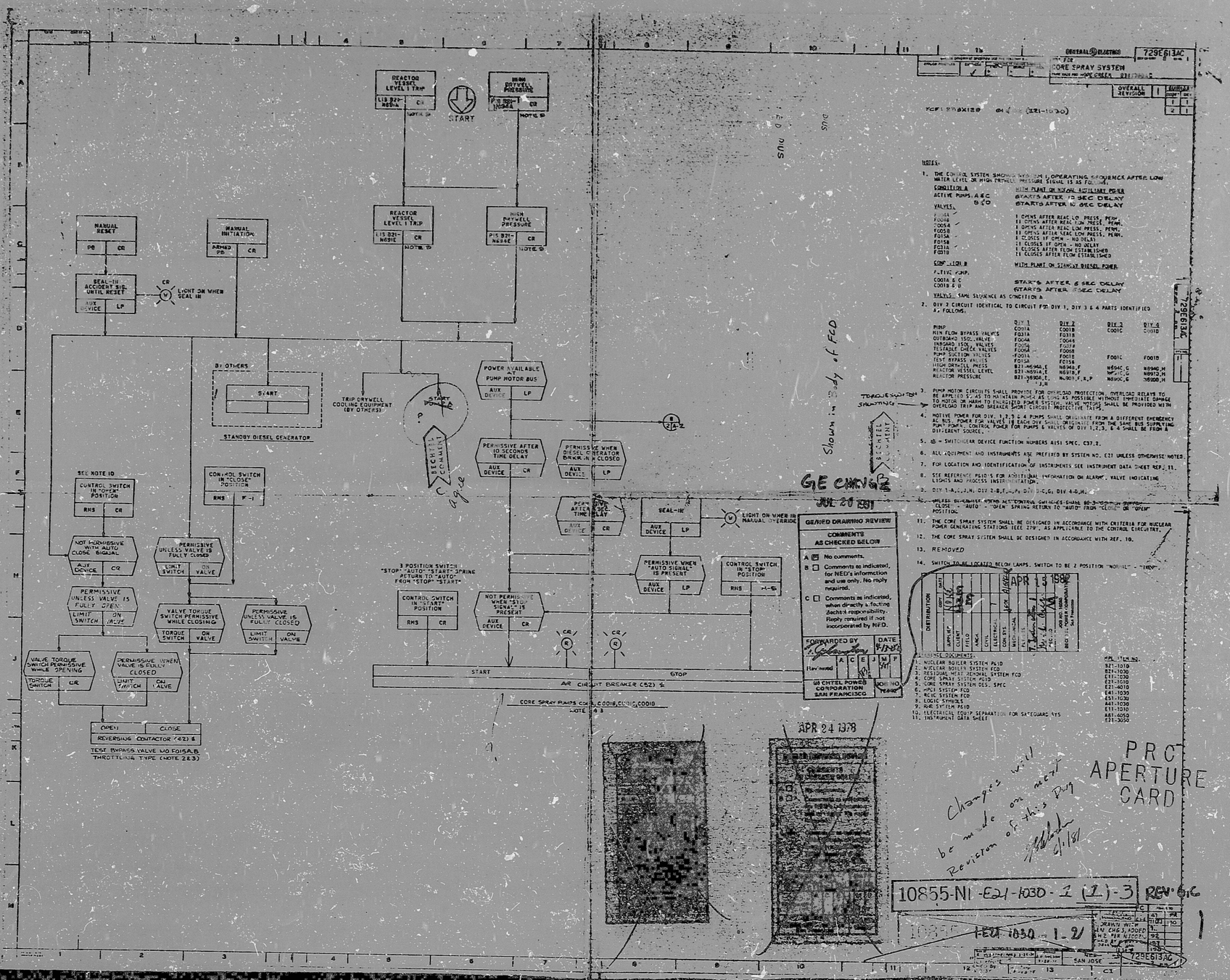
GENERAL ELECTRIC
729E613AC
CORE SPRAY SYSTEM
REACTOR VESSEL LEVEL 1 TRIP
HIGH DRYWELL PRESSURE
START
MANUAL RESET
MANUAL INITIATION
SEAL-IN ACCIDENT SIG. UNTIL RESET
LIGHT ON WHEN SEAL IN
BY OTHERS
STANDBY DIESEL GENERATOR
TRIP DRYWELL COOLING EQUIPMENT (BY OTHERS)
POWER AVAILABLE PUMP MOTOR BUS
PERMISSIVE AFTER 10 SECONDS TIME DELAY
PERMISSIVE WHEN DIESEL GENERATOR BRKR IN CLOSED
SEAL-IN
LIGHT ON WHEN IN MANUAL OVERRIDE
CONTROL SWITCH IN "CLOSE" POSITION
SEE NOTE 10
CONTROL SWITCH IN "STOP" POSITION
NOT PERMISSIVE WITH AUTO CLOSE SIGNAL
PERMISSIVE UNLESS VALVE IS FULLY CLOSED
PERMISSIVE UNLESS VALVE IS FULLY OPEN
VALVE TORQUE SWITCH PERMISSIVE WHILE CLOSING
PERMISSIVE UNLESS VALVE IS FULLY CLOSED
3 POSITION SWITCH "STOP"-"AUTO"-"START"-SPRING RETURN TO "AUTO" FROM "STOP"-"START"
CONTROL SWITCH IN "START" POSITION
NOT PERMISSIVE WHEN "STOP SIGNAL" IS PRESENT
PERMISSIVE WHEN "AUTO SIGNAL" IS PRESENT
CONTROL SWITCH IN "STOP" POSITION
VALVE TORQUE SWITCH PERMISSIVE WHILE OPENING
PERMISSIVE WHEN VALVE IS FULLY CLOSED
OPEN
CLOSE
REVERSING CONTACTOR (42) &
TEST BYPASS VALVE MO F015A,B THROTTLING TYPE (NOTE 2&3)
START
STOP
AIR CIRCUIT BREAKER (52) &
CORE SPRAY PUMPS CO1A, CO01B, CO01C, CO01D
NOTE 4 &
TECHNICAL CONTROL
GE CHANGE
JUL 20 1981
GENERAL DRAWING REVIEW
COMMENTS AS CHECKED BELOW
A ☒ No comments.
B ☐ Comments as indicated, for NED's information and use only. No reply required.
C ☐ Comments as indicated, when directly affecting Bechtel's responsibility. Reply required if not incorporated by NED.
FORWARDED BY
DATE
Hay Wood
GENERAL PUBLIC UTILITIES CORPORATION SAN FRANCISCO
APR 24 1978
APR 13 1982
NOTES:
1. THE CONTROL SYSTEM SHOWN HERE SHALL OPERATING SEQUENCE AFTER LOW WATER LEVEL OR HIGH DRYWELL PRESSURE SIGNAL IS AS FOLLOWS:
CONDITION A
ACTIVE PUMPS A & C — WITH PLANT ON NORMAL AUXILIARY POWER
B & D — STARTS AFTER 10 SEC DELAY
VALVES — STARTS AFTER 10 SEC DELAY
F004A — OPENS AFTER REAC LO PRESS, PERM.
F004B — OPENS AFTER REAC LOW PRESS, PERM.
F005A — OPENS AFTER REAC LOW PRESS, PERM.
F005B — OPENS AFTER REAC LOW PRESS, PERM.
F015A — CLOSES IF OPEN - NO DELAY
F015B — CLOSES IF OPEN - NO DELAY
F031A — CLOSES AFTER FLOW ESTABLISHED
F031B — CLOSES AFTER FLOW ESTABLISHED
CONDITION B — WITH PLANT ON STANDBY DIESEL POWER
ACTIVE PUMP — STARTS AFTER 6 SEC DELAY
CO01A & C — STARTS AFTER 6 SEC DELAY
CO01B & D
VALVES — SAME SEQUENCE AS CONDITION A
2. DIV 2 CIRCUIT IDENTICAL TO CIRCUIT FOR DIV 1, DIV 3 & 4 PARTS IDENTIFIED AS FOLLOWS:
	DIV. 1	DIV. 2	DIV. 3	DIV. 4
PUMP	CO01A	CO01B	CO01C	CO01D
MIN FLOW BYPASS VALVES	F031A	F031B		
OUTBOARD ISOL. VALVES	F004A	F004B		
INBOARD ISOL. VALVES	F005A	F005B		
TESTABLE CHECK VALVES	F006A	F006B		
PUMP SUCTION VALVES	F001A	F001B	F001C	F001D
TEST BYPASS VALVES	F015A	F015B		
HIGH DRYWELL PRESS	B21-N694A,E	N694B,F	N694C,G	N694D,H
REACTOR VESSEL LEVEL	B21-N691A,E	N691B,F	N691C,G	N691D,H
REACTOR PRESSURE	B21-N690A,E, J,N	N690B,F,K,P	N690C,G	N690D,H
3. PUMP MOTOR CIRCUITS SHALL PROVIDE FOR OVERLOAD PROTECTION. OVERLOAD RELAYS TO BE APPLIED SO AS TO MAINTAIN PUMPS AS LONG AS POSSIBLE WITHOUT IMMEDIATE DAMAGE TO MOTOR OR HARM TO ENGAGED EQUIPMENT. SYSTEM VALVE MOTORS SHALL BE PROVIDED WITH OVERLOAD TRIP AND BREAKER BYPASS CIRCUITS FOR EFFECTIVE TRIP.
4. MOTIVE POWER FOR DIV. 1,2,3 & 4 PUMPS SHALL ORIGINATE FROM A DIFFERENT EMERGENCY AC BUS. POWER FOR VALVES IN EACH DIV. SHALL ORIGINATE FROM THE SAME BUS SUPPLYING PUMP POWER. CONTROL POWER FOR PUMPS & VALVES OF DIV. 1,2,3, & 4 SHALL BE FROM A DIFFERENT SOURCE.
5. ⊗ - SWITCHGEAR DEVICE FUNCTION NUMBERS AISI SMC. C37.2.
6. ALL EQUIPMENT AND INSTRUMENTS ARE PREFIXED BY SYSTEM NO. E21 UNLESS OTHERWISE NOTED.
7. FOR LOCATION AND IDENTIFICATION OF INSTRUMENTS SEE INSTRUMENT DATA SHEET REF. 11.
8. SEE REFERENCE P&ID'S FOR ADDITIONAL INFORMATION ON ALARM, VALVE INDICATING LIGHTS AND PROCESS INSTRUMENTATION.
9. DIV 1-A,C,J,M. DIV 2-B,F,L,P. DIV 3-C,G. DIV 4-D,H.
10. UNLESS SUPPLIED WITH AUTO CONTROL SWITCHES SHALL BE 3-POSITION SPRING CLOSE - "AUTO" - "OPEN" SPRING RETURN TO "AUTO" FROM "CLOSE" OR "OPEN" POSITION.
11. THE CORE SPRAY SYSTEM SHALL BE DESIGNED IN ACCORDANCE WITH CRITERIA FOR NUCLEAR POWER GENERATING STATIONS IEEE 279", AS APPLICABLE TO THE CONTROL CIRCUITRY.
12. THE CORE SPRAY SYSTEM SHALL BE DESIGNED IN ACCORDANCE WITH REF. 10.
13. REMOVED
14. SWITCH TO BE LOCATED BELOW LAMPS. SWITCH TO BE 2 POSITION "NORMAL" - "TRIP".
DISTRIBUTION
REFERENCE DOCUMENTS
1. NUCLEAR BOILER SYSTEM P&ID
2. NUCLEAR BOILER SYSTEM FCD
3. RESIDUAL HEAT REMOVAL SYSTEM FCD
4. CORE SPRAY SYSTEM P&ID
5. CORE SPRAY SYSTEM DES. SPEC
6. HPCI SYSTEM FCD
7. RCIC SYSTEM FCD
8. LOGIC SYMBOLS
9. RHR SYSTEM P&ID
10. ELECTRICAL EQUIP SEPARATION FOR SAFEGUARD SYS
11. INSTRUMENT DATA SHEET
HPL ITEM NO.
B21-1010
B21-1030
E21-1030
E21-1010
E21-4010
E41-1030
E51-1030
A41-1030
E11-1010
A81-4050
E31-3050
SAN JOSE
Changes will be made on next revision of this dwg
PRC APERTURE CARD
10855-NI-E21-1030-1 (1)-3
REV. 6/6
10855-NI-E21-1030-1.21

RIDS

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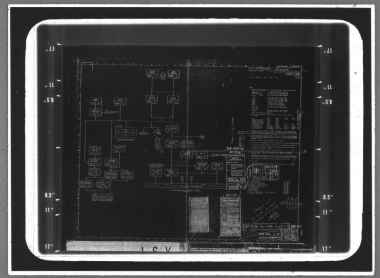

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