CONTROL PANEL

SEQUENCE RECEIVER RELAY

SRR-8
SRR-7
SRR-6
SRR-5
SRR-4
SRR-3
SRR-2
SRR-1

TO COMPRESSOR B,C LOGIC (SEE NOTE 6)

SEQUENCE RECEIVER & SWITCH POSITION RELAY

SRR-5 POSITION 1
SRR-3 POSITION 2
SRR-7 POSITION 3
→ TO HALF LOAD COMPRESSOR B

SRR-6 POSITION 1
SRR-4 POSITION 2
SRR-8 POSITION 3
→ TO FULL LOAD COMPRESSOR B

SRR-7 POSITION 1
SRR-5 POSITION 2
SRR-3 POSITION 3
→ TO HALF LOAD COMPRESSOR C

SRR-8 POSITION 1
SRR-6 POSITION 2
SRR-4 POSITION 3
→ TO FULL LOAD COMPRESSOR C

PIC-32-125
REGULATOR
→ TO SHEET 2 COORD E-4

TO COMPRESSOR B,C LOGIC (SEE NOTE 5)

POSN 1 POSN 2 POSN 3
HS 32-25A
NOTE 3

ON OFF HS 32-43B

RESET HS 32-25B
NOTE 3

ON OFF HS 32-12S

OFF ON HS 32-43A

HAND AUTO HS 32-25D

START HS 32-25E

SAFE STOP HS 32-25F

10 MIN

10 S

BLACKOUT

SHUTDOWN BOARD VOLTAGE AVAILABLE (SEE NOTE 8)

ON OFF

FSV 32-43A
FSV 32-43B
FSV 32-42
REFER TO NOTE 7
VENT A B C

OIL TEMP > HIGH SETPOINT TS 32-40
OIL PRESSURE < LOW SETPOINT PS 32-40
AIR TEMP > HIGH SETPOINT TS 32-41

INTAKE FILTER
AIR COMPRESSOR A
AIR COMPRESSOR B
AIR COMPRESSOR C
AIR COMPRESSOR D

AFTERCOOLER
COOLING WATER IN
COOLING WATER OUT

CONTROL AIR RECEIVER NO.1
CONTROL AIR RECEIVER NO.2

TO CONTROL AIR SYSTEM 1-47W611-32-2 COORD D-1, F-1

HS 33-4 AUTO CLOSE
PSV 33-4
PRESS. > LOW SETPOINT
VENT
PIC 33-4
PCV 33-4
PS 33-4
SYS 33
SERVICE AIR RECEIVER
→ TO SERVICE AIR SYSTEM

NOTES:

1. FOR SYMBOLS OTHER THAN THOSE NOTED ABOVE SEE INSTRUMENTATION AND IDENTIFICATION STANDARDS, LATEST ISSUE.
2. FOR COMPLETE INSTRUMENTATION AND COMPONENT SEPARATION DESIGNATIONS SEE CONTROL DIAGRAM, 1-47W610-32-1.
3. CONTROL SWITCH COMMON TO (COMPRESSORS A, B & C).
4. A FULLY AUTOMATIC 2-STEP SELECTED DUAL CONTROL SYSTEM FOR (THREE) COMPRESSORS (A,B & C) IS SUPPLIED. LOGIC IS SHOWN FOR COMPRESSOR A AND IS TYPICAL FOR COMPRESSORS (B & C).
5. THE COMPRESSORS OPERATE IN SEQUENCE AS DETERMINED BY THE SEQUENCE SELECTOR SWITCH AND THE PRESSURE CONTROLLED SEQUENCE RECEIVER RELAY. THE SELECTOR SWITCH SEQUENCE IS AS FOLLOWS:

SWITCH POSITION	COMPRESSOR SEQUENCE
1	A-B-C
2	B-C-A
3	C-A-B
4	OFF

6. THE TABLE BELOW SHOWS THE SWITCH SETPOINTS BASED ON PERCENT OF CONTROLLER OUTPUT (3-15 PSI) WHERE 3 PSI = 0% AND 15 PSI = 100%. PROPORTIONAL BAND = 80%. CONTROLLER SETPOINT = 96 PSIG.

SRR CONTACT	CONTACT CLOSING ON DECREASING CONTROLLER OUTPUT PRESSURE	CONTACT OPENING ON INCREASING CONTROLLER OUTPUT PRESSURE
SRR-1	60%	72.5% DISABLED
-2	52.5%	65% DISABLED
-3	45%	57.5%
-4	37.5%	50%
-5	30%	42.5%
-6	22.5%	35%
-7	15%	27.5%
-8	7.5%	20%

7. DE-ENERGIZING THE SOLENOID VALVE CONNECTED TO THE UL-58 REGULATOR ADMITS AIR PRESSURE FROM PORT B THRU PORT C TO THE TWO UNLOADERS ON THE INLET VALVES. THESE UNLOADERS ARE MOUNTED ON TOP OF THE CYLINDERS AND WHEN HELD OPEN BY AIR PRESSURE VENTS THE CYLINDERS TO ATMOSPHERE. ENERGIZING THE SOLENOID CLOSES PORT B OF THE REGULATOR & VENTS THE UNLOADERS THRU PORT A TO ATMOSPHERE. ENERGIZING ONE SOLENOID HALF LOADS THE COMPRESSOR AND WITH BOTH ENERGIZED FULLY LOADS THE COMPRESSOR.
8. ONLY COMPRESSORS A & B WILL BE ON THE SHUTDOWN BOARDS.
9. "DIGITAL AND ANALOG LOGIC SYMBOLS ARE USED ON LOGIC DIAGRAMS TO FUNCTIONALLY DESCRIBE THE PROCESS CONTROL. REFER TO THE ASSOCIATED WIRING SCHEMATIC FOR THE ELECTRICAL COMPONENTS USED TO IMPLEMENT THE CONTROL SCHEME."
10. ALL COMPONENT IDENTIFIERS ARE UNITIZED COMMON ("0").

REFERENCE DRAWINGS:

1-47W611-0-1---------- LOGIC SYMBOL INDEX
47W611-0-2---------- LOGIC SYMBOL INDEX
1-47W610-32-1,2,3------- CONTROL DIAGRAM
1-47W846-1,2 ---------- FLOW DIAGRAM- STA SERVICE AIR
1-47W848-1 THRU 10 ------ FLOW DIAGRAM- CONTROL AIR
1-45W760-32-1---------- WIRING DIAGRAM- CONTROL AIR
1-45W600-32---------- WIRING DIAGRAM- CONTROL AIR

ENTIRE DWG SYS 32
EXCEPT AS NOTED

FSAR FIG. 9.3-3

REV NO.	CHANGE REF	DATE	DFTR	CHKR	DSGN	RVWR	1APPD	2APPD	3APPD	ISSD
5	M-19748-D REVISED PER DCA M19748-131-02. INCORPORATED SYSTEM 32 BOUNDARIES.	5-14-115	DLW	PDH	ESJ	NR	NR	NR	[illegible]	

SCALE: NTS — EXCEPT AS NOTED

PROJECT FACILITY
POWERHOUSE
UNITS 1 & 2

TITLE
ELECTRICAL
LOGIC DIAGRAM
COMPRESSED AIR SYSTEM

1 | WATTS BAR NUCLEAR PLANT, TENNESSEE VALLEY AUTHORITY | Q

DESIGN		INITIAL ISSUE	ENGINEERING APPROVAL
DRAFTER J.A. TALLEY	CHECKER FRANK LAYFIELD	RO ISSUE PER EA1-3.10 & RIMS T28 '92 0108 800	1 GARY BARNARD
DESIGNER GARY BARNARD	REVIEWER R.L. FORESTER		2 ROBERT D. MURR
			3 C.C. LYKE FOR MCB

ISSUED BY: R.M. JOHNSON | DATE 1-23-92 | 85 | E | 1-47W611-32-1 | R5

PRINTS REQ'D R — PRINT SIZE F: BR OR PROJ AB CE EE ME NE FE HE SE TE BL BF WB SQ — PRINT SIZE H: BR OR PROJ AB CE EE ME NE FE HE SE TE BL BF WB SQ

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CONFIGURATION CONTROL DRAWING