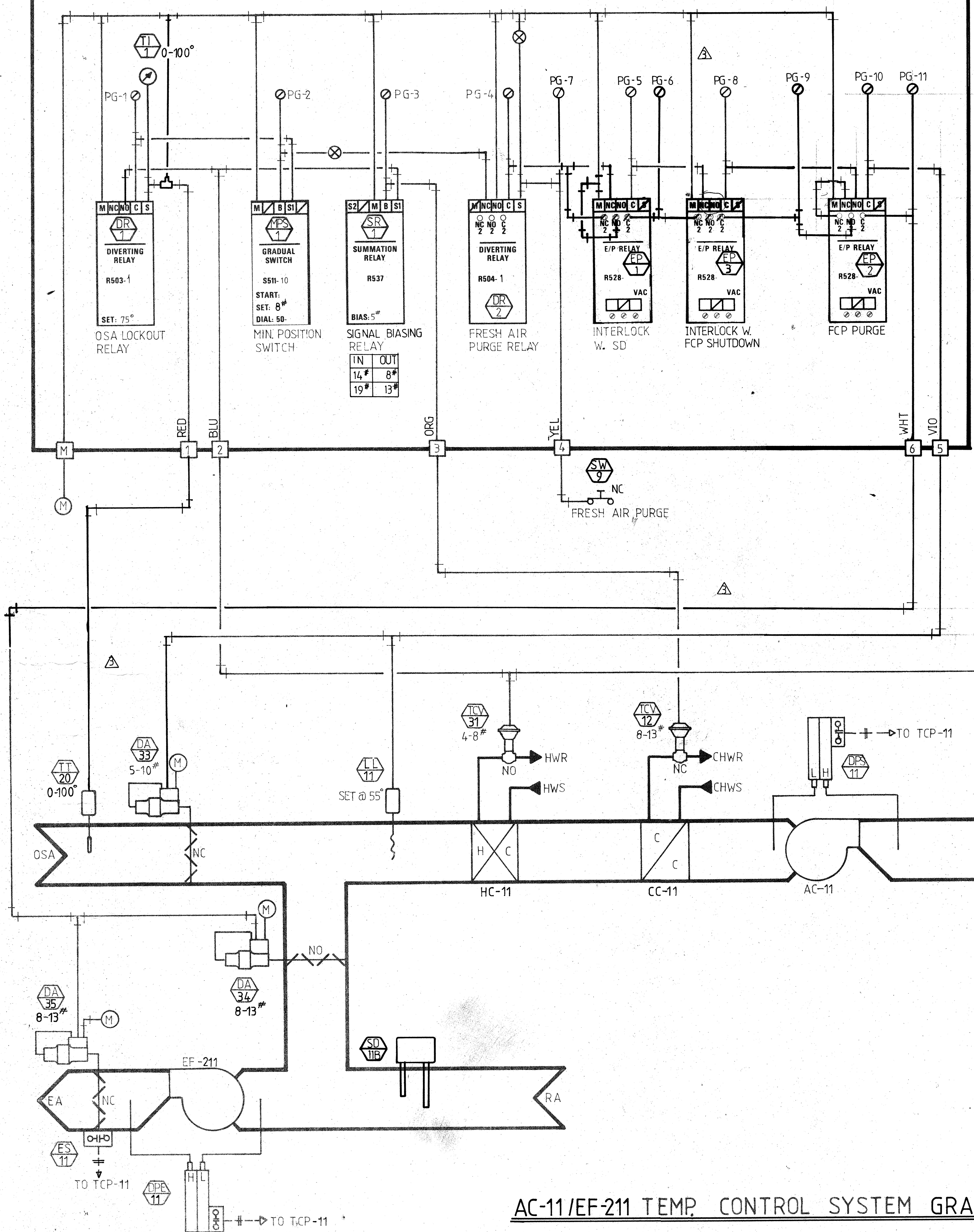


TCP-11 TEMP CONTROL PANEL 4TH FLOOR ROOF



EQUIPMENT SCHEDULE

TAG	QTY	CODE - NO	DESCRIPTION	REMARKS
TI-1	1	A251	Temperature Indicator	0-100°F
PG-11	11	A201-01	Pressure Gauge	0-30#
DR-1	1	R503-1	Diverting Relay	
DR-2	1	R504-1	Diverting Relay	
MPS-1	1	S511-10	Minimum Position Switch	
SR-1	1	R537	Summation Relay	
EP-1,2,3	3	R528-110	Electric Pneumatic Relay	110 VAC
R-1/2,5	3	RH2B-L	2 PDT Relay	110 VAC
TCP-11	1	24X24X8	Temperature Control Panel	
ASK-11	1	RCM-50	Remote Alarm Indicator Switch	
R-4	1	RH3B-L	RELAY 3PDT	110VAC
R-3	1	RH4B-L	" 4PDT	"

SYSTEM START-UP:

SYSTEM IS MANUALLY STARTED THROUGH RELAY R-5, INTERLOCKED WITH THE SUPPLY AIR SMOKE DETECTOR. EXHAUST FAN STARTS WHEN ENDSWITCH CONTACTS CLOSE AND SUPPLY FAN IS RUNNING.

SMOKE CONTROL AND FIREMAN'S OVERRIDE:

UPON SENSING SMOKE IN THE SUPPLY AIR, SUPPLY AIR SMOKE DETECTOR DE-ENERGIZES RELAY R-5. R5-1 CONTACTS OPEN TO DE-ENERGIZE THE SUPPLY FAN. R5-2 CONTACTS OPEN TO DE-ENERGIZE THE ELECTRIC PNEUMATIC RELAY EP-1, WHICH IN TURN CLOSES THE OSA & RA DAMPERS AND OPENS THE EXHAUST AIR DAMPERS. THE EXHAUST FAN REMAINS RUNNING. UPON SENSING SMOKE IN THE RETURN AIR, RETURN AIR SMOKE DETECTOR ENERGIZES RELAY R-1. R1-1 CONTACTS CLOSE TO ENERGIZE THE ELECTRIC PNEUMATIC RELAY EP-2, WHICH IN TURN OPENS THE EXHAUST AIR AND OSA DAMPER 100% AND CLOSES THE RETURN AIR DAMPER. THE SUPPLY AND EXHAUST FAN REMAIN RUNNING. IF THE SUPPLY FAN IS OFF, IT REMAINS OFF. WHEN RELAY R-3 IS DE-ENERGIZED BY THE FCP, R3-1 CONTACTS OPEN TO DE-ENERGIZE THE SUPPLY FAN. R3-2 CONTACTS OPEN TO DE-ENERGIZE THE EXHAUST FAN. R3-3 CONTACTS OPEN TO DE-ENERGIZE THE ELECTRIC PNEUMATIC RELAY EP-1, WHICH IN TURN CLOSES THE OSA AND EA DAMPER AND OPENS THE RETURN AIR DAMPER. R3-4 CONTACTS OPEN TO DE-ENERGIZE EP-2. WHEN RELAY R-4 IS ENERGIZED BY THE FCP, R4-1 CONTACTS CLOSE TO ENERGIZE THE SUPPLY FAN. R4-2 CONTACTS CLOSE TO ENERGIZE THE EXHAUST FAN AND R4-3 CONTACTS CLOSE TO ENERGIZE THE ELECTRIC PNEUMATIC RELAY EP-2, WHICH IN TURN OPENS OSA AND EA DAMPERS AND CLOSES THE RA DAMPERS.

DIFFERENTIAL PRESSURE SWITCHES DPS-11 AND DPE-11, LOCATED ACROSS SUPPLY AND EXHAUST FANS, INDICATE THAT THE FANS ARE RUNNING AT THE FIREMAN'S CONTROL PANEL.

SUPPLY AIR TEMPERATURE CONTROL:

ROOM THERMOSTAT RT-1, LOCATED IN ITS CONDITIONED AREA, MODULATES THE HEATING CONTROL VALVE TCV-31 TO MAINTAIN ROOM TEMPERATURE. BRANCH PRESSURE FROM RT-1 IS ALSO FED INTO OSA LOCKOUT RELAY DR-1 AND SIGNAL BIASING RELAY SR-1. BRANCH PRESSURE FROM OSA LOCKOUT RELAY DR-1 MODULATES THE OUTSIDE AIR, RETURN AIR AND EXHAUST AIR DAMPERS. WHEN THE OUTSIDE AIR TEMPERATURE EXCEEDS DR-1 SETPOINT (75°F), AS SENSED BY TEMPERATURE TRANSMITTER TT-20, BRANCH PRESSURE FROM DR-1 IS VENTED, OUTSIDE AIR DAMPER TURN TO THEIR MINIMUM POSITION AND RETURN AIR DAMPER OPENS.

BRANCH PRESSURE FROM SIGNAL BIASING RELAY MODULATE THE COOLING CONTROL VALVE TCV-12 TO MAINTAIN RT-1 SETPOINT.

LOW LIMIT CONTROLLER LL-11, LOCATED IN THE MIXED AIR, OVERRIDES RT-1 SIGNAL, WHEN MIXED AIR TEMPERATURE DROPS BELOW LL-11 SETPOINT (55°F).

FRESH AIR PURGE:

WHEN SWITCH SW-9 (N.C.) IS ACTIVATED, FRESH AIR PURGE RELAY DR-2 IS ACTIVATED. MAIN AIR CONNECTED TO THE N.O. PORT IS SWITCHED TO THE N.C. PORT OF DR-4, WHICH OPENS THE OUTSIDE AND EXHAUST AIR DAMPERS AND CLOSES THE RETURN AIR DAMPER 100%.

CONTRACTOR
A & A MECH.

JOB NAME

ENERGY LOGICS

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REVISIONS

1-3-85KK
1-21-86 "AS BUILT"

AC-11/EF-211

DRAWN: M. NISIPANU
CHECKED: T. K. 1-1
DATE: 7-26-84
JOB NO.: 84-5137

SHEET
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