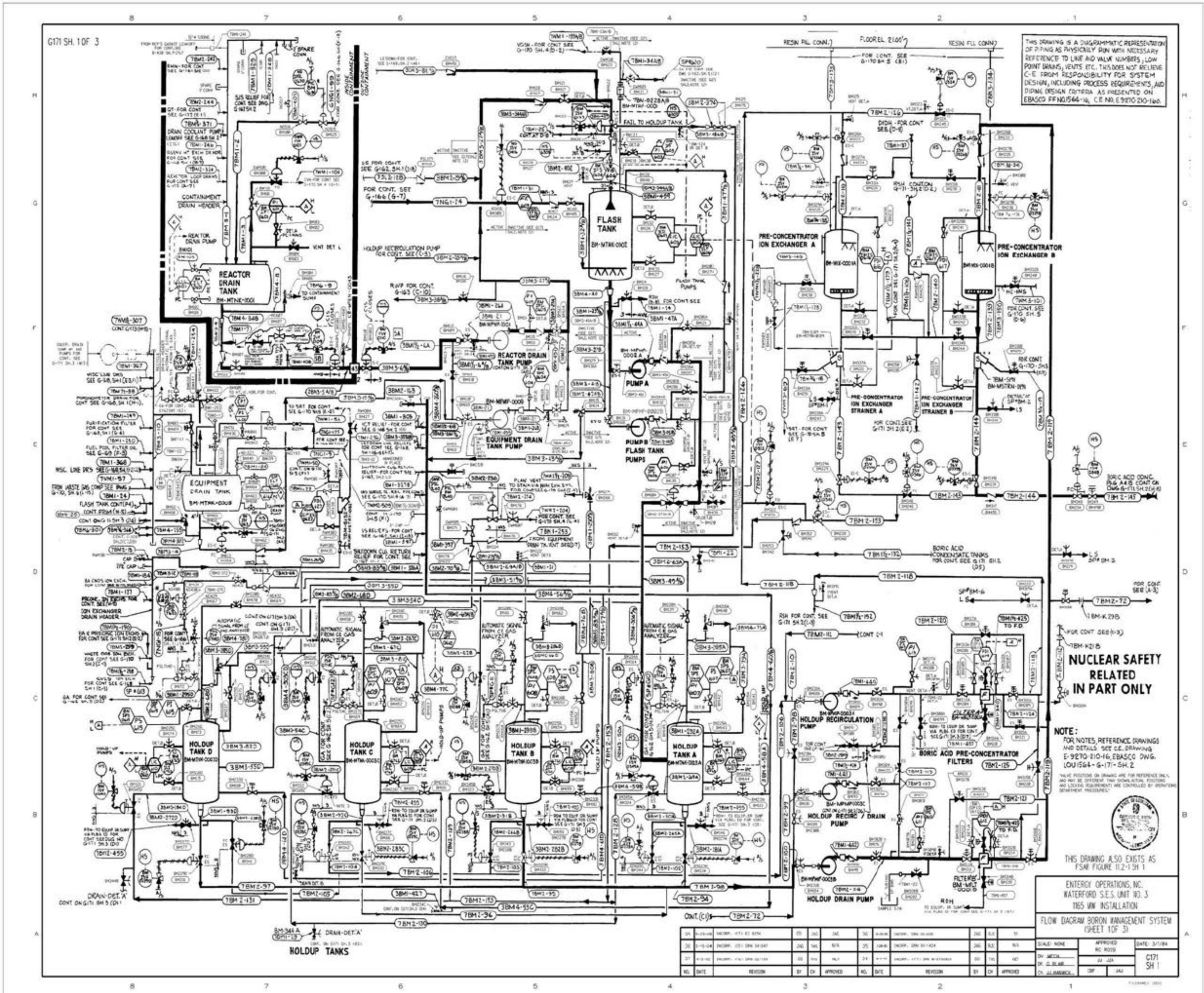
LOUISIANA POWER & LIGHT COMPANY
WATERFORD S.E.S., UNIT NO. 3 TAFT, LA.
1165 MW INSTALLATION

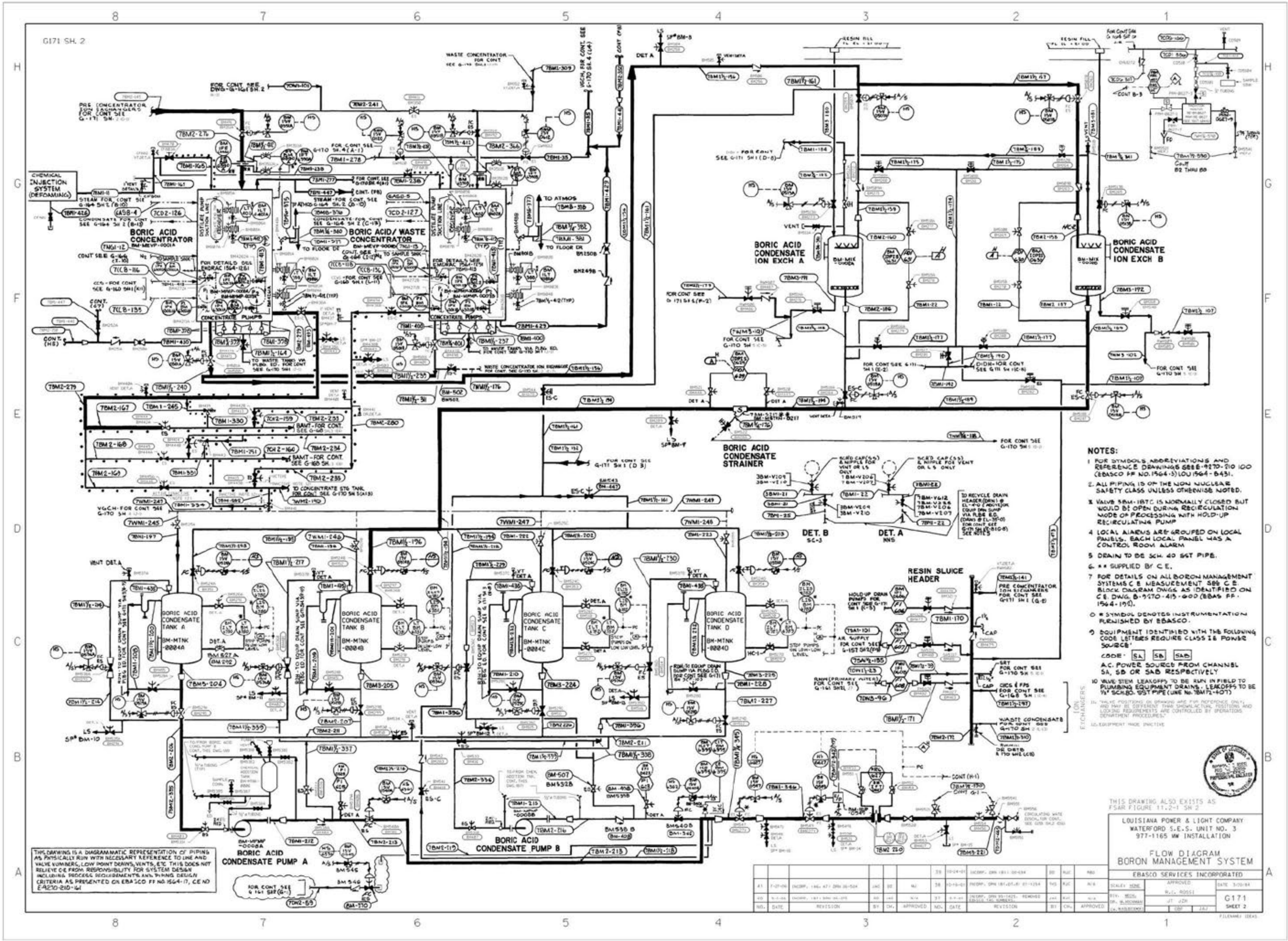
FLOW DIAGRAM

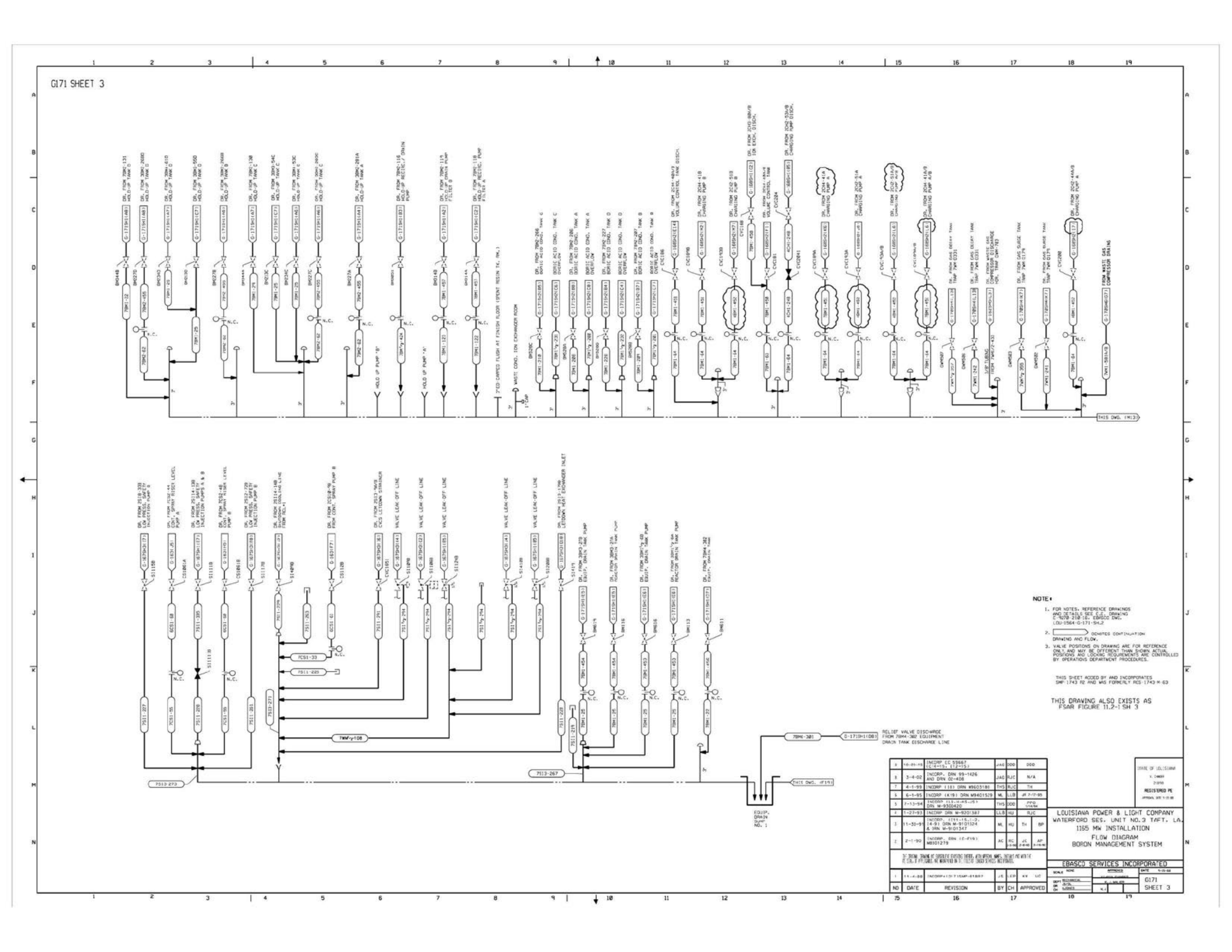
SOLID WASTE MANAGEMENT SYSTEM

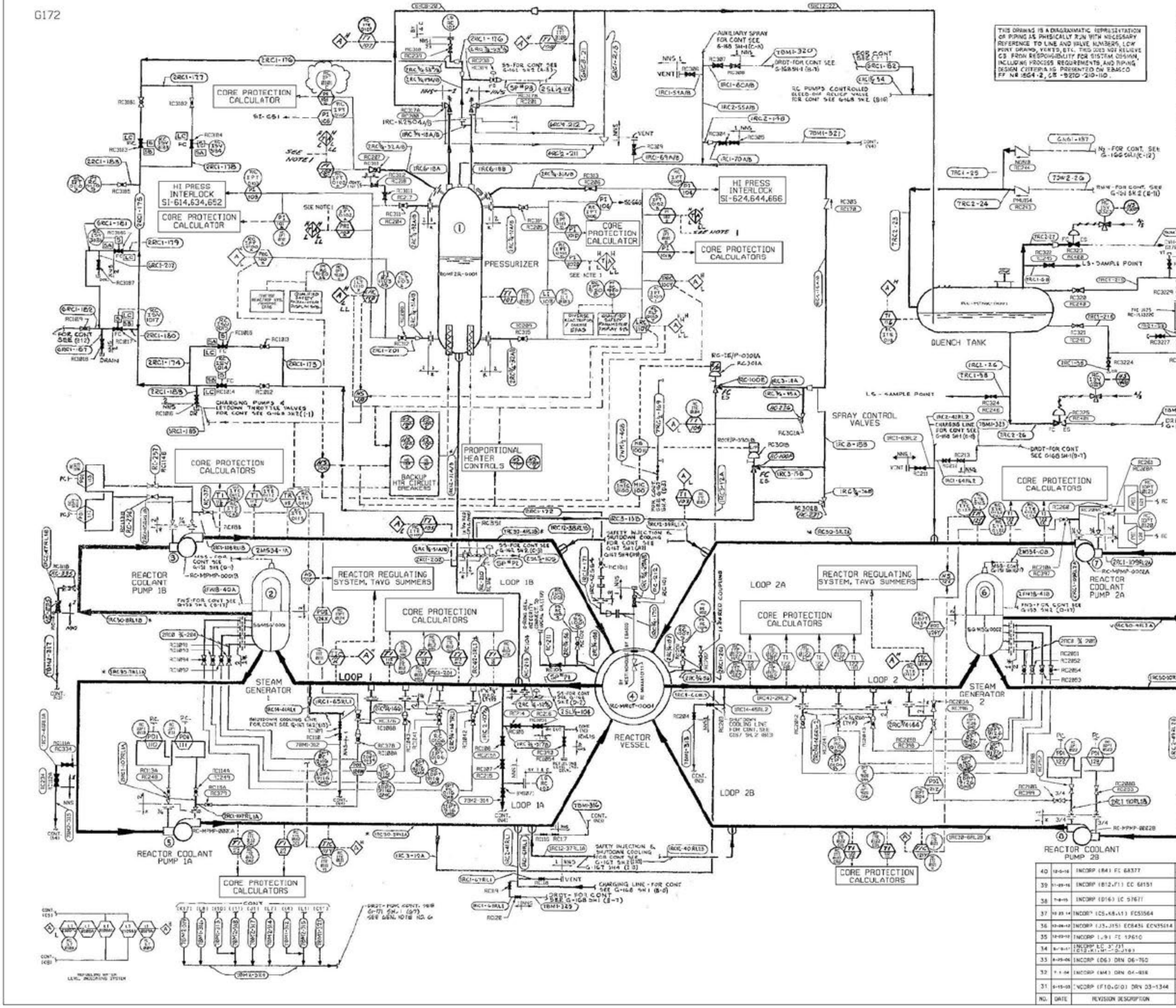
EBASCO SERVICES INCORPORATED

SCALE: NONE	APPROVED	DATE 9-30-87
DIV. MECH.	VIJAYA CHANDER	G170 SH. 5
DR. D. LANDRY	CJ WALKER	
CH. A. TAIS	DE PAYNE	


G171 SH. 1 OF 3
THIS DRAWING IS A DIAGRAMMATIC REPRESENTATION OF PIPING AS PHYSICALLY RUN WITH NECESSARY REFERENCE TO LINE AND VALVE NUMBERS, LOW POINT DRAINS, VENTS ETC. THIS DOES NOT RELIEVE C-E FROM RESPONSIBILITY FOR SYSTEM DESIGN, INCLUDING PROCESS REQUIREMENTS, AND PIPING DESIGN CRITERIA AS PRESENTED ON EBASCO FF NO.1564-16, C.E NO. E 9270-210-160.
FLASH TANK
BM-MTNK-0002
REACTOR DRAIN TANK
BM-MTNK-0001
REACTOR DRAIN TANK PUMP
EQUIPMENT DRAIN TANK PUMP
EQUIPMENT DRAIN TANK
BM-MTNK-0003
PUMP A
PUMP B
FLASH TANK PUMPS
PRE-CONCENTRATOR ION EXCHANGER A
PRE-CONCENTRATOR ION EXCHANGER B
PRE-CONCENTRATOR ION EXCHANGER STRAINER A
PRE-CONCENTRATOR ION EXCHANGER STRAINER B
CONTAINMENT DRAIN HEADER
HOLDUP TANK D
HOLDUP TANK C
HOLDUP TANK B
HOLDUP TANK A
HOLDUP RECIRCULATION PUMP
HOLDUP RECIRC / DRAIN PUMP
HOLDUP DRAIN PUMP
BORIC ACID PRE-CONCENTRATOR FILTERS
HOLDUP TANKS
NUCLEAR SAFETY RELATED IN PART ONLY
NOTE:
FOR NOTES, REFERENCE DRAWINGS AND DETAILS SEE C.E. DRAWING E-9270-210-16, EBASCO DWG. LOU1564-G-171-SH. 2
THIS DRAWING ALSO EXISTS AS FSAR FIGURE 11.2-1 SH 1
ENTERGY OPERATIONS, INC.
WATERFORD S.E.S. UNIT NO. 3
1165 MW INSTALLATION
FLOW DIAGRAM BORON MANAGEMENT SYSTEM (SHEET 1 OF 3)
SCALE: NONE
DATE: 3/1/84
G171 SH 1


G171 SH. 2
CHEMICAL INJECTION SYSTEM (DEFOAMING)
PRE CONCENTRATOR ION EXCHANGERS FOR CONT SEE G-171 SH. 2
BORIC ACID CONCENTRATOR
BORIC ACID/ WASTE CONCENTRATOR
CONCENTRATE PUMPS
BORIC ACID CONDENSATE ION EXCH A
BORIC ACID CONDENSATE ION EXCH B
BORIC ACID CONDENSATE STRAINER
DET. B
DET. A
RESIN SLUICE HEADER
BORIC ACID CONDENSATE TANK A
BORIC ACID CONDENSATE TANK B
BORIC ACID CONDENSATE TANK C
BORIC ACID CONDENSATE TANK D
BORIC ACID CONDENSATE PUMP A
BORIC ACID CONDENSATE PUMP B
ION EXCHANGERS
NOTES:
1 FOR SYMBOLS, ABBREVIATIONS AND REFERENCE DRAWINGS SEE E-9270-210 100 (EBASCO FF NO. 1564-3) LOU 1564-B431.
2. ALL PIPING IS OF THE NON NUCLEAR SAFETY CLASS UNLESS OTHERWISE NOTED.
3 VALVE 3BM-187C IS NORMALLY CLOSED BUT WOULD BE OPEN DURING RECIRCULATION MODE OF PROCESSING WITH HOLD-UP RECIRCULATING PUMP
4 LOCAL ALARMS ARE GROUPED ON LOCAL PANELS. EACH LOCAL PANEL HAS A CONTROL ROOM ALARM
5 DRAIN TO BE SCH. 40 SST PIPE.
6. ** SUPPLIED BY C.E.
7 FOR DETAILS ON ALL BORON MANAGEMENT SYSTEMS C.E. MEASUREMENT SEE C.E. BLOCK DIAGRAM DWGS AS IDENTIFIED ON C.E. DWG. B-9270-413-000 (EBAS FF-1564-192).
8 * SYMBOL DENOTES INSTRUMENTATION FURNISHED BY EBASCO.
9 EQUIPMENT IDENTIFIED WITH THE FOLLOWING CODE LETTERS REQUIRE CLASS 1E POWER SOURCE:
CODE: SA SB SAB
A.C. POWER SOURCE FROM CHANNEL SA, SB OR SAB RESPECTIVELY
10 VALVE STEM LEAKOFFS TO BE RUN IN FIELD TO PLUMBING EQUIPMENT DRAINS. LEAKOFFS TO BE 1/2" SCH.80 SST PIPE (LINE No. 7BM1/2-407)
11. "VALVE POSITIONS ON DRAWING ARE FOR REFERENCE ONLY, AND MAY BE DIFFERENT THAN SHOWN. ACTUAL POSITIONS AND LOCKING REQUIREMENTS ARE CONTROLLED BY OPERATIONS DEPARTMENT PROCEDURES."
12. EQUIPMENT MADE INACTIVE
THIS DRAWING IS A DIAGRAMMATIC REPRESENTATION OF PIPING AS PHYSICALLY RUN WITH NECESSARY REFERENCE TO LINE AND VALVE NUMBERS, LOW POINT DRAINS, VENTS, ETC. THIS DOES NOT RELIEVE C/E FROM RESPONSIBILITY FOR SYSTEM DESIGN INCLUDING PROCESS REQUIREMENTS AND PIPING DESIGN CRITERIA AS PRESENTED ON EBASCO FF NO. 1564-17, CE NO E-9270-210-161
THIS DRAWING ALSO EXISTS AS FSAR FIGURE 11.2-1 SH 2
LOUISIANA POWER & LIGHT COMPANY
WATERFORD S.E.S. UNIT NO. 3
977-1165 MW INSTALLATION
FLOW DIAGRAM
BORON MANAGEMENT SYSTEM
EBASCO SERVICES INCORPORATED
SCALE: NONE
APPROVED
R.I. ROSSI
G171
SHEET 2


G171 SHEET 3
NOTE:
1. FOR NOTES, REFERENCE DRAWINGS AND DETAILS SEE C.E.: DRAWING C-9079-218-16, EBASCO DWG. LOU-1564-G-171-SH.2
2. DENOTES CONTINUATION DRAWING AND FLOW.
3. VALVE POSITIONS ON DRAWING ARE FOR REFERENCE ONLY, AND MAY BE DIFFERENT THAN SHOWN. ACTUAL POSITIONS AND LOCKING REQUIREMENTS ARE CONTROLLED BY OPERATIONS DEPARTMENT PROCEDURES.
THIS SHEET ADDED BY AND INCORPORATES SMF-1743 R2 AND WAS FORMERLY RCS-1743-M-63
THIS DRAWING ALSO EXISTS AS FSAR FIGURE 11.2-1 SH 3
RELIEF VALVE DISCHARGE FROM 78M4-302 EQUIPMENT DRAIN TANK DISCHARGE LINE
EQUIP. DRAIN PUMP NO. 1
LOUISIANA POWER & LIGHT COMPANY
WATERFORD SES, UNIT NO.3 TAFT, LA.
1165 MW INSTALLATION
FLOW DIAGRAM
BORON MANAGEMENT SYSTEM
EBASCO SERVICES INCORPORATED
G171
SHEET 3



NOTES

1. SIAS ON LO PRESSURIZER PRESSURE.
2. REF: MEASUREMENT CHANNEL BLOCK DIAGRAM INDEX DWG NR B-9270-413-100.
3. FOR SYMBOLS & ABBREVIATION SEE DWG. E-9270-2.0-100 (EBASCO FF NR 1564-1) & LOU-1564-B431.
4. VALVE STEM LEAKOFFS TO BE RUN IN FIELD TO REACTOR DRAIN TANK. LEAKOFFS TO BE ½" SCH 80 SST PIPE (LINE NO 7RC½-100)
5. FOR EBASCO LINE & VALVE NR'S SEE 9817,0751 & B & 9817.0744 & D RESPECTIVELY.
6. ALL DRAIN LINES FROM THE REACTOR COOLANT LOOP ARE TO BE ROUTED & COMBINED INTO A SINGLE HEADER WITHIN THE PRIMARY SHIELD WALL AREA AND THEN PIPED TO THE REACTOR DRAIN TANK AS DEPICTED ON THIS DIAGRAM.
7. * INDICATES CE SUPPLY.
8. FOR RCP FLOW DIAGRAM SEE G-173.
9. DELETED
10. VALVE POSITIONS ON DRAWING ARE FOR REFERENCE ONLY, AND MAY BE DIFFERENT THAN SHOWN. ACTUAL POSITIONS AND LOCKING REQUIREMENTS ARE CONTROLLED BY OPERATIONS DEPARTMENT PROCEDURES.

NO.	DATE	REVISION DESCRIPTION	BY	CH	APPROVED
40	12-6-16	INCORP (B4) EC 68377	JAG	DD	DD
39	11-29-16	INCORP (B12,F1) EC 68151	JAG	DD	DD
38	7-8-15	INCORP (D16) EC 57677	DD	JAG	JAG
37	10-23-14	INCORP (C5,K8,L1) EC53564	JAG	DD	DD
36	12-06-12	INCORP (J3,J15) EC8436 EC35414	DD	JAG	JAG
35	12-03-12	INCORP L,9) EC 12610	DD	JAG	JAG
34	[illegible]	INCORP EC 37731 (C12,K1,M1-D,J18)	JAG	DD	DD
33	6-29-06	INCORP (D6) DRN 06-760	DD	JAG	N/A
32	7-1-04	INCORP (M4) DRN 04-938	JAG	THS	N/A
31	9-15-03	INCORP (F10,G10) DRN 03-1344	DD	THS	N/A

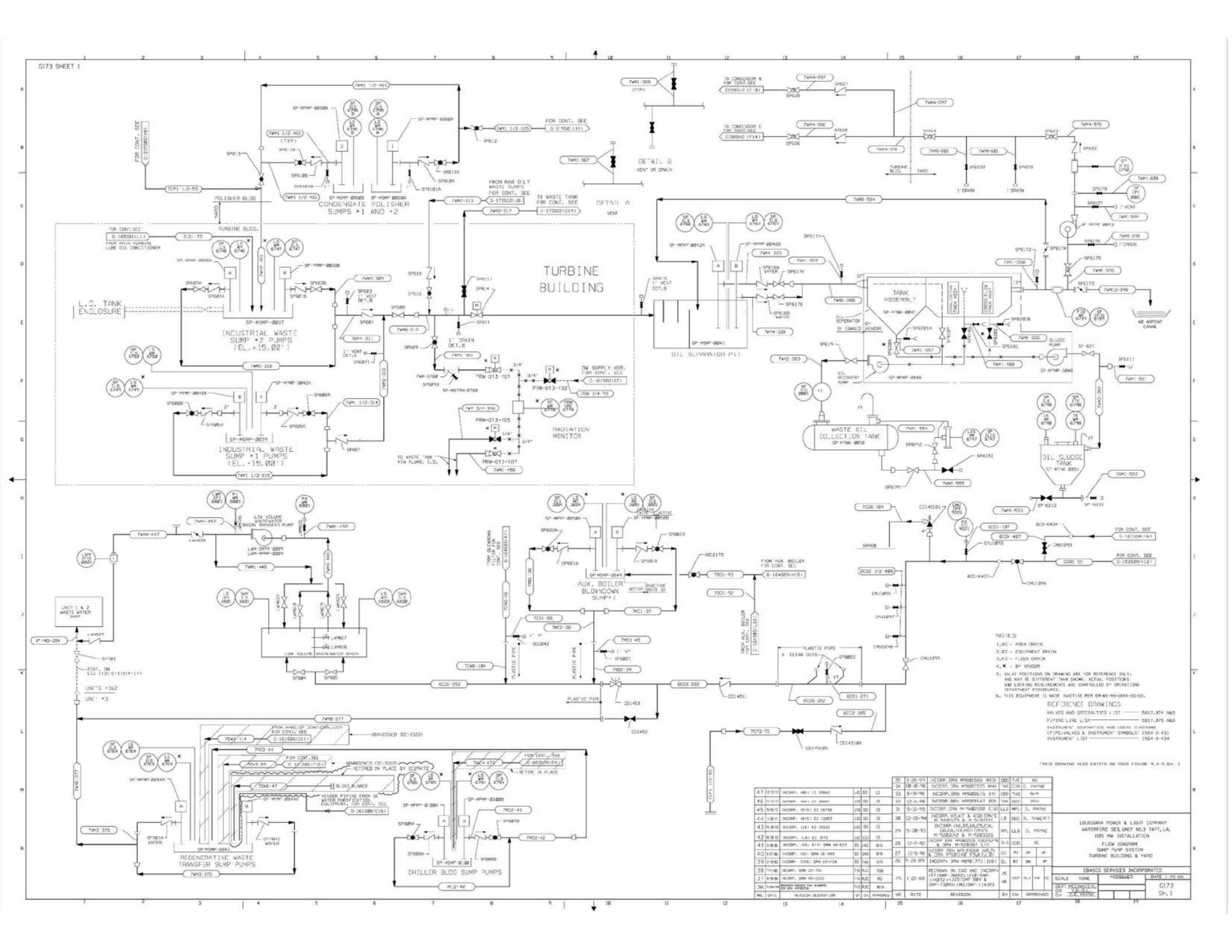
THIS DRAWING ALSO EXISTS AS FSAR FIGURE 5.1-3

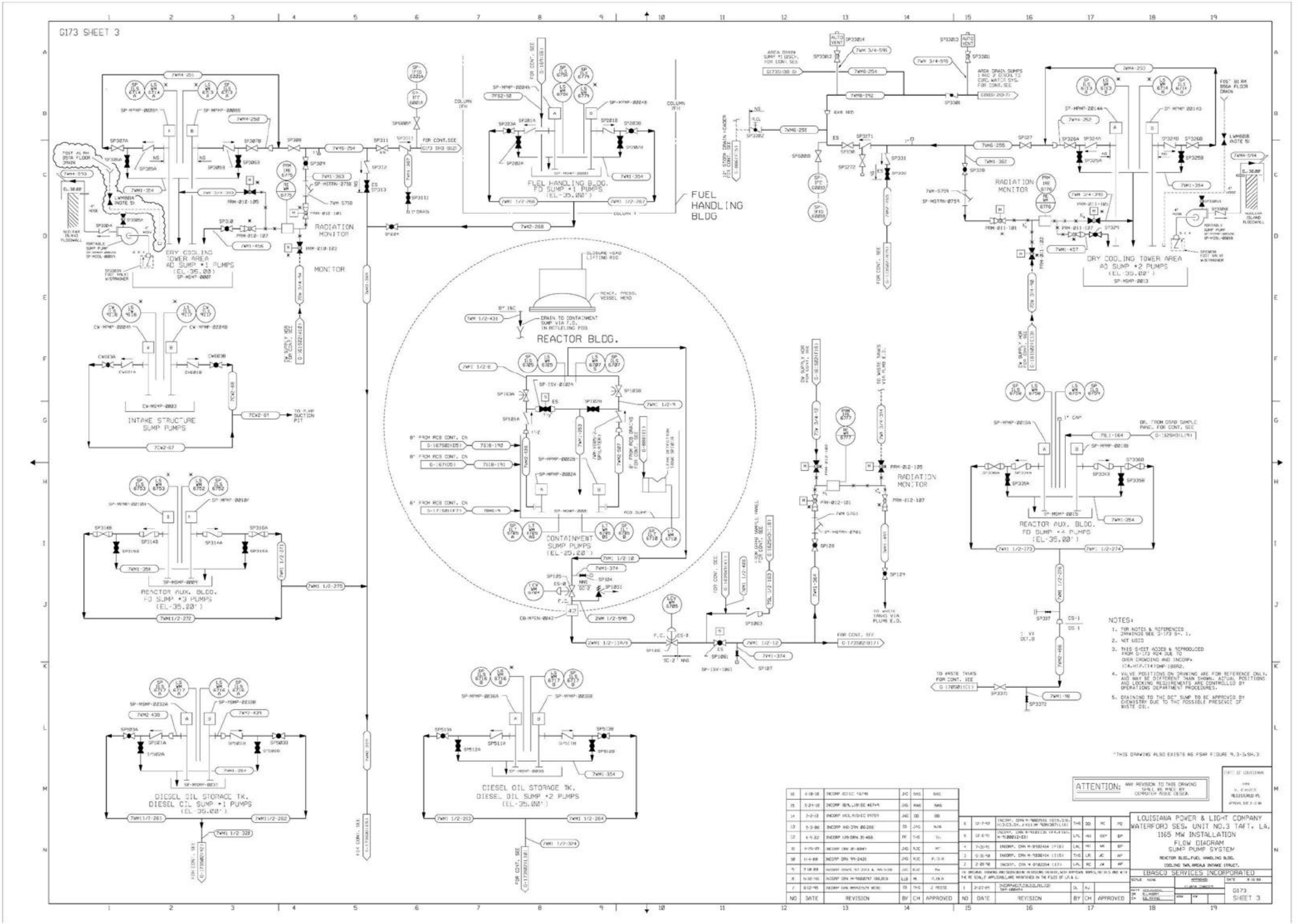
Entergy

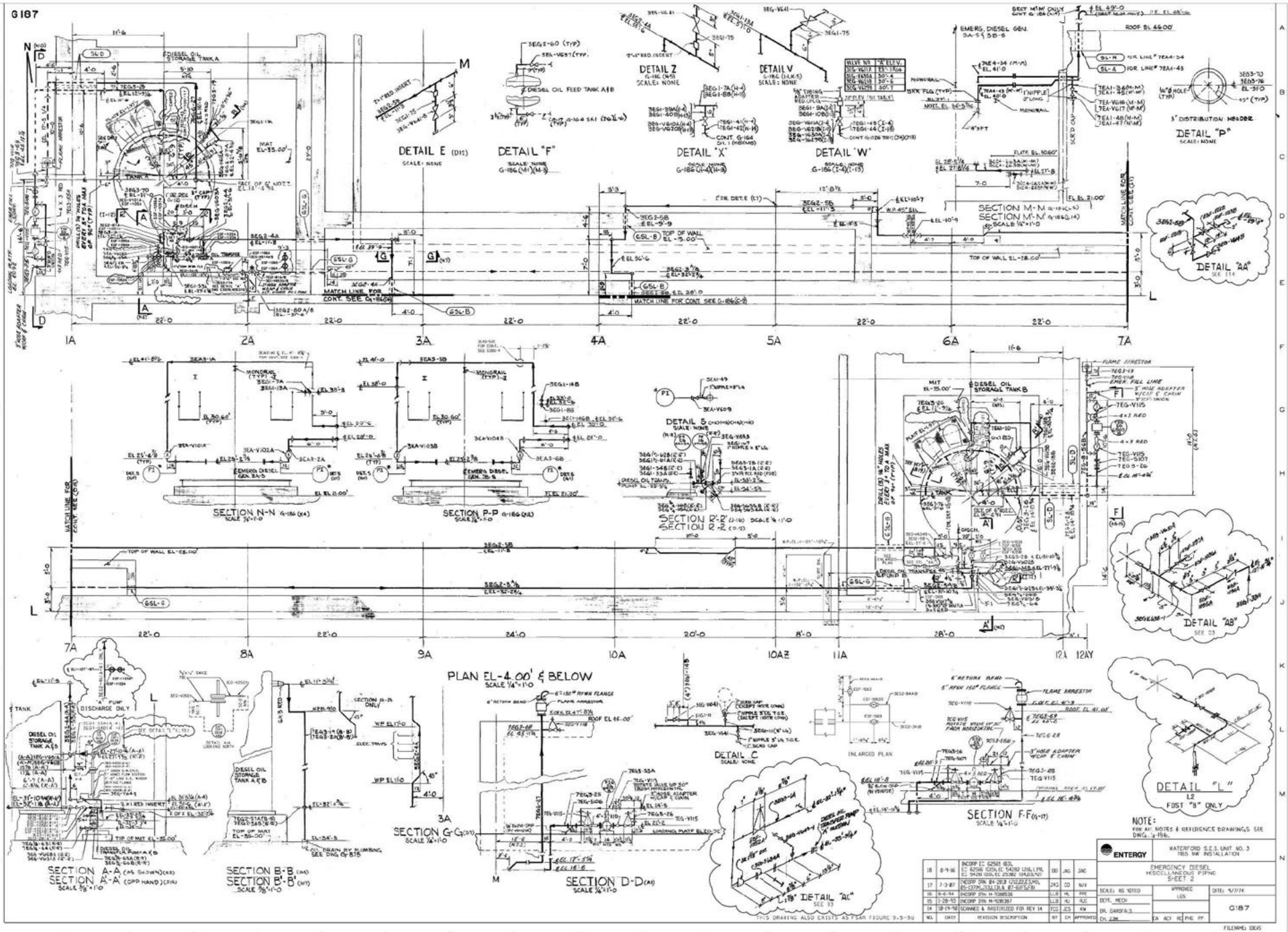
WATERFORD S.E.S. UNIT NO. 3
1165 MW INSTALLATION

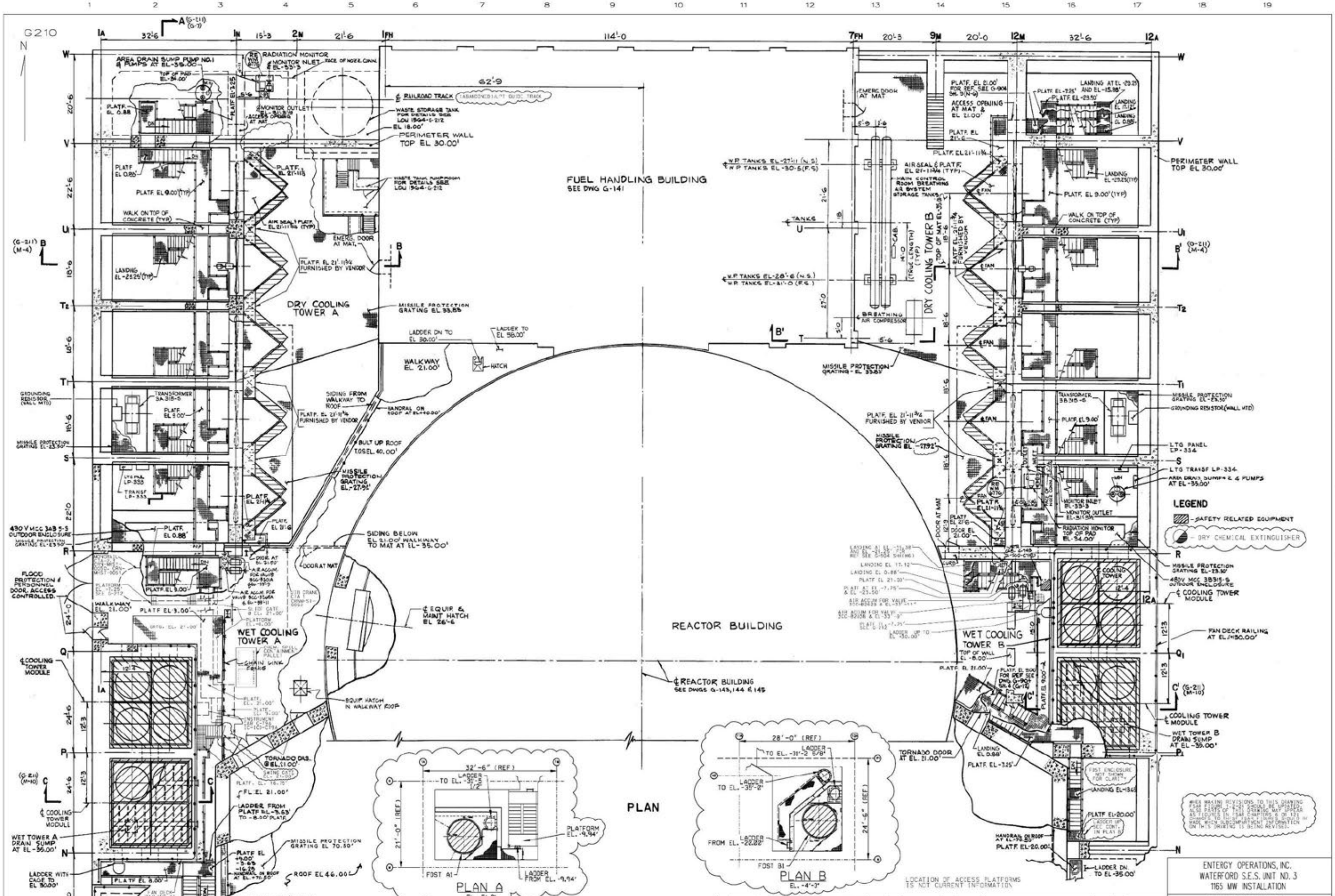
FLOW DIAGRAM
REACTOR COOLANT SYSTEM

SCALE: NONE
DEPT. MECH
DR. LEVCINE
CK. J.RUSSO
APPROVED CARL N CROSS
DATE: 2-11-83
G172


G173 SHEET 1
TURBINE BUILDING
L.O. TANK ENCLOSURE
INDUSTRIAL WASTE SUMP #2 PUMPS (EL.+15.00')
INDUSTRIAL WASTE SUMP #1 PUMPS (EL.-15.00')
CONDENSATE POLISHER SUMPS #1 AND #2
OIL SEPARATOR PIT
TANK ASSEMBLY
WASTE OIL COLLECTION TANK
OIL SLUDGE TANK
RADIATION MONITOR
AUX. BOILER BLOWDOWN SUMP #1
REGENERATIVE WASTE TRANSFER SUMP PUMPS
CHILLER BLDG SUMP PUMPS
DETAIL A
DETAIL B
VENT OR DRAIN
POLISHER BLDG
TURBINE BLDG.
YARD
48 ARPENT CANAL
NOTES:
1. AD - AREA DRAIN
2. ED - EQUIPMENT DRAIN
3. FD - FLOOR DRAIN
4. ✱ - BY VENDOR
5. VALVE POSITIONS ON DRAWING ARE FOR REFERENCE ONLY. AND MAY BE DIFFERENT THAN SHOWN. ACTUAL POSITIONS AND LOCKING REQUIREMENTS ARE CONTROLLED BY OPERATIONS DEPARTMENT PROCEDURES.
6. THIS EQUIPMENT IS MADE INACTIVE PER ER-W3-99-0894-00-00.
REFERENCE DRAWINGS
VALVES AND SPECIALTIES LIST — 5817.874 A&B
PIPING LINE LIST — 5817.875 A&B
INSTRUMENT SEPARATION AND LOGIC DIAGRAMS (P,I,D)-VALVES & INSTRUMENT SYMBOLS) 1564-B-431
INSTRUMENT LIST — 1564-B-434
THIS DRAWING ALSO EXISTS AS ITEM FIGURE 9.3-3.64-1
LOUISIANA POWER & LIGHT COMPANY
WATERFORD SES, UNIT NO.3 TAFT, LA.
1165 MW INSTALLATION
FLOW DIAGRAM
SUMP PUMP SYSTEM
TURBINE BUILDING & YARD
EBASCO SERVICES INCORPORATED
SCALE NONE
APPROVED
DATE 1-20-88
DEPT MECHANICAL
DR
CH
G173
SH. 1

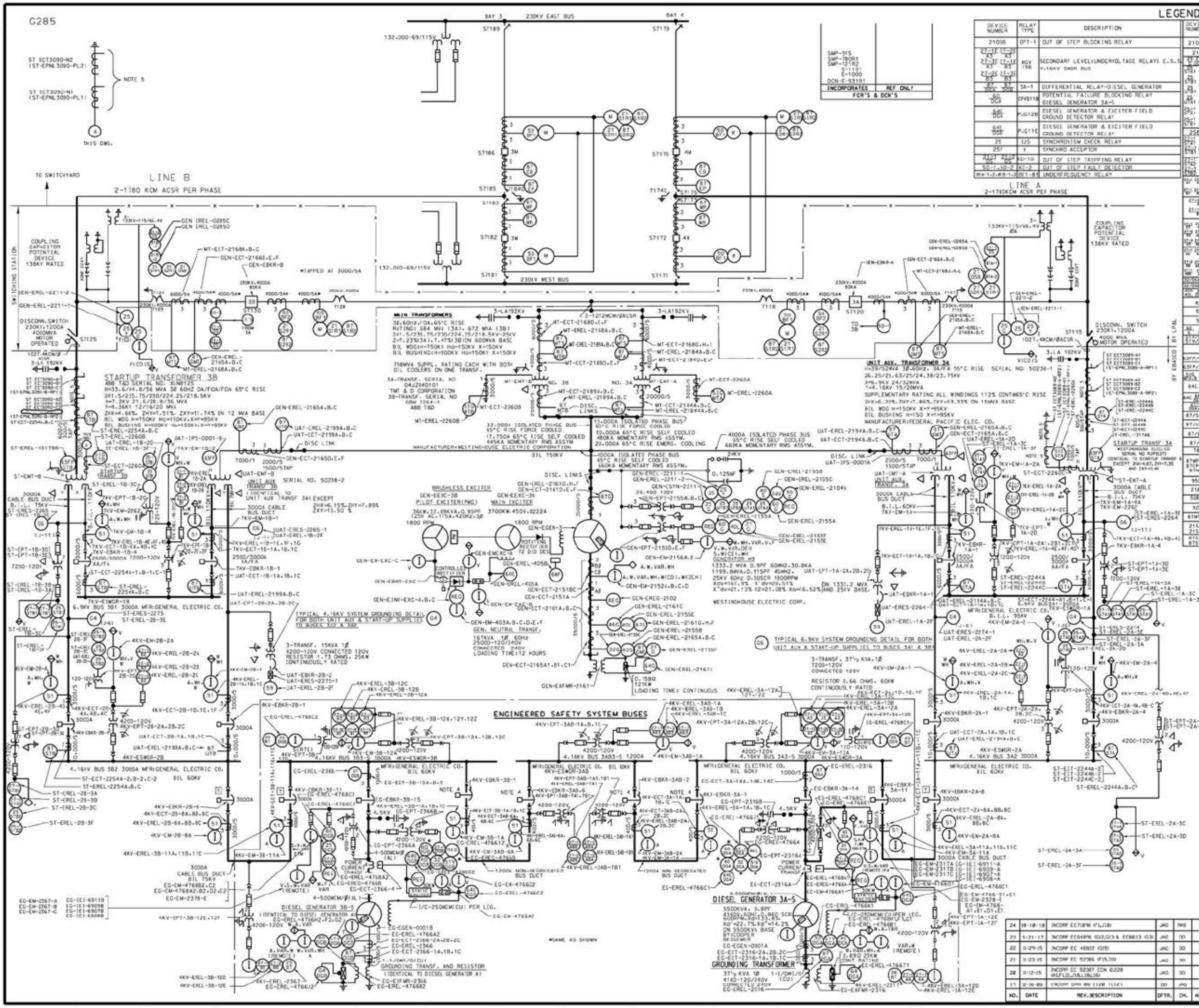

G173 SHEET 3
DRY COOLING TOWER AREA
AD SUMP #1 PUMPS
(EL-35.00')
SP-MSMP-0007
RADIATION MONITOR
INTAKE STRUCTURE
SUMP PUMPS
CW-MSMP-0003
REACTOR AUX. BLDG.
FD SUMP #3 PUMPS
(EL-35.00')
DIESEL OIL STORAGE TK.
DIESEL OIL SUMP #1 PUMPS
(EL-35.00')
DIESEL OIL STORAGE TK.
DIESEL OIL SUMP #2 PUMPS
(EL-35.00')
FUEL HANDLING BLDG.
FD SUMP #1 PUMPS
(EL-35.00')
FUEL HANDLING BLDG
REACTOR BLDG.
CONTAINMENT
SUMP PUMPS
(EL-23.20')
RADIATION MONITOR
DRY COOLING TOWER AREA
AD SUMP #2 PUMPS
(EL-35.00')
SP-MSMP-0013
REACTOR AUX. BLDG.
FD SUMP #4 PUMPS
(EL-35.00')
NOTES:
1. FOR NOTES & REFERENCES DRAWINGS SEE G-173 SH. 1.
2. NOT USED
3. THIS SHEET ADDED & REPRODUCED FROM G-173 R24 DUE TO OVER CROWDING AND INCORP.
4. VALVE POSITIONS ON DRAWING ARE FOR REFERENCE ONLY, AND MAY BE DIFFERENT THAN SHOWN. ACTUAL POSITIONS AND LOCKING REQUIREMENTS ARE CONTROLLED BY OPERATIONS DEPARTMENT PROCEDURES.
5. DRAINING TO THE DET SUMP TO BE APPROVED BY CHEMISTRY DUE TO THE POSSIBLE PRESENCE OF WASTE OIL.
*THIS DRAWING ALSO EXISTS AS FSAR FIGURE 9.3-3 SH.3
ATTENTION: ANY REVISION TO THIS DRAWING SHALL BE MADE BY COMPUTER AIDED DESIGN
LOUISIANA POWER & LIGHT COMPANY
WATERFORD SES. UNIT NO.3 TAFT, LA.
1165 MW INSTALLATION
FLOW DIAGRAM
SUMP PUMP SYSTEM
REACTOR BLDG., FUEL HANDLING BLDG.
COOLING TWR. AREAS & INTAKE STRUCT.
EBASCO SERVICES INCORPORATED
G173
SHEET 3
NO DATE REVISION BY CH APPROVED


G187
DETAIL E (D11)
DETAIL "F"
DETAIL Z
DETAIL V
DETAIL 'X'
DETAIL 'W'
DETAIL "P"
DETAIL "AA"
DETAIL "AB"
DETAIL "AC"
DETAIL "L"
SECTION M-M
SECTION M'-M'
SECTION N-N
SECTION P-P
SECTION R'-R'
SECTION R-R
DETAIL S
DETAIL C
PLAN EL-4.00' & BELOW
SECTION G-G
SECTION D-D
SECTION A-A
SECTION A'-A'
SECTION B-B
SECTION B'-B'
SECTION F-F
ENLARGED PLAN
DIESEL OIL STORAGE TANK A
DIESEL OIL STORAGE TANK B
EMERG. DIESEL GEN. 3A-S
EMERG. DIESEL GEN. 3B-S
5" DISTRIBUTION HEADER
NOTE:
FOR ALL NOTES & REFERENCE DRAWINGS SEE DWG. 3-196.
ENTERGY
WATERFORD S.E.S. UNIT NO. 3
1985 MW INSTALLATION
EMERGENCY DIESEL
MISCELLANEOUS PIPING
SHEET 2
G187
THIS DRAWING ALSO EXISTS AS FSAR FIGURE 9.5-30



NO.	DATE	REVISION	BY	CH	APPROVED	NO.	DATE	REVISION	BY	CH	APPROVED
21	6-27-18	INCORP. EC14271, EC15959, EC51307, EC59033, EC62555, EC70235, EC65775 & EC46747	RAS	JAC	JAC	19	8-20-96	INCORP DRN C9600598	THS	DD	RJC
20	4-16-01	INCORP. DRN 97-936	JAC	RJC	SDW	18	4-24-96	INCORP DRN C9500325 (I13,H1,J3)	THS	DD	KPW

G285



LEGEND

DEVICE NUMBER	RELAY TYPE	DESCRIPTION
2106B	OPT-1	OUT OF STEP BLOCKING RELAY
27-1E/A3 27-2E/A3 27-3E/A3 27-1E/B3 27-2E/B3 27-3E/B3	NGV 13A	SECONDARY LEVEL:UNDERVOLTAGE RELAYS E.S.S. 4.16KV SWGR BUS
87/DGA 87/DGB	SA-1	DIFFERENTIAL RELAY-DIESEL GENERATOR
60/DGA	CFVB11B	POTENTIAL FAILURE BLOCKING RELAY DIESEL GENERATOR 3A-S
64F/DGA	PJG12B	DIESEL GENERATOR & EXCITER FIELD GROUND DETECTOR RELAY
64F/DGB	PJG11E	DIESEL GENERATOR & EXCITER FIELD GROUND DETECTOR RELAY
25	IJS	SYNCHRONISM CHECK RELAY
25T	Y	SYNCHRO ACCEPTOR
21-1/OS 21-2/OS	KD-10	OUT OF STEP TRIPPING RELAY
50-1,50-2	KC-2	OUT OF STEP FAULT DETECTOR
81A-1,2,81B-1,2	BE1-81	UNDERFREQUENCY RELAY
21GS	LOG	PHASE TO GROUND IMPEDANCE RELAY
21G	KD-11	GENERATOR DISTANCE RELAY
25 25 25 / G DGA DGB	XASV	GENERATOR AUTO SYNCHRONIZING UNIT
25/STA1 25/STA2 25/STB1 25/STB2 25/UTB1 25/UTB2 25/UTA1 25/UTA2	SLJ21A	SYNCHRONISM CHECK RELAYS
25-1/STA1 25-1/STA2 25-1/STB1 25-1/STB2	W-0145C	SYNCHRONISM CHECK RELAYS
25BT	Y	
27-1/STA1 27-2/STA1 27-3/STB1 27-2/STB1	IAV53D OR IAV53N	UNDERVOLTAGE RELAYS 6.9KV STARTUP SUPPLY
27-1/STA2 27-2/STA2 27-3/STB2 27-3/STB2	IAV53D OR IAV53N	UNDERVOLTAGE RELAYS 4.16KV STARTUP SUPPLY
[illegible]	IAV 55C	UNDERVOLTAGE RELAYS 6.9KV SWGR. BUS
27-1-2-3/A2 27-1-2-3/B2	IAV 55C	UNDERVOLTAGE RELAYS NON E.S.S. 4.16KV SWGR. BUS
[illegible]	IAV 55C	PRIMARY LEVEL UNDERVOLTAGE RELAYS E.S.S. 4.16KV SWGR. BUS
[illegible]	HFA 65D	UNDERVOLTAGE RELAYS E.S.S. 4.16KV SWGR. BUS
32/DGA 32/DGB,32G	GGP53C GGP53B	REVERSE POWER RELAY DIESEL GEN-MAIN GEN.
40G 40 40 / DGA DGB	CEH51A	MAIN GEN & DIESEL GEN. FIELD FAILURE RELAY
46G	SGC12B	GEN. NEGATIVE SEQUENCE TIME OVERCURRENT RELAY
51	IAC51A	TIME OVERCURRENT RELAY
59	IAV51D	GROUND DETECTOR RELAY
60/G 60/DG-B	CFVB11A	POTENTIAL FAILURE BLOCKING REL. MAIN GEN.&DIESEL GEN
51V/DGA 51V/DGB	IJCV 51A	VOLTAGE CONTROLLED TIME OVERCURRENT RELAY-D.G.
63FP/UTA,B	33B POWER	SUDDEN PRESSURE RELAY-UNIT AUX TRANSF. MOD#1355D3004
63FP/STA,B	33B POWER	SUDDEN PRESSURE RELAY-STARTUP TRANSF. MOD#1355D3004
51G/MTA,B 51G/STA,B	IAC54A	TRANSFORMER GROUND RELAY
64E,64F	DGF	MAIN GENERATOR & EXCITER FIELD GROUND DETECTOR RELAY
64G 64/DGA 64/DGB	IAV51K	MAIN GEN. & DIESEL GEN. GROUND RELAY
27-1,2/DGA,DGB	IAV51A	PERMISSIVE VOLTAGE LEVEL DETECTION RELAY-D.G.
87/STA,B	BDD16B	DIFFERENTIAL RELAY-STARTUP TRANSF.
87/UTA,B	BDD16B	DIFFERENTIAL RELAY-UNIT AUX. TRANSF.
87/GMT	BDD16B	DIFFERENTIAL RELAY-GEN. MAIN TRANSF.
87/G	CFD22B	DIFFERENTIAL RELAY-MAIN GEN.
78	SKBU	PHASE COMPARISON RELAY
87WP,WB 87EP,EB 87MTS	PVD 11C	BUS DIFFERENTIAL RELAY- SWITCHYARD AND MAIN TRANSFORMER SWITCHING STATION
95G	STV11A	VOLTS/HERTZ RELAY
21Ø	LKD	PHASE TO PHASE & THREE PHASE FAULT IMPEDANCE RELAY
50BF	KC4	BREAKER FAILURE FAULT DETECTOR RELAY
50	KC4	THREE PHASE INST. O.C. FAULT DETECTOR RELAY
87MTA,B	BDD15B	DIFFERENTIAL RELAY-MAIN TRANSF.
21S1R1 21S2R1	SEL321-1	SCHWEITZER Ø & GR DISTANCE, DIR OVERCURRENT RLY
87S1R2 87S2R2	LCB II	ABB CURRENT DIFF LINE PROTECTION RLY.

NOTES:

1. ALL 6.9KV SWITCHGEAR BREAKERS ARE RATED 1200A CONT. 500MVA INTERRUPTING 66KA MOMENTARY CAPACITY UNLESS OTHERWISE NOTED.
2. ALL 4.16KV SWITCHGEAR BREAKERS ARE RATED 1200A CONT. 350MVA INTERRUPTING 78KA MOMENTARY CAPACITY UNLESS OTHERWISE NOTED.
3. KW & KWH VALUES FROM BUSES 3A1, 3A2, 3B1, 3B2 ARE TOTALIZED AND INDICATION PROVIDED IN CONTROL ROOM.
4. TO MEET THE SINGLE FAILURE CRITERION ALL BUSES LABELLED "AB" MUST ALWAYS BE CONNECTED TO THE SAME POWER SOURCE. EITHER SYSTEM A OR B POWER MAY BE SELECTED.
5. CT RATIO IS THE PROPRIETARY INFORMATION OF PCS2000.

SYMBOLS

◆	COMPUTER DATA SYSTEM
CO	RECORDER (CURVE DRAFTING)
ETM	ELAPSED TIME METER
T	TRIPPED ON LOSS OF NORMAL AC POWER
●—●	DISCONNECTING LINKS
DEH	DIGITAL ELECTRO HYDRAULIC CONTROL

REFERENCE DRAWINGS

LIST OF DRAWINGS	LOU-1564-A125
KEY AUX. ONE LINE DIAGRAM	LOU-1564-G286
PHASING DIAGRAM	LOU-1564-G309
POWER DISTRIBUTION & MOTOR DATA SHEETS	LOU-1564-B289
CONTROL WIRING DIAGRAMS	LOU-1564-B424

THIS DRAWING IS FSAR FIGURE 8.1-4 SH1, 8.1-4 SH2, 8.1-5, 8.1-6, 8.3-5, 8.3-6. THE FSAR FIGURE IS LABELED AS "TYPICAL". THIS DRAWING SHOULD NOT BE REVISED WITHOUT ALSO CONSIDERING THE NEED TO UPDATE THE FSAR FIGURE.

NO.	DATE	REV. DESCRIPTION	DFTR.	CH.	APPROVAL
24	10-10-18	INCORP EC71896 (F1,J18)	JAG	RAS	RAS
23	5-21-17	INCORP EC64896 (G12,G13 & EC6613 (G3)	JAG	DD	DD
22	11-29-15	INCORP EC 48822 (G15)	JAG	DD	DD
21	3-23-15	INCORP EC 52386 (F15,J18)	JAG	DD	DD
20	3-12-15	INCORP EC 52387 ECN 6228 (A1,F1,G1,J18,L18,L16)	JAG	DD	DD
19	12-16-09	INCORP DRN 09-1128 (L1E)	DD	JAG	S/A

LOUISIANA POWER & LIGHT COMPANY
WATERFORD S.E.S. UNIT NO. 3
1977-1165 MW INSTALLATION

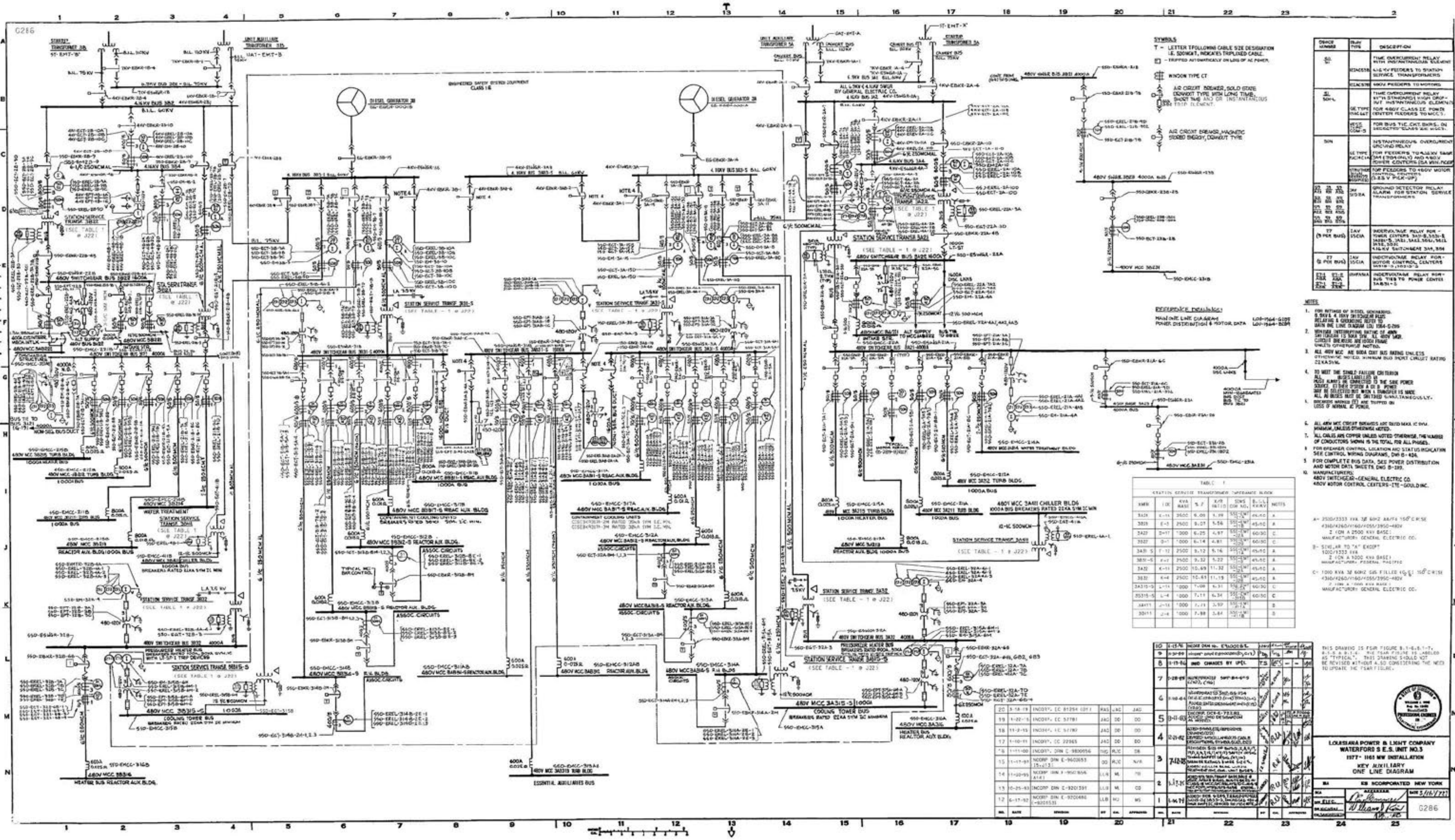
MAIN ONE LINE DIAGRAM

EBASCO SERVICES INCORPORATED, NEW YORK

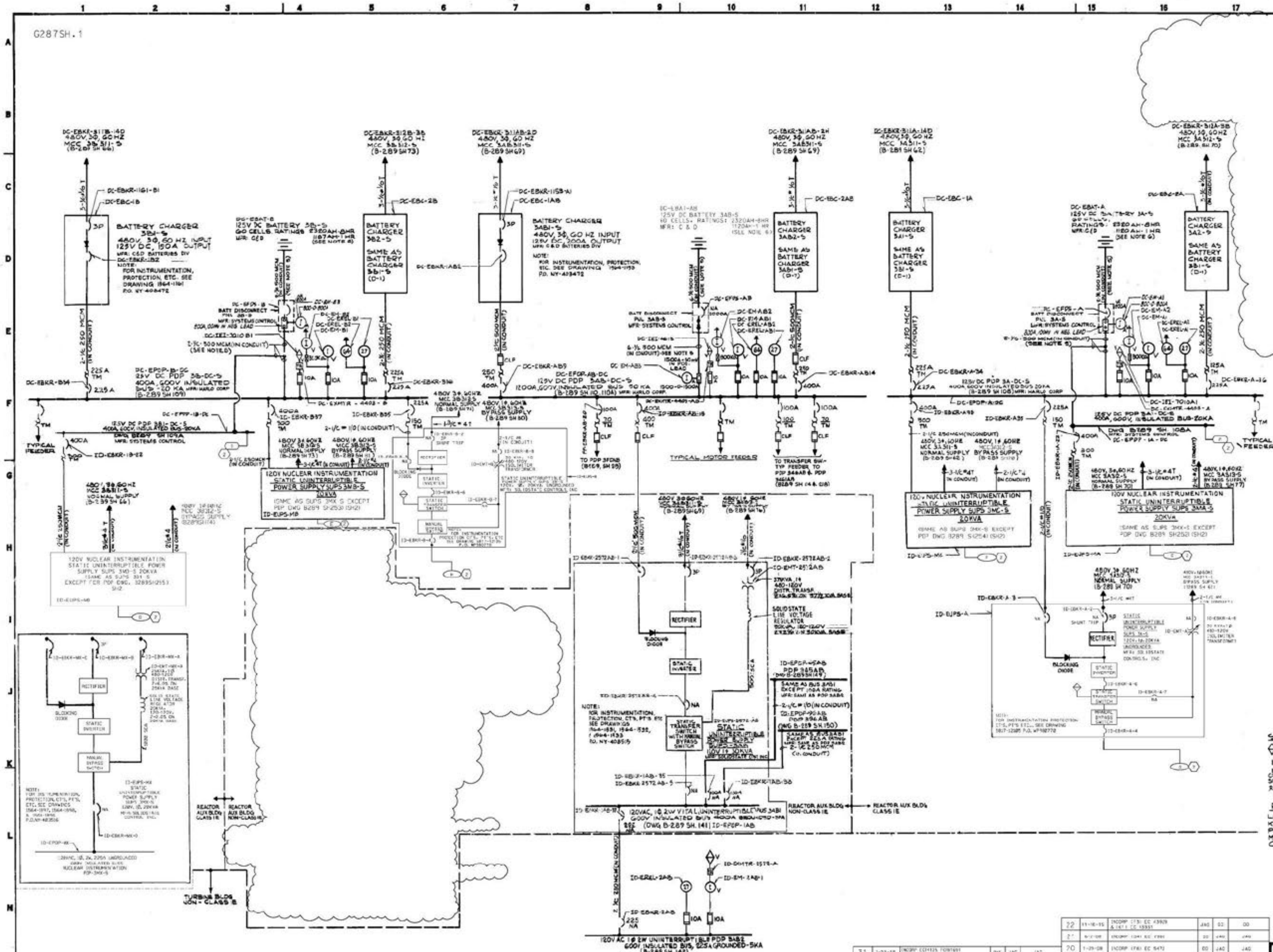
SCALE: —— APPROVED DATE: 3/16/72

DW. ELEC.
DR. KICINSKI
CH. SANDIECOTH

G285


G286
DIESEL GENERATOR 3B
DIESEL GENERATOR 3A
STATION SERVICE TRANSF. 3B22
STATION SERVICE TRANSF. 3B31-S
STATION SERVICE TRANSF. 3A31-S
STATION SERVICE TRANSF. 3A22
STATION SERVICE TRANSF. 3A32
STATION SERVICE TRANSF. 3B32
ESSENTIAL AUXILIARIES BUS
480V MCC 3B316
HEATER BUS REACTOR AUX BLDG.
COOLING TOWER BUS
SYMBOLS
REFERENCE DRAWINGS:
TABLE - 1
NOTES
1. FOR RATINGS OF DIESEL GENERATORS, 6.9KV & 4.16KV SWITCHGEAR PLUS RELAYING & GROUNDING REFER TO MAIN ONE LINE DIAGRAM LOU 1564-G-200
3. ALL 480V MCC ARE 600A CONT BUS RATING UNLESS OTHERWISE NOTED. MINIMUM BUS SHORT CIRCUIT RATING 22 KA SYM.
5. BREAKERS MARKED (T) ARE TRIPPED ON LOSS OF NORMAL AC POWER.
7. ALL CABLES ARE COPPER UNLESS NOTED OTHERWISE. THE NUMBER OF CONDUCTORS SHOWN IS THE TOTAL FOR ALL PHASES.
8. FOR BREAKER CONTROL LOCATION AND STATUS INDICATION SEE CONTROL WIRING DIAGRAMS, DWG B-424.
9. FOR COMPLETE BUS DATA, SEE POWER DISTRIBUTION AND MOTOR DATA SHEETS, DWG B-289.
10. MANUFACTURERS:
480V SWITCHGEAR - GENERAL ELECTRIC CO.
480V MOTOR CONTROL CENTERS - ITE - GOULD INC.
LOUISIANA POWER & LIGHT COMPANY
WATERFORD S.E.S. UNIT NO.3
1977 - 1165 MW INSTALLATION
KEY AUXILIARY
ONE LINE DIAGRAM
EBASCO INCORPORATED NEW YORK
G286

G287SH.1



NOTES:

1. ALL BREAKERS & FUSED SWITCHES ARE 2-POLE UNLESS OTHERWISE INDICATED.
2. ALL 120VAC BUSES HAVE A MINIMUM SHORT CIRCUIT RATING OF 5000 A RMS SYM.
3. ALL FUSES AND ACB'S HAVE INTERRUPTING CAPACITIES EQUAL OR EXCEEDING THE S.C. CURRENT SHOWN FOR THE RESPECTIVE D.C. BUSES.
4. NUMBER OF CONDUCTORS SHOWN FOR DC FEEDERS ARE TOTAL REQUIRED, FOR EXAMPLE: 2-1/C 500 MCM INDICATES 1-1/C 500 MCM FOR POSITIVE POLE AND 1-1/C 500 MCM FOR NEGATIVE POLE. NUMBER OF CONDUCTORS FOR AC FEEDERS ARE TOTAL.
5. CABLES AS NOTED SHALL BE ROUTED IN NON-MAGNETIC CONDUIT WITH EACH LEG OR POLE IN SEPARATE CONDUIT.
6. THE DISCHARGE RATE OF ALL BATTERIES ARE BASED ON 1.75V PC (AVG.) FINAL.
7. NOT USED
8. FOR INSTRUMENTS, PROTECTIVE DEVICES, ETC. SEE DWG. 5817-5586, 8462, 4536 THRU 4538 PO NY 409696.
9. NOT USED
10. NOT USED
11. (A)(2) NUMBER IN ( ) INDICATES POINT A CONNECTED TO POINT A IN (2) IN SHEET 2.

SYMBOLS

- ◇ COMPUTER DATA SYSTEM
- TRANSDUCER
- NON-AUTOMATIC CIRCUIT INTERRUPTER
- RESISTOR
- CLF - CURRENT LIMITING FUSE
- SUPS - STATIC UNINTERRUPTIBLE POWER SUPPLY
- RSP - REMOTE STATUS PANEL

REFERENCE DRAWINGS

LIST OF DRAWINGS	LOU-1564-125
KEY AUX ONE LINE DIAG	LOU-1564-G280
POWER DISTRIBUTION & MOTOR DATA SHEETS	LOU-1564-B289
CONTROL WIRING DIAG	LOU-1564-B424

STATE OF LOUISIANA WILLIAM J. ROW Reg. No. 11486 REGISTERED PROFESSIONAL ENGINEER IN ELECTRICAL ENGINEERING

THIS DRAWING IS FSAR FIGURE 8.3-4. THE FSAR FIGURE IS LABELED AS "TYPICAL". THIS DRAWING SHOULD NOT BE REVISED WITHOUT ALSO CONSIDERING THE NEED TO UPDATE THE FSAR FIGURE.

NO.	DATE	REVISION	BY	CH.	APPROVED
31	1-23-19	INCORP EC[illegible]	RAS	JAC	JAC
30	2-5-19	INCORP [illegible]	JAC	RAS	RAS
29	2-5-19	INCORP [illegible]	JAC	RAS	RAS
28	5-23-17	INCORP [illegible]	JAC	DD	DD
27	5-2-17	INCORP [illegible]	JAC	DD	DD
26	4-11-17	INCORP EC 43934 [illegible]	JAC	DD	DD
25	[illegible]	INCORP EC 43932 [illegible]	JAC	DD	DD
24	11-25-15	INCORP [illegible] EC 43930	JAC	DD	DD
23	11-30-15	INCORP [illegible] EC 43931	JAC	DD	DD
22	11-16-15	INCORP [illegible] EC 43929 & [illegible] EC 43931	JAC	DD	DD
21	[illegible]	INCORP [illegible]	DD	JAC	JAC
20	1-29-08	INCORP [illegible] EC 5472	DD	JAC	JAC
19	11-5-01	INCORP DRN 00-839	JAC	RJC	CB
18	12-7-00	INCORP [illegible] DRN 00-185	THS	RJC	RTT
17	6/1/99	INCORP [illegible]	[illegible]	RJC	N/A
16	2/1/96	INCORP [illegible] DRN E-9501690	LLB	ML	MB
15	[illegible]	INCORP [illegible] DRN E-[illegible]	MFD	ML	CB
14	[illegible]	INCORP [illegible]	ML	LB	N/A
13	[illegible]	INCORP [illegible] DRN E-9200161	DDD	THS	N/A
12	[illegible]	INCORP [illegible]	LLB	ML	CB

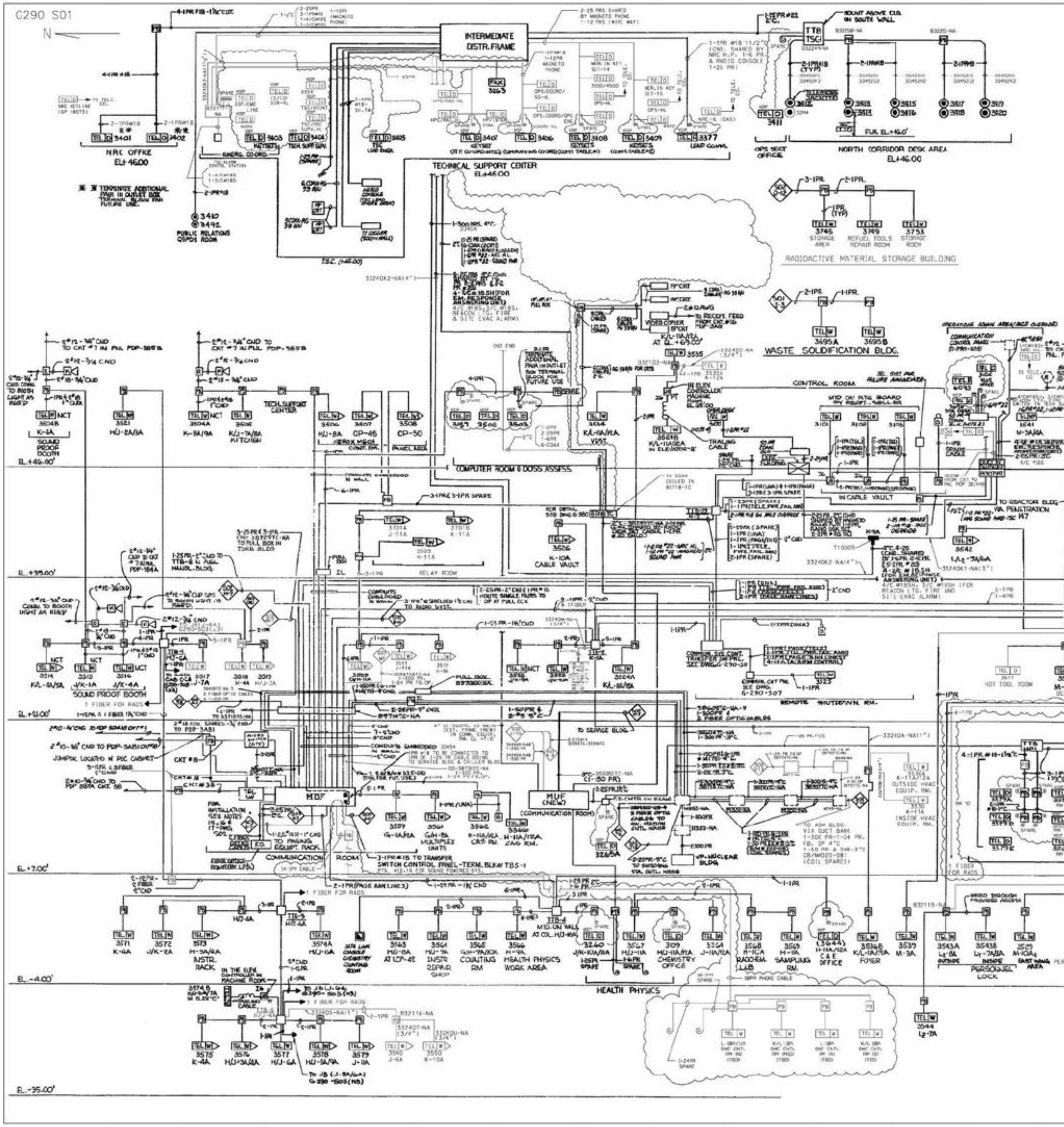
LOUISIANA POWER & LIGHT COMPANY
WATERFORD S.E.S. UNIT NO. 3
1977- 1165 MW INSTALLATION
125 VDC AND 120 VAC
ONE LINE DIAGRAM

EBASCO SERVICES INCORPORATED NEW YORK

SCALE NONE | APPROVED | DATE 12-5-72
DR. [illegible] | CH. [illegible]

C287 SH. 1

G290 S01



JUNCTION & PULL BOX SYMBOL LIST

SYMBOL	DESCRIPTION	CATALOG #	TERMINAL STRIP	NEMA TYPE	DIMENS. LXWXD
I6 & II6	JUNCTION BOX	HOFFMAN #4705-H OR APPROVED EQUAL	1-6 POINT *	3R	8X8X6
I12	JUNCTION BOX	HOFFMAN #4707-H OR APPROVED EQUAL	1-12 POINT *	3R	12X10X6
I24	JUNCTION BOX	HOFFMAN #4706-H OR APPROVED EQUAL	2-12 POINT *	3R	12X12X6
I5 & II5	PULL BOX	HOFFMAN #4705-H OR APPROVED EQUAL		3R	8X8X6
IM	PULL BOX	HOFFMAN #4707-H OR APPROVED EQUAL		3R	12X10X6
IL	PULL BOX	HOFFMAN #4708-H OR APPROVED EQUAL		3R	18X18X10

NOTE: ALL PB'S SHOWN ON THIS DWG. ARE I5 UNLESS OTHERWISE NOTED.
* ALL TERMINAL STRIPS TO BE GE TYPE CR151D1 OR APPROVED EQUAL.

NOTES:
1) FOUR DIGIT TELEPHONE EXTENSION NUMBERS HAVE BEEN PROVIDED BY LP&L.
2) TERMINATE ONLY 2-25 PR #22 (EXISTING) CABLES TO 50 PR. CONNECTING BLOCK
3) ALL 50 PAIR TELEPHONE CABLES ARE PUNCHED DOWN IN THE SMC CONSOLE. 36 PAIRS ARE SPARE.

NO.	DATE	REVISION	BY	CH	APPROVED
25	8-12-04	INCORP. EC50000081137, (G7,H-K, 11-14, EC18623 ECN25935(I-K, 11-14, K18) & EC40781(A3-10-D8-E6-E13,J14,K9)	JAC	DD	DD
24	1-24-05	INCORP. (J6) DRN 03-1451, (G12, H16) DRN 02-145, AND (D18, I1 THRU L4) DRN 04-412	DD	THS	N/A
23	10-1-01	INCORP. (E1) DRN 96-601	THS	RJC	N/A
22	8-1-??	INCORP. CRN (A10-12,C6,J5) E9302094, (E-I12-14,A7-9,A1,A2) E9302959 & (J12-17/?-2480	THS	RJC	DB
21	3-26-95	INCORP. CRN E-9420202(J6) & E-9301819(H13) & E-9320394 (J7)	LLB	ML	CB
20	12-3-93	INCORP. (I-L,J4,J6,J12,K10) DRN E-9220394	THS	DDD	DB
19	6-21-93	INCORP. (L19) DRN E-920162	ML	LLB	VWC
18	4-21-92	INCORP. (B3,D8,E5,F13,H11, I7,J12,K11) DRN E-9001263	ML	HU	MS
17	9-11-91	INCORP. DRN E-9002252 A-01-9,E4,F6,G7,G8,J13.	THS	HU	MS VWE

"THIS DRAWING ALSO EXISTS AS FSAR FIGURE 9.5-1, SH.1."

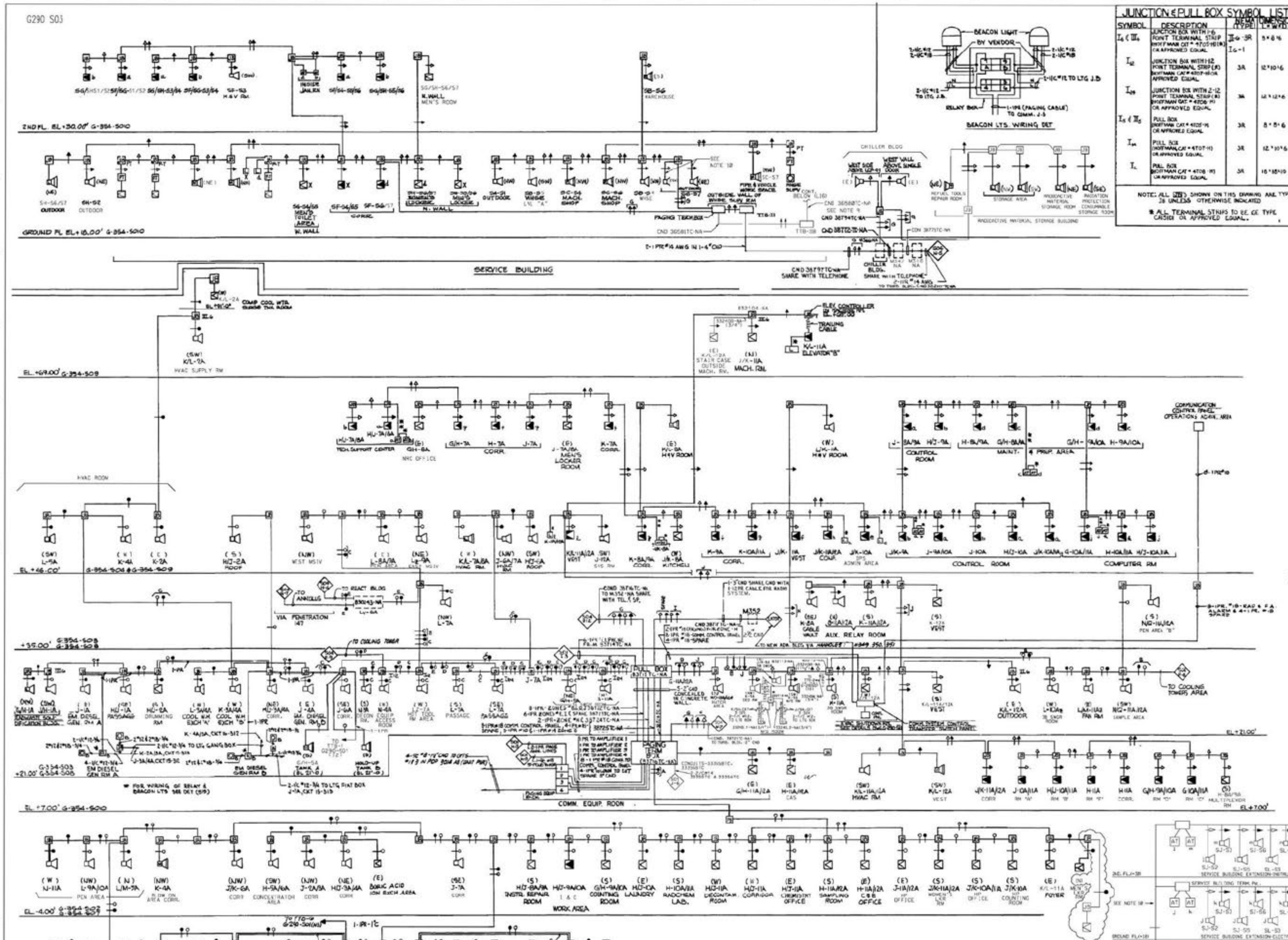
ENTERGY OPERATIONS, INC.
WATERFORD S.E.S. UNIT NO. 3
1165 MW INSTALLATION

TELEPHONE
COMMUNICATION SYSTEM DIAGRAM

SCALE: NONE | APPROVED S. SANDFORTH | DATE: 3-31-76
DIV. ELEC.
DR. W.A.G.
CH. J.VESZAROS | JR | JR RV

G290 S01

G290 S03



JUNCTION & PULL BOX SYMBOL LIST

SYMBOL	DESCRIPTION	NEMA (TYPE)	DIMENSION L×W×D
I_6 & III_6	JUNCTION BOX WITH 1-6 POINT TERMINAL STRIP (HOFFMAN CAT # 4705-H01(*)) OR APPROVED EQUAL	III-6-3R, I6-1	5×8×6
I_{12}	JUNCTION BOX WITH 1-12 POINT TERMINAL STRIP (*) HOFFMAN CAT # 4707-H OR APPROVED EQUAL	3R	12×10×6
I_{24}	JUNCTION BOX WITH 2-12 POINT TERMINAL STRIP (*) HOFFMAN CAT # 4706-H OR APPROVED EQUAL	3R	12×12×6
I_5 & III_5	PULL BOX HOFFMAN CAT # 4705-H OR APPROVED EQUAL	3R	8×8×6
I_m	PULL BOX (HOFFMAN CAT # 4707-H) OR APPROVED EQUAL	3R	12×10×6
I_L	PULL BOX HOFFMAN CAT # 4708-H OR APPROVED EQUAL	3R	16×18×10

NOTE: ALL JB'S SHOWN ON THIS DRAWING ARE TYPE IB UNLESS OTHERWISE INDICATED

* ALL TERMINAL STRIPS TO BE GE TYPE CR151B OR APPROVED EQUAL.

LEGEND

- —o DENOTES ONE PAGING TWISTED PAIR CABLE, CONNECTED TO AMPLIFIER #1 (CHANNEL 1).
- —► DENOTES ONE PAGING TWISTED PAIR CABLE, CONNECTED TO AMPLIFIER #3 (CHANNEL 3).
- —► DENOTES ONE PAGING TWISTED PAIR CABLE, CONNECTED TO AMPLIFIER #2 (CHANNEL 2).
- —► DENOTES ONE PAGING TWISTED PAIR CABLE, CONNECTED TO AMPLIFIER #4 (CHANNEL 4).

NOTES

1. PAGING LINE CABLE SHALL BE UNSHIELDED #14AWG STRANDED TWISTED PAIR WITH JACKET. TO PREVENT VOLTAGE DROP ON LONG RUNS, CABLE SIZE SHALL BE INCREASED TO #12 AWG OR HIGHER, WHERE INDICATED ON RISER DIAGRAM DRAWINGS.
2. PAGING CABLE COLOR CODING SHALL BE AS FOLLOWS:

	COMMON	LINE	CONTROL LEG
* 1PR #14 AWG, TWISTED NON SHIELDED (LM #DFB-02) OR DSD-5 AS SHOWN ON G-290-S10	BLACK	WHITE	—
* VOLUME CONTROL CABLE	BLACK	WHITE	RED

* PAGING CHANNELS (1-4) CABLES SHALL BE PROPERLY IDENTIFIED BY FIELD AT EACH TERMINATION POINT, ENCLOSURE ETC. BY USING A CABLE MARKER NUMBERED WITH THE APPROPRIATE CHANNEL NUMBER

3. CONDUIT FOR PAGING PAIRS (#14 AWG) SHALL BE SIZED AS FOLLOWS:
   1 PAIR OR 3 #14, USE 3/4" CONDUIT
   2 TO 4 PAIRS, USE 1½" CONDUIT
   5 OR 6 PAIRS, USE 2" CONDUIT
   7 TO 9 PAIRS, USE 2½" CONDUIT
   CONDUIT SIZES FOR UNDERGROUND DISTRIBUTION & OTHER SPECIFIC CONDITIONS SHALL BE NOTED ON RISER DIAGRAMS.
4. ALL WIRING SHALL BE IN RIGID CONDUIT, UNLESS OTHERWISE NOTED. IN FINISHED AREAS CONDUIT SHALL BE CONCEALED IN WALLS OR MOUNTED ABOVE HUNG CEILINGS.
5. EQUIPMENT SHALL BE MOUNTED AS FOLLOWS:
   LOUDSPEAKERS - 10'-0 ABOVE FINISHED FLOOR INDOORS, 15'-0 ABOVE GROUND LEVEL OUTDOORS.
   CONE SPEAKER WITH SURFACE MOUNTED WALL BAFFLE - 7'-0 ABOVE FINISHED FLOOR.
   CONE SPEAKER WITH SURFACE MOUNTED CEILING BAFFLE - 11'-6 (INSTALLED BETWEEN LIGHTING FIXTURES IN HUNG CEILING PLENUM)
   JB & PB - 8'-0 TO 10'-0 ABOVE FINISHED FLOOR.
   VOLUME CONTROLS - 4'-0 ABOVE FINISHED FLOOR. IN THE CONTROL ROOM, WHERE WALL MOUNTING IS IMPRACTICAL, THE VOLUME CONTROLS ARE TO BE MOUNTED IN THE CEILING. SEISMIC RESTRAINT CABLE (AS USED FOR SPEAKER MOUNTING) IS REQUIRED
6. ALL EQUIPMENT LOCATIONS-CONNECTIONS ARE SHOWN DIAGRAMMATICALLY, EXACT LOCATION OF CONDUITS, BOXES & SPEAKERS SHALL BE DETERMINED IN THE FIELD TO AVOID INTERFERENCE WITH OTHER EQUIPMENT, DUCTS, PIPES ETC.
7. PAGING LINES COVERING CONTROL ROOM AREA SHALL BE CONNECTED TO CORRESPONDING CHANNEL SYSTEMS VIA CONTROL TRANSFER SWITCH LOCATED IN REMOTE SHUTDOWN ROOM. FOR DETAILS SEE DWG. G-290-S11
8. ADMINISTRATION BUILDING SPEAKERS TO BE CONNECTED TO CHANNELS 2 & 4 (ZONE I) AS INDICATED BY EBASCO DWG # G-290-S04 (SA) AND SPEAKER LOCATIONS BY LP&L ON LP&L DWGS.
9. CONDUIT 36852TS-NA RUNS FROM SERVICE BLDG. WAREHOUSE TO THE EXTENDED PORTION OF THE SERVICE BLDG. THIS CONDUIT IS 3" EMT & ENDS ABOVE DROP CEILING OF 1ST FLOOR IN SERVICE BLDG. EXTENSION.
10. WIRING FOR PAGING SPEAKERS ARE RUN IN FREE AIR ABOVE DROP CEILING. ONE PAIR #22 AWG SPEAKER WIRE MAY BE USED.

PAGING CABLE ZONING

ZONE	AREA COVERED
A	REACT. AUX. BLDG. EL. -4.00' & -35.00'
B	REACT. AUX. BLDG. EL. +7.00', +21.00', +35.00', +46.00' & +69.00' EAST SIDE.
C	REACT. AUX. BLDG. EL. +7.00', +21.00', +35.00', +46.00' & +69.00' WEST SIDE.
D	FUEL HANDLING BLDG. & WEST COOLING TOWERS AREA
E	REACTOR BLDG.
F	TURBINE BLDG.
G	SERVICE BLDG & SITE BLDGS.
H	CONTROL RM. AREA
I	ADMINISTRATION BLDG & GUARD HOUSE
J	RAB EL. +7.00', +21.00', +35.00', +46.00', & RAK

REFERENCE DRAWINGS

PAGING COMM. SYST. DIAGRAM	G-290-S04
COMM. SYST. DETAILS	G-290-S07

NO.	DATE	REVISION	BY	CH	APP	NO.	DATE	REVISION	BY	CH	APP
						15	2-12-97	INCORP DRN E-9600940	LLB	HJC	MTS
						14	4-22-96	INCORP DRN E-9502514 (C10,L16 B2,B5,C2)	LLB	ML	EF
						13	3-28-95	INCORP DRN E-9402022K9	LLB	ML	PJB
17	7-29-14	INCORP. EC 18623 ECN 29935 (H18, L14)	JAG	DD	DD	12	10-26-92	INCORP DRN E-9201427 & E-9202631	LLB	ML	MS
16	1-10-01	INCORP. (C13) 96-574, (K5) 99-2407	THS	RJC	N/A	11	5-6-92	INCORP. (C12 & J11) DRN E-9001264	[illegible]	HU	MS

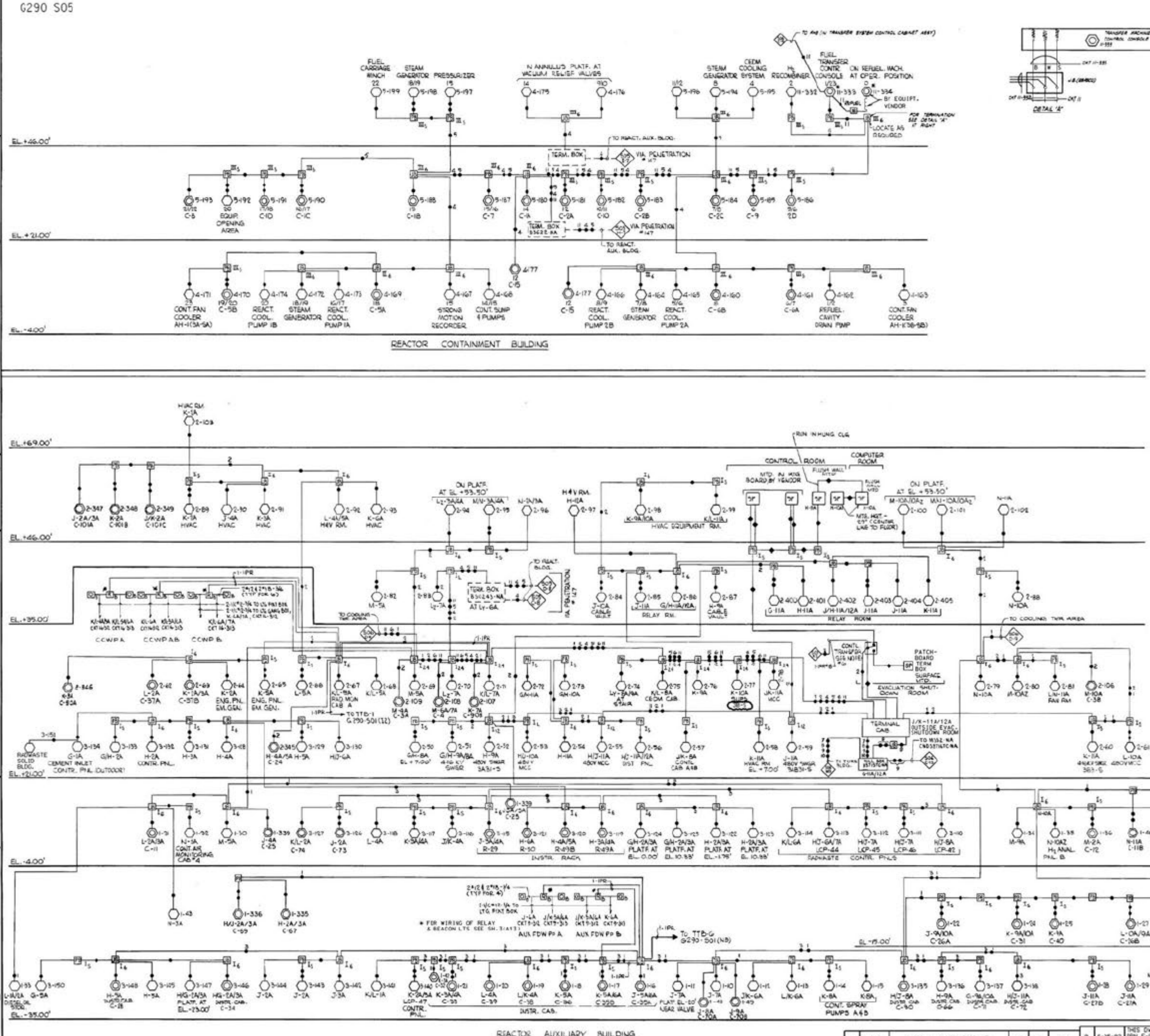
ENTERGY OPERATIONS, INC.
WATERFORD S.E.S. UNIT NO. 3
1165 MW INSTALLATION

PAGING
COMMUNICATION SYSTEM DIAGRAM

SCALE: NONE | APPROVED | DATE: 3/25/76
DIV. ELEC
DR. W. NG
CH. J. MESZAROS
D SANDFORTH
JS AN JK RO

G290 S03

G290 S05



LEGEND:

DENOTES ONE SOUND POWERED TELEPHONE PAIR CABLE #18 AWG INDIVIDUALLY SHIELDED TWISTED PAIR, NUMERAL INDICATES CIRCUIT NO

DENOTES ONE 12-PAIR CABLE, #18 AWG, INDIVIDUALLY SHIELDED, TWISTED PAIRS.

* SUPPLIED & WIRED BY EQUIPMENT VENDOR

SOUND POWERED TEL. NOTES:

1. SOUND POWERED TEL. CABLES SHALL BE #18, INDIVIDUALLY SHIELDED, TWISTED PAIRS UNLESS OTHERWISE NOTED.

2. CONDUIT FOR SOUND POWERED TELEPHONE SYSTEM SHALL BE SIZED AS FOLLOWS:

1 PAIR #18 USE 3/4" CND
2 PAIRS #18 USE 1" CND
3 TO 6 PAIRS #18 USE 1½" CND
2 - 11 PAIRS #20 USE 3½" CND
7 TO 9 PAIRS #18 USE 2" CND
1 - 12 PAIRS #18 USE 2" CND

CONDUIT SIZES FOR UNDERGROUND DISTRIBUTION AND OTHER SPECIFIC CONDITIONS SHALL BE INDICATED ON RISER DWGS.

3. ALL WIRING SHALL BE IN RIGID CONDUIT, UNLESS OTHERWISE INDICATED. IN FINISHED AREAS CONDUITS SHALL BE CONCEALED IN WALLS OR IN HUNG CEILINGS.

4. JACK STATIONS SHALL BE MOUNTED 4'-6" ABOVE FLOOR. JUNCTION BOXES AND PULL BOXES SHALL BE MOUNTED 8' TO 10' ABOVE FLOOR UNLESS OTHERWISE INDICATED.

5. ALL EQUIPMENT LOCATIONS & INTERCONNECTIONS ARE SHOWN DIAGRAMMATICALLY. EXACT LOCATION OF CONDUITS & BOXES SHALL BE DETERMINED IN THE FIELD TO AVOID INTERFERENCE WITH OTHER EQUIPMENTS, DUCTS & PIPES ETC.

6. FOR DETAILS OF CONTROL TRANSFERRING BETWEEN UNIT CONTROL ROOM AND REMOTE CONTROL SHUTDOWN ROOM, SEE DWG. #G-290-S11

7. TERMINAL BOXES 'STB', ARE USED AS DISTRIBUTION POINTS AND SHALL BE WIRED IN A SIMILAR FASHION AS JUNCTION BOXES.

8. ALL JB'S AND PB'S ARE I'S UNLESS OTHERWISE NOTED.

JACK STATION IDENTIFICATION

CKT. NO	AREA COVERED	ASSIG. NO.	LAST NO. USED
1.	REACT. AUX. BLDG. EL. -35.00' & -4.00'	10-49 315-344	49 339
2.	REACT. AUX. BLDG. EL. +21.00', 35.00', 46.00' & 69.00'	50-109 345-354	109 349
3.	REACT. AUX. BLDG. - FOR RADWASTE SYST.	110-159	151
4.	REACT. BLDG. EL. -4.00'	160-179	177
5	REACT. BLDG. EL. +21.00' & +46.00'	180-209	199
6	FUEL HANDL. BLDG.	210-229	220
7	TURB. BLDG. - GND. FL.	230-259	257
8	TURB. BLDG. - MEZZ. & OPERATING FL.	260-289	281
9	SITE OUT BLDGS.	290-319	315
9.	CONDENSATE POLISHER BLDG.	340-360	353
10	TRANSFORMER YARD	360-369	364
11	REFUEL OPERATION	330-334	334

REFERENCE DRAWINGS

SOUND PWR. TEL. COMM. SYST. DIAGRAM	G-290S06
COMM. SYST. DETAILS	G-290S07
COMMUNICATION SYSTEM DIAGRAM	G-290-S03

INC. FCR'S-DCN'S-ECR'S	
INCORP	REF ONLY
FCR-E-645 E-1509 E-1782 E-9188 E-770 DCN-E-778	DCN-E-2371
	INCORP SMP-96-12788

"THIS DRAWING ALSO EXISTS AS FSAR FIGURE 9.5-1, SH.3."

NO.	DATE	REV. DESCRIPTION	DFTR.	CH.	APPROVAL
11	9-9-99	INCORP. (J10) DRN E9801167	THS	RJC	N/A
10	6/7/94	INCORP. (J1-119) DRN E-9201289- (J18) DCN-E-1402	THS	DDD	DB
9	6-25-93	THIS DWG RECONTROLLED PER DRN E-9201393 & INCORP DRN E-9201631	HPL	LLB	VVC
8	11/01/92	THIS DRAWING WAS USED IN IT'S ENTIRITY TO SCAN AND RASTERIZE TO PRODUCE THIS REVISION	JG	JCS	S.A. BROTHERS

LOUISIANA POWER & LIGHT COMPANY
WATERFORD S.E.S. UNIT NO. 3
1977 - 1165 MW INSTALLATION

SOUND POWERED TELEPHONE COMMUNICATION SYSTEM DIAGRAM

EBASCO SERVICES INCORPORATED

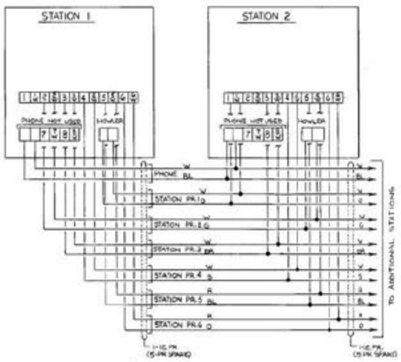
SCALE ~ | APPROVED | DATE 3/25/76

DR. ELBC
CH. WANG

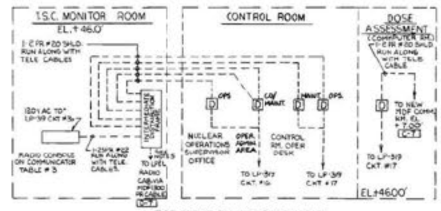
G290 S05

FILENAME: IDEAS

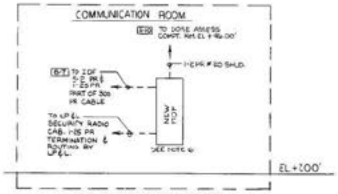
G290S16



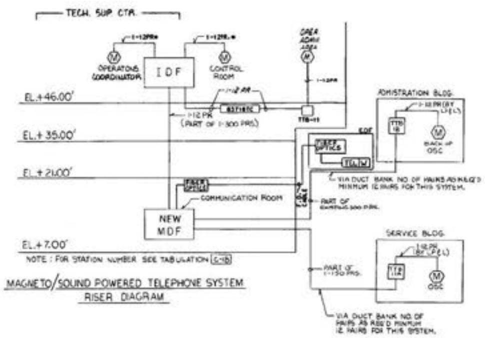
MAGNETO/SOUND POWERED TELEPHONE SYSTEM FOR DEDICATED COMMUNICATION SYSTEM TYPCAL STATION WIRING DETAIL



T.S.C. RADIO CONSOLE & DESK SETS

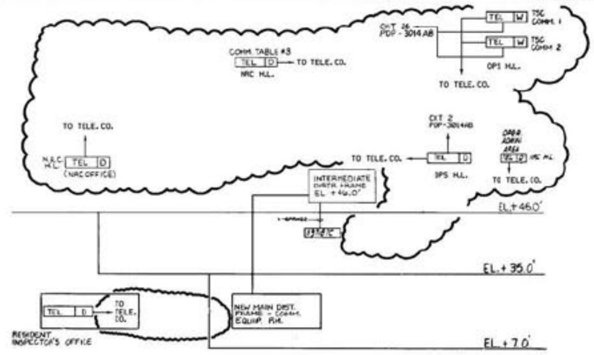


TSC RADIO COMMUN. SYSTEM

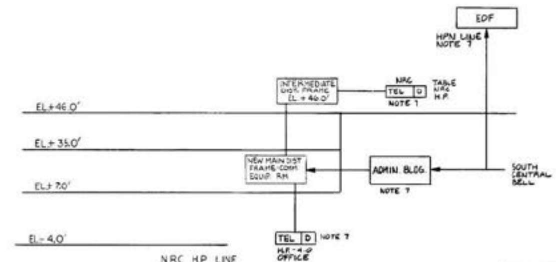


NOTE : FOR STATION NUMBER SEE TABULATION G-16

MAGNETO/SOUND POWERED TELEPHONE SYSTEM RISER DIAGRAM



NRC HOT LINE RISER DIAGRAM



NRC H.P. LINE RISER DIAGRAM

TABULATION	
STATION NO.	LOCATION
1	OPERATION SUPERVISOR'S DESK
2	COMMUNICATOR TABLE #1
3	CONTROL ROOM
4	NUCLEAR OPERATIONS ROOM
5	OPERATIONS SUPPORT CENTER
6	BACK-UP OPERATIONS SUPPORT CENTER (ADMIN. BLDG.)

SYMBOLS

◇ — MAGNETO/SOUND PWD. TELEPHONE STATION
TB — TELEPHONE TERMINAL BOX
IDF — INTERMEDIATE DISTRIBUTING FRAME
MDF — MAIN DISTRIBUTING FRAME
TSC — TECHNICAL SUPPORT CENTER
OSC — OPERATIONS SUPPORT CENTER
NOS — NUCLEAR OPERATIONS SUPERVISOR

DCN'S, MCR'S & FCR'S	
INCORP.	REF. ONLY
DCN-MY-E-[illegible] R3 E-1156R1 E-[illegible]R1 DCN-E-1427 R1	

NOTES

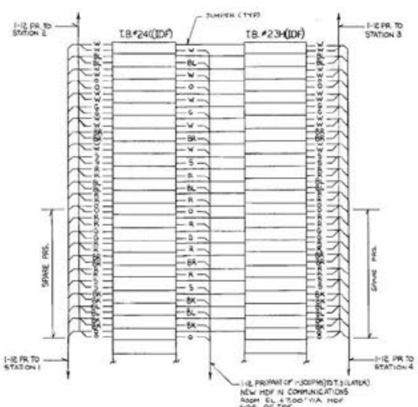
1. SOUND POWERED TELEPHONE SETS ARE STROMBERG-CARLSON TYPE, CAT. NO. 70209-505 EQUIPED WITH MAGNETO-HOWLER CALL TYPICAL FOR 6.
2. STATION-TO-STATION CABLE SHALL BE MINMUM 7-PAIRS, UN-SHIELDED TWISTED # 22 AWGS OR LARGER, UP TO 18 AWG MAY BE USED.
3. CABLE 1-12 PR. # 22 WITH ✱ TO BE ROUTED ALONG WITH TELEPHONE CABLES, REF. G-290-501 & 502
4. RECEPTACLES FOR RADIO DESK SETS & CONSOLE ARE SHOWN ON DWG. # G-357.
5. FOR CONNECTION DIAGRAM OF INTERMEDIATE DIST. FRAME SEE DWG G-290-513.
6. FOR NEW MDF CONNECTION DIAGRAM SEE DWG G-290-514.
7. ALL COMMERCIAL NUMBERS ARE LISTED IN THE EMERGENCY RESOURCES DOCUMENT BOOK.

REFERENCE DRAWING

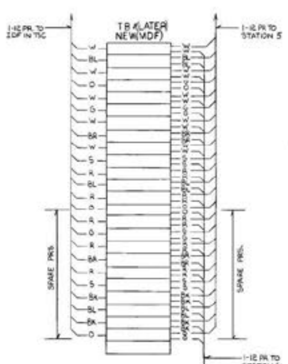
TELE. CABLE CONN. DIAG INTERMED. DIST. FRAME G-290-513
TELE. CABLE CONN. DIAG. MAIN DIST. FRAME (NEW) G-290-514
TELE. SYSTEM ARRANGEMENT G-354-507
TELE. SYSTEM ARRANGEMENT G-364-509

"THIS DWG ALSO EXISTS AS FSAR FIGURE 7.5-8"

CESAR M. RUIZ REG. NO. 20166 PROFESSIONAL ENGINEER IN ELECTRICAL ENGINEERING (STATE OF LOUISIANA)



MAGNETO/SOUND POWERED TELEPHONE SYSTEM FOR DEDICATED COMMUNICATION SYSTEM TERMINATION DETAILS (AT IDF IN TSC)



MAGNETO/SOUND POWERED TELEPHONE SYSTEM FOR DEDICATED COMMUNICATION SYSTEM TERMINATION DETAILS (AT NEW MDF IN COMMUNICATIONS RM. EL+21.00)

LOUISIANA POWER & LIGHT COMPANY
WATERFORD S. E. S. UNIT NO. 3
1982-1165 MW INSTALLATION

EMERGENCY COMMUNICATION SYSTEM DIAGRAM (MAGNETO / SOUND POWERED SYST.)

EBASCO SERVICES INCORPORATED FIELD

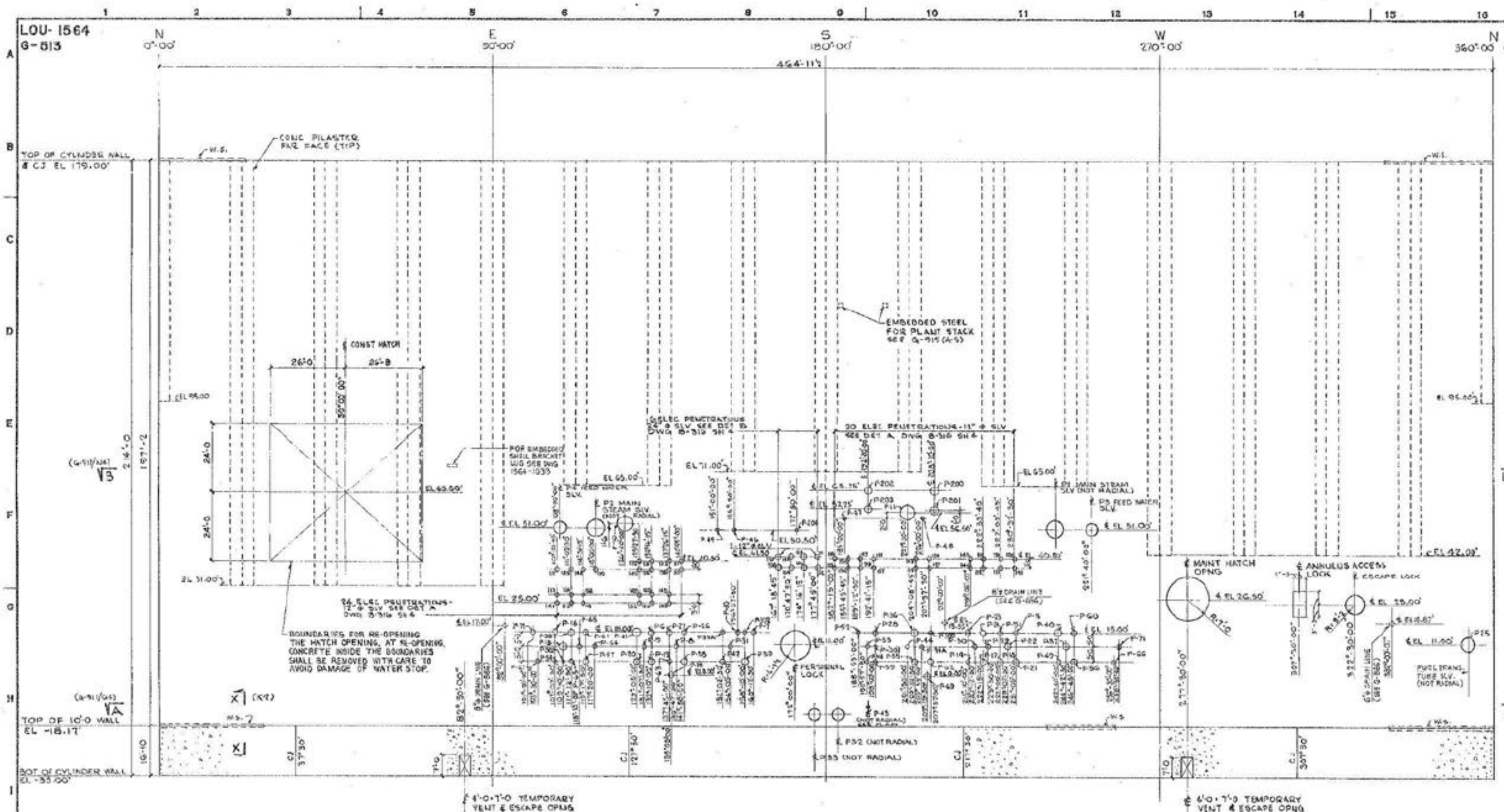
NO.	DATE	REV. DESCRIPTION	DFTR.	CH.	APPROVAL
5	4/17/01	INCORP. DRN 97-2960	JAG	RJC	N/A
4	11/12/90	THIS DRAWING WAS USED IN IT'S ENTIRETY TO SCAN AND RASTERIZE TO PRODUCE THIS REVISION	JG	KP	BM

SCALE NONE — APPROVED — DATE 9.22.83
DIV. ELEC.
DR. G CHAFFE
CH. J. Patel

G290S16

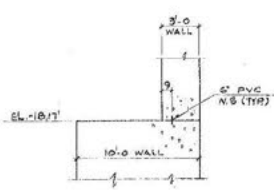
FILENAME: IDEAS

LOU-1564
G-513



DEVELOPED ELEVATION AT INSIDE FACE OF CYLINDER WALL. R=74'-0

FOR LOCATION OF NON RADIAL PENETRATIONS SEE SECTL PLAN B-B (G-511/N4)



SECT X-X (#2)
¼"=1'-0

MECH. PENETRATION SCHEDULE

PENETRATION NUMBER	NOMINAL DIA.	PENETRATION NUMBER	NOMINAL DIA.	PENETRATION NUMBER	NOMINAL DIA.
P-1	74"	P-29	18"	P-53	15"
P-2	74"	P-30	18"	P-54	15"
P-3	32"	P-31	19"	P-55	22"
P-4	32"	P-32	36"	P-56	22"
P-5	18"	P-33	36"	P-57	22"
P-6	18"	P-34A	18"	P-58	22"
P-7	16"	P-35A	18"	P-59	16"
P-8	16"	P-36	26"	P-60	16"
P-9	16"	P-37	26"	P-61	16"
P-14	16"	P-38	26"	P-62	18"
P-15	22"	P-39	26"	P-63	18"
P-16	22"	P-40	32"	P-64	18"
P-17	22"	P-41	32"	P-65	16"
P-18	22"	P-42	18"	P-66	15"
P-19	22"	P-43	8"	P-67	15"
P-20	22"	P-44	15"	P-68	16"
P-21	22"	P-45	16"	P-69	22"
P-22	22"	P-46	16"	P-70	22"
P-23	22"	P-47	16"	P-71	16"
P-24	22"	P-48	16"	P-72	16"
P-25	90"	P-49	10"		
P-26	18"	P-[illegible]	18"		
P-27	18"	P-51	18"		
P-28	18"	P-[illegible]	16"		

INSTRUMENTATION PENET. SCHEDULE

PENETRATION NUMBER	NOMINAL DIA
P-300	4"
P-301	4"
P-302	4"
P-303	4"
P-304	4"

HVAC PENETRATION SCHEDULE

PENETRATION NUMBER	NOMINAL DIA	PENETRATION NUMBER	NOMINAL DIA
P-10	57"	P-202	30"
P-11	57"	P-203	30"
P-200	30"	P-204	6"
P-201	30"		

NOTES:

FOR GENERAL NOTES SEE G-511
EMBEDDED STEEL FOR PERSONNEL LOCK, MAINT. HATCH, ANNULUS ACCESS LOCK, ESCAPE LOCK SEE G-811 SH.11
SEE DETAIL OF INSTRUMENTATION PENETRATIONS SEE DWG D-450 SH.X-22
PENETRATION DET FOR P-304 SEE DWG B-450 SH X-11 & SH X-30

REFERENCE DRAWINGS:

LIST OF DRAWINGS LOU-1564-A-125
REACTOR BLDG:
CYLINDER WALL-PLAN & SECT-M G-511
ELECTRICAL PENETRATIONS - B 316 - SH 2
ELECTRICAL PENETRATIONS - B 316 - SH 4
ELECTRICAL PENETRATIONS - G-313
PIPING PENETRATIONS (MECH) - G-175 SH#1
PIPING PENETRATIONS (MECH) - G-175 SH#2
PIPING PENETRATIONS (MECH) - G-175 SH#3
HVAC - R.B. (A-5) G-856
HVAC - DETAILS SH 2 (A-5) G-869-501

FOR ADDITIONAL REFERENCE DWG SEE G-511
EMBEDDED STEEL G-811 SH.11
R.B. PLAN EL 21.00 PLUMBING & DRAINAGE G-886
SHELL BRACKET LUG LOCATION 1564-1093
INSTRUMENTATION INSTALLATION DET .... D-450 SH X-22

Received

THIS DWG. ALSO EXISTS AS FSAR FIGURE 3.8-44

WORK THIS DWG WITH G-511

ORIGINAL

NO.	DATE	REVISION	BY	CK.	APPROVED	
11	2/25/93	INCORP. [illegible] C-[illegible]	ILB	MPL	[illegible]	
10	6/11/91	INCORP. [illegible] DRN NO. C-[illegible]	ML	LR	MG	BP
9	4/18/91	[illegible]	[illegible]	[illegible]	[illegible]	

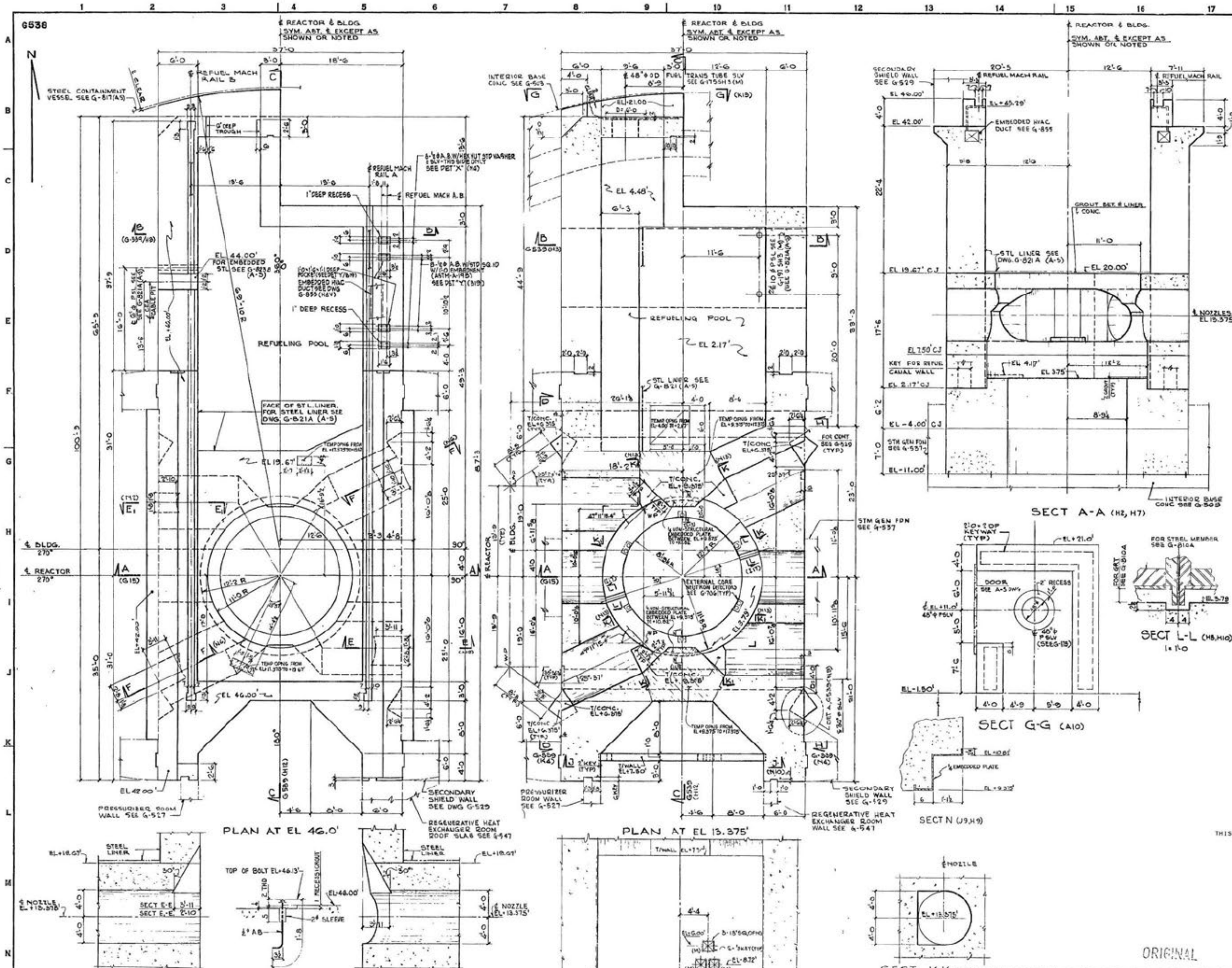
LOUISIANA POWER & LIGHT COMPANY
WATERFORD S.E.S. UNIT NO. 3
1977 - 1165 MW INSTALLATION
REACTOR BUILDING
CYLINDER DEVELOPMENT - MASONRY

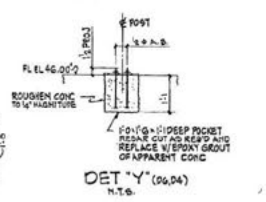
EBASCO SERVICES INCORPORATED NEW YORK

SCALE ¼"=1'-0 UNLESS NOTED
APPROVED
DR. P. WANG
DATE 8-31-72

LOU-1564
G-513

G538





QUANTITIES (NET BY FIELD UNLESS NOTED)

CONCRETE (5000 PSI)	3,527 CU.YDS
½ φ A.B. AS PER DET "X" (H4)	8-REQ'D

NOTES

THIS IS A CLASS 'I' SEISMIC STRUCTURE

CONCRETE SHALL BE OF 5000 PSI IN STRENGTH, SEE EBASCO SPECIFICATION LOU-1564.472

CONSTRUCTION, WHERE NOT SPECIFICALLY COVERED BY EBASCO SPECIFICATIONS, SHALL MEET THE STANDARDS OF ACI 318-71 AND ACI 301-72. IN THE EVENT OF CONFLICT BETWEEN THESE ACI STANDARDS ACI 301-72 SHALL GOVERN

ALL ANCHOR BOLTS, DRAIN PIPES, PIPE SLEEVES, ELECTRICAL CONDUITS AND EMBEDDED PARTS SHALL BE IN POSITION BEFORE CONCRETE IS PLACED.

AT CONSTRUCTION JOINTS (C J) WHERE NO FORMED KEYWAY IS SHOWN ON THE DRAWING THE CONCRETE SHALL BE ROUGHENED UNTIL THE AGGREGATE IS EXPOSED FOR ¼" DEPTH.

FOR EMBEDDED LEAK DETECTION SYSTEM SEE G-885 (A-S)

FOR EMBEDDED STL SEE G-811 501 & 504, G-808 (A-S)

FOR REACTOR SUPPORT ANCHORAGE SEE G-810A (A-S)

FOR EXTERNAL CORE NEUTRON DETECTORS SEE G-706 (A-S)

FOR REFUELING POOL STEEL LINER SEE DWG G-821 (A-S)

FOR EMBEDDED HVAC DUCT SEE DWG G-855 (A-S)

FOR REFUEL MACH RAIL DET SEE DWG G-800

FOR ELEC CONDUIT, TRAY & GROUNDING SEE DWG G-811 & G-812

FOR CONCRETE PLACING SEQUENCE AT EMBEDDED H & V DUCT SEE SECT E DWG G-855

VARIATION FROM TRUE CIRCULAR SECTION OF REACTOR CAVITY: NOT MORE THAN ± ½" IN RADIUS FROM VERTICAL AXIS OF REACTOR. TOLERANCE FOR PLUMB OF CAVITY WALL: NOT MORE THAN ± ½" FOR WHOLE DEPTH OF CAVITY EL-22.0 TO EL+20.0. VARIATION FROM TRUE CIRCULAR SECTION OF CAVITY & TOLERANCE FOR PLUMB OF CAVITY WALL ARE NOT ADDITIVE.

(M) DENOTES MECH TEMPORARY OPNG.

EXPOSED SURFACES OF PERMANENT STEEL FORMS SHALL BE PAINTED WITH DIMECOTE E-2 IN ACCORDANCE WITH ANSI-101.4

REFERENCE DRAWINGS:

LIST OF DRAWINGS	LOU-1564-A-125
RB-INTERIOR BASE CONC PLAN-M	-G-503
RB-PRESSURIZER ROOM	-G-527
RB-SECONDARY SHIELD WALL-M-SH1	-G-529
RB-EQUIPMENT FDN-M & R	-G-537
RB-PRIMARY SHIELD & REFUEL CANAL-M-SH2	-G-539
RB-PRIMARY SHIELD & REFUEL CANAL-R-SH1	-G-541
RB-REGENERATIVE HEAT EXCHANGER ROOM	-G-547
GA-RB PLAN EL-4.00' (M)	-G-145
RB-PIPING PENETRATIONS (M)	-G-175 SH3
CHEM & VOL CONTROL PIPING	-G-174 SH1
SAFETY INJECTION SYS PIPING	-G-195 SH2
BORON MANAGEMENT PIPING	-G-197 SH3
FUEL POOL COOLING & PURIFICATION PIPING	-G-198 SH2
RB-PLATFORMS SH1 (A-S)	-G-801A
RB REACTOR VESSEL SUPPORT SH.1 (A-S)	G-810A
RB-CANAL LINER SH1 (A-S)	-G-821A
RB-PLAN EL-4.00' PLMB & DR. (A-S)	-G-885
RB-CONTAINMENT VESSEL (A-S)	-G-817
RB CANAL LINER SH4 (A-S)	G-825B
RB CONSTRUCTION TRESTLE (A-S)	-G-699507
RB SH2 (HVAC)	-G-855
RB REACTOR VESSEL SUPPORT SH2 (A-S)	-G-810B
RB-EXTERNAL CORE NEUTRON DETECTORS (A-S)	-G-706
RB-ELEC. CONDUIT, TRAY & GROUNDING	-G-811, G-812
REACTOR CONT. BLDG.-PIPING PENETRATIONS	G-175
SLV FOR 50" φ OD PIPE CHASE	4505.7216
RB-MISC STEEL (A-S)	G-800
DESIGN CHANGE NOTICE	45589

MANUFACTURERS DRAWINGS

REFUELING MACHINE INSTALLATION SH2	1564-6561

THIS DWG. ALSO EXISTS AS FSAR FIGURE 3.8-32 SH1

WORK THIS DWG. WITH DWG. G-539

NO.	DATE	REVISION	BY	CH.	APPROVED
15	[illegible]	INCORP. DRN C-9201316	LLB	MPL	FK
14	[illegible]	INCORP. [illegible] DRN C-9201506	TWS	RJE	
13	4/19/91	THIS DRAWING WAS USED IN ITS ENTIRETY TO SCAN AND RASTERIZE TO PRODUCE THIS REVISION	CRP	FK	SAB

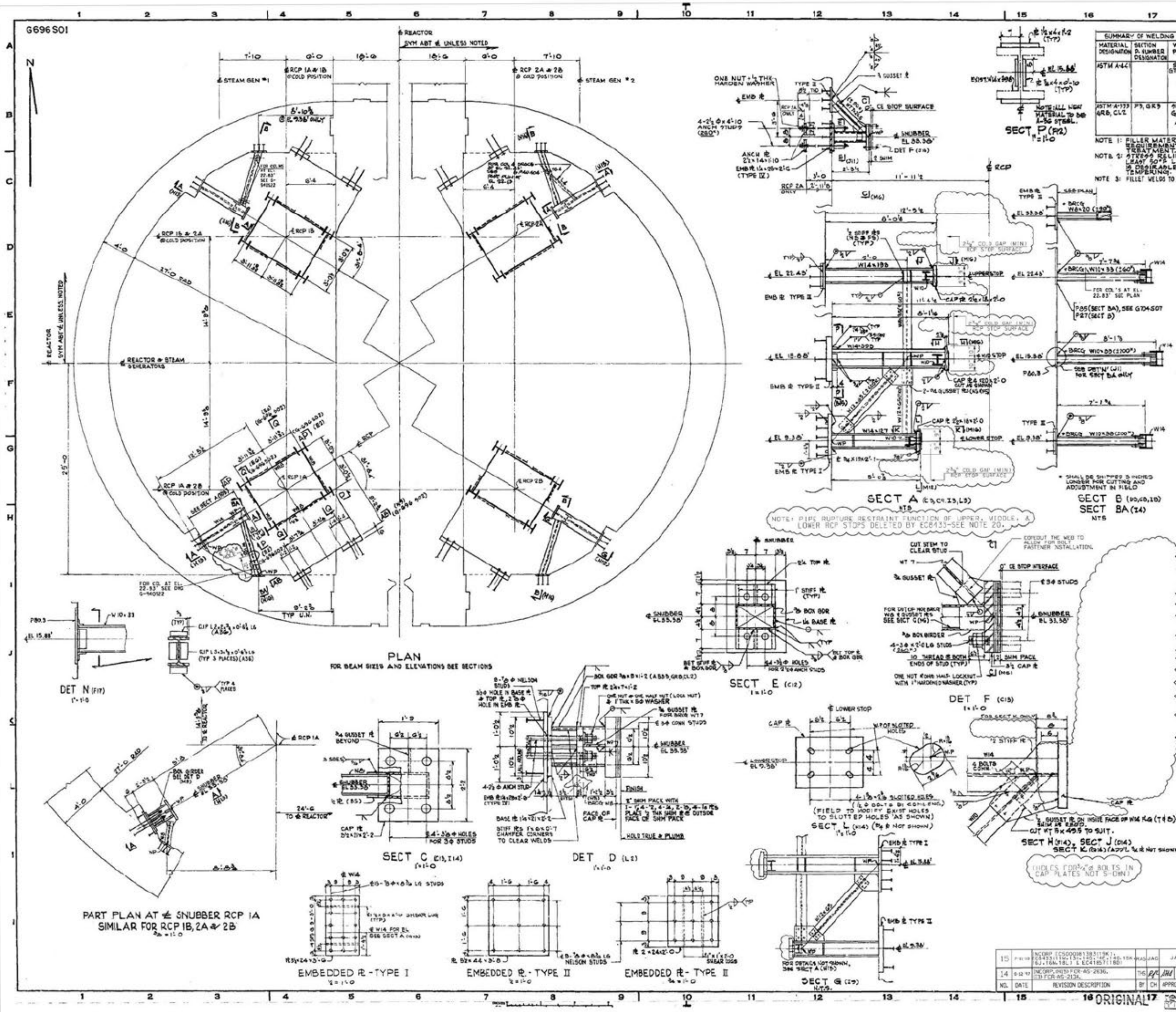
LOUISIANA POWER & LIGHT COMPANY
WATERFORD S.E.S. UNIT NO. 3
1977- 1165 MW INSTALLATION
REACTOR BUILDING
REACTOR PRIMARY SHIELD & REFUEL. CANAL
MASONRY SH. 1

EBASCO SERVICES INCORPORATED NEW YORK

SCALE ⅛" = 1'-0"
DIV. C-H
DATE JULY 26, 1974

G538

G696S01



SUMMARY OF WELDING REQUIREMENTS FOR NSSS SUPPORT STEEL					
MATERIAL DESIGNATION	SECTION P. NUMBER DESIGNATION	WELDING PROCESS	FILLER METALS	PREHEAT TEMPERATURES	POST WELD HEAT TREATMENT
ASTM A-441		SMAW GTA/GMAW SAW	SEE NOTE 1	50°F MIN. FOR THICKNESS TO 1½ INCL. 150°F MIN. FOR OVER 1½" TO 2½" INCL. 225°F MIN. FOR THK. OVER 2½"	1125 ± 25° F IN ACCORDANCE WITH NF-4600 "HEAT TREATMENT"
ASTM A-533 GRB, CL2	P3, GR3	SMAW GMAW SAW	SEE NOTE 1	250°F MIN. FOR THK. OVER 5/8" 50°F MIN. FOR ALL OTHERS.	1129 ± 25° F IN ACCORDANCE WITH NF-4600 "HEAT TREATMENT" SEE NOTE 2

NOTE 1: FILLER MATERIAL SHALL MATCH THE MECHANICAL PROPERTY REQUIREMENTS OF BASE METAL AFTER POST WELD HEAT TREATMENT.

NOTE 2: STRESS RELIEF HEAT TREATMENT AT A TEMPERATURE AT LEAST 50°F LOWER THAN THE TEMPERING TEMPERATURE IS DESIRABLE TO AVOID THE POSSIBILITY OF OVER TEMPERING.

NOTE 3: FILLET WELDS TO EMBED PLATES DO NOT REQUIRE POST WELD HEAT TREATMENT

NOTES:

1. STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH EBASCO SPECIFICATION LOU 1564.728 UNLESS OTHERWISE NOTED.
2. STEEL SHALL BE ASTM A441 UNLESS NOTED. A441 STEEL SHALL MEET CHARPY V-NOTCH IMPACT REQUIREMENT OF 15 MILLS LATERAL EXPANSION AT +50°F.
3. ALL STUDS, NUTS AND WASHERS SHALL BE ASTM A-540 GRADE B24, CLASS ... MATERIAL SHALL BE VACUUM DEGASSED, QUENCHED AND TEMPERED AND SHALL MEET A CHARPY V-NOTCH IMPACT REQUIREMENT OF 25 MILS LATERAL EXPANSION AT -50°F IN LIEU OF A-540 IMPACT REQUIREMENTS.
4. SHIM MATERIALS ¼" AND THICKER TO BE A-533 GRADE B, CLASS 2, ______ QUENCHED AND TEMPERED, CERTIFIED TEST REPORT REQUIRED. SHIM MATERIALS LESS THAN ¼" THICK TO BE ASTM-A-606. IMPACT TEST NOT REQUIRED.
5. WELDING AND REPAIR SHALL BE IN ACCORDANCE WITH EBASCO SPECIFICATION 0UU-75 TA AND ASME SECTION III, NF-4000. WELDING TO BE INSPECTED IN ACCORDANCE WITH SUBSECTION NF. SUBARTICLE NF-5000. FULL PENETRATION BUTT AND GROOVE WELDS, AND FULL FILLET WELDED TEE JOINTS SHALL HAVE RADIOGRAPHIC EXAMINATION (RT). WHERE MEANINGFUL (RT) RESULTS CANNOT BE OBTAINED, ULTRASONIC EXAMINATION MAY BE PERFORMED, PROVIDED THAT PRIOR ENGINEERS APPROVAL IS OBTAINED. LIQUID PENETRANT (LP) OR MAGNETIC PARTICLE (MT) INSPECTION IS REQUIRED FOR THE BASE METAL FOR AT LEAST 1/2" ON EACH SIDE OF WELD. ALL FILLET WELDS GREATER THAN 3/8" SHALL BE INSPECTED BY LIQUID PENETRANT OR MAGNETIC PARTICLE METHOD AFTER THE FINAL LAYER IS DEPOSITED. ALL OTHER WELDS SHALL BE VISUALLY EXAMINED. NONDESTRUCTIVE TEST ACCEPTANCE STANDARDS SHALL BE IN ACCORDANCE WITH ASME CODE SECTION III, NF-5300 "ACCEPTANCE STANDARDS."
6. ALL STEEL SHALL BE BLAST CLEANED IN ACCORDANCE WITH STEEL STRUCTURES PAINTING COUNCIL SPECIFICATION SSPC-SP-6 "COMMERCIAL BLAST CLEANING."

   ALL STEEL, EXCEPT FINISHED SURFACES, TO BE SHOP PAINTED WITH DIMETCOTE 6-2 AT 2-3 MILS DRY FILM THICKNESS. DIMETCOTE SYSTEM IS AS MANUFACTURED BY THE AMERON PROTECTIVE COATINGS DIVISION OF BREA, CALIFORNIA.
7. WELDING PROCEDURE AND PERFORMANCE QUALIFICATIONS SHALL BE PERFORMED IN ACCORDANCE WITH ASME CODE SECTION IX. THE IMPACT AND HEAT TREATMENT REQUIREMENTS FOR THE PROCEDURE QUALIFICATIONS MUST COMPLY WITH THE REQUIREMENTS OF ASME CODE SECTION III, NF-4300 "WELDING QUALIFICATIONS."
8. IMPACT TESTING IS REQUIRED. THE TEST TEMPERATURE SHALL BE THE LOWEST SITE TEMPERATURE UNLESS OTHERWISE NOTED. THE LOWEST SITE TEMPERATURE IS 50 F INSIDE CONTAINMENT DURING WINTER SHUTDOWN.
9. ALL STEEL CONTACT FACES SHALL BE CLEAN AND SQUARE IN ORDER TO DEVELOP FULL BEARING STRENGTH.
10. BRACING CONNECTIONS SHALL BE DESIGNED FOR FORCES INDICATED AND WITHOUT ANY INCREASE IN ALLOWABLE STRESSES.
11. COLUMNS SHALL BE FINISHED TO BEAR AT BASE AND COLUMN BASE SHALL BE GROUTED AS SOON AS PRACTICAL AFTER ERECTION.
12. FIELD CONNECTIONS SHALL BE 1" ⌀ HIGH-STRENGTH BOLTS ASTM A-490, BEARING-TYPE WITH THREADS EXCLUDED FROM SHEAR PLANE UNLESS NOTED.
13. ALL NELSON STUDS TO BE 7/8 ⌀ x 6-3/16 SOL HEADED ANCHORS AS MANUFACTURED BY TRW INC NELSON DIVISION OR APPROVED EQUIVALENT.
14. ANCHOR STUDS SHALL BE PRETENSIONED WHEN SPECIFIED (______). THOSE WITHOUT PRETENSION VALUE SPECIFIED SHALL BE BROUGHT TO SNUG TIGHT.
15. ALL SHOP CONNECTIONS SHALL BE FULL PENETRATION WELDS UNLESS NOTED.
16. EMBEDDED PLATES SHALL HAVE A SETTING TOLERANCE OF ±1" UNLESS ANCHOR BOLTS PASS THROUGH THEM, OR UNLESS OTHERWISE NOTED.
17. ANCHOR BOLTS & EMBEDDED PLATES WITH ANCHOR BOLTS PASSING THROUGH THEM, SHALL HAVE A SETTING TOLERANCE OF ± ¾" FOR THE PATTERN AND ± 1/8" FOR CENTER TO CENTER DISTANCES BETWEEN THE BOLTS, WITHIN EACH CLUSTER OF BOLTS.
18. ALL CONNECTION BOLTS SHALL BE PRETENSIONED TO 70 PERCENT OF THEIR MINIMUM TENSILE STRENGTH UNLESS OTHERWISE NOTED.
19. DRILL ⅜" ⌀ HOLE ON STEEL SURFACE TO REMOVE ANY AS FOUND STANDING WATER/OIL MIXTURE. DO NOT DRILL WITHIN ½" OF WELDED CONNECTION OR EDGE OF STRUCTURAL MEMB. DRILLED HOLES SHOULD BE APART 2" MINIMUM.
20. LOAD LIMITING DEVICE, SHIM PACK, ℞ 1X"X2'-0" AND ASSOCIATED BOLTS OF SECTION A, G, H, J & K DELETED PER EC8433.

THIS DWG. ALSO EXISTS AS FSAR FIGURE 3.8-37

REFERENCE DRAWINGS

FOR REFERENCE DWGS. SEE G-696S02

SEISMIC CLASS I

WORK THIS DRAWING WITH G-696S02

NO.	DATE	REVISION DESCRIPTION	BY	CH	APPROVED
15	7-31-19	INCORP. EC5000081383(19K), EC8433(11W,13I,14D,14E,14G,15K,16J,16M,18L) & EC41857(18D)	RAS	JAG	JAG
14	8-12-97	INCORP. (H)(5) FCR-AS-2636, (I)(3) FCR-AS-2134.	THS		

LOUISIANA POWER & LIGHT COMPANY
WATERFORD S.E.S. UNIT NO. 3
1977 - 1165 MW INSTALLATION
REACTOR BUILDING
REACTOR COOLANT SYSTEM SUPPORTS & STOPS
SH. 1

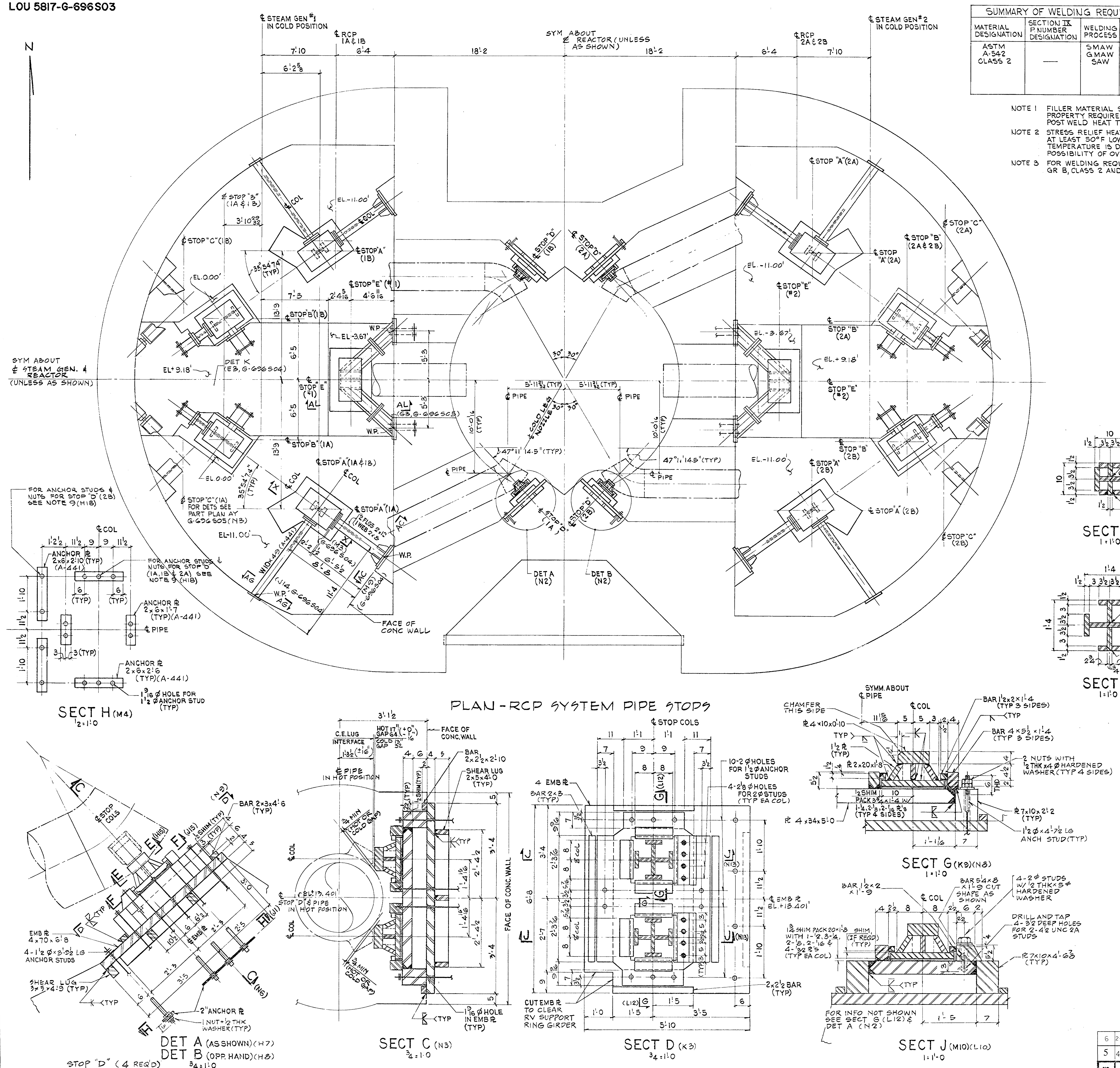
EBASCO SERVICES INCORPORATED

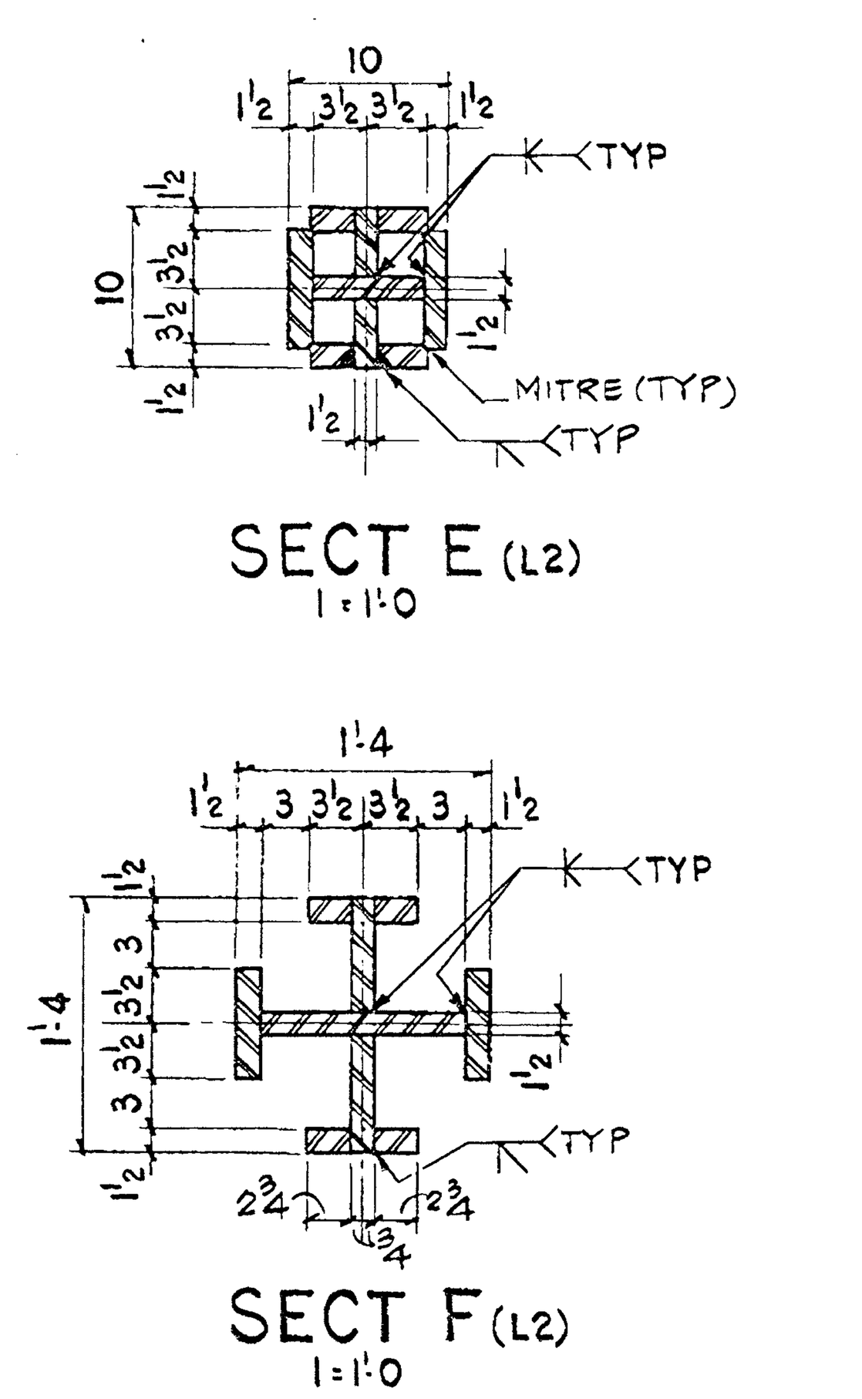
APPROVED: [signature] DATE July 29 1977

G696S01

ORIGINAL

LOU 5817-G-696S03





SUMMARY OF WELDING REQUIREMENTS FOR NSSS SUPPORT STEEL					
MATERIAL DESIGNATION	SECTION IX P. NUMBER DESIGNATION	WELDING PROCESS	FILLER METALS	PREHEAT TEMPERATURE	POST WELD HEAT TREATMENT
ASTM A-542 CLASS 2	—	SMAW GMAW SAW	SEE NOTE 1	150° F MIN FOR THK TO ½" INCL. 200°F MIN FOR THK OVER ½" TO 1" INCL. 250°F MIN FOR THK OVER 1" TO 2" INCL. 300°F MIN FOR THK OVER 2"	1125 ± 25°F IN ACCORDANCE WITH NF-4600 "HEAT TREATMENT" SEE NOTE 2

NOTE 1 FILLER MATERIAL SHALL MATCH THE MECHANICAL PROPERTY REQUIREMENTS OF BASE METAL AFTER POST WELD HEAT TREATMENT

NOTE 2 STRESS RELIEF HEAT TREATMENT AT A TEMPERATURE AT LEAST 50°F LOWER THAN THE TEMPERING TEMPERATURE IS DESIRABLE TO AVOID THE POSSIBILITY OF OVER TEMPERING

NOTE 3 FOR WELDING REQUIREMENTS OF STEEL ASTM-A-533 GR B, CLASS 2 AND ASTM A-441, SEE G-696 S01

NOTES:

1. STRUCTURAL STEEL FOR STOPS A, C, D AND E SHALL BE ASTM A-542 CLASS 2 UNLESS NOTED. PLATE SHALL MEET A CHARPY V-NOTCH IMPACT REQUIREMENT OF 25 MILS LATERAL EXPANSION AT A TEST TEMPERATURE OF +50°F.
2. STRUCTURAL STEEL FOR STOP B SHALL BE ASTM A-533 GRADE B CLASS 2 UNLESS NOTED. PLATE SHALL MEET A CHARPY V-NOTCH IMPACT REQUIREMENT OF 25 MILS LATERAL EXPANSION AT A TEST TEMPERATURE OF +50°F
3. SADDLES FOR STOPS A, B, C AND E SHALL BE FORGED STEEL ASTM A723 GRADE 3 CLASS 2 (MIN TENSILE STRENGTH 140,000 PSI AND MIN YIELD STRENGTH 120,000 PSI) MATERIAL SHALL MEET A CHARPY V-NOTCH IMPACT REQUIREMENT OF 15 MILS LATERAL EXPANSION AT +50°F. THE MATING SURFACE OF THE FORGING PIECE SHALL BE CONTINUOUS CURVED SURFACES HAVING THE SAME RADIUS AS THE OUTSIDE OF THE RCS PIPE WALL.
4. UNLESS OTHERWISE NOTED, MEMBERS FRAMING DIRECTLY INTO CONCRETE WALL WITH FIELD WELD CONNECTION SHALL BE SHIPPED 3 INCHES LONGER FOR CUTTING AND ADJUSTMENT IN FIELD.
5. THE HOT POSITION CLEARANCES GIVEN ARE TO BE VERIFIED DURING HOT FUNCTIONAL TESTING. THE INSULATION MATERIAL BETWEEN MATING SURFACES OF THE PIPE AND FORGING MUST BE REMOVABLE FOR CLEARANCE VERIFICATION.
6. PROVIDE 3/8 STEEL TEMPLATES FOR ALL STOPS. THE TEMPLATE CENTERLINE SHALL BE LOCATED RELATIVE TO THE CENTERLINE OF REACTOR OR ANY OTHER REFERENCE POINTS TO INSURE CORRECT PLACEMENT. THE FIELD POSITION OF THE ANCHOR STUDS LOCATION WILL THEN BE INSCRIBED ON THE TEMPLATES.
7. FOR OTHER NOTES SEE G-696S01.
8. ALL GAPS TO BE MEASURED AT THE PIPE STOP CENTERLINES.
9. STUDS SHALL BE ASTM A193 GRADE B7 WITH NUTS A194, CLASS I.
10. FOR STOP "D" SHIM SECUREMENT SEE FCR-AS-2061 R1

REFERENCE DRAWINGS:

LIST OF DRAWINGS	LOU 1564 A-125
REACTOR BLDG SECONDARY SHIELD WALL SH-1	G-529
RB PRIMARY SHIELD & REFUEL CANAL	G-538
REACTOR COOLANT SYSTEM SUPPORTS & STOPS	G-696-S01
REACTOR COOLANT SYSTEM SUPPORTS & STOPS	G-696-S02

THIS DWG. ALSO EXISTS AS FSAR FIGURE 3.8-38

SEISMIC CLASS I

ORIGINAL

WORK THIS DWG WITH G-696 S04, S05 AND S06

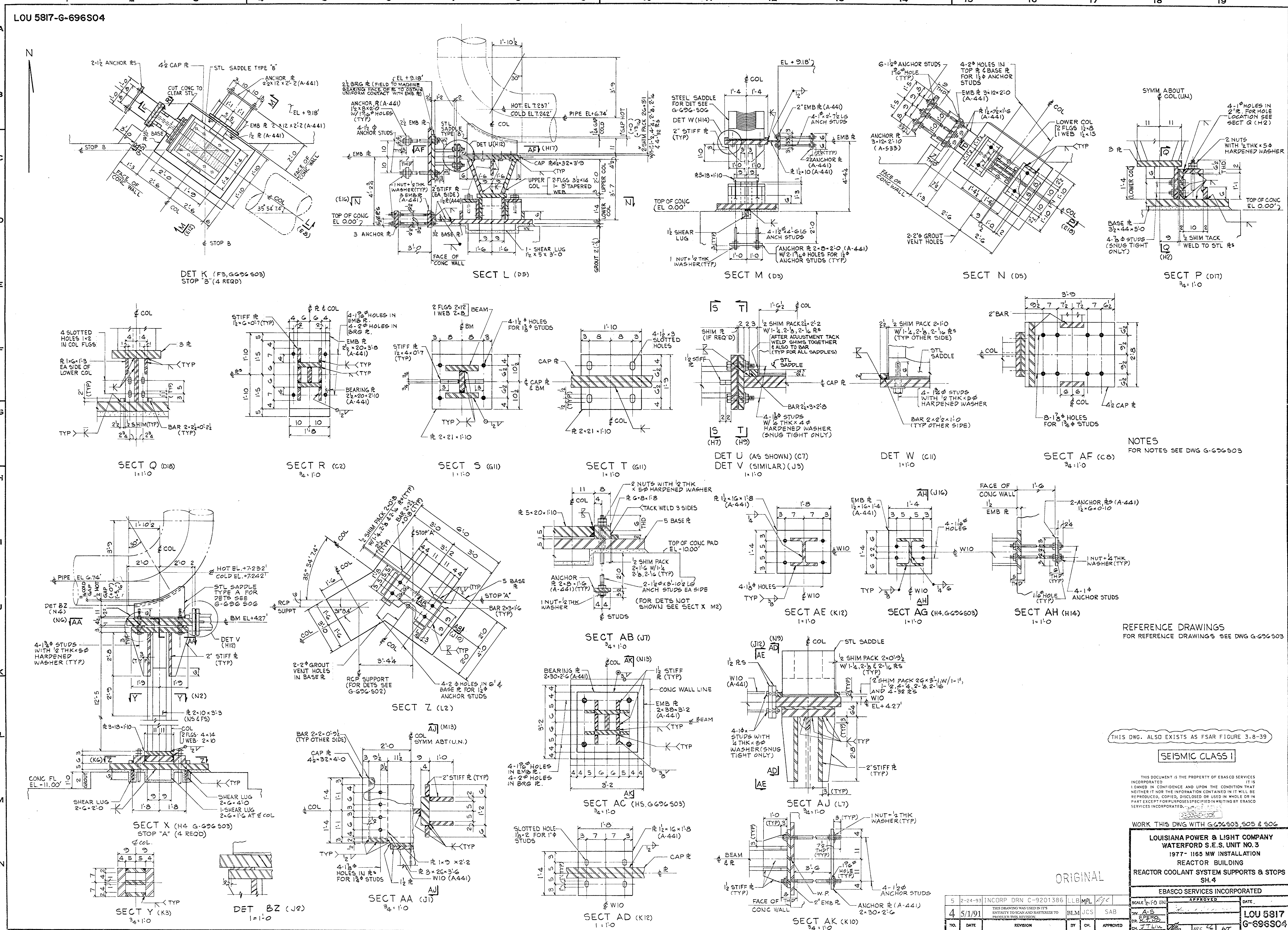
NO.	DATE	REVISION	BY	CH.	APPROVED
6	2-24-93	INCORP DRN C-9201386	LLB	MPL	[illegible]
5	4/29/91	THIS DRAWING WAS USED IN IT'S ENTIRITY TO SCAN AND RASTERIZE TO PRODUCE THIS REVISION	JPQ	JCS	SAB

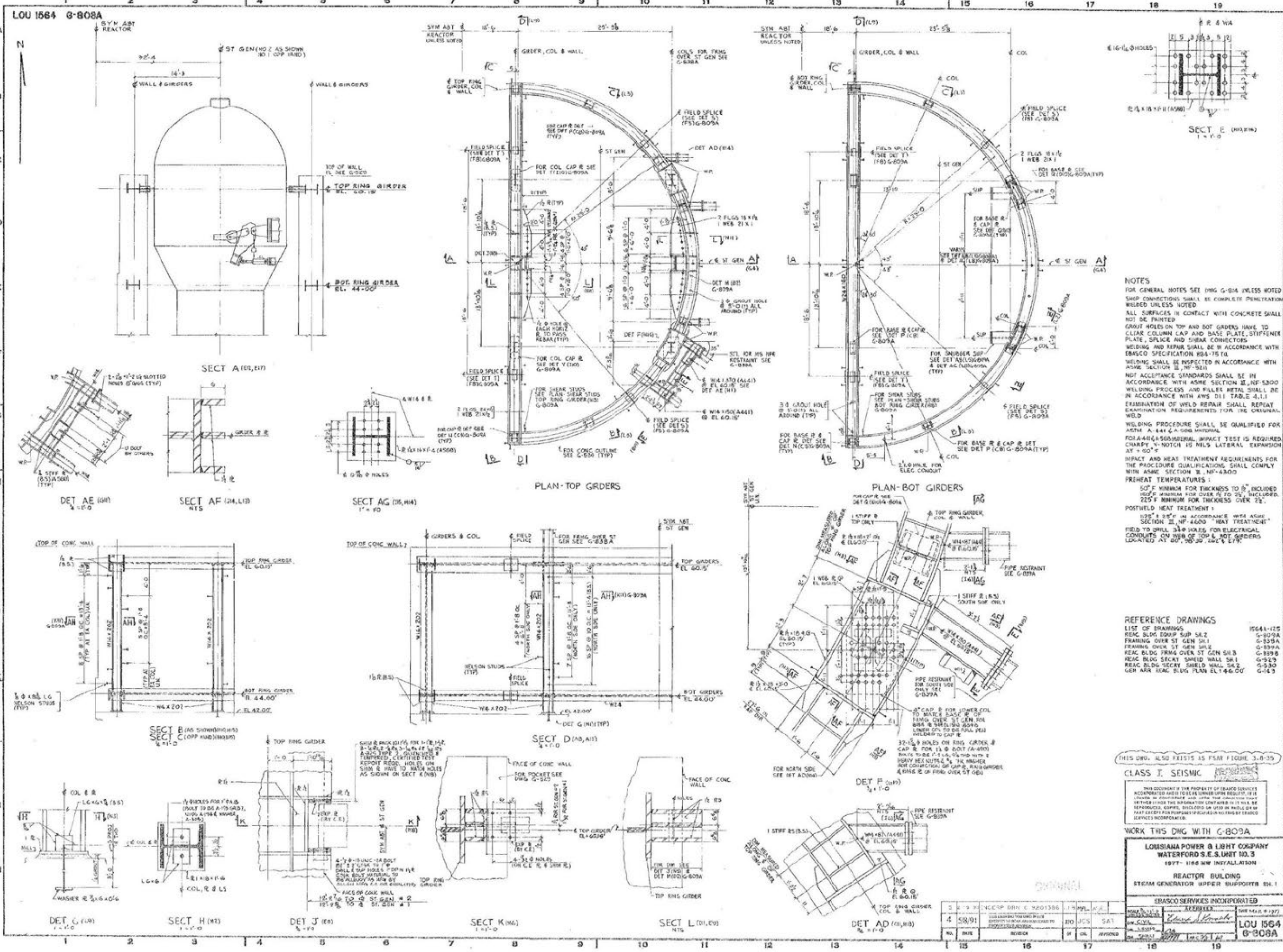
LOUISIANA POWER & LIGHT COMPANY
WATERFORD S.E.S. UNIT NO. 3
1977 - 1165 MW INSTALLATION
REACTOR BUILDING
REACTOR COOLANT SYSTEM SUPPORTS & STOPS SH. 3

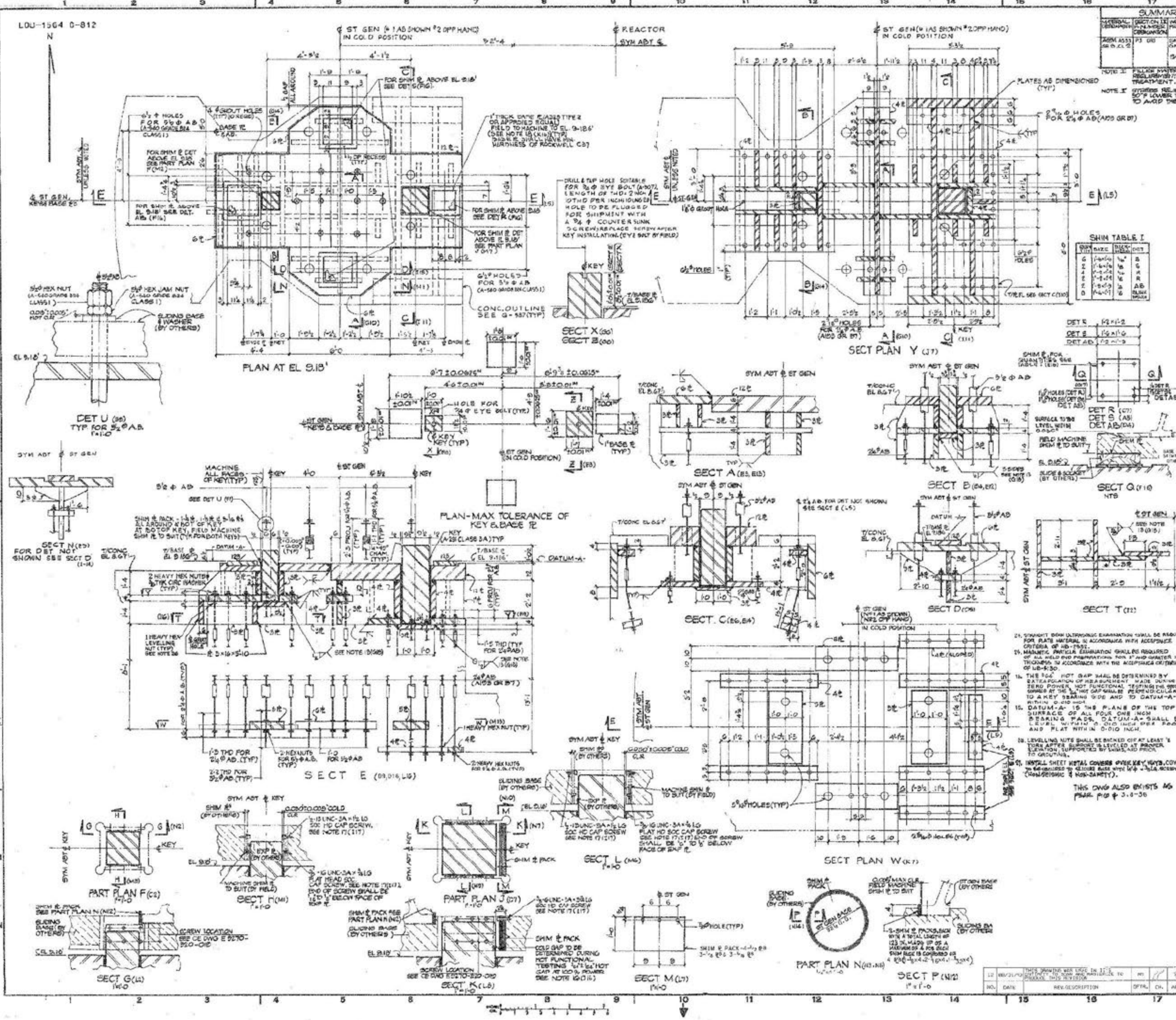
EBASCO SERVICES INCORPORATED

SCALE ¼" = 1'-0 UNLESS NOTED
DIV. A-S
DR. K.T. HO / L. MARTINEZ
CH. J T Liu
APPROVED
DATE

LOU 5817
G-696S03


LOU 5817-G-696S04
DET K (F3, G-696S03)
STOP "B" (4 REQD)
SECT L (D5)
SECT M (D3)
SECT N (D5)
SECT P (D17)
3/4 = 1'-0
SECT Q (D18)
1 = 1'-0
SECT R (C2)
3/4 = 1'-0
SECT S (G11)
1 = 1'-0
SECT T (G11)
1 = 1'-0
DET U (AS SHOWN) (C7)
DET V (SIMILAR) (J3)
1 = 1'-0
DET W (C11)
1 = 1'-0
SECT AF (C8)
3/4 = 1'-0
NOTES
FOR NOTES SEE DWG G-696S03
SECT X (H4 G-696S03)
STOP "A" (4 REQD)
SECT Z (L2)
SECT AB (J7)
3/4 = 1'-0
SECT AE (K12)
1 = 1'-0
SECT AG (H4, G-696S03)
1 = 1'-0
SECT AH (H14)
1 = 1'-0
REFERENCE DRAWINGS
FOR REFERENCE DRAWINGS SEE DWG G-696S03
SECT AC (H5, G-696S03)
3/4 = 1'-0
SECT AJ (L7)
3/4 = 1'-0
SECT Y (K3)
3/4 = 1'-0
DET BZ (J2)
1 = 1'-0
SECT AA (J1)
3/4 = 1'-0
SECT AD (K12)
1 = 1'-0
SECT AK (K10)
3/4 = 1'-0
THIS DWG. ALSO EXISTS AS FSAR FIGURE 3.8-39
SEISMIC CLASS I
THIS DOCUMENT IS THE PROPERTY OF EBASCO SERVICES INCORPORATED IT IS LOANED IN CONFIDENCE AND UPON THE CONDITION THAT NEITHER IT NOR THE INFORMATION CONTAINED IN IT WILL BE REPRODUCED, COPIED, DISCLOSED OR USED IN WHOLE OR IN PART EXCEPT FOR PURPOSES SPECIFIED IN WRITING BY EBASCO SERVICES INCORPORATED.
WORK THIS DWG WITH G-696S03, S05 & S06
ORIGINAL
LOUISIANA POWER & LIGHT COMPANY
WATERFORD S.E.S. UNIT NO. 3
1977 - 1165 MW INSTALLATION
REACTOR BUILDING
REACTOR COOLANT SYSTEM SUPPORTS & STOPS
SH. 4
EBASCO SERVICES INCORPORATED
5 | 2-24-93 | INCORP DRN C-9201386 | LLB | MPL
4 | 5/1/91 | THIS DRAWING WAS USED IN IT'S ENTIRITY TO SCAN AND RASTERIZE TO PRODUCE THIS REVISION | BLM | JCS | SAB
NO. | DATE | REVISION | BY | CH. | APPROVED
SCALE 1/2 = 1'-0 UN
APPROVED
DATE
DIV. A-S
DR. P. PERO
CH. J T Liu
LOU 5817
G-696S04


LOU 1564 G-808A
SECT A (D2, E17)
DET AE (G17)
SECT AF (J14, L13)
SECT AG (J15, H14)
PLAN-TOP GIRDERS
PLAN-BOT GIRDERS
SECT E (B13, E16)
SECT B (AS SHOWN)
SECT C (OPP HAND)
SECT D (A8, A17)
DET F (G10)
DET G (L8)
SECT H (M2)
DET J (E8)
SECT K (M6)
SECT L (D1, E9)
DET AD (C11, H13)
NOTES
FOR GENERAL NOTES SEE DWG G-814 UNLESS NOTED
SHOP CONNECTIONS SHALL BE COMPLETE PENETRATION WELDED UNLESS NOTED
ALL SURFACES IN CONTACT WITH CONCRETE SHALL NOT BE PAINTED
GROUT HOLES ON TOP AND BOT GIRDERS HAVE TO CLEAR COLUMN CAP AND BASE PLATE, STIFFENER PLATE, SPLICE AND SHEAR CONNECTORS
WELDING AND REPAIR SHALL BE IN ACCORDANCE WITH EBASCO SPECIFICATION 884-75 TQ
WELDING SHALL BE INSPECTED IN ACCORDANCE WITH ASME SECTION III, NF-5211
NDT ACCEPTANCE STANDARDS SHALL BE IN ACCORDANCE WITH ASME SECTION III, NF-5300
WELDING PROCESS AND FILLER METAL SHALL BE IN ACCORDANCE WITH AWS D1.1 TABLE 4.1.1
EXAMINATION OF WELD REPAIR SHALL REPEAT EXAMINATION REQUIREMENTS FOR THE ORIGINAL WELD
WELDING PROCEDURE SHALL BE QUALIFIED FOR ASTM A-441 & A-508 MATERIAL
FOR A-441 & A-508 MATERIAL, IMPACT TEST IS REQUIRED CHARPY V-NOTCH [?] MILS LATERAL EXPANSION AT +60°F
IMPACT AND HEAT TREATMENT REQUIREMENTS FOR THE PROCEDURE QUALIFICATIONS SHALL COMPLY WITH ASME SECTION III, NF-4300
PREHEAT TEMPERATURES:
50°F MINIMUM FOR THICKNESS TO 1/2", INCLUDED
100°F MINIMUM FOR OVER 1/2" TO 2 1/2", INCLUDED
225°F MINIMUM FOR THICKNESS OVER 2 1/2".
POSTWELD HEAT TREATMENT:
[?]°F ± 25°F IN ACCORDANCE WITH ASME SECTION III, NF-4600 "HEAT TREATMENT"
FIELD TO DRILL 3/4" Ø HOLES FOR ELECTRICAL CONDUITS ON WEB OF TOP & BOT. GIRDERS LOCATED AT 80°, 98°30', 262° & 279°
REFERENCE DRAWINGS
LIST OF DRAWINGS 15641-125
REAC BLDG EQUIP SUP SH.2 G-809A
FRAMING OVER ST GEN SH.1 G-839A
FRAMING OVER ST GEN SH.2 G-839A
REAC BLDG FRMG OVER ST GEN SH.3 G-839B
REAC BLDG SECRY SHIELD WALL SH.1 G-529
REAC BLDG SECRY SHIELD WALL SH.2 G-530
GEN ARR REAC BLDG PLAN EL 146.00' G-143
THIS DWG. ALSO EXISTS AS FSAR FIGURE 3.8-35
CLASS I SEISMIC
THIS DOCUMENT IS THE PROPERTY OF EBASCO SERVICES INCORPORATED AND IS TO BE RETURNED UPON REQUEST. IT IS LOANED IN CONFIDENCE AND UPON THE CONDITION THAT NEITHER IT NOR THE INFORMATION CONTAINED IN IT WILL BE REPRODUCED, COPIED, DISCLOSED OR USED IN WHOLE OR IN PART EXCEPT FOR PURPOSES SPECIFIED IN WRITING BY EBASCO SERVICES INCORPORATED.
WORK THIS DWG WITH G-809A
LOUISIANA POWER & LIGHT COMPANY
WATERFORD S.E.S. UNIT NO. 3
1977 - 1165 MW INSTALLATION
REACTOR BUILDING
STEAM GENERATOR UPPER SUPPORTS SH. 1
EBASCO SERVICES INCORPORATED
LOU 1564
G-808A



SUMMARY OF WELDING REQUIREMENTS

MATERIAL DESIGNATION	SECTION IX P-NUMBER DESIGNATION	WELDING PROCESS	FILLER METALS	PREHEAT TEMPERATURES	POST WELD HEAT TREATMENT
ASTM A533 GR B CL 2	P3 GR3	SMAW GMAW SAW	SEE NOTE I	250°F MIN. FOR THICKNESS OVER ¾" 50°F MIN FOR ALL OTHERS	1125°F ± 25°F IN ACCORDANCE WITH NF-4600 HEAT TREATMENT, SEE NOTE II

NOTE I: FILLER MATERIAL SHALL MATCH THE MECHANICAL PROPERTY REQUIREMENTS OF THE BASE METAL AFTER POST WELD HEAT TREATMENT.

NOTE II: STRESS RELIEF HEAT TREATMENT AT A TEMPERATURE AT LEAST 50°F LOWER THAN THE TEMPERING TEMPERATURE IS DESIRABLE TO AVOID THE POSSIBILITY OF OVERTEMPERING.

NOTES

1. STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH EBASCO SPECIFICATION LOU1564.720 UNLESS OTHERWISE NOTED.
2. STEEL SHALL BE ASTM A-533, GRADE B, CLASS 2 UNLESS NOTED. PLATE SHALL MEET A CHARPY V-NOTCH IMPACT REQUIREMENT OF 25 MILS LATERAL EXPANSION AT A TEST TEMPERATURE OF +50°F.
3. KEYS SHALL BE A-291 CLASS 3A, CERTIFIED TEST REPORT FOR CHEMICAL ANALYSIS, TENSILE AND IMPACT PROPERTIES. CHARPY V-NOTCH 35 MILS LATERAL EXPANSION AT +50°F.
4. ALL 5-1/2 DIAMETER ANCHOR BOLTS AND NUTS SHALL BE ASTM A-540, GRADE B24, CLASS 1. A-540 MATERIAL SHALL BE VACUUM DEGASSED, QUENCHED AND TEMPERED, AND SHALL MEET A CHARPY V-NOTCH IMPACT REQUIREMENT OF 25 MILS LATERAL EXPANSION AT +50°F IN LIEU OF A-540 IMPACT REQUIREMENTS. ULTRASONIC EXAMINATION SHALL BE IN ACCORDANCE WITH ASME SECTION III NF-2584. LOCK NUTS MAY BE CLASS 3 OR HIGHER.
5. ALL 2-1/4 DIAMETER ANCHOR BOLTS SHALL BE A-193 GRADE B7, NUTS SHALL BE A-194, GRADE 7 AND WASHERS SHALL BE A-325, TYPE 2, QUENCHED AND TEMPERED. A-193 MATERIAL SHALL MEET A CHARPY V-NOTCH IMPACT REQUIREMENT OF 15 MILS LATERAL EXPANSION AT +50°F.
6. ALL SHIM MATERIAL TO BE A-606 (UNDER 3/16" & INCL) AND A-588 (OVER 3/16"). CERTIFIED TEST REPORT REQUIRED. MINIMUM YIELD STRENGTH SHALL BE EQUAL TO 50,000 PSI.
7. CERTIFIED TEST REPORTS FOR CHEMICAL ANALYSIS, TENSILE, AND IMPACT PROPERTIES ARE REQUIRED.
8. ASME (SA-) MATERIAL MAY BE SUBSTITUTED FOR CORRESPONDING ASTM (A-) MATERIAL.
9. WELDING SHALL BE IN ACCORDANCE WITH ASME CODE SECTION III, NF-4400 AND EBASCO SPECIFICATION MAG-75. "GENERAL WELDING REQUIREMENTS." FOR A SUMMARY OF WELDING REQUIREMENTS, SEE TABLE ABOVE.
10. WELDING PROCEDURE AND PERFORMANCE QUALIFICATIONS SHALL BE PERFORMED IN ACCORDANCE WITH ASME CODE SECTION IX. THE IMPACT AND HEAT TREATMENT REQUIREMENTS OF ASME CODE SECTION III NF-4300, "WELDING QUALIFICATIONS" SHALL BE APPLIED.
11. THE TEST TEMPERATURE FOR IMPACT TESTING SHALL BE 50°F, THE LOWEST SITE TEMPERATURE INSIDE THE REACTOR BUILDING DURING WINTER SHUTDOWN.
12. ALL SHOP CONNECTIONS SHALL BE FULL PENETRATION WELDS UNLESS NOTED.
13. WELDING SHALL BE INSPECTED IN ACCORDANCE WITH ASME CODE SECTION III SUBSECTION NF-5000, "REQUIRED EXAMINATION OF WELDS." FULL PENETRATION, BUTT AND GROOVE WELDS AND FULL FILLET WELDED TEE JOINTS SHALL HAVE RADIOGRAPHIC EXAMINATION (RT). WHERE MEANINGFUL (RT) RESULTS CANNOT BE OBTAINED, ULTRASONIC EXAMINATION SHALL BE PERFORMED PROVIDED THAT PRIOR ENGINEERS APPROVAL IS OBTAINED. LIQUID PENETRANT (LP) OR MAGNETIC PARTICLE (MT) INSPECTION IS REQUIRED FOR THE BASE METAL FOR AT LEAST 1/2" ON EACH SIDE OF THE WELD. FILLET WELDS GREATER THAN 3/8" SHALL BE MAGNETIC PARTICLE (MT) OR LIQUID PENETRANT (LP) EXAMINED. ALL OTHER WELDS SHALL BE VISUALLY EXAMINED. NONDESTRUCTIVE TEST ACCEPTANCE STANDARDS SHALL BE IN ACCORDANCE WITH ASME CODE SECTION III, NF-5300, "ACCEPTANCE STANDARDS."
14. ALL STEEL SHALL BE BLAST CLEANED IN ACCORDANCE WITH STEEL STRUCTURES PAINTING COUNCIL SPECIFICATION SSPC-SP-6 "COMMERCIAL BLAST CLEANING."
15. ALL STEEL EXCEPT FINISHED SURFACES AND SURFACES IN CONTACT WITH CONCRETE SHALL BE SHOP PAINTED WITH DIMETCOTE E-Z AT 2-3 MILS DRY FILM THICKNESS. DIMETCOTE SYSTEM IS MANUFACTURED BY THE AMERON PROTECTIVE COATINGS DIVISION OF BREA, CALIFORNIA.
16. RELOCATED AT J15
17. CAP SCREW MATERIAL SHALL BE "JULENOY" AS MANUFACTURED BY ALLEN MFG CO. OR EQUAL. TENSILE STRENGTH NOT TO EXCEED 180 KSI AND HARDNESS SHALL NOT EXCEED RC 40 AND SHALL HAVE METAL-TO-METAL SELF-LOCKING THREADS.
18. RELOCATED AT K16
19. ALL STEEL CONTACT SURFACES SHALL BE CLEAN AND SQUARE IN ORDER TO DEVELOP FULL BEARING STRENGTH.
20. BASE ASSEMBLY SHALL BE SHOP ASSEMBLED AND SHIPPED TO FIELD IN ONE PIECE.
21. ALL ANCHOR BOLTS SHALL BE INSTALLED BY FIELD AS SHOWN IN PLAN TO A TOLERANCE OF ±1/8".
22. BEARING SIDES OF ALL KEYS SHALL BE PARALLEL WITHIN 0.010". BEARING SIDES SHALL BE PERPENDICULAR TO DATUM-A- WITHIN ±0.010".
23. TOLERANCE FOR THE DEVIATION OF CENTERLINE OF KEY TO THE THEORETICAL CENTERLINE OF THE HOT LEG IS 0.0625" (1/16").
24. STRAIGHT BEAM ULTRASONIC EXAMINATION SHALL BE REQUIRED FOR PLATE MATERIAL IN ACCORDANCE WITH ACCEPTANCE CRITERIA OF NB-2532.
25. MAGNETIC PARTICLE EXAMINATION SHALL BE REQUIRED OF ALL WELD END PREPARATIONS FOR 2" AND GREATER IN THICKNESS IN ACCORDANCE WITH THE ACCEPTANCE CRITERIA OF NB-5130.
16. THE 9/64" HOT GAP SHALL BE DETERMINED BY EXTRAPOLATION OF MEASUREMENT MADE DURING ZERO POWER HOT FUNCTIONAL TESTING; THE SHIM SURFACE AT THE 9/64" HOT GAP SHALL BE PERPENDICULAR TO A KEY BEARING SIDE AND TO DATUM-A- WITHIN 0.010 INCH.
15. DATUM-A- IS THE PLANE OF THE TOP SURFACE OF ALL FOUR ONE INCH BEARING PADS. DATUM-A- SHALL BE LEVEL WITHIN 0.010 INCH PER FOOT AND FLAT WITHIN 0.010 INCH.
28. LEVELLING NUTS SHALL BE BACKED OFF AT LEAST ⅛ TURN AFTER SUPPORT IS LEVELLED AT PROPER ELEVATION, SUPPORTED BY SHIMS, AND PRIOR TO GROUTING.
29. INSTALL SHEET METAL COVERS OVER KEY WAYS. COVERS TO BE SECURED TO SLIDING BASE WITH ¼" ⌀ - ⅝" LG SCREWS (NON-SEISMIC & NON-SAFETY).

THIS DWG ALSO EXISTS AS PSAR FIG # 3.8-36

REFERENCE DRAWINGS

LIST OF DRAWINGS	1564-A-121
GEN ARRGT REACTOR BLDG PLAN AT EL -4.00	G-141
REACTOR BLDG EQUIP FDN - M & R	G-537
REACTOR COOLANT SYSTEM SUPPTS & STOPS	G-686-50
STEAM GENERATOR SLIDING BASE	E-9270-320-015

SEISMIC CLASS I

E. S. ROWE, SR. REG. No. 12834 PROFESSIONAL CIVIL ENGINEER

LOUISIANA POWER & LIGHT COMPANY
WATERFORD S.E.S. UNIT NO. 3
1977 - 1165 MW INSTALLATION
REACTOR BUILDING
STEAM GENERATOR SLIDING BASE

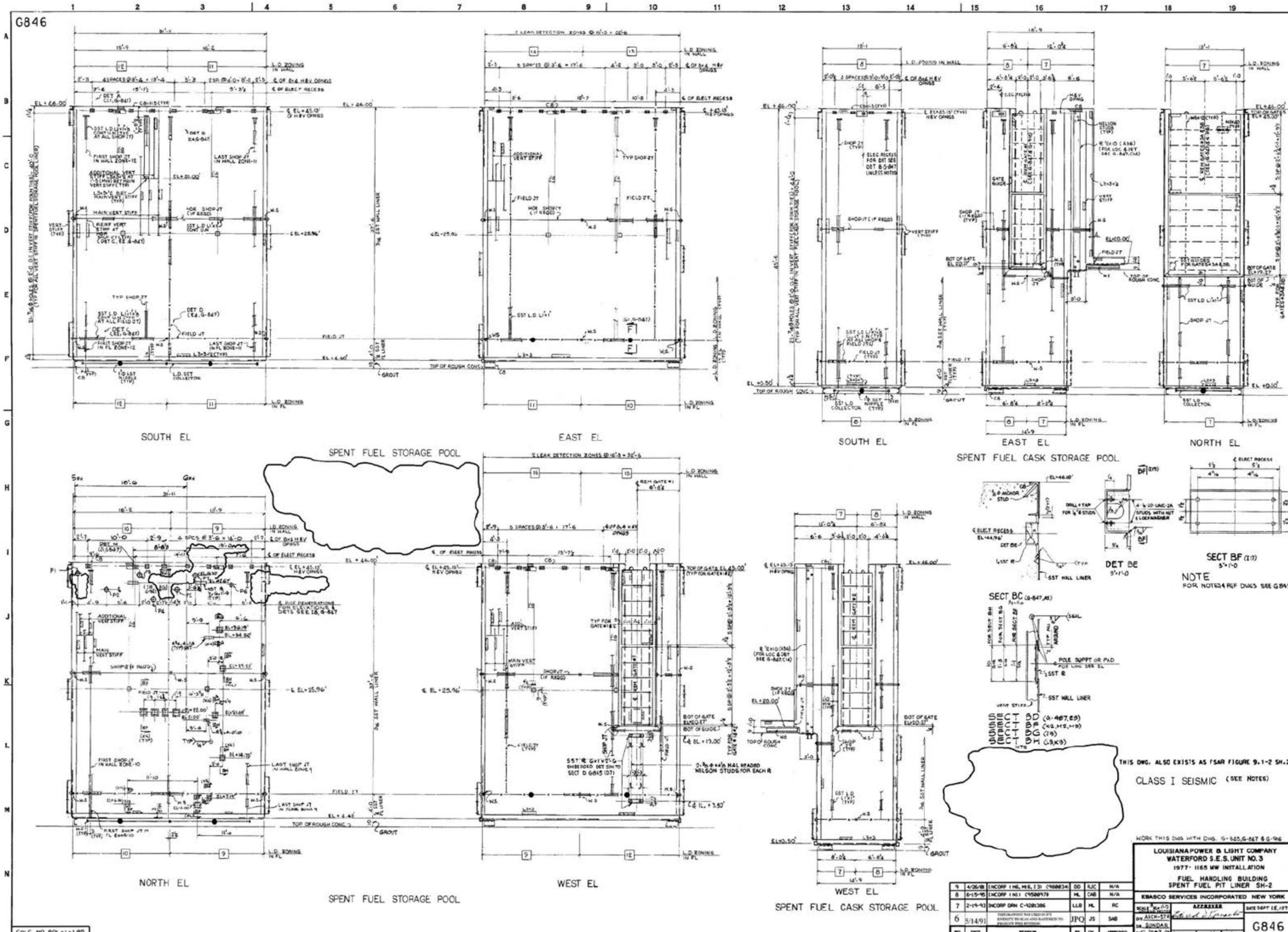
EBASCO SERVICES INCORPORATED

APPROVED: Edward J Kowalski

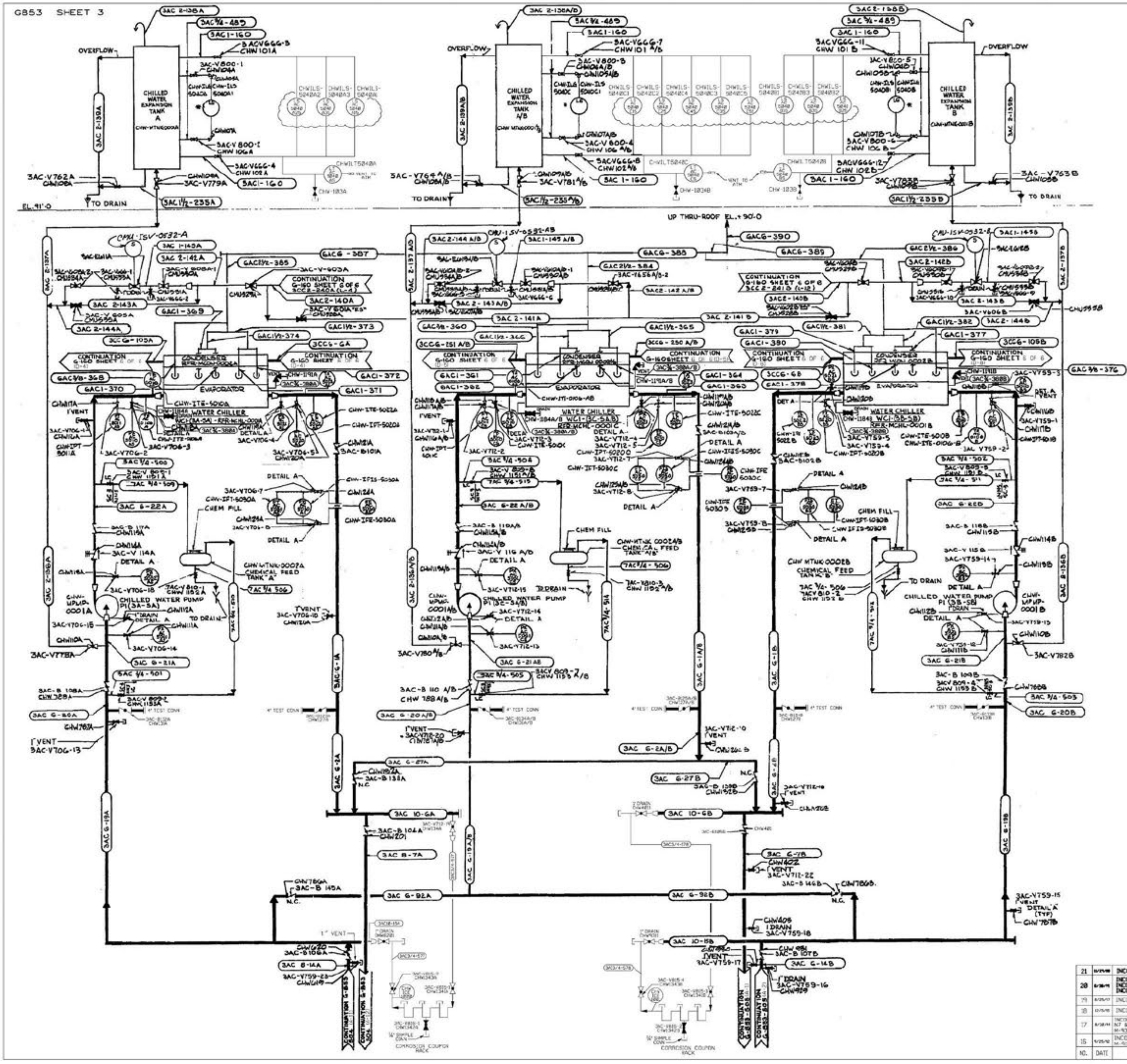
DATE APRIL 4, 1977

LOU-1564 G-812

NO.	DATE	REV. DESCRIPTION	DFTR.	CH.	APPROVAL
12		THIS DRAWING WAS USED IN ... TO PRODUCE THIS REVISION			


G846
SOUTH EL
EAST EL
SPENT FUEL STORAGE POOL
NORTH EL
WEST EL
SPENT FUEL STORAGE POOL
SOUTH EL
EAST EL
NORTH EL
SPENT FUEL CASK STORAGE POOL
WEST EL
SPENT FUEL CASK STORAGE POOL
DET BE
SECT BF (I17)
SECT BC (G-847,A5)
SECT BD (G-487,E5)
SECT BF (H2,M2,H9)
SECT BG (I9)
SECT BH (L3,K9)
NOTE
FOR NOTES & REF DWGS SEE G845
THIS DWG. ALSO EXISTS AS FSAR FIGURE 9.1-2 SH.2
CLASS I SEISMIC (SEE NOTES)
WORK THIS DWG WITH DWGS. G-845, G-847 & G-916
LOUISIANA POWER & LIGHT COMPANY
WATERFORD S.E.S. UNIT NO. 3
1977- 1165 MW INSTALLATION
FUEL HANDLING BUILDING
SPENT FUEL PIT LINER SH-2
EBASCO SERVICES INCORPORATED NEW YORK
DATE SEPT 15, 1974
G846
9 4/26/08 INCORP (H6, M6, I3) (980834) DD RJC N/A
8 6-15-95 INCORP (N1) C9500970 ML CAB N/A
7 2-19-93 INCORP DRN C-4281386 LLB ML RC
6 5/14/91 JPQ JS SAB
NO. DATE REVISION BY CK. APPROVED
CALC NO 80L-1-105

G853 SHEET 3



REFERENCE DRAWINGS

LIST OF DRAWINGS A-125

HVAC- RAB EQUIP RM CHILLED WATER PIPING PL EL+46'-0 G-863503

HVAC- RAB EQUIP RM CHILLED WATER PIPING PART PLAN & SECTIONS AT EL 46'-0, 69'-0, & 91'-0 G863504

HVAC- RAB EQUIP RM REFRIGERANT RELIEF PIPING PL EL 46'-0 G863505

NOTES

1. FOR SYMBOLS & LEGEND SEE DWG G-868.
2. FOR CONTINUATION OF CHILLED WATER FLOW DIAGRAMS SEE G-853-504 & G-853-505.
3. FOR DETAILS SEE DWGS G-853-506 & G-853-507.
4. EXPANSION TANK GAGE GLASS & GAGE GLASS TRIM, DENOTED BY ✱, SHALL BE FURNISHED BY TANK VENDOR
5. VALVE POSITIONS ON DRAWING ARE FOR REFERENCE ONLY, AND MAY BE DIFFERENT THAN SHOWN. ACTUAL POSITIONS AND LOCKING REQUIREMENTS ARE CONTROLLED BY OPERATIONS DEPARTMENT PROCEDURES.

NUCLEAR SAFETY RELATED IN PART ONLY

THIS DWG. ALSO EXISTS AS FSAR FIGURE 9.2-8 SH1

12/4/75

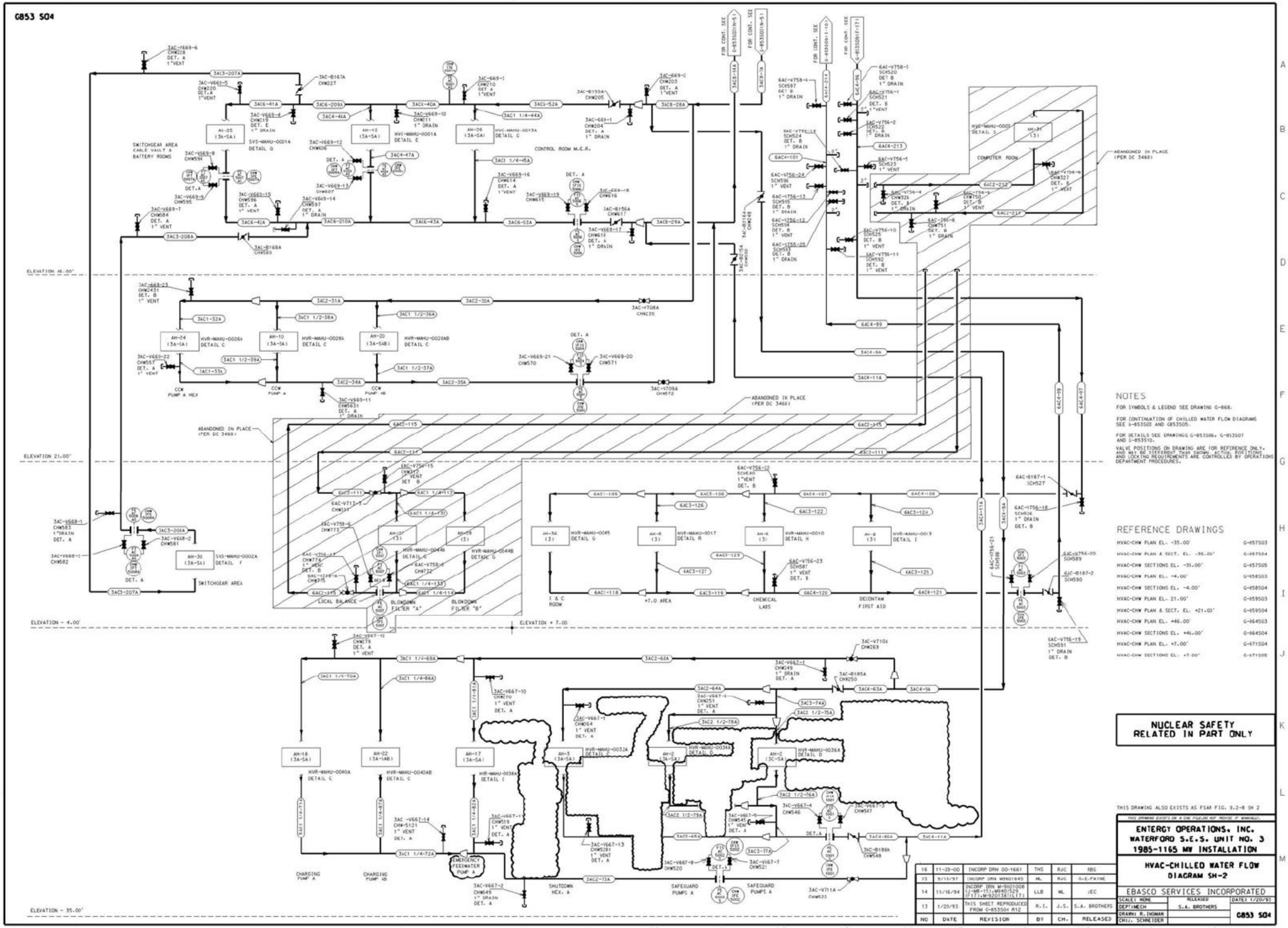
NO.	DATE	REVISION DESCRIPTION	BY	CH	APPROVED
21	[illegible]	INCORP (B4,5,8,1) DRN 00-1659	THS	[illegible]	[illegible]
20	[illegible]	INCORP (F2,4) DRN M9700646 INCORP (F7,9) DRN M9700737 INCORP (F11,13) DRN M9700638	DD	RC	GP
19	[illegible]	INCORP (J3,J8,J12) DRN M9601644	ML	RC	TH
18	[illegible]	INCORP. (N9-12,N5-6) DRN M9302171	THS	DD	JR
17	[illegible]	INCORP. [illegible] N7 & N10) DRN'S M-9203037, M-9201307 M-9302299, M-9409529 & M-9302071	ML	LLB	JEC
16	[illegible]	INCORP. (F2,F7,F13) DRN'S M-9102901 & 9202140	HU	LLB	JGR 11-6-92

ENTERGY

WATERFORD S.E.S. UNIT NO. 3
1165 MW INSTALLATION

HVAC - CHILLED WATER FLOW DIAGRAM SH-1

SCALE: NONE	APPROVED ME		DATE: 12-4-75
DEPT. MECH			G853 SHEET 3
DR. RE HALL	JTA		
CH. CHUTTER	MLC YS	GOS	



NOTES

FOR SYMBOLS & LEGEND SEE DRAWING G-868.

FOR CONTINUATION OF CHILLED WATER FLOW DIAGRAMS SEE G-853502 AND G853505.

FOR DETAILS SEE DRAWINGS G-853506, G-853507 AND G-853510.

VALVE POSITIONS ON DRAWING ARE FOR REFERENCE ONLY, AND MAY BE DIFFERENT THAN SHOWN. ACTUAL POSITIONS AND LOCKING REQUIREMENTS ARE CONTROLLED BY OPERATIONS DEPARTMENT PROCEDURES.

REFERENCE DRAWINGS

HVAC-CHW PLAN EL. -35.00'	G-857503
HVAC-CHW PLAN & SECT. EL. -36.00'	G-857504
HVAC-CHW SECTIONS EL. -35.00'	G-857505
HVAC-CHW PLAN EL. -4.00'	G-858503
HVAC-CHW SECTIONS EL. -4.00'	G-858504
HVAC-CHW PLAN EL. 21.00'	G-959503
HVAC-CHW PLAN & SECT. EL. +21.00'	G-959504
HVAC-CHW PLAN EL. +46.00'	G-864503
HVAC-CHW SECTIONS EL. +46.00'	G-864504
HVAC-CHW PLAN EL. +7.00'	G-871504
HVAC-CHW SECTIONS EL. +7.00'	G-871505

NUCLEAR SAFETY RELATED IN PART ONLY

THIS DRAWING ALSO EXISTS AS FSAR FIG. 9.2-8 SH 2

THIS DRAWING EXISTS ON A CAE FILE DO NOT REVISE IT MANUALLY.

ENTERGY OPERATIONS, INC.
WATERFORD S.E.S. UNIT NO. 3
1985-1165 MW INSTALLATION

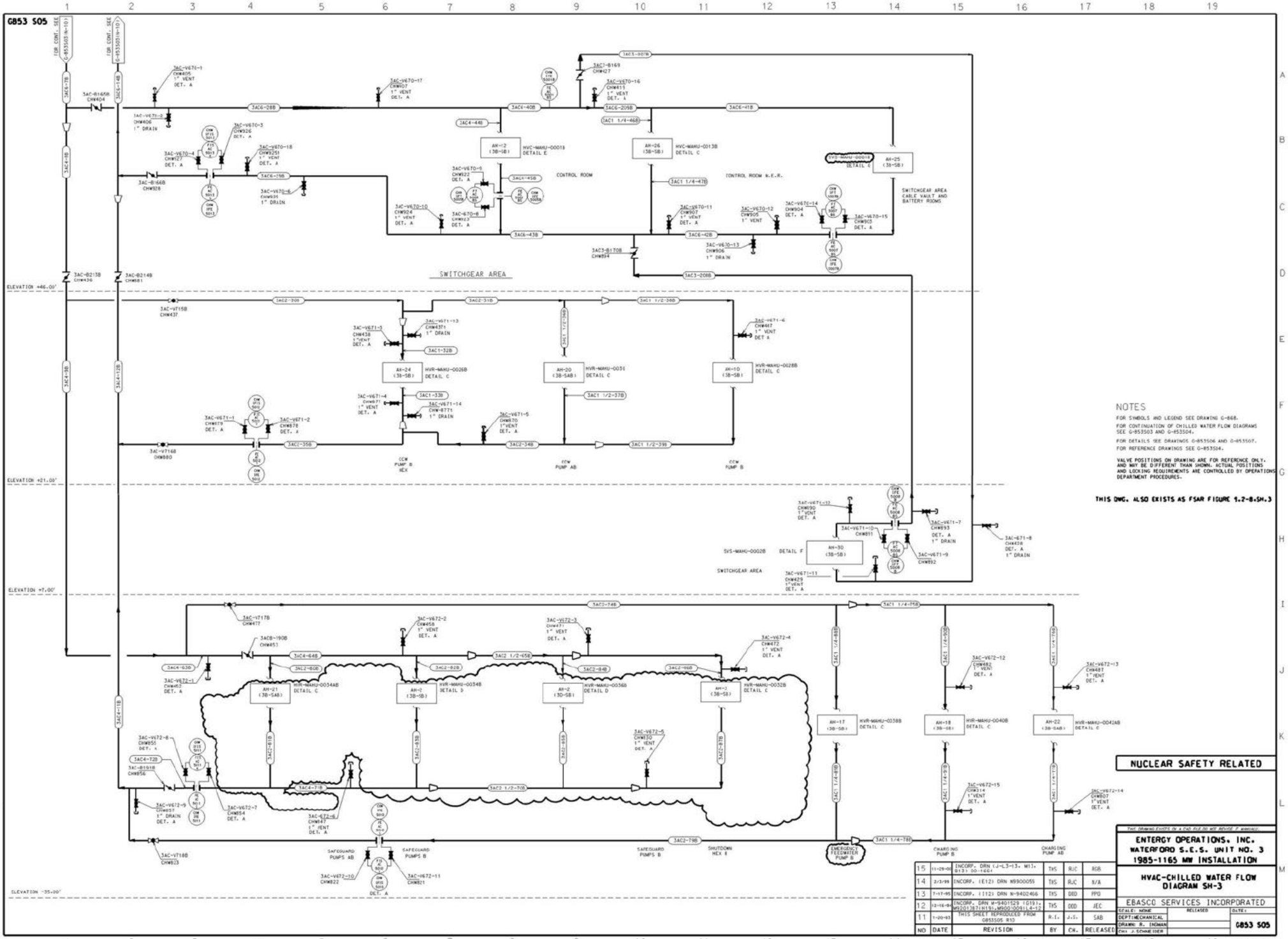
HVAC-CHILLED WATER FLOW DIAGRAM SH-2

EBASCO SERVICES INCORPORATED

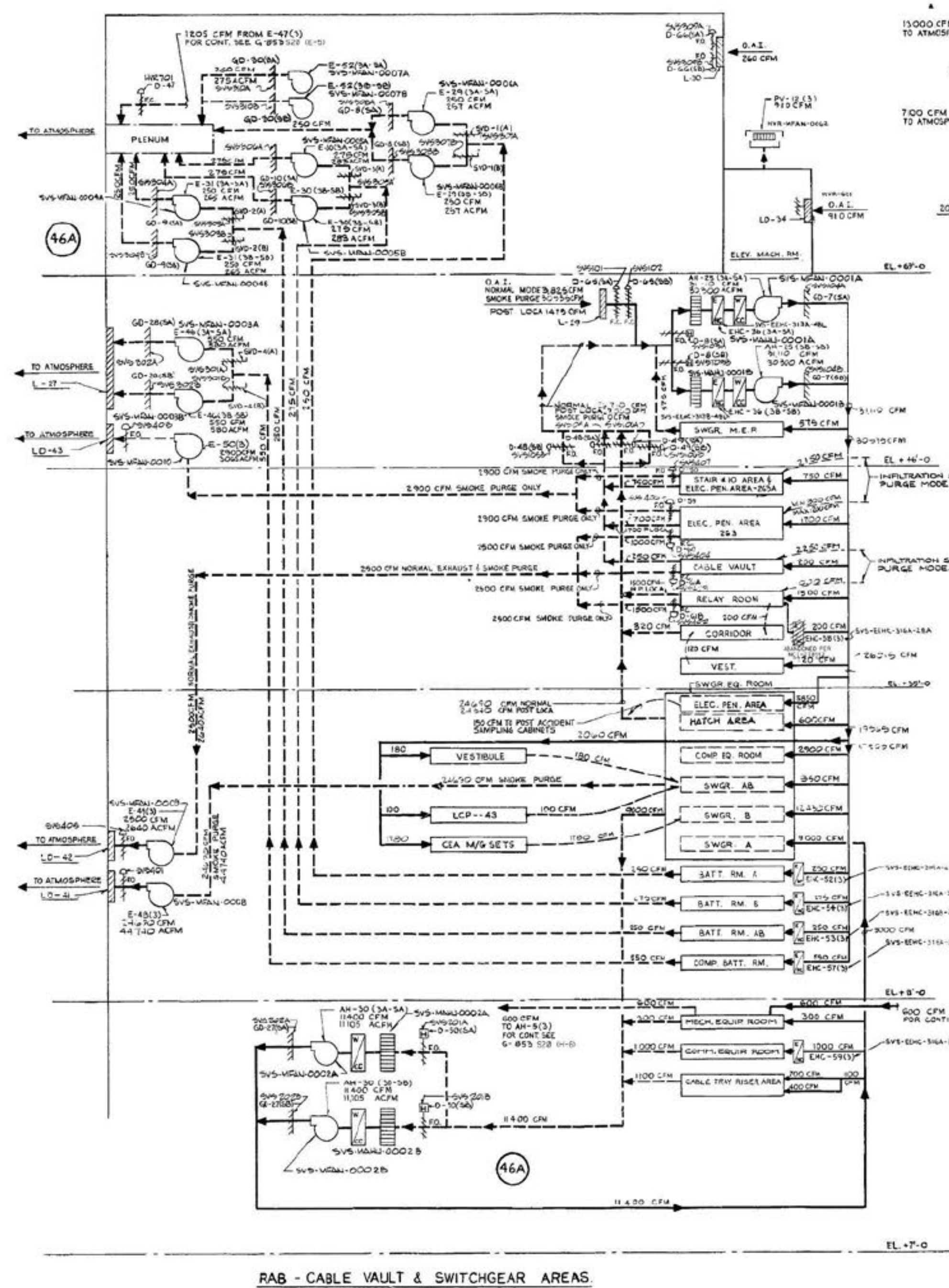
NO	DATE	REVISION	BY	CH.	RELEASED
16	11-29-00	INCORP DRN 00-1661	THS	RJC	RBG
15	9/11/97	INCORP DRN M9801845	ML	RJC	G.E.PAYNE
14	11/16/94	INCORP DRN M-9001008 (J-ME-151;M9401529, IF117,M-9201358(IL17)	LLB	ML	JEC
13	1/20/93	THIS SHEET REPRODUCED FROM G-853504 R12	R.I.	J.S.	S.A. BROTHERS

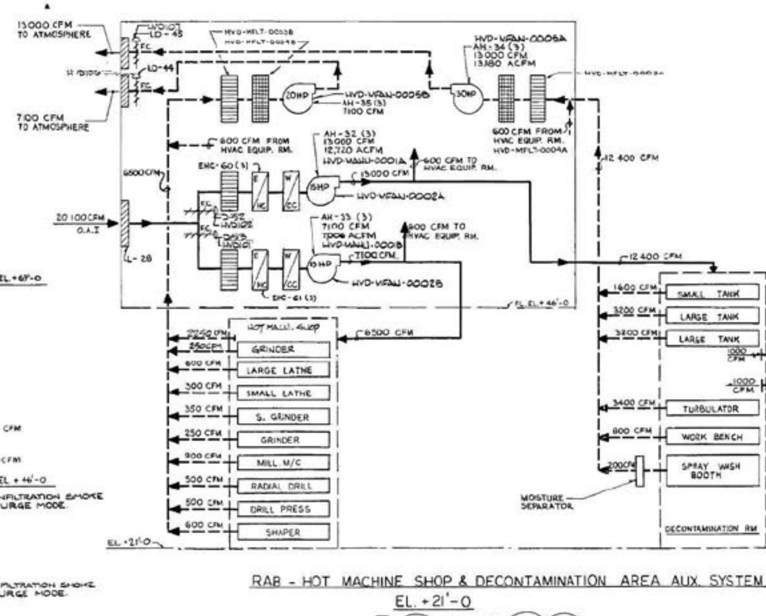
SCALE: NONE
DEPT: MECH
DRAWN: R. INGMAN
CHK.: SCHNEIDER
RELEASED: S.A. BROTHERS
DATE: 1/20/93
G853 SQ4

FILENAME: IDEAS


G853 SOS
SWITCHGEAR AREA
CONTROL ROOM
CONTROL ROOM W.E.R.
SWITCHGEAR AREA CABLE VAULT AND BATTERY ROOMS
ELEVATION +46.00'
ELEVATION +21.00'
ELEVATION +7.00'
ELEVATION -35.00'
CCW PUMP B HEX
CCW PUMP AB
CCW PUMP B
SAFEGUARD PUMPS AB
SAFEGUARD PUMPS B
SHUTDOWN HEX E
CHARGING PUMP B
CHARGING PUMP AB
EMERGENCY FEEDWATER PUMP B
NOTES
FOR SYMBOLS AND LEGEND SEE DRAWING G-868.
FOR CONTINUATION OF CHILLED WATER FLOW DIAGRAMS SEE G-853503 AND G-853504.
FOR DETAILS SEE DRAWINGS G-853506 AND G-853507.
FOR REFERENCE DRAWINGS SEE G-853514.
VALVE POSITIONS ON DRAWING ARE FOR REFERENCE ONLY. AND MAY BE DIFFERENT THAN SHOWN. ACTUAL POSITIONS AND LOCKING REQUIREMENTS ARE CONTROLLED BY OPERATIONS DEPARTMENT PROCEDURES.
THIS DWG. ALSO EXISTS AS FSAR FIGURE 9.2-8.SH.3
NUCLEAR SAFETY RELATED
THIS DRAWING EXISTS ON A CAD FILE DO NOT REVISE IF MANUAL
ENTERGY OPERATIONS, INC.
WATERFORD S.E.S. UNIT NO. 3
1985-1165 MW INSTALLATION
HVAC-CHILLED WATER FLOW DIAGRAM SH-3
EBASCO SERVICES INCORPORATED
SCALE: NONE
RELEASED
DATE:
DEPT: MECHANICAL
DRAWN: R. INGMAN
CHK: J. SCHNEIDER
G853 SOS
NO | DATE | REVISION | BY | CH. | RELEASED
15 | 11-29-00 | INCORP. DRN (J-L3-13, M13, B13) 00-1664 | TKS | RJC | RGB
14 | 2/3/99 | INCORP. (E12) DRN W9900055 | TKS | RJC | N/A
13 | 7-17-95 | INCORP. (112) DRN W-9402466 | TKS | DED | PPD
12 | 12-16-94 | INCORP. DRN W-9401529 (G191, W9201387(N19)+W900100911-12 | TKS | DED | JEC
11 | 1-20-93 | THIS SHEET REPRODUCED FROM G853505 R10 | R.I. | J.S. | SAB

G853S08



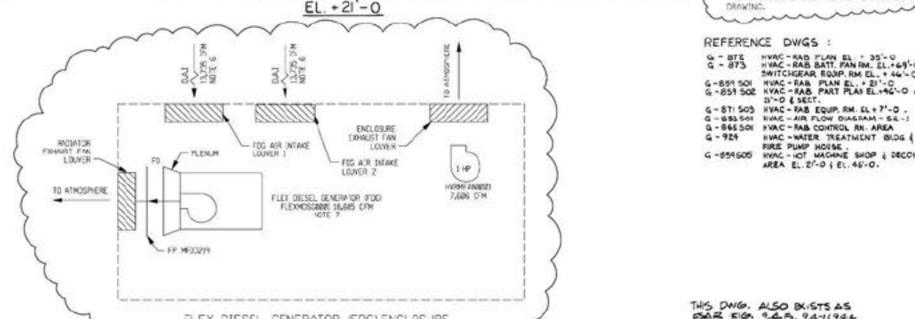


NOTES :

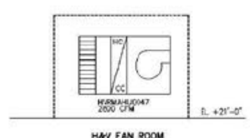
1- FOR GENERAL NOTES, LEGEND & TYPICAL DETAILS SEE DWG. G-848 & G-849-S01
2- FOR AIR FLOW DIAGRAM LEGEND SEE DWG. G-853-S02.
3- AIR FLOW DIAGRAMS ARE SCHEMATIC AND ARE NOT INTENDED TO REPRODUCE THE ACTUAL SEQUENCE OF DUCT CONNECTIONS AS THEY OCCUR ON THE PHYSICAL DWGS.
4- FOR LOCATION OF BALANCING DAMPERS REFER TO THE PHYSICAL DRAWINGS.
5- SYS AIRFLOWS ARE HISTORIC. REFER TO CALCULATION 5-O FOR CURRENT VALUES.
6- INTAKE AIRFLOW RATES INCLUDE 1,100 CFM REQUIRED FOR COMBUSTION.
7- FDG EXHAUST FLOW OF 3,044 CFM THROUGH THE ENCLOSURE ROOF IS NOT SHOWN IN THIS DRAWING.

REFERENCE DWGS :

G - 872	HVAC - RAB PLAN EL. + 35'-0
G - 873	HVAC - RAB BATT. FAN RM. EL.+69'-0 & SWITCHGEAR EQUIP. RM EL. + 46'-0.
G - 859 S01	HVAC - RAB PLAN EL. + 21'-0
G - 859 S02	HVAC - RAB PART PLAN EL.+46'-0 & 21'-0 & SECT.
G - 871 S03	HVAC - RAB EQUIP. RM. EL + 7'-0.
G - 853 S01	HVAC - AIR FLOW DIAGRAM - SH-1
G - 865 S01	HVAC - RAB CONTROL RM. AREA
G - 924	HVAC - WATER TREATMENT BLDG & FIRE PUMP HOUSE.
G - 859 S05	HVAC - HOT MACHINE SHOP & DECON. AREA EL. 21'-0 & EL. 46'-0.



THIS DWG. ALSO EXISTS AS FSAR FIG. 9.4-5, 9.4-1944



NUCLEAR SAFETY RELATED IN PART ONLY

NO.	DATE	REVISION DESCRIPTION	BY	CH	APPROVED
20	[illegible]	INCORP. EC 48145	LL/JAG	DD	DB
19	[illegible]	INCORP. EC 56350	JAG	DD	DD
18	[illegible]	INCORP. EC 17580	JAG	DD	DD
17	[illegible]	INCORP. EC-0000012288	JAG	DD	CD
16	[illegible]	INCORP. DRN 04-248	JAG	THS	N/A
15	[illegible]	INCORP. DRN 04-247	JAG	THS	N/A
14	[illegible]	INCORP. DRN M-9500234	THS	DD	N/A
13	[illegible]	INCORP DRN M-920664	SL	LB	JR

ENTERGY

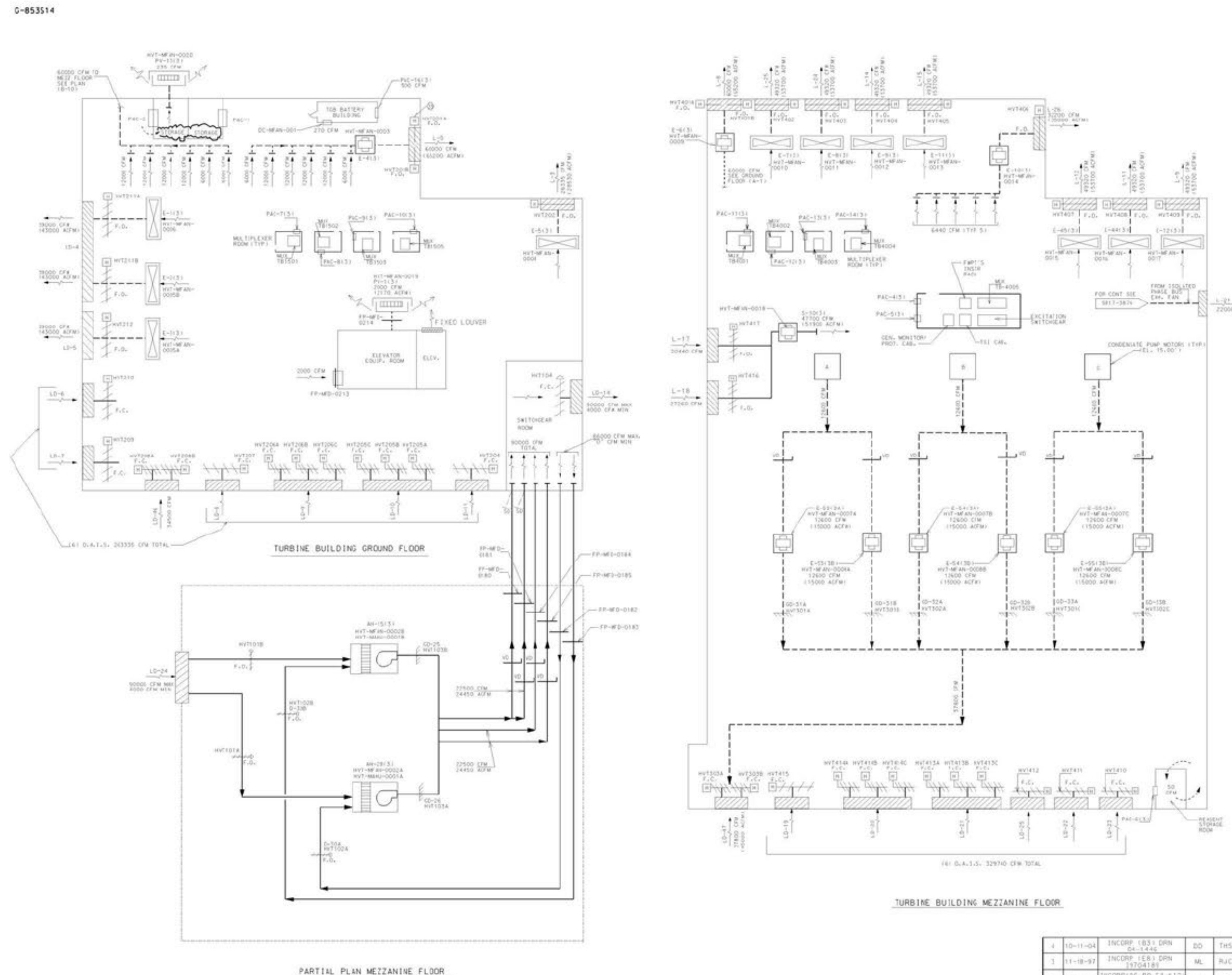
WATERFORD S.E.S. UNIT NO. 3
165 MW INSTALLATION

HVAC - AIR FLOW DIAGRAM
SH-3

SCALE: NONE
DEPT. MECH
APPROVED
DATE: [illegible]

G853S08

G-853S14



NOTES

FOR GENERAL NOTES, LEGEND AND TYPICAL DETAILS SEE DWGS G-868 AND G-869S01.

FOR AIR FLOW DIAGRAM DRAWING LIST AND LEGEND SEE DWG G-853 S02

REFERENCE DRAWINGS

HVAC-TURBINE BUILDING SH. 1	G-862
HVAC-TURBINE BUILDING SH. 2	G-870 S01
HVAC-TURBINE BUILDING SH. 3	G-870 S02

THIS DRAWING ALSO EXISTS AS FSAR FIGURE 9.4-6

THIS DRAWING EXISTS ON A CAD FILE.DO NOT REVISE IT MANUALLY.

NO	DATE	REVISION	BY	CH.	RELEASED
4	10-11-04	INCORP (B3) DRN 04-1446	DD	THS	N/A
3	11-18-97	INCORP (E8) DRN 19704189	ML	RJC	N/A
2	8-12-97	INCORP(G6,B9,F4,K12) DRN M9702771	DD	RC	JR
1	6-30-95	INCORP (B5) DRN M9401640	DD	RC	JR
0	9-16-94	THIS REV REFLECTS A DRAWING SPLIT-UP & REDRAW DUE TO PREVIOUS OVERCROWDING REF DRN M-920138, M-8901651 & M-9300134	LB	ML	GP

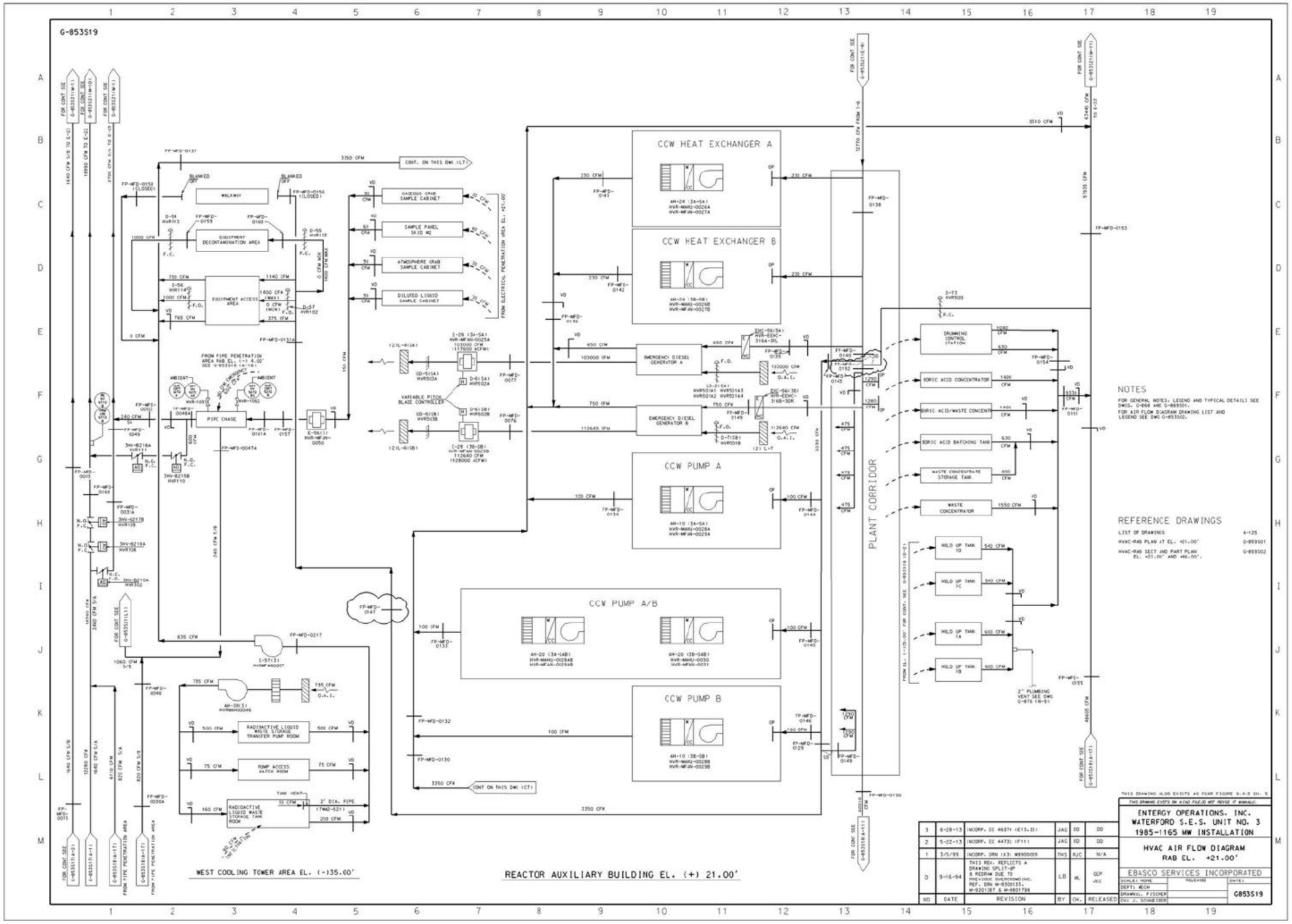
ENTERGY OPERATIONS, INC.
WATERFORD S.E.S. UNIT NO. 3
1985-1165 MW INSTALLATION

HVAC AIR FLOW DIAGRAM
TURBINE BUILDING

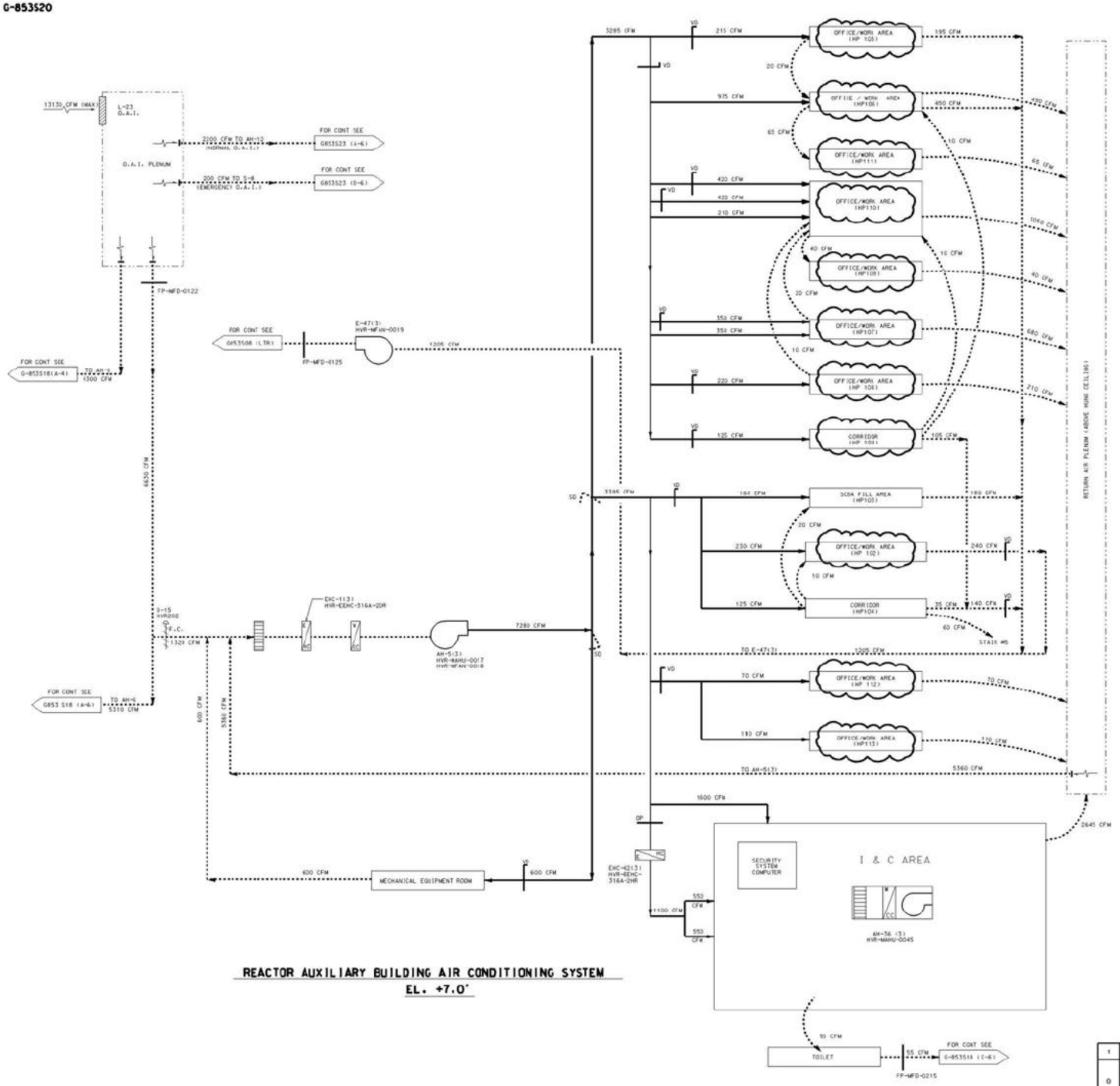
EBASCO SERVICES INCORPORATED

SCALE: NONE	RELEASED	DATE:
DEPT: MECH.		G-853S14
DRAWN: L. FISCHER		
CHK: J. SCHNEIDER		0

Filename: IDEAS


G-853S19
CCW HEAT EXCHANGER A
CCW HEAT EXCHANGER B
CCW PUMP A
CCW PUMP A/B
CCW PUMP B
EMERGENCY DIESEL GENERATOR A
EMERGENCY DIESEL GENERATOR B
PLANT CORRIDOR
EQUIPMENT DECONTAMINATION AREA
EQUIPMENT ACCESS AREA
PIPE CHASE
WALKWAY
GASEOUS GRAB SAMPLE CABINET
SAMPLE PANEL SAID #2
ATMOSPHERE GRAB SAMPLE CABINET
DILUTED LIQUID SAMPLE CABINET
DRAWING CONTROL STATION
BORIC ACID CONCENTRATOR
BORIC ACID/WASTE CONCENT.
BORIC ACID BATCHING TANK
WASTE CONCENTRATE STORAGE TANK
WASTE CONCENTRATOR
HOLD UP TANK 1D
HOLD UP TANK 1C
HOLD UP TANK 1A
HOLD UP TANK 1B
RADIOACTIVE LIQUID WASTE STORAGE TRANSFER PUMP ROOM
PUMP ACCESS HATCH ROOM
RADIOACTIVE LIQUID WASTE STORAGE TANK ROOM
CONT. ON THIS DWG (LT)
CONT ON THIS DWG (CT)
FROM ELECTRICAL PENETRATION AREA EL. +21.00'
FROM PIPE PENETRATION AREA RAB EL. (-) 4.00'
WEST COOLING TOWER AREA EL. (-)35.00'
REACTOR AUXILIARY BUILDING EL. (+) 21.00'
NOTES
FOR GENERAL NOTES, LEGEND AND TYPICAL DETAILS SEE DWGS. G-868 AND G-869S01.
FOR AIR FLOW DIAGRAM DRAWING LIST AND LEGEND SEE DWG G-853S02.
REFERENCE DRAWINGS
LIST OF DRAWINGS A-125
HVAC-RAB PLAN AT EL. +21.00' G-869S01
HVAC-RAB SECT AND PART PLAN EL. +21.00' AND +46.00'. G-869S02
ENTERGY OPERATIONS, INC.
WATERFORD S.E.S. UNIT NO. 3
1985-1165 MW INSTALLATION
HVAC AIR FLOW DIAGRAM
RAB EL. +21.00'
EBASCO SERVICES INCORPORATED
G853S19

G-853520



REACTOR AUXILIARY BUILDING AIR CONDITIONING SYSTEM
EL. +7.0'

NOTES

FOR GENERAL NOTES, LEGEND AND TYPICAL DETAILS SEE DWGS G-868 AND G869D1.

FOR AIR FLOW DIAGRAM DRAWING LIST AND LEGEND SEE DWG. G-853502.

REFERENCE DRAWINGS

HVAC-RAB ADMIN. AREA PLAN EL. +7.00'	G-871501
HVAC-RAB EQUIPMENT ROOM PLANS EL. +7.00'	G-871503

THIS DRAWING ALSO EXISTS AS FSAR FIGURE 9.4-3 SH. 6

THIS DRAWING EXISTS ON A CAD FILE-DO NOT REVISE IT MANUALLY.

NO	DATE	REVISION	BY	CH.	RELEASED
1	1-11-00	INCORP. DRN 99-2411 PER EN-M3-97-0566-00-00	THS	DVG	DVG
0	9-16-94	THIS REV. REFLECTS A DRAWING SPLIT-UP & REDRAW DUE TO PREVIOUS OVERCROWDING. REF. DRN M-9300153, M-9201387	LB	NL	GEP

ENTERGY OPERATIONS, INC.
WATERFORD S.E.S. UNIT NO. 3
1985-1165 MW INSTALLATION

HVAC AIR FLOW DIAGRAM
RAB EL. +7.00'

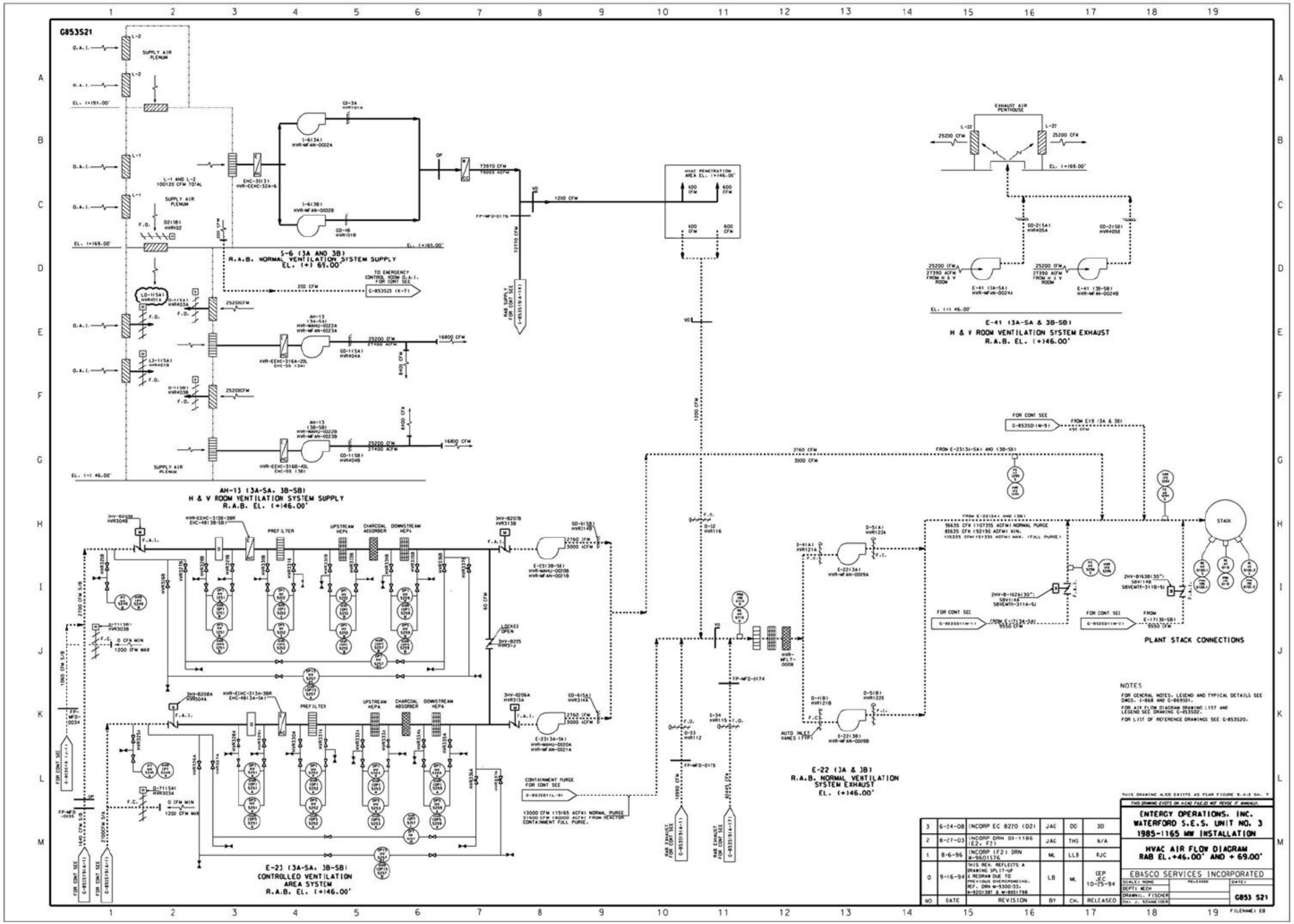
EBASCO SERVICES INCORPORATED

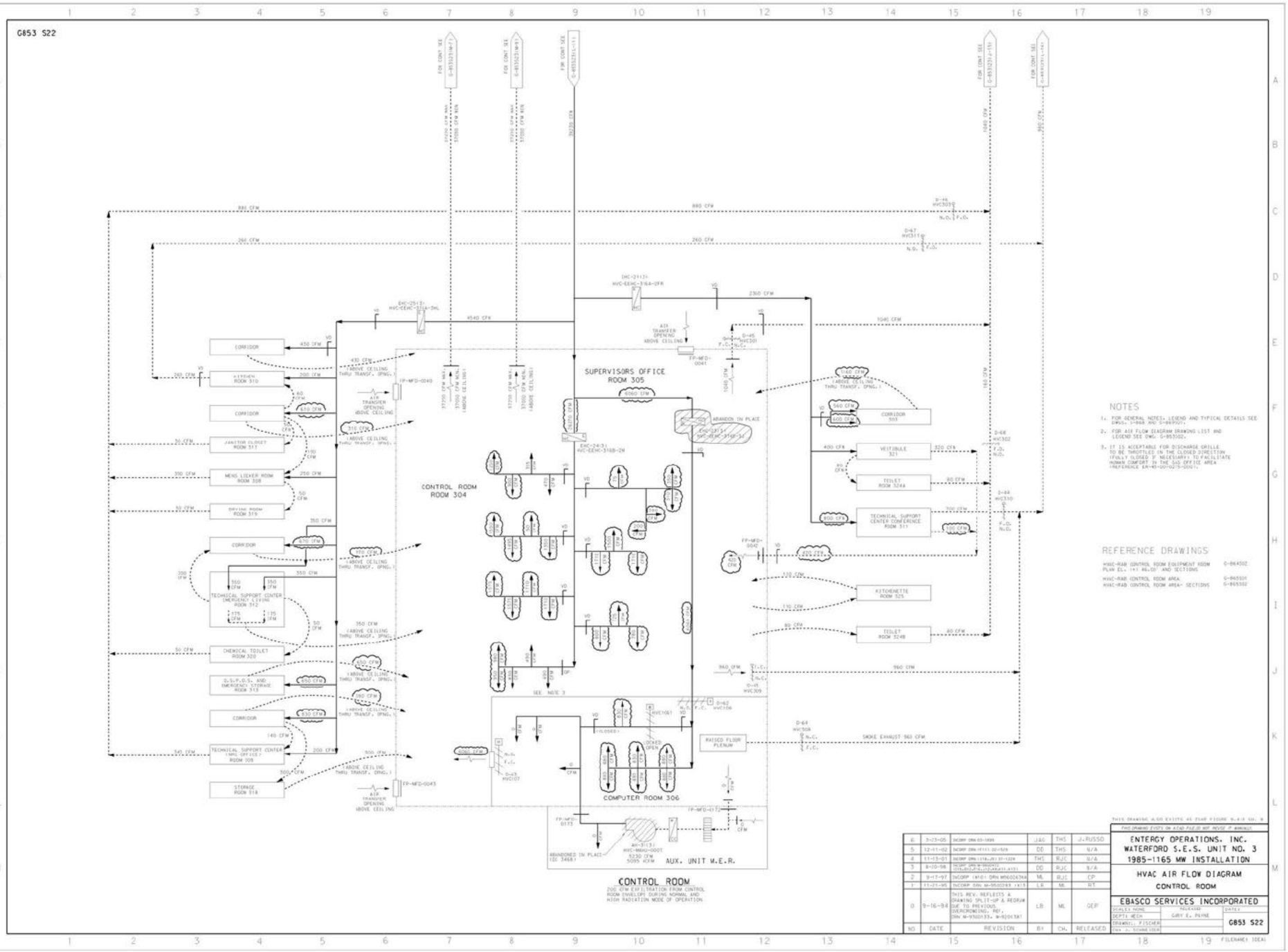
SCALE: NONE	RELEASED
DEPT: MECH	
DRAWN: L. FISCHER	
CH: J. SCHNEIDER	

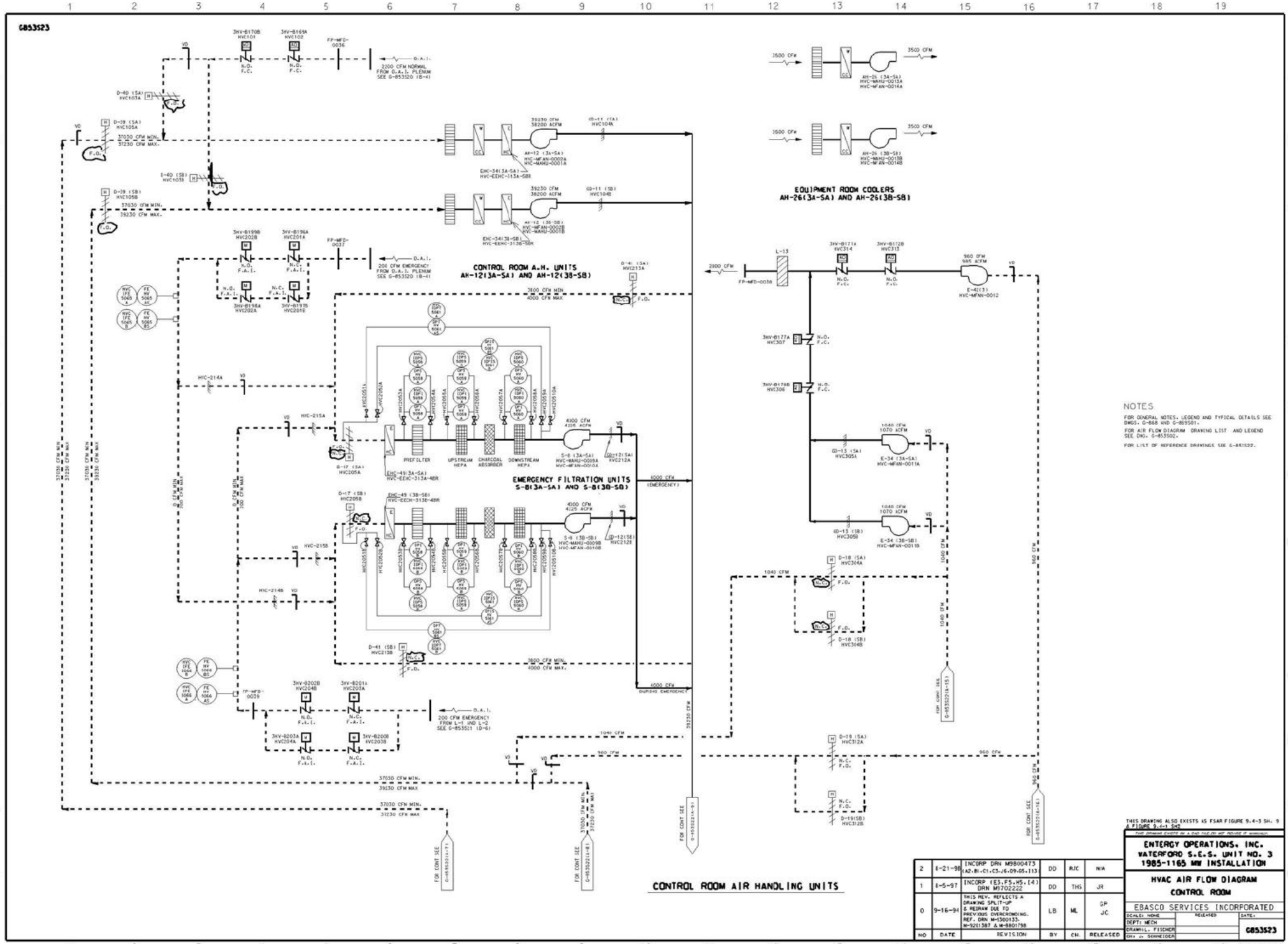
DATE:

G-853520

FILENAME: IDEAS


G853S21
S-6 (3A AND 3B)
R.A.B. NORMAL VENTILATION SYSTEM SUPPLY
EL. (+) 69.00'
AH-13 (3A-SA, 3B-SB)
H & V ROOM VENTILATION SYSTEM SUPPLY
R.A.B. EL. (+)46.00'
E-23 (3A-SA, 3B-SB)
CONTROLLED VENTILATION
AREA SYSTEM
R.A.B. EL. (+)46.00'
E-22 (3A & 3B)
R.A.B. NORMAL VENTILATION
SYSTEM EXHAUST
EL. (+)46.00'
E-41 (3A-SA & 3B-SB)
H & V ROOM VENTILATION SYSTEM EXHAUST
R.A.B. EL. (+)46.00'
PLANT STACK CONNECTIONS
NOTES
FOR GENERAL NOTES, LEGEND AND TYPICAL DETAILS SEE DWGS. E-868 AND G-869101.
FOR AIR FLOW DIAGRAM DRAWING LIST AND LEGEND SEE DRAWING G-853502.
FOR LIST OF REFERENCE DRAWINGS SEE G-853520.
ENTERGY OPERATIONS, INC.
WATERFORD S.E.S. UNIT NO. 3
1985-1165 MW INSTALLATION
HVAC AIR FLOW DIAGRAM
RAB EL.+46.00' AND + 69.00'
EBASCO SERVICES INCORPORATED
G853 S21


G853 S22
SUPERVISORS OFFICE ROOM 305
CONTROL ROOM ROOM 304
COMPUTER ROOM 306
AUX. UNIT W.E.R.
RAISED FLOOR PLENUM
CORRIDOR
KITCHEN ROOM 310
JANITOR CLOSET ROOM 317
MENS LOCKER ROOM 308
DRYING ROOM ROOM 319
TECHNICAL SUPPORT CENTER EMERGENCY LIGHTING ROOM 312
CHEMICAL TOILET ROOM 320
G-S/P.O.S. AND EMERGENCY STORAGE ROOM 313
TECHNICAL SUPPORT CENTER (NPG OFFICE) ROOM 309
STORAGE ROOM 314
CORRIDOR 303
VESTIBULE 321
TOILET ROOM 324A
TECHNICAL SUPPORT CENTER CONFERENCE ROOM 311
KITCHENETTE ROOM 325
TOILET ROOM 324B
ABANDON IN PLACE
SEE NOTE 3
SMOKE EXHAUST 960 CFM
CONTROL ROOM
200 CFM EXFILTRATION FROM CONTROL ROOM ENVELOPE DURING NORMAL AND HIGH RADIATION MODE OF OPERATION
NOTES
1. FOR GENERAL NOTES, LEGEND AND TYPICAL DETAILS SEE DWGS. G-868 AND G-867501.
2. FOR AIR FLOW DIAGRAM DRAWING LIST AND LEGEND SEE DWG. G-853302.
3. IT IS ACCEPTABLE FOR DISCHARGE GRILLE TO BE THROTTLED IN THE CLOSED DIRECTION (FULLY CLOSED IF NECESSARY) TO FACILITATE HUMAN COMFORT IN THE SAS OFFICE AREA (REFERENCE EA-45-001-0275-0001).
REFERENCE DRAWINGS
HVAC-RAB CONTROL ROOM EQUIPMENT ROOM PLAN EL. (+) 46.00' AND SECTIONS G-864502
HVAC-RAB CONTROL ROOM AREA G-865501
HVAC-RAB CONTROL ROOM AREA- SECTIONS G-865502
ENTERGY OPERATIONS, INC.
WATERFORD S.E.S. UNIT NO. 3
1985-1165 MW INSTALLATION
HVAC AIR FLOW DIAGRAM
CONTROL ROOM
EBASCO SERVICES INCORPORATED
G853 S22


G853523
EQUIPMENT ROOM COOLERS
AH-26(3A-SA) AND AH-26(3B-SB)
CONTROL ROOM A.H. UNITS
AH-12(3A-SA) AND AH-12(3B-SB)
EMERGENCY FILTRATION UNITS
S-8(3A-SA) AND S-8(3B-SB)
CONTROL ROOM AIR HANDLING UNITS
PREFILTER
UPSTREAM HEPA
CHARCOAL ABSORBER
DOWNSTREAM HEPA
NOTES
FOR GENERAL NOTES, LEGEND AND TYPICAL DETAILS SEE DWGS. G-868 AND G-869501.
FOR AIR FLOW DIAGRAM DRAWING LIST AND LEGEND SEE DWG. G-853500.
FOR LIST OF REFERENCE DRAWINGS SEE G-861092.
THIS DRAWING ALSO EXISTS AS FSAR FIGURE 9.4-3 SH. 9 & FIGURE 9.4-1 SH2
ENTERGY OPERATIONS, INC.
WATERFORD S.E.S. UNIT NO. 3
1985-1165 MW INSTALLATION
HVAC AIR FLOW DIAGRAM
CONTROL ROOM
EBASCO SERVICES INCORPORATED
G853523