

α°	CYLINDRICAL SHELL C_p	HEMISPHERICAL SHELL C_p
0	1.0	1.0
15	0.8	0.9
30	0.1	0.5
45	-0.7	-0.1
60	-1.2	-0.7
75	-1.6	-1.1
90	-1.7	-1.2
105	-1.2	-1.0
120	-0.7	-0.6
135	-0.5	-0.2
150	-0.4	0.1
165	-0.4	0.3
180	-0.4	0.4

$$P = C_p \times q$$

WHERE;

P - DESIGN PRESSURE

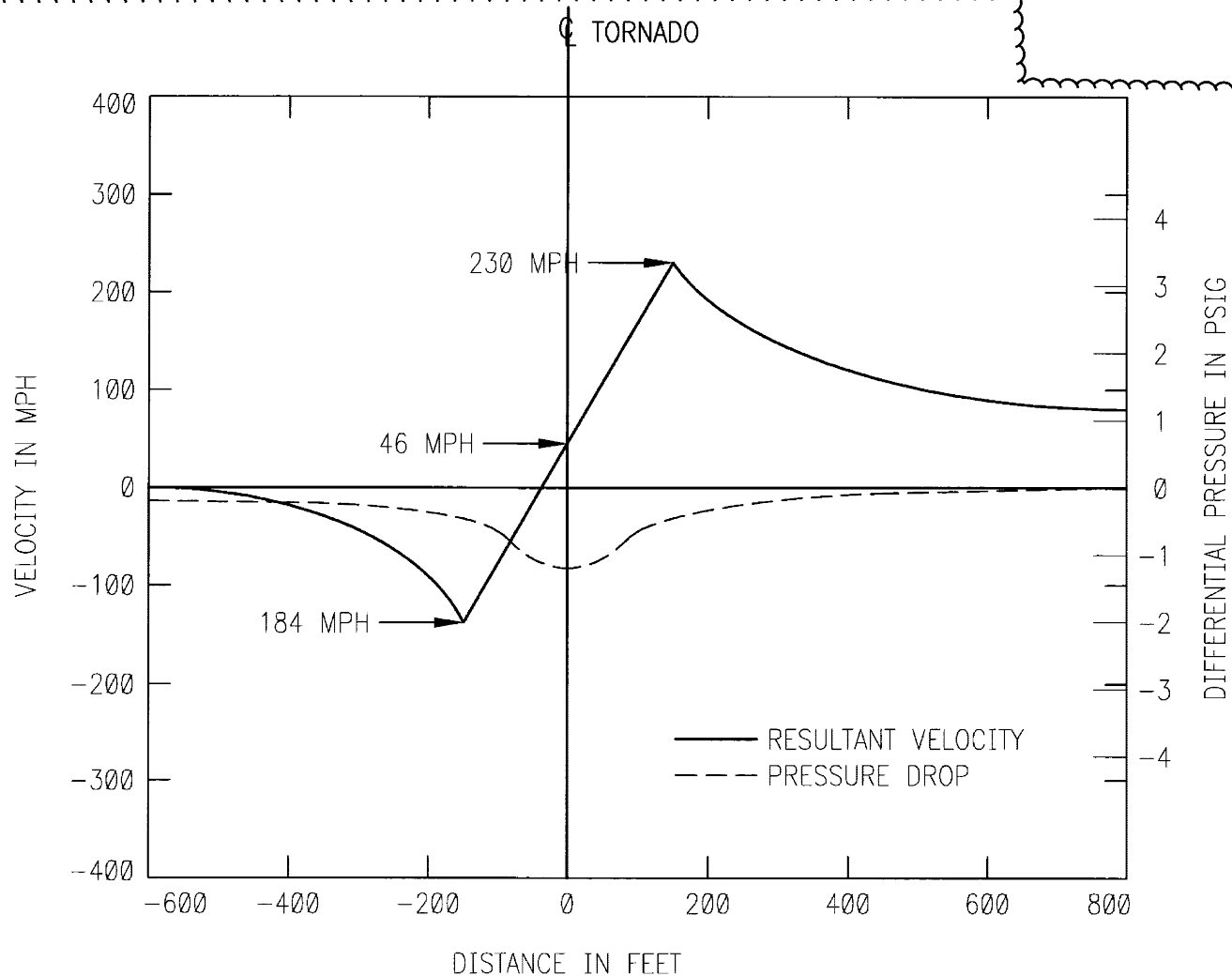
C_p - COEFFICIENT FOR DESIGN PRESSURE

q - DYNAMIC PRESSURE

**CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT**

FIGURE 3.3-2

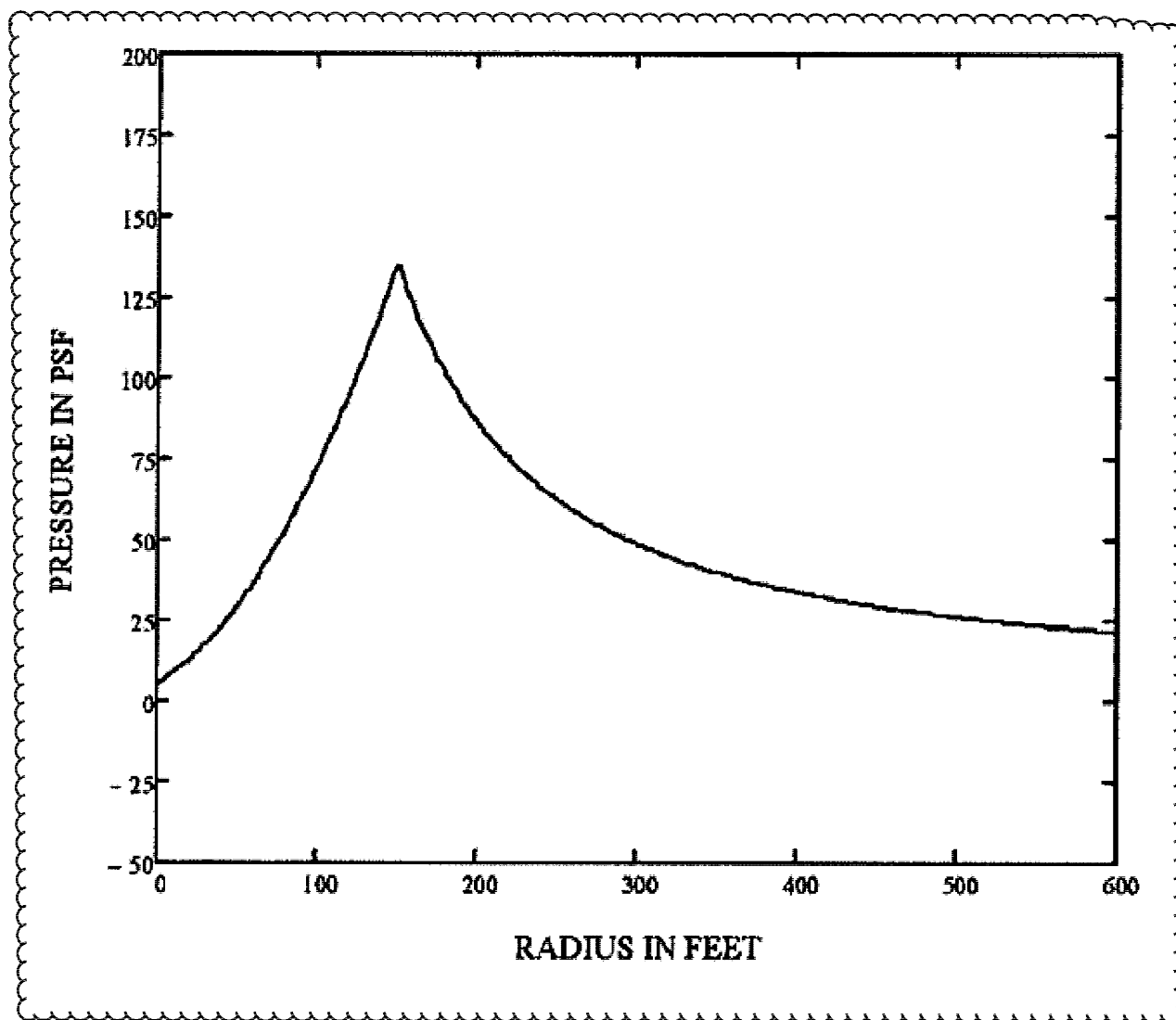
WIND PRESSURE DISTRIBUTION
FOR CONTAINMENT STRUCTURES



TRANSLATION VELOCITY = 46 MPH
TANGENTIAL VELOCITY = 184 MPH AT RADIUS OF 150 FT
PRESSURE DROP = 1.2 PSI WITHIN 2.4 SECONDS

CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT

FIGURE 3.3-3
PRESSURE AND VELOCITY
DISTRIBUTION FOR
THE DESIGN-BASIS TORNADO

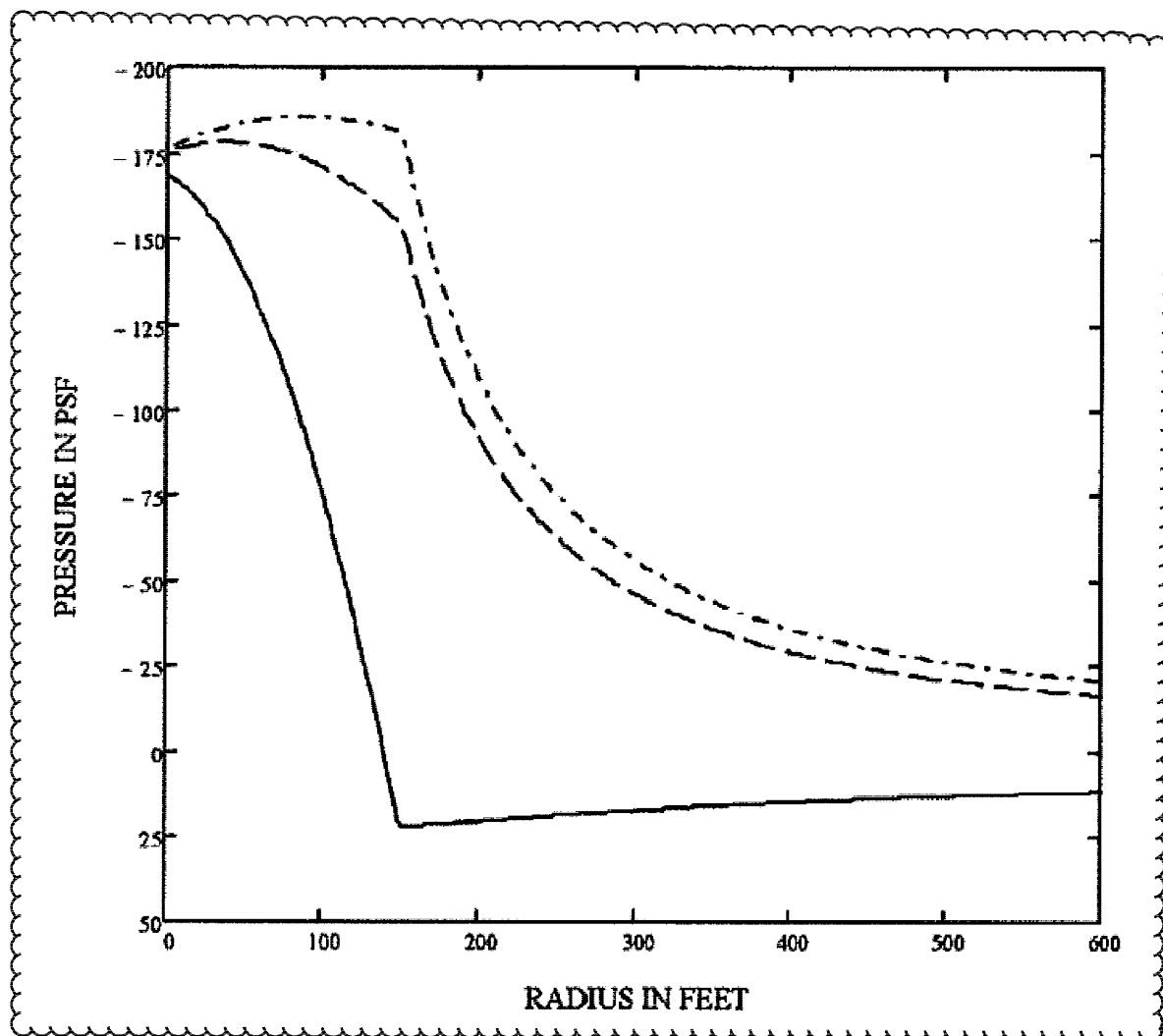


TRANSLATION VELOCITY = 46 MPH
TANGENTIAL VELOCITY = 184 MPH AT RADIUS OF 150 FT

CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT

FIGURE 3.3-4

EFFECTIVE VELOCITY PRESSURE
DISTRIBUTION FOR
THE DESIGN-BASIS TORNADO



KEY

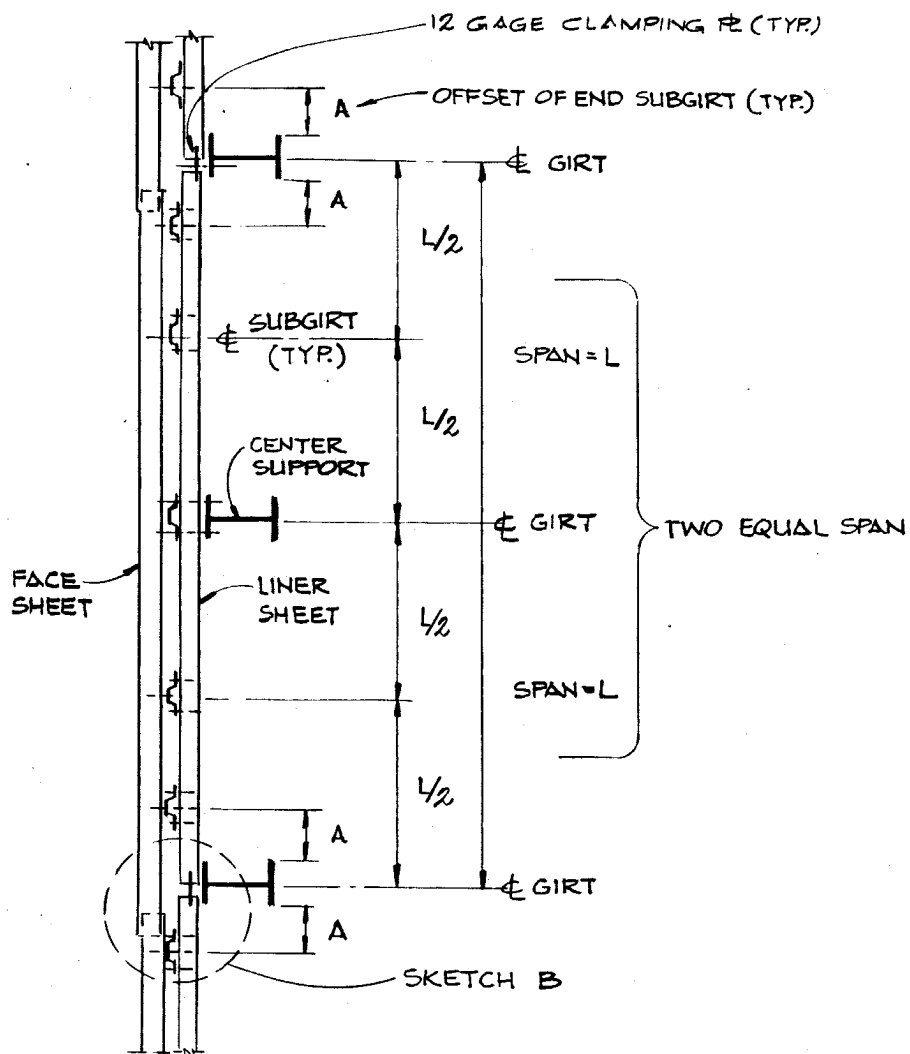
- RESULTANT SURFACE PRESSURE FOR WINDWARD WALLS
- - - - - RESULTANT SURFACE PRESSURE FOR LEEWARD WALLS
- · - · - RESULTANT SURFACE PRESSURE FOR SIDEWALLS AND ROOFS

TRANSLATION VELOCITY = 46 MPH
TANGENTIAL VELOCITY = 184 MPH AT RADIUS OF 150 FT
PRESSURE DROP = 1.2 PSI WITHIN 2.4 SECONDS

CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT

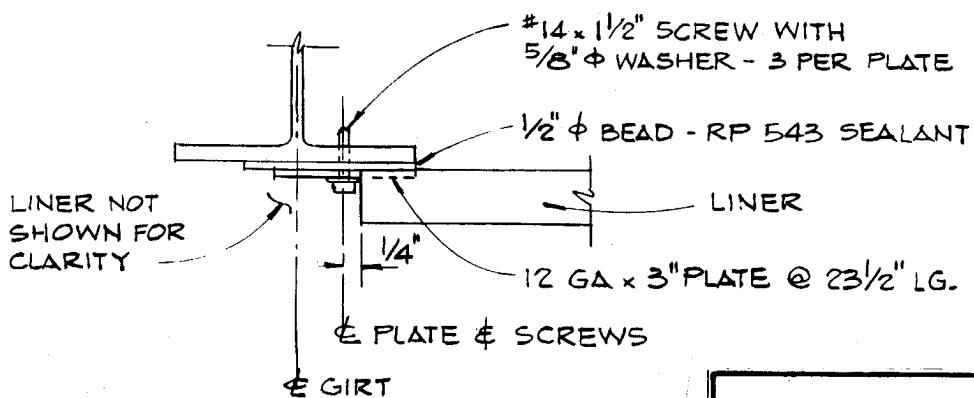
FIGURE 3.3-5

RESULTANT SURFACE PRESSURES FOR
THE DESIGN-BASIS TORNADO FOR
RECTANGULAR FLAT-TOPPED STRUCTURES



INSULATION NOT SHOWN FOR CLARITY

SKETCH A



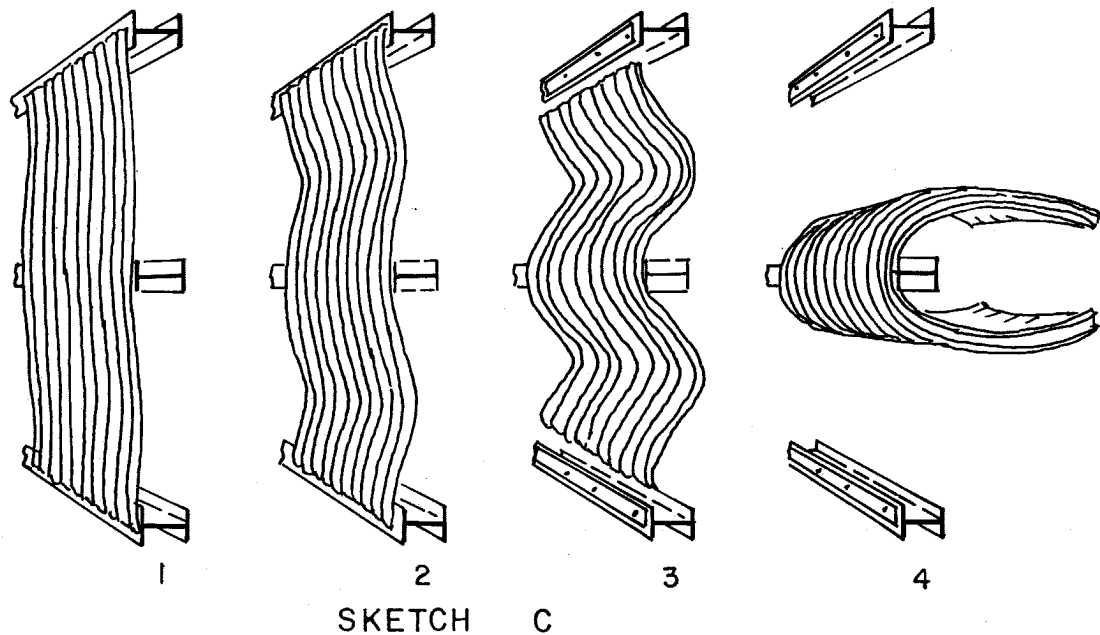
SKETCH B

CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT

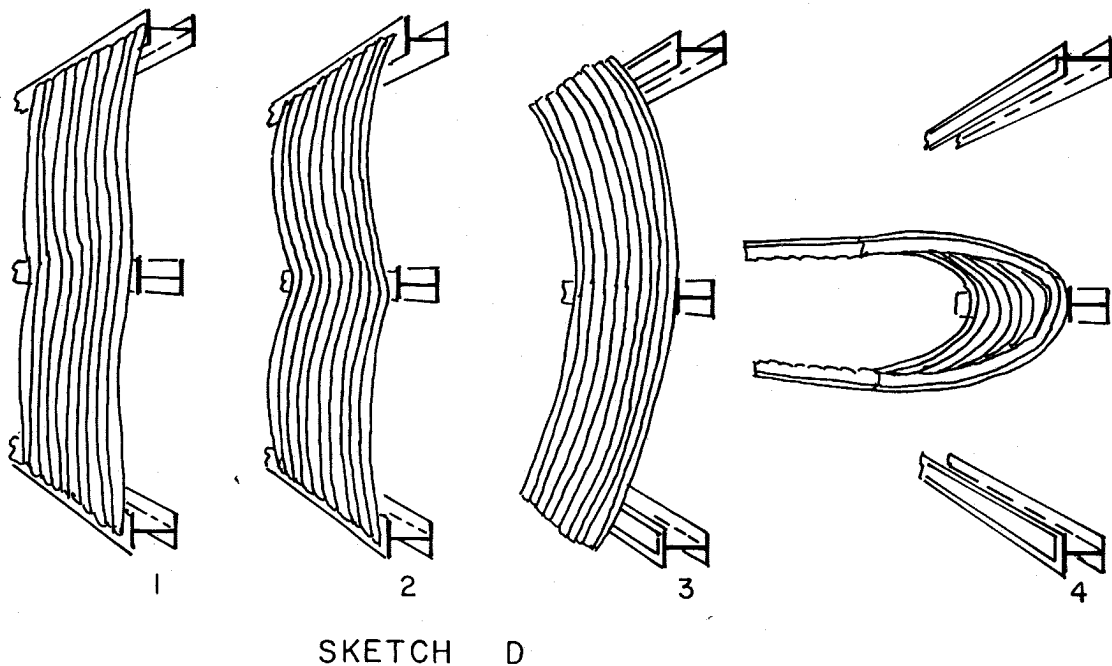
Figure 3.3-6
(Q & R 220.03)

TURBINE BUILDING SIDING
(SKETCHES A & B)

INWARD RELEASE MECHANISM



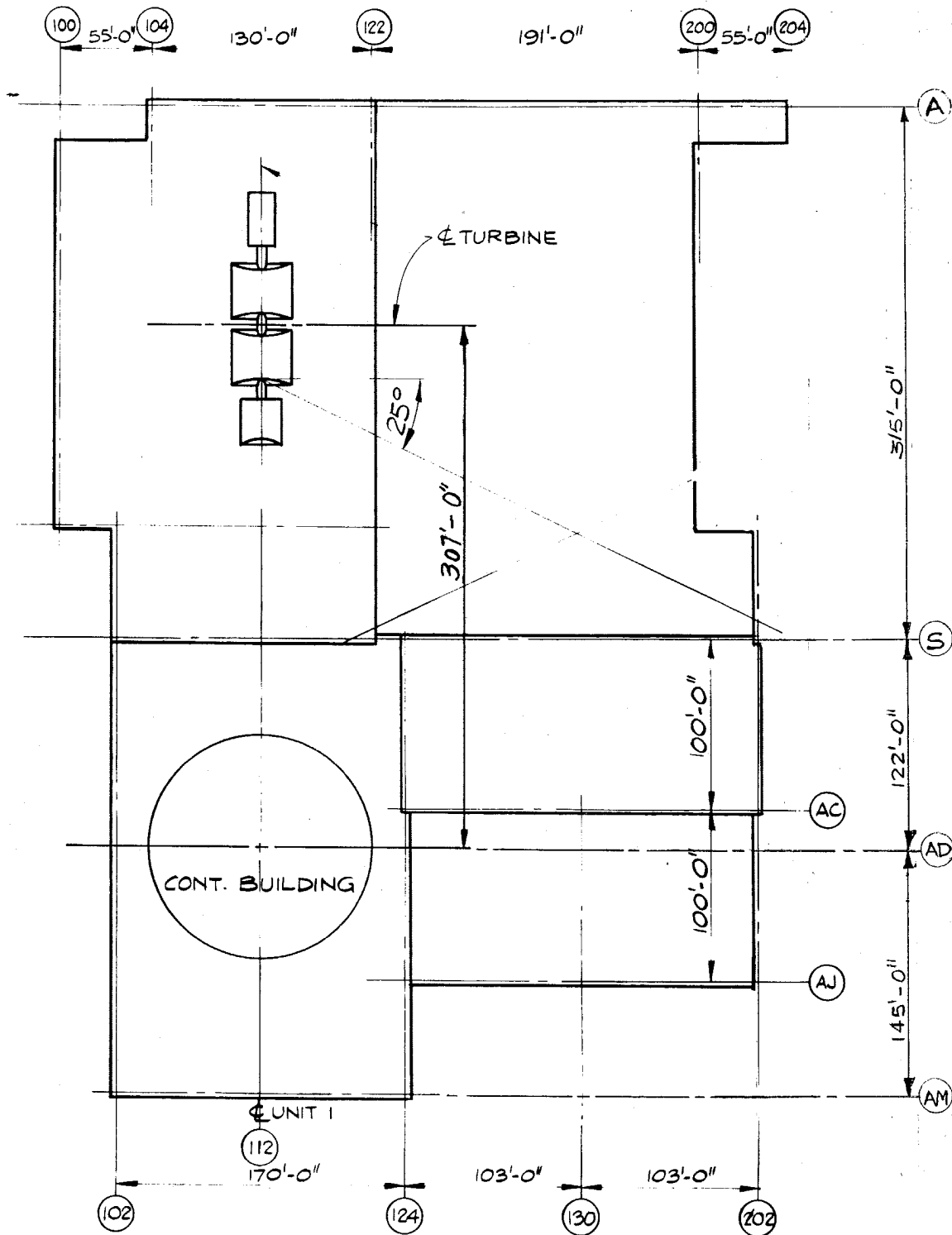
OUTWARD RELEASE MECHANISM



CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT

Figure 3.3-7
(Q & R 220.03)

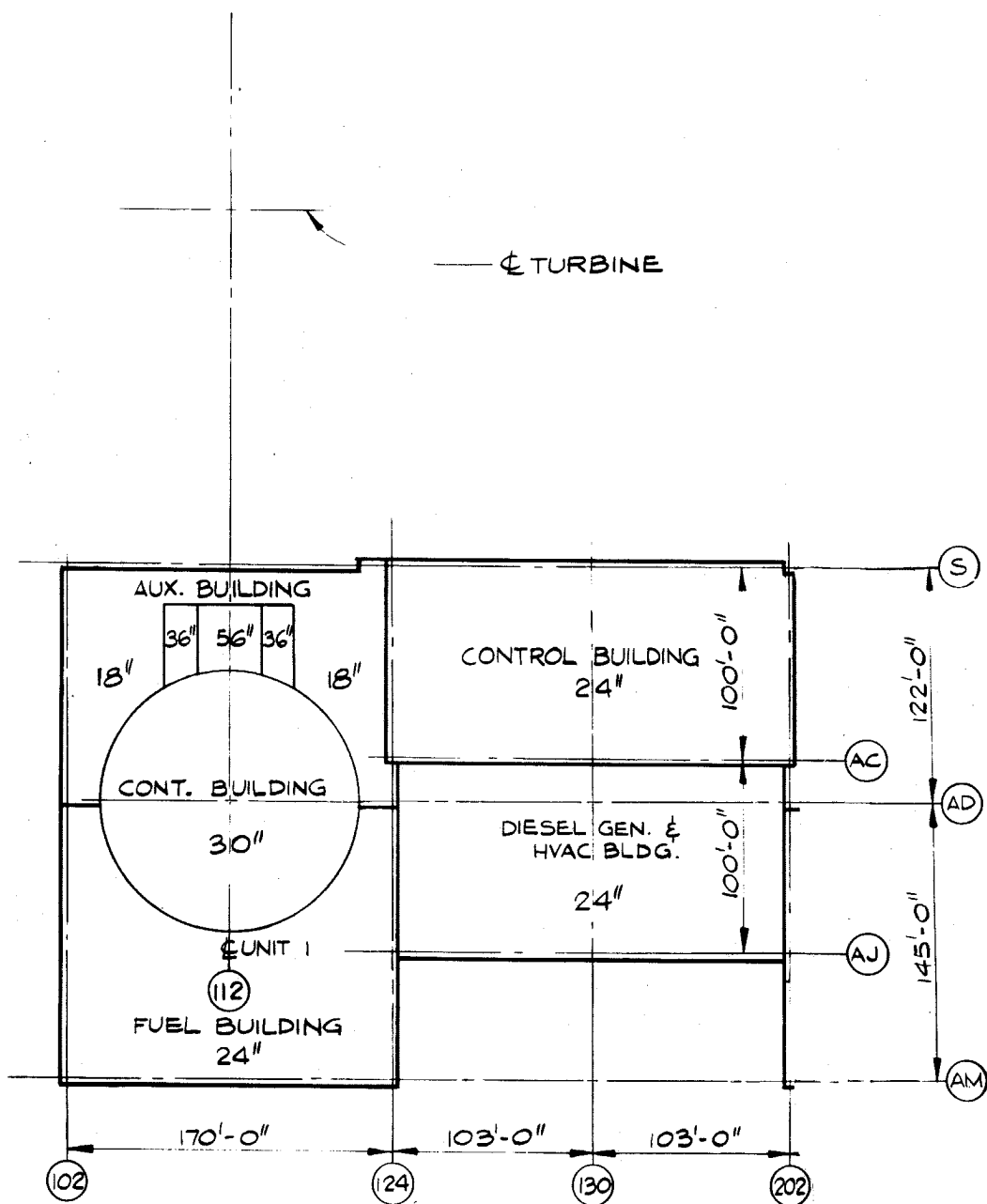
RELEASE MECHANISMS
(SKETCHES C & D)



CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT

FIGURE 3.5-1

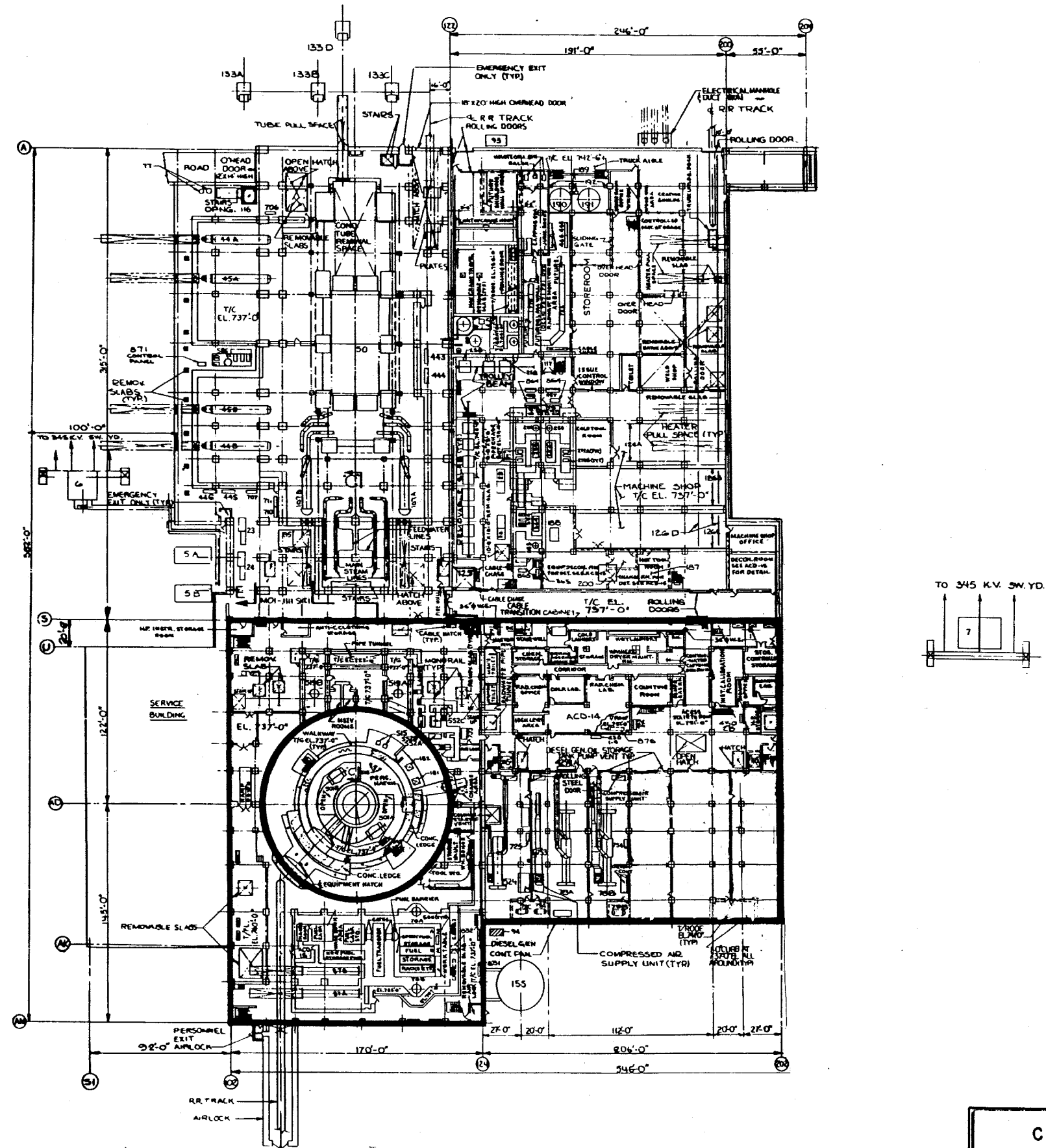
TURBINE ORIENTATION AND LOCATION



CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT

FIGURE 3.5-2

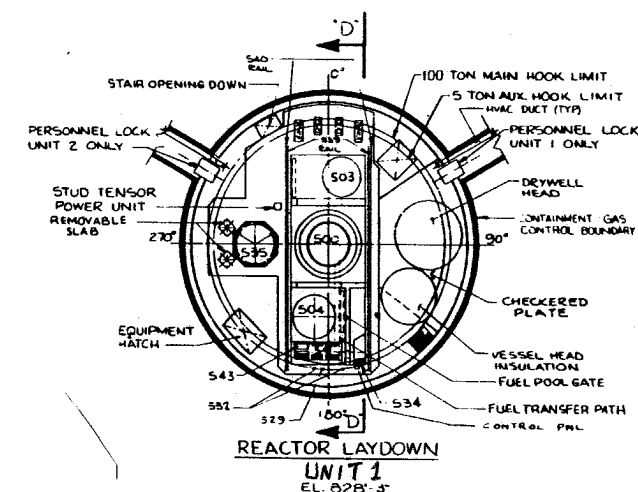
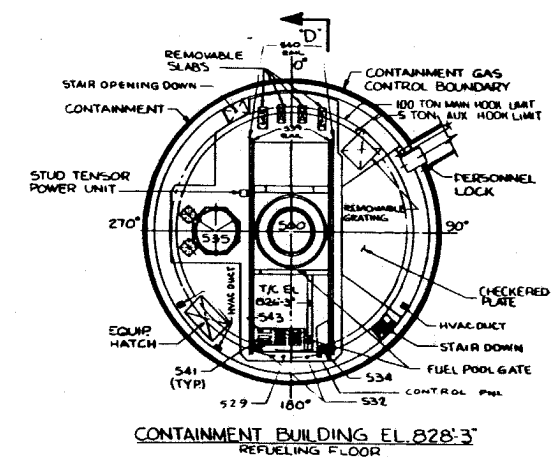
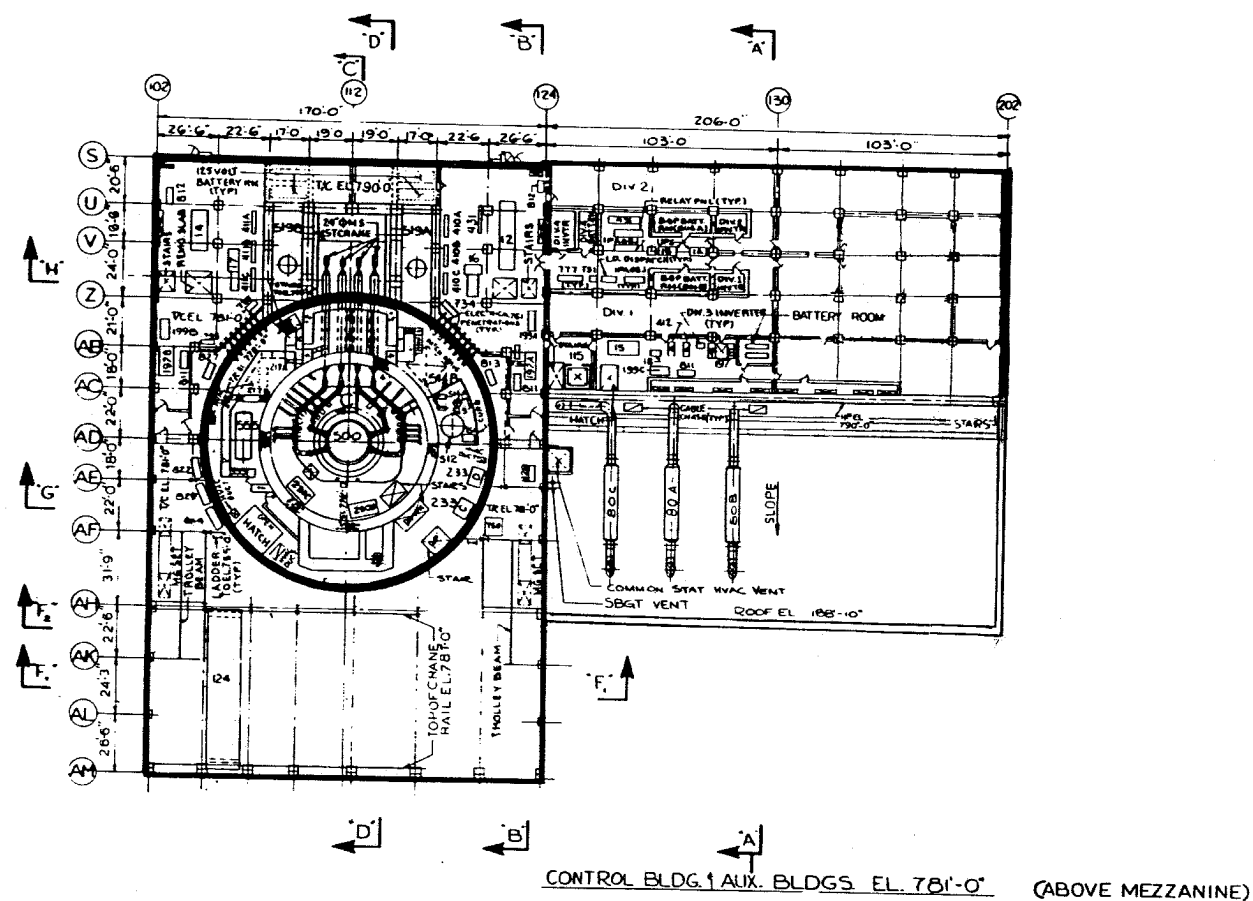
SAFETY RELATED STRUCTURES,
DIMENSION AND ROOF THICKNESS



MISSILE PROOF WALLS
EL. 737'-0"

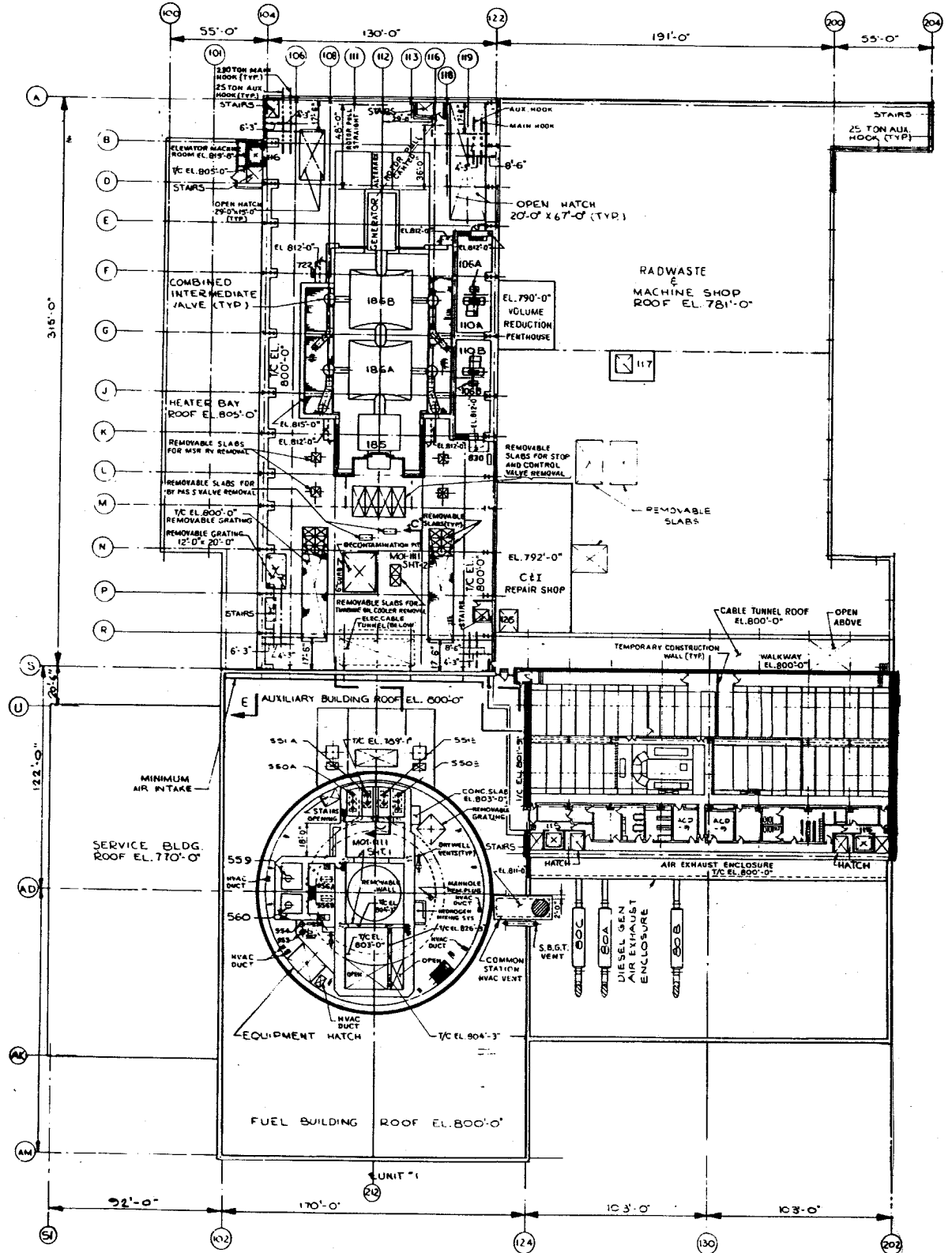
CLINTON POWER STATION UPDATED SAFETY ANALYSIS REPORT

FIGURE 3.5-3
MISSILE PROOF WALLS
(SHEET 1 OF 5)

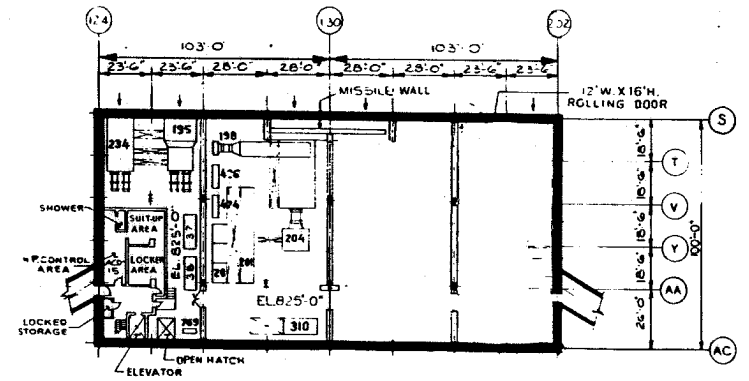


MISSILE PROOF WALLS
EL. 778'-0"

FIGURE 3.5-3
MISSILE PROOF WALLS
(SHEET 3 OF 5)



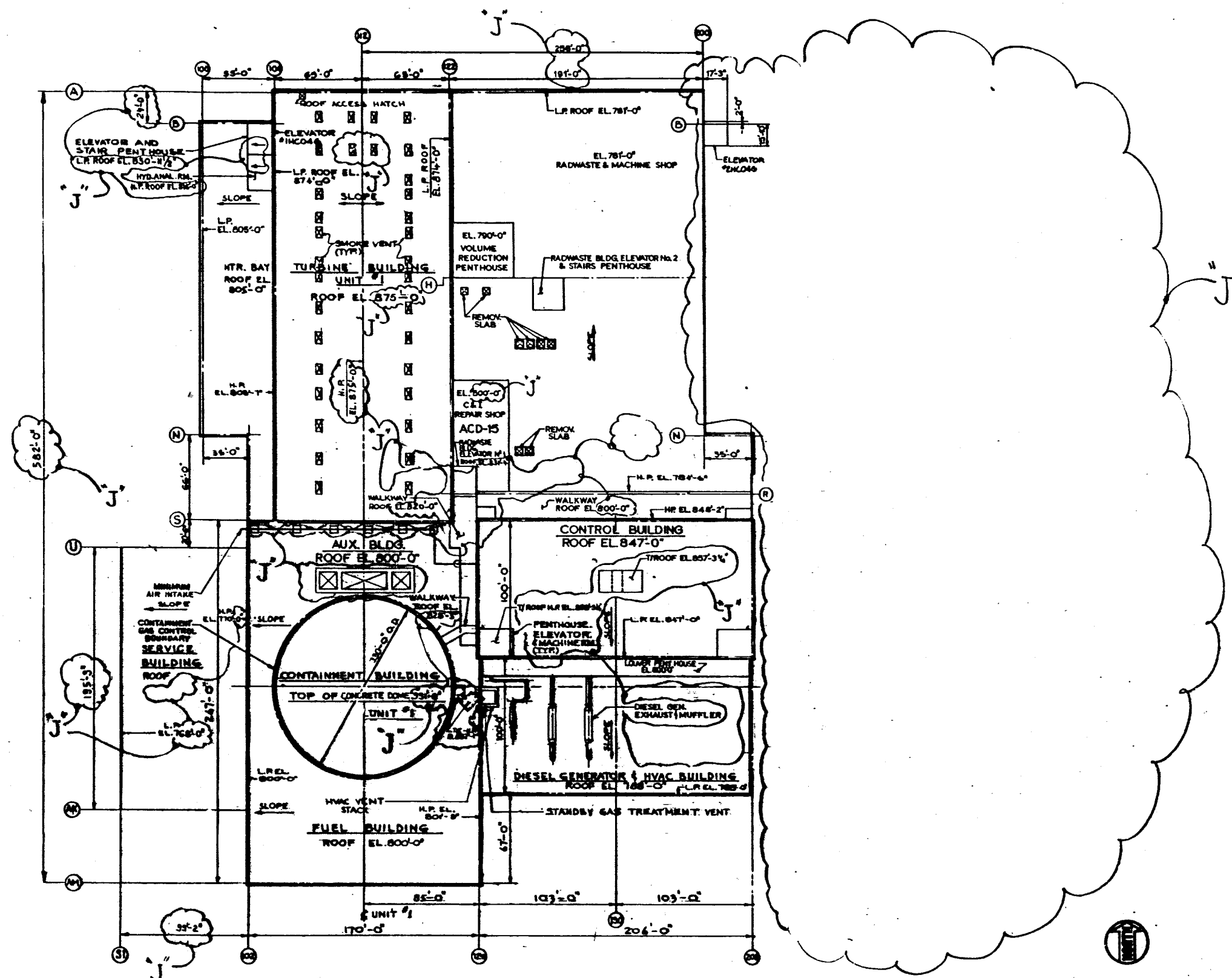
MISSILE PROOF WALLS
EL. 803'-3"



HVAC FLOOR EL. 825'-0"
(ABOVE CONTROL ROOM)

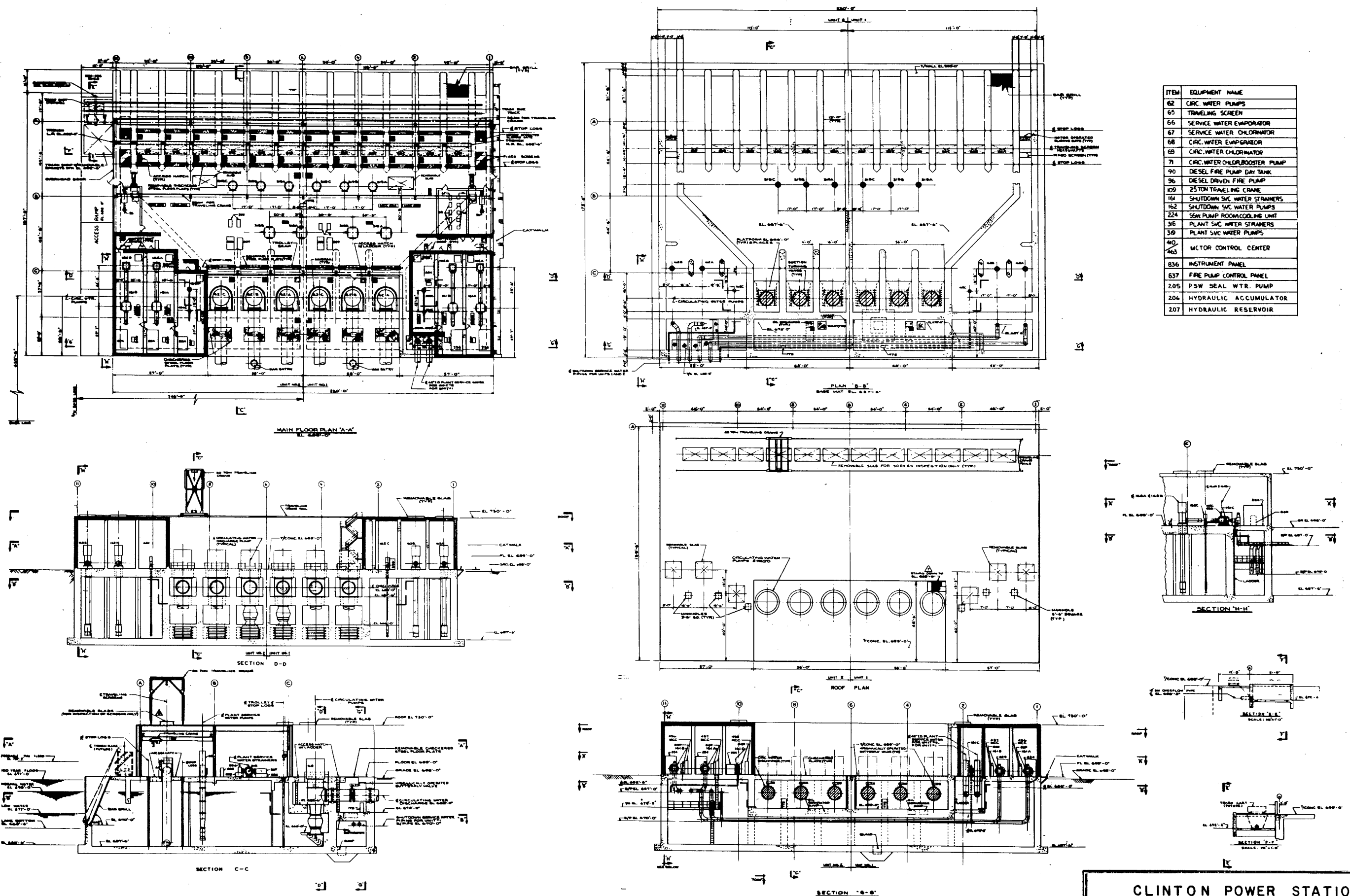
CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT

FIGURE 3.5-3
MISSILE PROOF WALLS
(SHEET 4 OF 5)



CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT

FIGURE 3.5-3
MISSILE PROOF WALLS
(SHEET 5 OF 5)

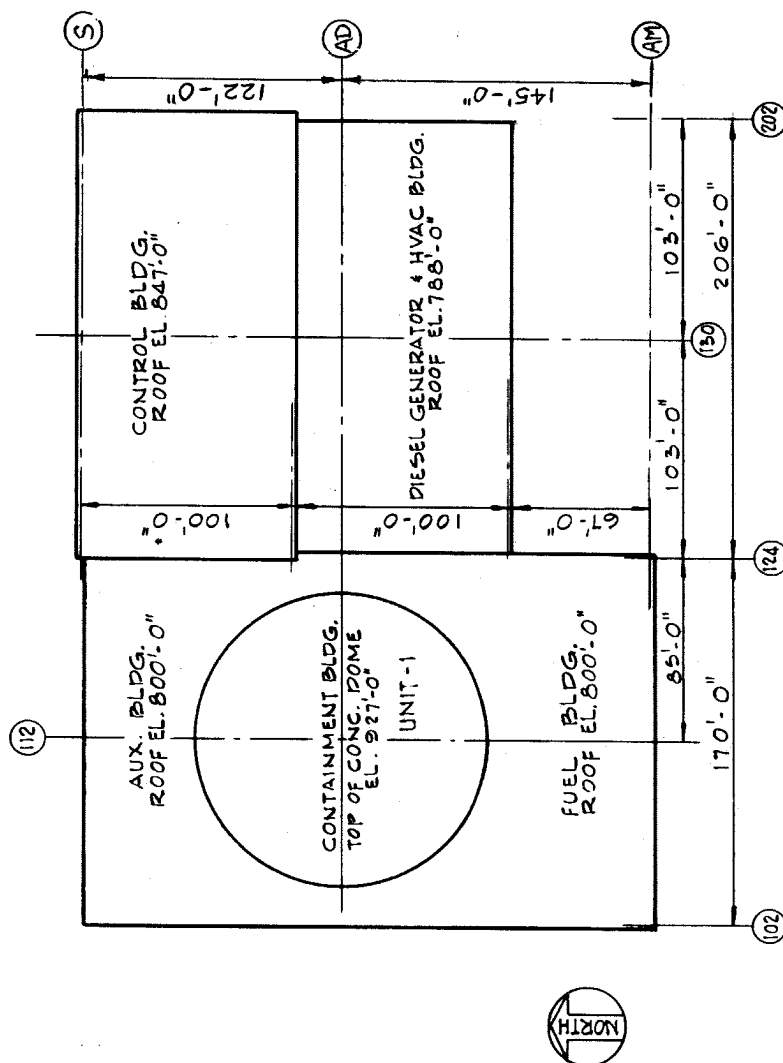


MISSILE PROOF WALLS
CIRCULATING WATER SCREEN HOUSE

CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT

FIGURE 3.5-4

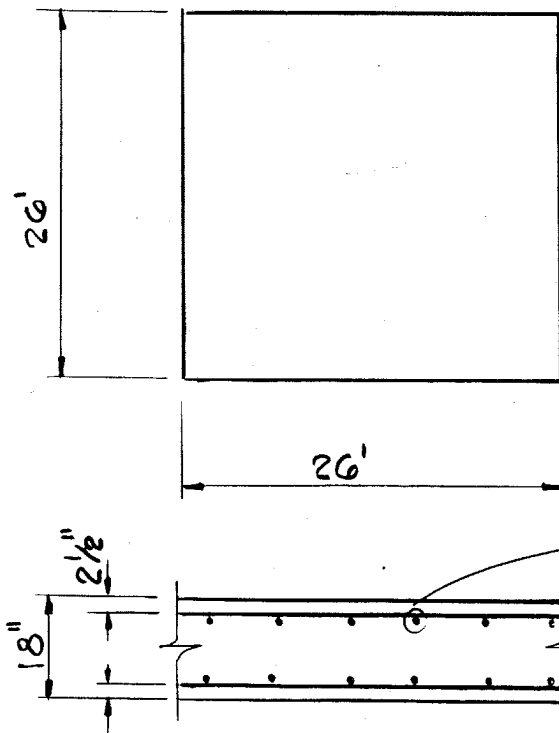
MISSILE PROOF WALLS
CIRCULATING WATER SCREEN HOUSE



CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT

FIGURE 3.5-5

ROOF SLAB FOR MISSILE BARRIER



$f'_c = 3500 \text{ PSI}$





$f_y = 60 \text{ KSI}$

MISSILE-RESISTANT CONCRETE PANEL

CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT

Figure 3.5-6
(Q & R 220.07)

MISSILE-RESISTANT CONCRETE PANEL

P&ID Color Coding Key for Piping Energy and Physical Separation Designation			
Physical Separation Division	Color	Energy Category	P&ID Designation
X (Non-Divisional)	Black	High PWA High NPWA * Moderate	
I	Yellow	High PWA High NPWA * Moderate	
II	Blue	High PWA High NPWA * Moderate	
III	Green	High PWA High NPWA * Moderate	

NOTES:

The drawings in Figure 3.6-1 should not be used for detailed information and are not updated unless a change affects divisional separation or high-energy lines. Detail information should be taken from P&IDs in the controlled drawing program.

“High PWA” – those lines which are considered to be high energy (refer to subsection 3.6.1.1.1.b) and therefore subject to pipe rupture analysis.

“High NPWA” – those lines which are considered to be moderate energy and not subject to pipe rupture analysis. Those lines fall under the definition in subsection 3.6.2.1.4. These lines operate within the pressure and temperature conditions specified for high energy for short operational periods, or they are high energy but exempted under the size criteria (less than or equal to 1” nominal pipe size).

“Moderate” – those lines which are considered to be moderate energy (refer to subsection 3.6.1.1.1.c).

* There is no differentiation between moderate energy and low energy.

NOTE:

The drawings in Figure 3.6-1 should not be used for detailed information and are not updated unless a change affects divisional separation or high-energy lines. Detail information should be taken from P&IDs in the controlled drawing program.

INDEX OF SYSTEMS

<u>Sheet Number(s)</u>	<u>System</u>
5 to 10	Main Steam
11 to 13	Extraction Steam
14	Reactor Feedwater
15	Condensate
16	Condensate Booster
17 to 21	Feedwater Heater Drains – Turbine Cycle
22 & 23	Feedwater Heater Miscellaneous Vents and Drains
24 to 27	Turbine-Generator Miscellaneous Vents and Drains
28 & 29	Turbine Gland Steam Seal System
30 to 33	Auxiliary Steam
34 to 38	Component Cooling Water
39 to 41	Containment Monitoring System
42 & 43	Diesel Generator Fuel Oil System
44 to 46	Fuel Pool Cooling and Cleanup
47 to 51	Shutdown Service Water
52	Combustible Gas Control System
53	Suppression Pool Makeup
54	MSIV Leakage Control System
55 & 56	Nuclear Boiler
57 to 59	Reactor Recirculation
60	Low Pressure Core Spray
61	High Pressure Core Spray
62 to 65	Residual Heat Removal
66 to 69	Reactor Water Cleanup

CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT

Figure 3.6-1
Sheet 2 of 111

DIVISIONAL SEPARATION AND
HIGH ENERGY P&IDs
INDEX OF SYSTEMS

NOTE:

The drawings in Figure 3.6-1 should not be used for detailed information and are not updated unless a change affects divisional separation or high-energy lines. Detail information should be taken from P&IDs in the controlled drawing program.

INDEX OF SYSTEMS

<u>Sheet Number(s)</u>	<u>System</u>
70	Standby Liquid Control
71	Control Rod Drive
72 & 73	Reactor Core Isolation Cooling
74 to 76	Off Gas
77 & 78	Floor Drain Readwaste Process
79 to 81	Chemical Radwaste Reprocessing and Disposal Radwaste Evaporator
82 & 83	Radwaste Sludge Process Concentrate Tank
84 to 90	Control Room HVAC
90A	Laboratory HVAC System
91	Diesel Generator Room Ventilation
92	Fuel Building HVAC
93 & 94	Standby Gas Treatment System
95	Shutdown Service Water System
96 & 97	Drywell Cooling Chilled Water System
98	Drywell Purge
99	Containment Building HVAC
100 to 102	Essential Switchgear Heat Removal
103 & 104	ECCS Equipment Room Cooling
105 & 106	Refrigeration Piping Switchgear Heat Removal
107	Combustible Gas Control System
108 & 109	Radwaste Floor Drain Process
110 & 111	Control Rod Drive System

CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT

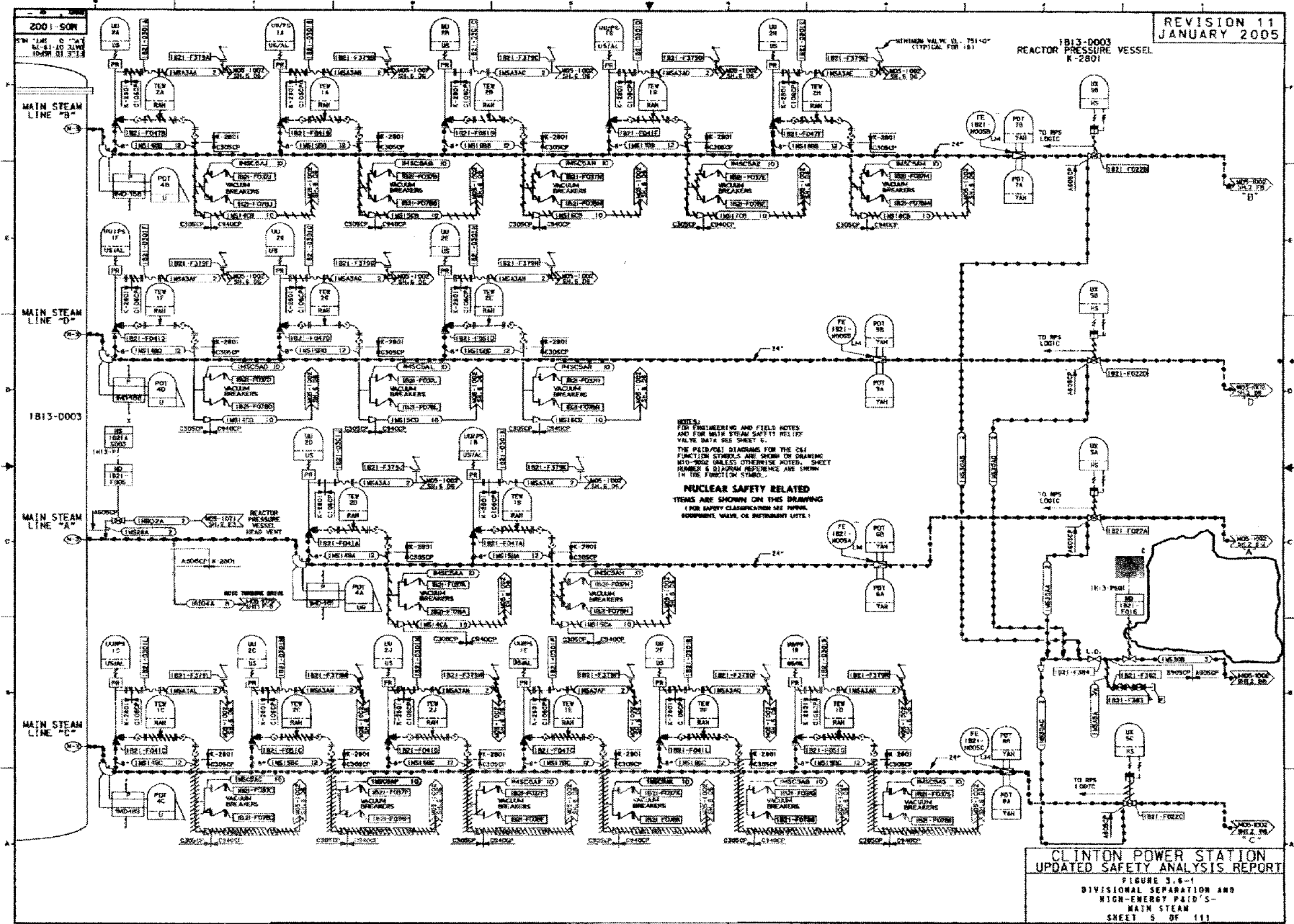
Figure 3.6-1
Sheet 3 of 111

DIVISIONAL SEPARATION AND
HIGH ENERGY P&IDs
INDEX OF SYSTEMS

Figure 3.6-1 Sheet 4 of 111 has been deleted

REVISION 11
JANUARY 2005

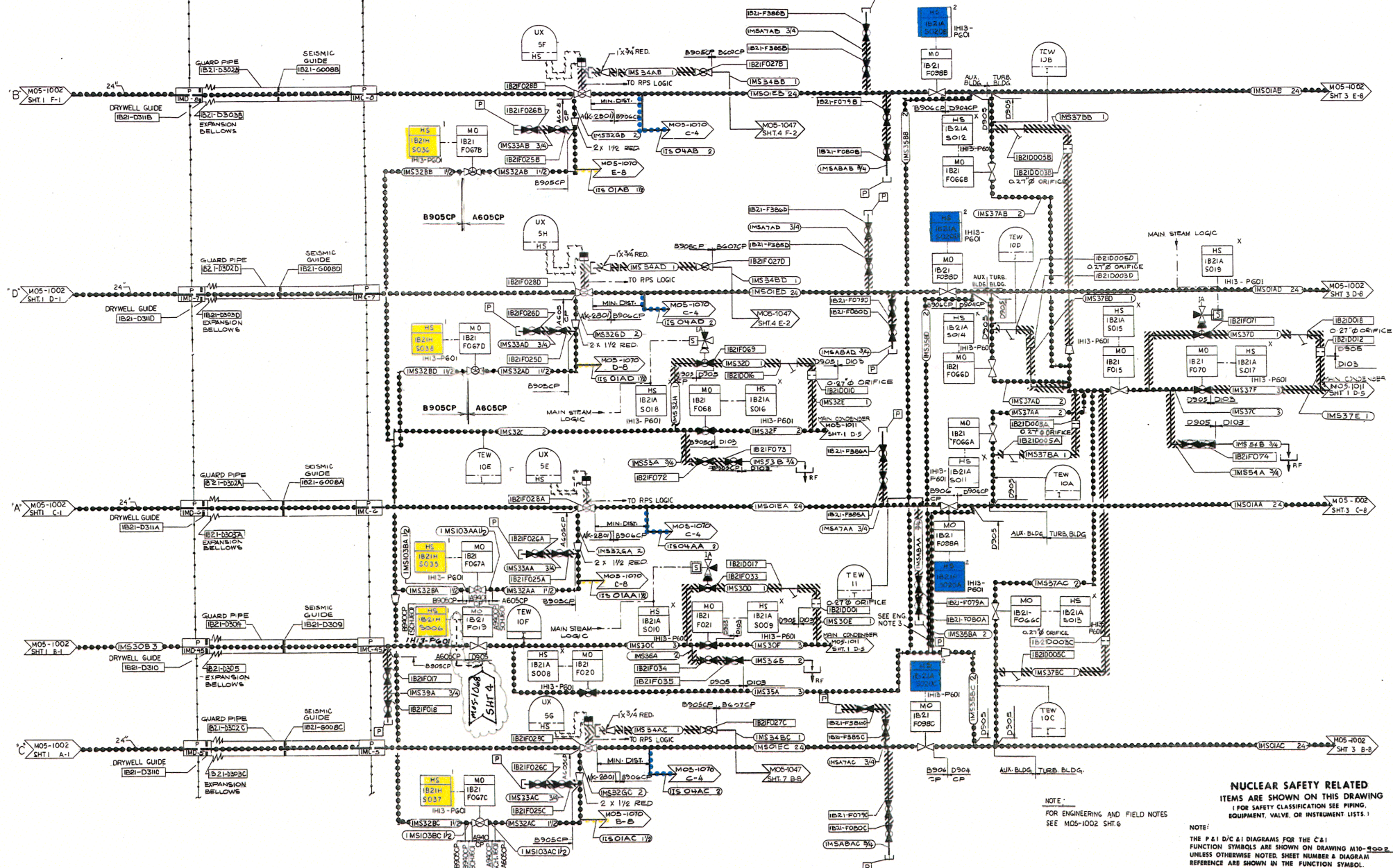
1B13-0003
REACTOR PRESSURE VESSEL
K-2801



NOTES:
FOR ENGINEERING AND FIELD NOTES
AND FOR WITH STEAM SHEET 11
VALVE DATA SHEET 6.
THE FIELD/POST DIAGRAMS FOR THE
FUNCTION SYMBOLS ARE SHOWN ON DRAWING
1B13-0004 UNLESS OTHERWISE NOTED. SHEET
FUNCTIONS & EQUIPMENT IDENTIFICATION ARE SHOWN
IN THE FUNCTION SYMBOLS.

NUCLEAR SAFETY RELATED
ITEMS ARE SHOWN ON THIS DRAWING
(FOR SAFETY CLASSIFICATION SEE NRC
EQUIPMENT NAME OR INSTRUMENT LISTS.)

CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT
FIGURE 3.6-1
DIVISIONAL SEPARATION AND
HIGH-ENERGY PAID'S-
MAIN STEAM
SHEET 5 OF 111

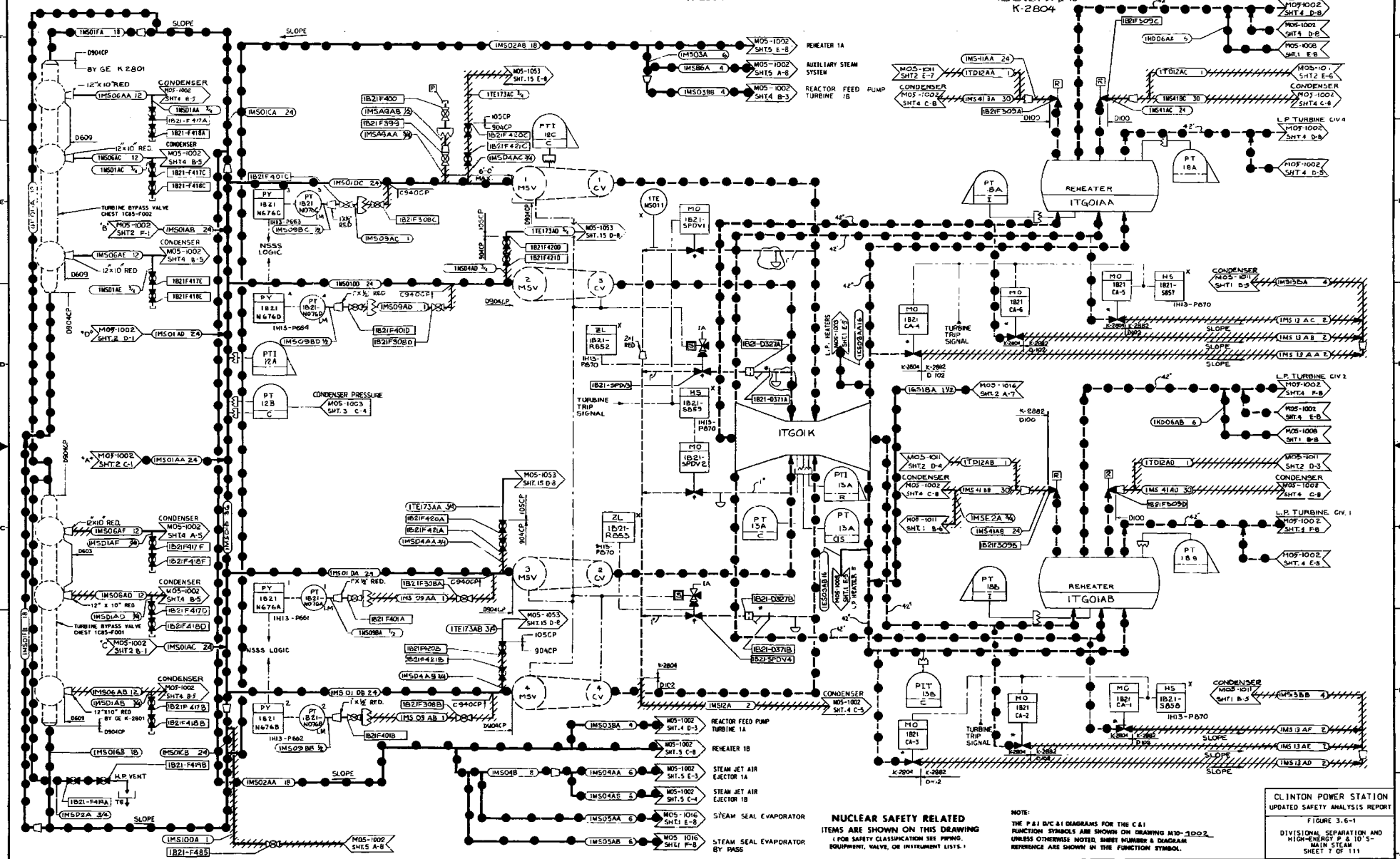


**NUCLEAR SAFETY RELATED
ITEMS ARE SHOWN ON THIS DRAWING
(FOR SAFETY CLASSIFICATION SEE PIPING,
EQUIPMENT, VALVE, OR INSTRUMENT LISTS.)**

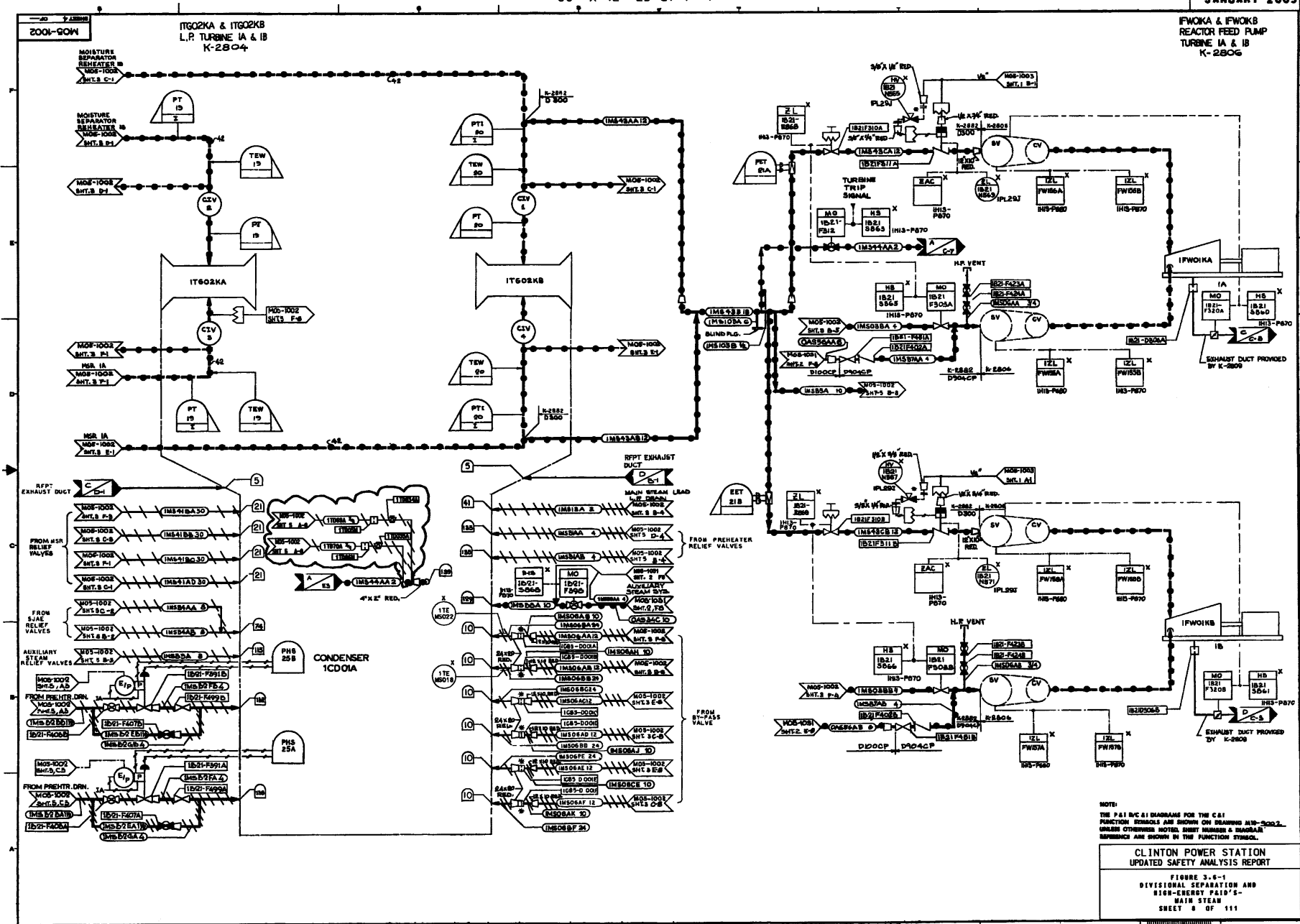
NOTE:
THE P&ID/C&I DIAGRAMS FOR THE C&I
FUNCTION SYMBOLS ARE SHOWN ON DRAWING M10-9002
UNLESS OTHERWISE NOTED. SHEET NUMBER & DIAGRAM
REFERENCE ARE SHOWN IN THE FUNCTION SYMBOL.

CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT

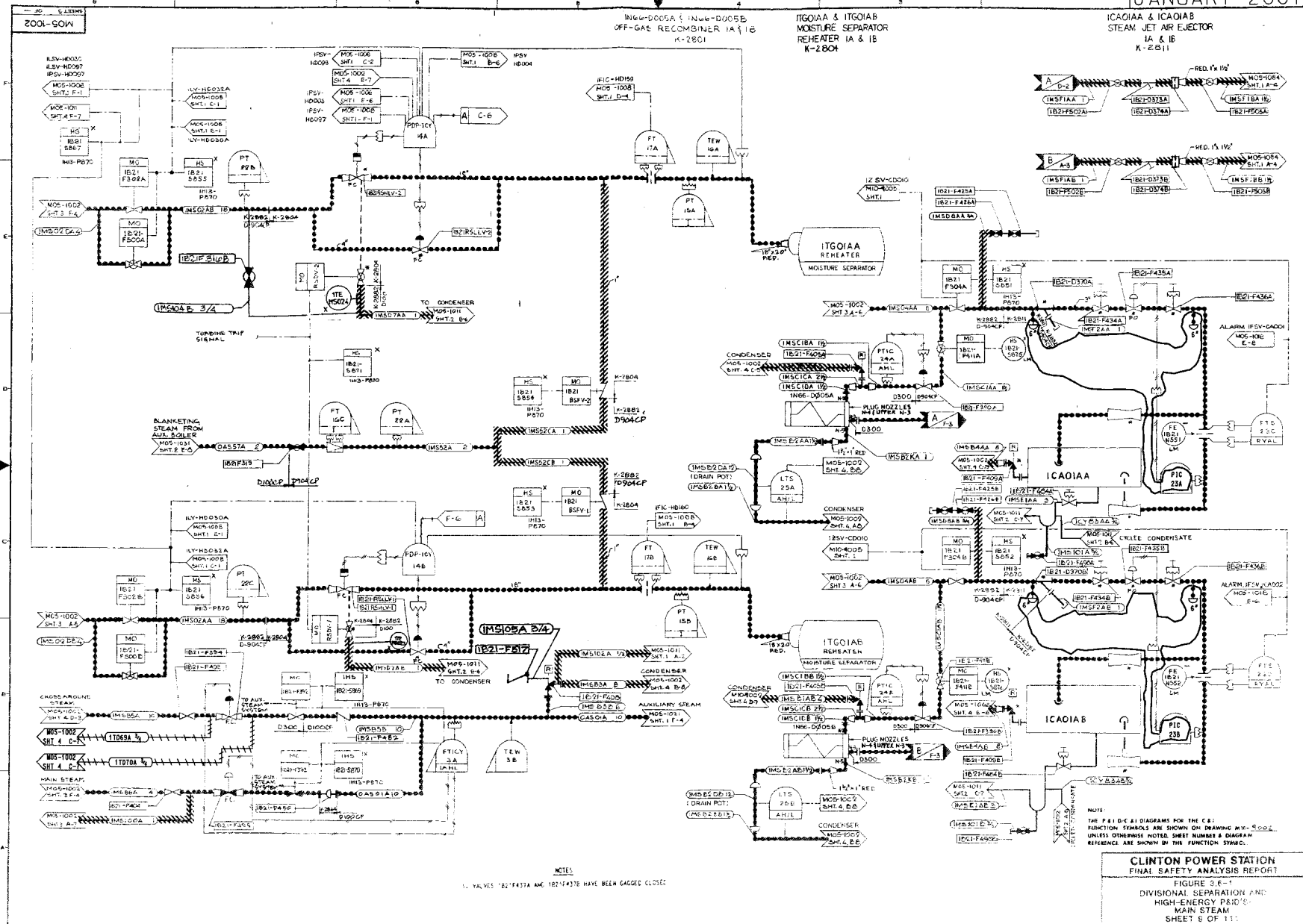
FIGURE 3.6-1
DIVISIONAL SEPARATION AND
HIGH-ENERGY P&ID'S-
MAIN STEAM
SHEET 6 OF 111



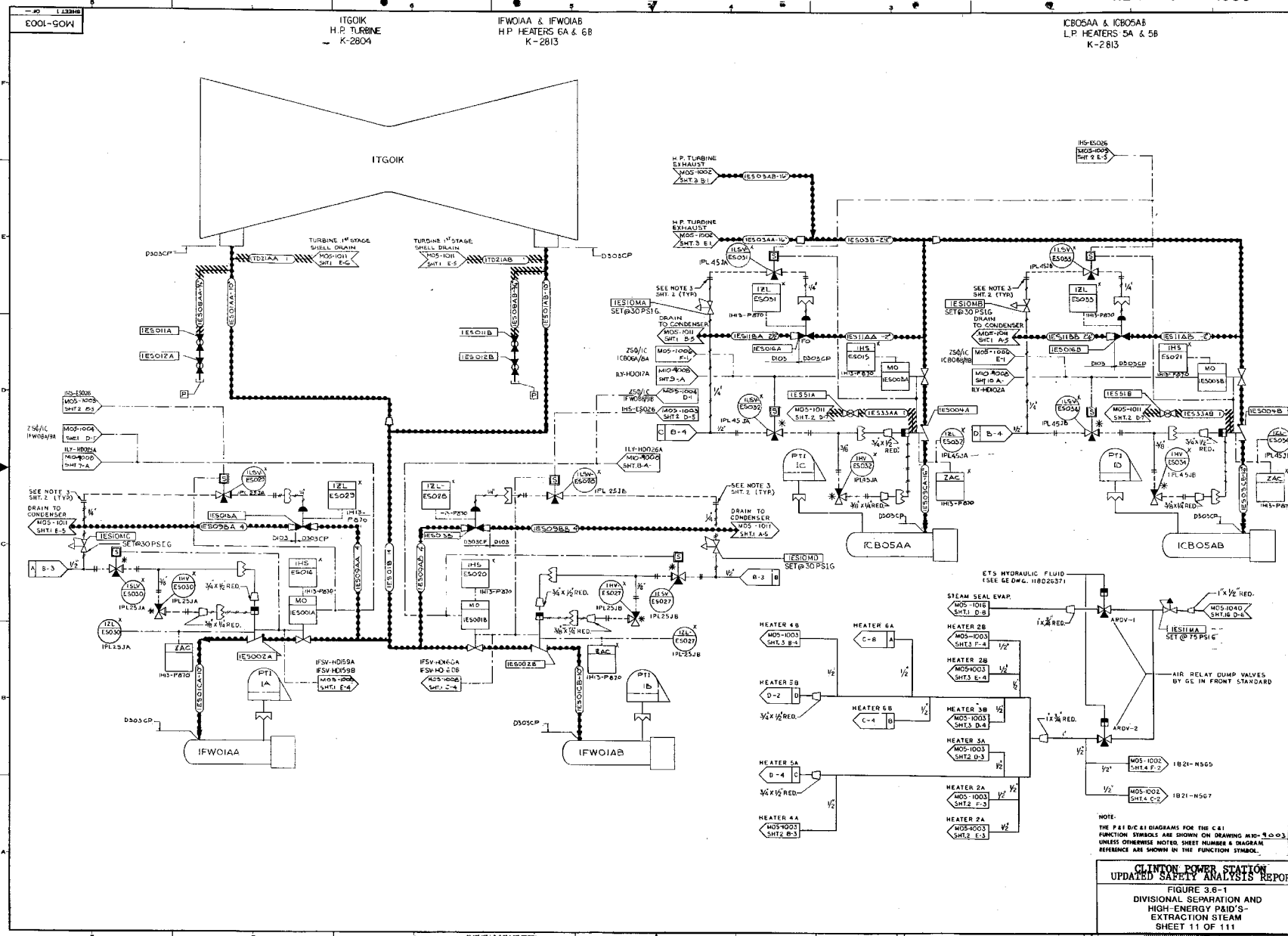
**REVISION 11
JANUARY 2005**

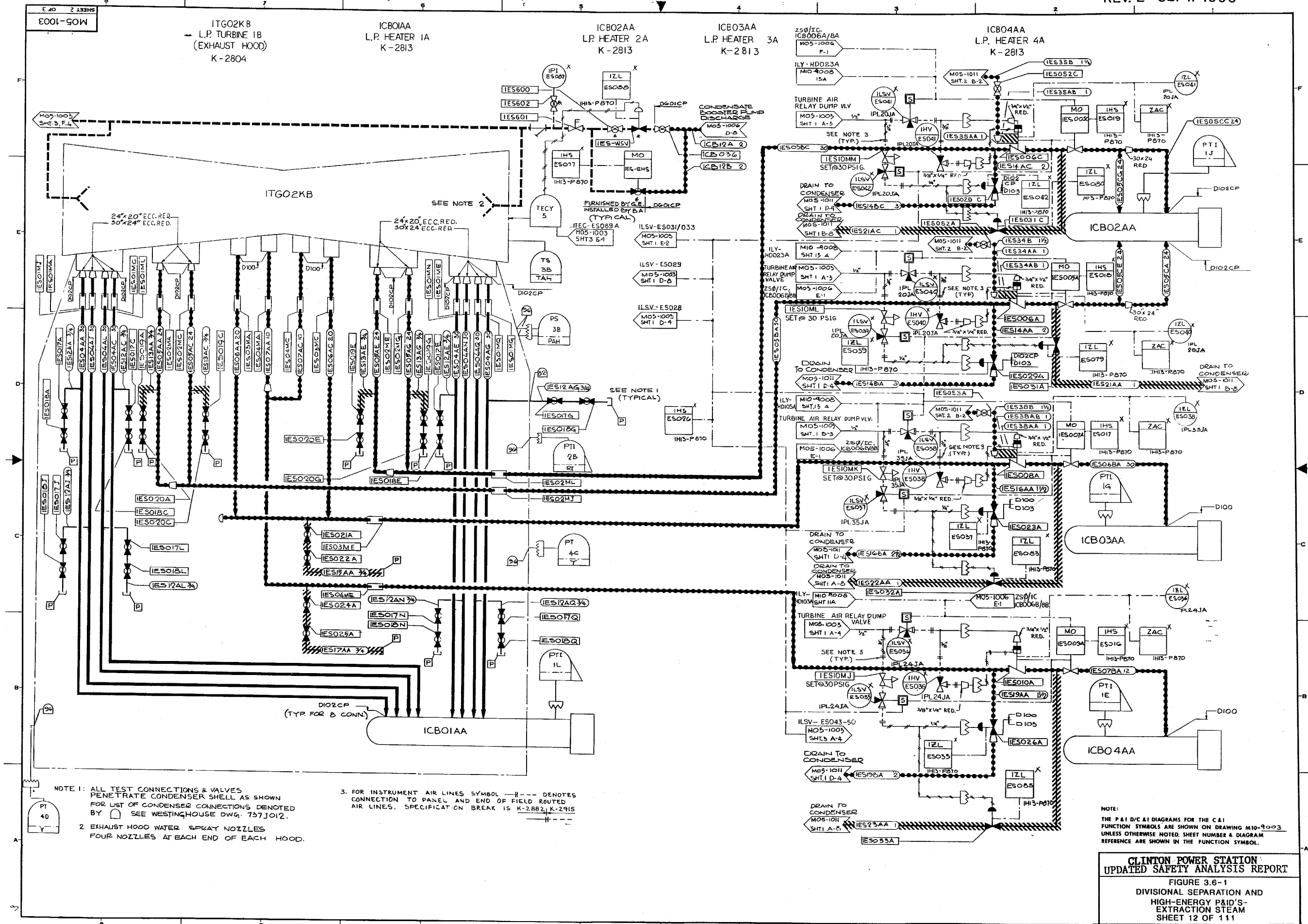


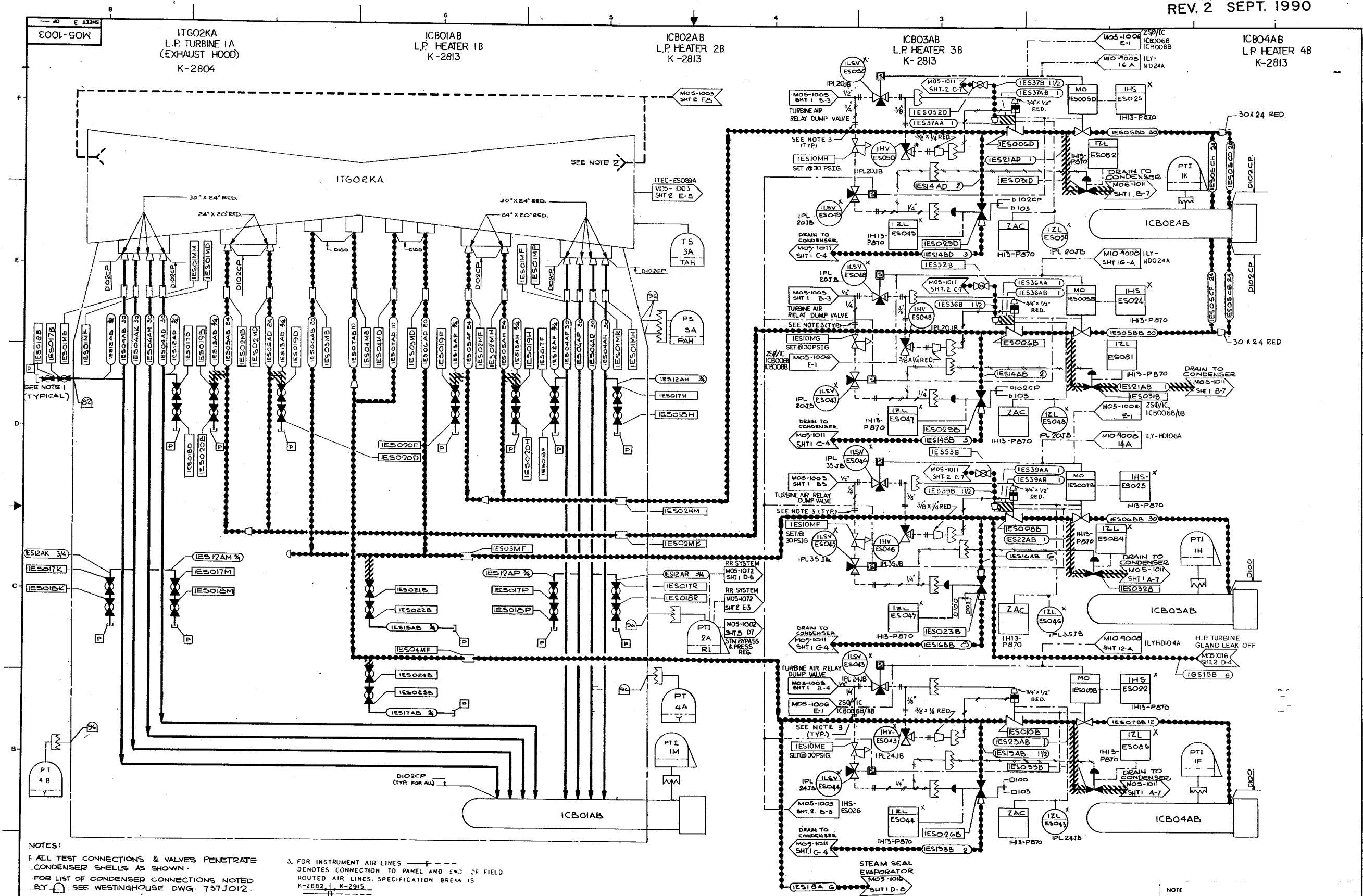
REVISION 12
JANUARY 2007



REV. 2 SEPT. 1990







CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT

FIGURE 3.6-1
DIVISIONAL SEPARATION AND
HIGH-ENERGY P&ID'S
EXTRACTION STEAM
SHEET 13 OF 111

IFWOIPA & IFWOIPB
REACTOR FEED PUMP IA & IB
TURBINE DRIVEN
K-2820

IB13-D003
REACTOR PRESSURE
VESSEL
K-2801

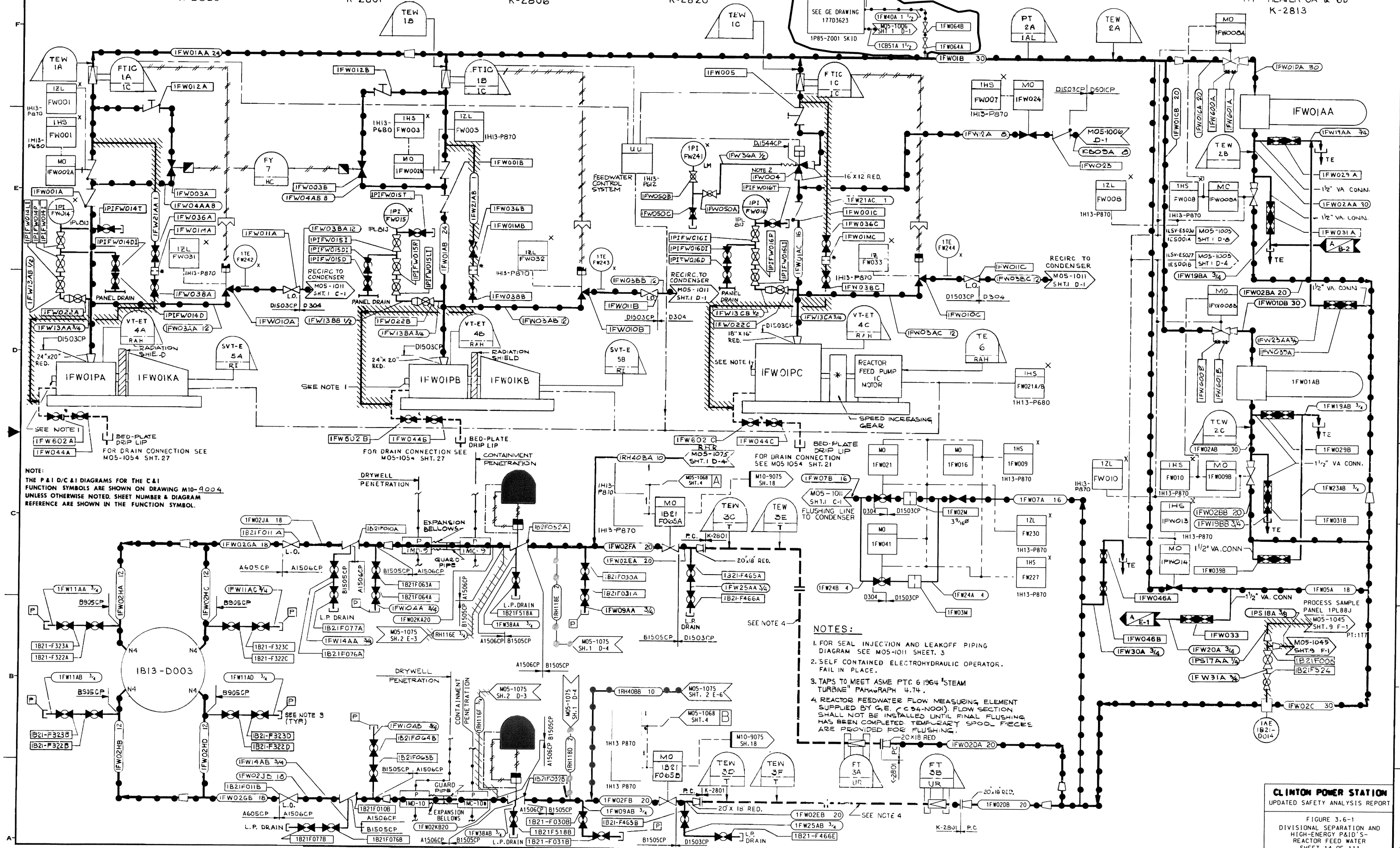
IFWOIKA & KB
REACTOR FEED PUMPS IA & IB
TURBINE DRIVES
K-2806

IFWOIPC
REACTOR FEED PUMP IC
MOTOR DRIVEN
K-2820

REACTOR FEED PUMP IC
MOTOR
K-2970

REVISION 9
JANUARY 2001

IFWOIAA & IFWOIAB
H.P. HEATER 6A & 6B
K-2813



NOTE:
THE P&ID/C&I DIAGRAMS FOR THE C&I
FUNCTION SYMBOLS ARE SHOWN ON DRAWING M10-9004
UNLESS OTHERWISE NOTED, SHEET NUMBER & DIAGRAM
REFERENCE ARE SHOWN IN THE FUNCTION SYMBOL.

NOTES:

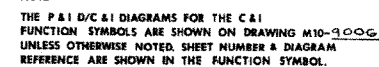
1. FOR SEAL INJECTION AND LEAKOFF PIPING
DIAGRAM SEE M05-1011 SHEET. 3
2. SELF CONTAINED ELECTROHYDRAULIC OPERATOR.
FAIL IN PLACE.
3. TAPS TO MEET ASME PTC 6.1964 STEAM
TURBINE "PARAGRAPH 4.74."
4. REACTOR FEEDWATER FLOW MEASURING ELEMENT
SUPPLIED BY G.E. (C034-N001). FLOW SECTION
SHALL NOT BE INSTALLED UNTIL FINAL FLUSHING
HAS BEEN COMPLETED. TEMPORARY SPOOL PIECES
ARE PROVIDED FOR FLUSHING.

CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT

FIGURE 3.6-1
DIVISIONAL SEPARATION AND
HIGH-ENERGY P&ID'S-
REACTOR FEED WATER
SHEET 14 OF 111



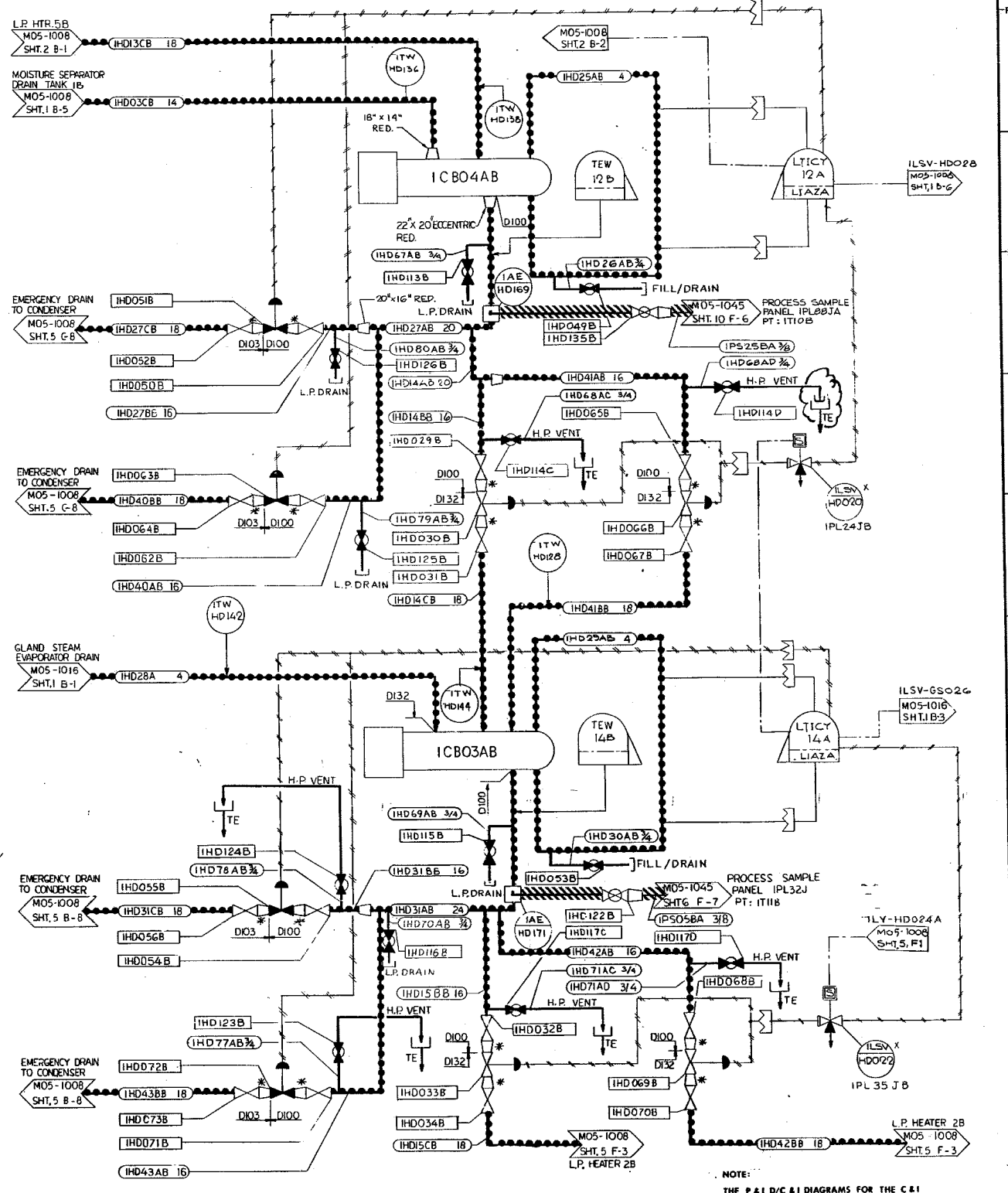
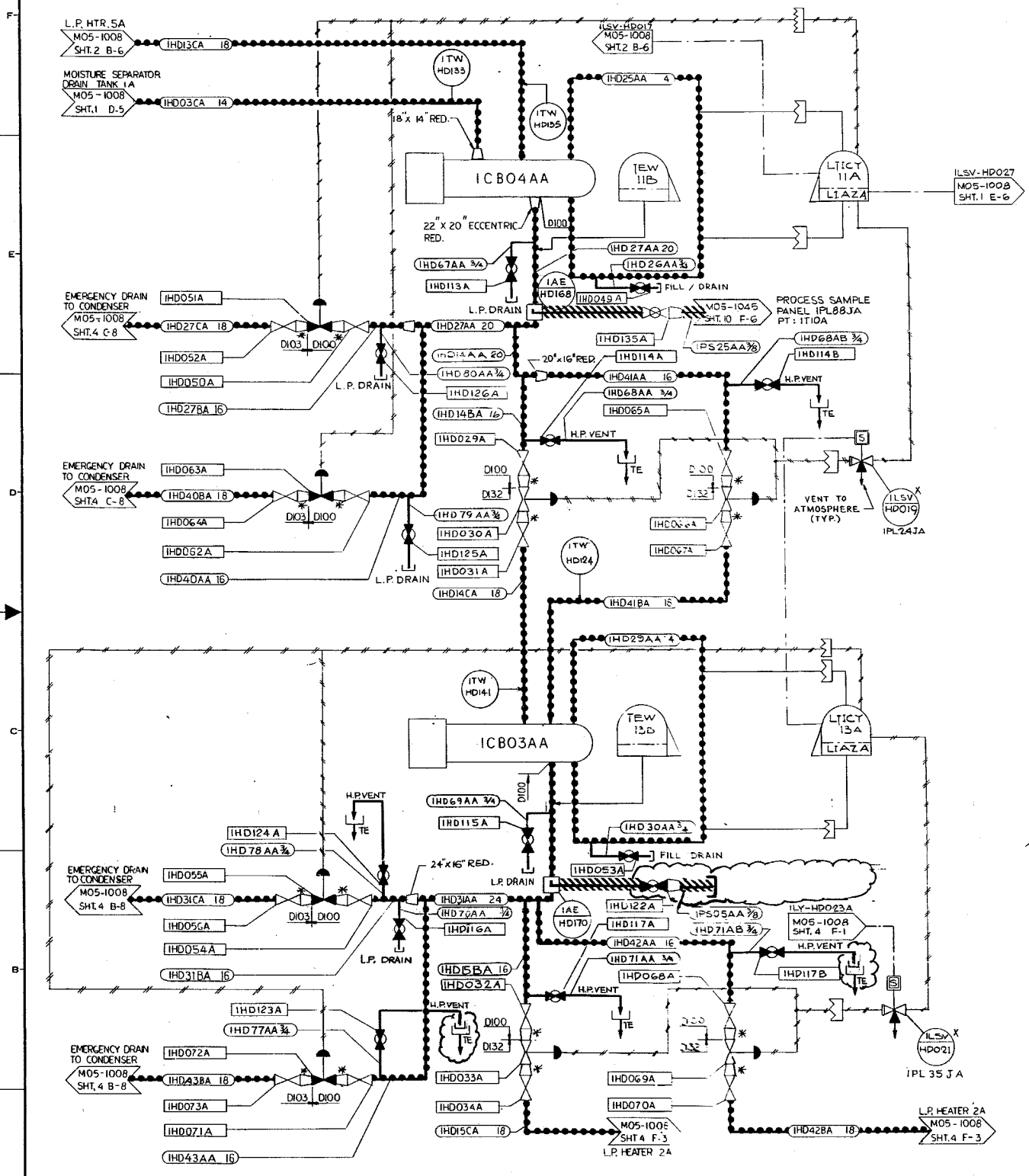
FIGURE 3.6-1
DIVISIONAL SEPARATION AND
HIGH-ENERGY P&ID'S-
CONDENSATE
SHEET 15 OF 111



**CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT**

ICB04AA & ICB04AB
LOW PRESSURE HEATERS
4A & 4B
K-2813

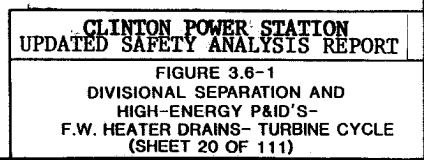
ICB03AA & ICB03AB
LOW PRESSURE HEATERS
3A & 3B
K-2813

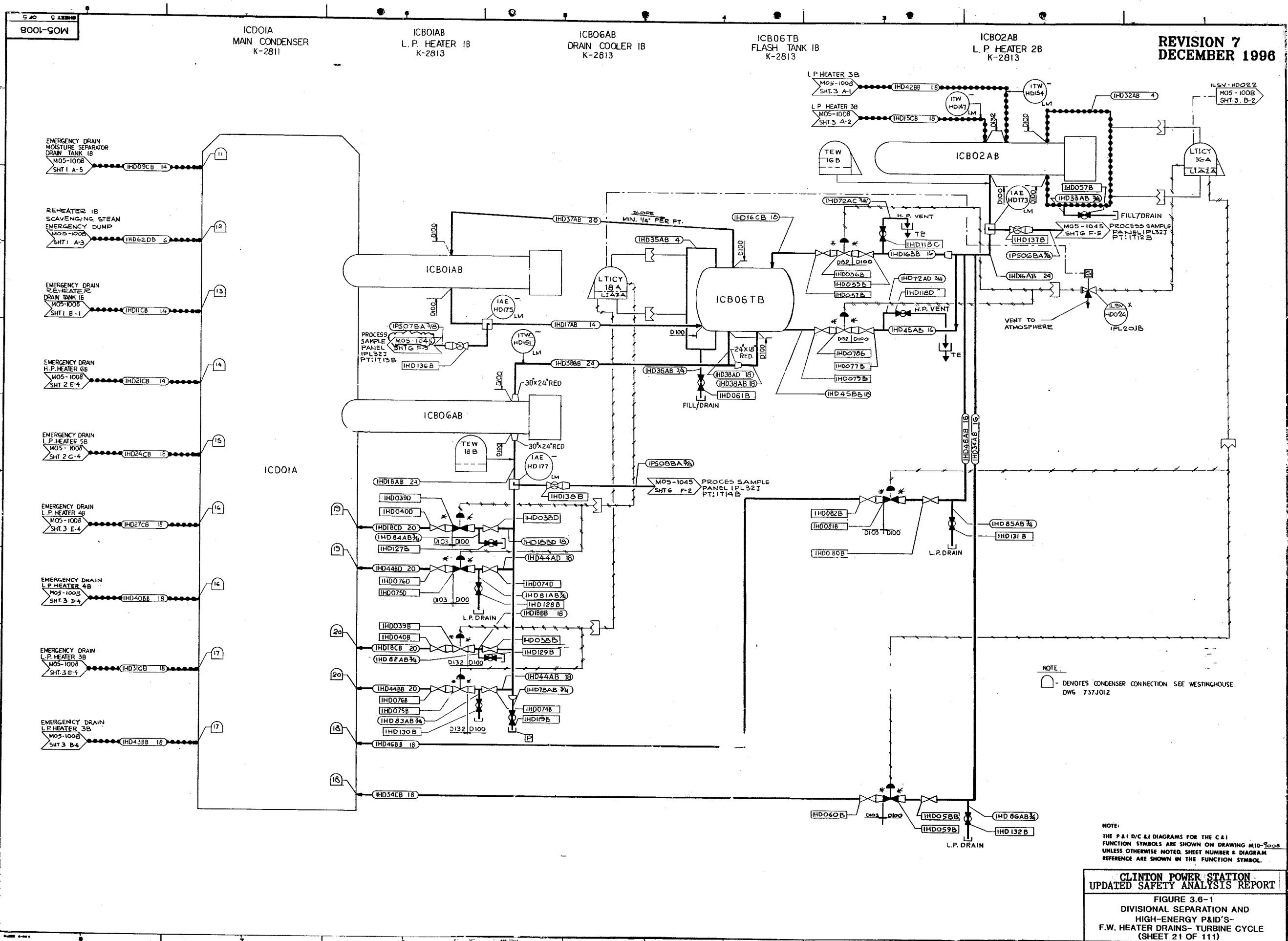


NOTE:
THE P&ID/C&I DIAGRAMS FOR THE C&I
FUNCTION SYMBOLS ARE SHOWN ON DRAWING M10-1000
UNLESS OTHERWISE NOTED, SHEET NUMBER & DIAGRAM
REFERENCE ARE SHOWN IN THE FUNCTION SYMBOL.

CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT

FIGURE 3.6-1
DIVISIONAL SEPARATION AND
HIGH-ENERGY P&ID'S-
F.W. HEATER DRAINS- TURBINE CYCLE
(SHEET 19 OF 111)





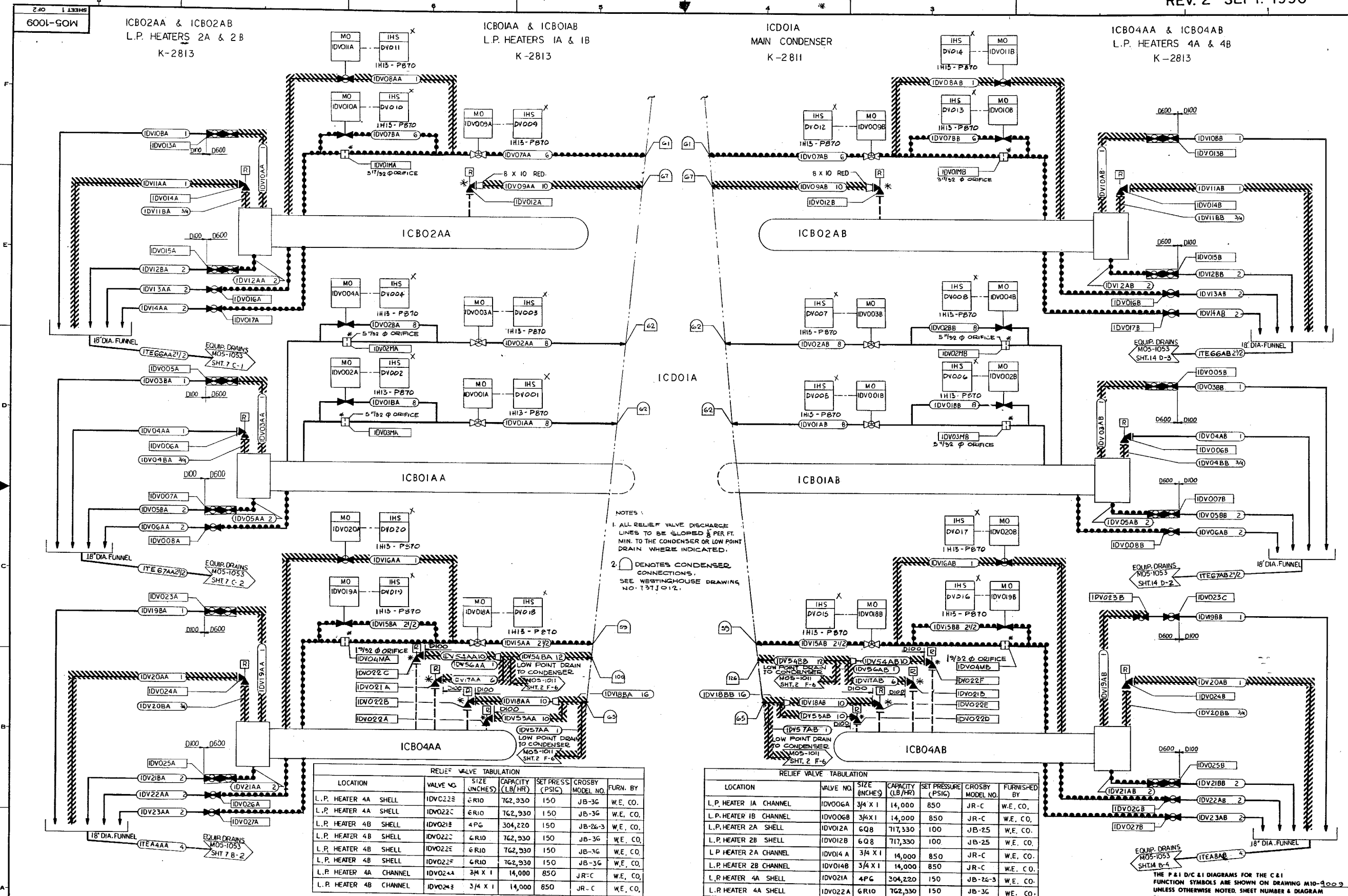
REVISION 7
DECEMBER 1996

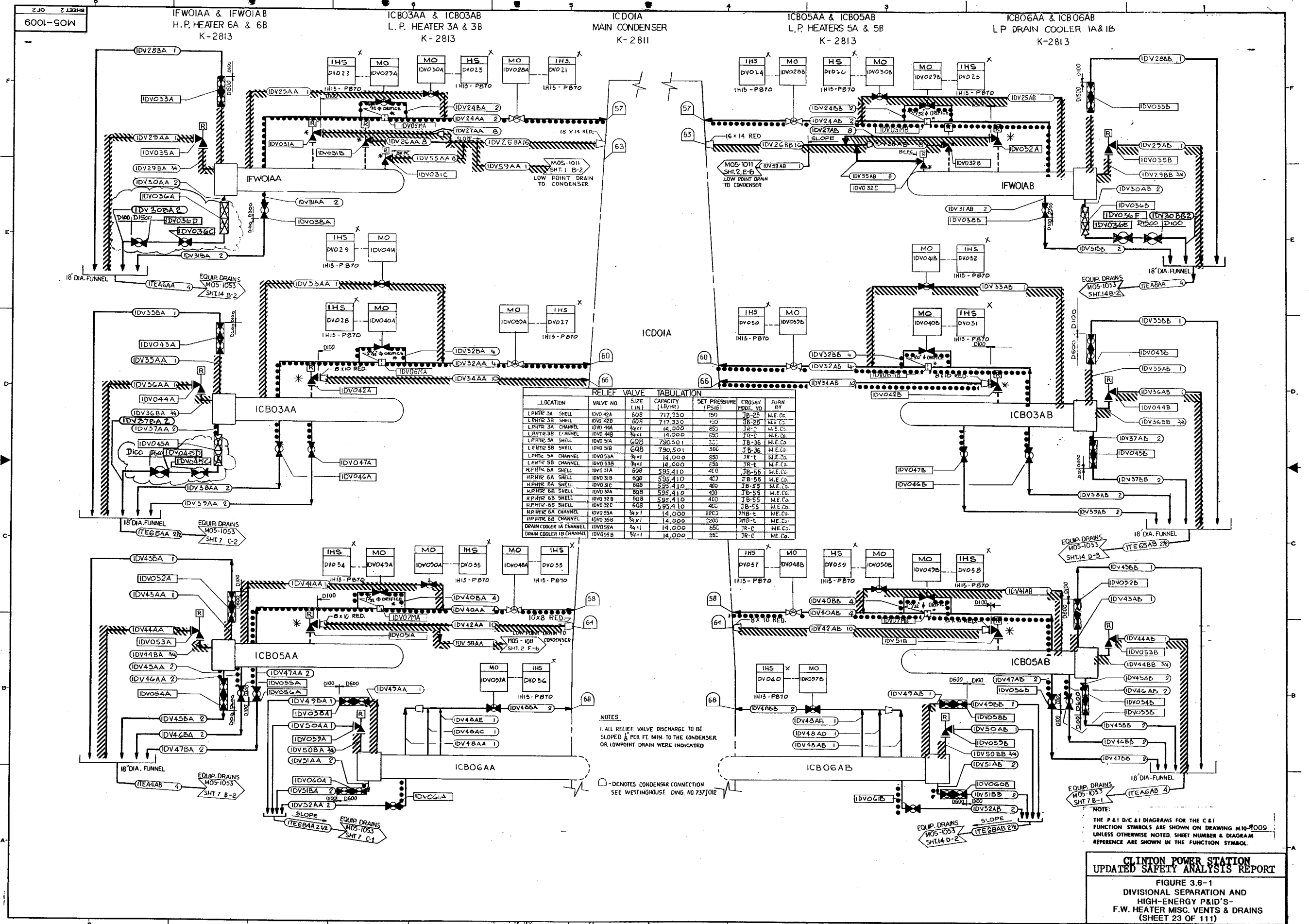
NOTE:
DENOTES CONDENSER CONNECTION SEE WESTINGHOUSE
DWG 737J012

NOTE:
THE P&ID/C&I DIAGRAMS FOR THE C&I
FUNCTION SYMBOLS ARE SHOWN ON DRAWING M10-1008
UNLESS OTHERWISE NOTED. SHEET NUMBER & DIAGRAM
REFERENCE ARE SHOWN IN THE FUNCTION SYMBOL.

CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT

FIGURE 3.6-1
DIVISIONAL SEPARATION AND
HIGH-ENERGY P&ID'S-
F.W. HEATER DRAINS- TURBINE CYCLE
(SHEET 21 OF 111)

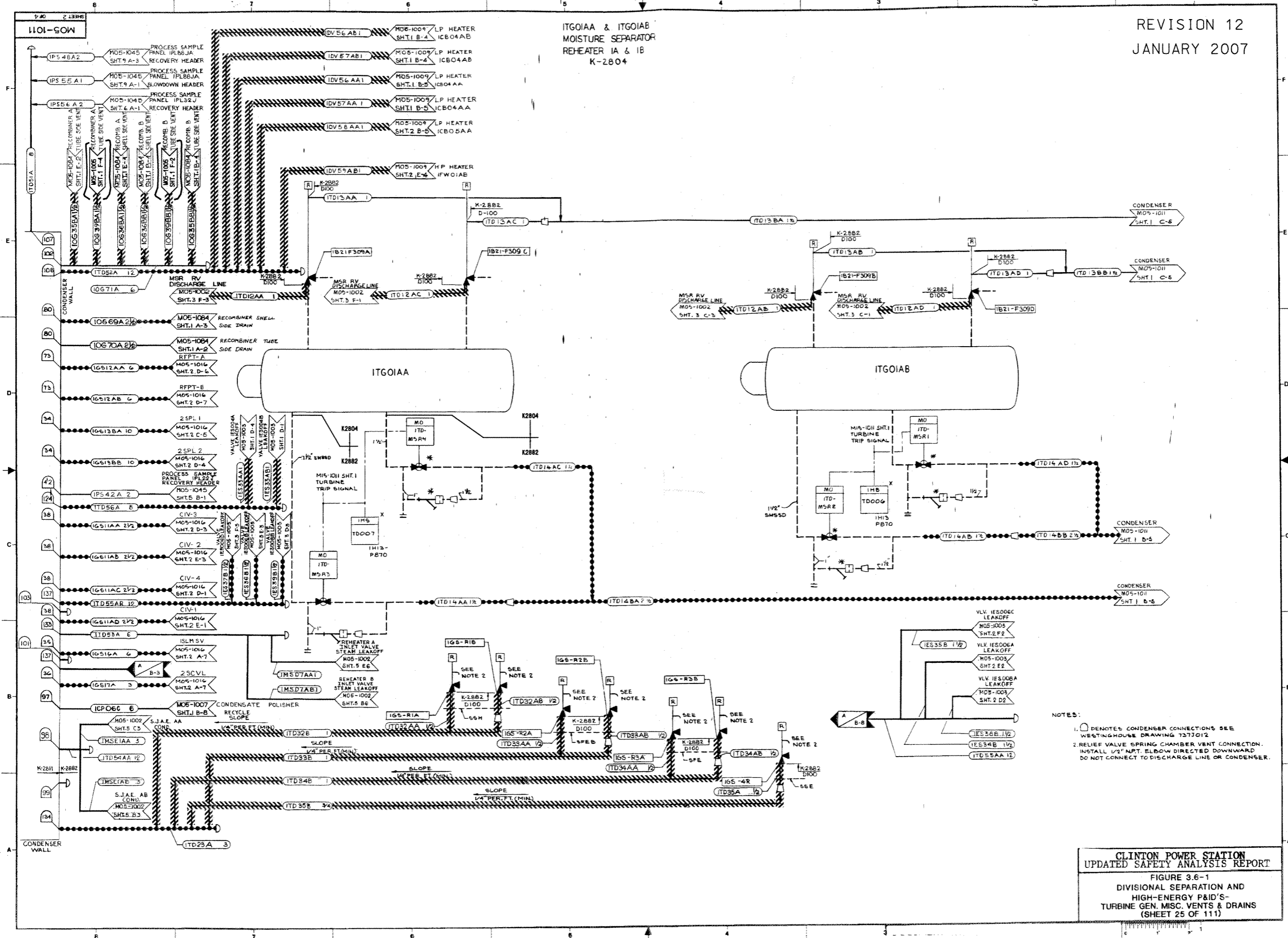
CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORTFIGURE 3.6-1
DIVISIONAL SEPARATION AND
HIGH-ENERGY P&ID'S-
F.W. HEATER MISC. VENTS & DRAINS
(SHEET 22 OF 111)

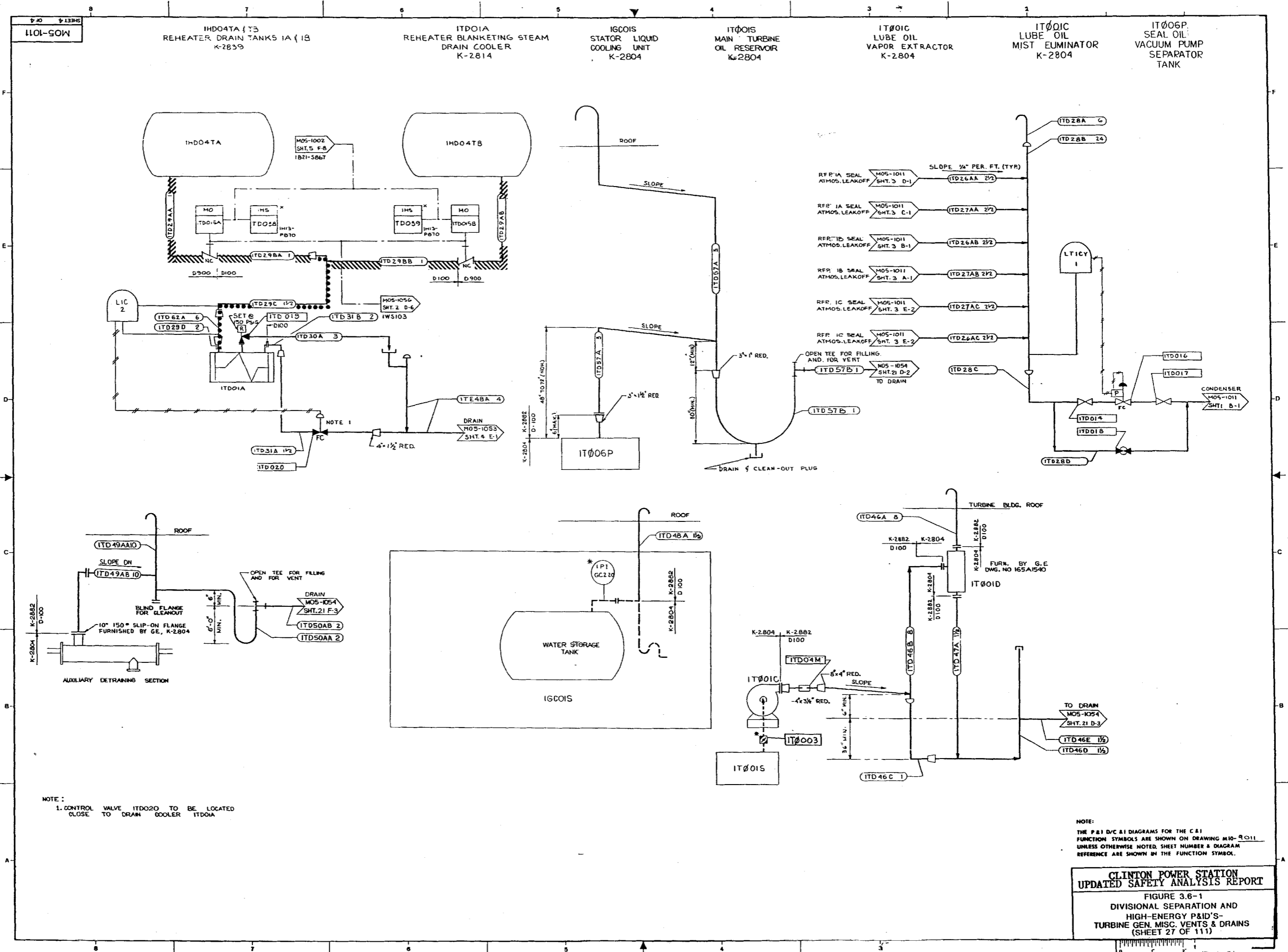


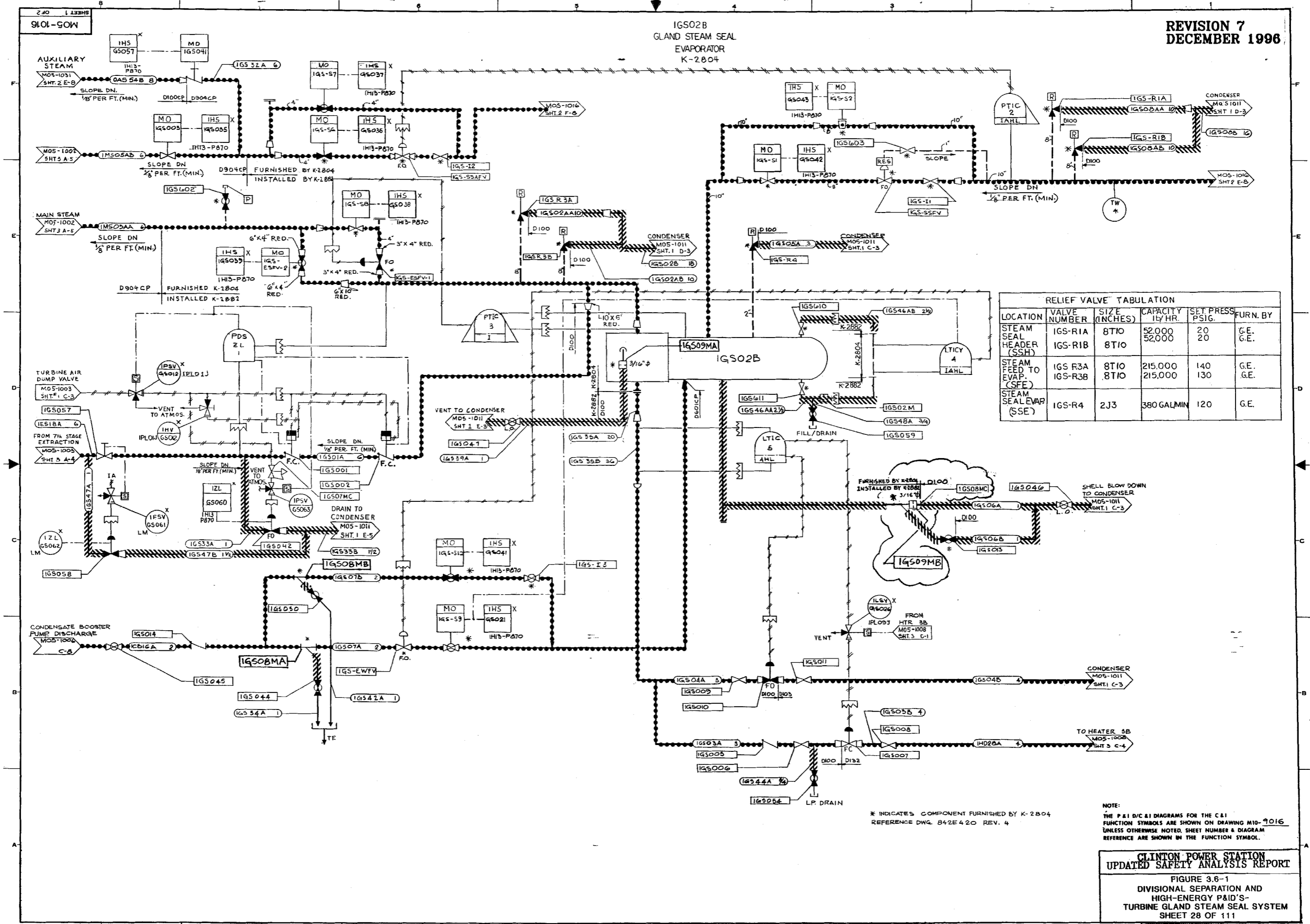
CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT

FIGURE 3.6-1
DIVISIONAL SEPARATION AND
HIGH-ENERGY P&ID'S-
TURBINE GEN. MISC. VENTS & DRAINS
(SHEET 24 OF 111)

REVISION 12
JANUARY 2007

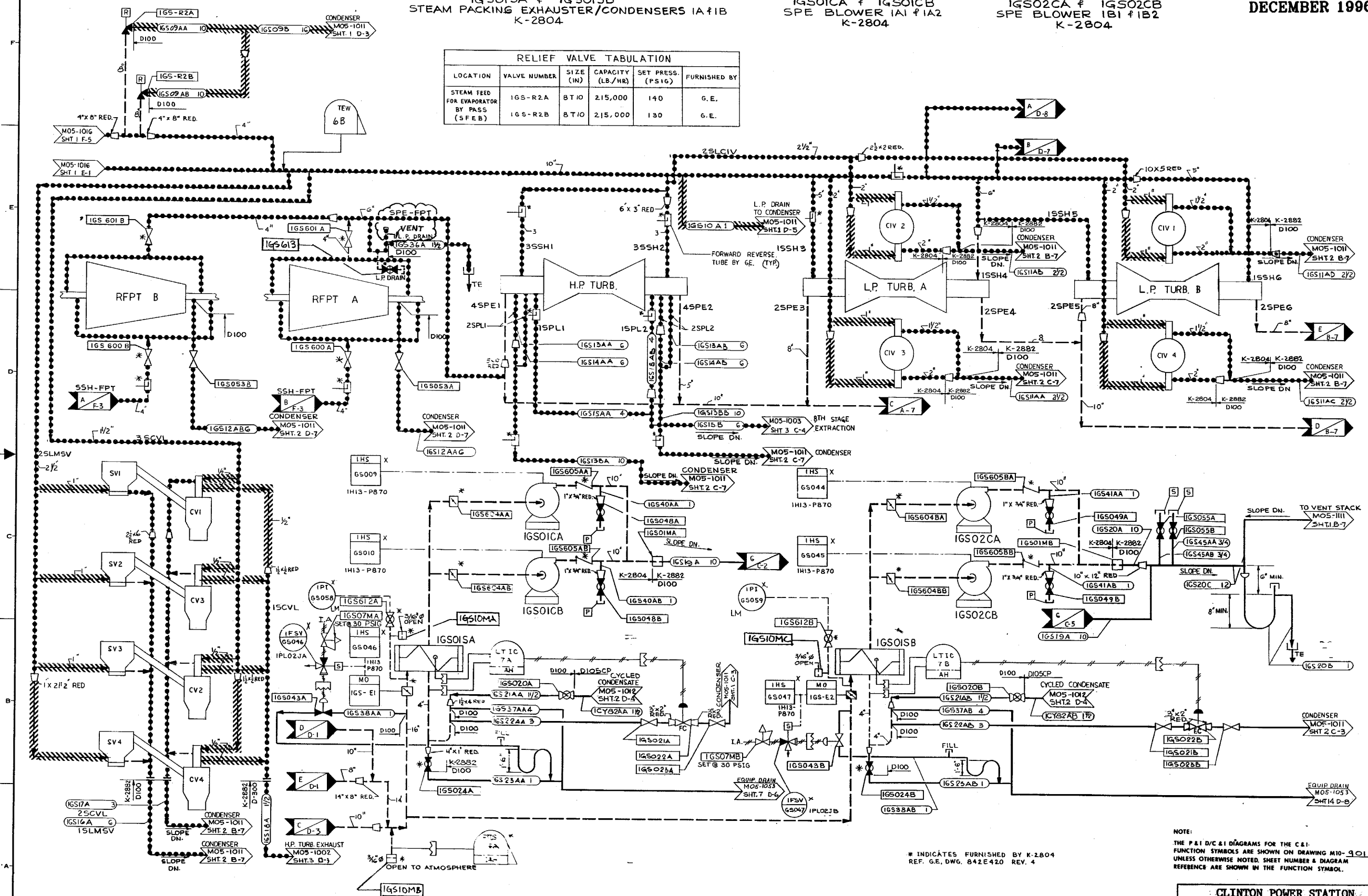






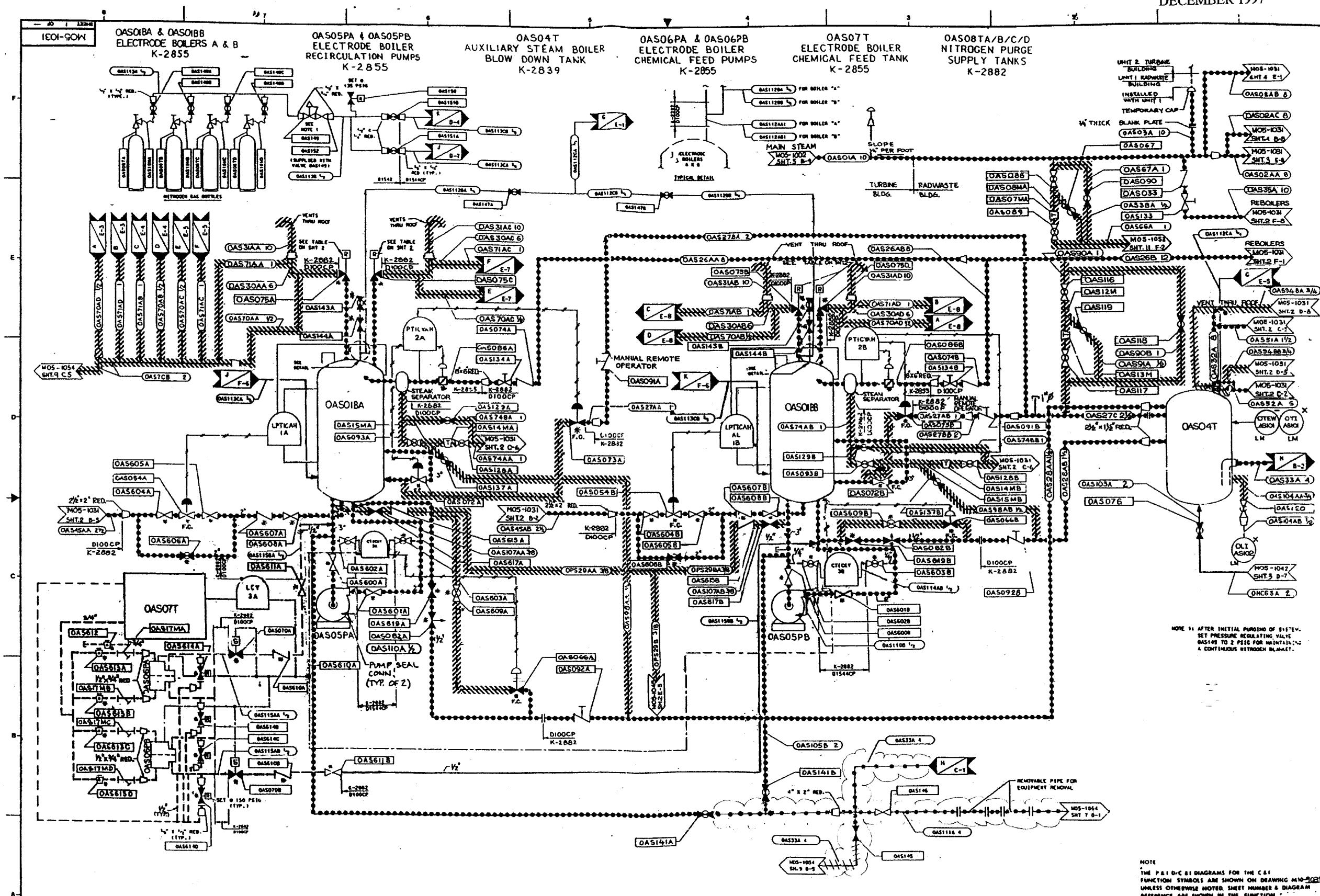
**REVISION 7
DECEMBER 1996**

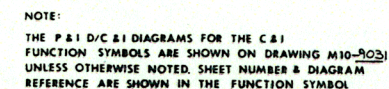
RELIEF VALVE TABULATION					
LOCATION	VALVE NUMBER	SIZE (IN)	CAPACITY (LB./HR)	SET PRESS. (PSIG)	FURNISHED BY
STEAM FEED FOR EVAPORATOR BY PASS (S FEB)	1GS-R2A	8 T/O	215,000	140	G.E.
	1GS-R2B	8 T/O	215,000	130	G.E.



NOTE:
THE P&I D/C & I DIAGRAMS FOR THE C&I
FUNCTION SYMBOLS ARE SHOWN ON DRAWING M10- 9016
UNLESS OTHERWISE NOTED. SHEET NUMBER & DIAGRAM
REFERENCES ARE SHOWN IN THE FUNCTION SYMBOL.

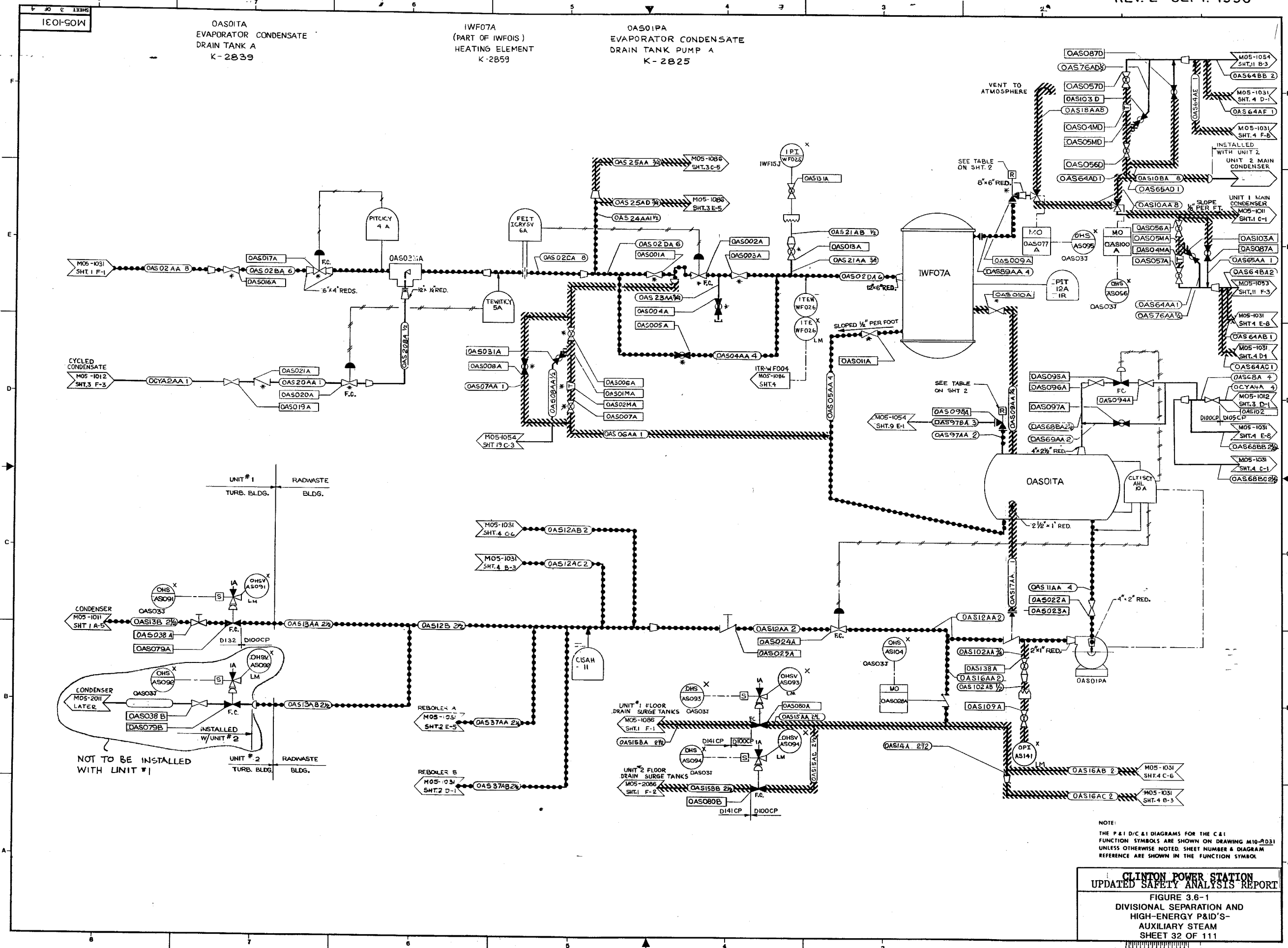
**CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT**





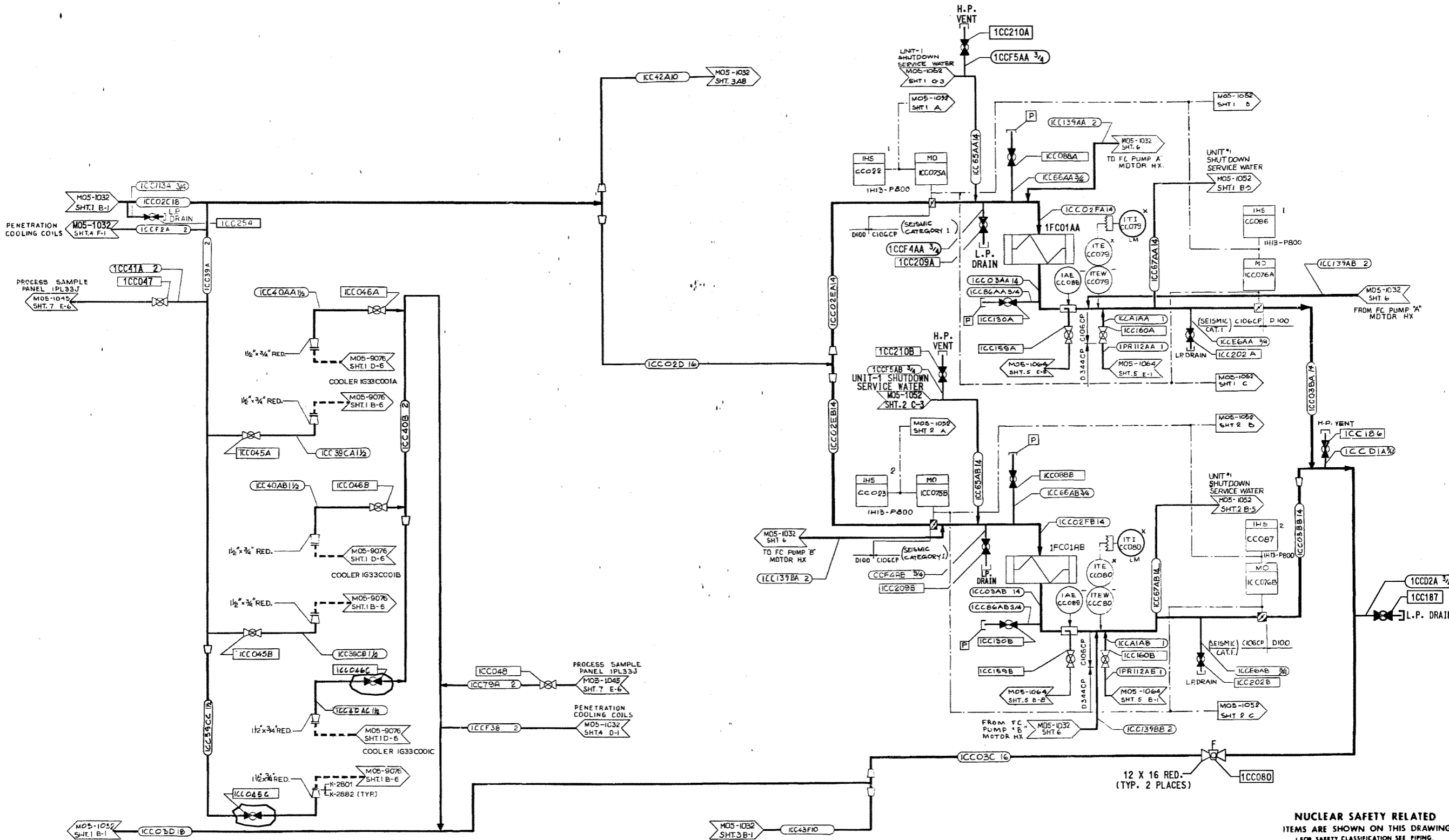
CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT

FIGURE 3.6-1
DIVISIONAL SEPARATION AND
HIGH-ENERGY P&ID'S-
AUXILIARY STEAM
SHEET 31 OF 111



CLINTON POWER STATION UPDATED SAFETY ANALYSIS REPORT

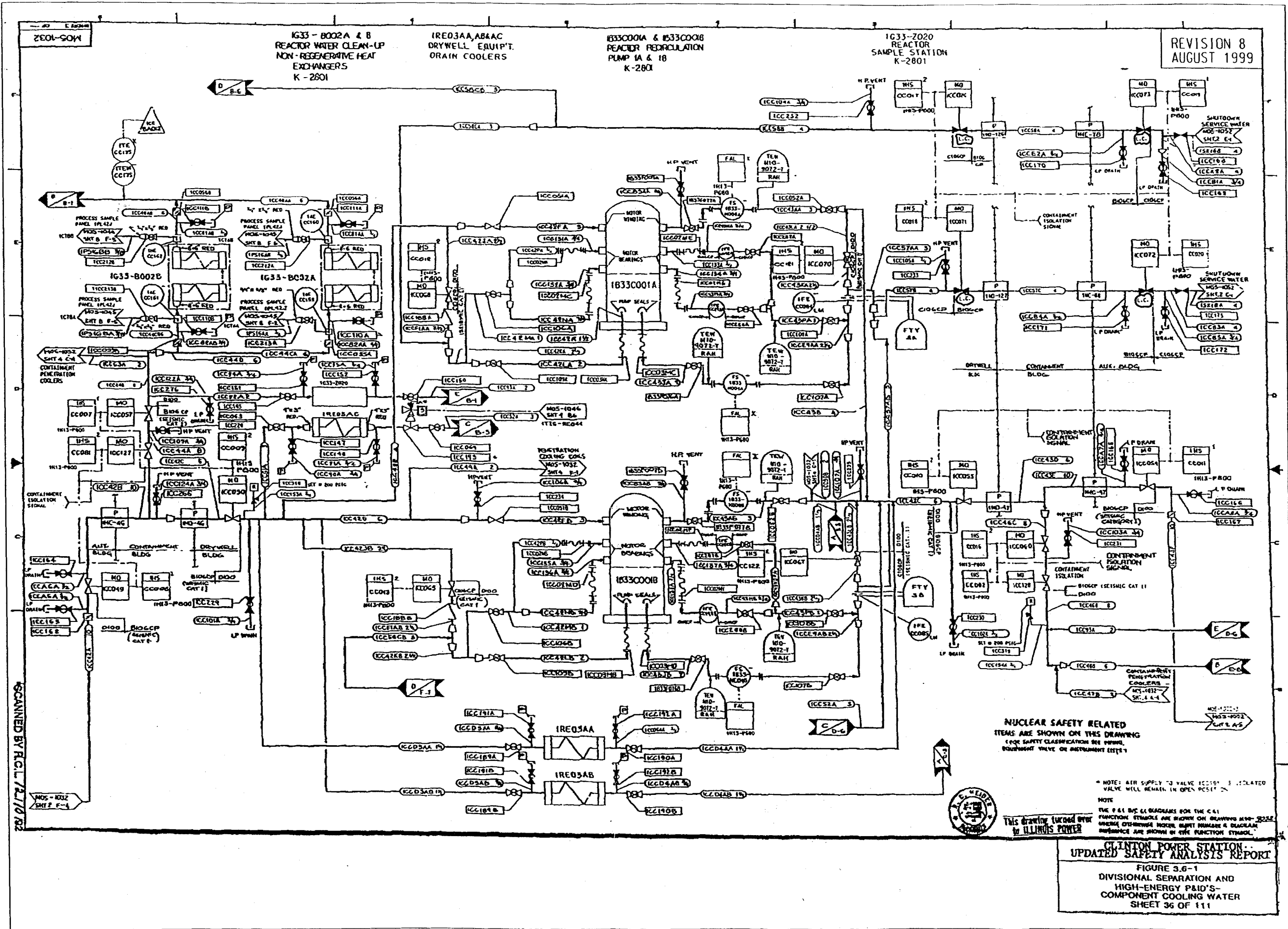
FIGURE 3.6-1
DIVISIONAL SEPARATION AND
HIGH-ENERGY P&ID'S-
AUXILIARY STEAM
SHEET 33 OF 111



NUCLEAR SAFETY RELATED
ITEMS ARE SHOWN ON THIS DRAWING
FOR SAFETY CLASSIFICATION SEE PIPING,
EQUIPMENT, VALVE, OR INSTRUMENT LISTS
NOTE:
THE P&ID/C&I DIAGRAMS FOR THE C&I
EQUIPMENT, VALVES ARE SHOWN ON DRAWING M05-1032
UNLESS OTHERWISE NOTED, SHEET NUMBER & DIAGRAM
REFERENCE ARE SHOWN IN THE FUNCTION SYMBOL.

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FIGURE 3.6-1
DIVISIONAL SEPARATION AND
HIGH-ENERGY P&ID'S-
COMPONENT COOLING WATER
SHEET 35 OF 111



REVISION 8
AUGUST 1999

NUCLEAR SAFETY RELATED
ITEMS ARE SHOWN ON THIS DRAWING
(SEE SAFETY CLASSIFICATION SEE FORMS,
EQUIPMENT THREE OR INSTRUMENT LIST)

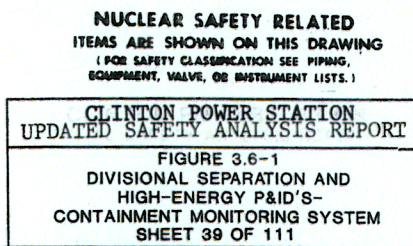
NOTE: AIR SUPPLY TO VALVE ICC001A IS ISOLATED
VALVE WILL REMAIN IN OPEN POSITION

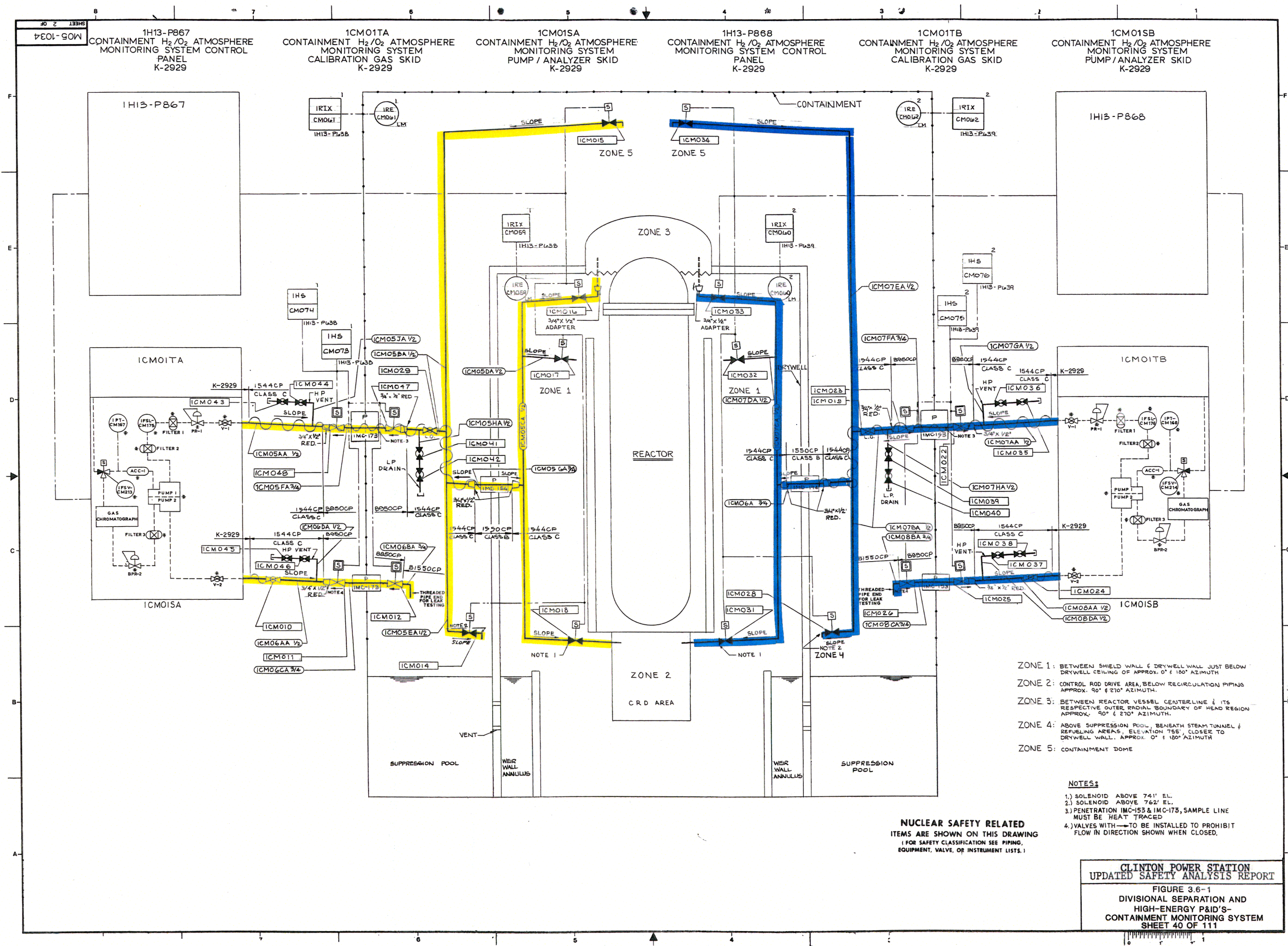
NOTE:
THE P&ID BY E&I DIAGRAMS FOR THE CAS
FUNCTION SYMBOLS ARE SHOWN ON DRAWING M00-2022
WHERE OTHERWISE NOTED, EQUIPMENT & DIAGRAM
REFERENCE ARE SHOWN IN THE FUNCTION SYMBOL

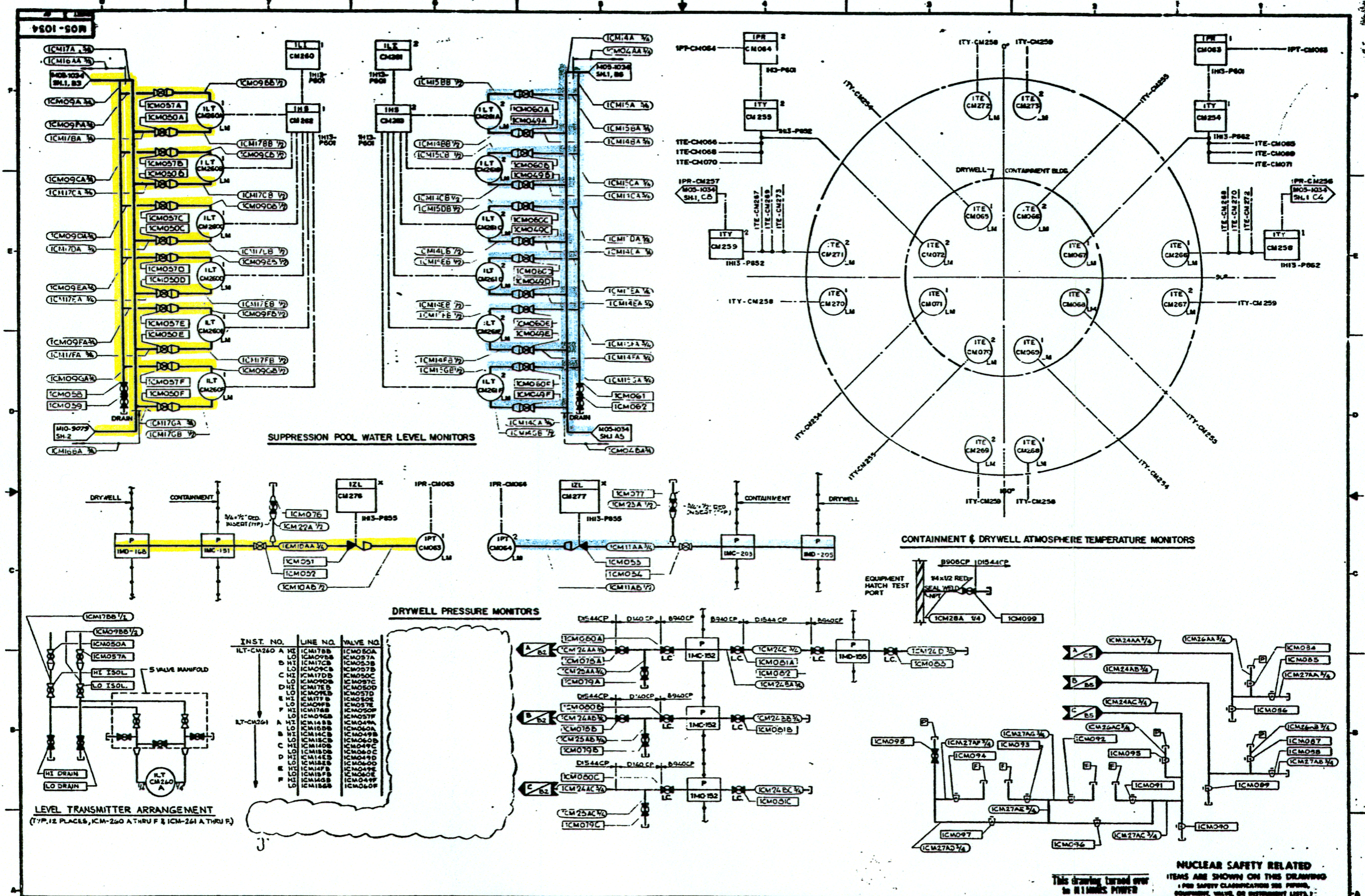
CLINTON POWER STATION
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FIGURE 3.6-1
DIVISIONAL SEPARATION AND
HIGH-ENERGY PAID'S
COMPONENT COOLING WATER
SHEET 36 OF 111

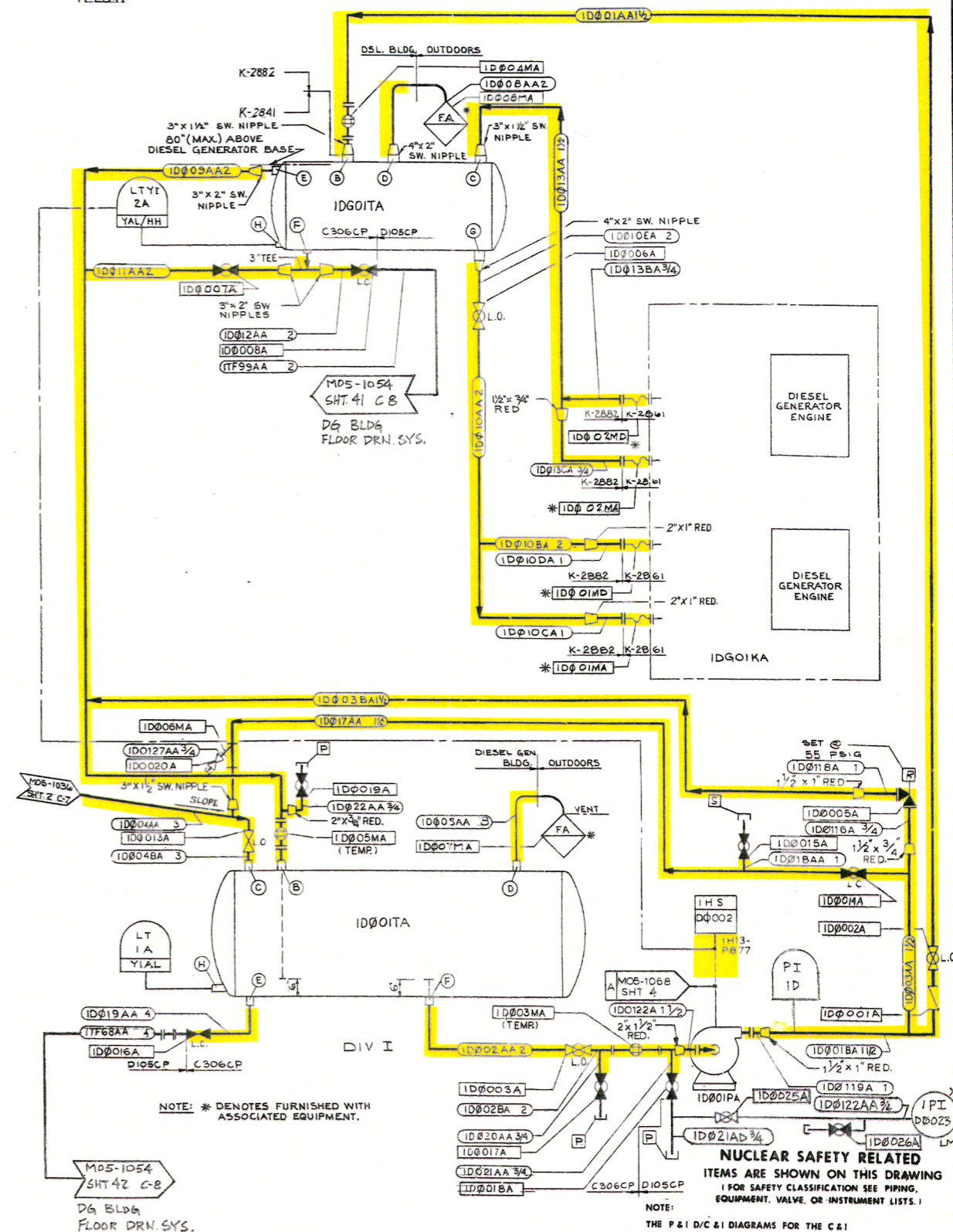
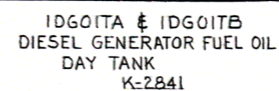
CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT

FIGURE 3.6-1
DIVISIONAL SEPARATION AND
HIGH-ENERGY P&ID'S-
COMPONENT COOLING WATER
SHEET 38 OF 111









NUCLEAR SAFETY RELATED
ITEMS ARE SHOWN ON THIS DRAWING
(FOR SAFETY CLASSIFICATION SEE PIPING,
EQUIPMENT, VALVE, OR INSTRUMENT LISTS.)

NOTE: THE P & I D/C & I DIAGRAMS FOR THE C & I FUNCTION SYMBOLS ARE SHOWN ON DRAWING M10-9036 UNLESS OTHERWISE NOTED. SHEET NUMBER & DIAGRAM REFERENCE ARE SHOWN IN THE FUNCTION SYMBOL.

CLINTON POWER STATION FINAL SAFETY ANALYSIS REPORT

FIGURE 3.6-1
DIVISIONAL SEPARATION AND
HIGH-ENERGY P&ID'S-
DIESEL GENERATOR FUEL OIL SYSTEM
SHEET 42 OF 111