

APPENDIX D

COMMONALITY DIAGRAMS

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1D615

125 VDC
NON CLASS 1E

TURBINE/
GENERATOR

- GENERATOR CLG WTR INST.
- A SYSTEM-TURB. TRIP & ALARM RELAYS
- THRUST BRG WEAR DETECTOR & LO BRG OIL PRESS.
- LO HYD. FLUID PRESS
- SHAFT PP DISCH. LO PRESS
- EXH. HOOD HIGH TEMP. GEN END TRIP.
- UNDERVOLTAGE RELAY TO ALARM
- MSR DRN TK 1A HI LVL TRIP
- D SYSTEM-TURB. TRIP
- GEN SEQUENTIAL TRIP

RECIRC
FLOW CONTROL
SYSTEM


- TEMP INST TO "A" CONTROLLER
- RUNBACK SIGNAL INST-CIRC. WATER

REACTOR
FEEDWATER
CONTROL
SYSTEM

- RFTPT A TRIP

NOTES:

1D615 FED FROM 1D612 125VDC BUS.

NO	REVISIONS	OWN	CHK	APPV	DATE
THE PENNSYLVANIA POWER & LIGHT COMPANY SUSQUEHANNA STEAM ELECTRIC STATION COMMONALITY DIAGRAM-POWER SUPPLY-1D615					
 nuclear	SCALE	DRAWN	CHECKED	APPROVED	DATE
	-1/	RJD	JAD	hik	12/1/89
JOB NO		DRAWING NO		REV	
0160-004-671		0160-004-01		0	

ID625

125 VDC
NON CLASS 1E

TURBINE /
GENERATOR

- GEN STATOR CLG WATER INST.

B SYSTEM - TURB. TRIP
& ALARM RELAYS

- THRUST BRG WEAR DETECTOR & LO BRG OIL PRESS
- LO HYD. FLUID PRESS
- SHAFT PP DISCH LO PRESS
- EXH. HOOD HIGH TEMP GEN END TRIP
- UNDERVOLTAGE RELAY
- MSR DRN TK 1B HI LVL TRIP

E SYSTEM - TURB. TRIP

- GEN SEQUENTIAL TRIP

NOTES:

ID625 FED FROM ID622 125VDC BUS

RECIRC
FLOW CONTROL
SYSTEM


- TEMP INST TO "B" CONTROLLER

NEUTRON
MONITORING
SYSTEM
-TIP-

- TIP CONTROL

REACTOR
FEEDWATER
CONTROL
SYSTEM

- RPT B TRIP

NO	REVISIONS	DWG	CHK	APP	DATE
THE PENNSYLVANIA POWER & LIGHT COMPANY SUSQUEHANNA STEAM ELECTRIC STATION COMMONALITY DIAGRAM-POWER SUPPLY-ID625					
 nuclear	SCALE:	DRAWN:	CHECKED:	APPROVED:	DATE:
		FJD	JAE	WJK	1/26/87
JOB NO:		DRAWING NO:			REV:
0160-001-071		0160-001-012			0



1D635

125 VDC
NON CLASS 1E

REACTOR
FEEDWATER
CONTROL
SYSTEM


- REACTOR WATER LEVEL-
INST C.
- FEEDWATER FLOW-
INST B.
- WIDE RANGE REACTOR LEVEL
- LEVEL B TRIP (R_x HIGH
WATER LEVEL)
- RFPT C TRIP

TURBINE/
GENERATOR

- C SYSTEM-TURB. TRIP
& ALARM UNIT
- THRUST BRG WEAR DETECTOR
& LO BRG OIL PRESS
- LO HYD. FLUID PRESS
- EXH HOOD HIGH TEMP
GEN. END TRIP
- UNDERVOLTAGE RELAY TO ALARM
- SHAFT PP DISCH LO PRESS
LEVEL B TRIP (R_x HIGH WATER LEVEL)

NOTES

1D635 FED FROM 1D632 125VDC BUS

NO	REVISIONS	DWB	CFE	APFY	DATE
	THE PENNSYLVANIA POWER & LIGHT COMPANY SUSQUEHANNA STEAM ELECTRIC STATION. COMMONALITY DIAGRAM-POWER SUPPLY-1D635				
 nuclear	SCALE:	DRAWN	CHECKED	APPROVED	DATE
	-A	FJD	JAT	WAL	12/21/51
	JOB NO.	DRAWING NO.			REV
	0160-004-671	0160-004-013			Q

ID645

125 VDC
NON CLASS 1E

TURBINE/
GENERATOR


- LOAD REFERENCE LOGIC
- GENERATOR BREAKER TRIP
- VALVE TEST LOGIC
- LO VACUUM PRESS TRIP
- BYPASS LO VACUUM PRESS TRIP
- EHC DC INPUT POWER LOSS TRIP
- LEVEL 8 TRIP (HIGH R_x WATER LEVEL)
- OVERSPEED TRIP
- MOISTURE SEPARATOR HIGH LVL TRIP
- HIGH EXHAUST HOOD TEMP TRIP
- LOW SHAFT PP DISCHARGE PRESS TRIP
- THRUST BRG WEAR DET & LOW BRG OIL PRESS TRIP
- LOW HYDRAULIC PRESS TRIP
- MECHANICAL TRIP SOLENOID

REACTOR
FEEDWATER
CONTROL
SYSTEM

- REACTOR WATER LEVEL-
INST B
- LEVEL 8 TRIP (HIGH R_x
WATER LEVEL)

NOTES:

ID645 FED FROM ID642 125VDC BUS

NO	REVISIONS	OWN	CHK	APPV	DATE
THE PENNSYLVANIA POWER & LIGHT COMPANY SUSQUEHANNA STEAM ELECTRIC STATION COMMONALITY DIAGRAM-POWER SUPPLY-ID645					
 nuclear	SCALE:	DRAWN	CHECKED	APPROVED	DATE
		KJD	PAI	WJK	12/21/81
JOB NO		DRAWING NO			REV
0160-004-871		0160-004-014			0

1Y218

120 VAC
NON CLASS 1E

RECIRC
FLOW CONTROL
SYSTEM

- FLOW CONTROL A
- FLOW CONTROL B
- MASTER CONTROLLER
- RUNBACK INST-
CONDENSATE PRESS
(L) A/B

REACTOR
MANUAL CONTROL
SYSTEM

- PWR DIST. PG10
SCRAM TEST PNL
- PWR DIST PG15
ROD POSN INFO
- PWR DIST PG59
ROD SEQUENCE CONTROL
- PWR DIST PG80-FULL
CORE DISPLAY, ROD
SELECT SWITCHES
- CRD HYD CONTROL
- 1ST STAGE TURBINE TRIP
INST.

NUCLEAR
PRESSURE
RELIEF
SYSTEM

TEMP MONITORING
(DOWNSTREAM
LEAKAGE)

TURBINE/
GENERATOR

LEVEL 8 TRIP
(HIGH R_w WATER
LEVEL)

NEUTRON
MONITORING
SYSTEM
- TIP -

CONTROL INST.


REACTOR
WATER CLEAN-UP
SYSTEM

- DIFF. FLOW INST.

REACTOR
FEEDWATER
CONTROL
SYSTEM

- MIN TURBINE STM FLOW
- LOW FLOW CONTROLLER
- FEEDWATER PUMP CONTROL
- FEEDWATER PP TRIP INTLK/RECIRC
- FEEDWATER FLOW INST A, C
- REACTOR PRESS INST
- STM FLOW INST
- REACTOR WATER LEVEL INST(A)
- LEVEL 8 TRIP(HIGH R_w WATER LEVEL)
- REACTOR WIDE RANGE LEVEL INST

NOTES:
1Y218 FED FROM 1B236 (DIV. I) ESS 480 V MCC (PREFERRED) AND
1B216 (DIV. I) ESS 480V MCC (ALTERNATE)

NO	REVISED	DES	CHK	APP	DATE
THE PENNSYLVANIA POWER & LIGHT COMPANY SUSQUEHANNA STEAM ELECTRIC STATION COMMONALITY DIAGRAM-POWER SUPPLY-1Y218					
 nuclear	SCALE:	DRAWN:	CHECKED:	APPROVED:	DATE:
	-1-	FJD	JAI	ML	5/21/81
JOB NO		DRAWING NO		REV	
0160-001-671		0160-001-015		0	

1Y219

120 VAC
NON CLASS 1E


REACTOR
WATER CLEAN-UP
SYSTEM

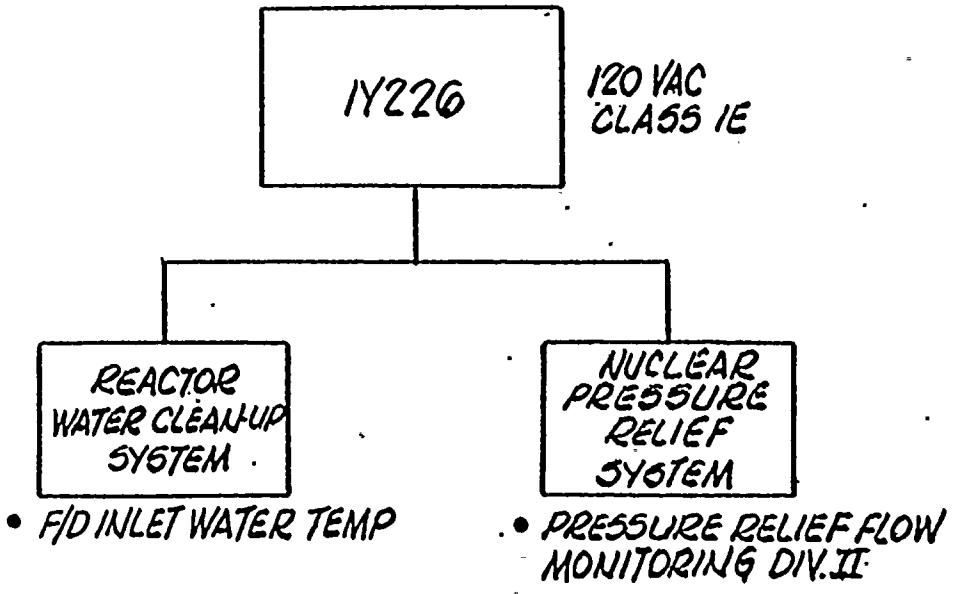
- SOLENOID VALVE CONTROL
PRESSURE SWITCHES
- PUMP COOLING WATER
TEMP
- RWCS TEMP MONITORING

REACTOR
MANUAL CONTROL
SYSTEM


- CRD TEMP INST. (T/C)

NOTES:
1Y219 FED. FROM 1Y218 120 VAC DISTRIBUTION PANEL

NO	REVISIONS	DWN	CHK	APPV	DATE
THE PENNSYLVANIA POWER & LIGHT COMPANY SUSQUEHANNA STEAM ELECTRIC STATION COMMONALITY DIAGRAM-POWER SUPPLY-1Y219					
 EPRI nuclear	SCALE:	DRAWN	CHECKED	APPROVED	DATE
	-1-	FJD	JAT	WMI	12/21/81
JOB NO	DRAWING NO		REV		
0160-004-071	0160-004-016		10		



NOTES:
 1Y226 FED FROM 1B226 (DIV.II) ESS 480 V MCC.

REVISIONS		DWR	CHK	APPV	DATE
THE PENNSYLVANIA POWER & LIGHT COMPANY SUSQUEHANNA STEAM ELECTRIC STATION COMMONALITY DIAGRAM-POWER SUPPLY-1Y226					
 nuclear	SCALE:	DRAWN	CHECKED	APPROVED	DATE
	-1-	FID	JAI	WPK	1/2/81
JOB NO		DRAWING NO		REV.	
0160-004-871		0160-004-017		0	

1Y629 120 VAC
NON CLASS 1E

**RECIRC
FLOW CONTROL
SYSTEM**

- RUN BACK INST-FEED FLOW A,B,C


**TURBINE/
GENERATOR**

- INTERMED STM PRESS INST
- M S PRESS. INST
- STM CHT PRESS INST
- PRESSURE CONTROL UNITS
- BEARING VIBRATION DETECTIDES
- SHELL EXPANSION INST
- ECCENTRICITY INST.
- VIBRATION PHASE 4 INST
- EXHAUST VALVE CHT TEMP
- SHAFT SPEED CONTROL UNIT
- AUTO PRESS SET POINT ADJUST
- CHEST/SHELL WARNING CIRCUITS
- LOAD CONTROL UNIT
- FLOW CONTROL UNIT
- TSI VIBRATION TRIP
- VALVE TEST CIRCUITS
- ROTOR EXPANSION DETECTION
- FA/PA TRANSFER POT
- 1ST STAGE TEMP INST
- 1ST STAGE PRESS FEEDBACK POT
- EHC LINE SPEED MATCHER
- AUTOMATIC LOAD FOLLOWING UNIT
- CURRENT/VOLTAGE CONVERTER
- RATE SENSITIVE POWER/LOAD UNBALANCE CIRCUITS
- LOSS OF SPEED SIGNAL FEEDBACK TRIP
- MASTER TRIP
- BYPASS SYSTEM

**REACTOR
MANUAL CONTROL
SYSTEM**

- PWR DIST P616 ROD DRIVE CONTROL

NOTES:
1Y629 FED FROM 1D666 (UPS) WHICH IS FED FROM 1D660 (DIV. II) 250V BATT (PREFERRED) AND 1B246 (DIV. II) ESS 480V MCC (ALTERNATE).

REVISIONS		REV #	CHK	APPY	DATE
THE PENNSYLVANIA POWER & LIGHT COMPANY SUSQUEHANNA STEAM ELECTRIC STATION COMMONALITY DIAGRAM-POWER SUPPLY-1Y629					
 nuclear	SCALE:	DRAWN:	CHECKED:	APPROVED:	DATE:
	-11-	R/D	JAI	h/b	7/31/87
JOB NO:		DRAWING NO:			REV:
0160-004-671		0160-004-018			0

**1Y218
AND
1Y219** **CASCADING
POWER SUPPLY
EFFECT**

**RECIRC
FLOW CONTROL
SYSTEM**

- FLOW CONTROL A
- FLOW CONTROL B
- MASTER CONTROLLER
- RUNBACK INST-
CONDENSATE PRESS
(L) A/B

**REACTOR
MANUAL CONTROL
SYSTEM**

- PWR DIST P610
SCRAM TEST PKL
- PWR DIST P615
ROD POSN INFO
- PWR DIST P659
ROD SEQUENCE CONTROL
- PWR DIST P680-FULL
CORE DISPLAY, ROD
SELECT SWITCHES
- CRD HYD CONTROL
- 1ST STAGE TURBINE TRIP
INST.
- CRD TEMP MONITORING

**NUCLEAR
PRESSURE
RELIEF
SYSTEM**

- TEMP MONITORING
(DOWNSTREAM
LEAKAGE)

**TURBINE/
GENERATOR**

- LEVEL B TRIP-
(HIGH R_x WATER
LEVEL)

**NEUTRON
MONITORING
SYSTEM
- TIP -**

- CONTROL INST


**REACTOR
WATER CLEANUP
SYSTEM**

- DIFF. FLOW INST.
- PUMP CLG WATER
TEMP INST
- SOLENOID VALVE CONTROL
PRESSURE SWITCHES

**REACTOR
FEEDWATER
CONTROL
SYSTEM**

- HI TURBINE STM FLOW
- LOW FLOW CONTROLLER
- FEEDWATER PUMP CONTROL
- FEEDWATER PP TRIP INTLK/RECIRC
- FEEDWATER FLOW INST A,C
- REACTOR PRESS INST
- STM FLOW INST
- REACTOR WATER LEVEL INST(A)
- REACTOR WIDE RANGE LEVEL INST
- LEVEL B TRIP (HIGH R_x WATER LEVEL)

NOTES:
SEE COMMONALITY DIAGRAMS FOR 1Y218 & 1Y219
FOR POWER SOURCE INFORMATION

NO		REVISIONS				DATE	CHK	APP	BY
THE PENNSYLVANIA POWER & LIGHT COMPANY SUSQUEHANNA STEAM ELECTRIC STATION COMMONALITY DIAGRAM-POWER SUPPLY-1Y218/1Y219									
 exide nuclear	SCALE	DRAWN	CHECKED	APPROVED	DATE				
	A-	FJD	JAE	LH	12/21/79				
JOB NO.		DRAWING NO.			REV				
0160-004-871		0160-004-019			0				


FEN001A,B,C

REACTOR
FEEDWATER
CONTROL
SYSTEM

• FEED FLOW INST. A,B,C

RECIRC
FLOW CONTROL
SYSTEM

• RUNBACK INST-FEED FLOW

NO	REVISIONS	OWN	CHK	APPV	DATE
THE PENNSYLVANIA POWER & LIGHT COMPANY SUSQUEHANNA STEAM ELECTRIC STATION COMMONALITY DIAGRAM-SENSOR-FE NO01A,B,C					
	SCALE:	DRAWN	CHECKED	APPROVED	DATE
	-11-	FJD	[Signature]	[Signature]	02/18
JOB NO	DRAWING NO		REV		
0160-004-071	0160-004-020		0		