


NOTES:

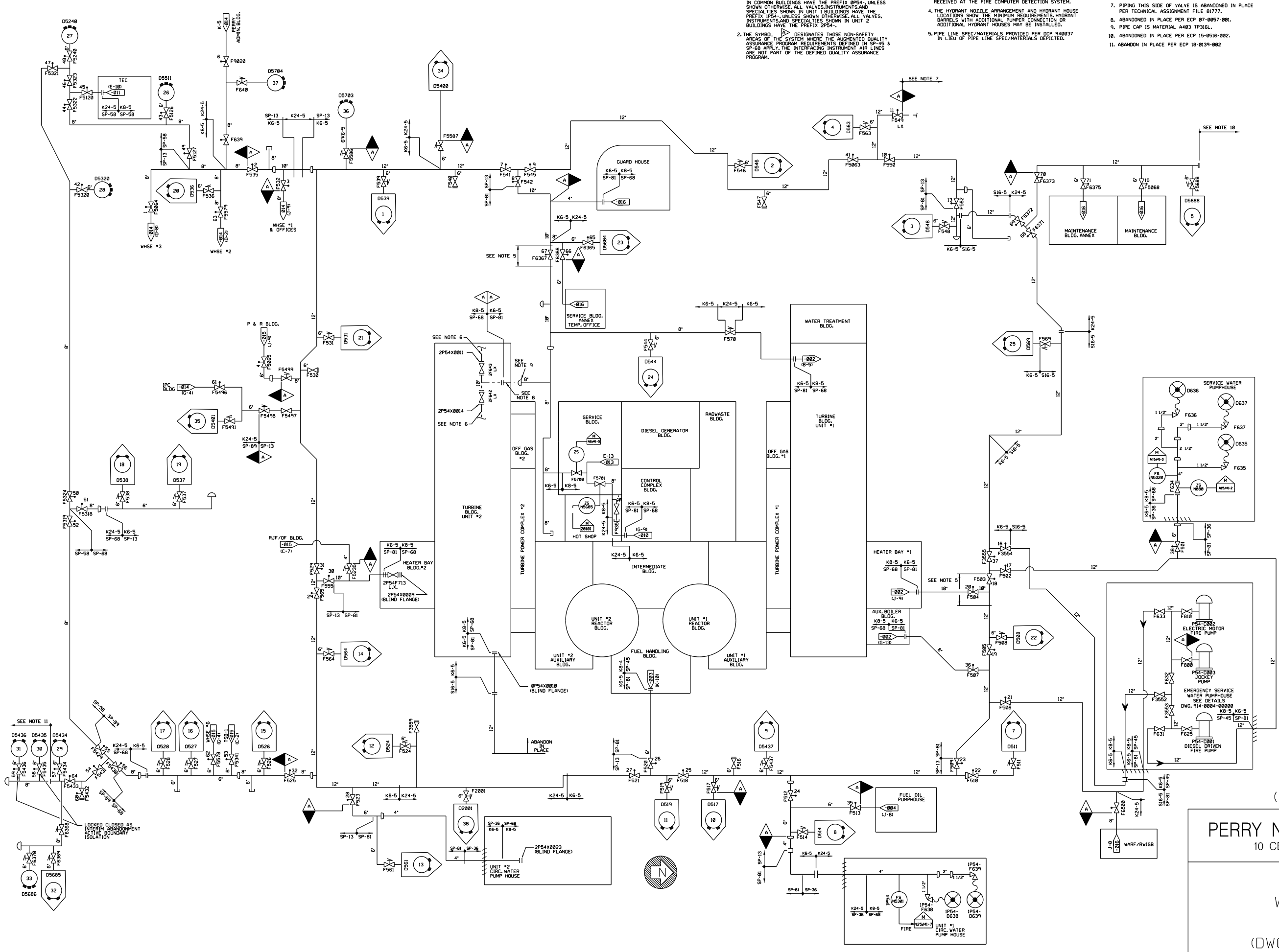
1. ALL VALVES, INSTRUMENTS, AND SPECIALTIES SHOWN IN COMMON BUILDINGS HAVE THE PREFIX 0P54-, UNLESS SHOWN OTHERWISE. ALL VALVES, INSTRUMENTS, AND SPECIALTIES SHOWN IN UNIT 1 BUILDINGS HAVE THE PREFIX 1P54-, UNLESS SHOWN OTHERWISE. ALL VALVES, INSTRUMENTS, AND SPECIALTIES SHOWN IN UNIT 2 BUILDINGS HAVE THE PREFIX 2P54-.
2. THE SYMBOL  DESIGNATES THOSE NON-SAFETY AREAS OF THE SYSTEM WHERE THE AUGMENTED QUALITY ASSURANCE PROGRAM REQUIREMENTS DEFINED IN SP-45 & SP-68 APPLY. THE INTERFACING INSTRUMENT AIR LINES ARE NOT PART OF THE DEFINED QUALITY ASSURANCE PROGRAM.

NOTES CONTINUED:

3. ALARM SIGNALS FROM VALVES AND FROM PANELS ARE RECEIVED AT THE FIRE COMPUTER DETECTION SYSTEM.
4. THE HYDRANT NOZZLE ARRANGEMENT AND HYDRANT HOUSE LOCATIONS SHOW THE MINIMUM REQUIREMENTS. HYDRANT BARRELS WITH ADDITIONAL PUMPER CONNECTION OR ADDITIONAL HYDRANT HOUSES MAY BE INSTALLED.
5. PIPE LINE SPEC/MATERIALS PROVIDED PER DCP 940037 IN LIEU OF PIPE LINE SPEC/MATERIALS DEPICTED.

NOTES CONTINUED:

6. ABANDONED IN PLACE PER TECHNICAL ASSIGNMENT FILE 81653.
7. PIPING THIS SIDE OF VALVE IS ABANDONED IN PLACE PER TECHNICAL ASSIGNMENT FILE 81777.
8. ABANDONED IN PLACE PER ECP 07-0057-001.
9. PIPE CAP IS MATERIAL A483 TP316L.
10. ABANDONED IN PLACE PER ECP 15-0516-002.
11. ABANDON IN PLACE PER ECP 18-0139-002



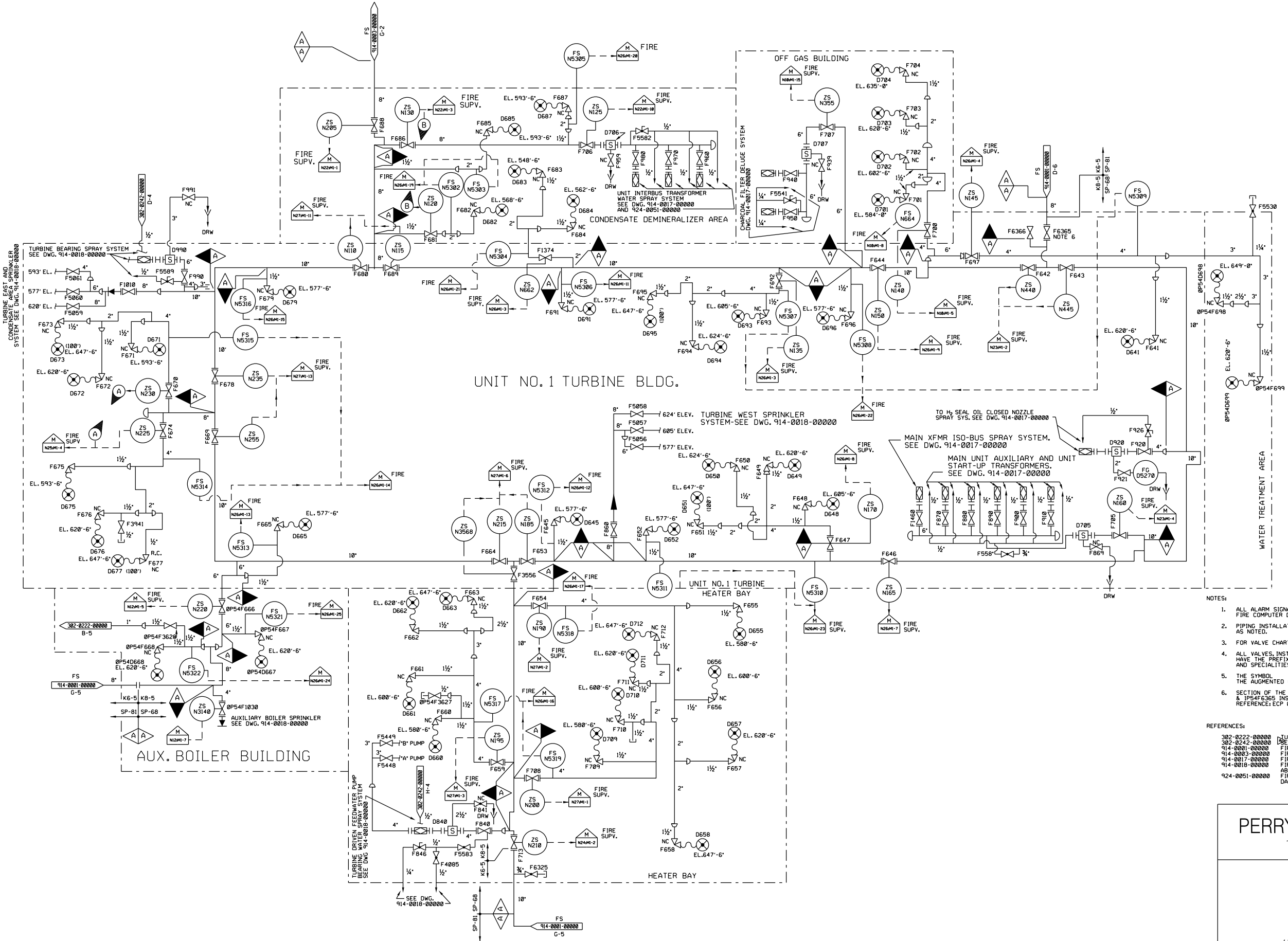
(REV. 22 10/2021)


PERRY NUCLEAR POWER PLANT
10 CENTER RD., PERRY, OHIO 44081

FIRE SERVICE
WATER YARD AREA
FIGURE 9.5-1
(DWGUD-914-0001-00000)

OPERATING DATA						
#	PSIG	GPM	F	BY	REMARKS	REV
	125	2500	70			

DESIGN DATA						
#	NORMAL PSIG	F	UPSET PSIG	F	TIME	BY
	125	70	175	150		



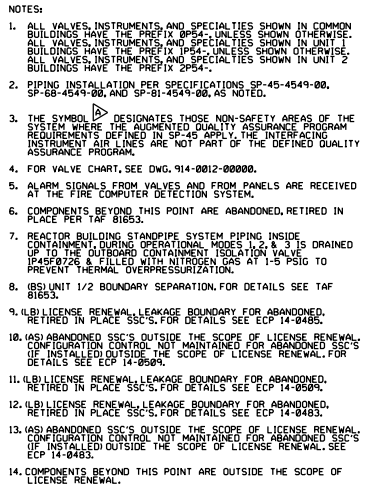
- NOTES:
- ALL ALARM SIGNALS SHOWN ON THIS DRAWING ARE RECEIVED AT THE FIRE COMPUTER DETECTION SYSTEM.
 - PIPING INSTALLATION PER SPECIFICATIONS SP-68-4549-00 AND SP-81-4549-00 AS NOTED.
 - FOR VALVE CHART, SEE DWG. 914-0012-00000.
 - ALL VALVES, INSTRUMENTS, AND SPECIALITIES SHOWN IN COMMON BUILDINGS HAVE THE PREFIX 0P54-. UNLESS SHOWN OTHERWISE, ALL VALVES, INSTRUMENTS, AND SPECIALITIES SHOWN IN UNIT 1 BUILDING HAVE THE PREFIX 1P54.
 - THE SYMBOL  DENOTES THOSE NON-SAFETY PORTIONS OF THE SYSTEM WHERE THE AUGMENTED QUALITY ASSURANCE PROGRAM APPLIES.
 - SECTION OF THE PIPE BETWEEN VALVES 0P54F6570 ON DRAWING 914-0001-00000 & 1P54F6365 INSIDE THE TURBINE BUILDING IS OUT OF SERVICE. REFERENCE: ECP 03-0184.

- REFERENCES:
- | | |
|----------------|--|
| 302-0222-00000 | TURBINE BUILDING CLOSED COOLING SYSTEM |
| 302-0242-00000 | SERVICE AIR DISTRIBUTION SYSTEM |
| 914-0001-00000 | FIRE SERVICE YARD AREA |
| 914-0003-00000 | FIRE SERVICE WATER (NUCLEAR PLANT) |
| 914-0017-00000 | FIRE SERVICE WATER DELUGE SYSTEMS TAGGING DATA |
| 914-0018-00000 | FIRE SERVICE WATER-TURBINE POWER COMPLEX PLANS ABOVE EL. 568'-6" AND 593'-6" |
| 924-0051-00000 | FIRE SERVICE WATER PRE-ACTION AND WET SYSTEMS TAGGING DATA |

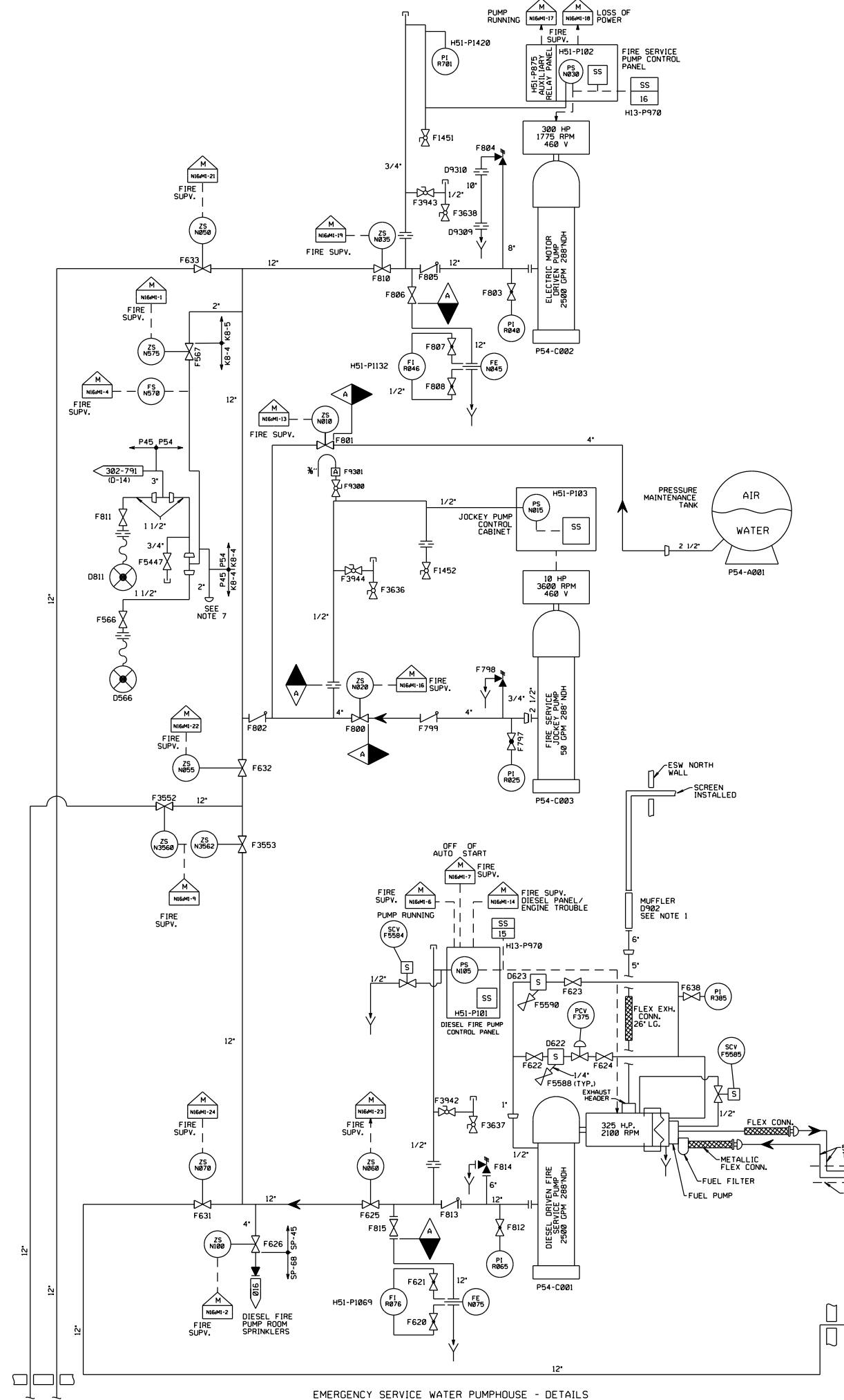
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PERRY NUCLEAR POWER PLANT
10 CENTER RD., PERRY, OHIO 44081

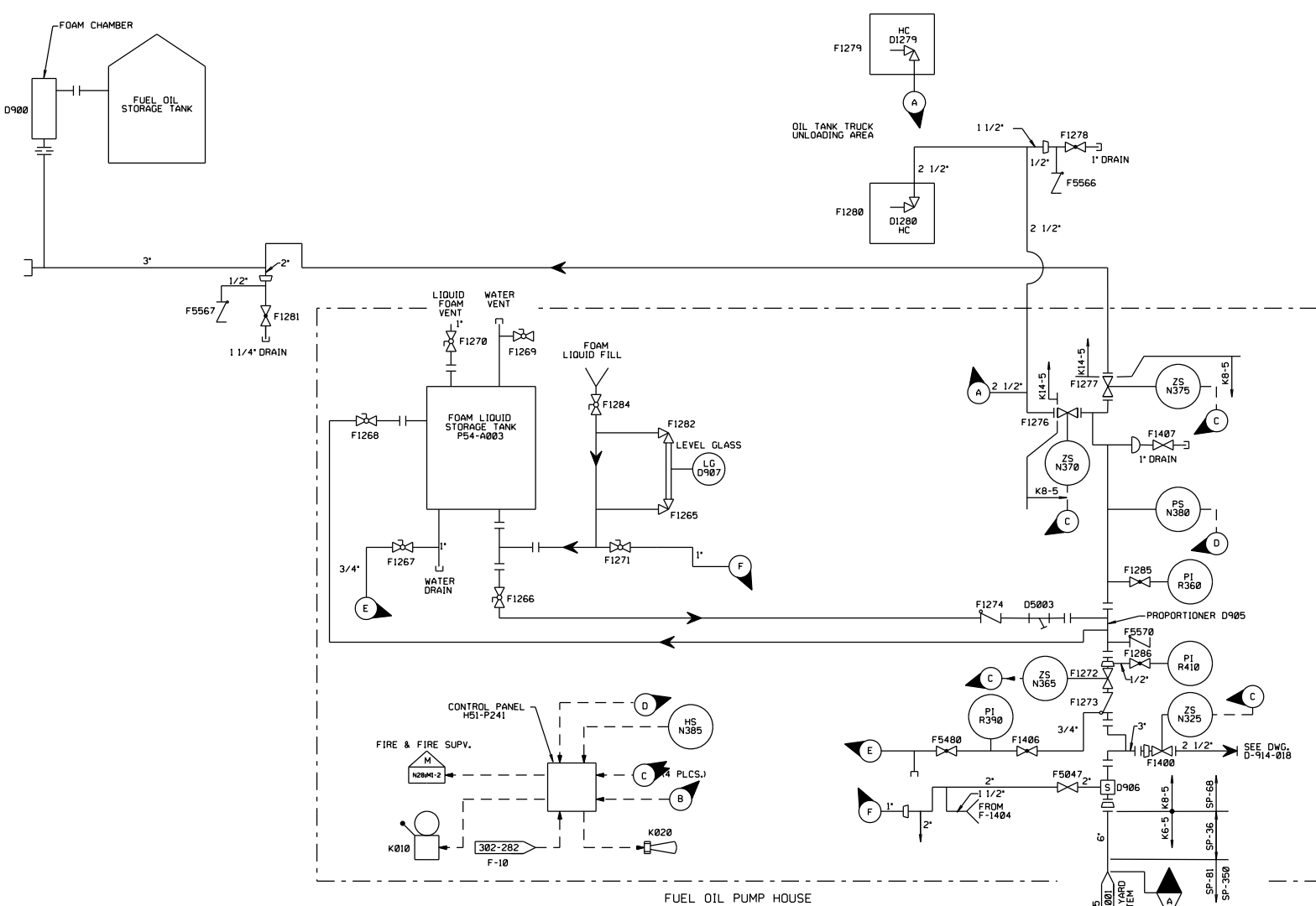
FIRE SERVICE WATER
(UNIT 1, TURBINE AREA)
FIGURE 9.5-2
(DWG. D-914-0002-00000)



FIRE SERVICE
WATER (NUCLEAR PLANT)
FIGURE 9.5-3
(DWG. D-914-0003-00000)




EMERGENCY SERVICE WATER PUMPHOUSE - DETAILS



FUEL OIL AREA
FOAM FIRE EXTINGUISHING SYSTEM

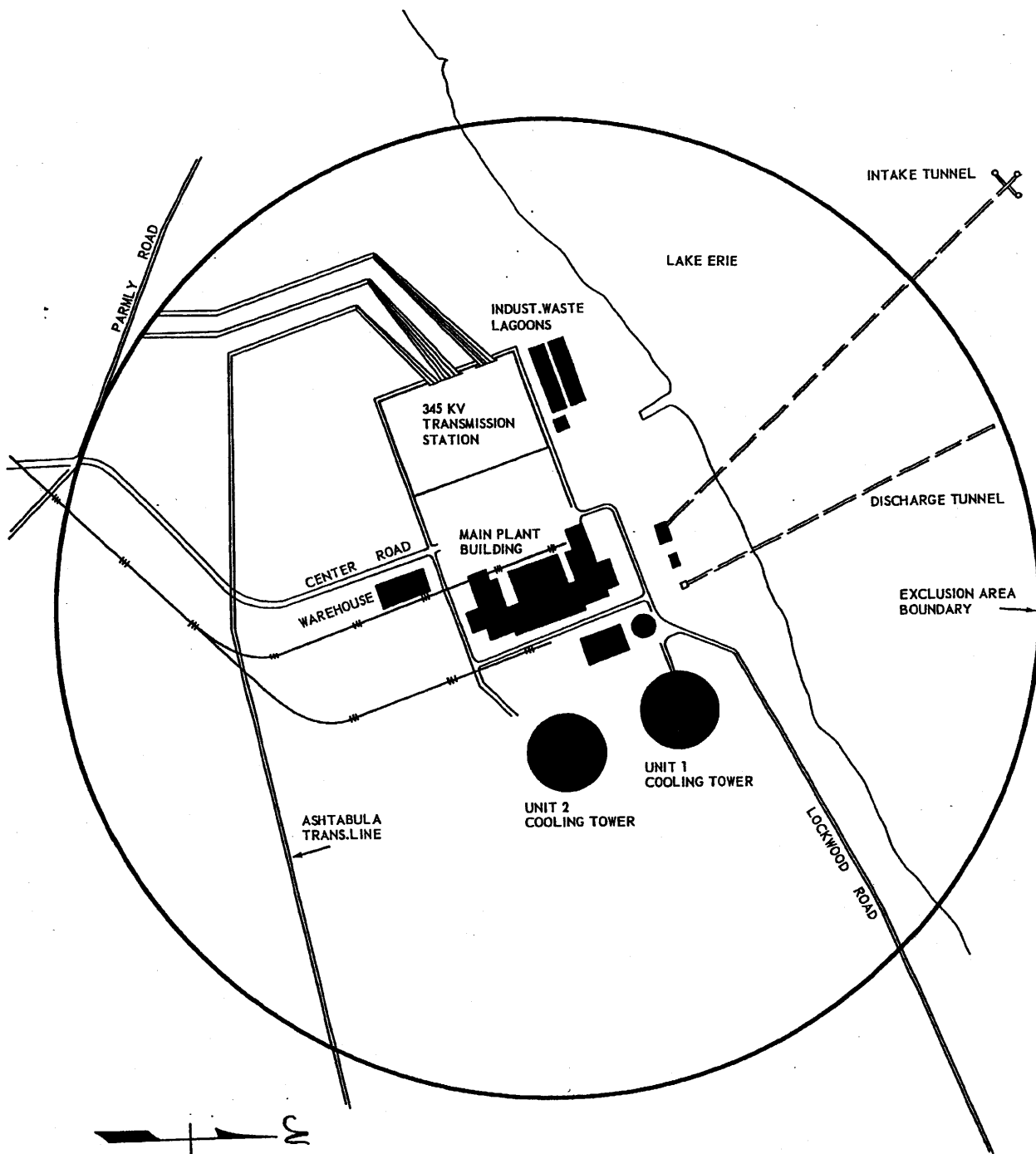
PIPING (FUEL OIL AREA) TO BE
INSTALLED PER SP-68-4549-00
EXCEPT WHERE NOTED.

- NOTES:
1. THE MUFFLER IS TO BE LOCATED SO THAT THE LENGTH OF THE PIPE FROM THE ENGINE TO THE MUFFLER IS 1/2 THE LENGTH OF THE PIPE FROM THE MUFFLER TO THE OPEN END.
 2. NO MORE THAN 4 FT. OF UNSUPPORTED EXHAUST TUBING SHOULD BE ATTACHED TO ENGINE TO AVOID STRESSING COMPONENTS.
 3. UNLESS OTHERWISE NOTED, ALL VALVE, INSTRUMENT, AND SPECIALTY NO'S. SHOWN ON THIS DRAWING ARE PRECEDED BY THE PREFIX P54.
 4. SLOPE ALL LINES TO LOWPOINT DRAINS IN FOAM FIRE EXTINGUISHING SYSTEM.
 5. ALL ALARMS FROM VALVES AND PANELS ARE RECEIVED AT FIRE COMPUTER DETECTION SYSTEM.
 6. THE SYMBOL  DESIGNATES THOSE NON-SAFETY PORTIONS OF THE SYSTEM WHERE THE AUGMENTED QUALITY ASSURANCE PROGRAM APPLIES.
 7. PIPING BEYOND THIS LOCATION IS ABANDONED, RETIRED IN PLACE. SEE ECP 14-0951.

(REV. 22 10/2021)

PERRY NUCLEAR POWER PLANT
10 CENTER RD., PERRY, OHIO 44081

FIRE PROTECTION
WATER MISCELLANEOUS SERVICES
FIGURE 9.5-4
(DWG. D-914-0004-00000)



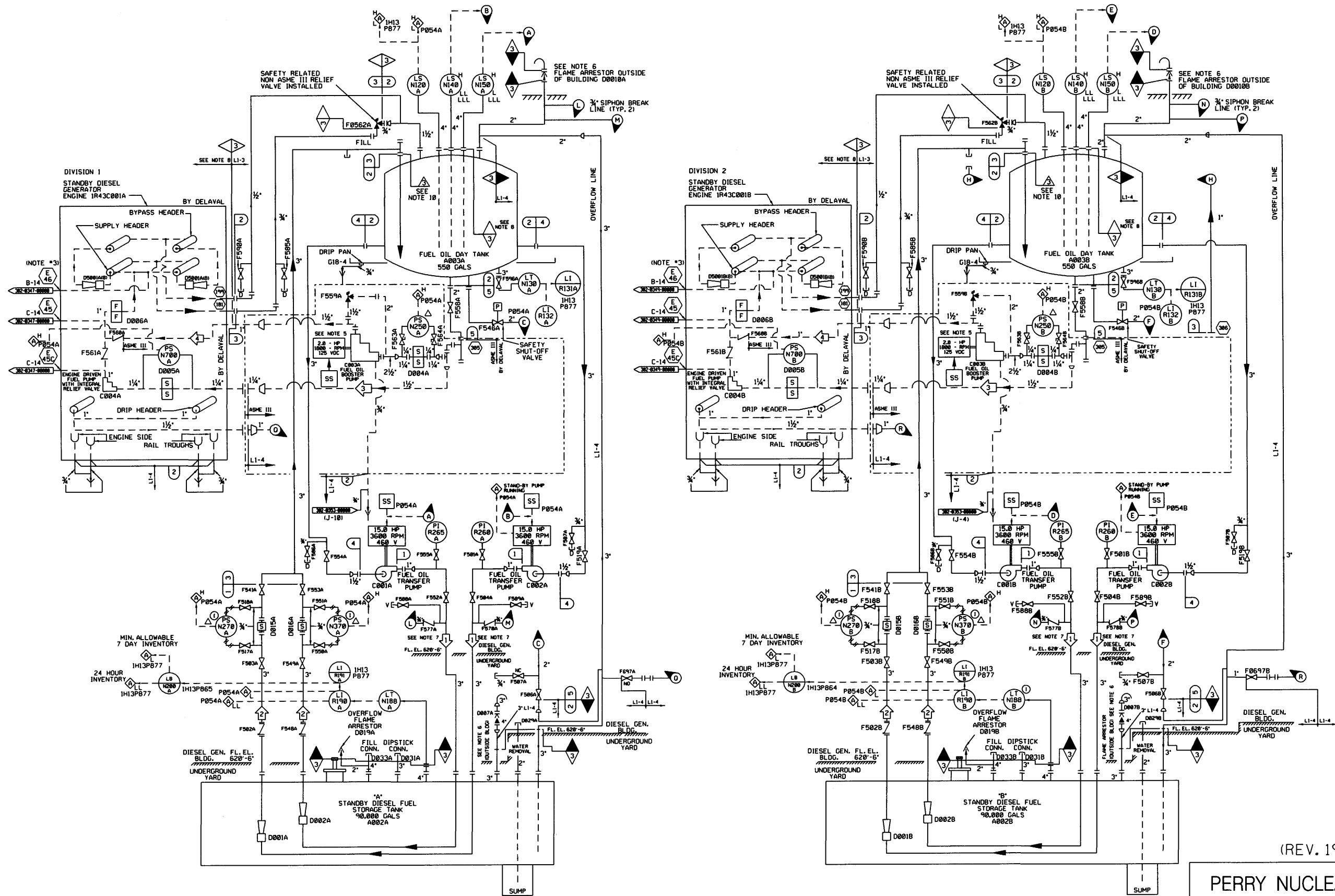
(Rev. 12 1/03)



PERRY NUCLEAR POWER PLANT

Exclusion Area, Boundary Layout

Figure 9.5-7



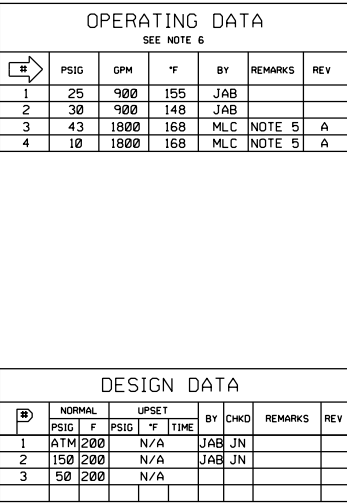
OPERATING DATA						
	PSIG	GPM	F	BY	REMARKS	REV
1	75	90	100			
2	15	135	90			
3	10	35	100			
4	40	35	100			

DESIGN DATA						
ID	NORMAL	UPSET	BY	CHKD	REMARKS	REV
1	150	110	NA	NA	JAB JN	
2	ATM	110	NA	NA	JAB JN	
3	50	110	NA	NA	JAB JN	
4	5	110	NA	NA		
5	15	110	NA	NA		

(REV. 19 10/2015)

PERRY NUCLEAR POWER PLANT
10 CENTER RD., PERRY, OHIO 44081

STANDBY DIESEL GENERATOR
FUEL OIL SYSTEM
FIGURE 9.5-8
(DWG. D-302-0352-00000)



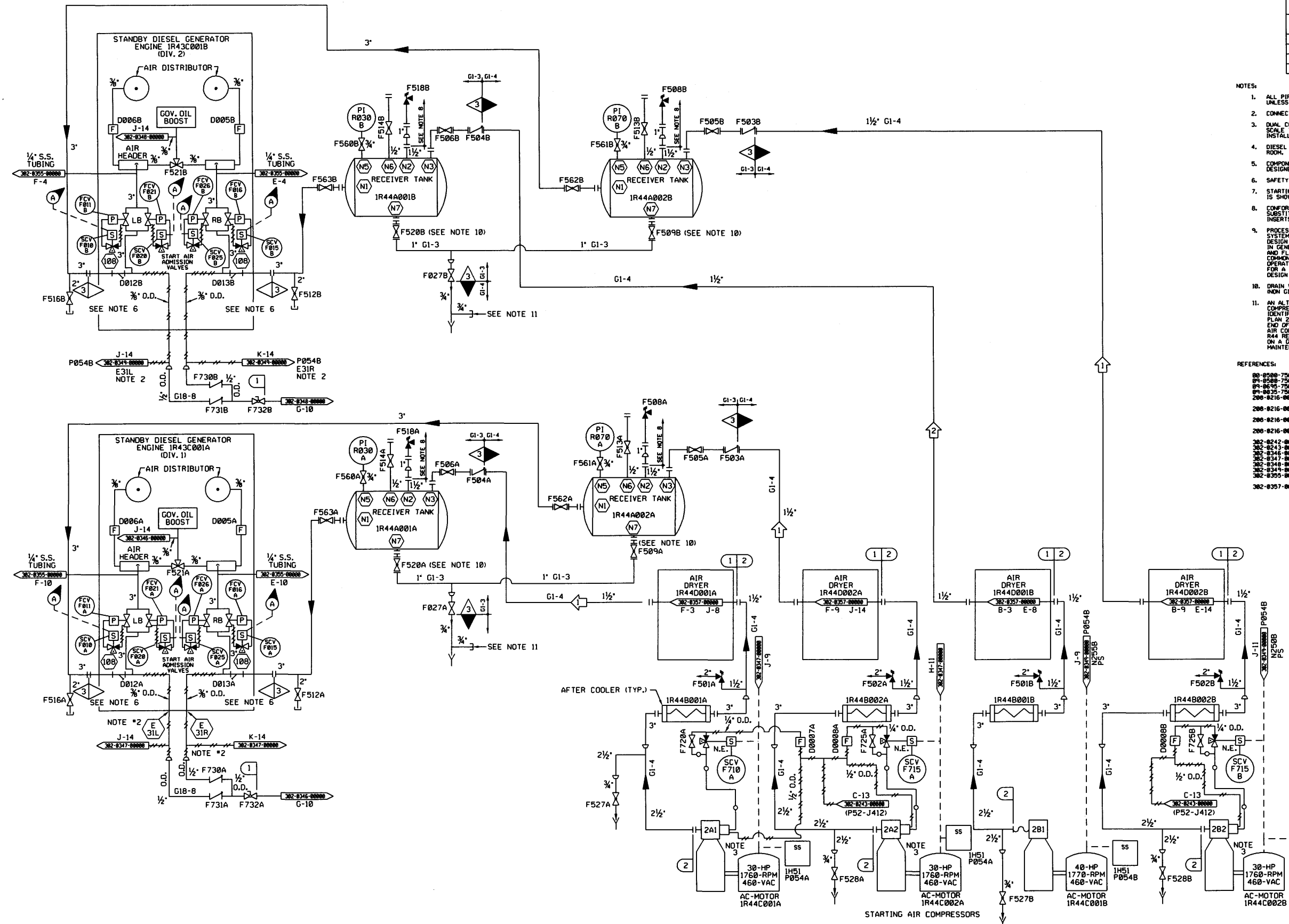
STANDBY DIESEL
GENERATOR, JACKET WATER
FIGURE 9.5-9
(DWG. D-302-0354-00000)

- | REFERENCES: | NOTES: |
|---|--|
| 09-810-75051 DELAVAL PIPING SCHEMATIC | 1. DELETED |
| 09-695-75051 ENGINE PNEUMATIC SCHEMATIC | 2. DELETED |
| 09-580-75051 CONTROL PANEL SCHEMATIC | |
| 09-688-75051 ENGINE AND SKID ELECTRICAL SCHEMATIC | 3. LS N082A AND B MUST BE LOCATED 35" BELOW CENTER LINE OF JACKET WATER INLET. RANGE ON STANDPIPE. |
| 382-0792-00000 EMERGENCY SERVICE WATER SYSTEM P45 | 4. SAFETY RELATED, NON-ASME. |
| 382-0353-00000 STANDBY DIESEL GENERATOR LUBE OIL R47 | 5. JACKET WATER OPERATING TEMPERATURE RANGE IS 185°F TO 188°F. |
| 382-0305-00000 HP/CS & STANDBY DIESEL GENERATOR EXHAUST, INTAKE & CRANKCASE R47 | 6. PROCESS DATA SHOWN IN THE OPERATING DATA TABLE ON THIS SYSTEM DIAGRAM SHALL BE USED IN CONJUNCTION WITH THE DESIGN BASIS INFORMATION AND SHALL BE USED WITH CAUTION. IN GENERAL, THE OPERATING DATA (PRESSURES, TEMPERATURES, FLOWS) PROVIDED ARE BASED ON THE DESIGN BASIS AND MOST COMMON OPERATING CONDITION AND/OR SYSTEM MODE OF OPERATION AND/OR ARE LINKED TO DETERMINED REQUIRED VALUES FOR A SPECIFIC OPERATING CONFIGURATION. THE APPROPRIATE DESIGN DOCUMENTS NEED TO BE REVIEWED. |
| 382-0346-00000 STANDBY DIESEL ENGINE MOUNTED PIPING IR43C001A DIV. I, IR34 | |
| 382-0347-00000 STANDBY DIESEL ENGINE CONTROL PANEL IM51-P854A DIVISION I IR43 | |
| 382-0348-00000 STANDBY DIESEL ENGINE MOUNTED PIPING IR43C001B DIVISION 2 IR43 | |
| 382-0349-00000 STANDBY DIESEL ENGINE CONTROL PANEL IM51-P854B DIVISION 2 IR43 | |

8 PLACES
P054A
P054B
DIV. 1 208-0216-00005 & 00007
DIV. 2 208-0216-00006 & 00008
DIESEL START SIGNAL

OPERATING DATA						
SEE NOTE 9						
#	CFM	PSIA	"F	BY	REMARKS	REV
1	84	250	122"			
2	87	250	122"			

DESIGN DATA						
#	NORMAL	UPSET	BY	CHKD	REMARKS	REV
PSIG	F	PSIG	F	TIME		
1	275	150	-	-	JN	
2	300	150	-	-		



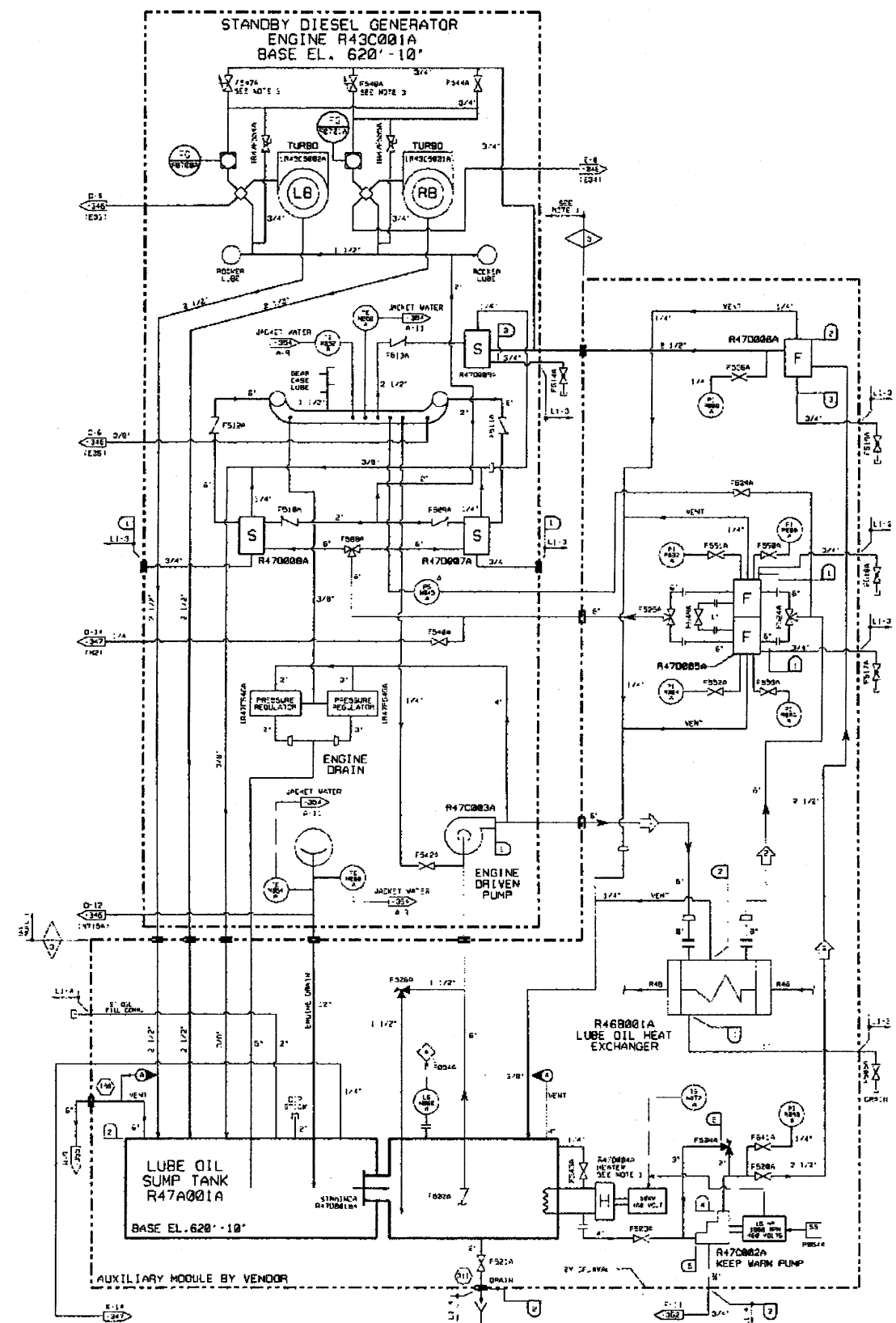
- NOTES:
- ALL PIPING SHALL BE AS PER LINE SPECIFICATION G1-3 UNLESS OTHERWISE NOTED.
 - CONNECTIONS ON ENGINE PNEUMATIC BULKHEAD.
 - DUAL CONTROL COMPONENT CONTAINS PRESSURE SWITCH, SCALE TRIP, PLUS BOOSTER AND RELAY VALVE. FOR INSTALLATION, SEE VENDOR DRAWING.
 - DIESEL GENERATOR GENERAL TROUBLE ALARM IN CONTROL ROOM.
 - COMPONENTS ON THE DIESEL GENERATOR SKID ARE DESIGNED TO DEMA STANDARDS.
 - SAFETY RELATED, NON-ASME DIESEL MFR'S STANDARD.
 - STARTING AIR SYSTEM FOR HPCS DIESEL GENERATOR IS SHOWN ON SYSTEM DIAGRAM 302-0350-00000.
 - CONFORMS TO LINE SPECIFICATION G1-3 EXCEPT FOR SUBSTITUTION OF 3000# SOCKET WELDING REDUCING INSERTS IN LIEU OF 8000# INSERTS.
 - PROCESS DATA SHOWN IN THE OPERATING DATA TABLE ON THIS SYSTEM DIAGRAM SHALL BE USED IN CONJUNCTION WITH THE DESIGN BASIS INFORMATION AND SHALL BE USED WITH CAUTION. IN GENERAL, THE OPERATING DATA (PRESSURES, TEMPERATURES, AND FLOWS) PROVIDED ON THIS DRAWING REPRESENTS THE MOST COMMON OPERATING CONDITION AND/OR SYSTEM MODE OF OPERATION AND/OR LINEUP. TO DETERMINE THE REQUIRED VALUES FOR A SPECIFIC OPERATING CONFIGURATION, THE APPROPRIATE DESIGN DOCUMENTS NEED TO BE REVIEWED.
 - DRAIN VALVES ARE CLASS 300 STAINLESS STEEL INDN G1-3 P.S.
 - AN ALTERNATE AIR SUPPLY SOURCE (I.E. TEMPORARY AIR COMPRESSOR) FOR THE R44 SYSTEM MEETING THE REQUIREMENTS IDENTIFIED IN EDP 13-0509 AND INSTALLED PER MAINTENANCE PLAN 210677 CAN BE CONNECTED TO THE R44 SYSTEM AT THE END OF THE RECEIVER TANK DRAIN LINE. AN ALTERNATE BACKUP AIR COMPRESSOR CAN BE USED PER 501-R44 TO RECHARGE THE R44 RECEIVER TANKS IN SITUATIONS WHERE BOTH COMPRESSORS ON A GIVEN DIVISION BECOME UNAVAILABLE DUE TO SYSTEM MAINTENANCE AND/OR DEGRADED PERFORMANCE.

- REFERENCES:
- 00-0500-75001 CONTROL PANEL INSTALLATION
 - 00-0500-75001 DELAYAL CONTROL PANEL SCHEMATIC
 - 00-0500-75001 DELAYAL ENGINE PNEUMATIC SCHEMATIC
 - 00-0500-75001 DELAYAL STARTING AIR PIPING SCHEMATIC
 - 200-0216-00005 STANDBY DIESEL ENGINE CONTROL PANEL
 - 200-0216-00006 STANDBY DIESEL ENGINE CONTROL PANEL
 - 200-0216-00007 STANDBY DIESEL ENGINE CONTROL PANEL
 - 200-0216-00008 STANDBY DIESEL ENGINE CONTROL PANEL
 - 200-0216-00009 STANDBY DIESEL ENGINE CONTROL PANEL
 - 302-0242-00000 SERVICE AIR DISTRIBUTION DIAGRAM
 - 302-0243-00000 INSTRUMENT AIR
 - 302-0246-00000 STANDBY DIESEL ENGINE MOUNTED PIPING
 - 302-0347-00000 STANDBY DIESEL - ENGINE CONTROL PANEL
 - 302-0348-00000 STANDBY DIESEL - ENGINE MOUNTED PIPING
 - 302-0349-00000 STANDBY DIESEL - ENGINE CONTROL PANEL
 - 302-0350-00000 HPCS AND STANDBY DIESEL GENERATOR EXHAUST, INTAKE AND CRANKCASE
 - 302-0357-00000 DIV 1 & DIV 2 DIESEL AIR DRYER
 - 302-0357-00000 DIAGRAMS 1R44-0001A & B AND 1R44-0002A & B

(REV. 19 10/2015)

PERRY NUCLEAR POWER PLANT
10 CENTER RD., PERRY, OHIO 44081

PIPING SYSTEM DIAGRAM,
R-44, STANDBY DIESEL
GENERATOR STARTING AIR
FIGURE 9.5-10
(DWG. D-302-0351-00000)

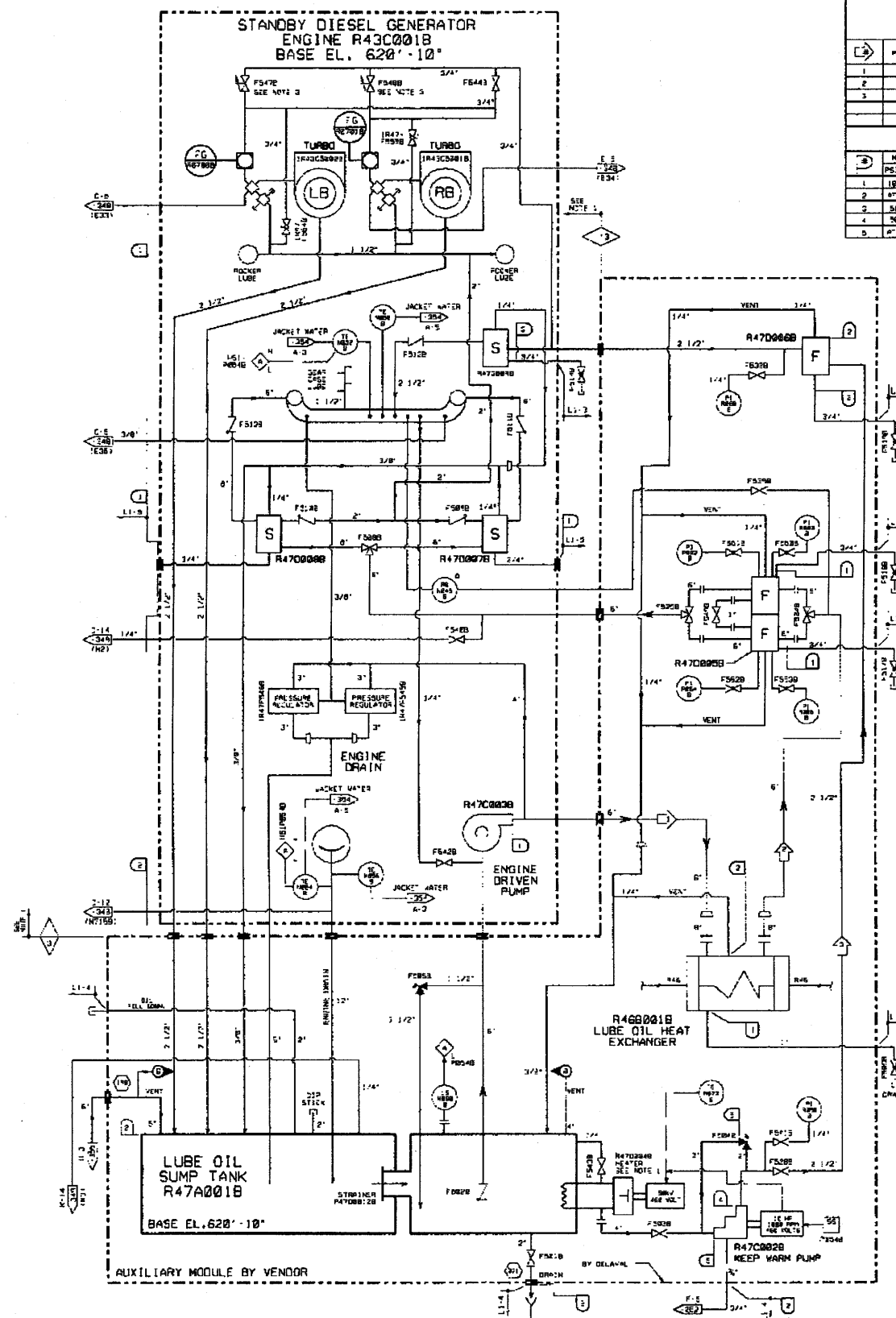


REFERENCES:

- 35-B10-70001: DELTA PIPING SCHEMATIC
- 35-B10-70002: ENGINE PNEUMATIC SCHEMATIC
- 35-B10-70003: CONTROL PANEL SCHEMATIC
- 35-B10-70004: ENGINE AND GYRO ELECTRICAL SCHEMATIC
- 35-B10-70005: STANDBY DIESEL GENERATOR JACKET WATER

NOTES:

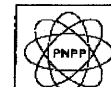
- SAFETY RELATED NON-ASME.
- PROCESS DATA SHOWN IN THE OPERATING DATA TABLE ON THIS SHEET SHOULD BE USED IN CONJUNCTION WITH THE DESIGN BASIS INFORMATION AND SHALL BE USED WITH CAUTION. IN GENERAL, THE OPERATING DATA SHOULD BE USED TO OPERATE THE SYSTEM PROVIDED ON THIS DRAWING REPRESENTS THE MOST CURRENT OPERATING CONDITION AND/OR SYSTEM MODE BY DESIGN AND/OR LUBRICANT. IN THE EVENT THE REQUIRED VALUE FOR A SPECIFIC OPERATING CONDITION, THE APPROPRIATE DESIGN DOCUMENTS SHOULD BE REFERENCED.
- VALVE IS THROTTLED TO PRESET CONDITIONS.



OPERATING DATA						
SEE NOTE 1						
ITEM	PSIG	SPM	°F	BY	REMARKS	REV
1	70	500	150	JAB		
2	60	500	150	JAB		
3	15	40	150			

DESIGN DATA						
ITEM	NORMAL	PSIG	SPM	°F	BY	REV
1	100	500	150	150	JAB	
2	80	500	150	150	JAB	
3	15	40	150			
4	10	40	150			
5	10	40	150			

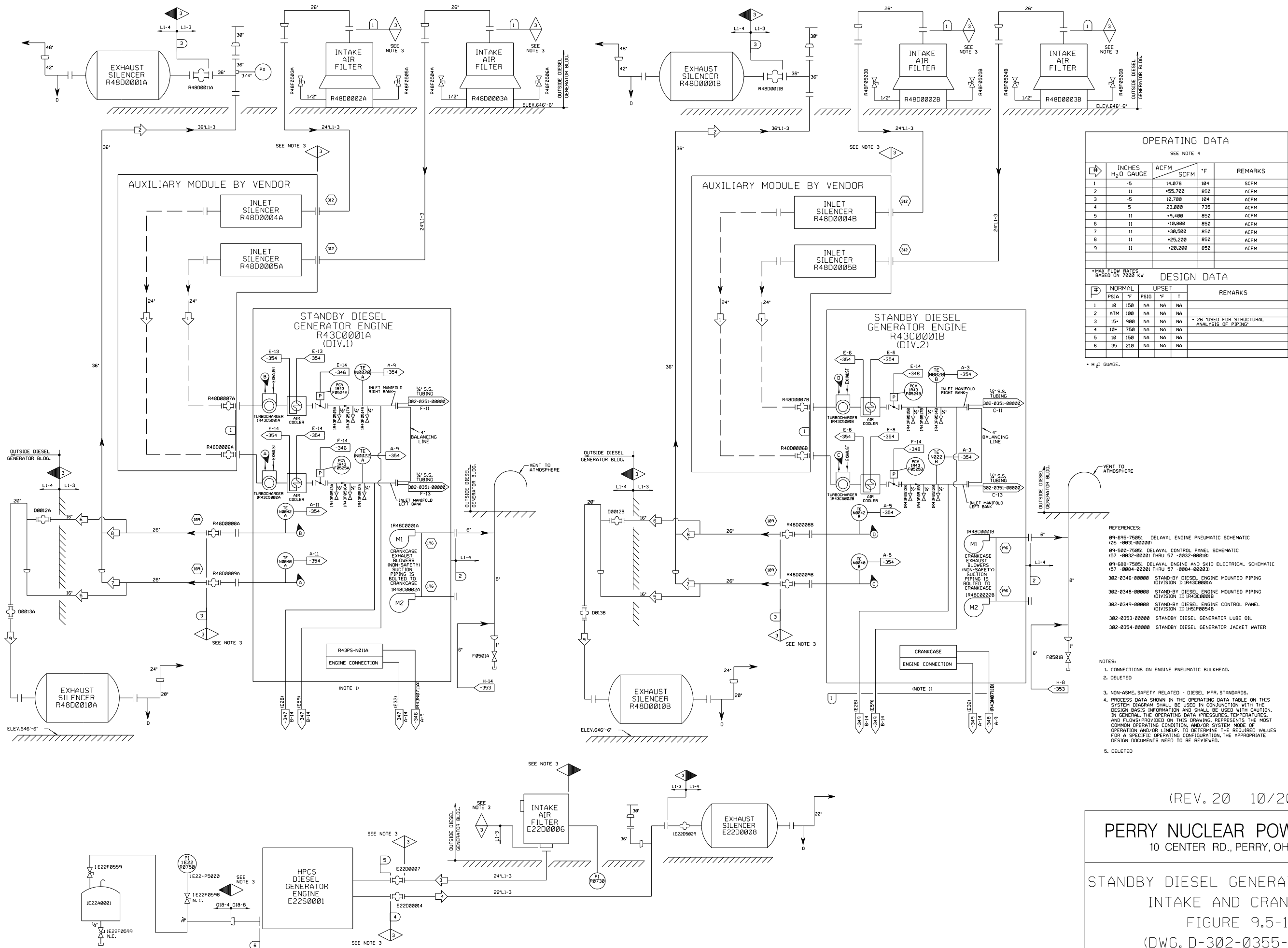
(Rev. 14 10/05)



PERRY NUCLEAR POWER PLANT

Standby Diesel Generator,
Lube Oil

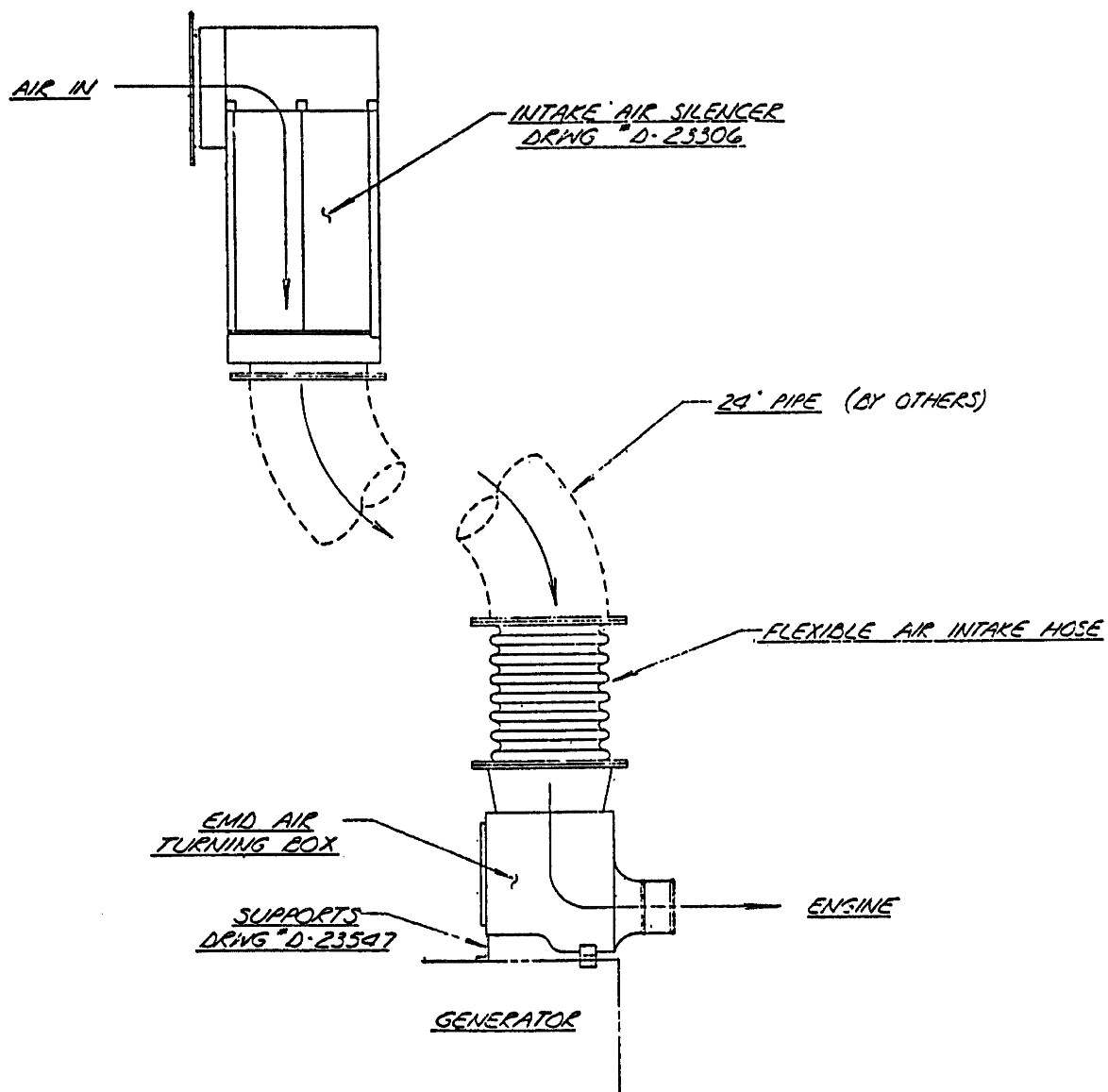
Figure 9.5-11
(Dwg. D-302-353)



(REV. 20 10/2017)

PERRY NUCLEAR POWER PLANT 10 CENTER RD., PERRY, OHIO 44081

STANDBY DIESEL GENERATOR EXHAUST,
INTAKE AND CRANKCASE
FIGURE 9.5-12
(DWG. D-302-0355-00000)

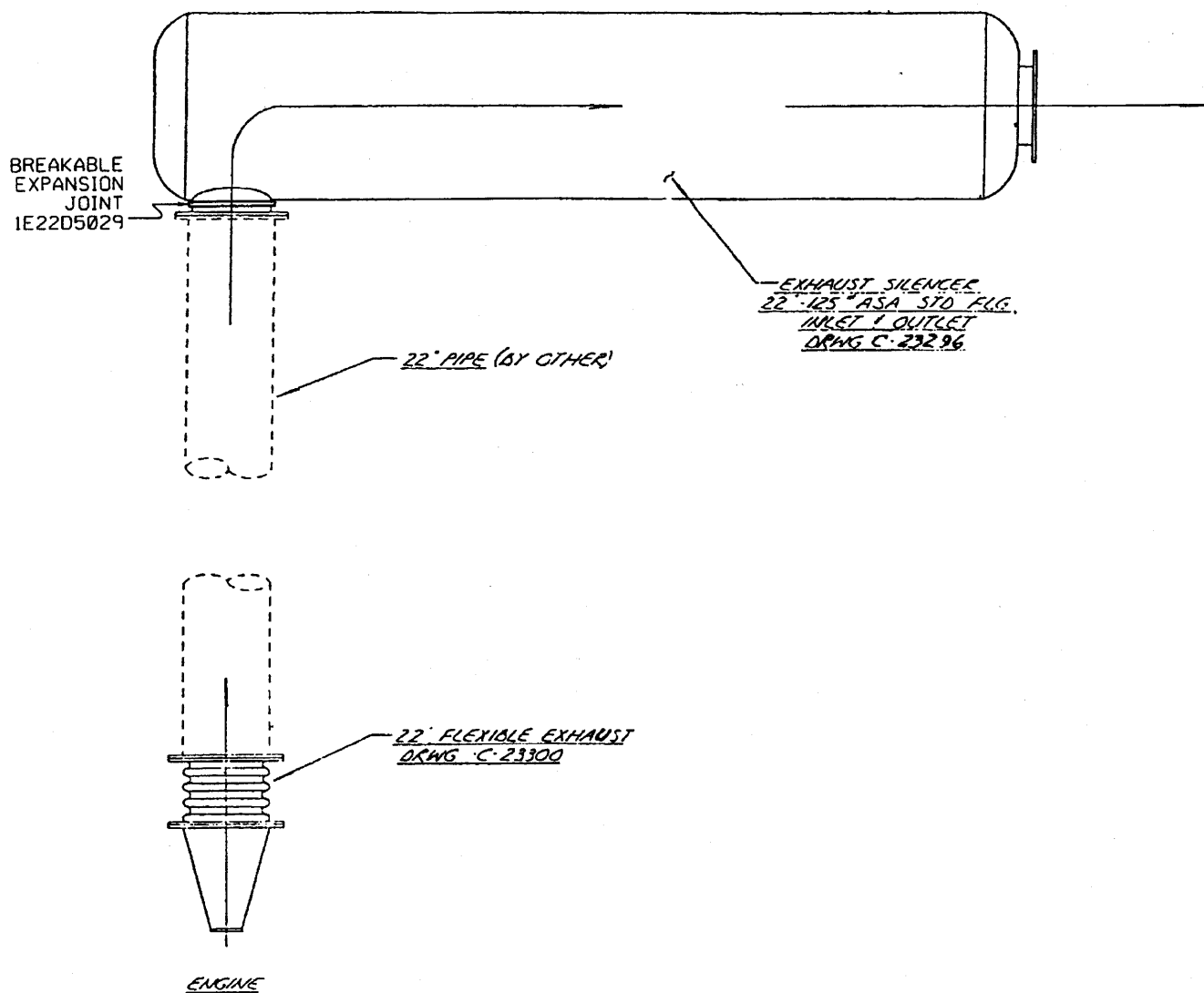


(Rev. 18 10/13)

PERRY NUCLEAR POWER PLANT
10 CENTER RD., PERRY, OHIO 44081

G.E. Intake Air System 2600 kW
Generator Set

Figure 9.5-13



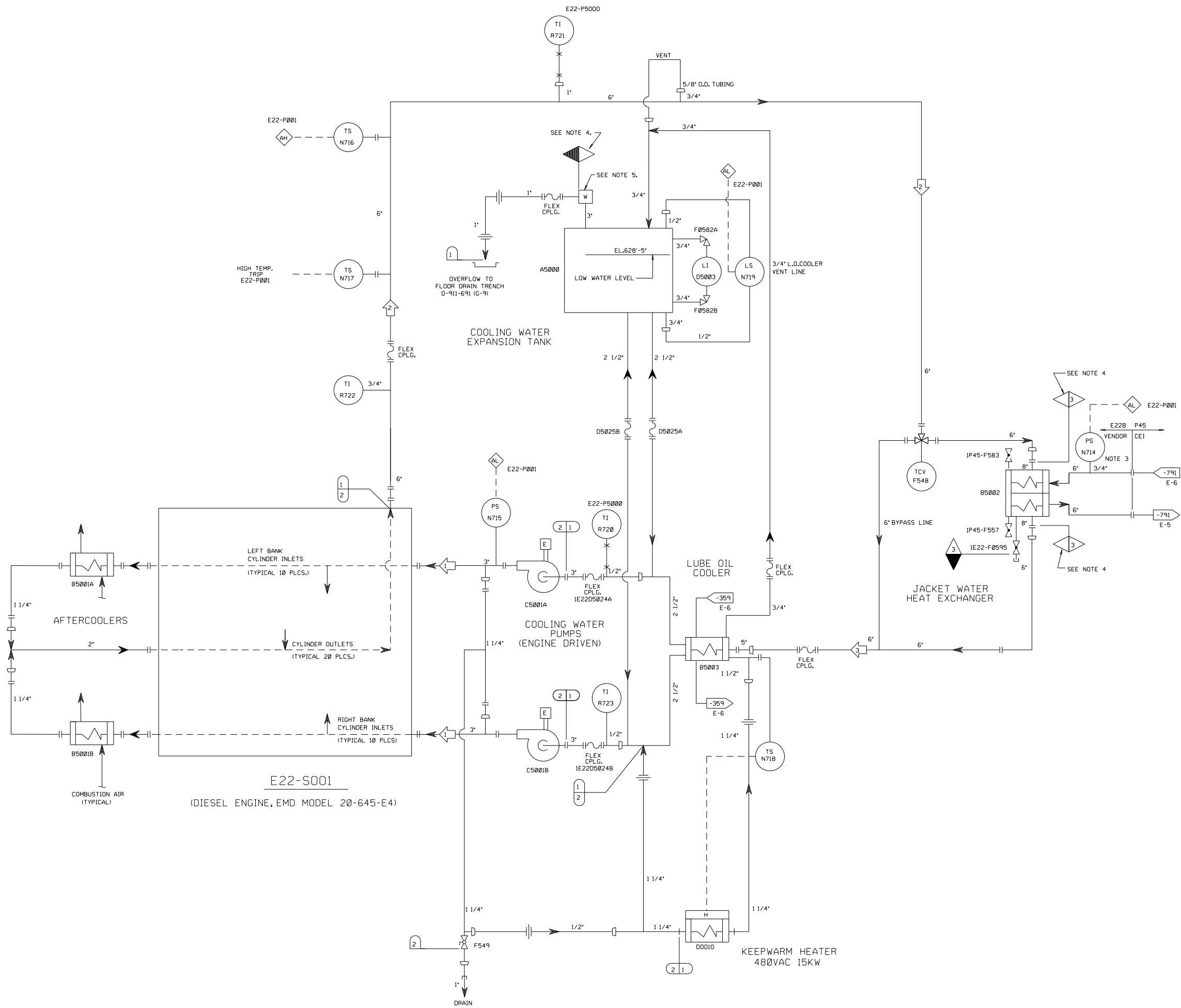
(Rev. 14 10/05)



PERRY NUCLEAR POWER PLANT

G.E. Exhaust Air System 2600 kW
Generator Set

Figure 9.5-14



OPERATING DATA						
SEE NOTE 6						
#	PSIG	GPM	*F	BY	REMARKS	REV
1	55	550	165	MLC		-
2	5	1100	175	MLC		-
3	2	1100	165	MLC		-

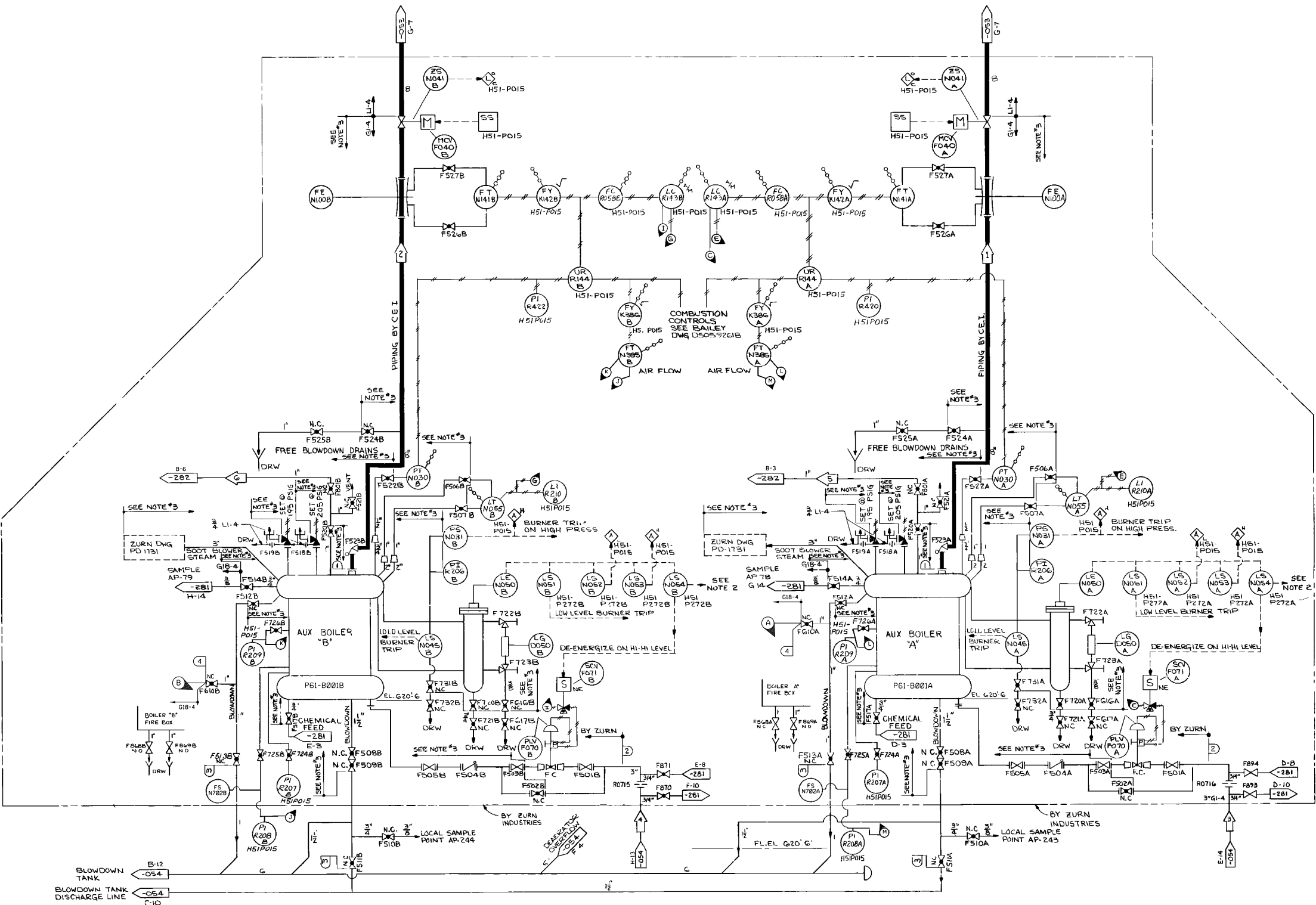
DESIGN DATA								
#	NORMAL		UPSET			BY	CHKD	REV
	PSIG	* F	PSIG	* F	TIME			
1	5	190	5	200	-	MLC		-
2	70	190	70	200	-	MLC		-

- REFERENCES:
- 302-0001-00000
 - 302-0791-00000
 - 302-0359-00000
- NOTES:
1. DIAGRAM AS SHOWN ON THIS DRAWING HAS BEEN DEVELOPED/ REFORMATED FROM STEWART & STEVENSON DWG.NO.23305. AND G.E.DWG.NO. 945E419.
 2. FOR VALVE/PIPING/COMPONENT MATERIAL SPECIFICATION DETAILS REFER TO STEWART & STEVENSON INSTRUCTION AND PARTS MANUAL FOR 2600 KW GENERATOR SET (FILE 239-G).
 3. REFER TO VALVE LINE-UP DIAGRAM FOR ASSOCIATED VALVE MPL NOS.
 4. NON-ASME,SAFETY RELATED DIESEL MANUFACTURER'S STD.
 5. [W] INDICATES AUTOMATIC WATER/VAPOR PRESSURE RELIEF DEVICE (FILLER/RELIEF CAP). CAP RELIEF SETPOINT IS 4 PSIG.
 6. PROCESS DATA SHOWN IN THE OPERATING DATA TABLE ON THIS SYSTEM DIAGRAM SHALL BE USED IN CONJUNCTION WITH THE DESIGN BASIS INFORMATION AND SHALL BE USED WITH CAUTION. IN GENERAL, THE OPERATING DATA (PRESSURES, TEMPERATURES, AND FLOWS) PROVIDED ON THIS DRAWING, REPRESENTS THE MOST COMMON OPERATING CONDITION, AND/OR SYSTEM MODE OF OPERATION AND/OR LINEUP. TO DETERMINE THE REQUIRED VALUES FOR A SPECIFIC OPERATING CONFIGURATION, THE APPROPRIATE DESIGN DOCUMENTS NEED TO BE REVIEWED.

(REV. 20 10/2017)

PERRY NUCLEAR POWER PLANT
10 CENTER RD., PERRY, OHIO 44081

DIVISION 3 DIESEL JACKET
WATER COOLING SYSTEM DIAGRAM
FIGURE 9.5-16
(DWG. D-302-0360-00000)



OPERATING DATA (NORMAL)

SEE NOTE 4

#	HR	PSIG	°F	BY	REMARKS	BY
1	42.6	173	376	KE	BOTH UNITS RUNNING	D
2	0					D
3	105.783	240	227	KE	INTERMITTENT	D
4	0					D
5	1250	175	377	AA		D
6	0					D

OPERATING DATA (UNITS DOWN)

SEE NOTE 4

#	HR	PSIG	°F	BY	REMARKS	BY
1	100,000	165	373	KE	MAX. DESIGN	D
2	100,000	165	373	KE	MAX. DESIGN	D
3	105.783	240	227	AA	MAX. DESIGN	D
4	105.783	240	227	KE	MAX. DESIGN	D
5	1250	175	377	AA		D
6	1250	175	377	AA		D

DESIGN DATA

#	NORMAL	UPSET	TIME	BY	REMARKS	BY
1	195	386	205	390	KE	MAX. DESIGN
2	305	298	305	298	KE	MAX. DESIGN
3	56	298	56	298	MC	MAX. DESIGN
4	150	110	-	-	MC	MAX. DESIGN

- REFERENCES:
- 302-0052-00000 AUXILIARY STEAM P61
 - 302-0053-00000 AUXILIARY STEAM P61
 - 302-0281-00000 AUXILIARY BOILER CHEMICAL TREATMENT P65
 - 302-0241-00000 SERVICE AND INSTRUMENT AIR SUPPLY P51 AND P52
 - 302-0742-00000 LRV - WASTE EVAPORATOR CONDENSER P45
 - H51-P015 AUXILIARY BOILER CONTROL PANEL
 - H51-P272 BURNER - MANAGEMENT PANEL
 - 302-0054-00000 AUXILIARY STEAM P61

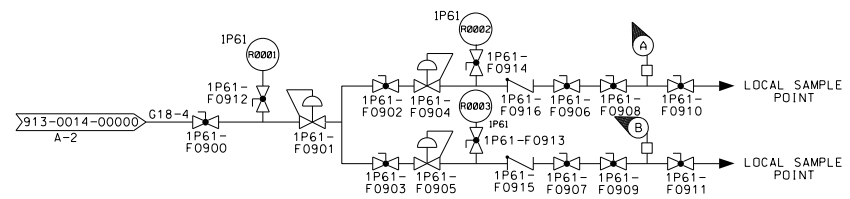
- NOTES:
- ENTIRE SYSTEM IN ACCORDANCE WITH LINE SPECIFICATION LI-4, EXCEPT WHERE INDICATED AS GI-4.
 - BOILER "A" HI-HI LEVEL AND BOILER "B" HI-HI LEVEL TRIPS ALL THREE BOILER FEED PUMPS ON DWG. 302-0054-00000.
 - DESIGNED AND FABRICATED IN ACCORDANCE WITH SECTION 1 OF THE ASME BOILER AND PRESSURE VESSEL CODE FROM THE INDICATED POINT TO THE BOILER, HOWEVER, PER ASME SECTION 1-1974, PG. 58.3, THE MATERIALS, DESIGN, FABRICATION, INSTALLATION, AND TESTING OF BOILER EXTERNAL PIPING SHALL BE IN ACCORDANCE WITH ANSI/ASME B31.1, PER ASME B31.1, PARAGRAPH (D.01.3), INSTRUMENTATION IS EXEMPT FROM SECTION 1 CODE REQUIREMENTS WITH EXCEPTION OF TEMPERATURE AND PRESSURE REQUIREMENTS.
 - PROCESS DATA SHOWN IN THE OPERATING DATA TABLE ON THIS SYSTEM DIAGRAM SHALL BE USED IN CONJUNCTION WITH THE DESIGN BASIS INFORMATION AND SHALL BE USED WITH CAUTION. IN GENERAL, THE OPERATING DATA (PRESSURES, TEMPERATURES, AND FLOWS) PROVIDED ON THIS DRAWING, REPRESENTS THE MOST COMMON OPERATING CONDITION, AND/OR SYSTEM MODE OF OPERATION AND/OR LINEUP. TO DETERMINE THE REQUIRED VALUES FOR A SPECIFIC OPERATING CONFIGURATION, THE APPROPRIATE DESIGN DOCUMENTS NEED TO BE REVIEWED.

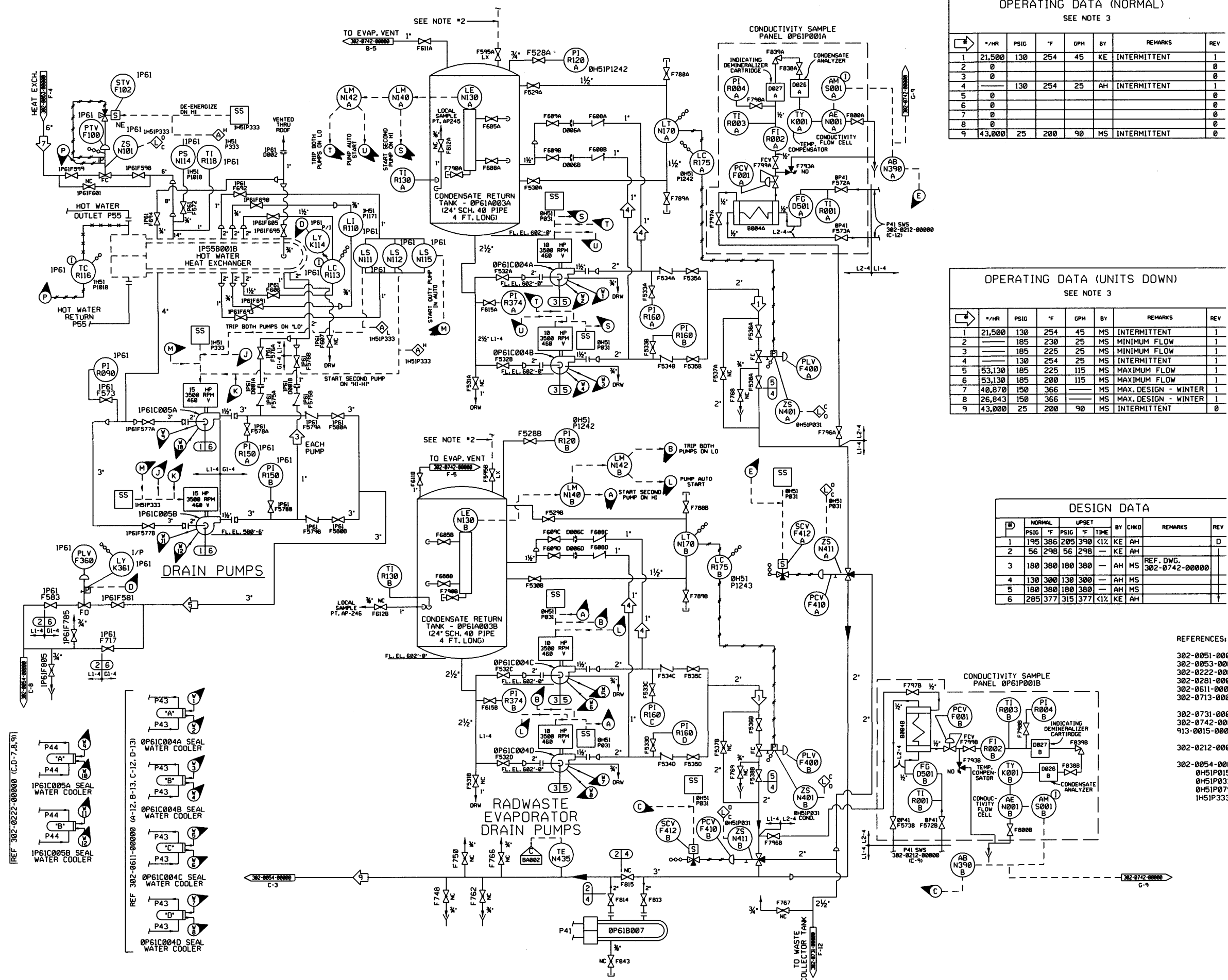
(REV. 20 10/2017)

PERRY NUCLEAR POWER PLANT
10 CENTER RD., PERRY, OHIO 44081

AUXILIARY STEAM

FIGURE 9.5-17
(DWG. D-302-0051-00000)





OPERATING DATA (NORMAL)
SEE NOTE 3

#	°/HR	PSIG	°F	GPM	BY	REMARKS	REV
1	21,500	130	254	45	KE	INTERMITTENT	1
2	0						0
3	0						0
4		130	254	25	AH	INTERMITTENT	1
5	0						0
6	0						0
7	0						0
8	0						0
9	43,000	25	200	90	MS	INTERMITTENT	0

OPERATING DATA (UNITS DOWN)
SEE NOTE 3

#	WHR	PSIG	°F	GPM	BY	REMARKS	REV
1	21,500	130	254	45	MS	INTERMITTENT	1
2	=====	185	230	25	MS	MINIMUM FLOW	1
3	=====	185	225	25	MS	MINIMUM FLOW	1
4	=====	130	254	25	MS	INTERMITTENT	1
5	53,130	185	225	115	MS	MAXIMUM FLOW	1
6	53,130	185	200	115	MS	MAXIMUM FLOW	1
7	40,870	150	366	=====	MS	MAX. DESIGN - WINTER	1
8	26,843	150	366	=====	MS	MAX. DESIGN - WINTER	1
9	43,000	25	200	90	MS	INTERMITTENT	0

DESIGN DATA

#	NORMAL		UPSET		BY	CHKD	REMARKS	REV
	PSIG	"F	PSIG	"F				
1	195	386	205	390	<1%	KE	AH	D
2	56	298	56	298	—	KE	AH	
3	180	380	180	380	—	AH	MS	REF. DWG. 302-0742-00000
4	130	300	130	300	—	AH	MS	
5	180	380	180	380	—	AH	MS	
6	285	377	315	377	<1%	KE	AH	

NOTES:

- ENTIRE SYSTEM IN ACCORDANCE WITH LINE SPECIFICATION L1-4, EXCEPT WHERE OTHERWISE INDICATED.
- PIPING ABANDONED THIS SIDE OF ISOLATION. FOR DETAILS SEE TECHNICAL ASSIGNMENT FILE 81653.
- PROCESS DATA SHOWN IN THE OPERATING DATA TABLE ON THIS SYSTEM DIAGRAM SHALL BE USED IN CONJUNCTION WITH THE DESIGN BASIS INFORMATION AND SHALL BE USED WITH CAUTION. IN GENERAL, THE OPERATING DATA (PRESSURES, TEMPERATURES, AND FLOWS) PROVIDED ON THIS DRAWING, REPRESENTS THE MOST COMMON OPERATING CONDITION, AND/OR SYSTEM MODE OF OPERATION AND/OR LINEUP. TO DETERMINE THE REQUIRED VALUES FOR A SPECIFIC OPERATING CONFIGURATION, THE APPROPRIATE DESIGN DOCUMENTS NEED TO BE REVIEWED.

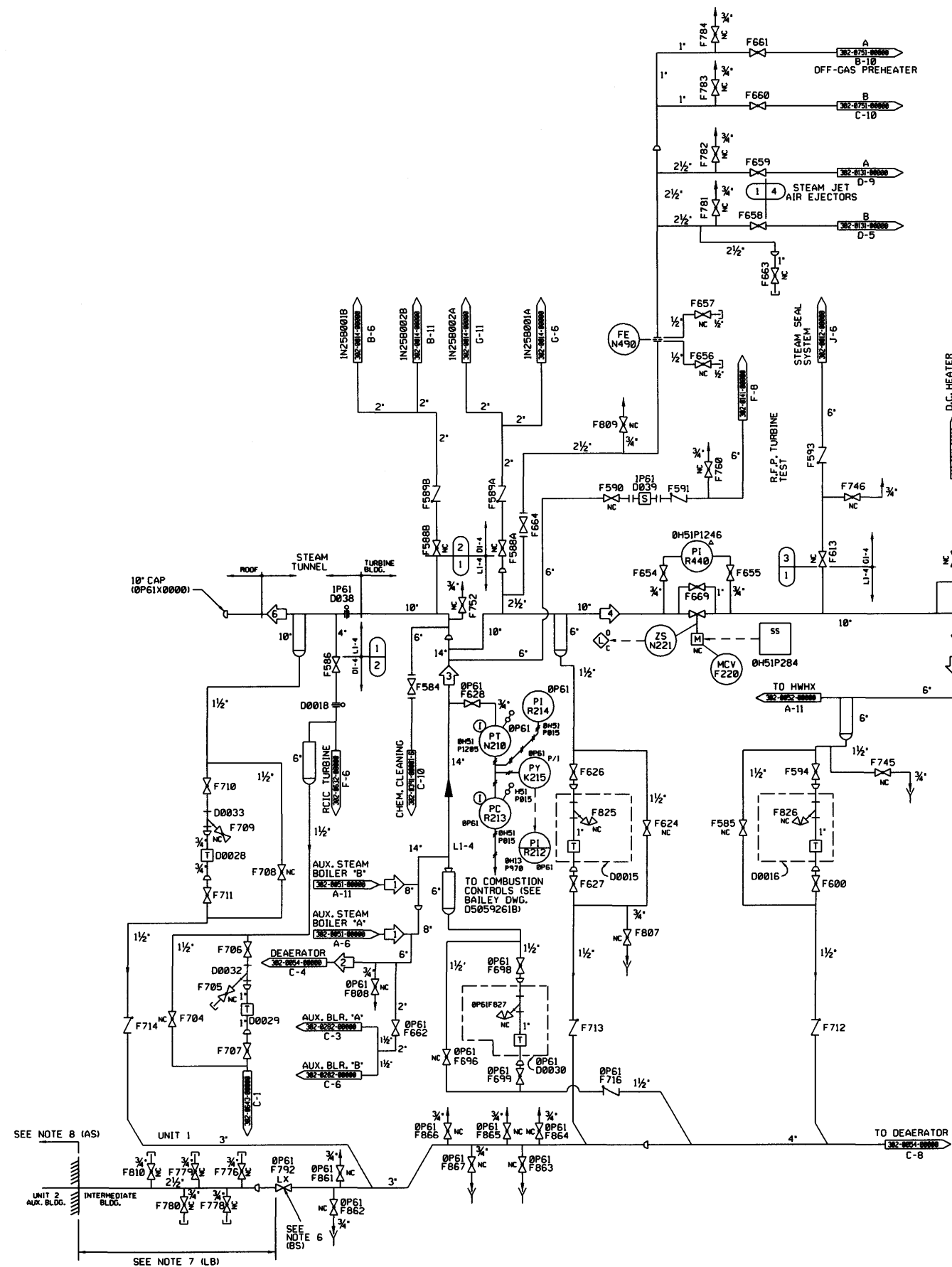
REFERENCES:

- 302-0051-00000 AUXILIARY STEAM P61
- 302-0053-00000 AUXILIARY STEAM P61
- 302-0222-00000 TURBINE BUILDING CLOSED COOLING P41
- 302-0281-00000 AUXILIARY BOILER CHEMICAL TREATMENT P85
- 302-0611-00000 NUCLEAR CLOSED COOLING SYSTEM P43
- 302-0713-00000 TWO BED DEMINERALIZER AND DISTRIBUTION SYSTEM - STORAGE AND NORTH ZONE DISTRIBUTION P21
- 302-0731-00000 LRW - FLOOR DRAIN COLLECTOR TANKS AND WASTE COLLECTOR TANKS G50
- 302-0742-00000 LRW - WASTE EVAPORATOR / CONDENSERS G50
- 913-0015-00000 HOT WATER HEATING SYSTEM DIAGRAM - HEATER BAY, AUXILIARY BUILDING AND TURBINE POWER COMPLEX - P55
- 302-0212-00000 SERVICE WATER SYSTEM
- 302-0054-00000 AUXILIARY STEAM P61
- 0H51P015 AUXILIARY BOILER CONTROL PANEL
- 0H51P031 RADWASTE CONTROL PANEL
- 0H51P079 DEAERATOR CONTROL PANEL
- 1H51P333 HOT WATER HEATING CONTROL PANEL

(REV. 19 10/2015)

PERRY NUCLEAR POWER PLANT
10 CENTER RD., PERRY, OHIO 44081

AUXILIARY
STEAM
FIGURE 9.5-18
(DWG. D-302-0052-00000)



OPERATING DATA (NORMAL)

SEE NOTE 4

#	#/HR.	PSIG	°F	GPM	BY	REMARKS	REV
1	42,690	170	375	-	KSE	INTERMITTENT	2
2	690	170	375	-	KSE	CONTINUOUS	
3	42,000	170	375	-	KSE	INTERMITTENT	
4	0			-	KSE		
5	0			-	KSE		
6	42,000	170	375	-	KSE	INTERMITTENT	

OPERATING DATA (UNITS DOWN)

SEE NOTE 4

#	#/HR.	PSIG	°F	GPM	BY	REMARKS	REV
1	100,000	155	368	-	KSE	MAX. CONT. DESIGN	2
2	28,620	155	368	-	KSE	MAX. DESIGN	
3	200,000	155	368	-	KSE	MAX. CONT. DESIGN	
4	108,730	150	366	-	KSE	MAX. DURING COLD STARTUP OR STANDBY	
5	48,730	150	366	-	KSE	MAX. BLDG HEATING REQ. - WINTER	
6	124,730	150	366	-	KSE	MAX. DURING COLD STARTUP OR STANDBY	

DESIGN DATA

#	NORMAL		UPSET			BY	CHKD	REMARKS	R
	PSIG	F	PSIG	F	TIME				
1	195	386	205	390	<12	KSE/AEH			
2	1250	575	-	-	-	KSE/AEH	REF. 302-0014-00000		
3	248	510	-	-	-	AEH/JPS	REF. 302-0012-00000		
4	150	386	-	-	-	MGQ/JPS			

REFERENCES:

- 302-0011-00000 MAIN STEAM SYSTEM M11
- 302-0012-00000 REHEAT STEAM SYSTEM M11
- 302-0041-00000 EXTRACTION STEAM N36
- 302-0051-00000 AUXILIARY STEAM P81
- 302-0052-00000 AUXILIARY STEAM P81
- 302-0141-00000 STEAM SEAL SYSTEM N33
- 302-0341-00000 CHEMICAL CLEANING OF CONDENSATE AND FEEDWATER P81
- 302-0632-00000 REACTOR CORE ISOLATION COOLING E51
- 0H51P815 AUXILIARY BOILER CONTROL PANEL
- 0H51P831 RADWASTE CONTROL PANEL
- 302-0054-00000 AUXILIARY STEAM P81
- 302-0014-00000 REHEATER HEATING STEAM SYSTEM M11
- 302-0131-00000 CONDENSER AIR REMOVAL SYSTEM M52
- 302-0202-00000 AUXILIARY BOILER FUEL OIL SYSTEM 0P61B0001A
- 302-0643-00000 RESIDUAL HEAT REMOVAL SYSTEM E12
- 302-0751-00000 OFF-GAS SYSTEM M54

NOTES:

- THE DATA UNDER THE "NORMAL" COLUMN ARE THE SYSTEM DESIGN CONDITIONS. THESE VALUES SHALL BE USED FOR SYSTEM PRESSURE TESTING.
- VALVE 0P61F805 HAS BEEN REMOVED FROM THE SYSTEM AND REPLACED WITH A SPOOL PIECE AND BLANKS. SEE DRAWING 302-0041-00000 (A-B). 1P61F300 IS SPARED IN PLACE.
- DELETED
- PROCESS DATA SHOWN IN THE OPERATING DATA TABLE ON THIS SYSTEM DIAGRAM SHALL BE USED IN CONJUNCTION WITH THE DESIGN BASIS INFORMATION AND SHALL BE USED WITH CAUTION. IN GENERAL, THE OPERATING DATA (PRESSURES, TEMPERATURES, AND FLOWS) PROVIDED ON THIS DRAWING REPRESENTS THE MOST COMMON OPERATING CONDITION AND/OR SYSTEM MODE OF OPERATION AND/OR LINEUP. TO DETERMINE THE REQUIRED VALUES FOR A SPECIFIC OPERATING CONFIGURATION, THE APPROPRIATE DESIGN DOCUMENTS NEED TO BE REVIEWED.
- ALL COMPONENTS ARE IPSI UNLESS OTHERWISE NOTED.
- (BS) UNIT 1/2 BOUNDARY SEPARATION. FOR DETAILS SEE TAF 81603.
- (LB) LICENSE RENEWAL. LEAKAGE BOUNDARY FOR ABANDONED, RETIRED IN PLACE SSC'S. FOR DETAILS SEE ECP 14-0506.
- (AS) ABANDONED SSC'S OUTSIDE THE SCOPE OF LICENSE RENEWAL. CONFIGURATION CONTROL NOT MAINTAINED FOR ABANDONED SSC'S IF INSTALLED OUTSIDE THE SCOPE OF LICENSE RENEWAL.

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PERRY NUCLEAR POWER PLANT
10 CENTER RD., PERRY, OHIO 44081

AUXILIARY
STEAM
FIGURE 9.5-19
(DWG. D-302-0053-00000)

OPERATING DATA (NORMAL)

SEE NOTE 3

#	HR	PSIG	°F	BY	REMARKS	
1	690	170	375	KE	INTERMITTENT	0
2	105,783	250	227	KE	INTERMITTENT	
3	0	20	95	16	KE	
4	7,960	20	95	16	KE	
5	0	250	227	18	KE	
6	0	250	227	18	KE	
7	0	250	227	18	KE	

OPERATING DATA (UNITS DOWN)

SEE NOTE 3

#	HR	PSIG	°F	BY	REMARKS	
1	12,970	150	346	KE	ONE UNIT SHUTS DOWN UNIT 2/20/02	0
2	105,783	250	227	KE	MAXIMUM FLOW	
3	105,783	250	227	KE	MAXIMUM FLOW	
4	7,960	20	95	16	KE	REF D-302-222
5	0	250	227	18	KE	MINIMUM FLOW
6	0	250	227	18	KE	MINIMUM FLOW
7	110,010	80	60	KE	UNITS ON COOL & HOT STANDBY	

DESIGN DATA

#	NORMAL		UPSET		BY	$\frac{F}{D}$	REMARKS
	PSIG	°F	PSIG	°F	TIME		
1	195	386	205	390	<1%	KE	AH
2	56	248	56	288	—	KE	AH
3	100	125	—	—	—	KE	AH
4	305	248	305	296	—	KE	AH
5	150	85	150	85	—	MC	DD

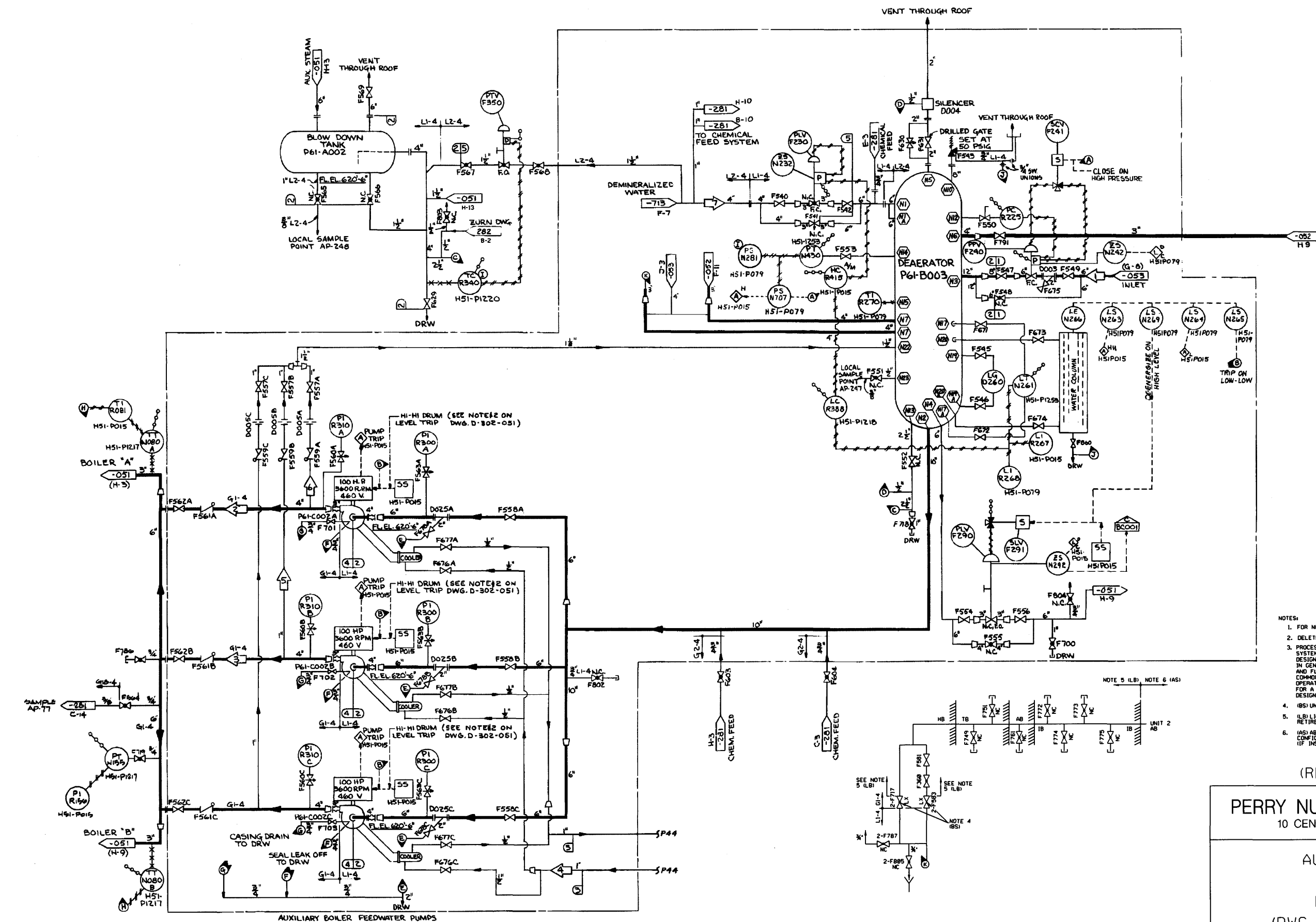
- NOTES:
- FOR NOTES AND REFERENCES, SEE DRAWING 302-0052-00000.
 - DELETED
 - PROCESS DATA SHOWN IN THE OPERATING DATA TABLE ON THIS SYSTEM DIAGRAM SHALL BE USED IN CONJUNCTION WITH THE DESIGN BASIS INFORMATION AND SHALL BE USED WITH CAUTION. IN GENERAL, THE OPERATING DATA (PRESSURES, TEMPERATURES, AND FLOWS) PROVIDED ON THIS DRAWING REPRESENTS THE MOST COMMON OPERATING CONDITION AND/OR SYSTEM MODE OF OPERATION AND/OR LINEUP. TO DETERMINE THE REQUIRED VALUES FOR A SPECIFIC OPERATING CONFIGURATION, THE APPROPRIATE DESIGN DOCUMENTS NEED TO BE REVIEWED.
 - (BS) UNIT 1/2 BOUNDARY SEPARATION, FOR DETAILS SEE TAF 81653.
 - (LB) LICENSE RENEWAL LEAKAGE BOUNDARY FOR ABANDONED, RETIRED IN PLACE SSC'S, FOR DETAILS SEE ECP 14-8986.
 - (AS) ABANDONED SSC'S OUTSIDE THE SCOPE OF LICENSE RENEWAL. CONFIGURATION CONTROL NOT MAINTAINED FOR ABANDONED SSC'S (IF INSTALLED OUTSIDE THE SCOPE OF LICENSE RENEWAL).

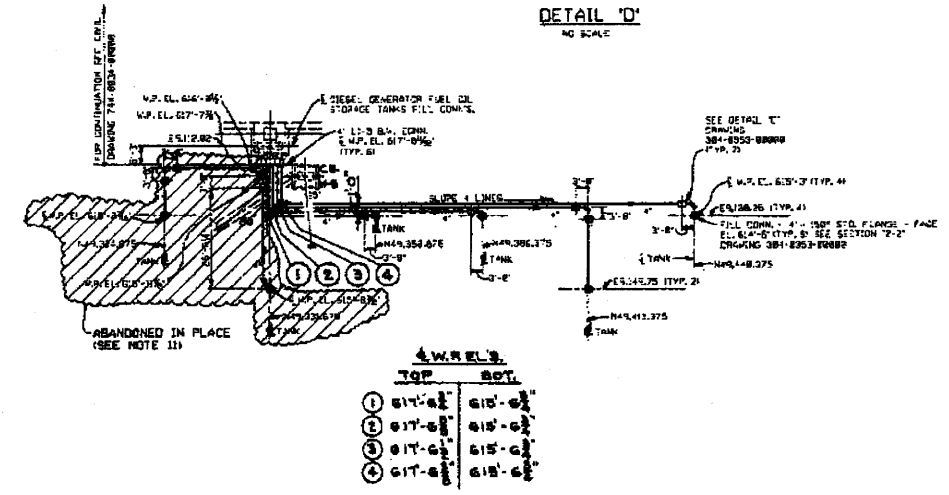
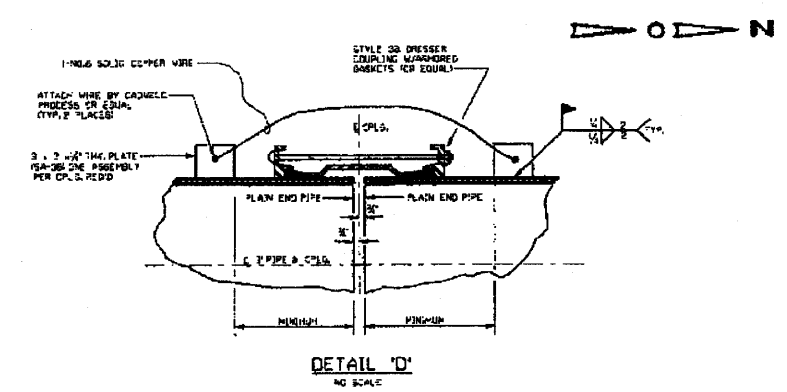
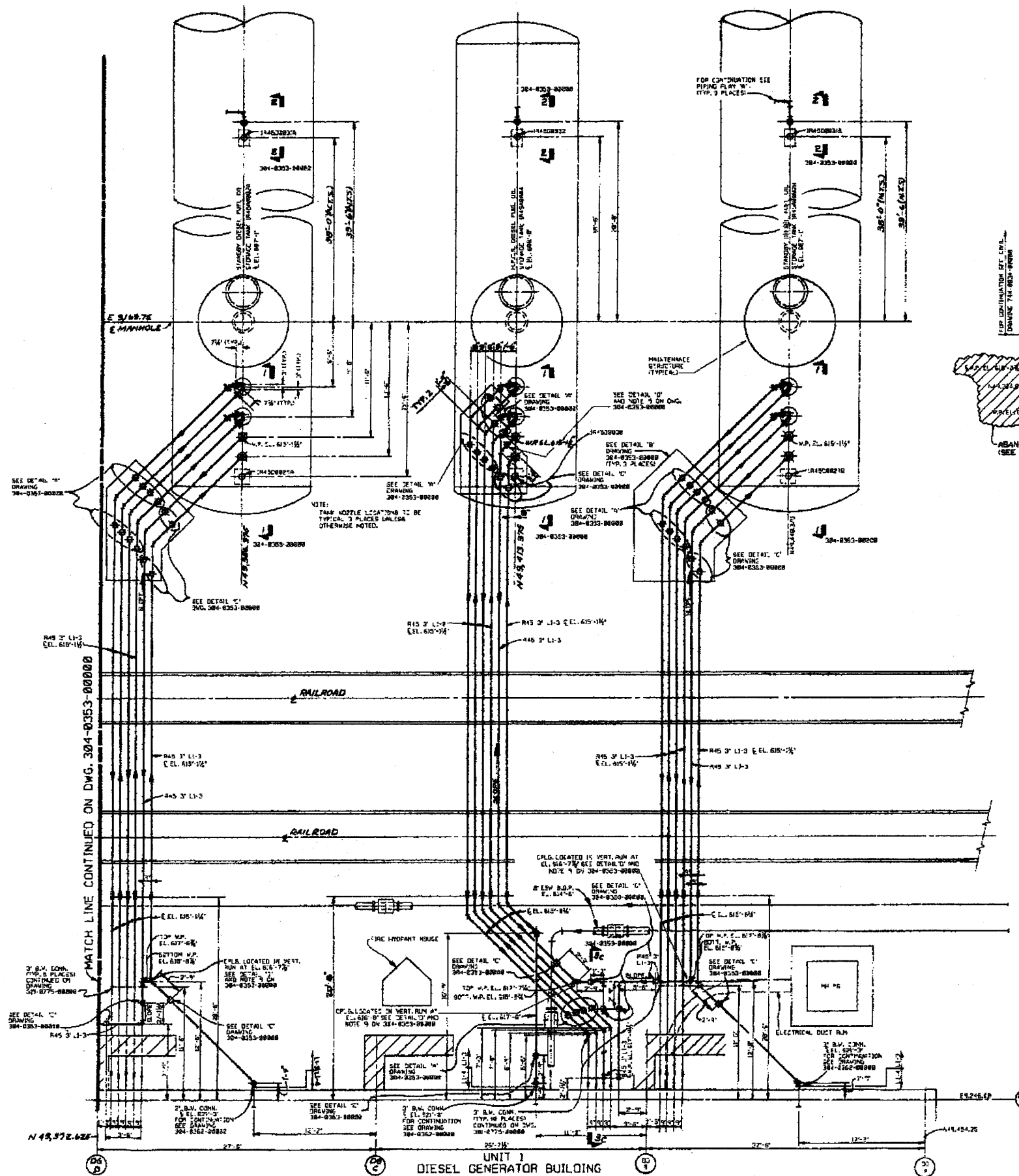
(REV. 19 10/2015)

PERRY NUCLEAR POWER PLANT
10 CENTER RD., PERRY, OHIO 44081

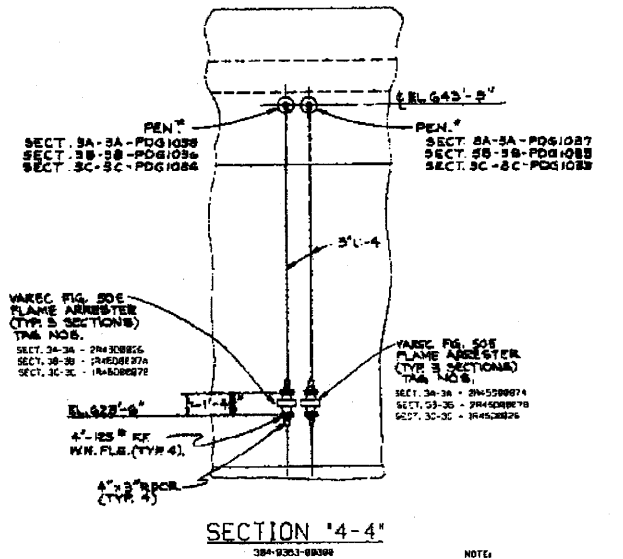
AUXILIARY STEAM

FIGURE 9.5-20
(DWG. D-302-0054-00000)





PIPING PLAN 'A' - SHOWING OIL FILL LINES
SCALE: 1/4" = 1'-0"



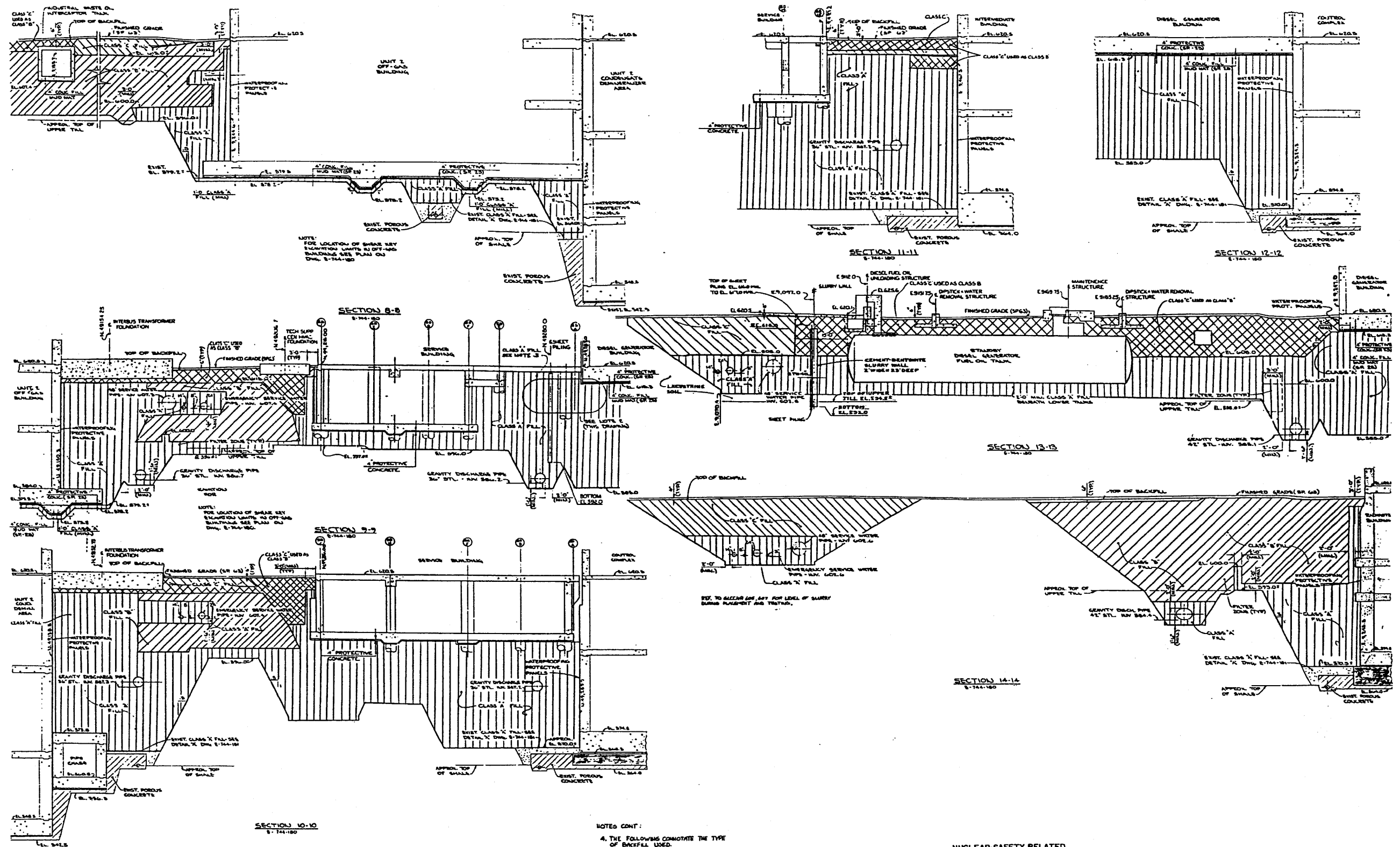
NOTE:
1. FOR NOTES AND REFERENCES, SEE DRAWING 304-8353-00000.

(Rev. 14 10/05)

PERRY NUCLEAR POWER PLANT

Diesel Generator Fuel Oil Piping - Yard Area

Figure 9.5-21 (Sheet 1 of 2)
(Dwg. D-304-352)



NUCLEAR SAFETY RELATED

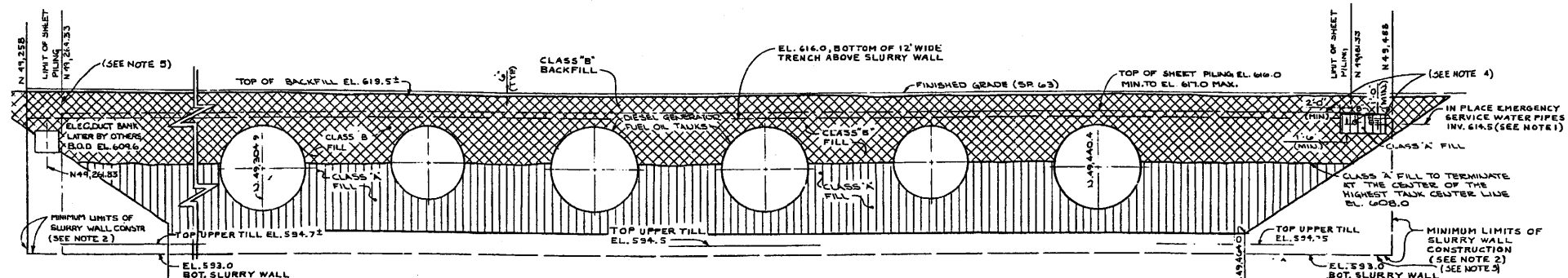
(Rev. 12 1/03)



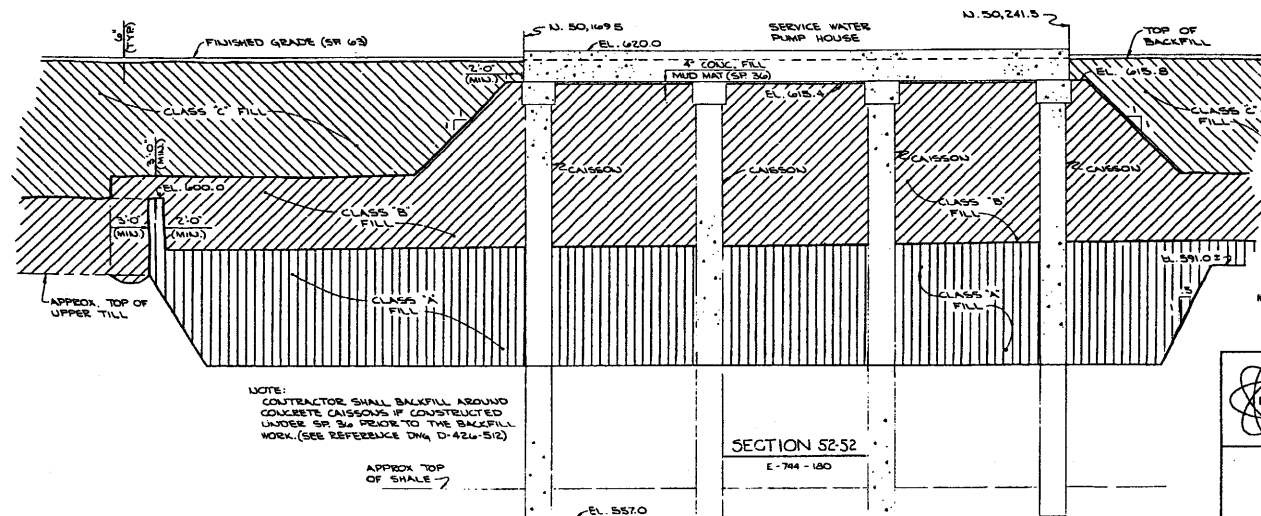
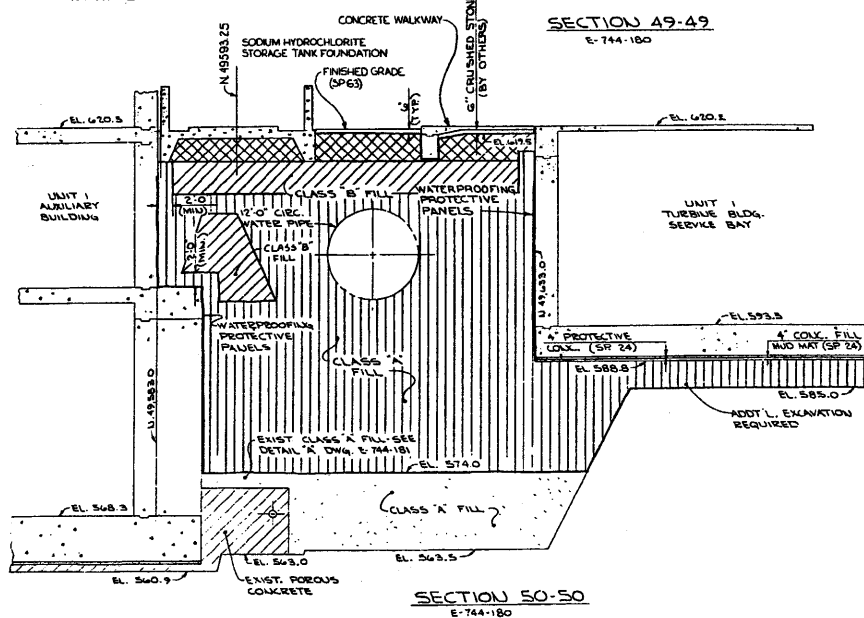
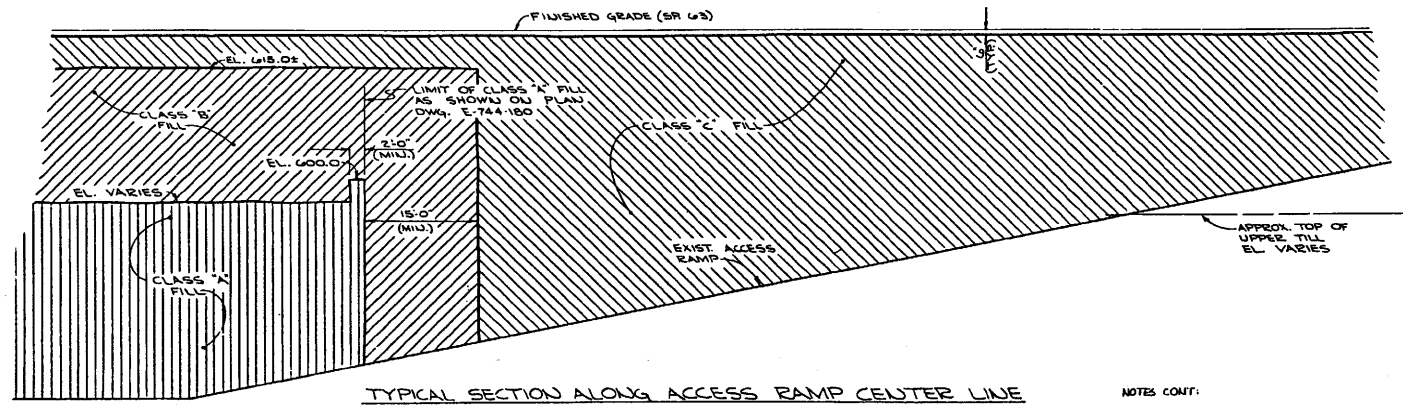
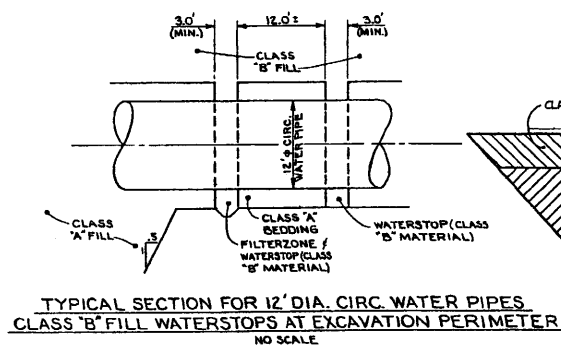
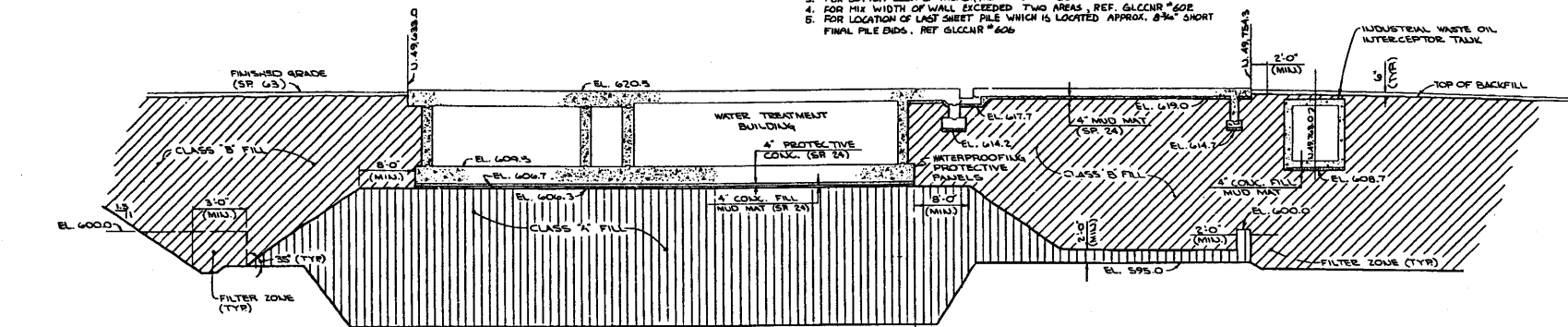
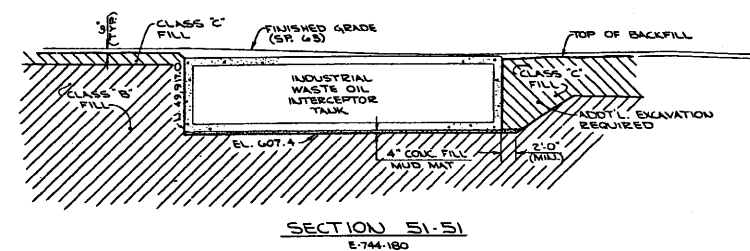
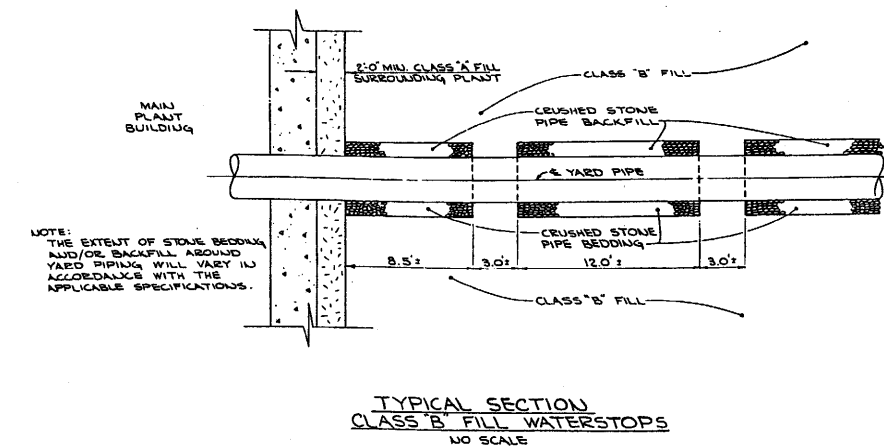
PERRY NUCLEAR POWER PLANT

Plant Backfill and Excavation
Showing Diesel Generator Piping
and Fuel Oil Tanks

Figure 9.5-22 (Sheet 2 of 3)
(Dwg. E-744-182)



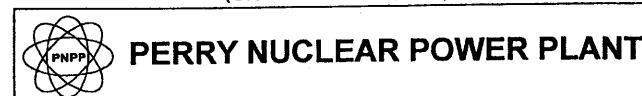
- NOTES:
1. BEFORE STARTING MACHINE EXCAVATION NORTH OF THE TANKS, THE CONTRACTOR SHALL CAREFULLY HAND EXCAVATE AROUND THE TWO 1\"/>



- NOTES CONT:
2. THE FOLLOWING CANNOTATE THE TYPE OF BACKFILL USED:
- CLASS "A" BACKFILL
 - CLASS "B" BACKFILL
 - CLASS "C" BACKFILL
 - CLASS "C" BACKFILL USED AS "B"
- NUCLEAR SAFETY RELATED



NOTES:
1. FOR NOTES AND REFERENCES SEE DWG. E-744-181.

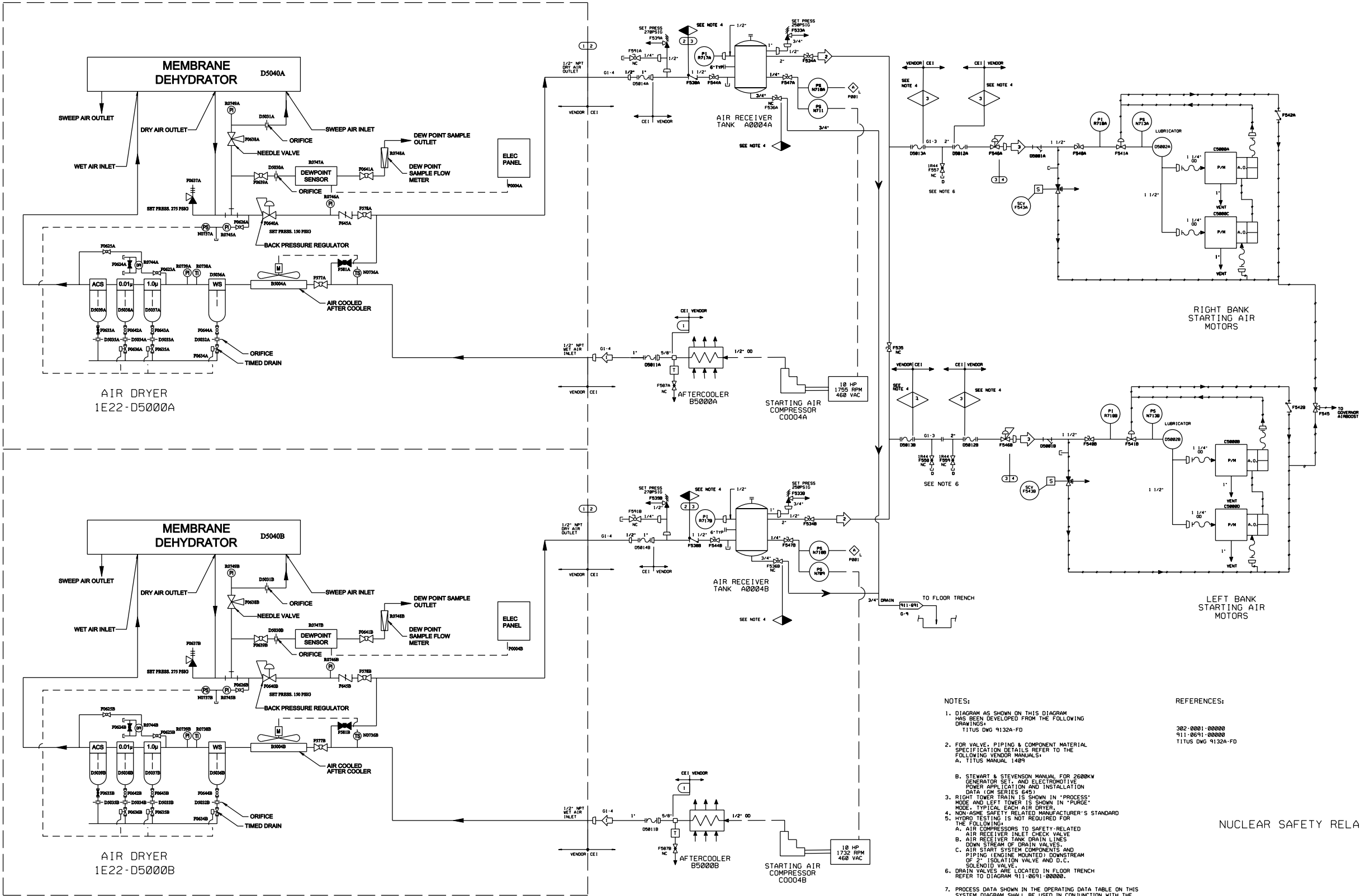
(Rev. 12 1/03)



Plant Backfill and Excavation
Showing Diesel Generator Piping
and Fuel Oil Tanks

Figure 9.5-22 (Sheet 3 of 3)
(Dwg. E-744-188)

OPERATING DATA							DESIGN DATA							
SEE NOTE 7														
	PSIG	SCFM	* F	BY	REMARKS	REV		NORMAL PSIG °F	UPSET PSIG °F	TIME	BY	CHKD	REV	
1	250	22.5	142° F				1	275	150	275	150			
2	250	2340	142° F				2	270	150	270	150			
3	200	2340	120° F				3	250	150	250	150			
4							4	200	120	200	120			
5														



NOTES:

1. DIAGRAM AS SHOWN ON THIS DIAGRAM HAS BEEN DEVELOPED FROM THE FOLLOWING DRAWINGS:
TITUS DWG 9132A-FD
2. FOR VALVE, PIPING & COMPONENT MATERIAL SPECIFICATION DETAILS REFER TO THE FOLLOWING VENDOR MANUALS:
A. TITUS MANUAL 1489
B. STEWART & STEVENSON MANUAL FOR 2600KW GENERATOR SET, AND ELECTROMOTIVE POWER APPLICATION AND INSTALLATION DATA (OM SERIES 645)
3. RIGHT TOWER TRAIN IS SHOWN IN 'PROCESS' MODE AND LEFT TOWER IS SHOWN IN 'PURGE' MODE. TYPICAL EACH AIR DRYER.
4. NON-ASME SAFETY RELATED MANUFACTURER'S STANDARD
5. HYDRO TESTING IS NOT REQUIRED FOR THE FOLLOWING:
A. AIR COMPRESSORS TO SAFETY-RELATED AIR RECEIVER INLET CHECK VALVE
B. AIR RECEIVER TANK DRAIN LINES DOWN STREAM OF DRAIN VALVES.
C. AIR START SYSTEM COMPONENTS AND PIPING (ENGINE MOUNTED) DOWNSTREAM OF 2" ISOLATION VALVE AND D.C. SOLENOID VALVE.
6. DRAIN VALVES ARE LOCATED IN FLOOR TRENCH REFER TO DIAGRAM 911-091-00000.
7. PROCESS DATA SHOWN IN THE OPERATING DATA TABLE ON THIS SYSTEM DIAGRAM SHALL BE USED IN CONJUNCTION WITH THE DESIGN BASIS INFORMATION AND SHALL BE USED WITH CAUTION. IN GENERAL, THE OPERATING DATA (PRESSURES, TEMPERATURES, AND FLOWS) PROVIDED ON THIS DRAWING, REPRESENTS THE MOST COMMON OPERATING CONDITION, AND/OR SYSTEM MODE OF OPERATION AND/OR LINEUP, TO DETERMINE THE REQUIRED VALUES FOR A SPECIFIC OPERATING CONFIGURATION, THE APPROPRIATE DESIGN DOCUMENTS NEED TO BE REVIEWED.

REFERENCES:

302-0001-00000
911-091-00000
TITUS DWG 9132A-FD

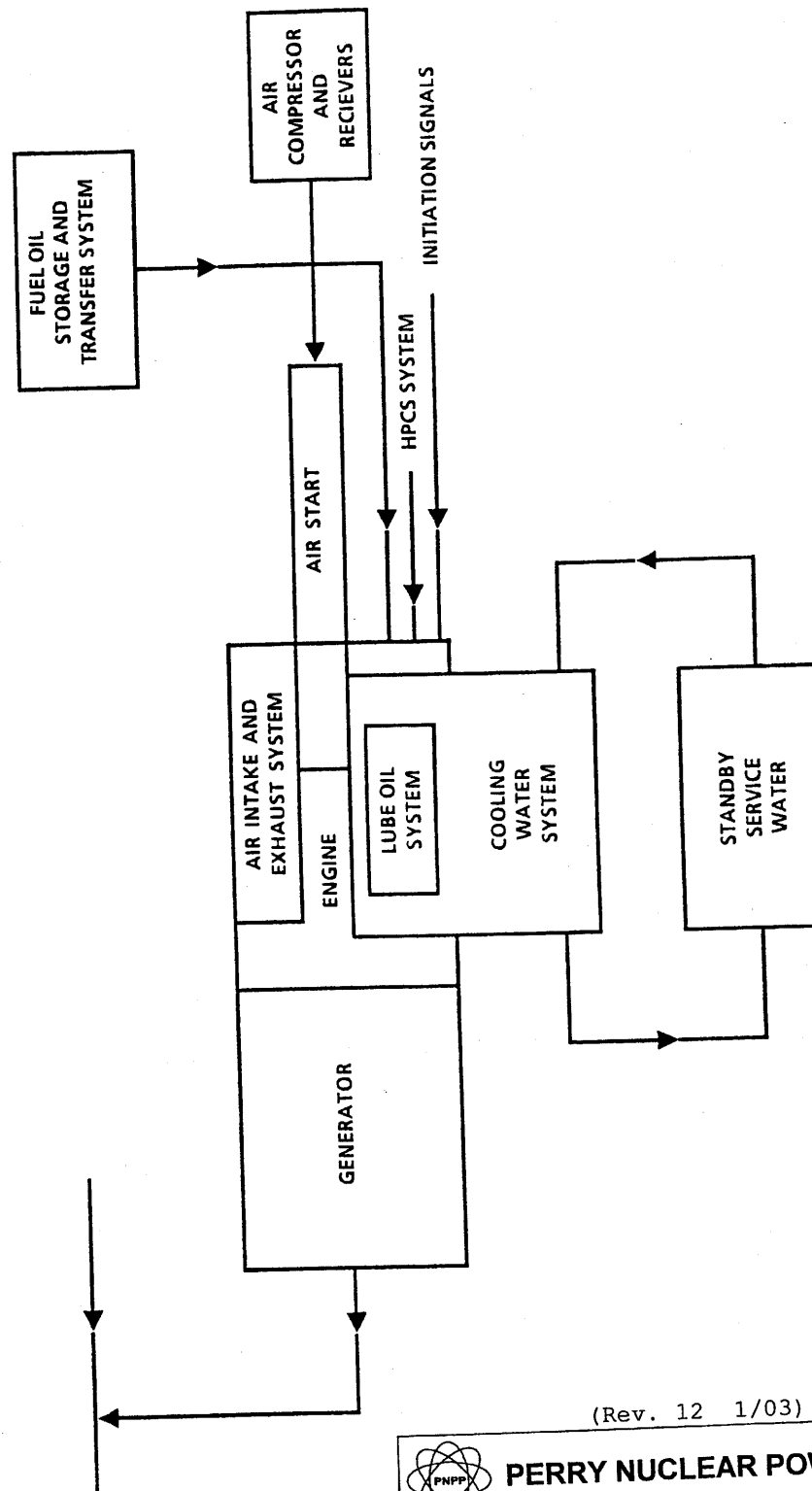
NUCLEAR SAFETY RELATED

(Rev. 17 10/11)

PERRY NUCLEAR POWER PLANT
10 CENTER RD., PERRY, OHIO 44081

Division 3 Diesel
Starting Air/Air Dryer Diagram

Figure 9.5-24
(DWG. D-302-0358-00000)



(Rev. 12 1/03)



PERRY NUCLEAR POWER PLANT

Functional Block Diagram of
Division 3 HPCS Diesel Generator

Figure 9.5-26