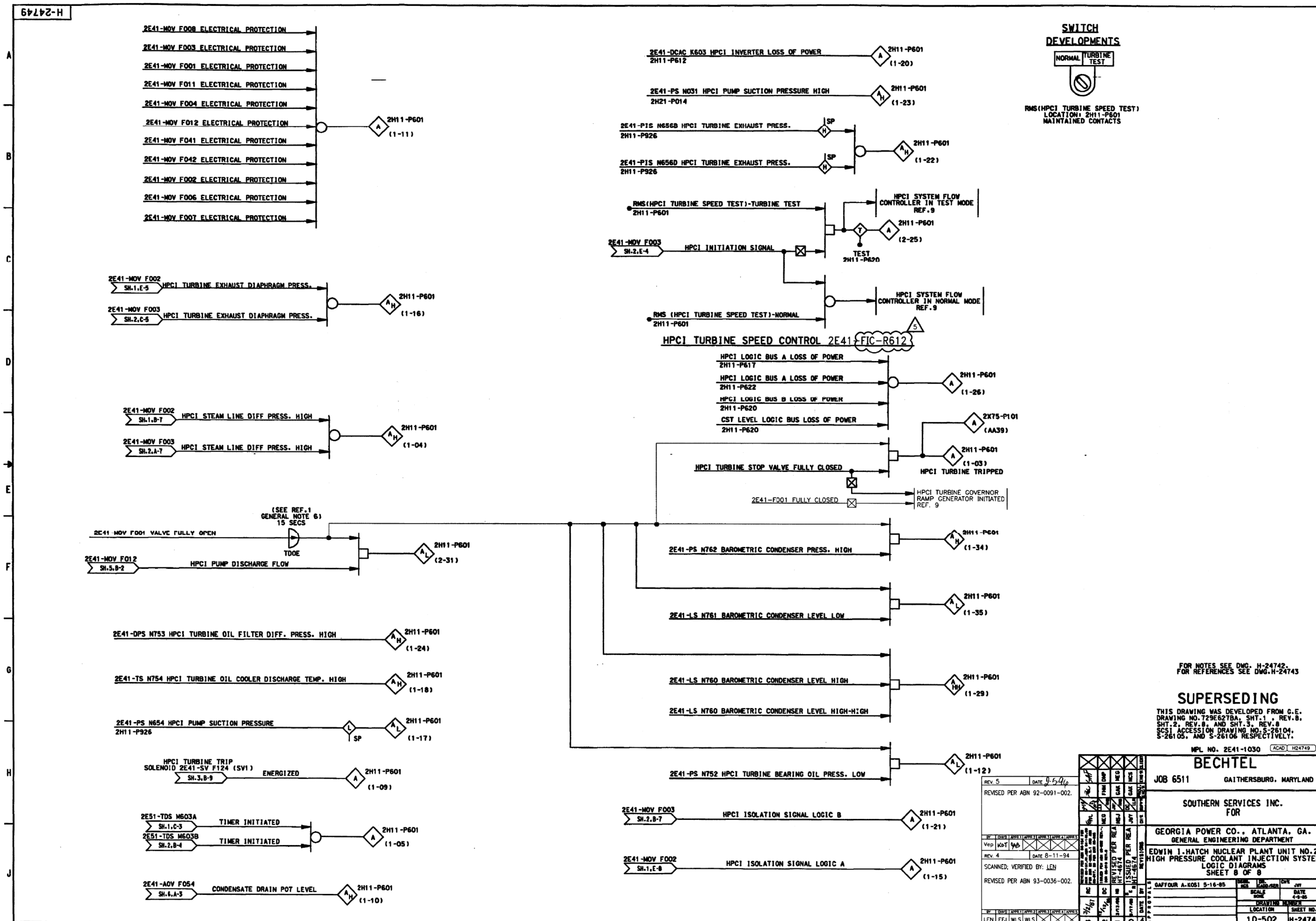
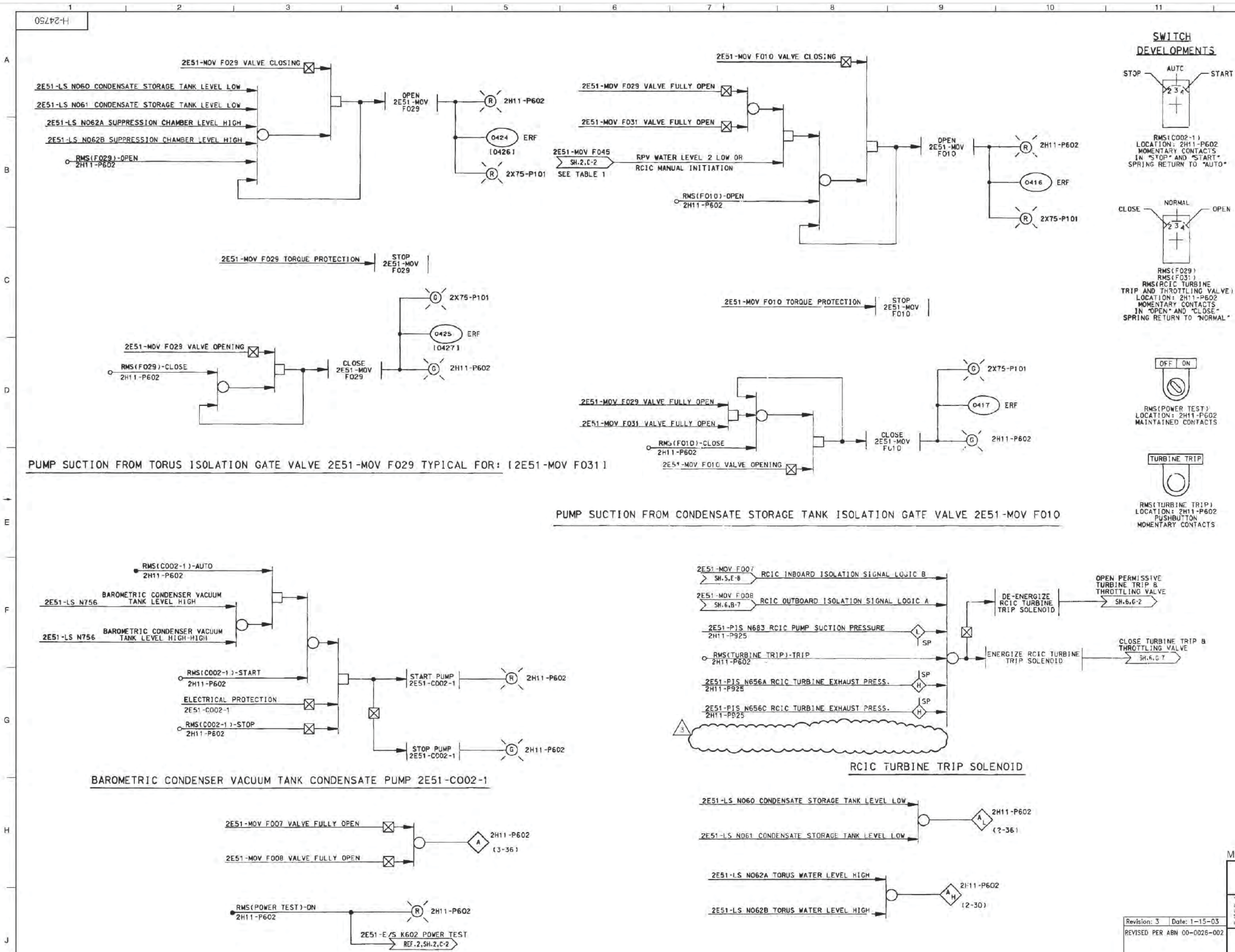


H-24749
2E41-MOV F008 ELECTRICAL PROTECTION
2E41-MOV F003 ELECTRICAL PROTECTION
2E41-MOV F001 ELECTRICAL PROTECTION
2E41-MOV F011 ELECTRICAL PROTECTION
2E41-MOV F004 ELECTRICAL PROTECTION
2E41-MOV F012 ELECTRICAL PROTECTION
2E41-MOV F041 ELECTRICAL PROTECTION
2E41-MOV F042 ELECTRICAL PROTECTION
2E41-MOV F002 ELECTRICAL PROTECTION
2E41-MOV F006 ELECTRICAL PROTECTION
2E41-MOV F007 ELECTRICAL PROTECTION
2H11-P601 (1-11)
2E41-MOV F002 SH.1,E-5 HPCI TURBINE EXHAUST DIAPHRAGM PRESS.
2E41-MOV F003 SH.2,C-5 HPCI TURBINE EXHAUST DIAPHRAGM PRESS.
2H11-P601 (1-16)
2E41-MOV F002 SH.1,B-7 HPCI STEAM LINE DIFF PRESS. HIGH
2E41-MOV F003 SH.2,A-7 HPCI STEAM LINE DIFF PRESS. HIGH
2H11-P601 (1-04)
(SEE REF.1 GENERAL NOTE 6) 15 SECS
2E41 MOV F001 VALVE FULLY OPEN
TDOE
2E41-MOV F012 SH.5,B-2 HPCI PUMP DISCHARGE FLOW
2H11-P601 (2-31)
2E41-DPS N753 HPCI TURBINE OIL FILTER DIFF. PRESS. HIGH
2H11-P601 (1-24)
2E41-TS N754 HPCI TURBINE OIL COOLER DISCHARGE TEMP. HIGH
2H11-P601 (1-18)
2E41-PS N654 HPCI PUMP SUCTION PRESSURE
2H11-P926
SP
2H11-P601 (1-17)
HPCI TURBINE TRIP SOLENOID 2E41-SV F124 (SV1)
SH.3,B-9
ENERGIZED
2H11-P601 (1-09)
2E51-TDS N603A SH.1,C-3 TIMER INITIATED
2E51-TDS N603B SH.2,B-4 TIMER INITIATED
2H11-P601 (1-05)
2E41-AOV F054 SH.6,A-3 CONDENSATE DRAIN POT LEVEL
2H11-P601 (1-10)
2E41-DCAC K603 HPCI INVERTER LOSS OF POWER
2H11-P612
2H11-P601 (1-20)
2E41-PS N031 HPCI PUMP SUCTION PRESSURE HIGH
2H21-P014
2H11-P601 (1-23)
2E41-PIS N656B HPCI TURBINE EXHAUST PRESS.
2H11-P926
SP
2E41-PIS N656D HPCI TURBINE EXHAUST PRESS.
2H11-P926
SP
2H11-P601 (1-22)
RMS(HPCI TURBINE SPEED TEST)-TURBINE TEST
2H11-P601
HPCI SYSTEM FLOW CONTROLLER IN TEST MODE REF.9
2H11-P601 (2-25)
TEST 2H11-P620
2E41-MOV F003 SH.2,E-4
HPCI INITIATION SIGNAL
HPCI SYSTEM FLOW CONTROLLER IN NORMAL MODE REF.9
RMS (HPCI TURBINE SPEED TEST)-NORMAL
2H11-P601
HPCI TURBINE SPEED CONTROL 2E41-FIC-R612
5
HPCI LOGIC BUS A LOSS OF POWER
2H11-P617
HPCI LOGIC BUS A LOSS OF POWER
2H11-P622
HPCI LOGIC BUS B LOSS OF POWER
2H11-P620
CST LEVEL LOGIC BUS LOSS OF POWER
2H11-P620
2H11-P601 (1-26)
2X75-P101 (AA39)
2H11-P601 (1-03)
HPCI TURBINE TRIPPED
HPCI TURBINE STOP VALVE FULLY CLOSED
HPCI TURBINE GOVERNOR RAMP GENERATOR INITIATED REF. 9
2E41-F001 FULLY CLOSED
2E41-PS N762 BAROMETRIC CONDENSER PRESS. HIGH
2H11-P601 (1-34)
2E41-LS N761 BAROMETRIC CONDENSER LEVEL LOW
2H11-P601 (1-35)
2E41-LS N760 BAROMETRIC CONDENSER LEVEL HIGH
2E41-LS N760 BAROMETRIC CONDENSER LEVEL HIGH-HIGH
2H11-P601 (1-29)
2E41-PS N752 HPCI TURBINE BEARING OIL PRESS. LOW
2H11-P601 (1-12)
2E41-MOV F003 SH.2,B-7 HPCI ISOLATION SIGNAL LOGIC B
2H11-P601 (1-21)
2E41-MOV F002 SH.1,E-8 HPCI ISOLATION SIGNAL LOGIC A
2H11-P601 (1-15)
SWITCH DEVELOPMENTS
NORMAL
TURBINE TEST
RMS(HPCI TURBINE SPEED TEST)
LOCATION: 2H11-P601
MAINTAINED CONTACTS
FOR NOTES SEE DWG. H-24742.
FOR REFERENCES SEE DWG. H-24743
SUPERSEDING
THIS DRAWING WAS DEVELOPED FROM G.E. DRAWING NO.729E627BA, SHT.1, REV.8, SHT.2, REV.8, AND SHT.3, REV.8
SCSI ACCESSION DRAWING NO.S-26104, S-26105, AND S-26106 RESPECTIVELY.
MPL NO. 2E41-1030
ACAD H24749
REV. 5 DATE 9-5-96
REVISED PER ABN 92-0091-002.
REV. 4 DATE 8-11-94
SCANNED; VERIFIED BY: LEN
REVISED PER ABN 93-0036-002.
LEN EFJ WLS WLS
BECHTEL
JOB 6511
GAITHERSBURG, MARYLAND
SOUTHERN SERVICES INC.
FOR
GEORGIA POWER CO., ATLANTA, GA.
GENERAL ENGINEERING DEPARTMENT
EDWIN I. HATCH NUCLEAR PLANT UNIT NO.2
HIGH PRESSURE COOLANT INJECTION SYSTEM
LOGIC DIAGRAMS
SHEET 8 OF 8
GAFFOUR A-K051 5-16-85
SCALE NONE
DATE 4-9-85
DRAWING NUMBER
LOCATION 10-502
SHEET NO. H-24749
ISSUED PER REA
REVISED PER REA



NOTES

1. ALL EQUIPMENT AND INSTRUMENTS ARE PRECEDED BY MPL. NO. 2E51 UNLESS OTHERWISE NOTED.
2. FOR LOCATION AND INDENTIFICATION OF INSTRUMENTS, SEE INSTRUMENT INDEX OR EQUIPMENT LOCATION INDEX (ELI).
3. FOR LOGIC DIAGRAMS-LEGEND AND GENERAL NOTES, SEE REFERENCE 1.
4. FOR INFORMATION ON ALARMS, VALVE INDICATING LIGHT REQUIREMENTS AND PROCESS INSTRUMENTATION REQUIREMENTS WHICH ARE NOT SHOWN ON THE LOGIC DIAGRAMS, SEE REFERENCE 2.
5. IF THE TURBINE TRIP AND THROTTLING VALVE IS CLOSED USING THE SPRING MECHANISM, THE VALVE CAN NOT BE OPENED UNTIL THE SPRING MECHANISM IS MANUALLY RESET AT THE TURBINE 2E51-C002.
6. ISOLATION SIGNAL SWITCHES SHALL BE OF THE TYPE THAT CLOSE CONTACTS FOR THE SPECIFIED ISOLATION EVENT. WHERE AUXILIARY RELAYS ARE USED IN THE ISOLATION CHANNELS THEY SHALL BE POWERED FROM THE STATION BATTERIES.
7. THE RCIC SYSTEM SHALL BE DESIGNED IN ACCORDANCE WITH REFERENCE 8 AND WITH "PROPOSED CRITERIA FOR NUCLEAR POWER PLANT PROTECTION SYSTEM IEEE-279", AS APPLICABLE TO THE CONTROL CIRCUITRY.
8. DELETED
9. THE RCIC SYS. IS ARRANGED FOR TEST OF PUMP AT FULL FLOW & ALL VALVES FOR OPEN & CLOSE CAPABILITY AT ANY TIME EXCEPT WHEN INITIATION SIGNAL OR AUTO ISOLATION SIGNAL IS ACTIVATED. IN EVENT THE INITIATION SIGNAL OCCURS WHILE TEST IS UNDERWAY THE SYS. AUTOMATICALLY RETURNS TO START-UP MODE.
10. IF TURBINE TRIP SOLENOID IS ENERGIZED, TRIP & THROTTLING VALVE IS DISENGAGED FROM ACTUATOR & THE VALVE CLOSES. AFTER THE SOLENOID HAS BEEN DE-ENERGIZED, THE ACTUATOR MUST BE DRIVEN TO THE FULLY CLOSED POSITION BEFORE THE VALVE CAN OPEN AGAIN.

FOR REFERENCES SEE DWG. H-24751

SUPERSEDING

THIS DRAWING WAS DEVELOPED FROM G.E. DRAWING NO. 729E622BA, SHT.1, REV.8 SHT.2, REV.6, SHT.3, REV.7 AND, SHT.4, REV.8 SCSI ACCESSION DRAWING NO. S-26100, S-26102, S-26101 AND, S-26103 RESPECTIVELY.

MPL NO. 2E51-1030

MPL NO. 2E51-1030 CADOVY H24750

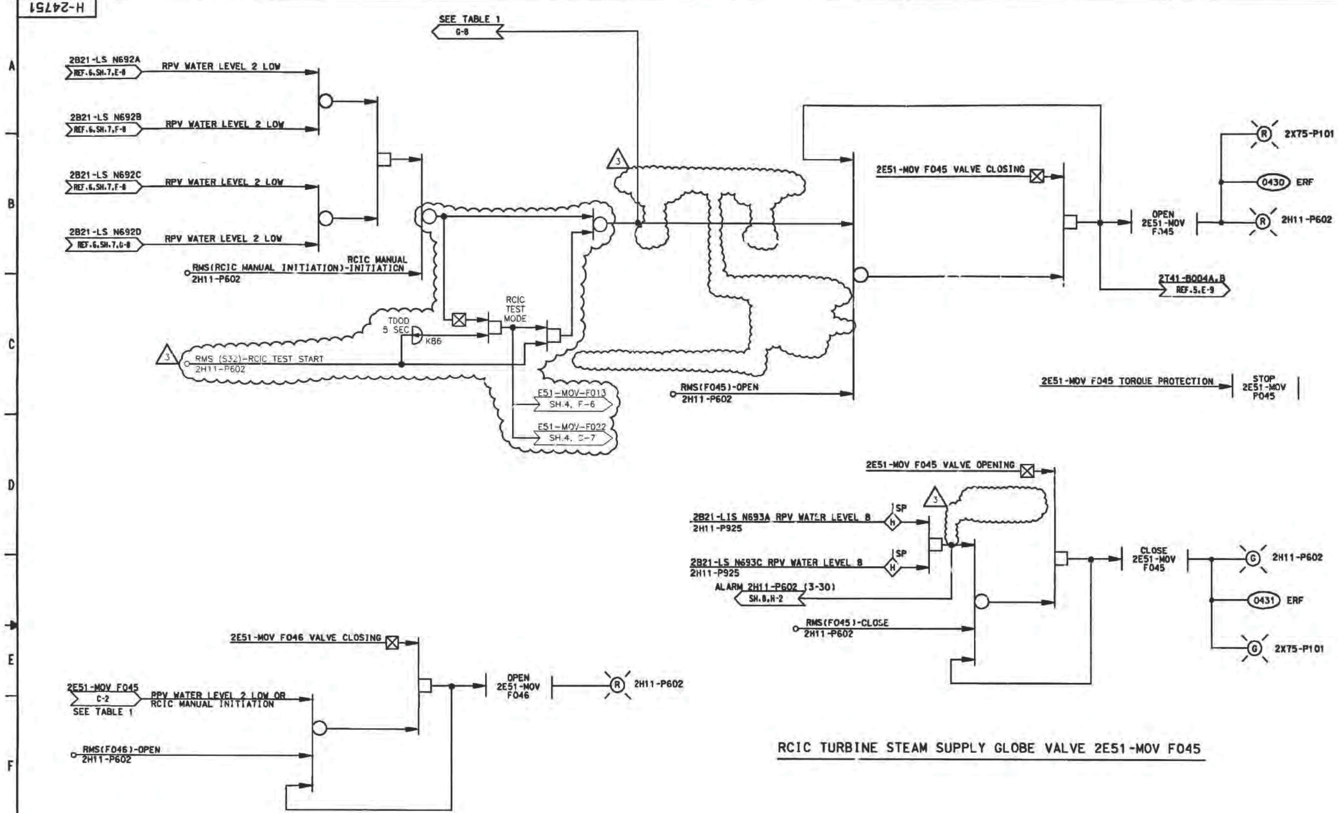
SOUTHERN COMPANY

EDWIN I. HATCH NUCLEAR PLANT UNIT No.2
REACTOR CORE ISOLATION COOLING SYSTEM
LOGIC DIAGRAMS
SHEET 1 OF 8

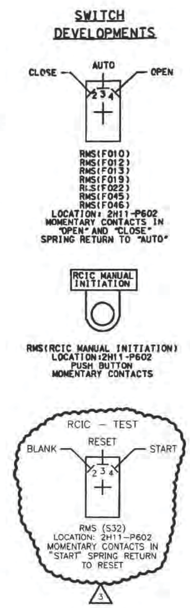
Revision: 3	Date: 1-15-03
REVISED PER ABN 00-0026-002	

BY	CHK'D	APPR.1	
RCR	RLP	DEW	SEE MICROFILM FOR PREVIOUS REV. SIGNATURES.

DRAWN	DESIGNED	LOCATION	DRAWING NUMBER	REVISION
SER	MCS	10-502	H-24750	3
DATE: 3-26-85	SCALE: None			

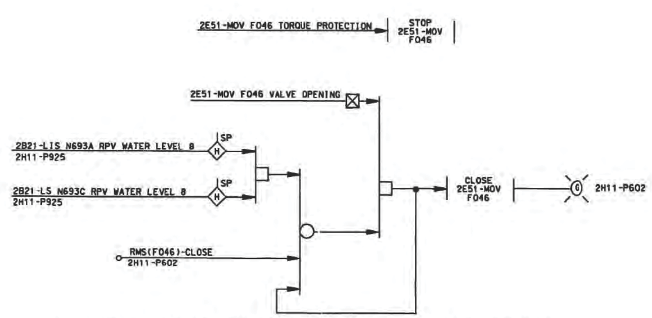


RCIC TURBINE STEAM SUPPLY GLOBE VALVE 2E51-MOV F045



REFERENCES

	TITLE	MPL NO.	DWG.NO.
1.	LOGIC DIAGRAMS-LEGEND AND GENERAL NOTES	2A21-1030	H-24700
2.	RCIC SYSTEM P&ID SHEET 1 SHEET 2	2E51-1010	 H-26023 H-26024
3.	NUCLEAR BOILER SYSTEM P&ID SHEET 1 SHEET 2 SHEET 3	2B21-1010	 H-26000 H-26001 H-26189
4.	RHR SYSTEM P&ID SHEET 1 SHEET 2	2E11-1010	 H-26014 H-26015
5.	SAFEGUARD EQUIP. EMERGENCY COOLING SYSTEM P&ID	2T41-1010	H-26071
6.	RHR SYSTEM LOGIC DIAGRAMS SHEETS 1 THRU 7	2E11-1030	H-24732 THRU H-24738
7.	CORE SPRAY SYSTEM LOGIC DIAGRAMS SHEETS 1 THRU 3	2E21-1030	H-24739 THRU H-24741
8.	GE 22A2989 ELECTRICAL EQUIPMENT SEPARATION FOR SAFEGUARD SYSTEMS	2A61-4050	S-25373
9.	NUCLEAR BOILER SYS LOGIC DIAGRAMS SHEETS 1 THRU 12	2B21-1010	H-24701 THRU H-24712
10.	RCIC SYSTEM ELEMENTARY DIAGRAMS SHEETS 1 THRU 9	2E51-1010	H-27673 THRU H-27680 H-24102
11.	ERF MULTIPLEXER SYSTEM I.E.D.	2X75-1010	H-26158
12.	ANNUNCIATOR SIGNALS TO TSC I.E.D.	2X75-1010	H-26159
13.	DIGITAL INPUT SIGNALS TO ERF COMPUTER SYSTEM SHEET 5 OF 15 SHEET 6 OF 15 SHEET 14 OF 15	2X75-1010	 H-26167 H-26175 H-26294



RCIC TURBINE COOLING WATER SUPPLY GLOBE VALVE 2E51-MOV F046

TABLE 1

TAG NUMBER	FUNCTION	SHT. NO.	COORD.
2E51-C002-2	START PERM	3	C-1
2E51-MOV F046	OPEN VALVE	2	F-1
2E51-MOV F010	OPEN PERM	1	B-6
2E51-MOV F022	CLOSE VALVE	4	C-7
2E51-MOV F013	OPEN PERM	4	E-6
2E51-MOV F012	OPEN VALVE	5	H-2
2E51-MOV F008	CLOSE PERM	6	D-4
—	RCIC FLOW CONTROLLER IN OPERATION MODE	7	A-7

FOR NOTES, SEE DWG. H-24750.

SUPERSEDING

THIS DRAWING WAS DEVELOPED FROM G.E. DRAWING NO. 729E622BA, SHT.1, REV.8 SHT.2, REV.6, SHT.3, REV.7 AND, SHT.4, REV.8 SCSI ACCESSION DRAWING NO. S-26100, S-26102, S-26101 AND, S-26103 RESPECTIVELY.

MPL NO. 2E51-1030 ACAD 4034J002

REV. 3 DATE 1-5-96
SCANNED VERIFIED BY TJS
REVISED PER ABN 94-0034-012
BY TJS

NO.	REVISIONS	DATE	BY
2	REVISED PER ABN 84-1668.S1,FOR DCR 80-157,R1	9/19/87	TAE
1	REVISED PER REA HT-4674	3/14/86	MD
0	ISSUED PER REA HT-4674		

BECHTEL

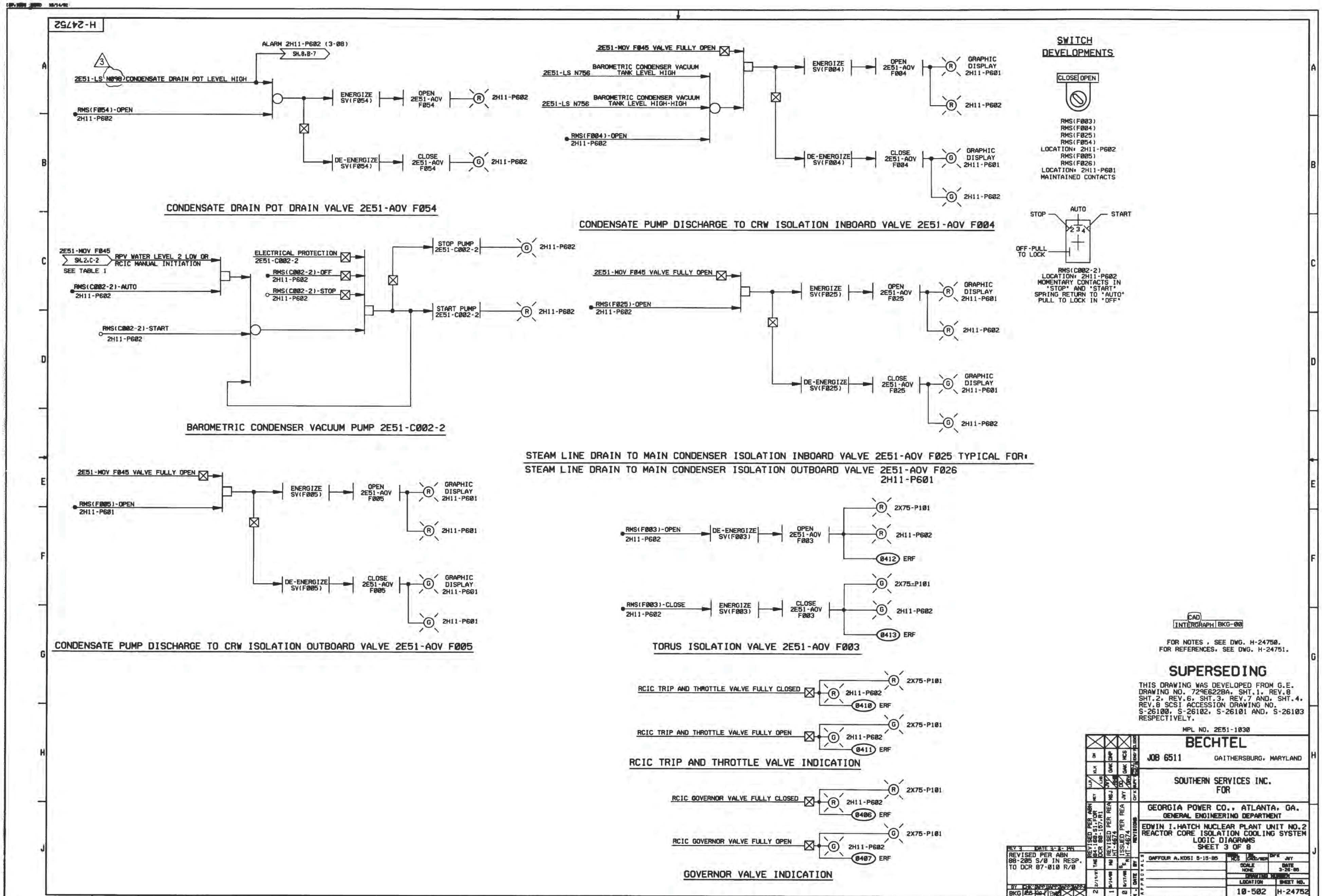
JOB 6511 GAITHERSBURG, MARYLAND

SOUTHERN SERVICES INC.
FOR

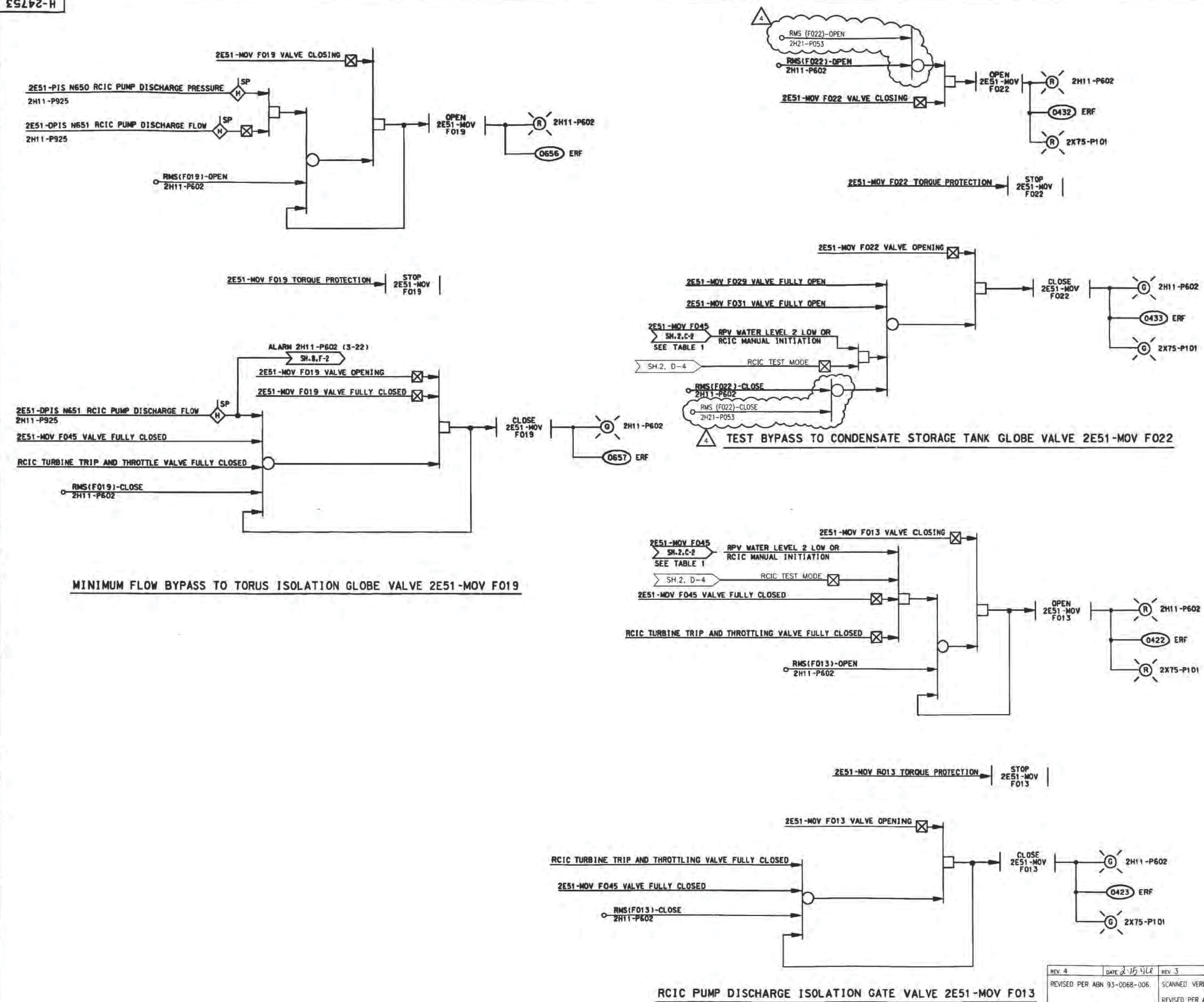
GEORGIA POWER CO., ATLANTA, GA.
GENERAL ENGINEERING DEPARTMENT

EDWIN I.HATCH NUCLEAR PLANT UNIT NO.2
REACTOR CORE ISOLATION COOLING SYSTEM
LOGIC DIAGRAMS
SHEET 2 OF 8

APPROVALS: GAFFOUR A.KOSI 5-15-85
DRWN. MCS | DR. CADD/SER | CHK JVY
SCALE NONE | DATE 3-26-85
DRAWING NUMBER
LOCATION 10-502 | SHEET NO. H-24751


H-24752
ALARM 2H11-P602 (3-08)
SH.8,B-7
2E51-LS N098 CONDENSATE DRAIN POT LEVEL HIGH
RMS(F054)-OPEN 2H11-P602
ENERGIZE SV(F054)
OPEN 2E51-AOV F054
2H11-P602
DE-ENERGIZE SV(F054)
CLOSE 2E51-AOV F054
2H11-P602
CONDENSATE DRAIN POT DRAIN VALVE 2E51-AOV F054
2E51-MOV F045 VALVE FULLY OPEN
2E51-LS N756 BAROMETRIC CONDENSER VACUUM TANK LEVEL HIGH
2E51-LS N756 BAROMETRIC CONDENSER VACUUM TANK LEVEL HIGH-HIGH
RMS(F004)-OPEN 2H11-P602
ENERGIZE SV(F004)
OPEN 2E51-AOV F004
GRAPHIC DISPLAY 2H11-P601
2H11-P602
DE-ENERGIZE SV(F004)
CLOSE 2E51-AOV F004
GRAPHIC DISPLAY 2H11-P601
2H11-P602
CONDENSATE PUMP DISCHARGE TO CRW ISOLATION INBOARD VALVE 2E51-AOV F004
SWITCH DEVELOPMENTS
CLOSE OPEN
RMS(F003)
RMS(F004)
RMS(F025)
RMS(F054)
LOCATION: 2H11-P602
RMS(F005)
RMS(F026)
LOCATION: 2H11-P601
MAINTAINED CONTACTS
STOP AUTO START
OFF-PULL TO LOCK
RMS(C002-2)
LOCATION: 2H11-P602
MOMENTARY CONTACTS IN "STOP" AND "START"
SPRING RETURN TO "AUTO"
PULL TO LOCK IN "OFF"
2E51-MOV F045
SH.2,C-2
SEE TABLE 1
RPV WATER LEVEL 2 LOW OR RCIC MANUAL INITIATION
RMS(C002-2)-AUTO 2H11-P602
ELECTRICAL PROTECTION 2E51-C002-2
RMS(C002-2)-OFF 2H11-P602
RMS(C002-2)-STOP 2H11-P602
RMS(C002-2)-START 2H11-P602
STOP PUMP 2E51-C002-2
2H11-P602
START PUMP 2E51-C002-2
2H11-P602
BAROMETRIC CONDENSER VACUUM PUMP 2E51-C002-2
2E51-MOV F045 VALVE FULLY OPEN
RMS(F025)-OPEN 2H11-P602
ENERGIZE SV(F025)
OPEN 2E51-AOV F025
GRAPHIC DISPLAY 2H11-P601
2H11-P602
DE-ENERGIZE SV(F025)
CLOSE 2E51-AOV F025
GRAPHIC DISPLAY 2H11-P601
2H11-P602
STEAM LINE DRAIN TO MAIN CONDENSER ISOLATION INBOARD VALVE 2E51-AOV F025 TYPICAL FOR:
STEAM LINE DRAIN TO MAIN CONDENSER ISOLATION OUTBOARD VALVE 2E51-AOV F026
2H11-P601
2E51-MOV F045 VALVE FULLY OPEN
RMS(F005)-OPEN 2H11-P601
ENERGIZE SV(F005)
OPEN 2E51-AOV F005
GRAPHIC DISPLAY 2H11-P601
2H11-P601
DE-ENERGIZE SV(F005)
CLOSE 2E51-AOV F005
GRAPHIC DISPLAY 2H11-P601
2H11-P601
CONDENSATE PUMP DISCHARGE TO CRW ISOLATION OUTBOARD VALVE 2E51-AOV F005
RMS(F003)-OPEN 2H11-P602
DE-ENERGIZE SV(F003)
OPEN 2E51-AOV F003
2X75-P101
2H11-P602
0412 ERF
RMS(F003)-CLOSE 2H11-P602
ENERGIZE SV(F003)
CLOSE 2E51-AOV F003
2X75-P101
2H11-P602
0413 ERF
TORUS ISOLATION VALVE 2E51-AOV F003
RCIC TRIP AND THROTTLE VALVE FULLY CLOSED
2X75-P101
2H11-P602
0410 ERF
RCIC TRIP AND THROTTLE VALVE FULLY OPEN
2X75-P101
2H11-P602
0411 ERF
RCIC TRIP AND THROTTLE VALVE INDICATION
RCIC GOVERNOR VALVE FULLY CLOSED
2X75-P101
2H11-P602
0406 ERF
RCIC GOVERNOR VALVE FULLY OPEN
2X75-P101
2H11-P602
0407 ERF
GOVERNOR VALVE INDICATION
CAD INTERGRAPH BKO-00
FOR NOTES, SEE DWG. H-24750.
FOR REFERENCES, SEE DWG. H-24751.
SUPERSEDING
THIS DRAWING WAS DEVELOPED FROM G.E. DRAWING NO. 729E622BA, SHT.1, REV.8 SHT.2, REV.6, SHT.3, REV.7 AND, SHT.4, REV.8 SCSI ACCESSION DRAWING NO. S-26100, S-26102, S-26101 AND, S-26103 RESPECTIVELY.
MPL NO. 2E51-1030
BECHTEL
JOB 6511
GAITHERSBURG, MARYLAND
SOUTHERN SERVICES INC. FOR
GEORGIA POWER CO., ATLANTA, GA.
GENERAL ENGINEERING DEPARTMENT
EDWIN I. HATCH NUCLEAR PLANT UNIT NO.2
REACTOR CORE ISOLATION COOLING SYSTEM
LOGIC DIAGRAMS
SHEET 3 OF 8
REVISED PER ABN 88-205 S/0 IN RESP. TO DCR 87-010 R/0
10-502
H-24752

H-24753



FOR NOTES, SEE DWG. H-24750.
FOR REFERENCES, SEE DWG. H-24751.

SUPERSEDING

THIS DRAWING WAS DEVELOPED FROM G.E. DRAWING NO. 729E622BA, SHT.1, REV.8 SHT.2, REV.6, SHT.3, REV.7 AND, SHT.4, REV.8 SCSI ACCESSION DRAWING NO. S-26100, S-26102, S-26101 AND, S-26103 RESPECTIVELY.

MPL NO. 2E51-1030 ACAD H24753

BECHTEL
JOB 6511 GAITHERSBURG, MARYLAND

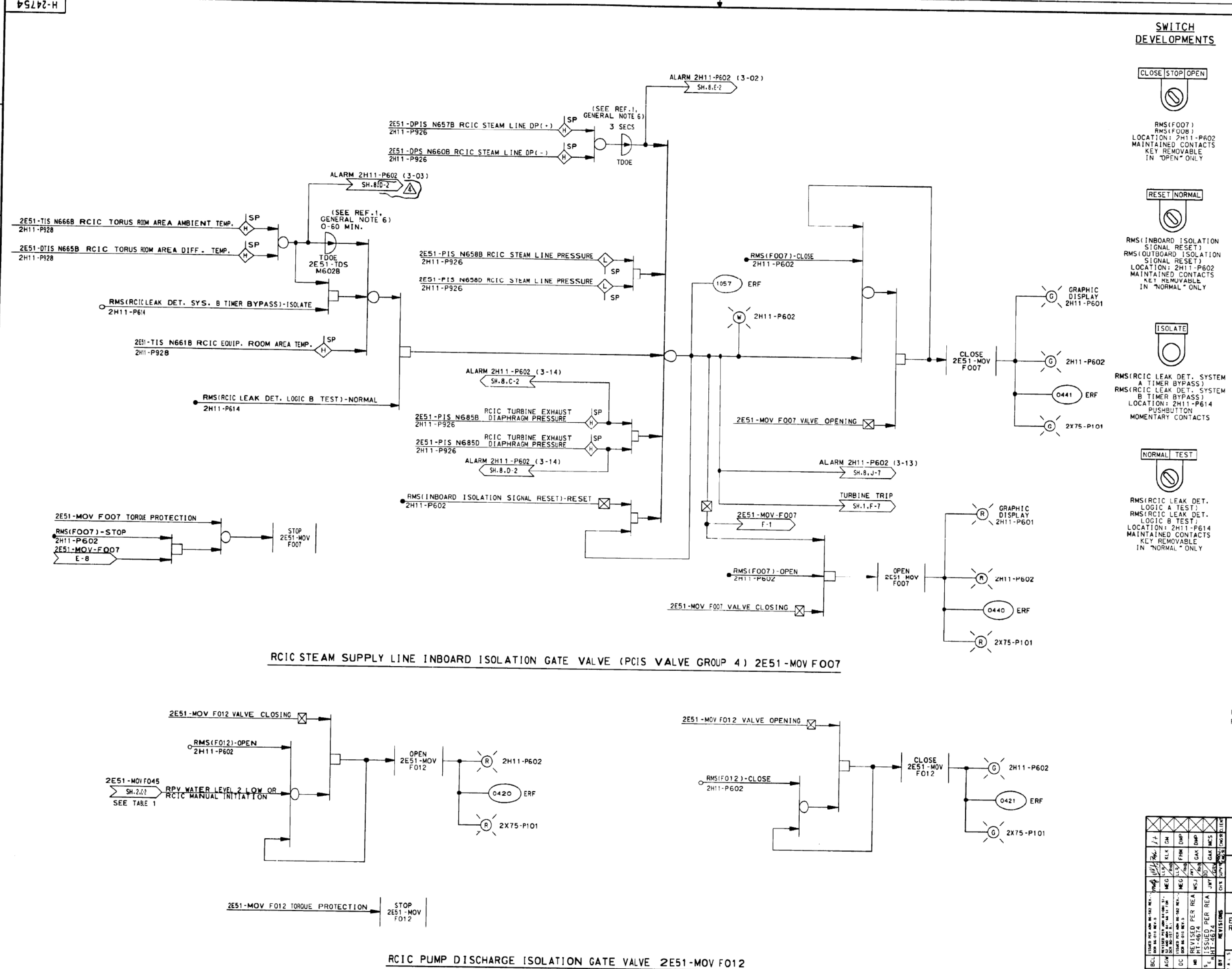
SOUTHERN SERVICES INC.
FOR
GEORGIA POWER CO., ATLANTA, GA.
GENERAL ENGINEERING DEPARTMENT

EDWIN I. HATCH NUCLEAR PLANT UNIT NO.2
REACTOR CORE ISOLATION COOLING SYSTEM
LOGIC DIAGRAMS
SHEET 4 OF 8

REV. 4	DATE 2-15-96	REV. 3	DATE 1-5-96
REVISED PER ABN 93-0068-006.		SCANNED VERIFIED BY: TJS REVISED PER ABN 94-0034-012.	
BY BgT		BY TJS, CHK'D JND JAB, APPR SRS	

0 ISSUED PER REA HT-4674

DAFFOUR A.KOSI 5-15-85
SCALE NONE
DATE 3-26-85
DRAWING NUMBER
LOCATION 10-502
SHEET NO. H-24753



FOR NOTES SEE DWG. H-24750.
FOR REFERENCES SEE DWG. H-24751.

SUPERSEDING

THIS DRAWING WAS DEVELOPED FROM G.E. DRAWING NO. 729E622BA, SHT.1, REV.8 SHT.2, REV.6, SHT.3, REV.7 AND, SHT.4, REV.8 SCSI ACCESSION DRAWING NO. S-26100, S-26102, S-26101 AND, S-26103 RESPECTIVELY.

MPL NO. 2E51-1030

NO.	DATE	BY	REVISIONS	CHK	SUPV	PROJ. ENGR	ENGR	CLIENT
4	4/6/88	BCL	ISSUED PER ADM 86-582 REV. DCR 86-010 REV.0					
3	2/19/87	AGW	REVISED PER ADM 84-081 S1, S2 AND ADM 84-... S1 FOR DCR 80-157 R.1	MEG	LLR/RHB	KLK	GM	
2	12/12/86	DC	ISSUED PER ADM 86-582 REV. DCR 86-010 REV.0	MEG	LLR/RHB	FHM	DMP	
1	3/14/86	MB	REVISED PER REA HT-4674	MSJ	JWY/RHB	GAK	DMP	
0	5/17/85	SER	ISSUED PER REA HT-4674	JWY	DD/GRV	GAK	MCS	

BECHTEL
JOB 6511 GAITHERSBURG, MARYLAND

SOUTHERN SERVICES INC.
FOR

GEORGIA POWER CO., ATLANTA, GA.
GENERAL ENGINEERING DEPARTMENT

EDWIN I.HATCH NUCLEAR PLANT UNIT NO.2
REACTOR CORE ISOLATION COOLING SYSTEM
LOGIC DIAGRAMS
SHEET 5 OF 8

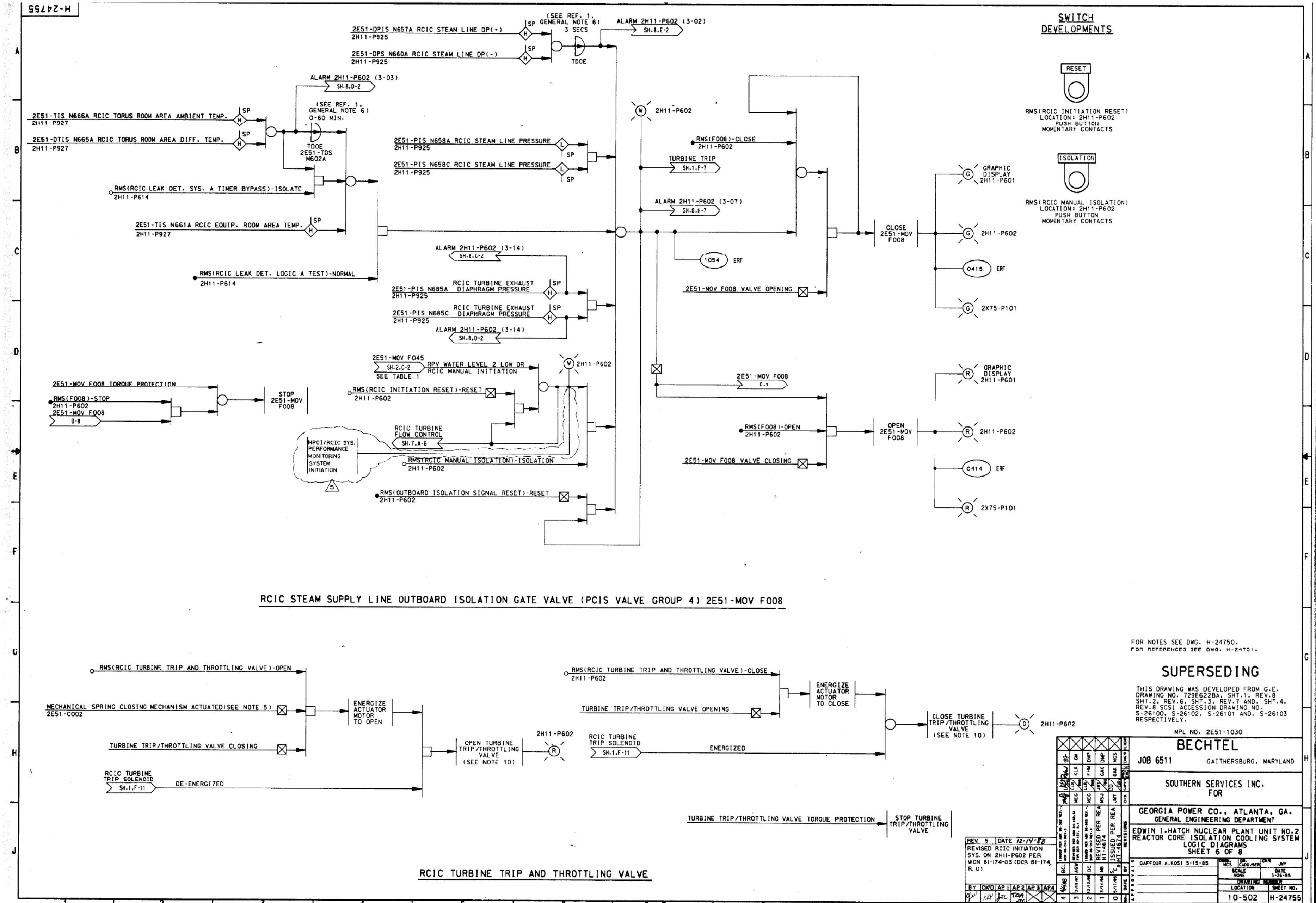
APPROVALS: GAFFOUR A.KOSI 5-15-85

DSGN. MCS | DR. CADD/SER | CHK JWY | SCALE NONE | DATE 3-26-85

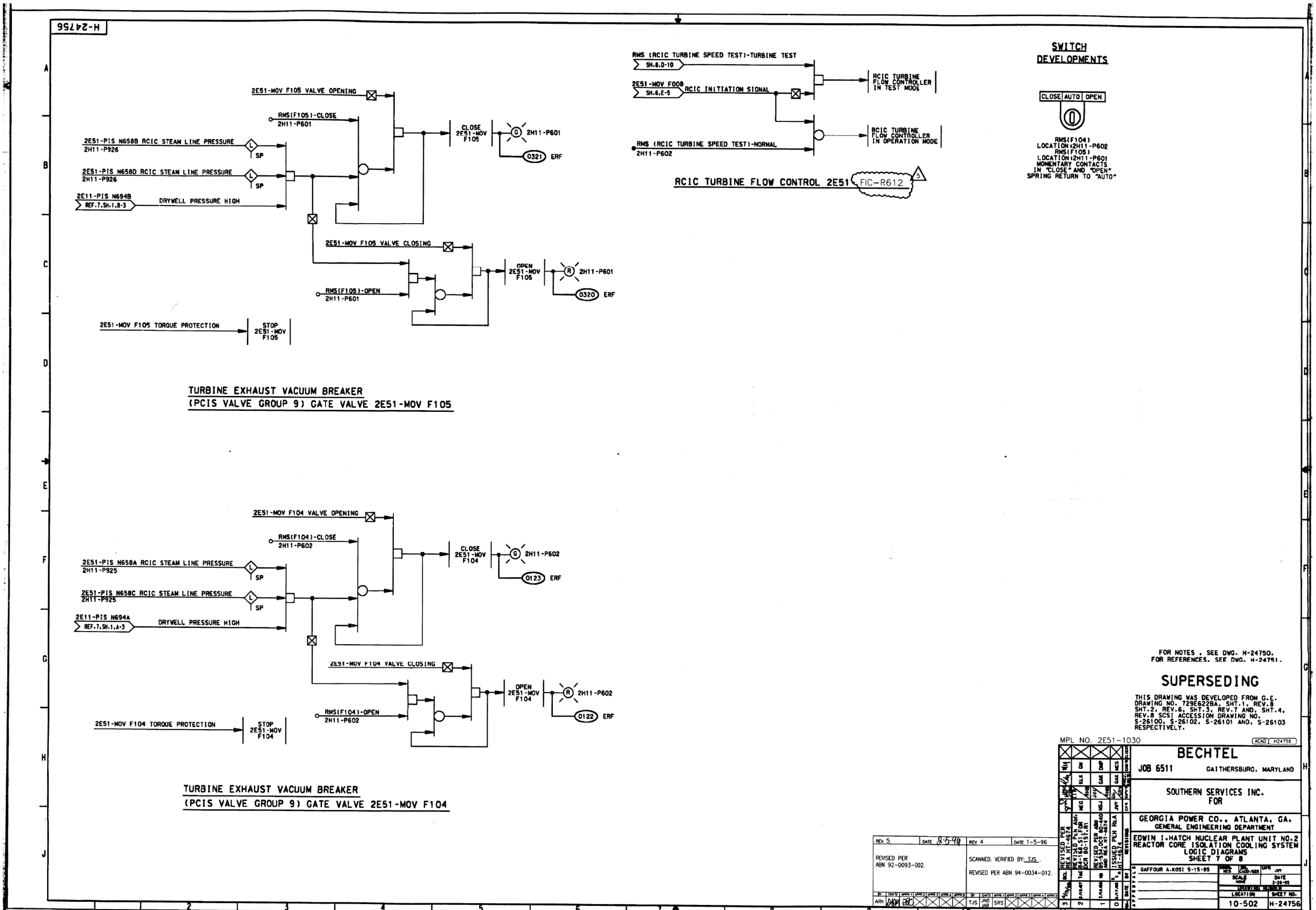
DRAWING NUMBER — LOCATION: 10-502 — SHEET NO.: H-24754

FSAR FIGURE NO.7.4-1 (SHEET 5 OF 8)

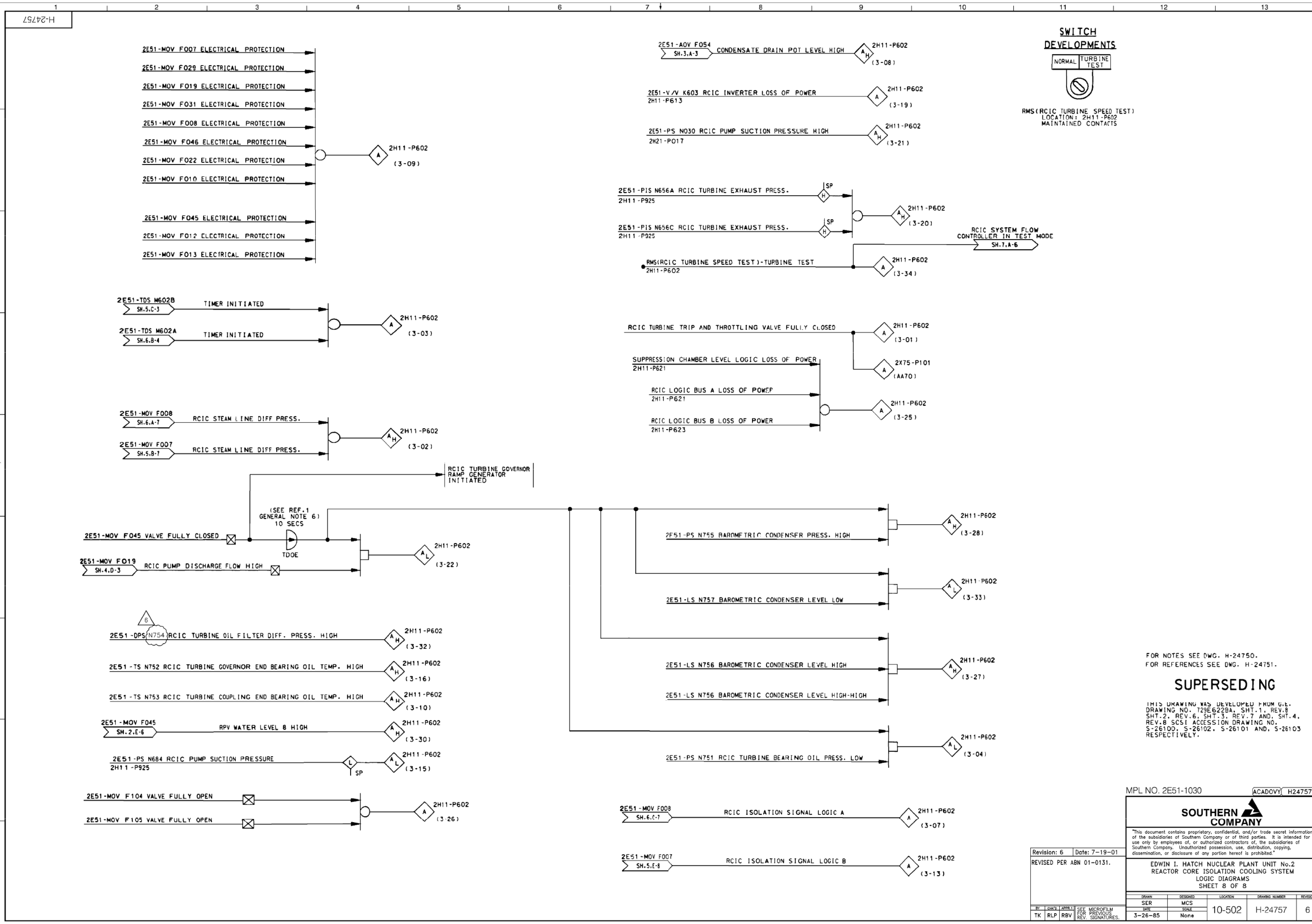
LAST WORKED 01-20-87



H-24755
SWITCH DEVELOPMENTS
RESET
RMS(RCIC INITIATION RESET)
LOCATION: 2H11-P602
PUSH BUTTON
MOMENTARY CONTACTS
ISOLATION
RMS(RCIC MANUAL ISOLATION)
LOCATION: 2H11-P602
PUSH BUTTON
MOMENTARY CONTACTS
2E51-DPIS N657A RCIC STEAM LINE DP(+)
2H11-P925
2E51-DPS N660A RCIC STEAM LINE DP(-)
2H11-P925
(SEE REF. 1, GENERAL NOTE 6)
3 SECS
TDOE
ALARM 2H11-P602 (3-02)
SH.8,E-2
ALARM 2H11-P602 (3-03)
SH.8,D-2
2E51-TIS N666A RCIC TORUS ROOM AREA AMBIENT TEMP.
2H11-P927
2E51-DTIS N665A RCIC TORUS ROOM AREA DIFF. TEMP.
2H11-P927
(SEE REF. 1, GENERAL NOTE 6)
0-60 MIN.
TDOE
2E51-TDS
M602A
RMS(RCIC LEAK DET. SYS. A TIMER BYPASS)-ISOLATE
2H11-P614
2E51-TIS N661A RCIC EQUIP. ROOM AREA TEMP.
2H11-P927
RMS(RCIC LEAK DET. LOGIC A TEST)-NORMAL
2H11-P614
2E51-PIS N658A RCIC STEAM LINE PRESSURE
2H11-P925
2E51-PIS N658C RCIC STEAM LINE PRESSURE
2H11-P925
ALARM 2H11-P602 (3-14)
SH.8,C-2
RCIC TURBINE EXHAUST DIAPHRAGM PRESSURE
2E51-PIS N685A
2H11-P925
RCIC TURBINE EXHAUST DIAPHRAGM PRESSURE
2E51-PIS N685C
2H11-P925
ALARM 2H11-P602 (3-14)
SH.8,D-2
2E51-MOV F045
SH.2,C-2
RPV WATER LEVEL 2 LOW OR RCIC MANUAL INITIATION
SEE TABLE 1
2H11-P602
RMS(RCIC INITIATION RESET)-RESET
2H11-P602
2E51-MOV F008 TORQUE PROTECTION
RMS(F008)-STOP
2H11-P602
2E51-MOV F008
D-8
STOP 2E51-MOV F008
RCIC TURBINE FLOW CONTROL
SH.7,A-6
HPCI/RCIC SYS. PERFORMANCE MONITORING SYSTEM INITIATION
5
RMS(RCIC MANUAL ISOLATION)-ISOLATION
2H11-P602
RMS(OUTBOARD ISOLATION SIGNAL RESET)-RESET
2H11-P602
2H11-P602
RMS(F008)-CLOSE
2H11-P602
TURBINE TRIP
SH.1,F-7
ALARM 2H11-P602 (3-07)
SH.8,H-7
1054
ERF
2E51-MOV F008 VALVE OPENING
CLOSE 2E51-MOV F008
GRAPHIC DISPLAY 2H11-P601
2H11-P602
0415
ERF
2X75-P101
2E51-MOV F008
F-1
RMS(F008)-OPEN
2H11-P602
OPEN 2E51-MOV F008
2E51-MOV F008 VALVE CLOSING
GRAPHIC DISPLAY 2H11-P601
2H11-P602
0414
ERF
2X75-P101
RCIC STEAM SUPPLY LINE OUTBOARD ISOLATION GATE VALVE (PCIS VALVE GROUP 4) 2E51-MOV F008
RMS(RCIC TURBINE TRIP AND THROTTLING VALVE)-OPEN
MECHANICAL SPRING CLOSING MECHANISM ACTUATED(SEE NOTE 5)
2E51-C002
TURBINE TRIP/THROTTLING VALVE CLOSING
ENERGIZE ACTUATOR MOTOR TO OPEN
OPEN TURBINE TRIP/THROTTLING VALVE (SEE NOTE 10)
2H11-P602
RCIC TURBINE TRIP SOLENOID
SH.1,F-11
DE-ENERGIZED
RMS(RCIC TURBINE TRIP AND THROTTLING VALVE)-CLOSE
2H11-P602
TURBINE TRIP/THROTTLING VALVE OPENING
ENERGIZE ACTUATOR MOTOR TO CLOSE
RCIC TURBINE TRIP SOLENOID
SH.1,F-11
ENERGIZED
CLOSE TURBINE TRIP/THROTTLING VALVE (SEE NOTE 10)
2H11-P602
TURBINE TRIP/THROTTLING VALVE TORQUE PROTECTION
STOP TURBINE TRIP/THROTTLING VALVE
RCIC TURBINE TRIP AND THROTTLING VALVE
FOR NOTES SEE DWG. H-24750.
FOR REFERENCES SEE DWG. H-24751.
SUPERSEDING
THIS DRAWING WAS DEVELOPED FROM G.E. DRAWING NO. 729E622BA, SHT.1, REV.8 SHT.2, REV.6, SHT.3, REV.7 AND, SHT.4, REV.8 SCSI ACCESSION DRAWING NO. S-26100, S-26102, S-26101 AND, S-26103 RESPECTIVELY.
MPL NO. 2E51-1030
BECHTEL
JOB 6511
GAITHERSBURG, MARYLAND
SOUTHERN SERVICES INC. FOR
GEORGIA POWER CO., ATLANTA, GA.
GENERAL ENGINEERING DEPARTMENT
EDWIN I. HATCH NUCLEAR PLANT UNIT NO.2
REACTOR CORE ISOLATION COOLING SYSTEM
LOGIC DIAGRAMS
SHEET 6 OF 8
REV. 5 DATE 12-14-83
REVISED RCIC INITIATION SYS. ON 2H11-P602 PER WCN 81-174-03 (DCR 81-174, R.0)
ISSUED PER REA HT-4674
REVISED PER REA HT-4674
GAFFOUR A.KOSI 5-15-85
SCALE NONE
DATE 3-26-85
LOCATION 10-502
SHEET NO. H-24755



FSAR FIGURE NO.7.4-1 (SHEET 7 OF 8)



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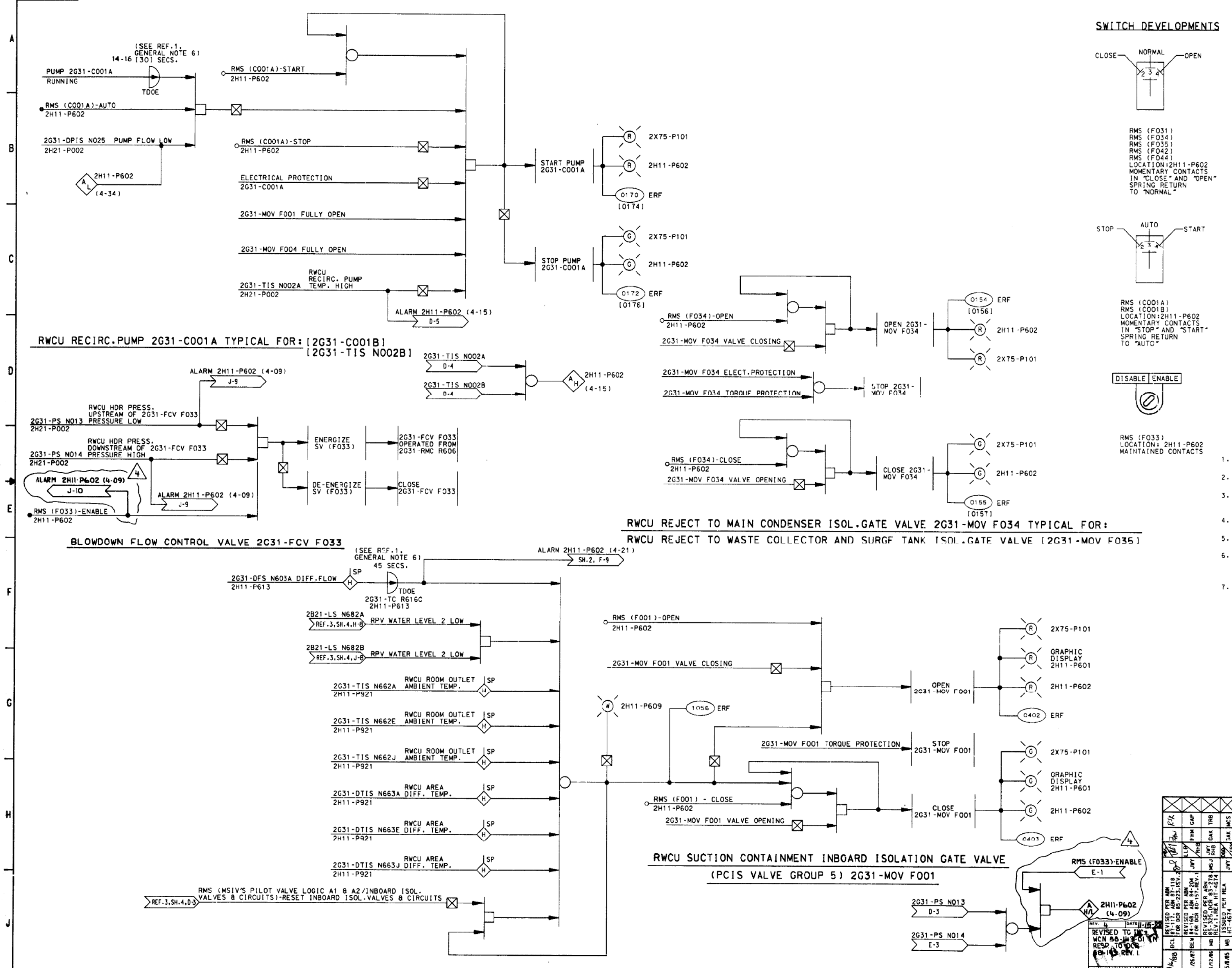


NOTES

1. ALL EQUIPMENT AND INSTRUMENTS ARE PRECEDED BY MPL NO. 2G31 UNLESS OTHERWISE NOTED.
2. FOR LOCATION AND IDENTIFICATION OF INSTRUMENTS, SEE INSTRUMENT INDEX OR EQUIPMENT LOCATION INDEX (ELI).
3. FOR LOGIC DIAGRAMS-LEGEND AND GENERAL NOTES. SEE REFERENCE 1.
4. FOR INFORMATION ON ALARMS, VALVE INDICATING LIGHT REQUIREMENTS AND PROCESS INSTRUMENTATION REQUIREMENTS WHICH ARE NOT SHOWN ON THE LOGIC DIAGRAMS, SEE REFERENCE 2.
5. APPLICABLE FOR 2G31-MOV F042 ONLY.

REFERENCES

TITLE	MPL NO.	DWG.NO.
1. LOGIC DIAGRAMS-LEGEND AND GENERAL NOTES	2A21-1030	H-24700
2. REACTOR WATER CLEAN-UP SYSTEM P&ID SHEETS 1 & 2.	2G31-1010	H-26036 H-26037
3. NUCLEAR BOILER SYSTEM LOGIC DIAGRAMS SHEETS 1 THRU 12	2B21-1030	H-24701 THRU H-24712
4. STANDBY LIQUID CONTROL SYSTEM LOGIC DIAGRAMS	2C41-1030	H-24721
5. ERF MULTIPLEXER SYSTEM I.E.D.	2X75-1010	H-26158
6. DIGITAL INPUT SIGNAL TO THE ERF COMPUTER SYSTEM I.E.D. SHTS. 6 & 14 OF 15	2X75-1010	H-26175 H-26294
7. ERF CLASS 1E DIGITAL ISOLATION SYSTEM I.E.D.	2X75-1010	H-26157

SUPERSEDING

THIS DRAWING WAS DEVELOPED FROM G.E. DRAWING NO. 729E608, SHT. 1, REV.10 SCSI ACCESSION DRAWING NO. SX-23510

MPL NO. 2G31-1030

BECHTEL

JOB 6511 GAITHERSBURG, MARYLAND

SOUTHERN SERVICES INC. FOR

GEORGIA POWER CO., ATLANTA, GA. GENERAL ENGINEERING DEPARTMENT

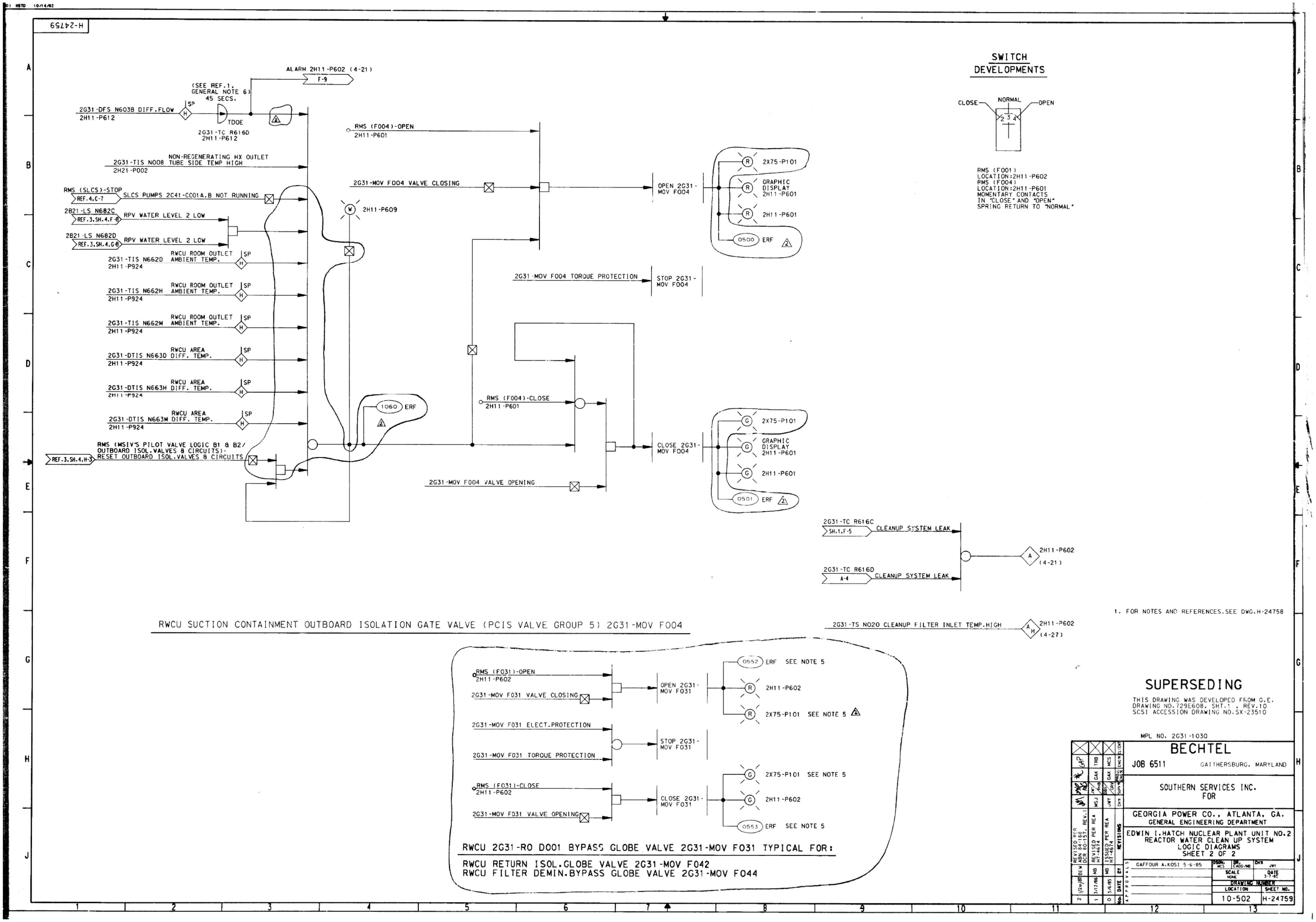
EDWIN I. HATCH NUCLEAR PLANT UNIT NO.2 REACTOR WATER CLEAN UP SYSTEM LOGIC DIAGRAMS SHEET 1 OF 2

REVISED TO DCR 88-142 REV. L (WCN 88-142-01 RESP TO DCR)

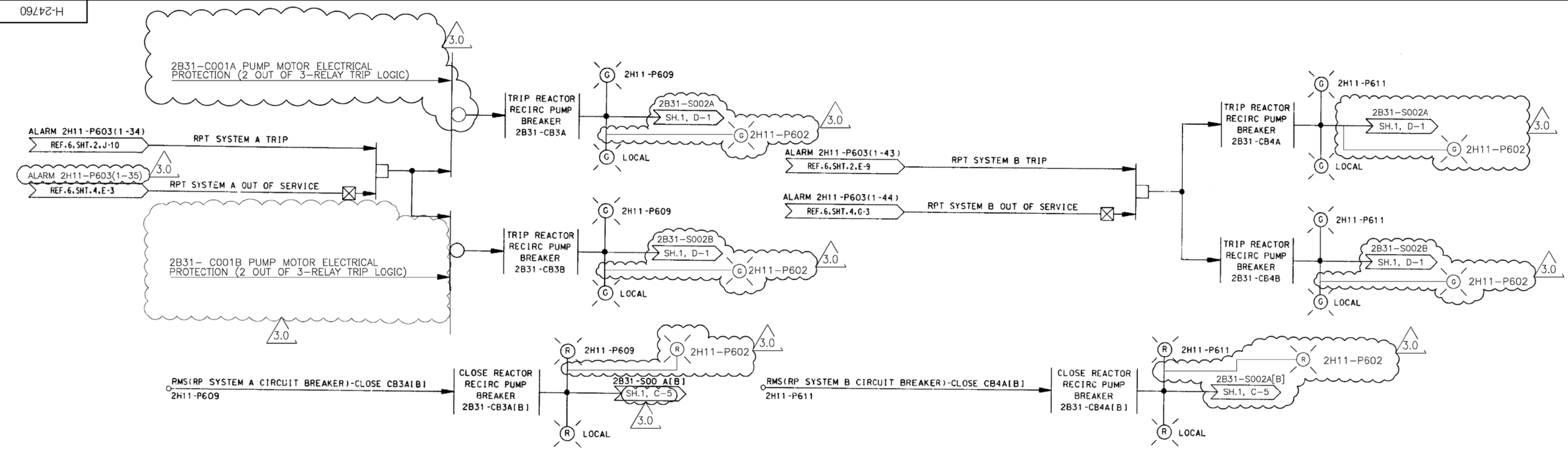
GAFFOUR A. KOSI 5-6-85

SCALE NONE DATE 3-07-85

LOCATION 10-502 SHEET NO. H-24758



H-24759
ALARM 2H11-P602 (4-21)
F-9
(SEE REF.1, GENERAL NOTE 6) 45 SECS.
2G31-DFS N603B DIFF.FLOW
2H11-P612
SP
H
TDDE
2G31-TC R616D
2H11-P612
RMS (F004)-OPEN
2H11-P601
NON-REGENERATING HX OUTLET
2G31-TIS N008 TUBE SIDE TEMP HIGH
2H21-P002
RMS (SLCS)-STOP
REF.4.C-7
SLCS PUMPS 2C41-C001A,B NOT RUNNING
2B21-LS N682C
REF.3.SH.4.F-8
RPV WATER LEVEL 2 LOW
2B21-LS N682D
REF.3.SH.4.G-8
RPV WATER LEVEL 2 LOW
2G31-MOV F004 VALVE CLOSING
2H11-P609
OPEN 2G31-MOV F004
2X75-P101
GRAPHIC DISPLAY 2H11-P601
2H11-P601
0500 ERF
RWCU ROOM OUTLET
2G31-TIS N662D AMBIENT TEMP.
2H11-P924
RWCU ROOM OUTLET
2G31-TIS N662H AMBIENT TEMP.
2H11-P924
RWCU ROOM OUTLET
2G31-TIS N662M AMBIENT TEMP.
2H11-P924
2G31-MOV F004 TORQUE PROTECTION
STOP 2G31-MOV F004
RWCU AREA
2G31-DTIS N663D DIFF. TEMP.
2H11-P924
RWCU AREA
2G31-DTIS N663H DIFF. TEMP.
2H11-P924
RWCU AREA
2G31-DTIS N663M DIFF. TEMP.
2H11-P924
1060 ERF
RMS (F004)-CLOSE
2H11-P601
RMS (MSIV'S PILOT VALVE LOGIC B1 & B2/ OUTBOARD ISOL.VALVES & CIRCUITS)-RESET OUTBOARD ISOL.VALVES & CIRCUITS
REF.3.SH.4.H-3
CLOSE 2G31-MOV F004
2X75-P101
GRAPHIC DISPLAY 2H11-P601
2H11-P601
0501 ERF
2G31-MOV F004 VALVE OPENING
SWITCH DEVELOPMENTS
CLOSE
NORMAL
OPEN
RMS (F001) LOCATION:2H11-P602
RMS (F004) LOCATION:2H11-P601
MOMENTARY CONTACTS IN "CLOSE" AND "OPEN" SPRING RETURN TO "NORMAL"
2G31-TC R616C
SH.1.F-5
CLEANUP SYSTEM LEAK
2G31-TC R616D
A-4
CLEANUP SYSTEM LEAK
2H11-P602 (4-21)
1. FOR NOTES AND REFERENCES,SEE DWG.H-24758
RWCU SUCTION CONTAINMENT OUTBOARD ISOLATION GATE VALVE (PCIS VALVE GROUP 5) 2G31-MOV F004
2G31-TS N020 CLEANUP FILTER INLET TEMP.HIGH
2H11-P602 (4-27)
RMS (F031)-OPEN
2H11-P602
2G31-MOV F031 VALVE CLOSING
OPEN 2G31-MOV F031
0552 ERF SEE NOTE 5
2H11-P602
2X75-P101 SEE NOTE 5
2G31-MOV F031 ELECT.PROTECTION
2G31-MOV F031 TORQUE PROTECTION
STOP 2G31-MOV F031
RMS (F031)-CLOSE
2H11-P602
2G31-MOV F031 VALVE OPENING
CLOSE 2G31-MOV F031
2X75-P101 SEE NOTE 5
2H11-P602
0553 ERF SEE NOTE 5
RWCU 2G31-RO D001 BYPASS GLOBE VALVE 2G31-MOV F031 TYPICAL FOR:
RWCU RETURN ISOL.GLOBE VALVE 2G31-MOV F042
RWCU FILTER DEMIN.BYPASS GLOBE VALVE 2G31-MOV F044
SUPERSEDING
THIS DRAWING WAS DEVELOPED FROM G.E. DRAWING NO.729E608, SHT.1 , REV.10
SCSI ACCESSION DRAWING NO.SX-23510
MPL NO. 2G31-1030
BECHTEL
JOB 6511 GAITHERSBURG, MARYLAND
SOUTHERN SERVICES INC. FOR
GEORGIA POWER CO., ATLANTA, GA.
GENERAL ENGINEERING DEPARTMENT
EDWIN I.HATCH NUCLEAR PLANT UNIT NO.2
REACTOR WATER CLEAN UP SYSTEM
LOGIC DIAGRAMS
SHEET 2 OF 2
REVISIONS
APPROVALS
SCALE NONE
DRAWING NUMBER
LOCATION 10-502
SHEET NO. H-24759



REACTOR RECIRCULATION PUMP 2B31-C001A[B] BREAKERS 2B31-CB3A & CB4A [2B31-CB3B & CB4B]

(END OF CYCLE BREAKERS)

3.0

FOR NOTES AND REFERENCES, SEE DWG. H-24713.

SUPERSEDING

THIS DRAWING WAS DEVELOPED FROM G.E. DRAWING NO. 729E625BA SHT.1, REV.3 SHT.2,REV.2,SHT.3,REV.3,SCSI ACCESSION DRAWING NO. S-26138, S-26139 & S-26140 RESPECTIVELY.

MPL NO. 2B31-1030

CADDVY H24760

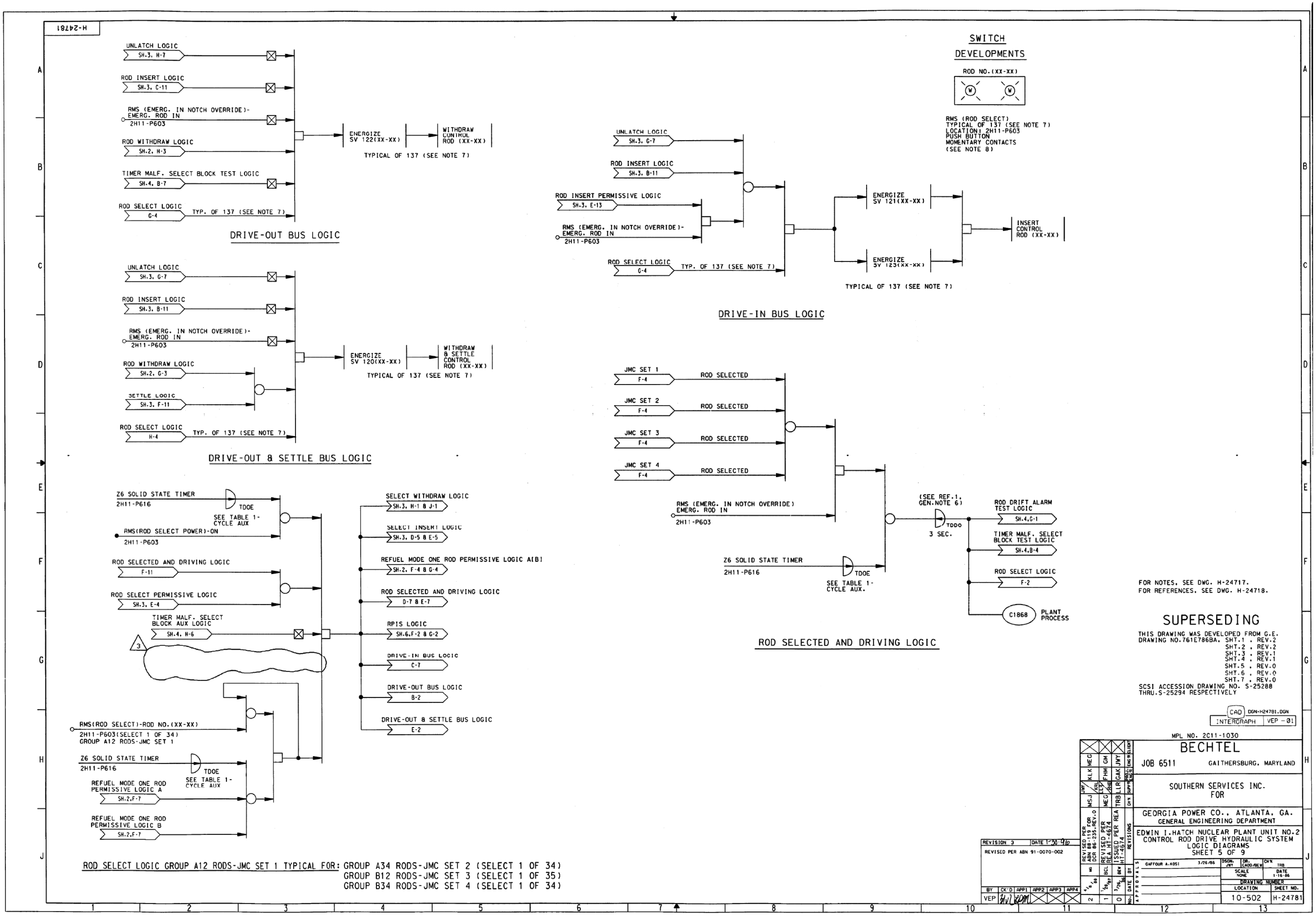
SOUTHERN COMPANY

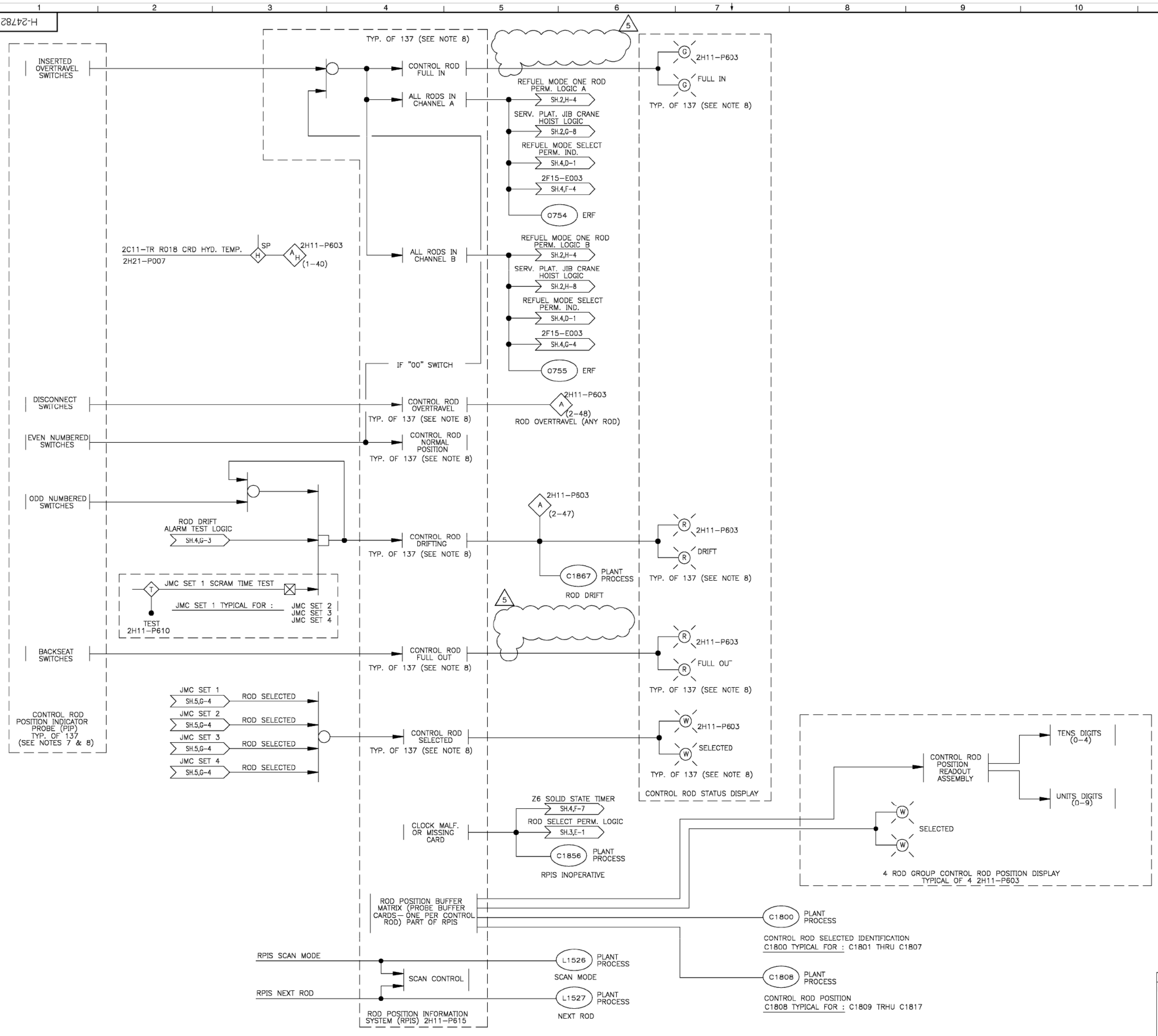
Version: 3.0	Date: 04/27/09
REVISED PER ABN 2040048501J018, VER. 2.0.	

BY	CHK'D	APPR'D	
KB	CFC	JMR	SEE MICROFILM FOR PREVIOUS REV. SIGNATURES.

EDWIN I. HATCH NUCLEAR PLANT UNIT No. 2
REACTOR RECIRCULATION SYSTEM
LOGIC DIAGRAMS
SHEET 5 OF 5

DRAWN	DESIGNED	LOCATION	DRAWING NUMBER	VERSION
SER	MCS	10-502	H-24760	3.0
DATE: 04/29/85	SCALE: None			


H-24781
UNLATCH LOGIC
SH.3, H-7
ROD INSERT LOGIC
SH.3, C-11
RMS (EMERG. IN NOTCH OVERRIDE)-
EMERG. ROD IN
2H11-P603
ROD WITHDRAW LOGIC
SH.2, H-3
TIMER MALF. SELECT BLOCK TEST LOGIC
SH.4, B-7
ROD SELECT LOGIC
G-4
TYP. OF 137 (SEE NOTE 7)
ENERGIZE
SV 122(XX-XX)
WITHDRAW
CONTROL
ROD (XX-XX)
TYPICAL OF 137 (SEE NOTE 7)
DRIVE-OUT BUS LOGIC
UNLATCH LOGIC
SH.3, G-7
ROD INSERT LOGIC
SH.3, B-11
RMS (EMERG. IN NOTCH OVERRIDE)-
EMERG. ROD IN
2H11-P603
ROD WITHDRAW LOGIC
SH.2, G-3
SETTLE LOGIC
SH.3, F-11
ROD SELECT LOGIC
H-4
TYP. OF 137 (SEE NOTE 7)
ENERGIZE
SV 120(XX-XX)
WITHDRAW
& SETTLE
CONTROL
ROD (XX-XX)
TYPICAL OF 137 (SEE NOTE 7)
DRIVE-OUT & SETTLE BUS LOGIC
SWITCH
DEVELOPMENTS
ROD NO.(XX-XX)
RMS (ROD SELECT)
TYPICAL OF 137 (SEE NOTE 7)
LOCATION: 2H11-P603
PUSH BUTTON
MOMENTARY CONTACTS
(SEE NOTE 8)
UNLATCH LOGIC
SH.3, G-7
ROD INSERT LOGIC
SH.3, B-11
ROD INSERT PERMISSIVE LOGIC
SH.3, E-13
RMS (EMERG. IN NOTCH OVERRIDE)-
EMERG. ROD IN
2H11-P603
ROD SELECT LOGIC
G-4
TYP. OF 137 (SEE NOTE 7)
ENERGIZE
SV 121(XX-XX)
ENERGIZE
SV 123(XX-XX)
INSERT
CONTROL
ROD (XX-XX)
TYPICAL OF 137 (SEE NOTE 7)
DRIVE-IN BUS LOGIC
JMC SET 1
F-4
ROD SELECTED
JMC SET 2
F-4
ROD SELECTED
JMC SET 3
F-4
ROD SELECTED
JMC SET 4
F-4
ROD SELECTED
RMS (EMERG. IN NOTCH OVERRIDE)
EMERG. ROD IN
2H11-P603
(SEE REF.1,
GEN.NOTE 6)
TDDO
3 SEC.
Z6 SOLID STATE TIMER
2H11-P616
TDOE
SEE TABLE 1-
CYCLE AUX.
ROD DRIFT ALARM
TEST LOGIC
SH.4,G-1
TIMER MALF. SELECT
BLOCK TEST LOGIC
SH.4,B-4
ROD SELECT LOGIC
F-2
C1868
PLANT
PROCESS
ROD SELECTED AND DRIVING LOGIC
Z6 SOLID STATE TIMER
2H11-P616
TDOE
SEE TABLE 1-
CYCLE AUX
RMS(ROD SELECT POWER)-ON
2H11-P603
ROD SELECTED AND DRIVING LOGIC
F-11
ROD SELECT PERMISSIVE LOGIC
SH.3, E-4
TIMER MALF. SELECT
BLOCK AUX LOGIC
SH.4, H-6
3
SELECT WITHDRAW LOGIC
SH.3, H-1 & J-1
SELECT INSERT LOGIC
SH.3, D-5 & E-5
REFUEL MODE ONE ROD PERMISSIVE LOGIC A[B]
SH.2, F-4 & G-4
ROD SELECTED AND DRIVING LOGIC
D-7 & E-7
RPIS LOGIC
SH.6,F-2 & G-2
DRIVE-IN BUS LOGIC
C-7
DRIVE-OUT BUS LOGIC
B-2
DRIVE-OUT & SETTLE BUS LOGIC
E-2
RMS(ROD SELECT)-ROD NO.(XX-XX)
2H11-P603(SELECT 1 OF 34)
GROUP A12 RODS-JMC SET 1
Z6 SOLID STATE TIMER
2H11-P616
TDOE
SEE TABLE 1-
CYCLE AUX
REFUEL MODE ONE ROD
PERMISSIVE LOGIC A
SH.2,F-7
REFUEL MODE ONE ROD
PERMISSIVE LOGIC B
SH.2,F-7
ROD SELECT LOGIC GROUP A12 RODS-JMC SET 1 TYPICAL FOR: GROUP A34 RODS-JMC SET 2 (SELECT 1 OF 34)
GROUP B12 RODS-JMC SET 3 (SELECT 1 OF 35)
GROUP B34 RODS-JMC SET 4 (SELECT 1 OF 34)
FOR NOTES, SEE DWG. H-24717.
FOR REFERENCES, SEE DWG. H-24718.
SUPERSEDING
THIS DRAWING WAS DEVELOPED FROM G.E.
DRAWING NO.761E786BA, SHT.1, REV.2
SHT.2, REV.2
SHT.3, REV.1
SHT.4, REV.1
SHT.5, REV.0
SHT.6, REV.0
SHT.7, REV.0
SCSI ACCESSION DRAWING NO. S-25288
THRU.S-25294 RESPECTIVELY
CAD DGN-H24781.DGN
INTERGRAPH VEP-01
MPL NO. 2C11-1030
BECHTEL
JOB 6511
GAITHERSBURG, MARYLAND
SOUTHERN SERVICES INC.
FOR
GEORGIA POWER CO., ATLANTA, GA.
GENERAL ENGINEERING DEPARTMENT
EDWIN I. HATCH NUCLEAR PLANT UNIT NO.2
CONTROL ROD DRIVE HYDRAULIC SYSTEM
LOGIC DIAGRAMS
SHEET 5 OF 9
REVISION 3
REVISED PER ABN 91-0070-002
BY VEP
SCALE NONE
DATE 1-16-86
LOCATION 10-502
SHEET NO. H-24781



FOR NOTES, SEE DWG. H-24717.
FOR REFERENCES, SEE DWG. H-24718.

SUPERSEDING

THIS DRAWING WAS DEVELOPED FROM G.E. DRAWING NO.761E786BA, SHT.1, REV.2
SHT.2, REV.2
SHT.3, REV.1
SHT.4, REV.1
SHT.5, REV.0
SHT.6, REV.0
SHT.7, REV.0

SCSI ACCESSION DRAWING NO. S-25288 THRU.S-25294 RESPECTIVELY

MPL No. 2C11-1030

ACAD14 H24782

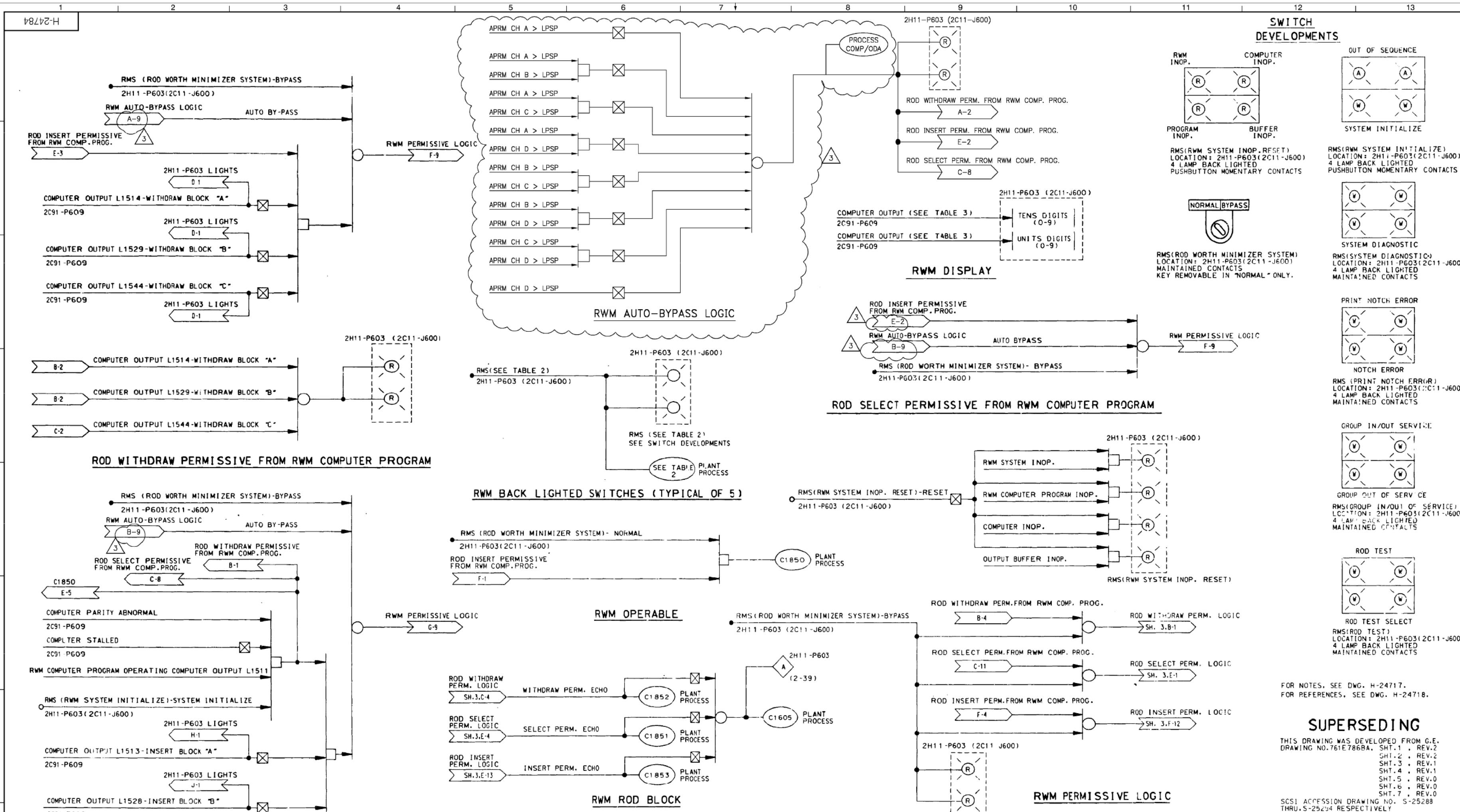
SOUTHERN COMPANY

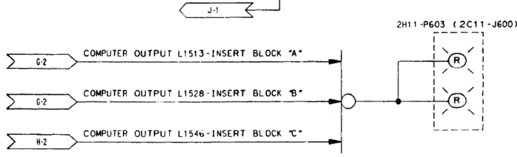
Revision: 5 | Date: 4-23-98

REVISED PER ABN 91-0070-002.

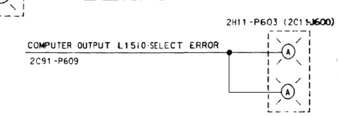
EDWIN I. HATCH NUCLEAR PLANT UNIT No.2
CONTROL ROD DRIVE HYDRAULIC SYSTEM
LOGIC DIAGRAMS
SHEET 6 of 9

BY	CHK'D	APPR'L'D		DRAWN	DESIGNED	LOCATION	DRAWING NUMBER	REVISION
BgT	JAS	HVL	SEE MICROFILM FOR PREVIOUS REV. SIGNATURES.	CADD/BEW	JWY	10-502	H-24782	5
				DATE 12-18-85	SCALE No Scale			





ROD INSERT PERMISSIVE FROM RWM COMPUTER PROGRAM



ROD SELECT ERROR FROM RWM COMPUTER PROGRAM

TABLE 2
RWM BACK LIGHTED SWITCHES

RMS	INPUT	COMP. PT.
RWM SYSTEM INITIALIZED	1. COMPUTER OUTPUT L1509 OUT OF SEQUENCE 2. RMS (SYSTEM INITIALIZED)	NA NA
SYSTEM DIAGNOSTIC	1. RMS (SYSTEM DIAGNOSTIC) (ALL 4 LIGHTS)	C1859
PRINT NOTCH ERROR	1. COMPUTER OUTPUT L1515 NOTCH ERROR 2. RMS (PRINT NOTCH ERROR)	NA C1847
GROUP IN/OUT OF SERVICE	1. COMPUTER OUTPUT L1531 GROUP OUT OF SERVICE PLANT PROCESS 2. RMS (GROUP IN/OUT OF SERVICE)	NA C1848
ROD TEST	1. COMPUTER OUTPUT L1547 ROD TEST SELECT 2. RMS (ROD TEST)	NA C1849

TABLE 3
RWM DISPLAY

COMPUTER OUTPUT	RWM DISPLAY
D1500-D1515	FIRST INSERT ERROR X-AXIS FIRST INSERT ERROR Y-AXIS
D1516-D1531	SECOND INSERT ERROR X-AXIS SECOND INSERT ERROR Y-AXIS
D1532-D1547	WITHDRAW ERROR X-AXIS WITHDRAW ERROR Y-AXIS
D1548-D1555	LATCH GROUP NUMBER ERROR

MPL NO. 2C11-1030

FSAR FIGURE NO. 7.7–1 (SHEET 8 OF 9)

MPL NO. 2C11-1030 ACADOVY H24784

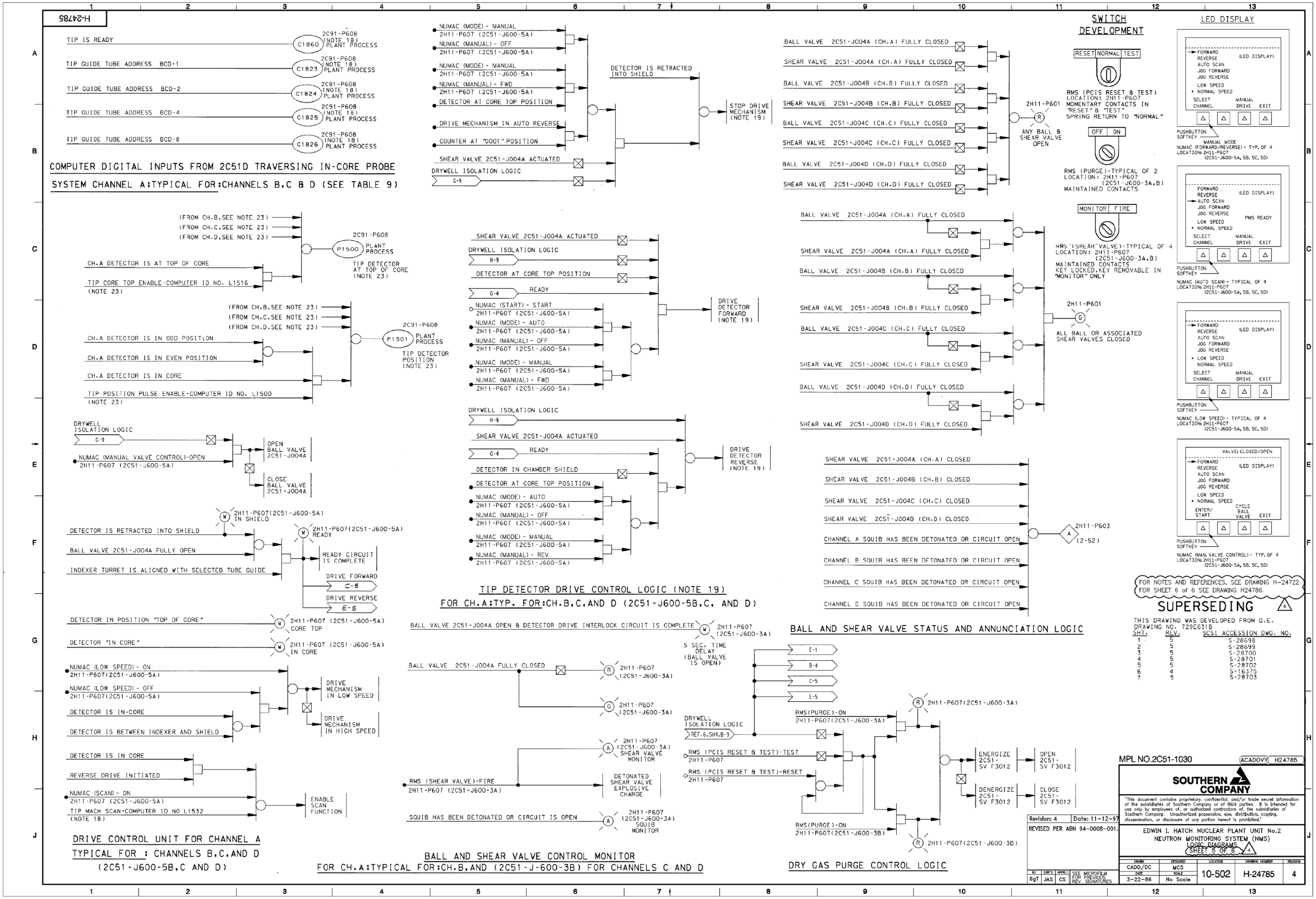
Revision: 3	Date: 6-8-98
REVISED PER ABN 94-0008-001.	

BY	CHK'D	APPR.1	
SWC	BCF	WKK	SEE MICROFILM FOR PREVIOUS REV. SIGNATURES.

SOUTHERN COMPANY

EDWIN I. HATCH NUCLEAR PLANT UNIT No. 2
CONTROL ROD DRIVE HYDRAULIC SYSTEM
LOGIC DIAGRAMS
SHEET 8 OF 9

DRAWN	DESIGNED	LOCATION	DRAWING NUMBER	REVISION
DC	BWY	10-502	H-24784	3
DATE: 2-24-86	SCALE: None			


H-24785
TIP IS READY
TIP GUIDE TUBE ADDRESS BCD-1
TIP GUIDE TUBE ADDRESS BCD-2
TIP GUIDE TUBE ADDRESS BCD-4
TIP GUIDE TUBE ADDRESS BCD-8
C1860
C1823
C1824
C1825
C1826
2C91-P608 (NOTE 18) PLANT PROCESS
COMPUTER DIGITAL INPUTS FROM 2C51D TRAVERSING IN-CORE PROBE
SYSTEM CHANNEL A:TYPICAL FOR:CHANNELS B,C & D (SEE TABLE 9)
NUMAC (MODE) - MANUAL
2H11-P607 (2C51-J600-5A)
NUMAC (MANUAL) - OFF
NUMAC (MODE) - MANUAL
NUMAC (MANUAL) - FWD
DETECTOR AT CORE TOP POSITION
DRIVE MECHANISM IN AUTO REVERSE
COUNTER AT "0001" POSITION
SHEAR VALVE 2C51-J004A ACTUATED
DRYWELL ISOLATION LOGIC
G-9
DETECTOR IS RETRACTED INTO SHIELD
STOP DRIVE MECHANISM (NOTE 19)
(FROM CH.B,SEE NOTE 23)
(FROM CH.C,SEE NOTE 23)
(FROM CH.D,SEE NOTE 23)
2C91-P608
P1500
PLANT PROCESS
CH.A DETECTOR IS AT TOP OF CORE
TIP CORE TOP ENABLE-COMPUTER ID NO. L1516 (NOTE 23)
TIP DETECTOR AT TOP OF CORE (NOTE 23)
CH.A DETECTOR IS IN ODD POSITION
CH.A DETECTOR IS IN EVEN POSITION
CH.A DETECTOR IS IN CORE
TIP POSITION PULSE ENABLE-COMPUTER ID NO. L1500 (NOTE 23)
P1501
TIP DETECTOR POSITION (NOTE 23)
DRYWELL ISOLATION LOGIC
NUMAC (MANUAL VALVE CONTROL)-OPEN
2H11-P607 (2C51-J600-5A)
OPEN BALL VALVE 2C51-J004A
CLOSE BALL VALVE 2C51-J004A
2H11-P607(2C51-J600-5A) IN SHIELD
2H11-P607(2C51-J600-5A) READY
DETECTOR IS RETRACTED INTO SHIELD
BALL VALVE 2C51-J004A FULLY OPEN
INDEXER TURRET IS ALIGNED WITH SELECTED TUBE GUIDE
READY CIRCUIT IS COMPLETE
DRIVE FORWARD
C-5
DRIVE REVERSE
E-5
DETECTOR IN POSITION "TOP OF CORE"
2H11-P607 (2C51-J600-5A) CORE TOP
DETECTOR "IN CORE"
2H11-P607 (2C51-J600-5A) IN CORE
NUMAC (LOW SPEED) - ON
2H11-P607(2C51-J600-5A)
NUMAC (LOW SPEED) - OFF
DRIVE MECHANISM IN LOW SPEED
DETECTOR IS IN-CORE
DETECTOR IS BETWEEN INDEXER AND SHIELD
DRIVE MECHANISM IN HIGH SPEED
DETECTOR IS IN CORE
REVERSE DRIVE INITIATED
NUMAC (SCAN) - ON
TIP MACH SCAN-COMPUTER ID NO L1532 (NOTE 18)
ENABLE SCAN FUNCTION
DRIVE CONTROL UNIT FOR CHANNEL A
TYPICAL FOR : CHANNELS B,C,AND D
(2C51-J600-5B,C AND D)
SHEAR VALVE 2C51-J004A ACTUATED
H-9
DETECTOR AT CORE TOP POSITION
G-4
READY
NUMAC (START) - START
NUMAC (MODE) - AUTO
NUMAC (MANUAL) - OFF
NUMAC (MODE) - MANUAL
NUMAC (MANUAL) - FWD
DRIVE DETECTOR FORWARD (NOTE 19)
DETECTOR IN CHAMBER SHIELD
NUMAC (MANUAL) - REV
DRIVE DETECTOR REVERSE (NOTE 19)
TIP DETECTOR DRIVE CONTROL LOGIC (NOTE 19)
FOR CH.A:TYP. FOR:CH.B,C,AND D (2C51-J600-5B,C, AND D)
BALL VALVE 2C51-J004A OPEN & DETECTOR DRIVE INTERLOCK CIRCUIT IS COMPLETE
2H11-P607 (2C51-J600-3A)
BALL VALVE 2C51-J004A FULLY CLOSED
2H11-P607 (2C51-J600-3A)
2H11-P607 (2C51-J600-3A) SHEAR VALVE MONITOR
RMS (SHEAR VALVE)-FIRE
2H11-P607 (2C51-J600-3A)
DETONATED SHEAR VALVE EXPLOSIVE CHARGE
SQUIB HAS BEEN DETONATED OR CIRCUIT IS OPEN
2H11-P607 (2C51-J600-3A) SQUIB MONITOR
BALL AND SHEAR VALVE CONTROL MONITOR
FOR CH.A:TYPICAL FOR:CH.B,AND (2C51-J-600-3B) FOR CHANNELS C AND D
BALL VALVE 2C51-J004A (CH.A) FULLY CLOSED
SHEAR VALVE 2C51-J004A (CH.A) FULLY CLOSED
BALL VALVE 2C51-J004B (CH.B) FULLY CLOSED
SHEAR VALVE 2C51-J004B (CH.B) FULLY CLOSED
BALL VALVE 2C51-J004C (CH.C) FULLY CLOSED
SHEAR VALVE 2C51-J004C (CH.C) FULLY CLOSED
BALL VALVE 2C51-J004D (CH.D) FULLY CLOSED
SHEAR VALVE 2C51-J004D (CH.D) FULLY CLOSED
2H11-P601
ANY BALL & SHEAR VALVE OPEN
ALL BALL OR ASSOCIATED SHEAR VALVES CLOSED
SHEAR VALVE 2C51-J004A (CH.A) CLOSED
SHEAR VALVE 2C51-J004B (CH.B) CLOSED
SHEAR VALVE 2C51-J004C (CH.C) CLOSED
SHEAR VALVE 2C51-J004D (CH.D) CLOSED
CHANNEL A SQUIB HAS BEEN DETONATED OR CIRCUIT OPEN
CHANNEL B SQUIB HAS BEEN DETONATED OR CIRCUIT OPEN
CHANNEL C SQUIB HAS BEEN DETONATED OR CIRCUIT OPEN
CHANNEL D SQUIB HAS BEEN DETONATED OR CIRCUIT OPEN
2H11-P603 (2-52)
BALL AND SHEAR VALVE STATUS AND ANNUNCIATION LOGIC
5 SEC. TIME DELAY (BALL VALVE IS OPEN)
E-1
B-4
C-5
E-5
DRYWELL ISOLATION LOGIC
REF.6,SH.4,B-9
RMS(PURGE)-ON
2H11-P607(2C51-J600-3A)
RMS (PCIS RESET & TEST)-TEST
2H11-P607
RMS (PCIS RESET & TEST)-RESET
RMS(PURGE)-ON
2H11-P607(2C51-J600-3B)
2H11-P607(2C51-J600-3A)
2H11-P607(2C51-J600-3B)
ENERGIZE 2C51-SV F3012
OPEN 2C51-SV F3012
DENERGIZE 2C51-SV F3012
CLOSE 2C51-SV F3012
DRY GAS PURGE CONTROL LOGIC
SWITCH DEVELOPMENT
RESET NORMAL TEST
RMS (PCIS RESET & TEST) LOCATION: 2H11-P607 MOMENTARY CONTACTS IN "RESET" & "TEST" SPRING RETURN TO "NORMAL"
OFF ON
RMS (PURGE)-TYPICAL OF 2 LOCATION: 2H11-P607 (2C51-J600-3A,B) MAINTAINING CONTACTS
MONITOR FIRE
RMS (SHEAR VALVE)-TYPICAL OF 4 LOCATION: 2H11-P607 (2C51-J600-3A,B) MAINTAINED CONTACTS KEY LOCKED,KEY REMOVABLE IN "MONITOR" ONLY
LED DISPLAY
FORWARD
REVERSE
AUTO SCAN
JOG FORWARD
JOG REVERSE
LOW SPEED
NORMAL SPEED
(LED DISPLAY)
SELECT CHANNEL
MANUAL DRIVE
EXIT
PUSHBUTTON SOFTKEY
MANUAL MODE
NUMAC (FORWARD/REVERSE) - TYP. OF 4 LOCATION: 2H11-P607 (2C51-J600-5A, 5B, 5C, 5D)
RMS READY
NUMAC (AUTO SCAN) - TYPICAL OF 4 LOCATION: 2H11-P607 (2C51-J600-5A, 5B, 5C, 5D)
NUMAC (LOW SPEED) - TYPICAL OF 4 LOCATION: 2H11-P607 (2C51-J600-5A, 5B, 5C, 5D)
VALVE: CLOSED/OPEN
ENTER/START
CYCLE BALL VALVE
NUMAC (MAN. VALVE CONTROL) - TYP. OF 4 LOCATION: 2H11-P607 (2C51-J600-5A, 5B, 5C, 5D)
FOR NOTES AND REFERENCES, SEE DRAWING H-24722.
FOR SHEET 6 of 6 SEE DRAWING H24786.
SUPERSEDING
THIS DRAWING WAS DEVELOPED FROM G.E. DRAWING NO. 729E631B
SHT. REV. SCSI ACCESSION DWG. NO.
1 5 S-28698
2 5 S-28699
3 5 S-28700
4 5 S-28701
5 5 S-28702
6 4 S-16375
7 5 S-28703
MPL NO.2C51-1030
ACADOVY H24785
SOUTHERN COMPANY
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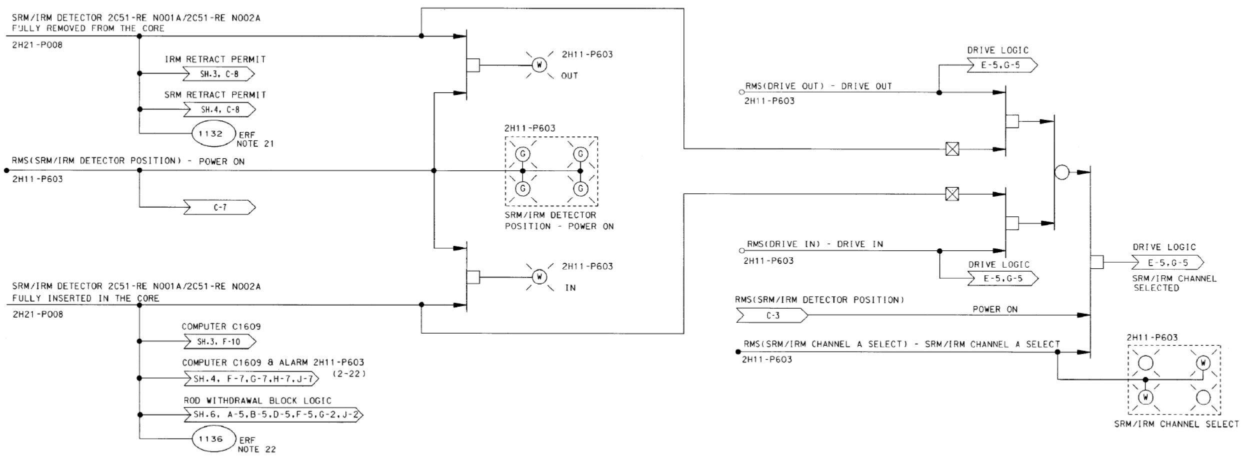
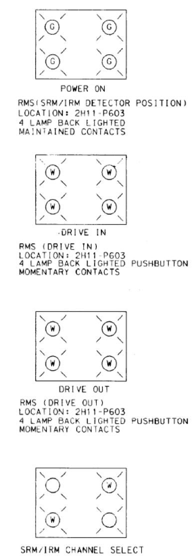
Revision: 4 Date: 11-12-97
REVISED PER ABN 94-0008-001.
EDWIN I. HATCH NUCLEAR PLANT UNIT No.2
NEUTRON MONITORING SYSTEM (NMS)
LOGIC DIAGRAMS
SHEET 5 OF 6
BgT JAS CS
SEE MICROFILM FOR PREVIOUS REV. SIGNATURES
CADD/DC MCS 10-502 H-24785 4
3-22-86 No Scale

H-24786



SWITCH DEVELOPMENTS



RMS (SRM CHANNEL A SELECT)
RMS (SRM CHANNEL B SELECT)
RMS (SRM CHANNEL C SELECT)
RMS (SRM CHANNEL D SELECT)
RMS (IRM CHANNEL A SELECT)
RMS (IRM CHANNEL B SELECT)
RMS (IRM CHANNEL C SELECT)
RMS (IRM CHANNEL D SELECT)
RMS (IRM CHANNEL E SELECT)
RMS (IRM CHANNEL F SELECT)
RMS (IRM CHANNEL G SELECT)
RMS (IRM CHANNEL H SELECT)
LOCATION: 2H11-P603
4 LAMP BACK LIGHTED
(2 LAMPS NOT USED)
MAINTAINED CONTACTS

3

FOR NOTES AND REFERENCES, SEE DRAWING H-24722.

TABLE 10

SRM CHANNEL A	MOTOR MODULE A	2C51-S001 A
SRM CHANNEL B	MOTOR MODULE B	2C51-S001 B
SRM CHANNEL C	MOTOR MODULE C	2C51-S001 C
SRM CHANNEL D	MOTOR MODULE D	2C51-S001 D
IRM CHANNEL A	MOTOR MODULE E	2C51-S001 E
IRM CHANNEL B	MOTOR MODULE F	2C51-S001 F
IRM CHANNEL C	MOTOR MODULE G	2C51-S001 G
IRM CHANNEL D	MOTOR MODULE H	2C51-S001 H
IRM CHANNEL E	MOTOR MODULE J	2C51-S001J
IRM CHANNEL F	MOTOR MODULE K	2C51-S001K
IRM CHANNEL G	MOTOR MODULE L	2C51-S001L
IRM CHANNEL H	MOTOR MODULE M	2C51-S001 M

SRM/IRM MOTOR MODULES

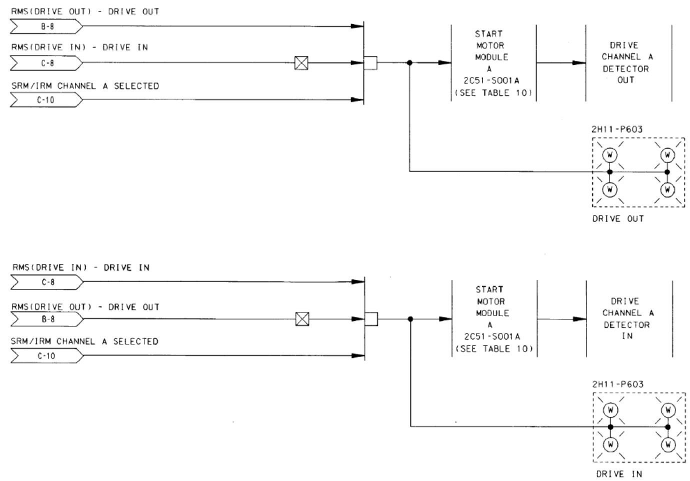


TABLE 9

DESCRIPTION		COMPUTER ID NUMBERS			
		CHANNEL A	CHANNEL B	CHANNEL C	CHANNEL D
DRIVE CONTROL UNIT		2C51-J600-5A	2C51-J600-5B	2C51-J600-5C	2C51-J600-5D
TIP MACH SCAN		L1532	L1533	L1534	L1535
TIP POSITION PULSE ENABLE		L1500	L1501	L1502	L1503
TIP CORE TOP ENABLE		L1516	L1517	L1518	L1519
TIP GUIDE TUBE ADDRESS	BCD-1	C1823	C1827	C1831	C1835
	BCD-2	C1824	C1828	C1832	C1836
	BCD-4	C1825	C1829	C1833	C1837
	BCD-8	C1826	C1830	C1834	C1838
TIP READY		C1860	C1861	C1862	C1863

SUPERSEDING

THIS DRAWING WAS DEVELOPED FROM G.E.
DRAWING NO. 729E631B

SHT.	REV.	SCSI ACCESSION DWG. NO.
1	5	S-28698
2	5	S-28699
3	5	S-28700
4	5	S-28701
5	5	S-28702
6	4	S-16375
7	5	S-28703

SOURCE RANGE MONITOR/INTERMEDIATE RANGE MONITOR DETECTOR DRIVE CONTROL SYSTEM CHANNEL A

TYPICAL: FOR SRM CHANNELS B,C,D AND IRM CHANNELS B,C,D,E,F,G,H.

MPL NO.2C51-1030

ACADOVY H24786

SOUTHERN COMPANY

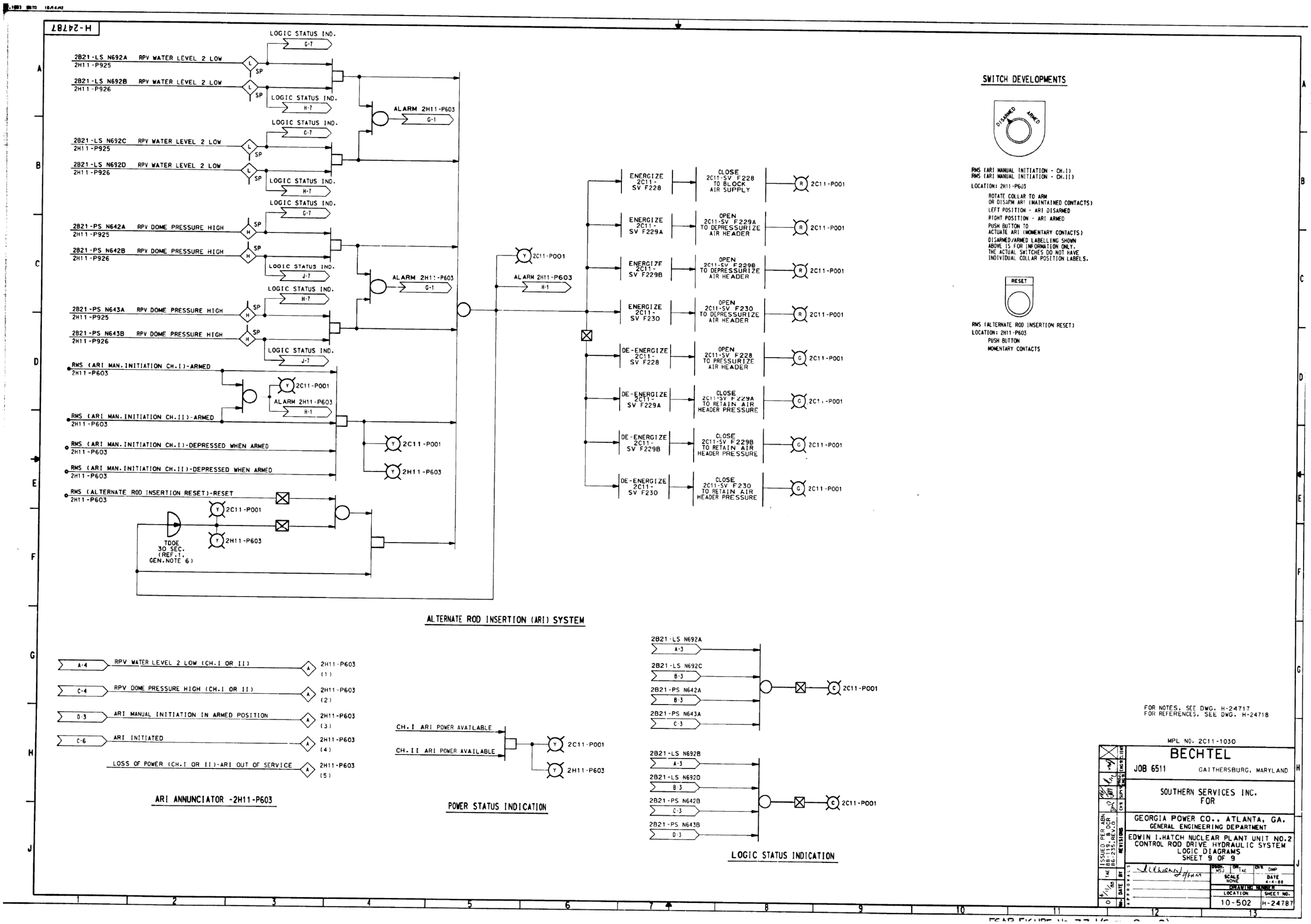
Revision: 3	Date: 11-12-97

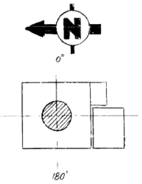
SCANNED. VERIFIED BY BGT
REVISED PER ABN 94-0008-001.

BY	CHK'D	APPR.	
BgT	JAS	CS	SEE MICROFILM FOR PREVIOUS REV. SIGNATURES.

EDWIN I. HATCH NUCLEAR PLANT UNIT No.2
NEUTRON MONITORING SYSTEM (NMS)
LOGIC DIAGRAMS
SHEET 6 OF 6 3

DRAWN	DESIGNED	LOCATION	DRAWING NUMBER	REVISION
CADD/DC	MEB	10-502	H-24786	3
DATE: 4-3-86	SCALE: No Scale			

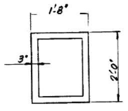

H-24787
LOGIC STATUS IND.
2B21-LS N692A RPV WATER LEVEL 2 LOW
2H11-P925
2B21-LS N692B RPV WATER LEVEL 2 LOW
2H11-P926
ALARM 2H11-P603
2B21-LS N692C RPV WATER LEVEL 2 LOW
2B21-LS N692D RPV WATER LEVEL 2 LOW
2B21-PS N642A RPV DOME PRESSURE HIGH
2B21-PS N642B RPV DOME PRESSURE HIGH
2B21-PS N643A RPV DOME PRESSURE HIGH
2B21-PS N643B RPV DOME PRESSURE HIGH
RMS (ARI MAN. INITIATION CH.I)-ARMED
2H11-P603
RMS (ARI MAN. INITIATION CH.II)-ARMED
RMS (ARI MAN. INITIATION CH.I)-DEPRESSED WHEN ARMED
RMS (ARI MAN. INITIATION CH.II)-DEPRESSED WHEN ARMED
RMS (ALTERNATE ROD INSERTION RESET)-RESET
2C11-P001
2H11-P603
TDOE 30 SEC. (REF.1. GEN.NOTE 6)
ENERGIZE 2C11-SV F228
CLOSE 2C11-SV F228 TO BLOCK AIR SUPPLY
ENERGIZE 2C11-SV F229A
OPEN 2C11-SV F229A TO DEPRESSURIZE AIR HEADER
ENERGIZE 2C11-SV F229B
OPEN 2C11-SV F229B TO DEPRESSURIZE AIR HEADER
ENERGIZE 2C11-SV F230
OPEN 2C11-SV F230 TO DEPRESSURIZE AIR HEADER
DE-ENERGIZE 2C11-SV F228
OPEN 2C11-SV F228 TO PRESSURIZE AIR HEADER
DE-ENERGIZE 2C11-SV F229A
CLOSE 2C11-SV F229A TO RETAIN AIR HEADER PRESSURE
DE-ENERGIZE 2C11-SV F229B
CLOSE 2C11-SV F229B TO RETAIN AIR HEADER PRESSURE
DE-ENERGIZE 2C11-SV F230
CLOSE 2C11-SV F230 TO RETAIN AIR HEADER PRESSURE
ALTERNATE ROD INSERTION (ARI) SYSTEM
SWITCH DEVELOPMENTS
DISARMED ARMED
RMS (ARI MANUAL INITIATION - CH.I)
RMS (ARI MANUAL INITIATION - CH.II)
LOCATION: 2H11-P603
ROTATE COLLAR TO ARM OR DISARM ARI (MAINTAINED CONTACTS)
LEFT POSITION - ARI DISARMED
RIGHT POSITION - ARI ARMED
PUSH BUTTON TO ACTUATE ARI (MOMENTARY CONTACTS)
DISARMED/ARMED LABELLING SHOWN ABOVE IS FOR INFORMATION ONLY. THE ACTUAL SWITCHES DO NOT HAVE INDIVIDUAL COLLAR POSITION LABELS.
RESET
RMS (ALTERNATE ROD INSERTION RESET)
LOCATION: 2H11-P603
PUSH BUTTON
MOMENTARY CONTACTS
RPV WATER LEVEL 2 LOW (CH.I OR II)
RPV DOME PRESSURE HIGH (CH.I OR II)
ARI MANUAL INITIATION IN ARMED POSITION
ARI INITIATED
LOSS OF POWER (CH.I OR II)-ARI OUT OF SERVICE
ARI ANNUNCIATOR -2H11-P603
CH.I ARI POWER AVAILABLE
CH.II ARI POWER AVAILABLE
POWER STATUS INDICATION
LOGIC STATUS INDICATION
FOR NOTES, SEE DWG. H-24717
FOR REFERENCES, SEE DWG. H-24718
MPL NO. 2C11-1030
BECHTEL
JOB 6511 GAITHERSBURG, MARYLAND
SOUTHERN SERVICES INC. FOR
GEORGIA POWER CO., ATLANTA, GA.
GENERAL ENGINEERING DEPARTMENT
EDWIN I. HATCH NUCLEAR PLANT UNIT NO.2
CONTROL ROD DRIVE HYDRAULIC SYSTEM
LOGIC DIAGRAMS
SHEET 9 OF 9
SCALE NONE
DATE 4-4-88
10-502
H-24787



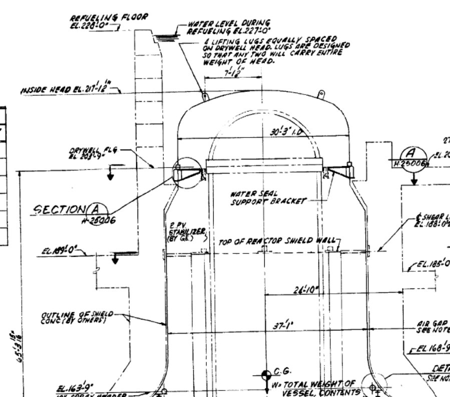
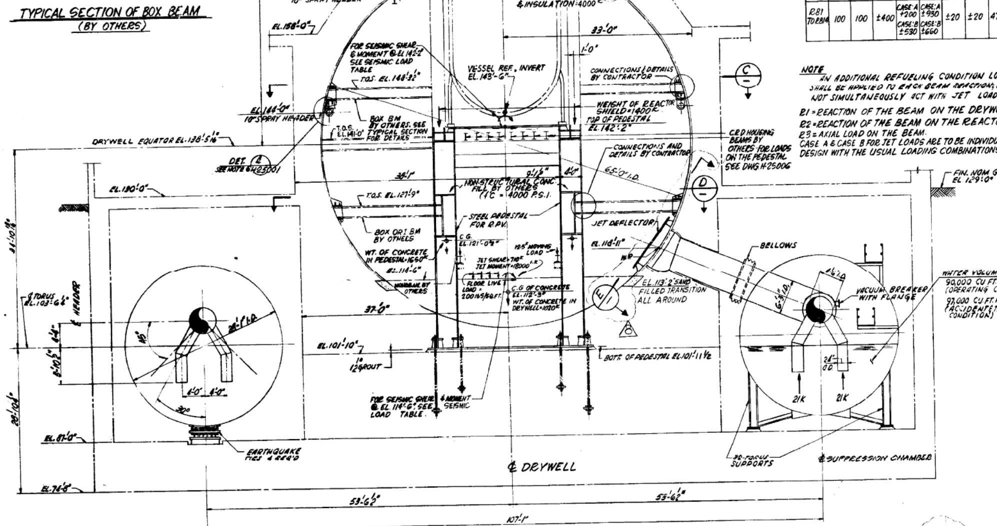
KEY PLAN

SEISMIC LOAD TABLE

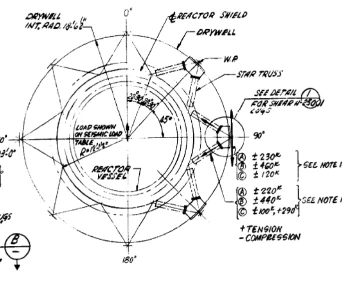
DESCRIPTION OF LOAD	LOADING CONDITION	FOR STAR TRUSS EL. 188'-0½"	FOR RPV PEDESTAL EL 142'-2"	FOR RPV PEDESTAL EL 114'-6"
SHEAR IN KIPS	OBE	900	1200	1226
	DBE	1800	2400	1606
	FLOODED	1500	1133	1224
MOMENT IN FT. KIPS	OBE		46,417	58,638
	DBE		92,833	76,458
	FLOODED		42,046	58,489



TYPICAL SECTION OF BOX BEAM
(BY OTHERS)

VERTICAL SECTION
⅛"=1'-0"



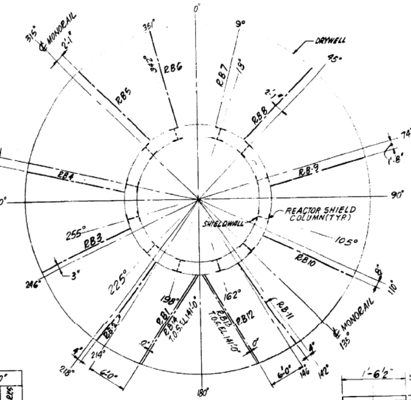
PLAN B

LOADING AT ELEVATION 148'-3½" & EL 141'-0"

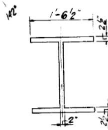
BEAM DESIGNATION	D.L.+L.L. IN KIPS R1	D.L.+L.L. IN KIPS R2	JET LOAD IN KIPS R1	JET LOAD IN KIPS R2	JET LOAD IN KIPS R3	SEISMIC OBE IN KIPS R1	SEISMIC OBE IN KIPS R2	MOM. ON REACT. SHIELD SIDE-FT. KIPS DL+LL	MOM. ON REACT. SHIELD SIDE-FT. KIPS JET	MOM. ON REACT. SHIELD SIDE-FT. KIPS SEISMIC OBE	REMARKS
RB1 TO RB14	100	100	±400	CASE:A +200 CASE:B ±530	CASE:A ±930 CASE:B ±660	±20	±20	475	CASE:A ±410 CASE:B ±3000	±90	RB13 & RB14 FIXED AT PEDESTAL END

NOTE
AN ADDITIONAL REFUELING CONDITION LOAD OF 26K SHALL BE APPLIED TO EACH BEAM REACTION; BUT THIS WILL NOT SIMULTANEOUSLY ACT WITH JET LOADS.

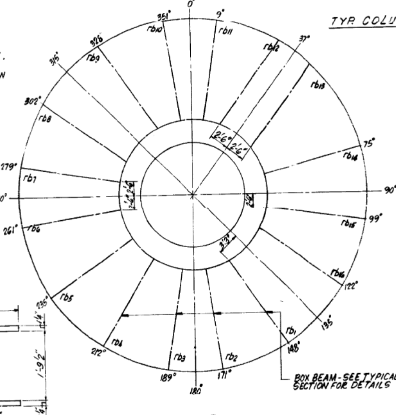
R1 = REACTION OF THE BEAM ON THE DRYWELL SIDE.
R2 = REACTION OF THE BEAM ON THE REACTOR SHIELD SIDE.
R3 = AXIAL LOAD ON THE BEAM.
CASE A & CASE B FOR JET LOADS ARE TO BE INDIVIDUALLY SATISFIED IN DESIGN WITH THE USUAL LOADING COMBINATIONS.



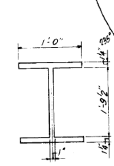
PLAN C
⅛"=1'-0"



TYP COLUMN



PLAN D
⅛"=1'-0"



TYP. BEAM SECTION
rb5 THRU rb16

LOADING AT ELEVATION 127'-9"

BEAM DESIGNATION	D.L.+L.L. IN KIPS R1	D.L.+L.L. IN KIPS R2	JET LOAD IN KIPS R1	JET LOAD IN KIPS R2	JET LOAD IN KIPS R3	SEISMIC OBE IN KIPS R1	SEISMIC OBE IN KIPS R2	MOM. AT PEDESTAL SIDE-IN FT. KIPS D.L+L.L	MOM. AT PEDESTAL SIDE-IN FT. KIPS JET	MOM. AT PEDESTAL SIDE-IN FT. KIPS SEISMIC OBE	REMARKS
rb1 TO rb4	100	100	±320	CASE:A ±120 CASE:B ±670	CASE:A ±780 CASE:B ±560	±20	±20	475	CASE:A ±390 CASE:B ±2700	±90	FIXED AT PEDESTAL END
rb5 TO rb16	100	100	±260	±180	-	±20	±20	400	±600	±70	FIXED AT PEDESTAL END

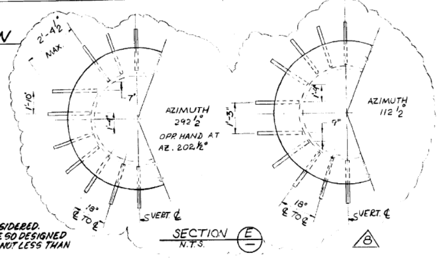
R1 = REACTION OF THE BEAM ON THE DRYWELL SIDE.
R2 = REACTION OF THE BEAM ON THE PEDESTAL SIDE.
R3 = AXIAL LOAD ON THE BEAM.
CASE A & CASE B FOR JET LOADS ARE TO BE INDIVIDUALLY SATISFIED IN DESIGN WITH THE USUAL LOADING COMBINATIONS.

NOTE:
AN ADDITIONAL REFUELING CONDITION LOAD OF 26K SHALL BE APPLIED TO EACH BEAM REACTION; BUT THIS WILL NOT SIMULTANEOUSLY ACT WITH JET LOADS.

REACTOR SHIELD COLUMN LOADS

LOAD	JET LOAD CASE 1	JET LOAD CASE 2	JET LOAD CASE 3	DL+LL	SEISMIC LOAD OBE	SEISMIC LOAD DBE
Fx	±190	±100	±650	-175	±170	±240
Fy	±350	±100	±100	7	-	-
Fz	±580	±160	±500	12	±25	±35
Mx	±5	±5	±5	-	-	-
My	±970	±1260	±1110	30	-	-
Mz	±580	±390	±290	20	-	-

NOTES:
1. FOR JET LOADS ALL CASES ARE TO BE INDEPENDENTLY CONSIDERED; BUT ONLY ONE CASE AT A TIME.
2. ALL FORCES ARE IN KIPS AND MOMENTS IN FT. KIPS.
3. REACTOR SHIELD COLUMNS ARE OF ASTM A441 STEEL AND ARE WELDED TO THE TOP OF THE PEDESTAL TO DEVELOP FULL FIXITY.
4. NO TEMPERATURE GRADIENT NEED BE CONSIDERED. HOWEVER, THE TOP OF THE PEDESTAL SHALL BE SO DESIGNED THAT IT MAY HAVE A RESERVED STRENGTH OF NOT LESS THAN 20% FOR ALL LOADING COMBINATIONS.



SECTION E
N.T.S.

NOTES

1. GENERAL ELECTRIC ORIENTATION 0° REFERS TO PLANT ORIENTATION EAST
2. FOR ADDITIONAL LOADING AND DESIGN CONDITIONS SEE SPECIFICATION SS 2102-5
3. THE SPHERICAL AND CYLINDRICAL PARTS OF THE DRYWELL SHALL BE SEPARATED FROM THE REINFORCED CONCRETE SHIELDING BY AN AIR GAP OF 2" ± ¼".
4. SEISMIC LOADINGS SHOWN ARE THOSE FOR THE OPERATING BASIS EARTHQUAKE. FOR THE DESIGN BASIS EARTHQUAKE THESE LOADS SHALL BE INCREASED BY 100%.
5. SEISMIC LOADS AT BASE OF PEDESTAL ARE DUE TO THE DRYWELL, REACTOR PEDESTAL, REACTOR, CONCRETE FILL AND EQUIPMENT.
6. DRYWELL 10" DIA SPRAY HEADERS AND PENETRATIONS:
   A. THE CONTRACTOR SHALL DESIGN, FURNISH, TEST & INSTALL THE HEADERS, JET GUARDS AND THEIR SUPPORTS IN ACCORDANCE WITH THE RULES OF ASME SECTION III, CLASS 2 AND SEISMIC CLASS I.
   B. HEADER PIPE DESIGN:
      TEMPERATURE 325°F
      PRESSURE 375 PSIG
   C. ON EACH HEADER 104-1½" DIAMETER, SCH 80 PIPE NIPPLES, 3" LONG POE, TOE SHALL BE EVENLY SPACED AND EACH NIPPLE SHALL BE PROVIDED WITH AN 1½" PIPE CAP.
   D. THE HEADERS, JET GUARDS AND SUPPORTS SHALL BE DESIGNED TO WITHSTAND THE JET FORCE FOR THE SPHERICAL PORTION OF THE DRYWELL FROM ANY DIRECTION USING AN ALLOWABLE STRESS NOT TO EXCEED THE YIELD POINT OF THE MATERIAL.
   E. THE HEADERS, JET GUARDS AND SUPPORTS SHALL BE OF SUFFICIENT STRENGTH AND STIFFNESS TO INSURE THAT THE POSSIBLE DEFLECTION OR DISPLACEMENT OF THE SUPPORTS WILL NOT RESULT IN FAILURE OF THE SPRAY HEADERS.
7. THE REACTION IN LOAD TABLES FOR BEAMS, DUE TO JET LOADS CAN ACT VERTICALLY DOWNWARD, UPWARD, AXIALLY & LATERALLY; ASSUME LOAD TO ACT IN ONE DIRECTION AT A GIVEN TIME.
8. CRD PIPING SHALL MEET ALL REQUIREMENTS OF ASME, SECTION III, CLASS 1.
9. ALL RADIAL BEAMS BY OTHERS ARE ASTM A-441 STEEL.
10. LOADS CONTRIBUTED BY THE CONTAINMENT ARE TO BE ADDED TO THOSE SHOWN.
11. CASES Ⓐ Ⓑ & Ⓒ REFER TO OBE, DBE AND JET LOADS RESPECTIVELY.

REFERENCE DRAWINGS

TITLE	DWG. NO
DRYWELL DETAILS & CRD. PENETRATIONS	H-25001
PENETRATION DETAILS	H-25002
SUPPRESSION CHAMBER PLANS AND SECTIONS	H-25003
REACTOR PRESSURE VESSEL PEDESTAL DEVELOPMENT ELEVATION (INSIDE & OUTSIDE)	H-25004
REACTOR PRESSURE VESSEL PEDESTAL SECTIONAL PLANS AND SECTIONS	H-25005
DRYWELL WATER SEAL ASSEMBLY-PLAN, SECTIONS & DETAILS	H-25006

GEORGIA REGISTERED PROFESSIONAL ENGINEER No. 7141 JACOB BINGAMAN

BECHTEL ASSOCIATES
JOB 6511

SOUTHERN SERVICES INC.
FOR
GEORGIA POWER CO., ATLANTA, GA.
GENERAL ENGINEERING DEPARTMENT

EDWIN I HATCH NUCLEAR PLANT UNIT NO 2
REACTOR BUILDING
CONTAINMENT VESSEL REQUIREMENTS
DRYWELL PLANS & SECTIONS

DSGN.	DR.	CH'K.
G.A. Kosi	E.J. Odell	ABT

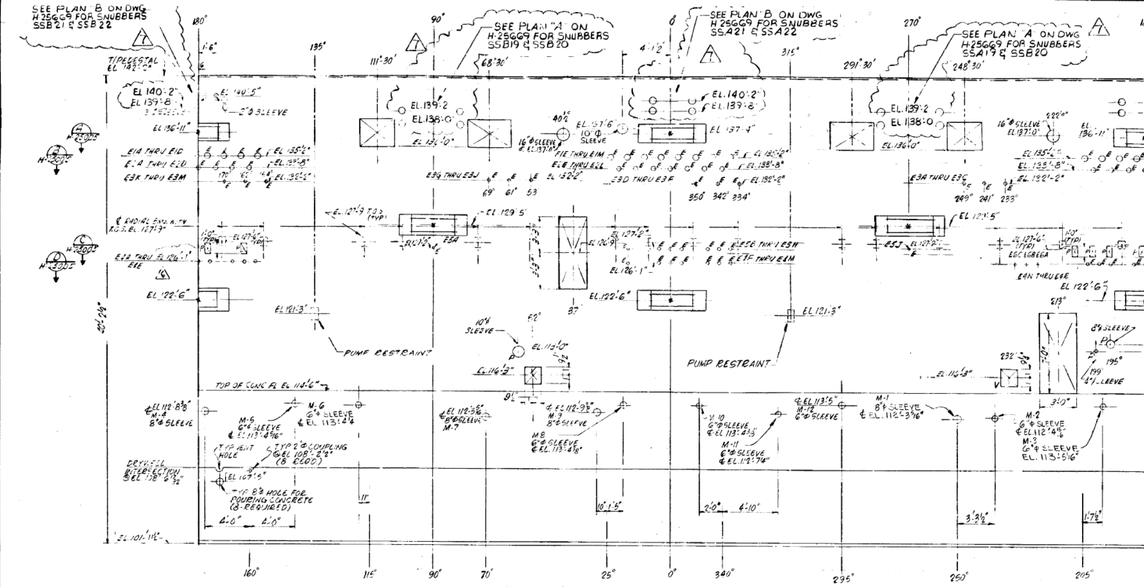
SCALE	DATE
AS NOTED	May 24, 1971

DRAWING NUMBER

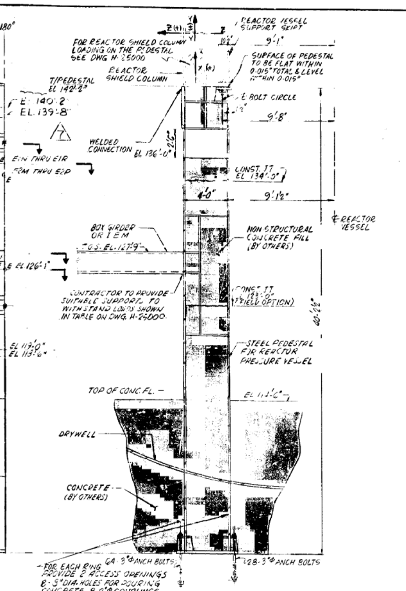
LOCATION	SHEET NO.
10-502	H-25000

REVISIONS: B 6-24-71 HS FOR BID ONLY; C ... ISSUED FOR APPT. CONST.; 2 ... REVISED NOTES

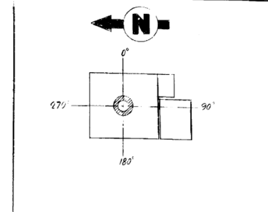
9-20-75



DEVELOPED ELEVATION (OUTSIDE)
SCALE 1/8"=1'-0"



SECTION E H-25005
SCALE 1/8"=1'-0"

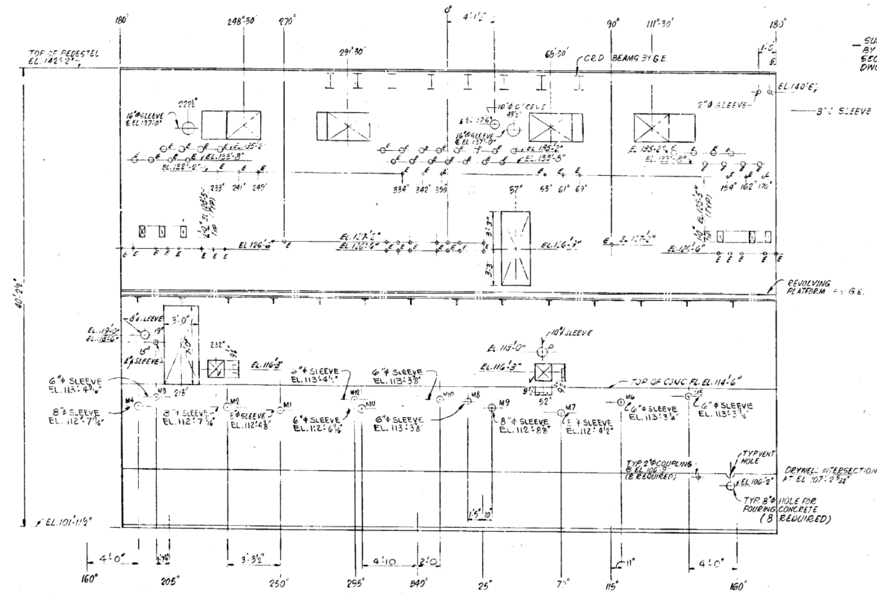


KEY PLAN

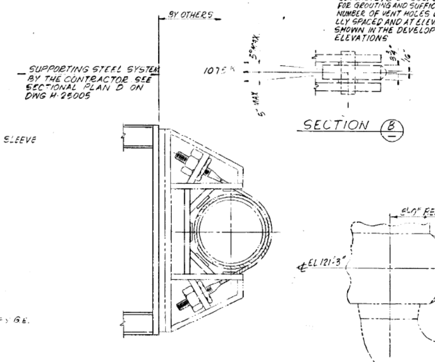
NOTES

1. GENERAL ELECTRIC ORIENTATION 0° EQUALS PLANT ORIENTATION EAST
2. ALL ELECTRIC PENETRATIONS FROM E1A THRU E6C WITH THE EXCEPTION OF E3A THRU E3M MAY BE MOVED 3"± TO FACILITATE CONSTRUCTION
3. TOLERANCES SHALL BE IN ACCORDANCE WITH SECTION 406 OF THE SPECIFICATIONS.
4. FOR MATERIAL AND WELDING REQUIREMENTS AND ADDITIONAL LOADING CONDITIONS SEE SPECIFICATION SS-2102-5.
5. CONTRACTOR TO PROVIDE SUITABLE STRUCTURAL MEMBERS TO SUPPORT THE PIPE WHIP RESTRAINT WITH A 1075 K LOAD APPLIED IN ANY DIRECTION, BUT AT ONLY ONE LOCATION AT ANY GIVEN TIME. SEE PIPE RESTRAINT DETAIL ON THIS DWG. AND SECTIONAL PLAN "D" ON DWG. H-35005.

NOTE: WORK THIS DWG WITH DWG H-25003 & H-25005

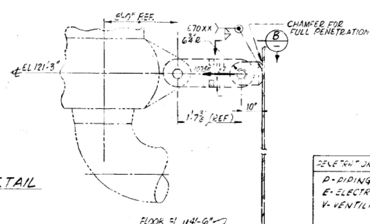


DEVELOPED ELEVATION (INSIDE)
SCALE 1/8"=1'-0"



SECTION B

TYPICAL PIPE RESTRAINT DETAIL



PUMP RESTRAINT DETAIL
N.T.S.

ELECTRICAL SLEEVES			
SYMBOL	QUANT.	SIZE	SERVICE
E1A TO E1R	16	6"	C.R.D. INDICATION
E2A TO E2P	14	4"	POWER RANGE MONITORS SIGNAL CABLES
E3A TO E3M	12	2"	START-UP RANGE MONITORS DRIVE
E4A TO E4R	16	2"	S.R.M./I.R.M. DETECTOR CABLES (4 SPARES)
E5A TO E5J	9	2"	ELECTRICAL SERVICE LGT., GROUNDING, POWER
E6A TO E6C	3	2"	ELECTRICAL SERVICE, T.C.'S & COMMUNICATIONS
NOTE: SUFFIXES "I" & "O" NOT USED			

PENETRATION LEGEND
P - PIPING
E - ELECTRICAL
V - VENTILATION

GEORGIA REGISTERED PROFESSIONAL ENGINEER No. 7141 ALTON JACOB BINGAMAN

BECHTEL ASSOCIATES
JOB 6511

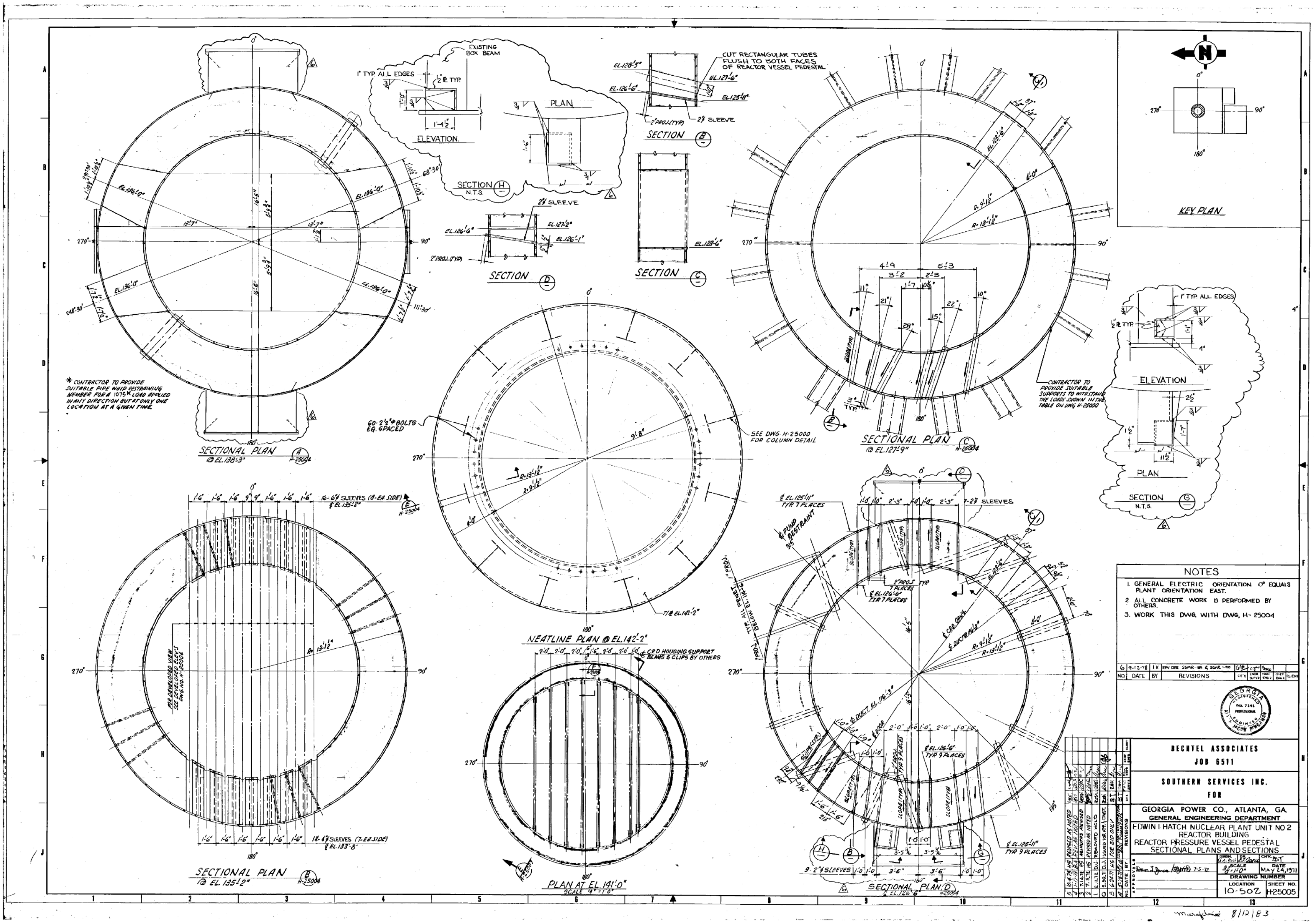
SOUTHERN SERVICES INC.
FOR

GEORGIA POWER CO., ATLANTA, GA.
GENERAL ENGINEERING DEPARTMENT

EDWIN I HATCH NUCLEAR PLANT UNIT NO 2
REACTOR BUILDING
REACTOR PRESSURE VESSEL PEDESTAL
DEVELOPMENT ELEV. (INSIDE AND OUTSIDE)

SCALE: AS NOTED
DATE: MAY 24, 1971
DRAWING NUMBER
LOCATION: 0-502
SHEET NO.: H-25004

SUPERVISOR JUN 78 CAMERA OPERATOR HALF-SIZE PRINT DO NOT SCALE



SECTIONAL PLAN A
@ EL.138'-3"
H-25004
* CONTRACTOR TO PROVIDE SUITABLE PIPE WHIP RESTRAINING MEMBER FOR A 1075K LOAD APPLIED IN ANY DIRECTION BUT AT ONLY ONE LOCATION AT A GIVEN TIME.
EXISTING BOX BEAM
1" TYP. ALL EDGES
ELEVATION
PLAN
SECTION H
N.T.S.
CUT RECTANGULAR TUBES FLUSH TO BOTH FACES OF REACTOR VESSEL PEDESTAL
2" PROJ.(TYP)
2¼ SLEEVE
SECTION B
SECTION D
SECTION C
SECTIONAL PLAN C
@ EL.127'-9"
H-25004
CONTRACTOR TO PROVIDE SUITABLE SUPPORTS TO WITHSTAND THE LOADS SHOWN IN THE TABLE ON DWG H-25000
KEY PLAN
SECTION G
N.T.S.
60-2½"Φ BOLTS EQ. SPACED
SEE DWG. H-25000 FOR COLUMN DETAIL
NEATLINE PLAN @ EL.142'-2"
CRD HOUSING SUPPORT BEAMS & CLIPS BY OTHERS
PLAN AT EL.141'-0"
SCALE ⅜"=1'-0"
16-6⅝ SLEEVES (8-EA SIDE)
14-6⅝ SLEEVES (7-EA SIDE)
SECTIONAL PLAN B
@ EL.135'-2"
H-25004
FOR DEVELOPED VIEW SEE DEVELOPED ELEV'S DWG. NO. H-25004
7-2⅞ SLEEVES
PUMP RESTRAINT
9-2⅞ SLEEVES
SECTIONAL PLAN D
@ EL.126'-6"
H-25004
NOTES
1. GENERAL ELECTRIC ORIENTATION 0° EQUALS PLANT ORIENTATION EAST.
2. ALL CONCRETE WORK IS PERFORMED BY OTHERS.
3. WORK THIS DWG. WITH DWG. H-25004
6 | 9-13-78 | J.K. | REV. PER 26MR-89 & 26MR-90
NO. | DATE | BY | REVISIONS | CH'K | ENGR. SUPVR | PROJ. ENGR | CHIEF ENGR | CLIENT
GEORGIA REGISTERED PROFESSIONAL ENGINEER No. 7141 JACOB RINGAMAN
5 | 10-4-73 | HS | REVISED AS NOTED
4 | 1-17-73 | B.A. | REV. AS NOTED
3 | 7-14-72 | HS | AZIMUTHS REVISED
2 | 7-3-72 | HS | REVISED AS NOTED
1 | 2-11-72 | D.J. | REMOVED HOLD
0 | 8-30-71 | D.J. | ISSUED FOR APP. & CONST.
B | 6-24-71 | HS | FOR BID ONLY
A | 5-24-71 | E.L.A. | ISSUED FOR APPROVAL AND COMMENTS
NO. | DATE | BY | REVISIONS
BECHTEL ASSOCIATES
JOB 6511
SOUTHERN SERVICES INC.
FOR
GEORGIA POWER CO., ATLANTA, GA.
GENERAL ENGINEERING DEPARTMENT
EDWIN I HATCH NUCLEAR PLANT UNIT NO 2
REACTOR BUILDING
REACTOR PRESSURE VESSEL PEDESTAL
SECTIONAL PLANS AND SECTIONS
APPROVALS
7-5-72
SCALE ⅜"=1'-0"
DATE MAY 24, 1971
DRAWING NUMBER
LOCATION 10-502
SHEET NO. H25005
Microfilmed 8/12/83

[redacted]

[redacted]

H-26000

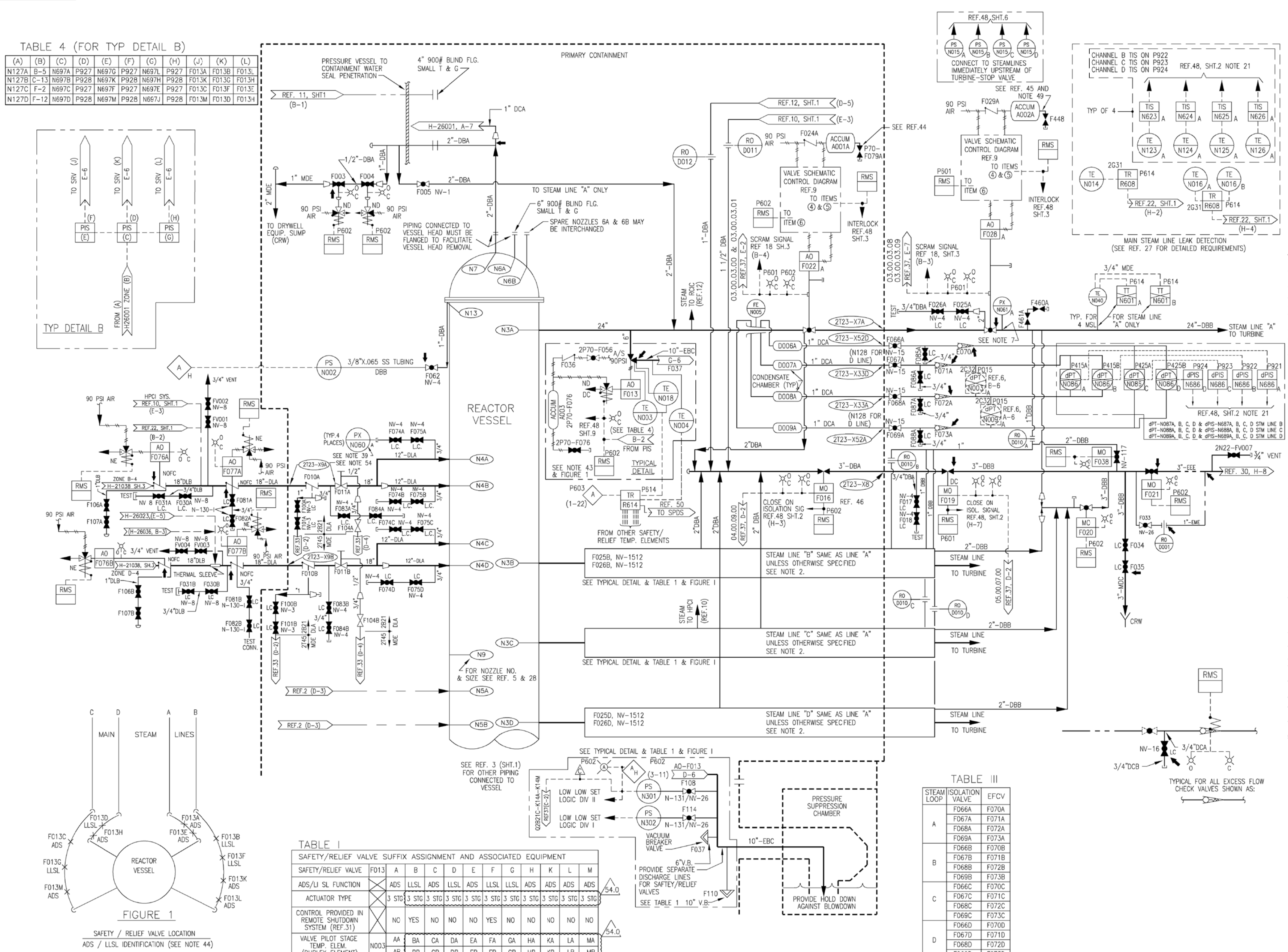


FIGURE 1

SAFETY / RELIEF VALVE LOCATION
ADS / LLSL IDENTIFICATION (SEE NOTE 44)

TABLE 4 (FOR TYP DETAIL B)

(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(J)	(K)	(L)
N127A	B-5	N697A	P927	N697G	P927	N697L	P927	F013A	F013B	F013L
N127B	C-13	N697B	P928	N697K	P928	N697H	P928	F013K	F013G	F013H
N127C	F-2	N697C	P927	N697F	P927	N697E	P927	F013C	F013F	F013E
N127D	F-12	N697D	P928	N697M	P928	N697J	P928	F013M	F013D	F013H

TABLE I

SAFETY/RELIEF VALVE SUFFIX ASSIGNMENT AND ASSOCIATED EQUIPMENT												
SAFETY/RELIEF VALVE	F013	A	B	C	D	E	F	G	H	K	L	M
ADS/LI SL FUNCTION		ADS	LLSL	ADS	LLSL	ADS	LLSL	LLSL	ADS	ADS	ADS	ADS
ACTUATOR TYPE		3 STG	3 STG	3 STG	3 STG	3 STG	3 STG	3 STG	3 STG	3 STG	3 STG	3 STG
CONTROL PROVIDED IN REMOTE SHUTDOWN SYSTEM (REF.31)		NO	YES	NO	NO	NO	YES	NO	NO	NO	NO	NO
VALVE PILOT STAGE TEMP. ELEM. (DUPLEX ELEMENT)	N003	AA	BA	CA	DA	EA	FA	GA	HA	KA	LA	MA
		AB	BB	CB	DB	EB	FB	GB	HB	KB	LB	MB
VALVE 2ND STAGE TEMP. ELEM.	N018	A	B	C	D	E	F	G	H	K	L	M
VACUUM BREAKER	F110	–	B	–	D	–	F	G	–	–	–	–
COMPUTER INPUT NO. FOR PRESSURE SWITCH N301	C	C1580	C1581	C1582	C1583	C1584	C1585	C1586	C1587	C1588	C1589	C1590

54.0

54.0

TABLE III

STEAM LOOP	ISOLATION VALVE	EFCV
A	F066A	F070A
	F067A	F071A
	F068A	F072A
	F069A	F073A
B	F066B	F070B
	F067B	F071B
	F068B	F072B
	F069B	F073B
C	F066C	F070C
	F067C	F071C
	F068C	F072C
	F069C	F073C
D	F066D	F070D
	F067D	F071D
	F068D	F072D
	F069D	F073D

NOTES

1. FOR GENERAL NOTES – SEE DRAWING H-26189

WORK THIS DWG WITH H-26001 & H-26189

REFERENCES

1. CONTROL ROD DRIVE HYDRAULIC SYS P&ID	SHT 1 SHT 2	2C11-1010	H-26006 H-26007
2. CORE SPRAY SYSTEM P&ID		2E21-1010	H-26018
3. REACTOR RECIRCULATION SYS P&ID	SHT 1 SHT 2	2B31-1010	H-26003 H-26004
4. PIPING & INSTRUMENT SYMBOLS		A42-1010	S-15051
5. REACTOR VESSEL PURCHASE PART DWG.		2B11-A001	S-25020-24
6. FEEDWATER CONTROL SYSTEM IED		2C32-1010	H-26991
7. NEUTRON MONITORING SYS IED		2C51-1010	H-26992
8. STANDBY LIQUID CONTROL SYS P&ID		2C41-1010	H-26009
9. ISOLATION VALVE PURCH PART DWG		2B21-F022 2B21-F028	S-25012 S-25011
10. HPCI SYSTEM P&ID	SHT 1 SHT 2	2E41-1010	H-26020 H-26021
11. RHR SYSTEM P&ID	SHT 1 SHT 2	2E11-1010	H-26014 H-26015
12. RCIC SYSTEM P&ID	SHT 1 SHT 2	2E51-1010	H-26023 H-26024
13. HPCI SYSTEM FCD		2E41-1030	H-24742-49
14. DELETED			
15. RCIC SYSTEM FCD	SHT 1-4	2E51-1030	S-26100, 1-2 & 3
16. DELETED			
17. CORE SPRAY SYSTEM FCD		2E21-1030	S-26097
18. REACTOR PROTECTION SYSTEM IED		2C71-1010	H-24728
19. PROCESS INSTRUMENT PIPING & TUBING INSTALL. SPECIFICATION		2A61-4070	S-25323
20. PLANT REQUIREMENTS		2A61-4020	S-25706
21. REACTOR RECIRCULATION SYSTEM FCD		2B31-1020	
22. REACTOR WATER CLEANUP SYSTEM P&ID	SHT 1 SHT 2	2G31-1010	H-26036 H-26037
23. PRESSURE INTEGRITY OF PIPING & EQUIPMENT PRESSURE PARTS		2A61-4030	S-25112
24. NUCLEAR BOILER SYSTEM PROCESS DIAG		2B21-1020	S-25068
25. NUCLEAR BOILER SYSTEM DESIGN SPEC.		2B21-4020	S-25213
26. FEEDWATER CONTROL SYSTEM DESIGN SPEC		2C32-4010	S-25321
27. NUCLEAR BOILER LEAK DETECTION DESIGN SPEC.		2A61-4040	S-25280
28. REACTOR SYSTEM OUTLINE		2A61-2050	S-25045
29. CNDS & F.W. SYSTEM		2N21-1010	H-21038
30. TURBINE BLDG. MAIN AND RFP TURBINE DRAINS P&ID		2N22-1010	H-21031
31. REMOTE SHUTDOWN SYS. IED	SHT 1-5	2C82-1010	S-28846-50
32. DELETED			
33. EQUIP. & VALVE DRAINAGE P&ID		2T45-1030	H-26077
34. CLASS 1E ANALOG SIGNAL CONVERSION/ISOLATION SYS. IED		2X75-1010	H-26284
35. DELETED			
36. DELETED			
37. DIGITAL INPUT SIGNALS TO THE SPDS/ERF COMPUTER SYS. IED	SH 1 OF 15	2X75-1010	H-26163
38. NUCLEAR BOILER SYS. P&ID	SH 2	2B21-1010	H-26001
39. NUCLEAR BOILER SYS. P&ID	SH 3	2B21-1010	H-26189
40. POST ACCIDENT REACTOR COOLANT AND CONTAINMENT ATMOSPHERE SAMPLING SYSTEM P&ID		2P33-1010	H-26384
41. REACTOR ASSEMBLY SHT. 1 SECT. 1-3, SHT. 2 SECT. 1-3		2B11-2010	S-28220-25
42. CLASS IE DIVISION 1 SIGNAL CONVERSION/ISOLATION SYSTEM IED		2X75-1010	H-26285
43. CLASS IE DIVISION 2 ANALOG SIGNAL CONVERSION/ISOLATION SYSTEM IED		2X75-1010	H-26286
44. DRYWELL PNUMATIC SYS.			H-28023
45. REACTOR BLDG NORTH SIDE NON-INTERRUPTABLE INSTRUMENT AIR			H-26070
46. PENETRATION X-8 22" NOM. DIA CLAMSHELL BELLOWS – DETAIL			S-43984
47. SPDS/ERF I/O LIST			H-52395
48. NUCLEAR BOILER SYSTEM LOGIC DIAGRAM SHT. 1-12		2B21-1030	H-24701-12
49. RESIDUAL HEAT REMOVAL SYSEM LOGIC DIAGRAMS SHT. 1-7		2E11-1030	H-24732-38
50. ERF/SPDS BLOCK DIAGRAM		2X75-1010	H-26191

THIS DWG. DEVELOPED FROM G.E. DWG. NO. 761E250BA REV. LTR SHT 1

VALVES ON THIS DWG. ARE NUMBERED
FD001 THRU FD020 FOR DRAIN VALVES
FV001 THRU FV020 FOR VENT VALVES

CRITICAL DOCUMENT

MPL NO. 2B21-1010

ACAD2000 H26000

SOUTHERN COMPANY

Version: 54.0 Date: 3/27/15

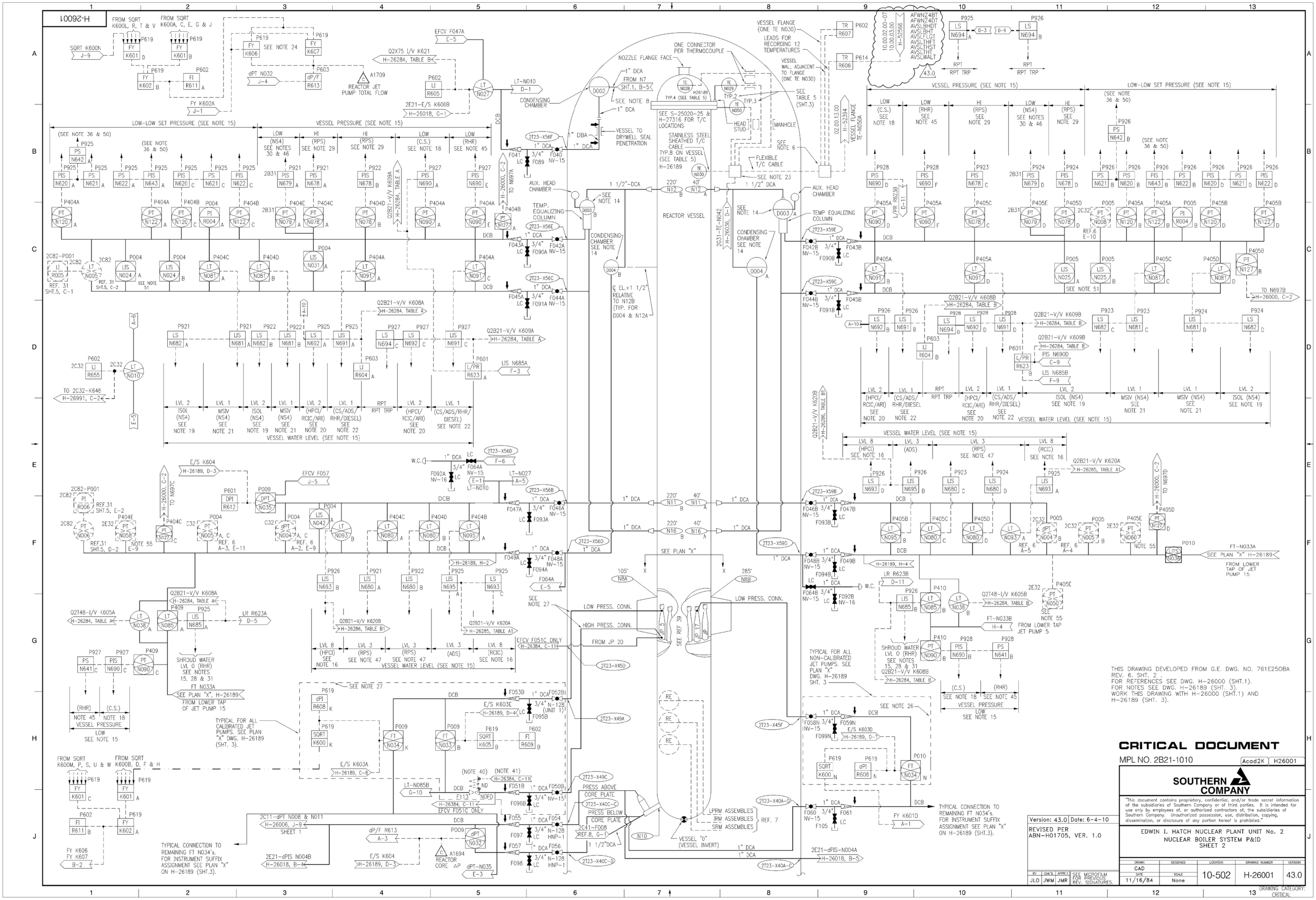
REVISED PER:
SNC429939J014, VER 1.0

BY	CHK'D	APPR.
GTR	SNM	JTL

EDWIN I. HATCH NUCLEAR PLANT UNIT No. 2
NUCLEAR BOILER SYSTEM P&ID
SHEET 1

DRAWN	DESIGNED	LOCATION	DRAWING NUMBER	VERSION
WJB	SSG	10-502	H-26000	54.0
DATE: 11-11-72	SCALE: None			

DRAWING CATEGORY: CRITICAL


H-26001
REACTOR VESSEL
VESSEL PRESSURE (SEE NOTE 15)
LOW-LOW SET PRESSURE (SEE NOTE 15)
VESSEL WATER LEVEL (SEE NOTE 15)
AUX. HEAD CHAMBER
TEMP. EQUALIZING COLUMN
CONDENSING CHAMBER SEE NOTE 14
NOZZLE FLANGE FACE
ONE CONNECTOR PER THERMOCOUPLE
VESSEL FLANGE (ONE TE N030)
LEADS FOR RECORDING 12 TEMPERATURES
STAINLESS STEEL SHEATHED T/C CABLE
FLEXIBLE T/C CABLE
MANHOLE
HEAD STUD
VESSEL TO DRYWELL SEAL PENETRATION
LOW PRESS. CONN.
HIGH PRESS. CONN.
FROM JP 20
SEE PLAN "X"
PRESS ABOVE CORE PLATE
PRESS BELOW CORE PLATE
LPRM ASSEMBLIES
IRM ASSEMBLIES
SRM ASSEMBLIES
VESSEL "0" (VESSEL INVERT)
SHROUD WATER LVL 0 (RHR) SEE NOTES 15, 28 & 31
FROM LOWER TAP OF JET PUMP 15
FROM LOWER TAP JET PUMP 5
TYPICAL FOR ALL CALIBRATED JET PUMPS. SEE PLAN "X" DWG. H-26189 (SHT. 3).
TYPICAL FOR ALL NON-CALIBRATED JET PUMPS. SEE PLAN "X" DWG. H-26189 SHT. 3
TYPICAL CONNECTION TO REMAINING FT N034's. FOR INSTRUMENT SUFFIX ASSIGNMENT SEE PLAN "X" ON H-26189 (SHT.3).
REACTOR JET PUMP TOTAL FLOW
REACTOR CORE ΔP
THIS DRAWING DEVELOPED FROM G.E. DWG. NO. 761E250BA REV. 6. SHT. 2 .
FOR REFERENCES SEE DWG. H-26000 (SHT.1).
FOR NOTES SEE DWG. H-26189 (SHT. 3).
WORK THIS DRAWING WITH H-26000 (SHT.1) AND H-26189 (SHT. 3).
CRITICAL DOCUMENT
MPL NO. 2B21-1010
Acad2K H26001
SOUTHERN COMPANY
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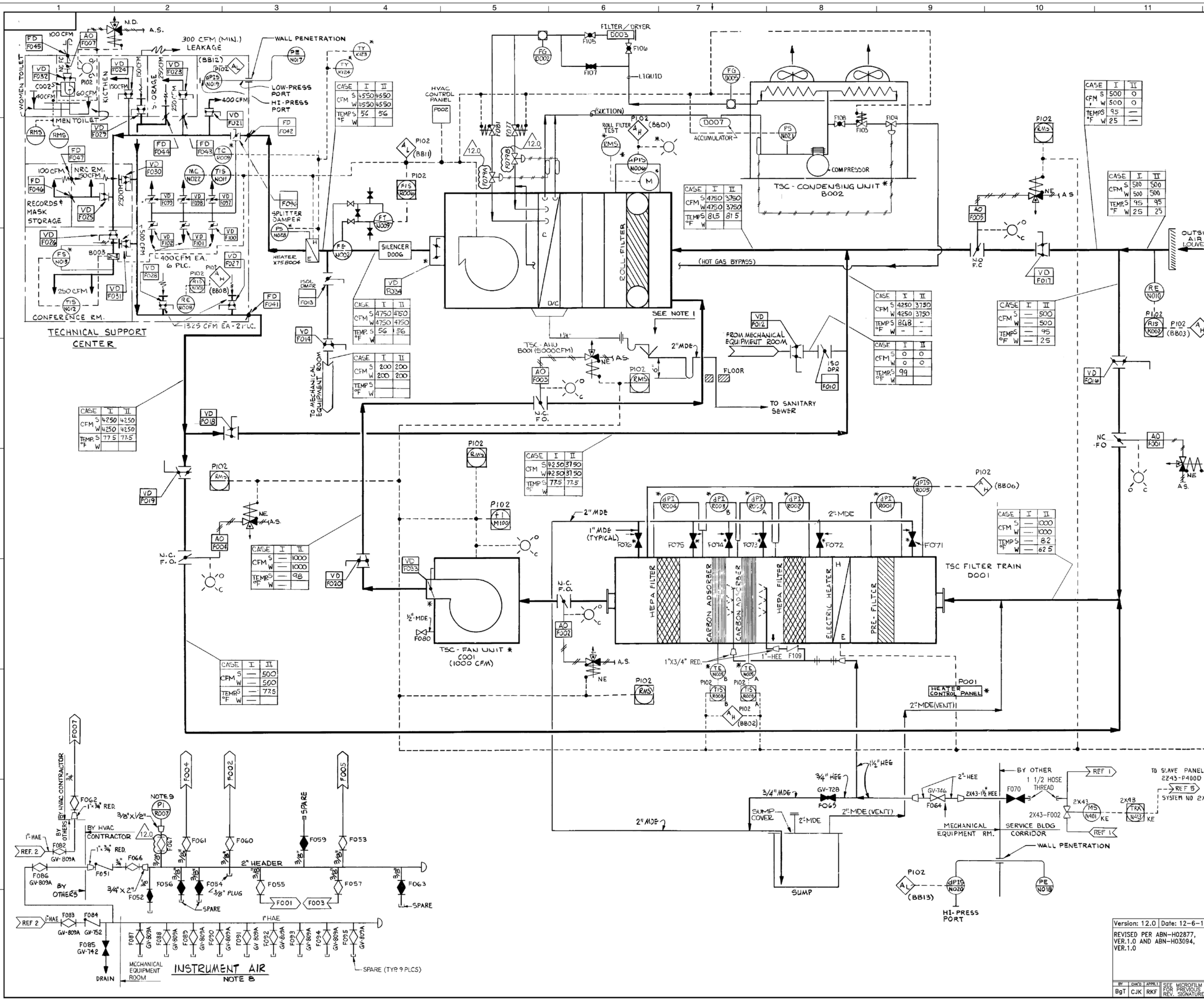
Version: 43.0 Date: 6-4-10
REVISED PER ABN-H01705, VER. 1.0
EDWIN I. HATCH NUCLEAR PLANT UNIT No. 2
NUCLEAR BOILER SYSTEM P&ID
SHEET 2
CAD
11/16/84
None
10-502
H-26001
43.0
JLO JWM JMR
SEE MICROFILM FOR PREVIOUS REV. SIGNATURES.
DRAWING CATEGORY: CRITICAL



CASE	I	II
CFM S	4550	4550
CFM W	4550	4550
TEMPS °F S	56	56
TEMPS °F W		

CASE	I	II
CFM S	500	0
CFM W	500	0
TEMPS °F S	95	—
TEMPS °F W	25	—

CASE	I	II
CFM S	4750	3750
CFM W	4750	3750
TEMPS °F S	81.5	81.5
TEMPS °F W		

CASE	I	II
CFM S	500	500
CFM W	500	500
TEMPS °F S	95	95
TEMPS °F W	25	25

CASE	I	II
CFM S	4750	4750
CFM W	4750	4750
TEMPS °F S	56	56
TEMPS °F W		

CASE	I	II
CFM S	4250	3750
CFM W	4250	3750
TEMPS °F S	86.8	-
TEMPS °F W	-	-

CASE	I	II
CFM S	—	500
CFM W	—	500
TEMPS °F S	—	95
TEMPS °F W	—	25

CASE	I	II
CFM S	200	200
CFM W	200	200
TEMPS °F S		
TEMPS °F W		

CASE	I	II
CFM S	0	0
CFM W	0	0
TEMPS °F S	99	
TEMPS °F W		

CASE	I	II
CFM S	4250	4250
CFM W	4250	4250
TEMP °F S	77.5	77.5
TEMP °F W		

CASE	I	II
CFM S	4250	3750
CFM W	4250	3750
TEMPS °F S	77.5	77.5
TEMPS °F W		

CASE	I	II
CFM S	—	1000
CFM W	—	1000
TEMPS °F S	—	82
TEMPS °F W	—	62.5

CASE	I	II
CFM S	—	1000
CFM W	—	1000
TEMPS °F S	—	98
TEMPS °F W	—	

CASE	I	II
CFM S	—	500
CFM W	—	500
TEMPS °F S	—	77.5
TEMPS °F W	—	

NOTES

1. DRAINS FROM COOLING COIL DRAIN PAN OF AIR HANDLING UNIT WILL BE ROUTED TO EXISTING SANITARY SEWER BELOW THE FLOOR.
2. DRAINS FROM FILTER TRAIN SHALL BE ROUTED TO SUMP IN MECHANICAL EQUIPMENT ROOM.
3. ALL EQUIPMENT AND INSTRUMENT NUMBERS ARE PREFIXED X75 UNLESS OTHERWISE NOTED
4. DUCTING TO BE WELDED CONSTRUCTION IN MECHANICAL EQUIPMENT ROOM.
5. * FURNISHED WITH ASSOCIATED EQUIPMENT.
6. CASE I NORMAL MODE
   CASE II ACCIDENT MODE
7. ALL CFM SHALL BE ADJUSTED TO ± 10%
8. FOR INSTRUMENT AIR LINE DETAILS SEE SX-19144 (HONEYWELL DWG. 936-82011-1C1)
9. PRESSURE GAUGE SUPPLIED BY GEORGIA POWER (SEE SX-18985)

LEGEND

MS - MONITOR SWITCH

TRX - ADDRESSABLE INTERFACE MODULE

REFERENCE

1. FIRE PROTECTION H-20035 SH 1
2. INSTRUMENT AIR H-20035 SH 1
3. FOR DUCT LAYOUT REFERENCE DWG. SEE H-26242 + H-26244
4. FOR PROCESS PIPING REFERENCE DWG. SEE H-26251
5. FIRE PROTECTION FCD - 2X43130W25 - B-24719

CRITICAL DOCUMENT

X75 | 0VY2000 | H26002

SOUTHERN COMPANY

Version: 12.0 Date: 12-6-12

REVISED PER ABN-H02877, VER.1.0 AND ABN-H03094, VER.1.0

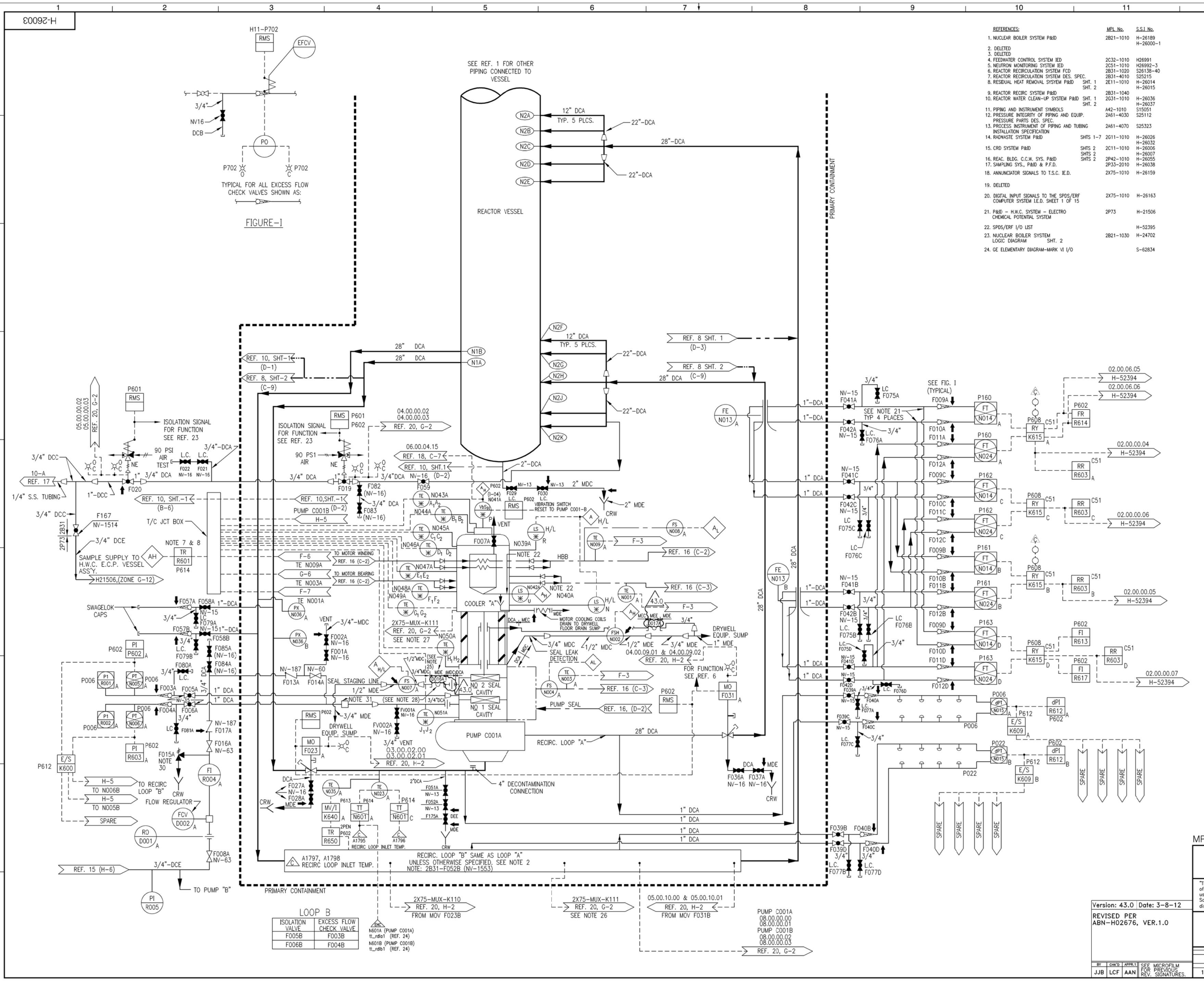
EDWIN I. HATCH NUCLEAR PLANT UNITS No. 1 & 2
TECHNICAL SUPPORT CENTER
H.V.A.C. – P. & I.D. & P.F.D.

DRAWN	DESIGNED	LOCATION	DRAWING NUMBER	VERSION
PLD	VCM	10-502	H-26002	12.0
DATE 4-01-80	SCALE None			

BY	CHK'D	APPR'D	
BgT	CJK	RKF	SEE MICROFILM FOR PREVIOUS REV. SIGNATURES.

DWG CATEGORY: CRITICAL

H-26003



REFERENCES:

REFERENCES:		MPL No.	S.S.I No.
1. NUCLEAR BOILER SYSTEM P&ID		2B21-1010	H-26189 H-26000-1
2. DELETED			
3. DELETED			
4. FEEDWATER CONTROL SYSTEM IED		2C32-1010	H26991
5. NEUTRON MONITORING SYSTEM IED		2C51-1010	H26992-3
6. REACTOR RECIRCULATION SYSTEM FCD		2B31-1020	S26138-40
7. REACTOR RECIRCULATION SYSTEM DES. SPEC.		2B31-4010	S25215
8. RESIDUAL HEAT REMOVAL SYSYEM P&ID	SHT. 1 SHT. 2	2E11-1010	H-26014 H-26015
9. REACTOR RECIRC SYSTEM P&ID		2B31-1040	
10. REACTOR WATER CLEAN-UP SYSTEM P&ID	SHT. 1 SHT. 2	2G31-1010	H-26036 H-26037
11. PIPING AND INSTRUMENT SYMBOLS		A42-1010	S15051
12. PRESSURE INTEGRITY OF PIPING AND EQUIP. PRESSURE PARTS DES. SPEC.		2A61-4030	S25112
13. PROCESS INSTRUMENT OF PIPING AND TUBING INSTALLATION SPECIFICATION		2A61-4070	S25323
14. RADWASTE SYSTEM P&ID	SHTS 1-7	2G11-1010	H-26026 H-26032
15. CRD SYSTEM P&ID	SHTS 2 SHTS 2	2C11-1010	H-26006 H-26007
16. REAC. BLDG. C.C.W. SYS. P&ID	SHTS 2	2P42-1010	H-26055
17. SAMPLING SYS., P&ID & P.F.D.		2P33-2010	H-26038
18. ANNUNCIATOR SIGNALS TO T.S.C. IE.D.		2X75-1010	H-26159
19. DELETED			
20. DIGITAL INPUT SIGNALS TO THE SPDS/ERF COMPUTER SYSTEM I.E.D. SHEET 1 OF 15		2X75-1010	H-26163
21. P&ID - H.W.C. SYSTEM - ELECTRO CHEMICAL POTENTIAL SYSTEM		2P73	H-21506
22. SPDS/ERF I/O LIST			H-52395
23. NUCLEAR BOILER SYSTEM LOGIC DIAGRAM	SHT. 2	2B21-1030	H-24702
24. GE ELEMENTARY DIAGRAM-MARK VI I/O			S-62834

NOTES:

1. ALL EQUIPMENT AND INSTRUMENTS ARE PREFIXED BY SYSTEM No. 2B31 UNLESS OTHERWISE NOTED.
2. RECIRCULATION LOOP ENCLOSED IN BOX SHALL HAVE PART NUMBERS CORRESPONDING TO ITS RESPECTIVE LINE OR LOOP NUMBER UNLESS OTHERWISE NOTED.
   EXAMPLE: XXXB IS ON LINE B.
3. INSTRUMENT LINE VALVING MUST COMPLY WITH INSTRUMENT PIPING STANDARDS REF. 13.
4. DELETED
5. WHERE GV-NUMBERS ARE USED, THE VALVES WILL BE TAGGED WITH THESE NUMBERS. WHERE GV-NUMBERS ARE NOT USED, THE VALVES WILL BE TAGGED WITH THE MPL NUMBERS.
6. CLOSED COOLING WATER SYSTEM TO AND FROM THE RECIRCULATION PUMP SHALL BE CAPABLE OF CONTINUOUS OPERATION DURING PERIODS OF DRYWELL ISOLATION.
7. WHERE THERMOCOUPLES FOR PUMP & MOTORS ARE DESIGNATED A_1, A_2, ETC. A_2 IS A SPARE ELEMENT.
8. LIST OF PUMP & MOTOR AUXILIARY INSTRUMENTATION

   TE/A_1, A_2 – THRUST BEARING, UPPER FACE
   TE/B_1, B_2 – THRUST BEARING, LOWER FACE
   TE/C_1, C_2 – UPPER GUIDE BEARING
   TE/D_1, D_2 – MOTOR WINDING "A"
   TE/E_1, E_2 – MOTOR WINDING "B"
   TE/F_1, F_2 – MOTOR WINDING "C"
   TE/G_1, G_2 – LOWER GUIDE BEARING
   TE/H_1, H_2 – No. 2 SEAL CAVITY
   TE/J_1, J_2 – No. 1 SEAL CAVITY
   TE N001 – MOTOR BEARING OIL COOLING WATER DISCHARGE
   TE N003 – SEAL CAVITY COOLING WATER DISCHARGE
   $LS_{L/N}$ – MOTOR LOWER BEARING OIL LOW LEVEL SWITCH
   $VBS_{H/P}$ – MOTOR VIBRATION SWITCH
   $LS_{H/R}$ – MOTOR UPPER BEARING OIL HIGH LEVEL SWITCH
   $LS_{L/S}$ – MOTOR UPPER BEARING OIL LOW LEVEL SWITCH
   FS N004 – PUMP SEAL COOLING WATER LOW FLOW SWITCH
   TE N009 – MOTOR WINDING COOLING WATER.
   ALL THERMOCOUPLES ARE TO BE WIRED OUT THROUGH DRYWELL TO T/C JUNCTION BOX.
9. ALL MOTOR OPERATED AND AIR OPERATED GLOBE VALVES ARE AC UNLESS OTHERWISE NOTED.
10. DELETED
11. ASD PROTECTIVE RELAYS & METERING SHALL BE MOUNTED ON THE 4KV SWITCHGEAR CUBICLE AND ASD RELAY PANEL.
12. DELETED
13. THIS TYPE OF BLOCK REPRESENTS A PERMISSIVE CONDITION WHEN THE CONDITIONS INSIDE THEM ARE SATISFIED.
14. THIS LIMITER BYPASS IS FOR PUMP NPSH PROTECTION. BOTH OPENING & CLOSING THIS BYPASS SHALL BE TIMED DELAYED 15 SECONDS.
15. THE MASTER CONTROLLER SWITCHES THIS SIGNAL SO THAT AUTOMATIC SET POINT ADJUSTMENT (FOR FAST INITIAL RESPONSE TO LOAD CHANGE), IN THE TURBINE CONTROL CAN FUNCTION ONLY WHEN THE MASTER CONTROLLER IS IN THE AUTOMATIC MODE.
16. DELETED
17. THESE SPEED LIMITERS REDUCE RECIRCULATION FLOW, IF ANY FEEDWATER PUMP IS NOT RUNNING AND THE LEVEL IN THE REACTOR VESSEL IS BELOW THE LOW LEVEL ALARM POINT.
18. FOR LOCATION AND IDENTIFICATION OF INSTRUMENTS SEE INSTRUMENT DATA SHEET LISTED IN MPL FOR EACH INSTRUMENT.
19. THE DESIGN PRESSURE AND TEMPERATURE RATINGS FOR THE RECIRC. PIPING AND EQUIP. ARE SHOWN IN APPLICABLE PROCESS DATA OF REF. 9.
20. DELETED
21. LOCATE BRANCH CONNECTION AS CLOSE AS POSSIBLE AFTER THE GLOBE VALVES. THE EXCESS FLOW CHECK VALVES ARE TO BE INSTALLED AS CLOSE AS POSSIBLE AFTER THE BRANCH CONNECTION.
22. A LEVEL SWITCH IS SUPPLIED WITH EACH COOLER TO DETECT COOLING WATER LEAKAGE OR CONDENSATE BUILD-UP IN THE COOLER HOUSING.
23. CLOSED COOLING WATER TO MOTOR BEARING IS TO SERVE BOTH UPPER MOTOR BEARING AND LOWER MOTOR BEARING. THE RETURN FLOWS ARE JOINED UPSTREAM OF THE TEMPERATURE ELEMENT.
24. SPECIFICATION CHANGE AT TOP OF REDUCER (NEAR HUB) TO AGREE WITH EMBEDDED PIPE.
25. PER KELLOGG ISOS. 2B31-F25 THRU F28, THE MDE PORTION OF SEAL LEAK DETECTION PIPING WAS DESIGNED UNDER MDC SPECIFICATION AND INSTALLED PER SEISMIC CLASS I CRITERIA.
26. DELETED
27. FOR PUMP C001A THE DIGITAL "ON-OFF" SIGNAL INPUT TO THE ERF COMPUTER IS TAKEN FROM PANEL 2R22-S001, FR. 5.
    FOR PUMP C001B THE DIGITAL "ON-OFF" SIGNAL INPUT TO THE ERF COMPUTER IS TAKEN FROM PANEL 2R22-S002, FR. 5.
28. SEAL STAGING LINE FLEX HOSE ON PUMP "B" CHANGE FROM 3/4" MDE TO 1" MEE.
29. DENOTES FIBER OPTIC CONNECTIONS.
30. RELIEF VALVES 2B31-FD15A & B ARE INSTALLED WITH RAISED FACE STYLE FLANGES PER TWR 03-0025.
31. SEE A-26412, SHEET 146 FOR ORIFICE COUPLING INFO.

CRITICAL DOCUMENT

MPL No. 2B31-1010

ACAD2004 H26003

SOUTHERN COMPANY

Version: 43.0 Date: 3-8-12

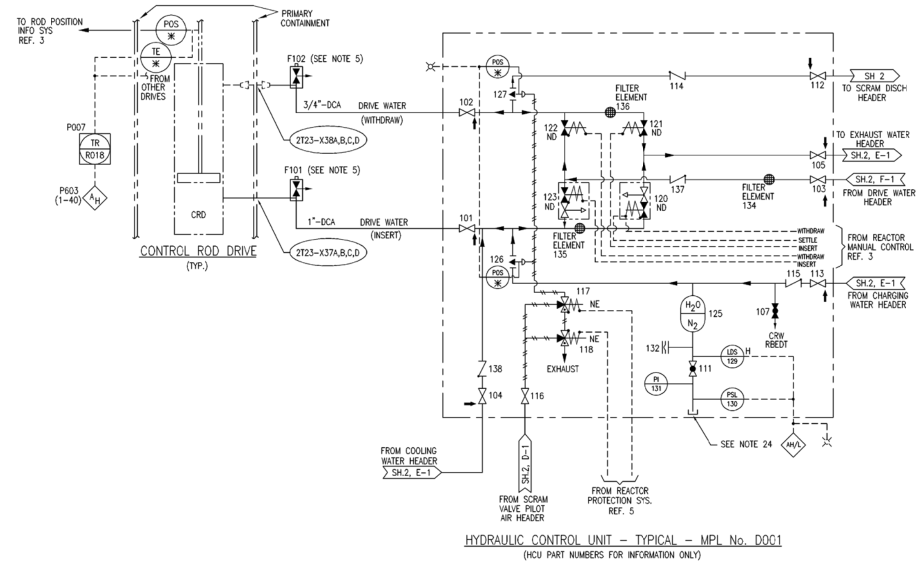
REVISED PER ABN-H02676, VER.1.0

EDWIN I. HATCH NUCLEAR PLANT UNIT No.2
REACTOR RECIRCULATION SYSTEM P&ID
SHEET No.1

BY	CHK'D	APPR.1	
JJB	LCF	AAN	SEE MICROFILM FOR PREVIOUS REV. SIGNATURES.

DRAWN	DESIGNED	LOCATION	DRAWING NUMBER	VERSION
WJB	D.d.	10-502	H-26003	43.0
DATE: 1-19-72	SCALE: None			

DRAWING CATEGORY: CRITICAL



CONTROL ROD DRIVE (TYP.)

HYDRAULIC CONTROL UNIT – TYPICAL – MPL No. D001

(HCU PART NUMBERS FOR INFORMATION ONLY)

REFERENCES		MPL NO.	SSI NO.
1. NUCLEAR BOILER SYSTEM P&ID	SHT 1 SHT 2	2B21-1010	H26000 H26001
2. C.R.D. HYD. SYSTEM P.F.D.		2C11-1020	S25311
3. C.R.D. HYD. SYSTEM FCD		2C11-1030	S25288
4. C.R.D. HYD. SYS. DESIGN SPEC.		SS-2102-129	
5. REACTOR PROTECTION SYSTEM IED		2C71-1010	H24728-31
6. PIPING & INSTRUMENT SYMBOLS		A41-1010	SX28760
7. PROCESS INSTRUMENT PIPING AND TUBING SPEC.		2A61-4070	S25323
8. PRESSURE INTEGRITY OF PIPING AND EQUIPMENT PRESSURE PARTS		2A61-4030	S25112
9. REACTOR RECIRC. SYSTEM P&ID	SHT. 1 SHT. 2 SHT. 3	2B31-1010	H-26003 H-26004 H-26005
11. REACTOR & RADWASTE BLDG. COND. STORAGE & TRANSFER SYS. DIA.		2P11-1010	H-26046
12. REACTOR BLDG. CLOSED COOLING WATER		2P42-1010	H-26055
13. DEMIN. WATER SYS P&ID		2P21-1010	H-26047
14. RADWASTE SYS. P&ID		2G11-1010	H-26026 THRU H-26032
15. HPCI SYS. P&ID	SHT. 1 SHT. 2	2E41-1010	H-26020 H-26021
16. REACTOR MANUAL CONTROL	SHT. 1	2C11-1040	H-27499
17. REACTOR WATER CLEAN-UP SYSTEM P&ID	SHT. 1	2G31-1010	H-26036
18. CONDENSATE & F.W. SYSTEM P&ID	SHT. 1	2N21-1010	H-21037
19. DIGITAL INPUT SIGNALS TO THE SPDS/ERF COMPUTER SYSTEM I.E.D.		2X75-1010	H-26163
20. DIGITAL INPUT SIGNALS TO THE SPDS/ERF COMPUTER SYSTEM I.E.D. SHEET 2 OF 15		2X75-1010	H-26164
21. REACTOR BUILDING SOUTH SIDE INTERRUPTABLE INST. AIR P&ID	SHT. 1		H-26060

LEGEND

CHECK VALVE W/ORIFICE

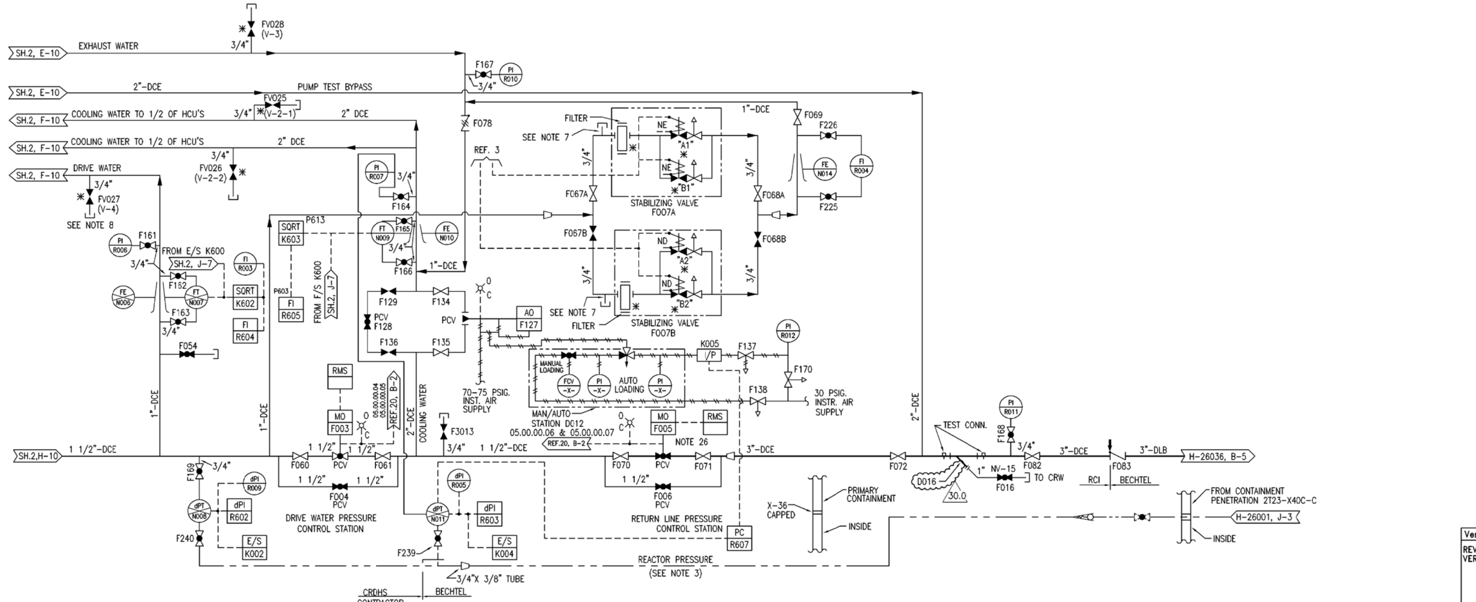
SOLENOID OPERATED VALVE WITH BUILT-IN FLOW CONTROL

BLOCK TYPE NEEDLE VENT VALVE (ANGLE PATTERN)

CA	CONTROL AMPLIFIER
CONT	CONTROLLER
LDS	LEAKAGE DETECTOR SWITCH
P_R	REACTOR PRESSURE
RWM	ROD WORTH MINIMIZER

NOTES:

1. ALL EQUIPMENT AND INSTRUMENTS ARE PREFIXED BY SYSTEM NUMBER 2C11 UNLESS OTHERWISE NOTED.
2. VALVE F007A-A CLOSES ON DRIVE INSERT SIGNAL. VALVE F007A-B CLOSES ON DRIVE WITHDRAW SIGNAL, BUT DOES NOT STAY CLOSED DURING SETTLING (F-5).
3. REACTOR PRESSURE SENSING LINE SENSES P_R (J-2) & (J-4).
4. STAB. VALVE F007B IS AN ALTERNATE FOR STAB. VALVE F007A (G-5).
5. PROVIDE VENT VALVES WITH CAP ON DISCHARGE SIDE AT ALL SYSTEM HIGH POINTS.
6. PROVIDE DRAIN VALVES WITH CAP ON DISCHARGE SIDE AT ALL SYSTEM LOW POINTS.
7. PROVIDED FOR SYSTEM FLUSHING (F&G-5).
8. AVAILABLE FOR TEMPORARY CONNECTION FOR INSTRUMENT FLUSHING NO PERMANENT PIPING CONNECTIONS TO BE MADE TO THIS VALVE (G-2).
9. C R D NITROGEN AND AIR LINES SHALL BE OF A NON-CORRODING MATERIAL.
10. SCRAM DISCHARGE VOLUME SHOWN FOR REFERENCE ONLY SEE CRD DESIGN SPEC. (REF. 4) FOR REQUIREMENT.
11. SYSTEM DESIGN IS SHOWN FOR 137 CONTROL ROD DRIVES.
12. EXCEPT AT POINTS OF CONNECTION WITH APED SUPPLIED EQUIPMENT, THE PIPING SUPPLIED BY OTHERS SHALL BE RESIZED BY OTHERS IF NECESSARY, DUE TO THE PIPING ARRANGEMENT BY OTHERS, TO COMPLY WITH THE APED SYSTEM PROCESS DIAGRAM AND SYSTEM DESIGN SPECIFICATION.
13. FOR LOCATION AND IDENTIFICATION OF INSTRUMENTS SEE THE INSTRUMENT DATA SHEETS LISTED IN THE MPL FOR EACH INSTRUMENT.
14. DELETED
15. MULTIPLE ORIFICES CONNECTED IN SERIES: SEE MPL FOR QUANTITY OF ORIFICES REQ'D. VALVE F034 SUPPLEMENTS THE ORIFICES FOR THE REQUIRED PRESSURE DROP.
16. OPERATION OF SYSTEM WITH VALVE F117 OPEN MAY DEFEAT CRDHS LOW SUCTION PRESSURE TRIP PROTECTION. SPECIAL OPERATOR ATTENTION IS REQUIRED WHEN EITHER PUMP IS OPERATED IN COMBINATION WITH OTHER PUMP SUCTION FILTER.
17. ALL INSTRUMENTATION WILL BE SUPPLIED BY SYSTEM AND EQUIPMENT VENDORS.
18. FOR PIPE SPECIFICATIONS OF CLASS JDD PIPING, SEE A-21000.
19. INSTALL VALVE 2C11-F147 AND THE FLUSH CONNECTION AS CLOSE TO TEE AS POSSIBLE.
20. SOLENOID VALVE F040 COILS HAVE TIME DELAY RELAY SO THAT THE OUTBOARD VENT AND DRAIN VALVES (F035 A+B, F037) FULLY CLOSE AT LEAST FIVE (5) SECONDS AFTER EACH RESPECTIVE INBOARD VENT AND DRAIN VALVE (F010 A+B, F011) FULLY CLOSE DURING A FULL CORE SCRAM. ALL VALVES MUST BE FULLY CLOSED IN LESS THAN SIXTY (60) SECONDS.
21. SOLENOID VALVE F009 COILS HAVE TIME DELAY RELAY SO THAT THE INBOARD VENT AND DRAIN VALVES (F010 A+B, F011) START TO OPEN AT LEAST FIVE (5) SECONDS AFTER EACH RESPECTIVE OUTBOARD VENT AND DRAIN VALVE (F035 A+B, F037) UPON RESET OF A FULL CORE SCRAM.
22. VALVES F009 AND F040 ARE DUAL COIL SOLENOID OPERATED QUICK EXHAUST VALVES. EACH VALVE CONSISTS OF A DUAL COIL 3-WAY SOLENOID OPERATED VALVE AND A 3-WAY QUICK EXHAUST VALVE. WHEN BOTH COILS FOR A GIVEN SOLENOID VALVE ARE DEENERGIZED, AIR IS VENTED FROM THE INLET PORT OF THE QUICK EXHAUST VALVE. THIS CAUSES THE QUICK EXHAUST VALVE TO SHIFT, THEREBY VENTING AIR VIA LARGE PORTS FROM THE ASSOCIATED VENT AND DRAIN VALVES (F010 A+B, F011, F035 A+B, F037). WHEN EITHER COIL IS ENERGIZED AIR IS SUPPLIED TO THE VENT AND DRAIN VALVES VIA THE SOLENOID VALVE AND A BLEED HOLE IN THE QUICK EXHAUST VALVE DIAPHRAGM.
23. THESE SWITCHES SERVE AS POWER DISCONNECT SWITCHES AND ARE LOCATED IN THE MG SET ROOM. THIS PROVIDES OPERATOR CAPABILITY TO DEENERGIZE F040 COILS IN CASE OF FIRE.
24. ACCUMLATORS CHARGED WITH NITROGEN FROM PORTABLE N_2 CHARGING CART.
25. DELETED
26. VALVE F005 IS NORMALLY CLOSED. THIS VALVE IS OPENED ONLY WHEN OPERATIONS WANTS TO DIRECT FLOW TO THE REACTOR VIA THE RWCU SYSTEM.
27. WHEN SCRAM DISCHARGE VOLUME (SDV) VENT & DRAIN TEST VALVE (2C11-F008) IS USED FOR TESTING, THE SDV VENT & DRAIN VALVES (2C11-F010 A+B, F011, F035 A+B, & F037) WILL NOT CLOSE AND OPEN IN SEQUENCE SPECIFIED IN NOTES 20 AND 21.



THIS DWG. DEVELOPED FROM G.E. DWG. NO. 197R588BA (S-25313) SH. NO. 1 REV.2

CRITICAL DOCUMENT

MPL NO.2C11-1010 | Acad2K | H26006

SOUTHERN COMPANY

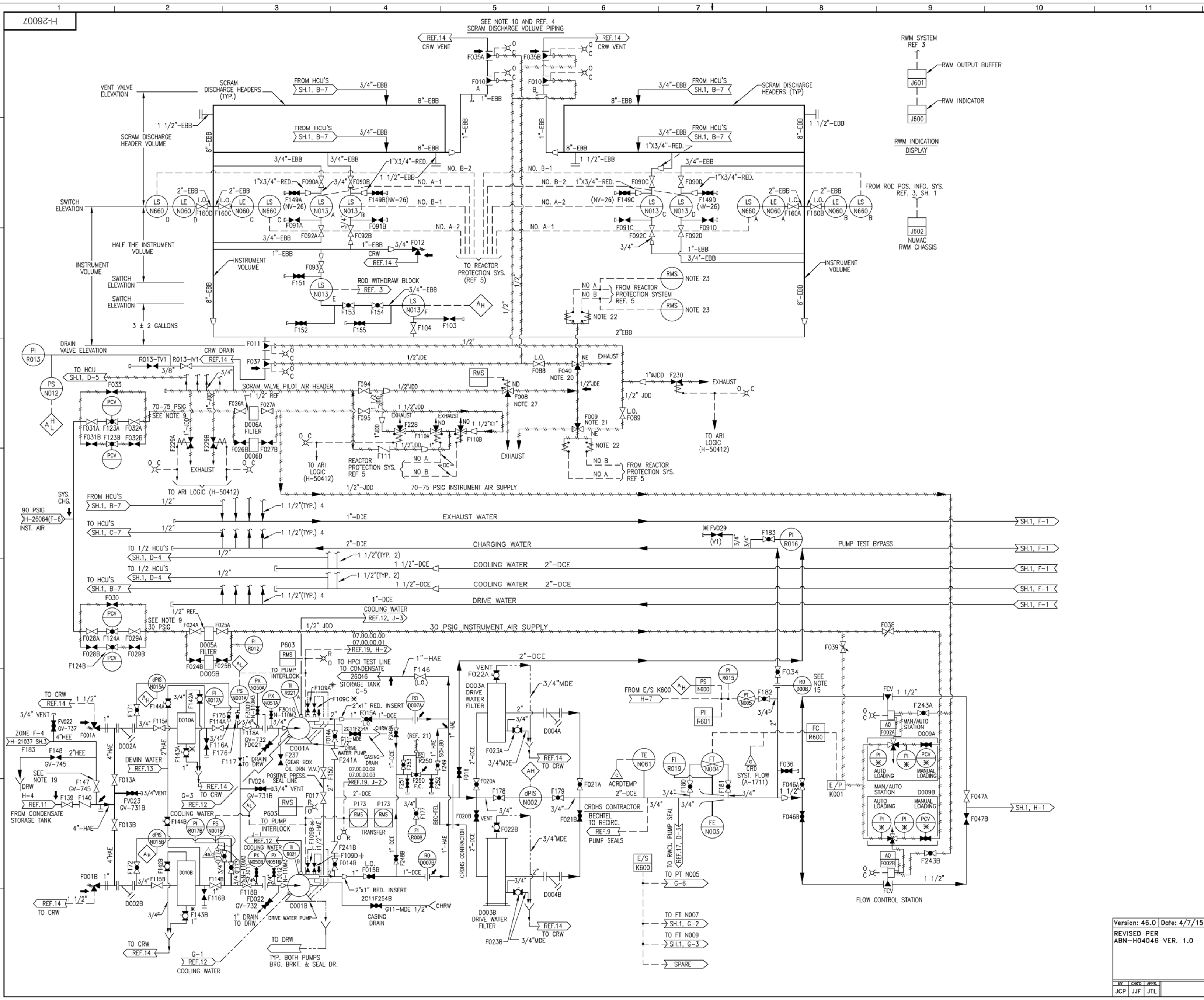
EDWIN I. HATCH NUCLEAR PLANT UNIT No. 2
CONTROL ROD DRIVE SYSTEM
P. & I. D. SHEET 1

Version: 30.0	Date: 7-27-10
REVISED PER ABN-H01731, VERSION 1.0	

BY	CHK'D	APPR.1	
LPM	LRP	DEW	SEE MICROFILM FOR PREVIOUS REV. SIGNATURES.

DRAWN	DESIGNED	LOCATION	DRAWING NUMBER	VERSION
GSN	EJR	10-502	H-26006	30.0
DATE: 5-9-72	SCALE: None			

DRAWING CATEGORY: CRITICAL



FOR NOTES & REFERENCES SEE DWG. H-26006 SH.1

THIS DWG. DEVELOPED FROM G.E. DWG. NO. 197R588BA SH. NO.1 REV.2

CRITICAL DOCUMENT

MPL No. 2C11-1010

ACAD2000 H26007

SOUTHERN COMPANY

Version: 46.0 Date: 4/7/15

REVISED PER ABN-H04046 VER. 1.0

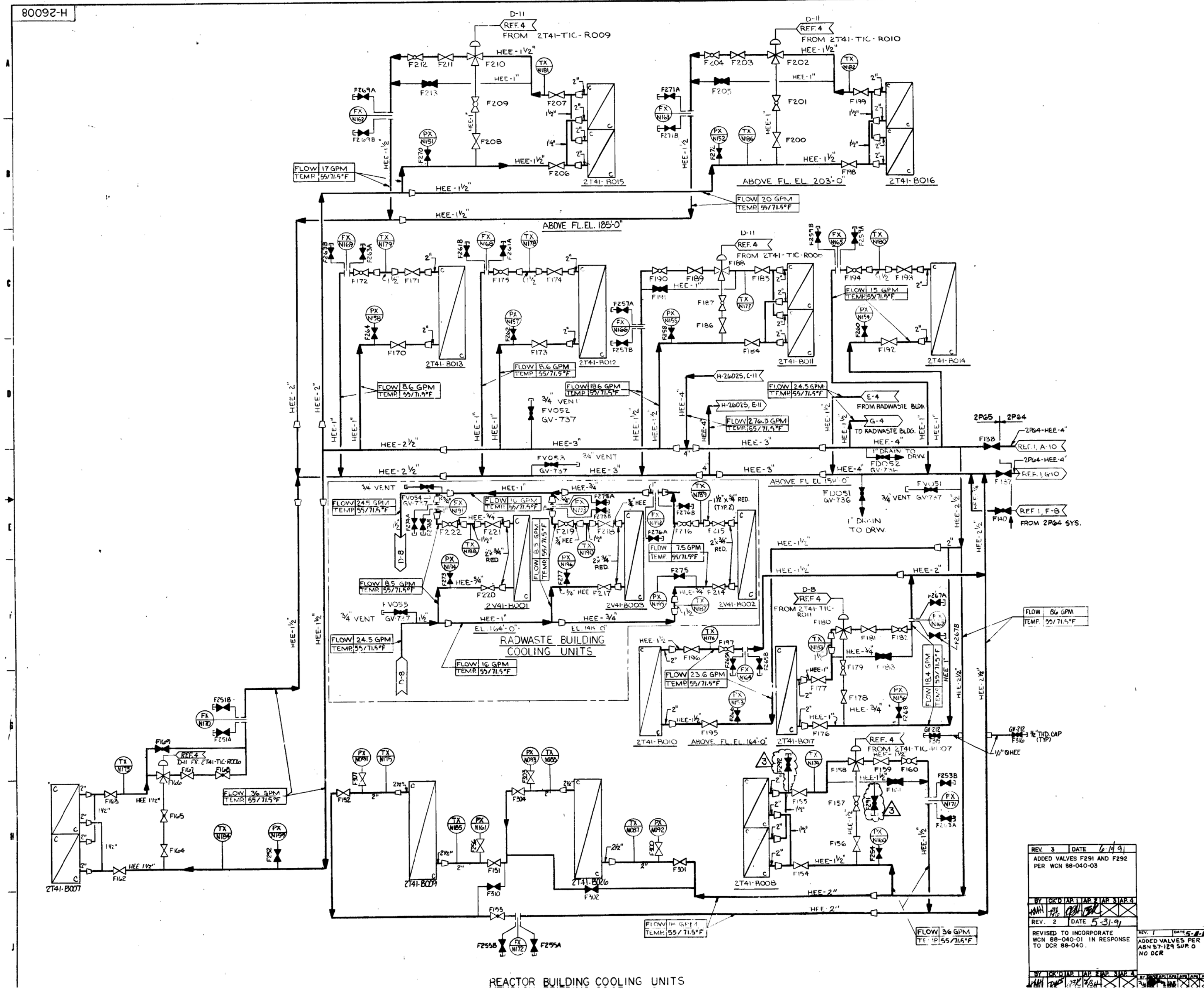
BY	CHK'D	APPR.
JCP	JJF	JTL

EDWIN I. HATCH NUCLEAR PLANT UNIT No.2
CONTROL ROD DRIVE SYSTEM
P.&I.D. SHEET 2

DRAWN	DESIGNED	LOCATION	DRAWING NUMBER	VERSION
GSN	EJR	10-502	H-26007	46.0
DATE: 5-9-72	SCALE: None			

DRAWING CATEGORY: CRITICAL

H-26008



REACTOR BUILDING COOLING UNITS

NOTES

1. FOR NOTES AND REFERENCES REFER TO SHT.-1 DWG. H-26025.
2. VALVES ON THIS DRAWING ARE NUMBERED: FD051, FD052 THRU FD099 FOR DRAIN VALVE. FV051 THRU FV055 FOR VENT VALVE.

SEE NOTE: 3 ON DWG. 26025

LVN: F222
LVN: FV055
LVN: FD052
} SEE NOTE: 2

CRITICAL DOCUMENT
MPL NO. 2P65-1010

REV. 3	DATE 6-14-91
ADDED VALVES F291 AND F292 PER WCN 88-040-03	

REV. 2	DATE 5-31-91
REVISED TO INCORPORATE WCN 88-040-01 IN RESPONSE TO DCR 88-040.	

REV. 1	DATE 5-8-92
ADDED VALVES PER ABN 87-129 SUP. 0 NO DCR	

NO	DATE	BY	REVISIONS
0	5/8/84	JTB	ISSUED FOR ABN 81-026 REV.1, DCR 79-426 REV.0 THIS DWG. SUPERSEDES DWG. H-26085.

BECHTEL
JOB 6511 GAITHERSBURG, MARYLAND

SOUTHERN SERVICES INC.
FOR
GEORGIA POWER CO., ATLANTA, GA.
GENERAL ENGINEERING DEPARTMENT

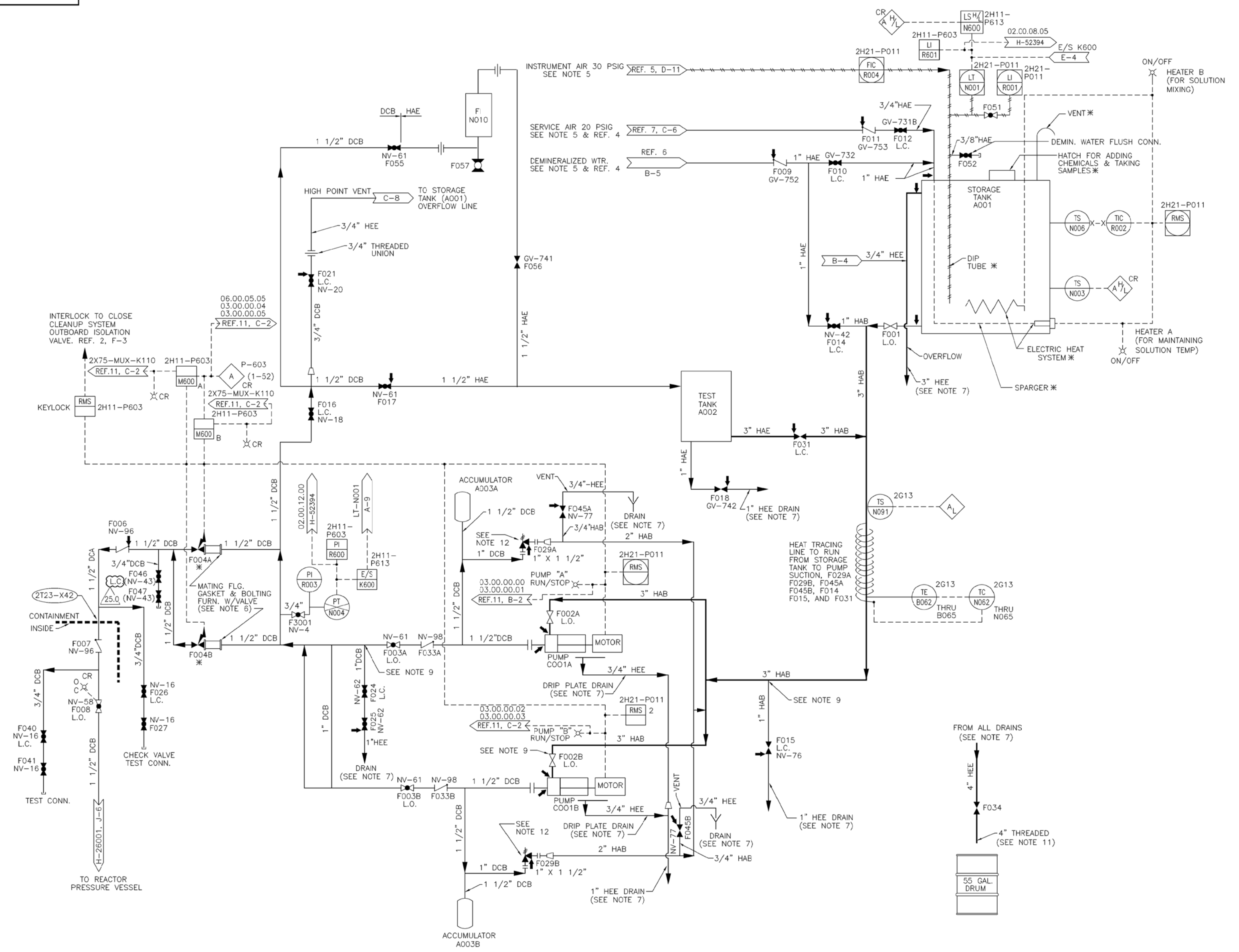
EDWIN I. HATCH NUCLEAR PLANT UNIT NO. 2
REACTOR & RADWASTE BUILDING
CHILLED WATER SYSTEM P&ID & PFD SHT. 2

DSGN	DR.	CH'K.
VCM	FLB	LKM
SCALE NONE		DATE 12-17-79

DRAWING NUMBER

LOCATION	SHEET NO.
10-502	H-26008

H-26009



THIS DWG: DEVELOPED FROM G.E. DRAWING NO. S-25050

NOTES:

1. ALL EQUIPMENT & INSTRUMENTS ARE PREFIXED BY SYSTEM NO. 2C41 UNLESS OTHERWISE NOTED.
2. PIPE SIZES SHOWN ON THIS DRAWING ARE APPROXIMATE EXCEPT AT POINTS OF CONNECTION WITH APED SUPPLIED EQUIPMENT OR PIPING. THE PIPING DESIGNER SHALL CHECK AND ADJUST PIPE SIZE I ACCORDANCE WITH HIS PIPING LAYOUT FOR CONFORMANCE WITH THE SYSTEM DESIGN SPEC.
3. DELETED.
4. PIPING HIGH POINT VENTS & LOW POINT DRAINS ARE TO BE ADDED AT ALL SUCH HIGH OR LOW POINTS NOT SERVED BY EQUIP. VENTS AND DRAINS
5. THE ELEVATION OF THE DEMINERALIZED WATER AND PLANT AIR SUPPLY LINES SHALL BE ABOVE THE TOP OF THE STORAGE TANK.
6. IN ORDER TO SERVICE THESE VALVES AFTER FIRING, IT IS NECESSARY TO REMOVE A 6" SPOOL PIECE IMMEDIATELY UPSTREAM OF THE RESPECTIVE VALVE. EACH EXPLOSIVE VALVE IS FURNISHED WITH A MATING SOCKET WELDING TYPE FLANGE FOR SOCKET WELDING TO A 6" SPOOL PIECE.
7. DRAINS SHOULD BE ROUTED TO A COMMON COLLECTION AREA. MANIFOLDING OF DRAIN LINES, WHERE PRACTICAL, IS PERMISSIBLE. SPACE SHALL BE PROVIDED IN COLLECTION AREA FOR REMOVABLE TYPE CONTAINERS SUCH AS 55 GALLON DRUMS.
8. FOR LOCATION AND IDENTIFICATION OF INSTRUMENTS SEE INSTRUMENT DATA SHEET LISTED IN MPL FOR EACH INSTRUMENT.
9. FLUSHING CONNECTIONS (SUPPLY AND DRAIN) SHALL BE LOCATED TO ALLOW FOR MAX. SYSTEM FLUSH AND DRAIN.
10. DELETED
11. CONNECTION ALSO USED FOR ALTERNATE BORON INJECTION (E.O.P.)
12. IF SUPERBOLTS ARE TO BE USED, TORQUE FLANGE BOLTING PER VENDOR MANUAL S-55937.

REFERENCES

REFERENCES		MPL NO.	SSI NO.
1. NUCLEAR BOILER SYSTEM P&ID	SHT 1 SHT 2	2B21-1010	H-26000 H-26001
2. STANDBY LIQUID CONTROL SYSTEM FCD.		2C41-1030	S25378
3. PIPING & INSTRUMENT SYMBOLS DWG.		A42-1010	
4. STANDBY LIQUID CONTROL DES. SPEC.		2C41-4010	S25158
5. REACTOR BLDG. NORTH SIDE NON-INTERRUPTABLE INST. AIR P&ID (SH. 5)		2P52-1040	H-26070
6. REACTOR BUILDING DEMINERALIZED WATER SYSTEM DIAGRAM.		2P21-1010	H-26047
7. REACTOR AND RADWASTE BUILDING SERVICE AIR SYSTEM.		2P51-1010	H-26058
8. ANNUNCIATOR SIGNAL TO TSC I.E.D.		2X75-1010	H-26159
9. DELETED			
10. DELETED			
11. DIGITAL INPUT SIGNALS TO THE SPDS/ERF COMPUTER SYS. I.E.D. SHEET 2 OF 15.		2X75-1010	H-26164
12. SPDS/ERF I/O LIST			H-52395

CRITICAL DOCUMENT

MPL NO. 2C41-1010 LVN-F047 Acad2K H26009

SOUTHERN COMPANY

Version: 25.0 | Date: 4/1/13

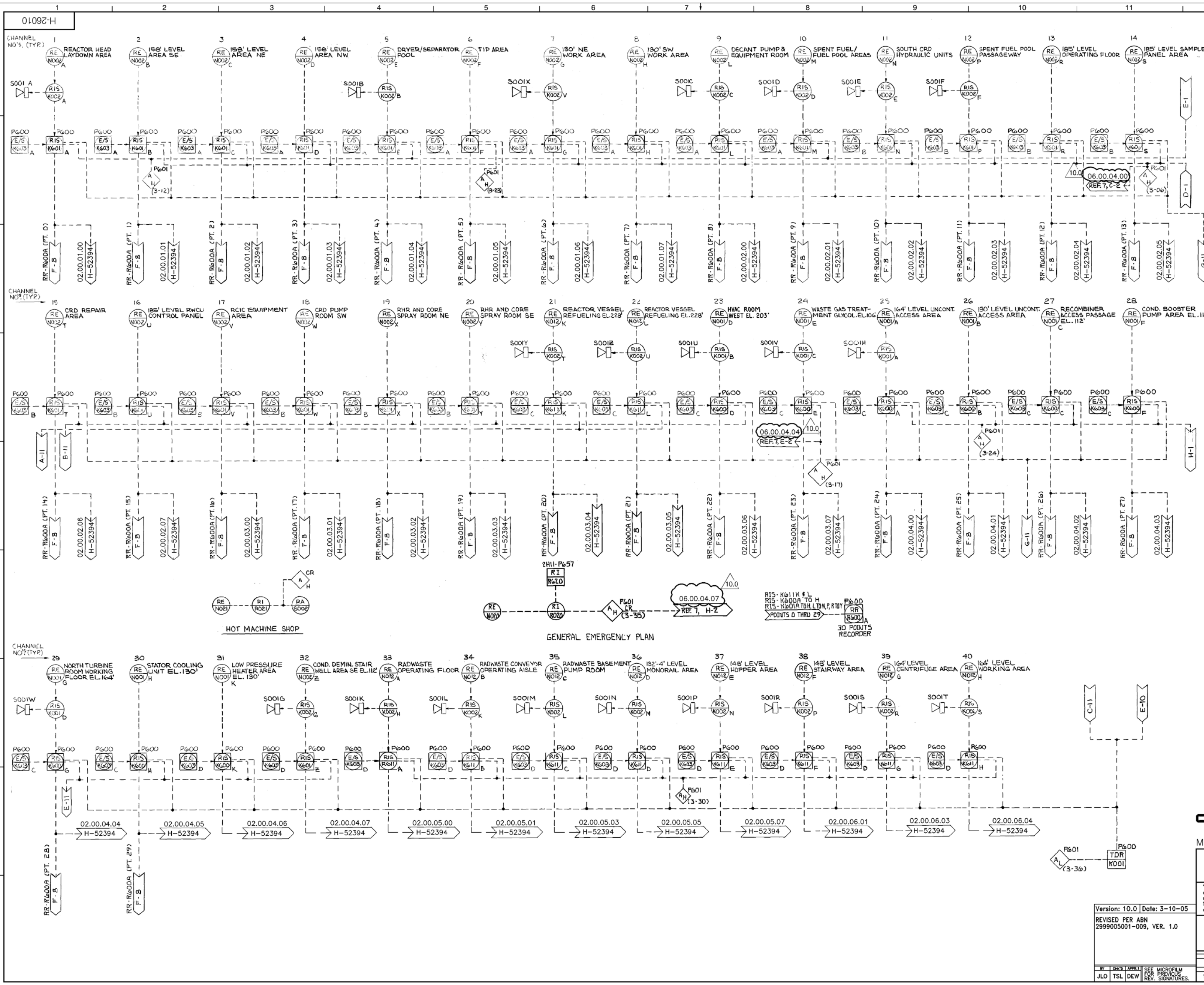
REVISED PER ABN-H03041, VER. 1.0

EDWIN I. HATCH NUCLEAR PLANT UNIT No. 2
STANDBY LIQUID CONTROL SYSTEM
P&ID

BY	CHK'D	APPR.1	
JJB	JWL	RKF	SEE MICROFILM FOR PREVIOUS REV. SIGNATURES.

DRAWN	DESIGNED	LOCATION	DRAWING NUMBER	VERSION
N.S.	N.S.	10-502	H-26009	25.0
DATE: 4-2-73	SCALE: None			

DRAWING CATEGORY: CRITICAL



NOTES:

1. DELETED
2. CHANNELS 1-23 - REACTOR BLDG.
   CHANNEL 24 - WASTE GAS TREATMENT BLDG.
   CHANNELS 25-32 - TURBINE BLDG.
   CHANNELS 33-40 - RADWASTE BLDG.

REFERENCE DOCUMENTS

TITLE	MPL NO.	DWG. NO.
1. AREA RAD. MONITORING LOCATION DRAWINGS	D21	H-16537, H-25985 THRU H-25990
2. AREA RAD. MONITORING CAB ARRGT. DRAWING	D21-P600	GE 115D6144
3. AREA & PROCESS RAD. REC. VB DRAWING	2H11-P600	GE 115D6201RW
4. DELETED		
5. DELETED		
6. DELETED		
7. ANNUNCIATOR SIGNALS TO TSC IED	2X75-1010	H-26159
8. RTP NODE 2 I/O LIST		H-52394

CRITICAL DOCUMENT

MPL NO. 2D21-1010 | 0VY2005 | H26010

SOUTHERN COMPANY

Version: 10.0 | Date: 3-10-05

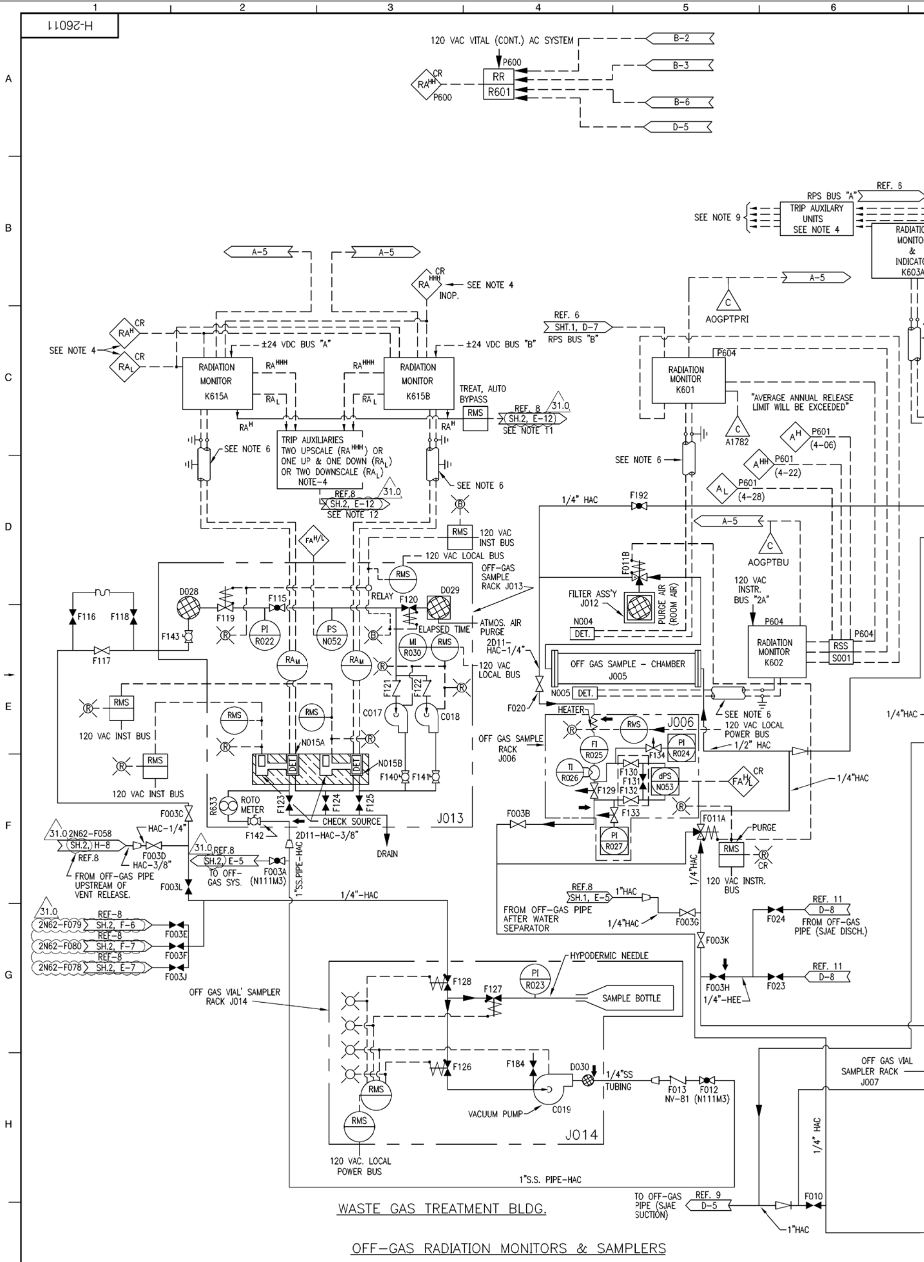
REVISED PER ABN 2999005001-009, VER. 1.0

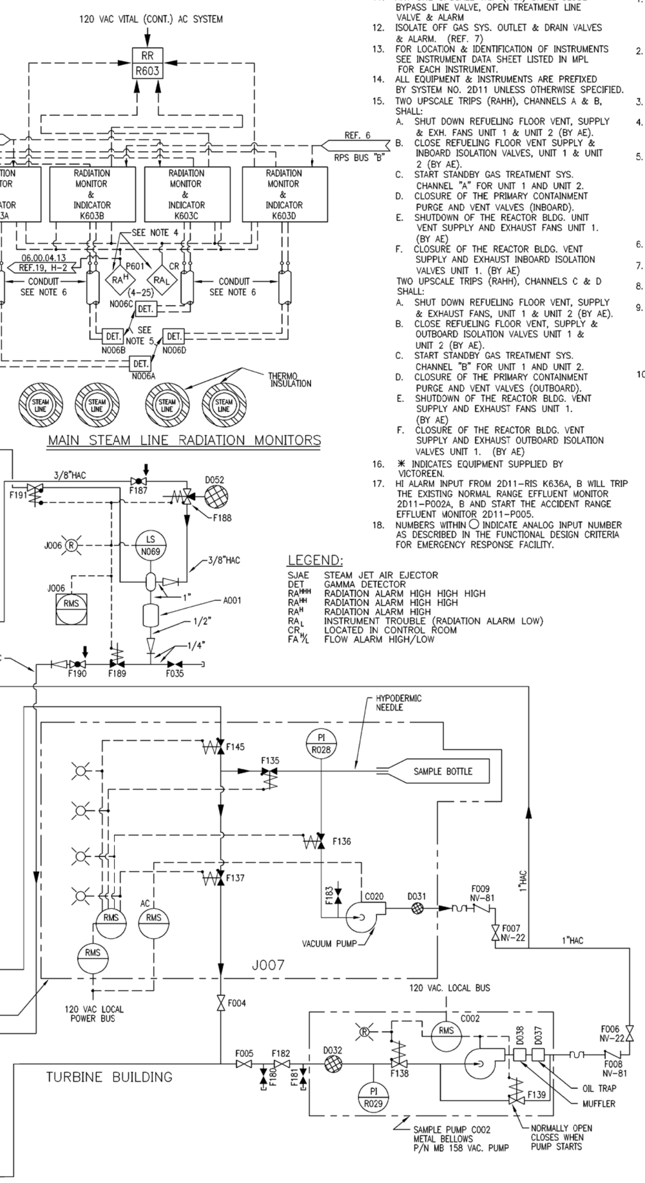
BY JLO | CHK'D TSL | APPR'D DEW | SEE MICROFILM FOR PREVIOUS REV. SIGNATURES.

EDWIN I. HATCH NUCLEAR PLANT UNIT No. 2
AREA RADIATION MONITORING
SYSTEM I.E.D.

DRAWN	DESIGNED	LOCATION	DRAWING NUMBER	VERSION
JB		10-502	H-26010	10.0
DATE 10-27-82	SCALE None			

DRAWING CATEGORY: CRITICAL





11. ANY ONE UPSCALE TRIP (RAH) SHALL CLOSE BYPASS LINE VALVE, OPEN TREATMENT LINE VALVE & ALARM
12. ISOLATE OFF GAS SYS. OUTLET & DRAIN VALVES & ALARM. (REF. 7)
13. FOR LOCATION & IDENTIFICATION OF INSTRUMENTS SEE INSTRUMENT DATA SHEET LISTED IN MPL FOR EACH INSTRUMENT.
14. ALL EQUIPMENT & INSTRUMENTS ARE PREFIXED BY SYSTEM NO. 2D11 UNLESS OTHERWISE SPECIFIED.
15. TWO UPSCALE TRIPS (RAHH), CHANNELS A & B, SHALL:
    A. SHUT DOWN REFUELING FLOOR VENT, SUPPLY & EXH. FANS UNIT 1 & UNIT 2 (BY AE).
    B. CLOSE REFUELING FLOOR VENT SUPPLY & INBOARD ISOLATION VALVES, UNIT 1 & UNIT 2 (BY AE).
    C. START STANDBY GAS TREATMENT SYS. CHANNEL "A" FOR UNIT 1 AND UNIT 2.
    D. CLOSURE OF THE PRIMARY CONTAINMENT PURGE AND VENT VALVES (INBOARD).
    E. SHUTDOWN OF THE REACTOR BLDG. UNIT VENT SUPPLY AND EXHAUST FANS UNIT 1. (BY AE)
    F. CLOSURE OF THE REACTOR BLDG. VENT SUPPLY AND EXHAUST INBOARD ISOLATION VALVES UNIT 1. (BY AE)

    TWO UPSCALE TRIPS (RAHH), CHANNELS C & D SHALL:
    A. SHUT DOWN REFUELING FLOOR VENT, SUPPLY & EXHAUST FANS, UNIT 1 & UNIT 2 (BY AE).
    B. CLOSE REFUELING FLOOR VENT, SUPPLY & OUTBOARD ISOLATION VALVES UNIT 1 & UNIT 2 (BY AE).
    C. START STANDBY GAS TREATMENT SYS. CHANNEL "B" FOR UNIT 1 AND UNIT 2.
    D. CLOSURE OF THE PRIMARY CONTAINMENT PURGE AND VENT VALVES (OUTBOARD).
    E. SHUTDOWN OF THE REACTOR BLDG. VENT SUPPLY AND EXHAUST FANS UNIT 1. (BY AE)
    F. CLOSURE OF THE REACTOR BLDG. VENT SUPPLY AND EXHAUST OUTBOARD ISOLATION VALVES UNIT 1. (BY AE)
16. ✳ INDICATES EQUIPMENT SUPPLIED BY VICTOREEN.
17. HI ALARM INPUT FROM 2D11-RIS K636A, B WILL TRIP THE EXISTING NORMAL RANGE EFFLUENT MONITOR 2D11-P002A, B AND START THE ACCIDENT RANGE EFFLUENT MONITOR 2D11-P005.
18. NUMBERS WITHIN ◯ INDICATE ANALOG INPUT NUMBER AS DESCRIBED IN THE FUNCTIONAL DESIGN CRITERIA FOR EMERGENCY RESPONSE FACILITY.

LEGEND:

SJAE	STEAM JET AIR EJECTOR
DET	GAMMA DETECTOR
RA^{HHH}	RADIATION ALARM HIGH HIGH HIGH
RA^{HH}	RADIATION ALARM HIGH HIGH
RA^{H}	RADIATION ALARM HIGH
RA_{L}	INSTRUMENT TROUBLE (RADIATION ALARM LOW)
CR	LOCATED IN CONTROL ROOM
$FA^{H}/_{L}$	FLOW ALARM HIGH/LOW

NOTES:

1. THE OFF GAS VENT PIPE GAS SAMPLE LINE SHALL BE 1" X 0.058" WALL THICKNESS SEAMLESS STAINLESS STEEL TUBING. THE TUBING MIN. BEND RADIUS SHALL BE 20" THE TUBING LENGTH SHALL BE JOINED WITH SWAGELOK TYPE 1610-6-316 UNIONS. THE TUBING SHALL SLOPE SO THAT THE CONDENSATE WILL RUN TO DRAIN TEE.
2. REMOVABLE SECTION SHALL BE PROVIDED NEAR THE ISOKINETIC PROBE FOR THE INSERTION OF A CHARCOAL FILTER HOLDER. THE FITTINGS ETC. SHALL PROVIDE SMOOTH TRANSITIONS WITHOUT DISCONTINUITIES OR REDUCING THE CROSS-SECTIONAL AREA OF THE FLOW STREAM.
3. TEE SHALL BE UNION TEE SWAGELOK TYPE 1610-3-316.
4. ALARMS ARE ACTUATED BY RELAYS IN TRIP AUX. UNIT. TRIP AUX. UNITS TO BE SUPPLIED AS REQUIRED. DOWNSCALE ALARMS FOR LIQUID RADIATION MONITORS ARE ANNUNCIATED ON A SINGLE COMMON ANNUNCIATOR.
5. THE DETECTORS N006A-D SHALL BE LOCATED WITHIN THE STEAM LINE TUNNEL AS CLOSE AS PRACTICAL TO THE PRIMARY CONTAINMENT. THE DETECTORS SHALL BE ARRANGED SUCH THAT EACH DETECTOR WILL VIEW ALL STEAM LINES WITH APPROXIMATELY THE SAME RESPONSE. IT IS RECOMMENDED THAT THE DETECTOR OR DETECTOR ASSEMBLY BE FASTENED TO A ROD OR A PIPE AND INSERTED INTO SEALED INTO PIPE WALLS FROM OUTSIDE THE STEAM TUNNEL. CAREFULLY ROUTE CABLES TO MINIMIZE HEAT EXPOSURE. NO LEAD SHIELDING IS REQUIRED. SAFEGUARD SEPARATION IS REQUIRED.
6. ALL CABLES SHALL COMPLY WITH GE ENGR. SPEC. REF. 2.
7. ADDITIONAL ALARM IN RADWASTE BLDG (RAH) RADWASTE MONITOR ONLY.
8. DRAIN AT THE LOWER POINT OF OFF GAS SAMPLE LINE.
9. ONE HIGH-HIGH RADIATION TRIP (RAHH) OR INOPERATIVE TRIP OUT OF TWO IN TRIP SYSTEM "A" AND ONE HIGH-HIGH RADIATION TRIP (RAHH) OR INOPERATIVE TRIP OUT OF TWO IN TRIP SYSTEM "B" SHALL:

    TURN OFF MECHANICAL VACUUM PUMP & CLOSE MECHANICAL LINE VALVE. (REF.3)
    ANY ONE HIGH-HIGH RADIATION SHALL ALARM (RAHH).
10. TWO UPSCALE TRIPS (RAHH), CHANNELS A & B SHALL:
    A. SHUT DOWN REACTOR BLDG. VENT SUPPLY & EXHAUST FANS FOR UNIT 2.
    B. CLOSE REACTOR BLDG. VENT SUPPLY & EXHAUST INBOARD ISOLATION VALVES FOR UNIT 2.
    C. START STANDBY GAS TREATMENT SYSTEM CHANNEL "A" FOR UNIT 2.
    D. CLOSE PRIMARY CONTAINMENT PURGE & VENT VALVE (INBOARD) FOR UNIT 2.

    TWO UPSCALE TRIPS (RAHH), CHANNELS C & D SHALL:
    A. SHUT DOWN REACTOR BLDG. VENT SUPPLY & EXHAUST FANS FOR UNIT 2
    B. CLOSE REACTOR BLDG. VENT SUPPLY & EXHAUST OUTBOARD ISOLATION VALVES FOR UNIT 2.
    C. START STANDBY GAS TREATMENT SYSTEM CHANNEL "B" FOR UNIT 2.
    D. CLOSE PRIMARY CONTAINMENT PURGE & VENT VALVE (OUTBOARD) FOR UNIT 2.

REFERENCES

	REFERENCES	MPL NO.	SSI NO.
1.	RADIATION MONITORING OF PROCESS FLUIDS AND GASES DES. SPEC.	2D11-4010	S-25281
2.	SPECIAL WIRE AND CABLE	2A61-4010	S-25042
3.	PLANT REQUIREMENTS	2A61-4020	
4.	SEPARATION & INDENT. OF ELEC. EQUIP FOR ENGR'D SAFEGUARDS	2A61-4050	S-25373
5.	PIPING & INST. SYMBOLS	A61	S-15051
6.	REACTOR PROTECTION SYS. IED	2C71-1010	S-25105
7.	OFF GAS SYS. FCD	2N62-1030	S-25333
8.	OFF GAS SYS. P&ID	2N62-1010	H-26045
9.	TURBINE BLDG. CONDENSER VACUUM AND GLAND SEAL SYS.	2N22-1010	H-21030
10.	PROCESS MONITORING ELEMENTARY DIAGRAM	2D11-1020	H-27620 THRU H-27634
11.	STEAM JET AIR EJECTOR P&ID	2N22-1010	H-21056
12.	P&ID DIAGRAM KMG-HR-H		S-41454
13.	TURB. BLDG. INST. AIR SYS. P&ID SH. 6		H-21011
14.	RADWASTE SYSTEM P&ID	2G11-1010	H-26026
15.	DELETED		
16.	CLASS IE ANALOG SIGNAL CONVERSION ISOL. SYS. IED	2X75-1010	H-26284
17.	DELETED		
18.	DELETED		
19.	ANNUNCIATOR SIGNALS TO TSC I.E.D.	2X75-1010	H-26158
20.	WIDE RANGE EFFLUENT MONITORING SYSTEM P&ID	2D11	
21.	NOT USED		
22.	RADWASTE SYSTEM P&ID SHT. 3	2G11-1010	H-26028
23.	RTP NODE 2 I/O LIST		H-52394

THIS DWG. DEVELOPED FROM G.E. DWG. NO. 761E531 REV. 4

CRITICAL DOCUMENT

MPL NO. 2D11-1010 ACAD2K H26011

SOUTHERN COMPANY

Version: 31.0 Date: 6/12/13

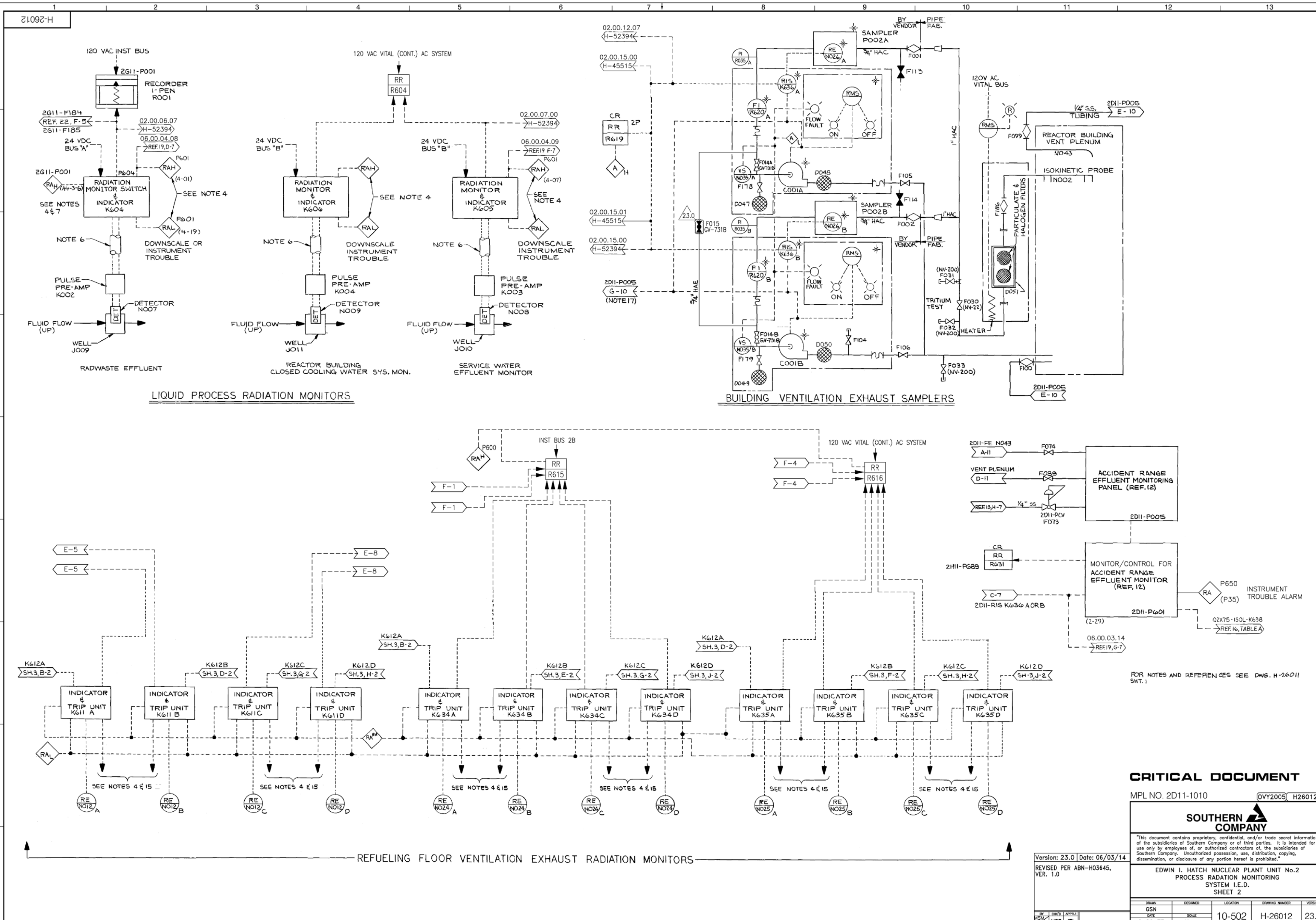
REVISED PER ABN-H03228, VER.1.0

EDWIN I. HATCH NUCLEAR PLANT UNIT No.2
PROCESS RADIATION MONITORING SYSTEM P&I DIAGRAM
SHEET 1

BY	CHK'D	APPR.1	
PVK	LCF	RKF	SEE MICROFILM FOR PREVIOUS REV. SIGNATURES.

DRAWN	DESIGNED	LOCATION	DRAWING NUMBER	VERSION
WD		10-502	H-26011	31.0
DATE: 2/9/73	SCALE: None			

DRAWING CATEGORY: CRITICAL



CRITICAL DOCUMENT

MPL NO. 2D11-1010 | 0VY2005 | H26012

SOUTHERN COMPANY

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Version: 23.0 Date: 06/03/14

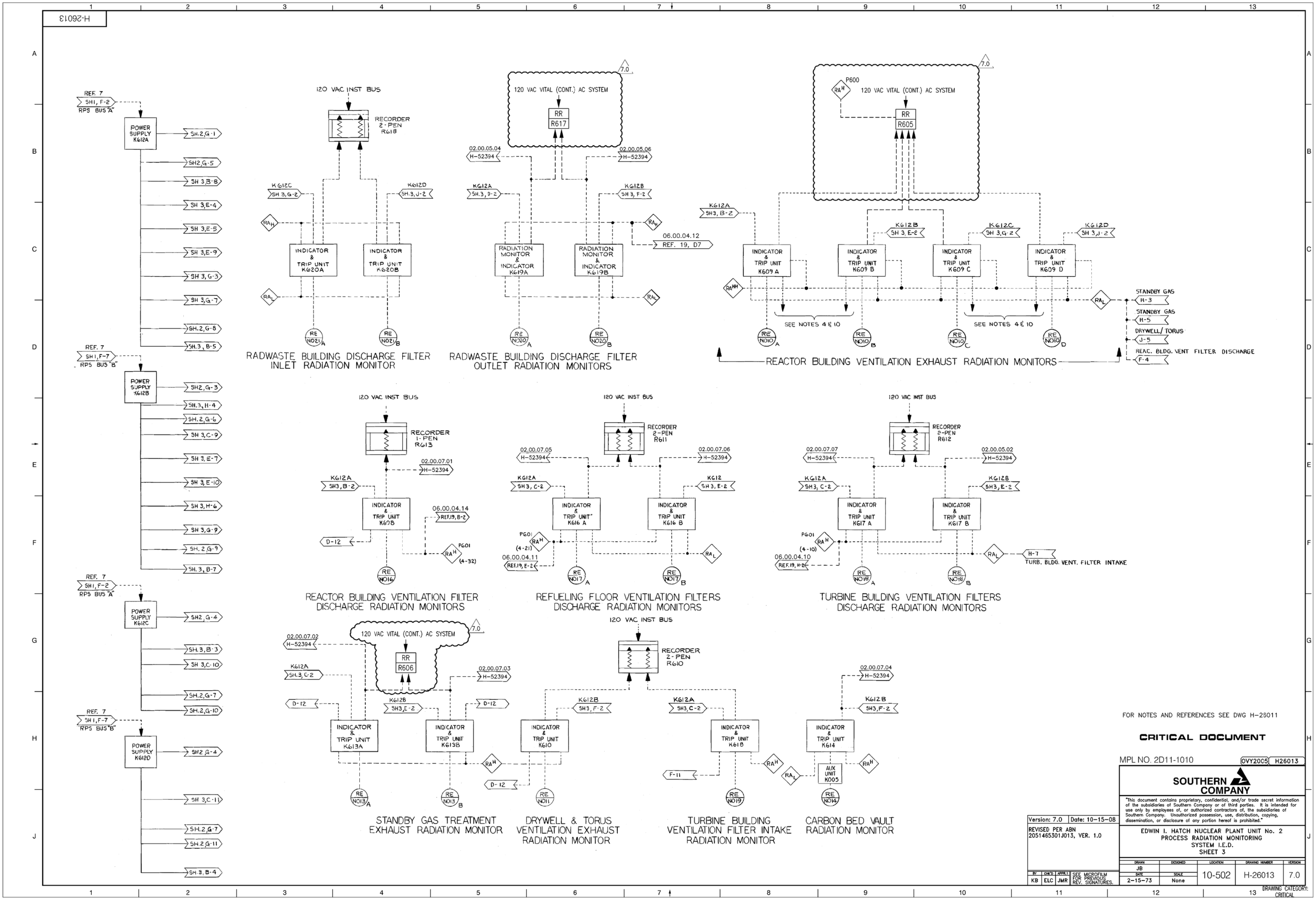
REVISED PER ABN-H03645, VER. 1.0

EDWIN I. HATCH NUCLEAR PLANT UNIT No.2
PROCESS RADIATION MONITORING
SYSTEM I.E.D.
SHEET 2

DRAWN	DESIGNED	LOCATION	DRAWING NUMBER	VERSION
GSN		10-502	H-26012	23.0
DATE 2-06-73	SCALE None			

HBF JTL

DRAWING CATEGORY: CRITICAL


H-26013
RADWASTE BUILDING DISCHARGE FILTER INLET RADIATION MONITOR
120 VAC INST BUS
RECORDER 2-PEN R618
INDICATOR & TRIP UNIT K620A
INDICATOR & TRIP UNIT K620B
RADWASTE BUILDING DISCHARGE FILTER OUTLET RADIATION MONITORS
120 VAC VITAL (CONT.) AC SYSTEM
RR R617
RADIATION MONITOR & INDICATOR K619A
RADIATION MONITOR & INDICATOR K619B
06.00.04.12 REF. 19, D7
REACTOR BUILDING VENTILATION EXHAUST RADIATION MONITORS
P600
RR R605
INDICATOR & TRIP UNIT K609 A
INDICATOR & TRIP UNIT K609 B
INDICATOR & TRIP UNIT K609 C
INDICATOR & TRIP UNIT K609 D
SEE NOTES 4 & 10
STANDBY GAS H-3
STANDBY GAS H-5
DRYWELL/ TORUS J-5
REAC. BLDG. VENT FILTER DISCHARGE F-4
REACTOR BUILDING VENTILATION FILTER DISCHARGE RADIATION MONITORS
RECORDER 1-PEN R613
INDICATOR & TRIP UNIT K608
REFUELING FLOOR VENTILATION FILTERS DISCHARGE RADIATION MONITORS
RECORDER 2-PEN R611
INDICATOR & TRIP UNIT K616 A
INDICATOR & TRIP UNIT K616 B
TURBINE BUILDING VENTILATION FILTERS DISCHARGE RADIATION MONITORS
RECORDER 2-PEN R612
INDICATOR & TRIP UNIT K617 A
INDICATOR & TRIP UNIT K617 B
TURB. BLDG. VENT. FILTER INTAKE
POWER SUPPLY K612A
POWER SUPPLY K612B
POWER SUPPLY K612C
POWER SUPPLY K612D
REF. 7 SH1, F-2 RPS BUS "A"
REF. 7 SH1, F-7 RPS BUS "B"
STANDBY GAS TREATMENT EXHAUST RADIATION MONITOR
RR R606
INDICATOR & TRIP UNIT K613A
INDICATOR & TRIP UNIT K613B
DRYWELL & TORUS VENTILATION EXHAUST RADIATION MONITOR
INDICATOR & TRIP UNIT K610
RECORDER 2-PEN R610
TURBINE BUILDING VENTILATION FILTER INTAKE RADIATION MONITOR
INDICATOR & TRIP UNIT K618
CARBON BED VAULT RADIATION MONITOR
INDICATOR & TRIP UNIT K614
AUX UNIT K005
FOR NOTES AND REFERENCES SEE DWG H-26011
CRITICAL DOCUMENT
MPL NO. 2D11-1010
0VY2005 H26013
SOUTHERN COMPANY
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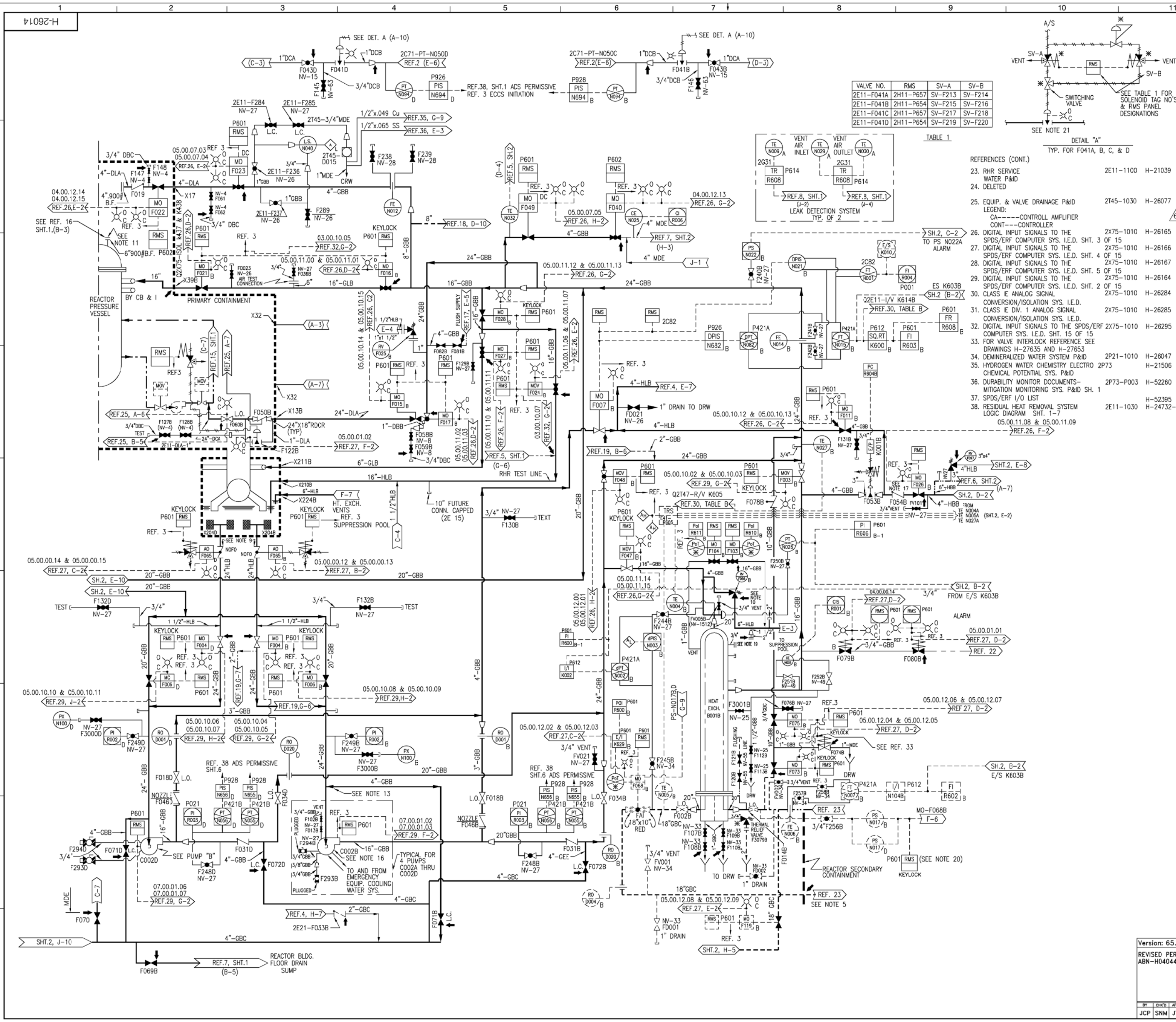
Version: 7.0 Date: 10-15-08
REVISED PER ABN 2051465301J013, VER. 1.0
EDWIN I. HATCH NUCLEAR PLANT UNIT No. 2
PROCESS RADIATION MONITORING SYSTEM I.E.D.
SHEET 3
JB
2-15-73
None
10-502
H-26013
7.0
KB ELC JMR
SEE MICROFILM FOR PREVIOUS REV. SIGNATURES.
DRAWING CATEGORY: CRITICAL



VALVE NO.	RMS	SV-A	SV-B
2E11-F041A	2H11-P657	SV-F213	SV-F214
2E11-F041B	2H11-P654	SV-F215	SV-F216
2E11-F041C	2H11-P657	SV-F217	SV-F218
2E11-F041D	2H11-P654	SV-F219	SV-F220

TABLE 1

DETAIL "A"
TYP. FOR F041A, B, C, & D

REFERENCES (CONT.)

23.	RHR SERVICE WATER P&ID	2E11-1100	H-21039
24.	DELETED		
25.	EQUIP. & VALVE DRAINAGE P&ID LEGEND: CA-----CONTROLL AMPLIFIER CONT---CONTROLLER	2T45-1030	H-26077
26.	DIGITAL INPUT SIGNALS TO THE SPDS/ERF COMPUTER SYS. I.E.D. SHT. 3 OF 15	2X75-1010	H-26165
27.	DIGITAL INPUT SIGNALS TO THE SPDS/ERF COMPUTER SYS. I.E.D. SHT. 4 OF 15	2X75-1010	H-26166
28.	DIGITAL INPUT SIGNALS TO THE SPDS/ERF COMPUTER SYS. I.E.D. SHT. 5 OF 15	2X75-1010	H-26167
29.	DIGITAL INPUT SIGNALS TO THE SPDS/ERF COMPUTER SYS. I.E.D. SHT. 2 OF 15	2X75-1010	H-26164
30.	CLASS IE ANALOG SIGNAL CONVERSION/ISOLATION SYS. I.E.D.	2X75-1010	H-26284
31.	CLASS IE DIV. 1 ANALOG SIGNAL CONVERSION/ISOLATION SYS. I.E.D.	2X75-1010	H-26285
32.	DIGITAL INPUT SIGNALS TO THE SPDS/ERF COMPUTER SYS. I.E.D. SHT. 15 OF 15	2X75-1010	H-26295
33.	FOR VALVE INTERLOCK REFERENCE SEE DRAWINGS H-27635 AND H-27653		
34.	DEMINERALIZED WATER SYSTEM P&ID	2P21-1010	H-26047
35.	HYDROGEN WATER CHEMISTRY ELECTRO CHEMICAL POTENTIAL SYS. P&ID	2P73	H-21506
36.	DURABILITY MONITOR DOCUMENTS-MITIGATION MONITORING SYS. P&ID SH. 1	2P73-P003	H-52260
37.	SPDS/ERF I/O LIST		H-52395
38.	RESIDUAL HEAT REMOVAL SYSTEM LOGIC DIAGRAM SHT. 1-7	2E11-1030	H-24732-38

NOTES:

1. ALL EQUIPMENT AND INSTRUMENTS PREFIXED BY SYSTEM NUMBER 2E11 UNLESS OTHERWISE NOTED
2. INSTRUMENT LINE VALVING MUST COMPLY WITH INSTRUMENT PIPING STANDARDS REFERENCE 11.
3. ANY ADDITIONAL HIGH POINT VENTS AND LOW POINT DRAINS TO BE ADDED BY FIELD AS REQUIRED.
4. SPARED PER DCP 99-023.
5. DISCHARGE LINES FOR COOLING WATER TO BE ROUTED UPSTREAM OF SERVICE WATER RADIATION MONITORS.
6. ALL POSITION INDICATING LIGHTS ARE LOCATED IN CONTROL ROOM.
7. ALL MOTOR OPERATED VALVES ARE A.C. OPERATED UNLESS OTHERWISE NOTED.
8. ALL VENTS ARE 1/4" AND DRAINS 1" UNLESS OTHERWISE SPECIFIED.
9. VALVES AO F065 SHALL BE LOCATED A MAXIMUM OF 6' FROM THE NOZZLE OF THE TORUS WITH ADEQUATE CLEARANCES FOR OPERATION OF THE VALVE AND VALVE OPERATOR.
10. VALVES F025, F029 & F030 SHALL BE 1" THERMAL RELIEF VALVES WITH PRESSURE SETPOINTS OF 400 PSIG, 200 PSIG, AND 200 PSIG RESPECTIVELY. 65.0

10A. VALVES F097 (3") & F055 (4") SHALL BE RELIEF VALVES WITH PRESSURE SETPOINTS OF 85 PSIG AND 450 PSIG RESPECTIVELY.

11. PIPING CONNECTED TO VESSEL HEAD MUST BE FLANGED TO FACILITATE VESSEL HEAD REMOVAL.
12. FOR LOCATION AND IDENTIFICATION OF INSTRUMENTS SEE INSTRUMENT DATA SHEET LISTED IN MPL FOR EACH INST.
13. DURING PLANT SHUTDOWN THE RHR SYS. PIPING SHALL BE DRAINED BACK TO THE SUPPRESSION POOL.
14. WHERE NV-NUMBERS ARE SHOWN, THE VALVES ARE TAGGED WITH THESE NUMBERS; WHERE NV-NUMBERS ARE NOT SHOWN, THE VALVES ARE TAGGED WITH THE MPL NUMBER.
15. VALVES ON H-26014 AND H-26015 ARE NUMBERED FD021 THRU FD040 FOR DRAIN VALVES FV021 THRU FV040 FOR VENT VALVES
16. 2E11-C002B LUBE OIL SAMPLE/DRAIN VALVE CONNECTIONS; F293B LOWER RESERVOIR, F294B UPPER RESERVOIR.
17. BREAKER IN CUBICLE 10A OF MCC 2R24-S012, RHR HEAT EXCHANGER TO RCIC VALVE, MOV 2E11-F026B, IS NORMALLY OPEN TO ENSURE THAT CIRCUITS EAE854C02 AND EAE854C04 ARE DEPOWERED DURING NORMAL OPERATIONS FOR APPENDIX 'R' CONCERNS.
18. BREAKER IN CUBICLE 09C OF MCC 2R24-S011, RHR HEAT EXCHANGER TO RCIC VALVE, MOV 2E11-F026A IS NORMALLY OPEN TO ENSURE THAT CIRCUITS EAE730C01 AND EAE730C02 ARE DEPOWERED DURING NORMAL OPERATIONS FOR APPENDIX R CONCERNS.
19. THERMAL RELIEF VALVES, 2E11-F3078A & B HAVE BEEN REMOVED AND REPLACED WITH BLIND FLANGES.
20. PRESSURE SWITCHES PS-N017A & B CAN BE OVERRIDDEN PRIOR TO STARTING RHRSW PUMP BY USING OVERRIDE SWITCH.
21. THE VALVE IS DESIGNED TO BE "FAIL AS IS". HOWEVER, IF THE VALVE IS LEFT IN THE CLOSED POSITION, IT MAY OVER TIME, DUE TO AIR LEAKEGE, RETURN TO THE OPEN POSITION.

REFERENCE		MPL NO.	MPL NO.
1. DELETED			
2. REACTOR PROTECTION SYSTEM P&ID		2C71-1010	H-28001
3. RESIDUAL HEAT REMOVAL FCD		2E11-1030	
4. CORE SPRAY P&ID		2E21-1010	H-26018
5. HPCI SYSTEM P&ID	SHT 1	2E41-1010	H-26020
	SHT 2		H-26021
6. RCIC SYSTEM P&ID	SHT 1	2E51-1010	H-26023
	SHT 2		H-26024
7. RADWASTE SYSTEM P&ID	SHTS 1-7	2G11-1010	H-26026 - H-26032
8. REACTOR WATER CLEANUP SYS P&ID	SHT 1	2G31-1010	H-26036
	SHT 2	2G31-1010	H-26037
9. NUCLEAR BOILER LEAK DETECTION SYSTEM DESIGN SPEC.		2A61-4040	S25280
10. PIPING AND INSTRUMENT SYMBOLS		A42-1010	S15051
11. PROCESS INSTRUMENTATION & TUBING INSTALLATION SPECIFICATIONS		2A61-4070	S25323
12. RHR PROCESS DATA		2E11-1020	S25140
13. PLANT REQUIREMENTS		2A61-4020	S25706
14. FURN., FAB., DEL., ERECT. PIPING & PIPE SUPPORTS & SETTING OF MECH. EQUIP.			A-21000
15. REACTOR RECIRC SYS P&ID	SHT 1	2B31-1010	H-26003
	SHT 2		H-26004
16. NUCLEAR BOILER SYS P&ID	SHT 1	2B21-1010	H-26000
	SHT 2		H-26001
17. REACTOR & RADWASTE BLDGS. CONDENSATE STORAGE & TRANSFER SYSTEM P&ID		2P11-1010	H-26046
18. FUEL POOL COOLING SYSTEM P&ID		2G41-1010	H-26039
19. JOCKEY PUMP SYS. P&ID & P.F.D. FOR THE R.H.R. & C.S. SYS.		2E21-1050	H-26019
20. MECH. PENETS. DRYWELL		(TABLE 1)	SS-2102-5
21. MECH. & ELECT. PENETS. SUPPRESSION CHAMBER		(TABLE 3)	SS-2102-5
22. PROCESS SAMPLING SYS. P&ID & PFD.		2P33-2010	H-26038

(CONT. ABOVE LEFT)

THIS DWG. DEVELOPED FROM G.E. DWG. 761E550 SH. 1, REV. 7 (S-25138)

CRITICAL DOCUMENT

MPL No. 2E11-1010 ACAD2K H26014

SOUTHERN COMPANY

Version: 65.0 | Date: 4/7/15

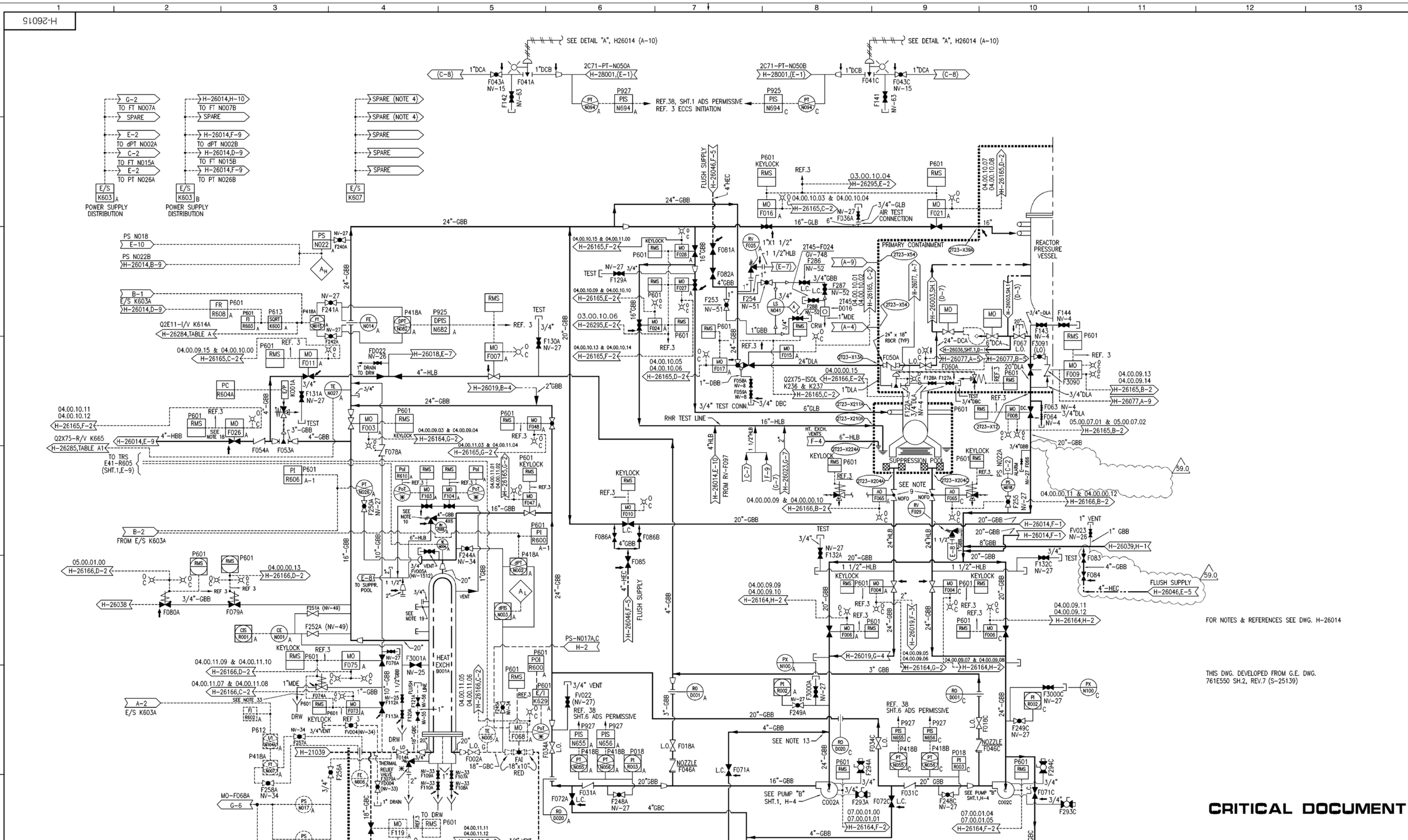
REVISED PER
ABN-H04044 VER. 1.0

EDWIN I. HATCH NUCLEAR PLANT UNIT No. 2
R.H.R. SYSTEM
P.&I.D.
SHEET 1

BY	CHK'D	APPR.
JCP	SNM	JTL

DRAWN	DESIGNED	LOCATION	DRAWING NUMBER	VERSION
CED	AA	10-502	H-26014	65.0
DATE	SCALE			
5-19-72	None			

DRAWING CATEGORY: CRITICAL



FOR NOTES & REFERENCES SEE DWG. H-26014

THIS DWG. DEVELOPED FROM G.E. DWG. 761E550 SH.2, REV.7 (S-25139)

CRITICAL DOCUMENT

MPL No. 2E11-1010

ACAD2K | H26015

SOUTHERN COMPANY

Version: 59.0 | Date: 06/06/13

REVISED PER ABN-H03257, VER. 1.0

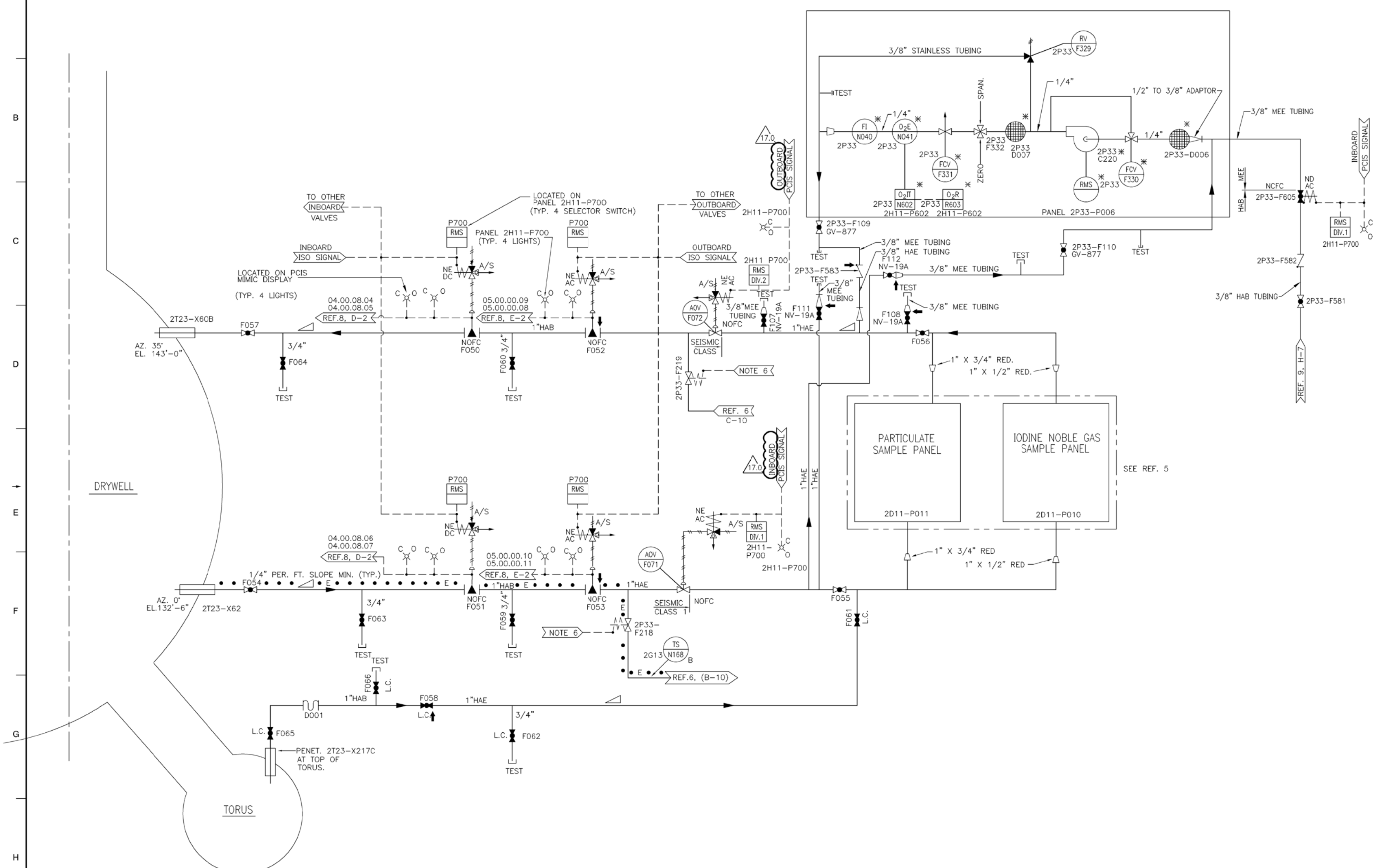
EDWIN I. HATCH NUCLEAR PLANT UNIT No. 2
R.H.R. SYSTEM
P.&I.D.
SHEET 2

BY	CHK'D	APPR.1	
PVK	CJK	RKF	SEE MICROFILM FOR PREVIOUS REV. SIGNATURES.

DRAWN	DESIGNED	LOCATION	DRAWING NUMBER	VERSION
CED	AA	10-502	H-26015	59.0
DATE: 5-28-72	SCALE: None			

DRAWING CATEGORY: CRITICAL

H-26016



NOTES:

1. ALL EQUIPMENT & INSTRUMENT NUMBERS ARE TO BE PRECEDED BY MPL 2D11 UNLESS OTHERWISE NOTED. EXAMPLE, 2D11-AO F001.
2. DELETED
3. ROUTINGS OF SAMPLE LINES IS AS SHOWN ON REFERENCES 1, 2 & 3.
4. GLOBE VALVES F058, F061, F062, F065 & F066 SHALL BE "LOCKED" CLOSED.
5. DELETED
6. SOLENOID VALVES ARE AUTOMATICALLY CONTROLLED BY THE COMPUTER.
7. •• E •• DENOTES ELECTRICAL HEAT TRACING.

REFERENCE:	MPL. NO.	SS. NO.
1. SAMPLE LINE ROUTINGS REACTOR BLDG. BELOW EL.130'-0"		H-26392
2. SAMPLE LINE ROUTINGS REACTOR BLDG. EL. 130'-0". RADWASTE BLDG. EL.132'-4"		H-26394
3. SAMPLE LINE ROUTINGS. REACTOR BLDG. EL. 158'-0". RADWASTE BLDG. EL.164'-0".		H-26396
5. FISSION PRODUCTS/POST-LOCA MONITORING SYS. P&ID	2D11-1010	H-26017
6. SCHEMATIC DIAGRAM FOR POST ACCIDENT R/C & CONT. ATMOSPHERE SAMPLING SYS. HNP 1 & 2	2P33-1010	H-26384
7.		
8. DIGITAL INPUT SIGNALS TO SPDS/ERF COMPUTER SYS. I.E.D. SHEET 2 OF 15	2X75-1010	H-26164
9. PRIMARY CONTAINMENT ATMOSPHERE 2H2 & O ANALYZER SYSTEM P&ID, SH.1		H-26048

CRITICAL DOCUMENT

MPL NO. 2D11-1010

ACAD2K H26016

SOUTHERN COMPANY

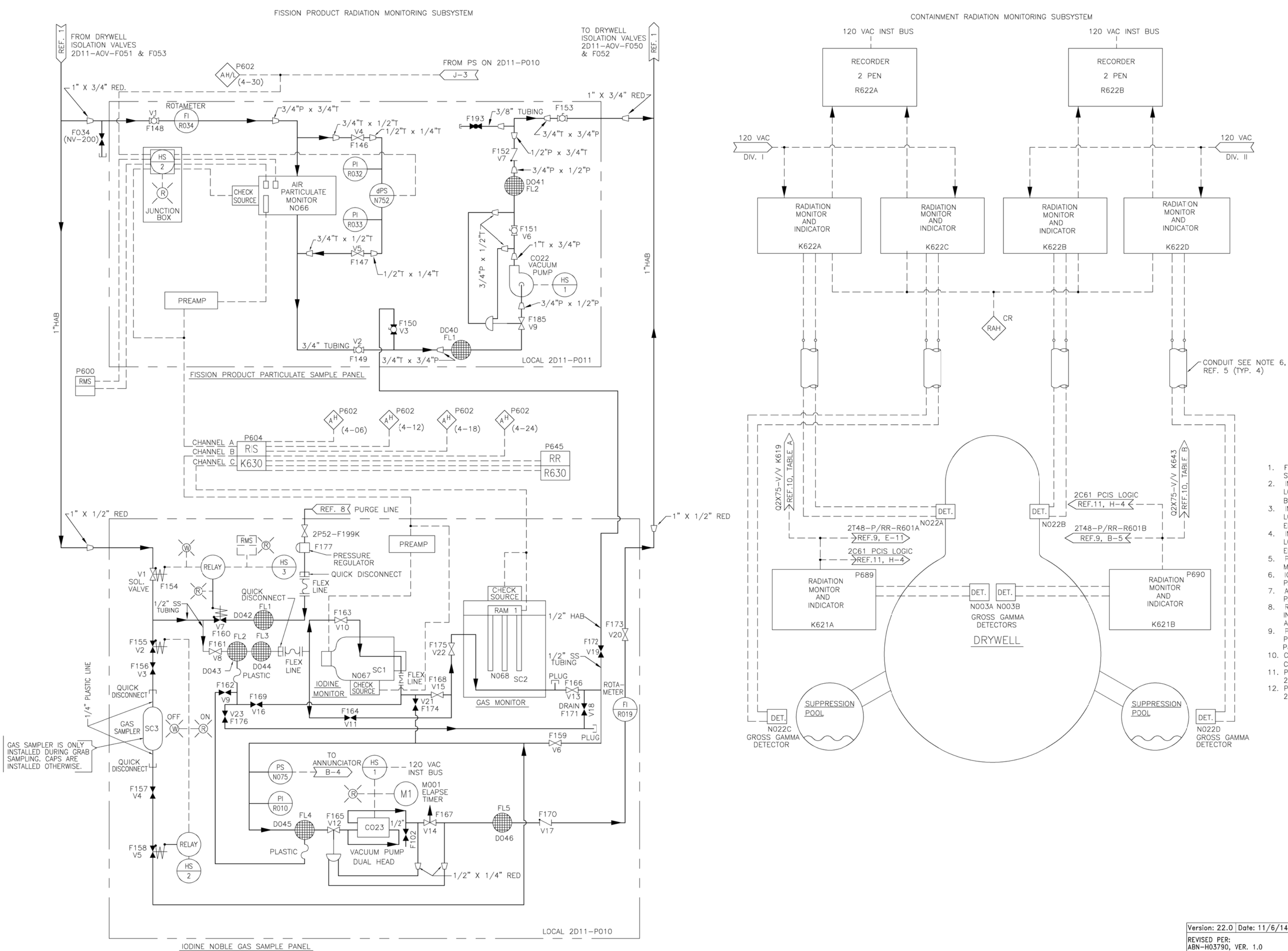
Version: 17.0 | Date: 3-22-11

REVISED PER ABN-H02271, VER.1.0

EDWIN I. HATCH NUCLEAR PLANT UNIT No.2
FISSION PRODUCTS MONITORING SYSTEM P.&I.D.

BY	CHK'D	APPR.1		DRAWN	DESIGNED	LOCATION	DRAWING NUMBER	VERSION
BgT	RAW	AAN	SEE MICROFILM FOR PREVIOUS REV. SIGNATURES.	PKR	MGN	10-502	H-26016	17.0
				DATE: 6-27-75	SCALE: None			

DRAWING CATEGORY: CRITICAL



REFERENCES

REFERENCE	MPL. NO.	DWG. NO.
1. FISSION PRODUCT MONITORING SYSTEM P&ID	2D11-1010	H-26016
2. INSTRUMENT & PRIMARY POINT LOCATION-REACTOR BLDG. BELOW EL. 130'-0"		H-26415
3. INSTRUMENT & PRIMARY POINT LOCATION-REACTOR BLDG. EL. 158'-0"		H-26419
4. INSTRUMENT & PRIMARY POINT LOCATION-REACTOR BLDG. EL. 185"-0"		H-26420
5. PROCESS RADIATION MONITORING SYSTEM P&ID	2D11-1010	H-26011
6. IODINE NOBLE GAS SAMPLE PANEL INSTRUCTION MANUAL	2D11-P010	S-30523
7. AIR PARTICULATE SAMPLE PANEL INSTRUCTION MANUAL	2D11-P011	S-30527
8. REACTOR BLDG. SOUTH SIDE INTERRUPTABLE INSTRUMENT AIR SHEET 1	2P52-1010	H-26060
9. PRIMARY CONTAINMENT PURGE & INERTING SYSTEM P&ID	2T48-1020	H-26084
10. CLASS IE ANALOG SIGNAL CONVERSION/ISOLATION SYS. I.E.D.	2X75-1010	H-26284
11. PRIMARY CTMT ISOLATION SYS. 2C61 ELEMENTARY DIAGRAM	2C61-1040	H-27597
12. PRIMARY CTMT ISOLATION SYS. 2C61 ELEMENTARY DIAGRAM	2C61-1040	H-27598

THIS DWG DEVELOPED FROM GE DWG 761E531 SHEET 4 REV 7

CRITICAL DOCUMENT

MPL NO. 2D11-1010

ACAD2000 H26017

SOUTHERN COMPANY

Version: 22.0 | Date: 11/6/14

REVISED PER: ABN-H03790, VER. 1.0

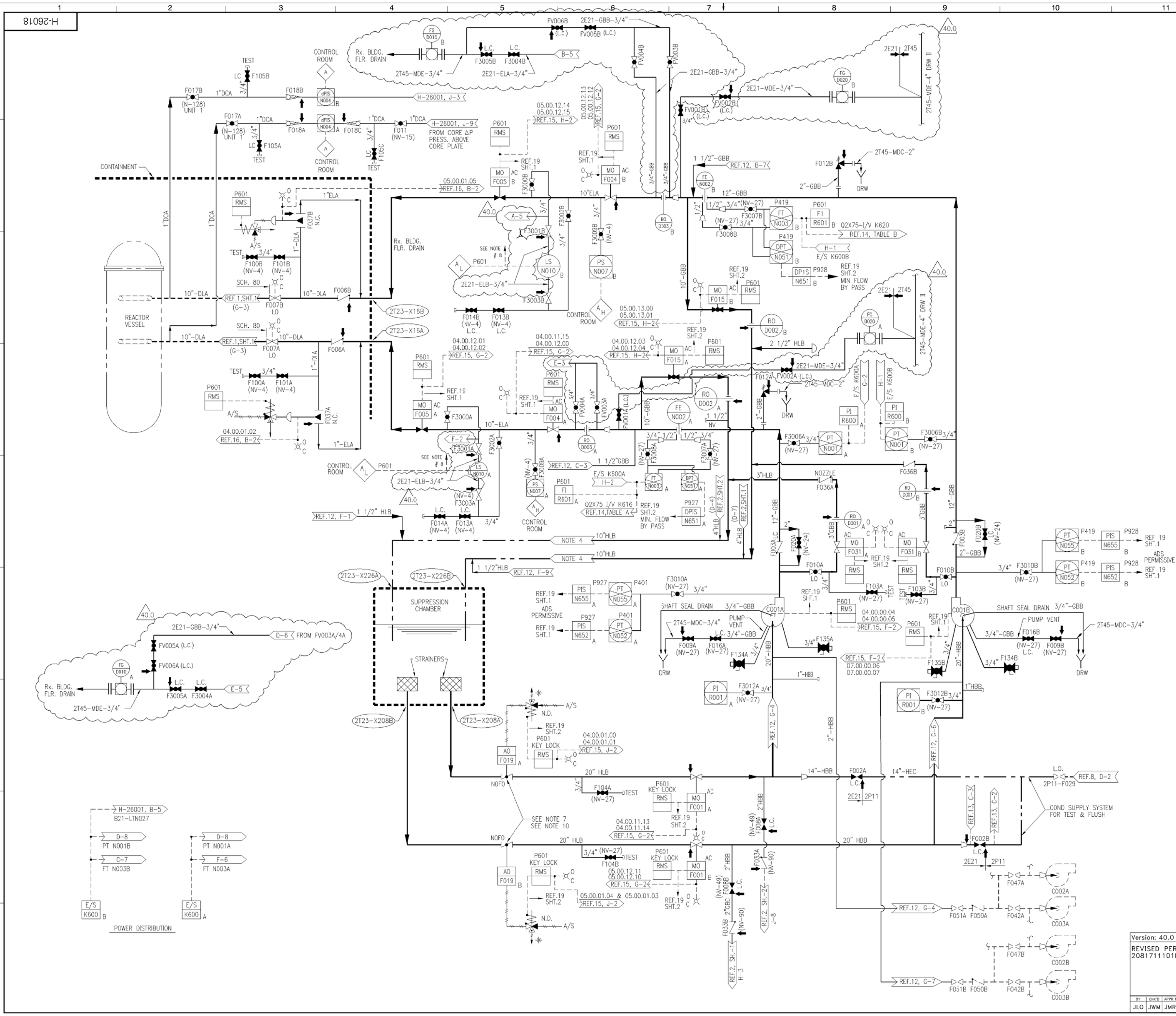
BY GTR | CHK'D DAB | APPR. JTL

EDWIN I. HATCH NUCLEAR PLANT UNIT No.2
FISSION PRODUCTS / POST-LOCA MONITORING SYSTEMS P&ID

DRAWN	DESIGNED	LOCATION	DRAWING NUMBER	VERSION
PKR	PKR	10-502	H-26017	22.0
DATE 5/25/77	SCALE None			

DRAWING CATEGORY: CRITICAL

H-26017



NOTES:

1. ALL EQUIPMENT & INSTRUMENTS ARE PREFIXED BY MPL NO. 2E21 UNLESS OTHERWISE NOTED.
2. FOR LOCATION AND IDENTIFICATION OF INSTRUMENTS SEE INSTRUMENT DATA SHEET LISTED IN MPL FOR EACH INSTR.
3. INSTRUMENT LINE VALVING MUST COMPLY WITH INSTRUMENT PIPING STANDARD SPEC. LISTED IN REFERENCE 9.
4. THESE LINES MAY BE RETURNED TO SUPPRESSION CHAMBER THROUGH SEPARATE LINES OR ATTACHED TO RHR SYSTEM TEST RETURN LINES. (SEE REF. 2)
5. ALL POSITION INDICATING LIGHTS ARE LOCATED IN CONTROL ROOM.
6. DELETED
7. VALVES F019A & B SHALL BE LOCATED A MAXIMUM OF SIX FEET FROM THE NOZZLE OF THE TORUS WITH ADEQUATE CLEARANCE FOR OPERATION OF THE VALVE AND VALVE OPERATOR.
8. L.S. N010 A&B INDICATES THE PROPER FUNCTION OF THE JOCKEY PUMP SYSTEM.
9. WHERE NV-NUMBERS ARE SHOWN THE VALVES WILL BE TAGGED WITH THESE NUMBERS; WHERE NV NUMBERS ARE NOT SHOWN THE VALVES WILL BE TAGGED WITH THE MPL NUMBER.
10. AIR ACCUMULATOR FOR F019A IS SHOWN ON H-26070 (C-8). AIR ACCUMULATOR FOR F019B IS SHOWN ON H-26064 (D-9).

REFERENCES		MPL NO.	SSI NO.
1. NUCLEAR BOILER P&ID	SHT 1	2B21-1010	H-26000
	SHT 2		H-26001
	SHT 3		H-26189
2. RHR SYSTEM P&ID	SHT 1	2E11-1010	H-26014
	SHT 2		H-26015
3. DELETED			
4. PLANT REQUIREMENTS		2A61-4020	S25706
5. CORE SPRAY PROCESS DIAGRAM		2E21-1020	S25178
6. PIPING & INSTRUMENT SYMBOLS DWG.		A42-1010	S-15051
7. FURN. FAB. DEL. & ERECT. OF PIPING & SETTING OF MECH. EQUIPMENT.		2A61-4030	SS-2109-1
8. CONDENSATE STORAGE & TRANSFER SYSTEM		2P11-1010	H-26046
9. PROCESS INST. PIPING & TUBING INSTALL. SPEC		2A61-4070	S25323
10. DELETED			
11. RADWASTE SYS. P&ID SHT. 1		2G11-1010	H-26026
12. JOCKEY PUMP SYS. P&ID		2E21-1050	H-26019
13. TORUS DRAINAGE AND PURIFICATION SYSTEM P&I.D. AND P.F.D.		2G51-1010/1020	H-26042
14. CLASS IE ANALOG SIGNAL CONVERSION/ISOLATION SYS. I.E.D.		2X75-1010	H-26284
15. DIGITAL INPUT SIGNALS TO THE SPDS/ERF COMPUTER SHT 4 OF 5		2X75-1010	H-26166
16. DIGITAL INPUT SIGNALS TO THE SPDS/ERF COMPUTER SHT 5 OF 5		2X75-1010	H-26167
17. DRYWELL PNEUMATIC SYSTEM P&ID SHEET 2		H-28023	
18. INSTRUCTION MANUAL FOR 10" TILTING DISK CHECK VALVE		S-23617	
19. CORE SPRAY SYSTEM LOGIC DIAGRAM SHT.1-2		2E21-1030	H-24739 - H-24740

THIS DWG. DEVELOPED FROM G.E. DWG. NO. 161F336BA REV.1

CRITICAL DOCUMENT

MPL No. 2E21-1010

ACAD2K H26018

SOUTHERN COMPANY

Version: 40.0 | Date: 5/9/11

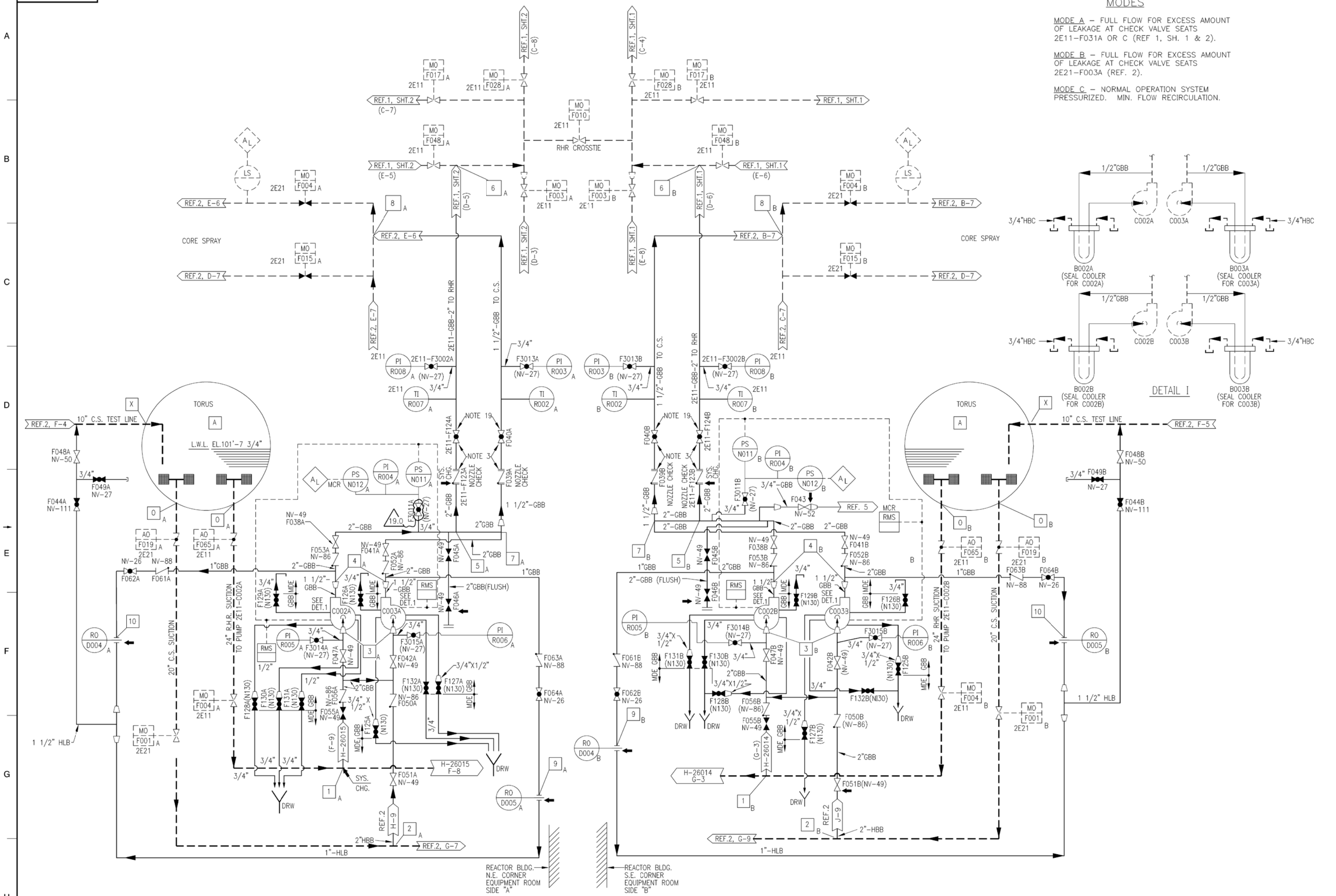
REVISED PER ABN 2081711101M323, VER. 2.0

BY	CHK'D	APPR.1	
JLO	JWM	JMR	SEE MICROFILM FOR PREVIOUS REV. SIGNATURES.

EDWIN I. HATCH NUCLEAR PLANT UNIT No. 2
CORE SPRAY SYSTEM
P & ID

DRAWN	DESIGNED	LOCATION	DRAWING NUMBER	VERSION
GSN	AA	10-502	H-26018	40.0
DATE: 5-15-72	SCALE: None			

DRAWING CATEGORY: CRITICAL



MODES

MODE A – FULL FLOW FOR EXCESS AMOUNT OF LEAKAGE AT CHECK VALVE SEATS 2E11-F031A OR C (REF 1, SH. 1 & 2).

MODE B – FULL FLOW FOR EXCESS AMOUNT OF LEAKAGE AT CHECK VALVE SEATS 2E21-F003A (REF. 2).

MODE C – NORMAL OPERATION SYSTEM PRESSURIZED. MIN. FLOW RECIRCULATION.

DETAIL I

GENERAL NOTES

1. ALL EQUIPMENT AND INSTRUMENT NUMBERS ARE TO BE PRECEDED BY MPL –2E21 UNLESS OTHERWISE NOTED. EX. 2E21–C002A.
2. FOR WEIGHT AND MATERIAL OF PIPE, VALVES AND FITTINGS, SEE REF. 6.
3. ALL CHECK AND GLOBE VALVES MUST BE LOCATED CLOSE TO CROSS CONNECT HEADER.
4. JOCKEY PUMP DRAINS AND VENTS TO DRW.
5. PUMP C002A AND C002B ARE OPERATING AND PUMPS C003A AND C003B ARE ON STANDBY.
6. PIPING HIGH POINT VENTS AND LOW POINT DRAINS ARE TO BE ADDED AT ALL SUCH POINTS NOT SERVED BY EQUIPMENT VENT AND DRAINS.
7. JOCKEY PUMPS OPERATE ON EMERGENCY AC POWER.
8. PS N011 STARTS THE JOCKEY PUMP
9. 2E21–PI–R005A, B AND R006A, B ARE ASHCROFT TYPE 1379A GAUGES; PURCHASE ORDER S–8937.

PROCESS FLOW NOTES

11. FOR PUMP NPSH $_{AVAIL.}$ CALCULATIONS: MAX. TORUS WATER TEMP. = 200°F TORUS PRESSURE = 14.7 PSIA.
12. MIN. NPSH $_{AVAIL.}$ CALCULATED = 18 FEET.
13. DESIGN OF THE PUMPS BASED ON NPSH $_{AVAIL.}$ = 4 FT.
14. WHEN THE CORE SPRAY SYSTEM IS AT TEST MODE, THEN SUCTION TO JOCKEY PUMPS WILL BE THROUGH $\boxed{0}_A$ $\boxed{1}_A$ $\boxed{3}_A$ $\boxed{4}_A$
16. THE JOCKEY PUMPS ARE TO PROVIDE A MINIMUM OF 10 PSIG PRESSURE IN THE MAIN PUMP DISCH. LEGS IN ADDITION TO HEAD PRESSURE FROM WATER COLUMN.
17. THE RESTRICTING ORIFICES ARE DESIGNED TO DROP THE DISCH. HEAD TO A LOW TORUS PRESSURE. (~ 15.7 P.S.I.A.)
18. CALCULATIONS SHOWN ARE FOR SIDE "A", SIDE "A" AND SIDE "B" ARE IDENTICAL.
19. THROTTLE DISCHARGE VALVES TO MAINTAIN 0 PSIG AT PUMP SUCTION AT RUNOUT.

REFERENCES

REFERENCE	MPL. NO.		S.S.I. NO.
1. R.H.R. SYS. P&ID	2E11–1010	SH. 1 SH. 2	H–26014 H–26015
2. CORE SPRAY SYS. P&ID	2E21–1010		H–26018
3. R.H.R. SYS. P.F.D.	2E11–1020		S–25140 S–25141
4. CORE SPRAY SYS. P.F.D.	2E21–1020		S–25178
5. SAMPLING SYS. P&ID & P.F.D.	2P33–1010		H–26038
6. FURN., TAB., DEL., & ERECT. PIPING & SETTING OF MECH. EQUIPMENT	—		SS–21091–1
7. PIPING & INSTRUMENT SYMBOLS.	A42–1010		S–15051
8. REACTOR BUILDING–PLANT SERVICE WATER P&ID	2P41–1010	SH. 1 SH. 2	H–26050 H–26051

LEGEND

– – – – – – EXISTING PIPING FOR 2E11–1010 AND/OR 2E21–1010.

———— PIPING FOR JOCKEY PUMP SYSTEM.

MODE A – FULL FLOW TO R.H.R. PUMPS DISCHARGE LEG SIDE "A"

POSITION ☐	A	0_A	1_A	0_A	2_A	3_A	4_A	5_A	6_A	7_A	9_A	10_A	X
FLOW–GPM	–	40/0	40/0	0/40	0/40	40	40	30	30	0	10/0	0/10	10
PRESSURE–PSIA	14.7												
TEMP.–°F (MAX)	200° →												
MAX. PRESSURE DROP–FEET	REQ'D TDH=135 FT.												

MODE B – FULL FLOW TO C.S. PUMPS DISCHARGE LEG SIDE "A"

POSITION ☐	A	0_A	1_A	0_A	2_A	3_A	4_A	5_A	7_A	8_A	9_A	10_A	X
FLOW–GPM		40/0	40/0	0/40	0/40	40	40	30	30	30	10/0	0/10	10
PRESSURE–PSIA	14.7												
TEMP.–°F (MAX)	200° →												
MAX. PRESSURE DROP–FEET	REQ'D TDH≅120 FT.												

MODE C – RECIRC. TO TORUS (NO FLOW TO PUMP DISCH. LEGS)

POSITION ☐	A	0_A	1_A	0_A	2_A	3_A	4_A	5_A	7_A	9_A	10_A	X
FLOW–GPM		10/0	10/0	0/10	0/10	10	10	0	0	10/0	0/10	10
PRESSURE–PSIA	14.7											15.7
TEMP.–°F (MAX)	200° →											
MAX. PRESSURE DROP–FEET	TDH≅200 FT.											

CRITICAL DOCUMENT

MPL NO. 2E21-1050

ACAD2K H26019

SOUTHERN COMPANY

Version: 19.0 | Date: 06-06-04

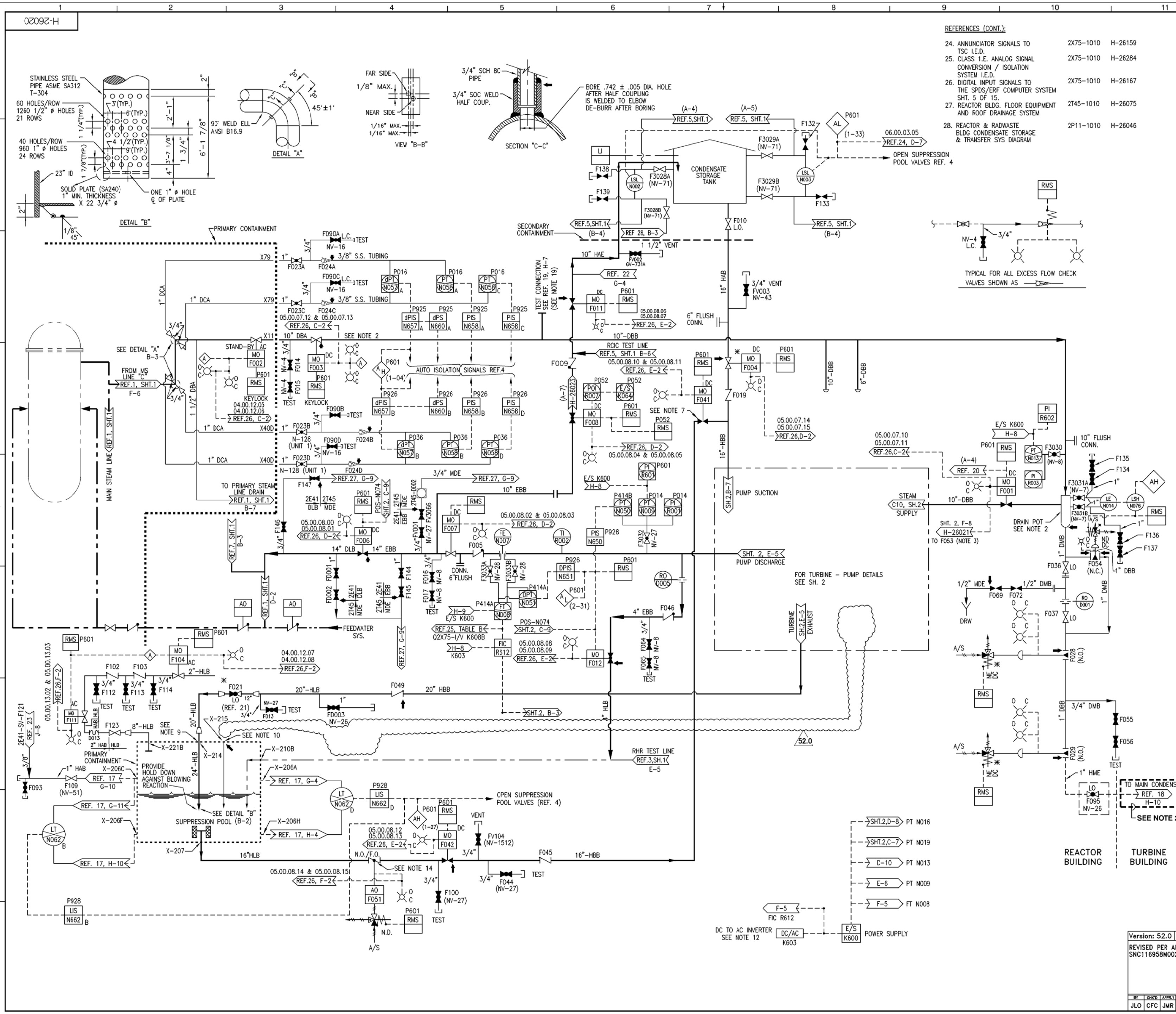
REVISED PER ABN 04-0226, VERSION 1.0.

EDWIN I. HATCH NUCLEAR PLANT UNIT No. 2

JOCKEY PUMP SYSTEM P & ID AND PROCESS FLOW DIAGRAM FOR THE R.H.R. AND CORE SPRAY SYSTEMS

BY	CHK'D	APPR.1		DRAWN	DESIGNED	LOCATION	DRAWING NUMBER	REVISION
				JDA	AA	10-502	H-26019	19.0
DFV	WMW	DLL	SEE MICROFILM FOR PREVIOUS REV. SIGNATURES.	DATE: 4-27-72	SCALE: None			

DRAWING CATEGORY: CRITICAL



REFERENCES (CONT.):

24. ANNUNCIATOR SIGNALS TO TSC I.E.D.	2X75-1010	H-26159
25. CLASS 1.E. ANALOG SIGNAL CONVERSION / ISOLATION SYSTEM I.E.D.	2X75-1010	H-26284
26. DIGITAL INPUT SIGNALS TO THE SPDS/ERF COMPUTER SYSTEM SHT. 5 OF 15.	2X75-1010	H-26167
27. REACTOR BLDG. FLOOR EQUIPMENT AND ROOF DRAINAGE SYSTEM	2T45-1010	H-26075
28. REACTOR & RADWASTE BLDG CONDENSATE STORAGE & TRANSFER SYS DIAGRAM	2P11-1010	H-26046

NOTES:

1. EQUIPMENT & INSTRUMENTS ARE PREFIXED BY MPL NO. 2E41 UNLESS OTHERWISE NOTED.
2. LINE TO SLOPE DOWN FROM POINT OF CONNECTION TO MAIN STEAM LINE TO THE DRAIN POT AHEAD OF THE TURBINE WITH NO POCKETS. LOCATE DRAIN POT AND VALVE F001 AS CLOSE AS POSSIBLE TO TURBINE INLET WITH VALVE VERTICAL.
3. VALVE F053 IS NORMALLY CLOSED. IF F053 IS OPENED, AN AUTO CLOSE SIGNAL IS SENT TO VALVE F053 WHEN VALVE F001 STARTS TO OPEN.
4. INSTRUMENT LINE VALVING MUST COMPLY WITH REF. 11.
5. CHEMICAL CLEANING CONNECTIONS, VALVES, ETC. IF REQUIRED ARE TO BE PROVIDED AS NECESSARY.
6. ANY ADDITIONAL HIGH POINT VENTS AND LOW POINT DRAINS TO BE ADDED BY FIELD AS REQUIRED.
7. LOCATE VALVE F041 AS CLOSE AS POSSIBLE TO PUMP SUCTION LINE FROM CONDENSATE STORAGE TANK.
8. FOR INTERLOCKING REQUIREMENTS SEE FUNCTIONAL CONTROL DIAGRAM REF 4.
9. PENETRATION LOCATION TO BE ABOVE MAXIMUM EXPECTED WATER LEVEL, WITH PIPING EXTENDED 4 FT. BELOW LOW WATER LEVEL.
10. PENETRATION LOCATION TO BE MAXIMUM 3 FT. ABOVE NORMAL WATER LEVEL, WITH PIPING EXTENDED 4 FT. BELOW LOW WATER LEVEL. PENETRATION X-215 CAPPED. 52.0
11. THE BAROMETRIC CONDENSER AND VACUUM TANK SHALL BE LOCATED SO THAT ITS WATER LEVEL IS BELOW THE BOTTOM OF THE TURBINE EXHAUST.
12. "AC" POWER FOR HPCI INSTRUMENTS SHALL BE DERIVED FROM THE PLANT "DC" POWER SYSTEM, VIA AN INVERTER. THE "DC" SOURCE IS TO BE SEPARATE FROM THAT WHICH SUPPLIES THE RCIC SYSTEM.
13. PIPING SHOWN IN PHANTOM TO BE ARRANGED AND SUPPLIED BY TURBINE VENDOR.
14. VALVE F051 SHALL BE LOCATED A MAXIMUM OF SIX FEET FROM THE NOZZLE OF THE TORUS, WITH ADEQUATE CLEARANCE FOR OPERATION OF THE VALVE AND VALVE OPERATOR.
15. FOR LOCATION AND IDENTIFICATION OF INSTRUMENTS SEE INSTRUMENT DATA SHEET LISTED IN MPL FOR EACH INSTRUMENT.
16. FLUSHING CONNECTIONS SHALL BE PROVIDED IN ACCORDANCE WITH MPL ITEM NO. 2A61-4020 SEC 9. TEMPORARY STRAINER SCREENS SHALL BE PROVIDED ON THE SUCTION SIDE OF ALL PUMPS IN ACCORDANCE WITH MPL ITEM NO. 2A61-4020 SEC 9.
17. VALVES ON THIS DWG. ARE NUMBERED FD001 THRU FD020 FOR DRAIN VALVES FV001 THRU FV010 FOR VENT VALVES.
18. 2E41-D004 FLANGES ARE 900# RATHER THAN 150#. FLANGE BOLT SIZES ARE 1-1/4" INSTEAD OF 1-5/8" PER ANSI B16.5.
19. FLANGE BOLTS TO BE TORQUED PER VENDOR MANUAL S-55914 IF SUPERBOLTS ARE USED.
20. IN SUPPORT OF AST (10CFR50.67), THE HIGHLIGHTED EQUIPMENT, PIPING, AND ASSOCIATED SUPPORTS HAVE BEEN VERIFIED AS SEISMICALLY ADEQUATE FOR THE HATCH U2 1/2 SME EARTHQUAKE TO THE EXTENT REQUIRED TO PERFORM THEIR REQUIRED SAFETY FUNCTION. FUTURE REPAIRS OR MODIFICATIONS SHOULD BE PERFORMED IN A MANNER THAT MAINTAINS THIS SEISMIC QUALIFICATION. REFERENCE ENCLOSURE 10 OF NL-06-1637.

REFERENCES:		MPL. NO.	SSI NO.
1. NUCLEAR BOILER SYS. P & ID	SHT 1	2B21-1010	H-26000
	SHT 2		H-26001
2. DELETED			
3. RHR SYS. P & ID	SHT 1	2E11-1010	H-26014
	SHT 2		H-26015
4. HPCI SYS. FCD		2E41-1030	
5. RCIC SYS. P & ID	SHT 1	2E51-1010	H-26023
	SHT2		H-26024
6. NUCLEAR BOILER LEAK DETECTION SYS. SPEC.		2A61-4040	S25280
7. REACTOR WATER CLEANUP SYS. P & ID	SHT 1	2G31-1010	H-26036
	SHT 2		H-26037
8. TURBINE CONTROLS DIAGRAM		2E41-C002	S25339
9. TURBINE OUTLINE DRAWING		2E41-C002	S25573
10. PLANT REQUIREMENTS		2A61-4020	S25706
11. PROCESS INSTRUMENT PIPING & TUBING INSTALLATION SPEC.		2A61-4070	S25323
12. PIPING & INSTRUMENT SYMBOLS		A42-1010	S15051
13. PRESSURE INTEGRITY OF PIPING & EQUIP PRESSURE PARTS		2A61-4030	S25112
14. HPCI SYS. DESIGN SPEC.		2E41-4010	S25187
15. HPCI SYS. PD		2E41-1020	S25176
16. REACTOR BLDG. VENT. SYS. P.F.D.		2T41-1020	H-26069
17. PRIMARY CONTAINMENT PURGE & INERTING SYS. P&I.D.		2T48-1020	H-26084
18. MSR & HEATER VENTS & SHELL DRAINS SYS. P & ID SHT. 2		2N22-1010	H-21024
19. AUX STEAM P & ID		2P61-1010	H-26063
20. SAFEGUARD EQUIP. EMER. COOLING SYS. P & ID		2T41-1010	H-26071
21. EQUIP. & VALVE DRAINAGE P & ID		2T45-1030	H-26077
22. CRD P & ID		2C11-1010	H-26007
23. SCHEMATIC DIAGRAM FOR POST ACCIDENT REACTOR COOLANT AND CONTAINMENT ATMOSPHERE SAMPLING SYS. HNP-1 & 2.		2P33-1010	H-26384

THIS DWG. DEVELOPED FROM G.E. DWG. NO. 761E230BA, REV. 2

CRITICAL DOCUMENT

MPL NO. 2E41-1010 ACAD07 H26020

SOUTHERN COMPANY

Version: 52.0 Date: 3/21/13

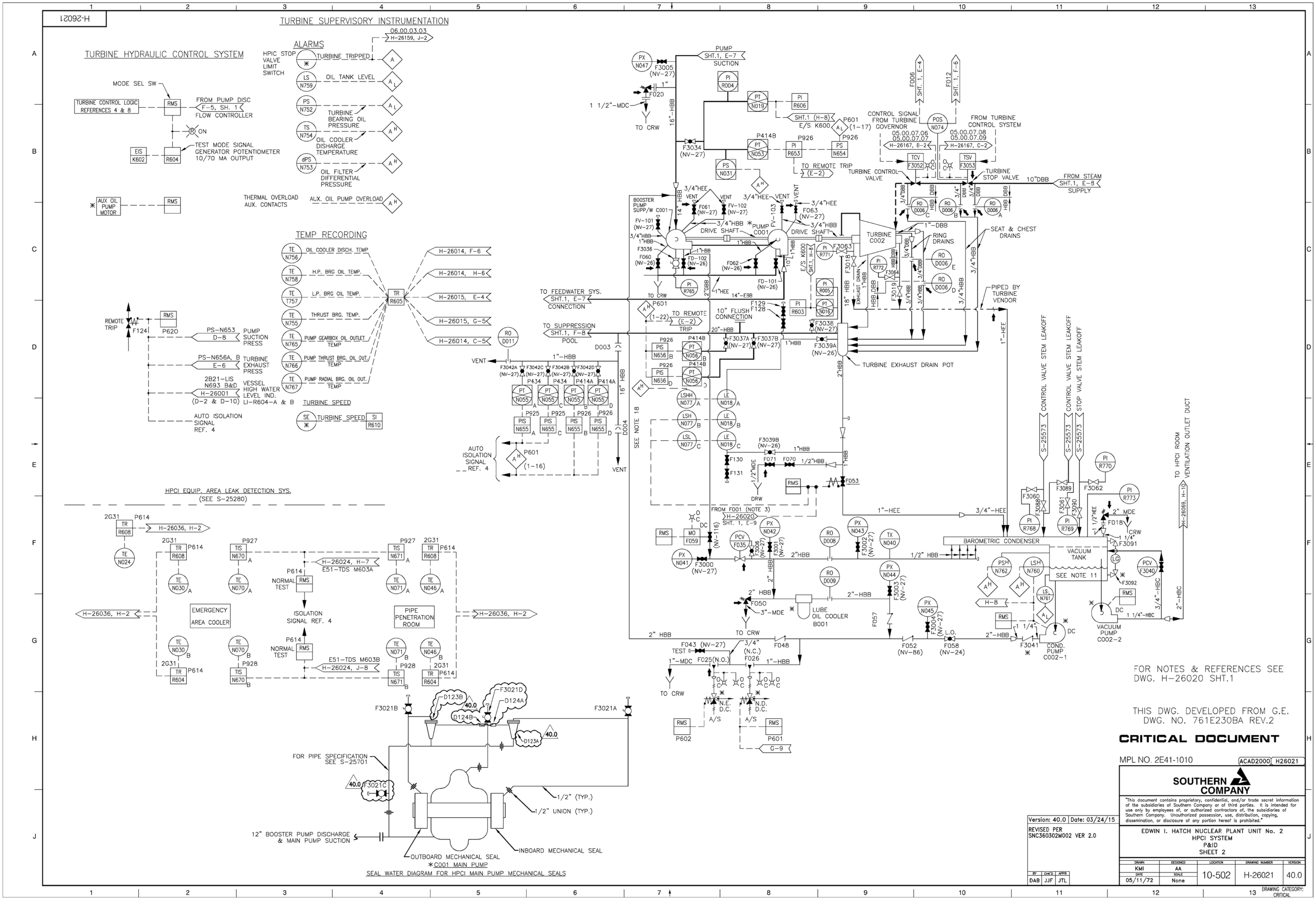
REVISED PER ABN SNC116958M002, VER. 1.0

BY	CHK'D	APPR.1	
JLO	CFC	JMR	SEE MICROFILM FOR PREVIOUS REV. SIGNATURES.

EDWIN I. HATCH NUCLEAR PLANT UNIT No. 2
HPCI SYSTEM
P&ID
SHEET 1

DRAWN	DESIGNED	LOCATION	DRAWING NUMBER	VERSION
KMI	AA	10-502	H-26020	52.0
DATE: 5-11-72	SCALE: None			

DRAWING CATEGORY: CRITICAL



H-26021
TURBINE SUPERVISORY INSTRUMENTATION
TURBINE HYDRAULIC CONTROL SYSTEM
ALARMS
TEMP RECORDING
TURBINE SPEED
HPCI EQUIP. AREA LEAK DETECTION SYS.
(SEE S-25280)
EMERGENCY AREA COOLER
PIPE PENETRATION ROOM
BAROMETRIC CONDENSER
VACUUM TANK
TURBINE EXHAUST DRAIN POT
SEAL WATER DIAGRAM FOR HPCI MAIN PUMP MECHANICAL SEALS
*C001 MAIN PUMP
OUTBOARD MECHANICAL SEAL
INBOARD MECHANICAL SEAL
12" BOOSTER PUMP DISCHARGE & MAIN PUMP SUCTION
FOR PIPE SPECIFICATION SEE S-25701
FOR NOTES & REFERENCES SEE DWG. H-26020 SHT.1
THIS DWG. DEVELOPED FROM G.E. DWG. NO. 761E230BA REV.2
CRITICAL DOCUMENT
MPL NO. 2E41-1010
ACAD2000 H26021
SOUTHERN COMPANY
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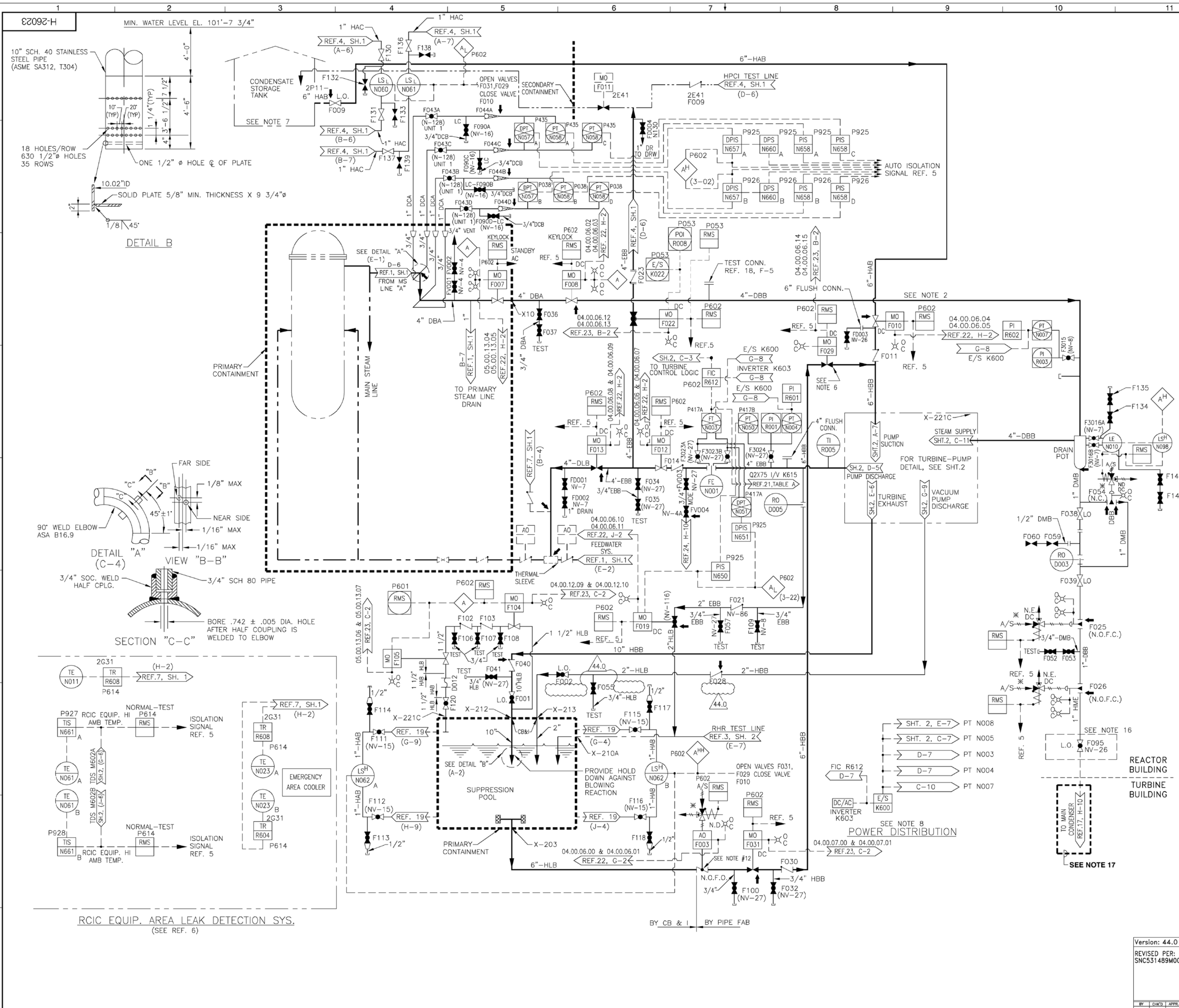
Version: 40.0 Date: 03/24/15
REVISED PER SNC360302M002 VER 2.0
DAB JJF JTL
EDWIN I. HATCH NUCLEAR PLANT UNIT No. 2
HPCI SYSTEM
P&ID
SHEET 2
KMI AA 10-502 H-26021 40.0
05/11/72 None
DRAWING CATEGORY: CRITICAL



NOTES:

1. EQUIPMENT AND INSTRUMENTS ARE PREFIXED BY MPL NO. 2E51 UNLESS OTHERWISE NOTED.
2. SLOPE STEAM LINE DOWN ALL THE WAY FROM MAIN STEAM LINE TO DRAIN POT JUST AHEAD OF TURBINE.
3. WHERE GV NUMBERS ARE SHOWN, THE VALVES ARE TAGGED WITH THESE NUMBERS. WHERE GV NUMBERS ARE NOT SHOWN, THE VALVES ARE TAGGED WITH MPL NO.
4. INSTRUMENT LINE VALVING MUST COMPLY WITH INSTRUMENT PIPING STANDARDS, REF. 9.
5. DELETED
6. LOCATE VALVE F029 (ZONE) AS CLOSE AS POSSIBLE TO PUMP SUCTION LINE FROM CONDENSATE STORAGE.
7. REQUIRED TOTAL RESERVE STORAGE FOR RCIC SYSTEM AND HPCI SYSTEM, 100,000 GALLONS. THIS AMOUNT OF STORAGE SHALL BE CAPABLE OF BEING ISOLATED FROM SERVING OTHER SYSTEMS.
8. "A-C" POWER FOR RCIC INSTRUMENTS SHALL BE DERIVED FROM A "D-C" SOURCE SEPARATE FROM THAT WHICH SUPPLIES THE HPCI SYSTEM, VIA THE UNINTERRUPTIBLE "A-C" OR COMPARABLE "D-C" TO "A-C" CONVERSION SYSTEM.
9. FOR INTERLOCKING REQUIREMENTS AND AUTO VALVE ACTUATION SEE LOGIC DIAGRAM, REF. 27.
10. PIPING SHOWN IN PHANTOM LEADING TO TURBINE C002 TO BE ARRANGED AND SUPPLIED BY TURBINE VENDOR.
11. THE BAROMETRIC CONDENSER AND VACUUM TANK SHALL BE LOCATED SUCH THAT IT'S WATER LEVEL IS BELOW THE BOTTOM OF THE TURBINE EXHAUST FLANGE.
12. VALVE AO-F003 SHALL BE LOCATED A MAXIMUM OF SIX FEET FROM THE NOZZLE OF THE TORUS, WITH ADEQUATE CLEARANCES FOR OPERATION OF THE VALVE AND VALVE OPERATOR.
13. FOR LOCATION AND IDENTIFICATION OF INSTRUMENTS SEE INSTRUMENT DATA SHEET LISTED IN MPL FOR EACH INSTRUMENT.
14. FLUSHING CONNECTIONS SHALL BE PROVIDED IN ACCORDANCE WITH MPL ITEM NO. 2A61-4020 SEC 9. TEMPORARY STRAINER SCREENS SHALL BE PROVIDED ON THE SUCTION SIDE OF ALL PUMPS IN ACCORDANCE WITH MPL ITEM NO. 2A61-4020 SEC 9.
15. VALVES ON THIS DWG ARE NUMBERED FD001 THRU FD020 FOR DRAIN VALVES FV001 THRU FV020 FOR VENT VALVES
16. THIS VALVE IS TO BE INSTALLED AFTER COMPLETION OF START-UP.
17. IN SUPPORT OF AST (10CFR50.67), THE HIGHLIGHTED EQUIPMENT, PIPING, AND ASSOCIATED SUPPORTS HAVE BEEN VERIFIED AS SEISMICALLY ADEQUATE FOR THE HATCH U2 1/2 SME EARTHQUAKE TO THE EXTENT REQUIRED TO PERFORM THEIR REQUIRED SAFETY FUNCTION. FUTURE REPAIRS OR MODIFICATIONS SHOULD BE PERFORMED IN A MANNER THAT MAINTAINS THIS SEISMIC QUALIFICATION. REFERENCE ENCLOSURE 10 OF NL-06-1637.

REFERENCES

		MPL NO.	SSI NO.
1. NUCLEAR BOILER SYS P&ID	SHT 1	2B21-1010	H-26000
	SHT 2		H-26001
2. DELETED			
3. RHR SYS P&ID	SHT 1	2E11-1010	H-26014
	SHT 2		H-26015
4. HPCI SYS P&ID	SHT 1	2E41-1010	H-26020
	SHT 2		H-26021
5. RCIC SYS FCD		2E51-1030	S-26100
			S-26101
			S-26102
			S-26103
6. NUCLEAR BOILER LEAK DETECTION SYSTEM		2A61-4040	S-25280
7. REACTOR WATER CLEAN-UP SYS P&ID	SHT 1	2G31-1010	H-26036
	SHT 2		H-26037
8. PIPING & INSTRUMENT SYMBOLS		A42-1010	SX-28760
9. PROCESS INSTRUMENT PIPING AND TUBING INSTALLATION SPEC.		2A61-4070	S-25323
10. PLANT REQUIREMENTS		2A61-4020	S-25706
11. TURBINE CONTROL DWG.		2E51-C002	S-25238
12. PRESSURE INTEGRITY OF PIPING AND EQUIPMENT PRESSURE PARTS		2A61-4030	S-25112
13. TURBINE OUTLINE		2E51-C002	S-25221
14. HIGH PRESSURE COOLING INJECTION SYSTEM FCD		2E41-1030	
15. RCIC SYS DESIGN SPEC		2E51-4010	
16. RCIC SYS PD		2E51-1020	S-25171
17. MSR & HEATER VENTS AND SHELL DRAINS P&ID SH-2.		2N22-1010	H-21024
18. AUXILIARY STEAM P&ID		2P61-1010	H-26063
19. PRIMARY CONTAINMENT PURGE INERTING SYSTEM P&ID		2T48-1020	H-26084
20. ANNUNCIATOR SIGNALS TO TCS, I.E.D.		2X75-1010	H-26159
21. CLASS IE ANALOG SIGNAL CONVERSION/ ISOLATION SIGNAL I.E.D.		2X75-1010	H-26284
22. DIGITAL INPUT SIGNALS TO THE SPDS/ERF COMPUTER SYS. SHT. 5 OF 15		2X75-1010	H-26167
23. DIGITAL INPUT SIGNALS TO THE SPDS/ERF COMPUTER SYS. SHT 6 OF 15		2X75-1010	H-26175
24. REACTOR BLDG. FLOOR, EQUIPMENT & ROOF DRAINAGE SYSTEM DIAGRAM		2T45-1010	H-26075
25. RCIC SYS. DISCHARGE TO FEEDWATER & TEST LINE TO CONDENSATE STORAGE TANK			H-26845
26. C.C.I. - DRAG VALVE - 4 X 4, GLOBE 900 ANSI - R.C.I.C. VALVE			S-61276
27. NUCLEAR BOILER SYSTEM LOGIC DIAGRAM SHT. 1-12		2B21-1030	H-24701-12

THIS DWG. DEVELOPED FROM G.E. DWG. NO. 761E234BA, REV. 2 S-25174

CRITICAL DOCUMENT

MPL NO. 2E51-1010 ACAD2000 H26023

SOUTHERN COMPANY

Version: 44.0 Date: 03/25/15

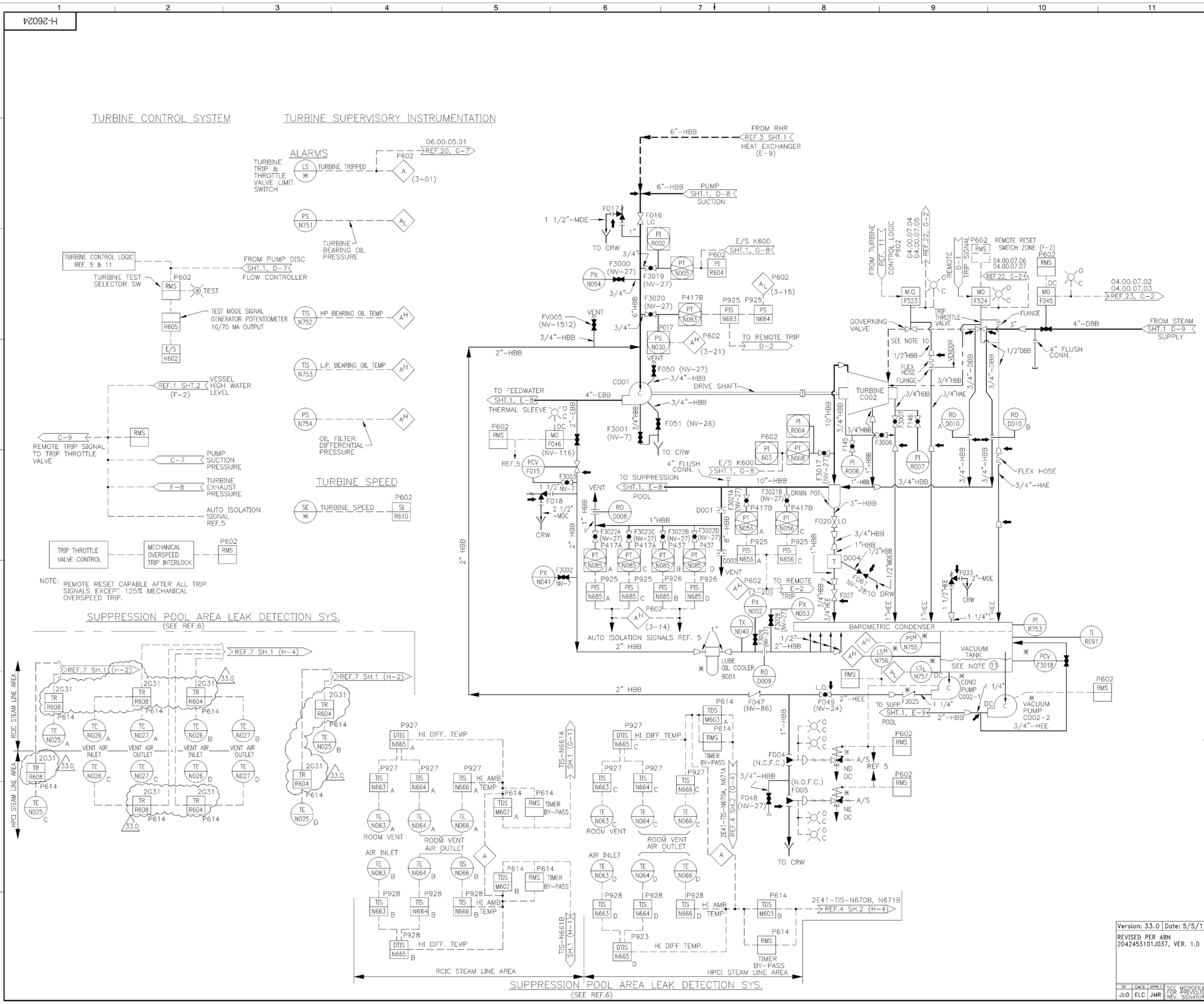
REVISED PER: SNC531489M002, VER 1.0

EDWIN I. HATCH NUCLEAR PLANT UNIT No. 2
RCIC SYSTEM
P & ID SHEET 1

BY	CHK'D	APPR.
GTR	SNM	JTL

DRAWN	DESIGNED	LOCATION	DRAWING NUMBER	VERSION
KMI	A.A.	10-502	H-26023	44.0
DATE 6/5/72	SCALE None			

DRAWING CATEGORY: CRITICAL



FOR NOTES AND REFERENCES SEE DWG. H-26023 SH.1

THIS DWG. DEVELOPED FROM G.E. DWG. NO. 761E234BA, REV.2 (S-25174/S-25175)

CRITICAL DOCUMENT

MPL NO. 2E51-1010

ACAD2K H26024

SOUTHERN COMPANY

Version: 33.0 | Date: 5/5/11

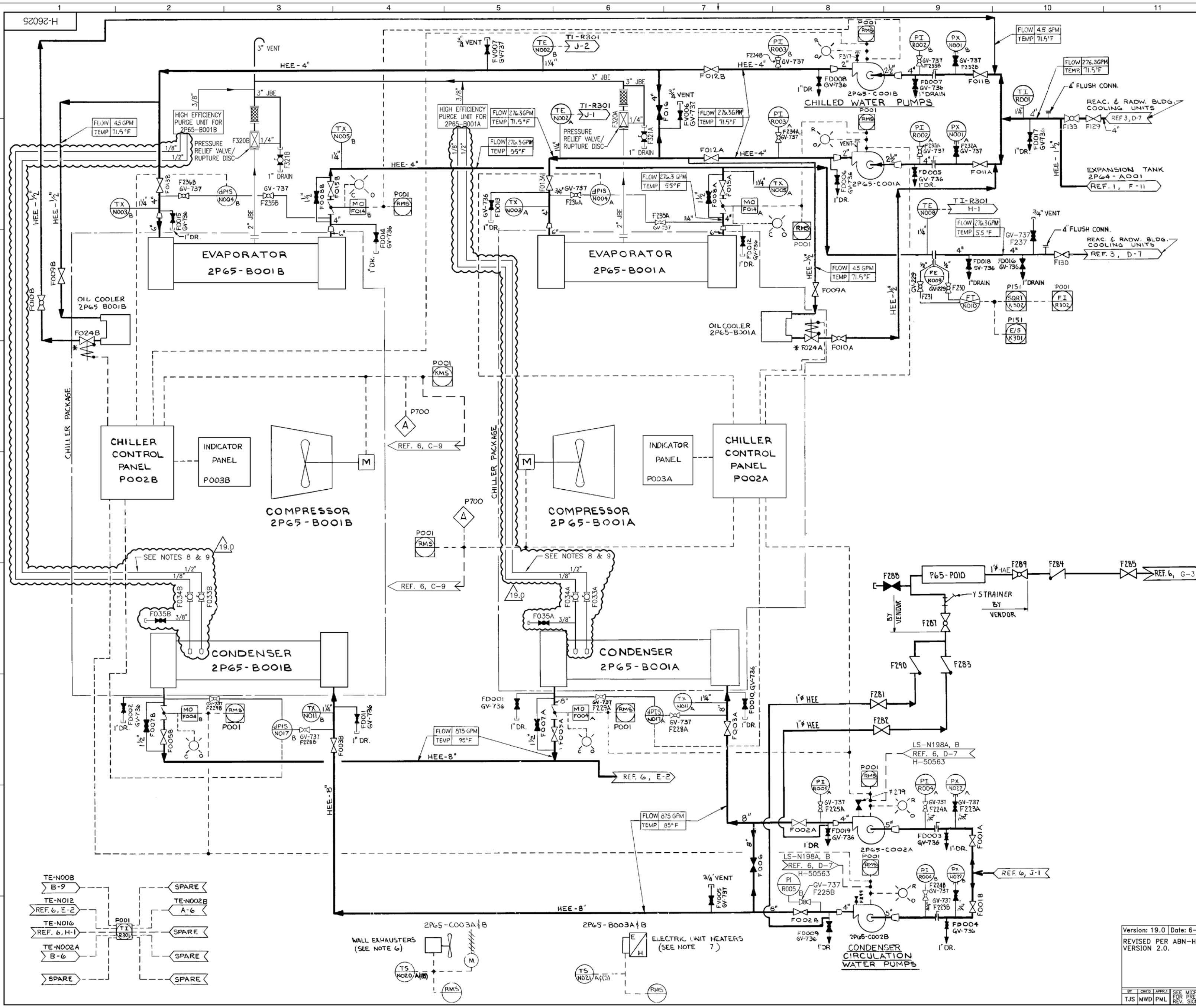
REVISED PER ABN 2042453101J037, VER. 1.0

EDWIN I. HATCH NUCLEAR PLANT UNIT No. 2
RCIC SYSTEM
P&ID
SHEET 2

DRAWN	DESIGNED	LOCATION	DRAWING NUMBER	VERSION
KMI	AA	10-502	H-26024	33.0
DATE 6/5/72	SCALE None			

BY	CHK'D	APPR'D	
JLO	ELC	JMR	SEE MICROFILM FOR PREVIOUS REV. SIGNATURES.

DRAWING CATEGORY: CRITICAL



NOTES

1. ALL VALVES AND LINE DESIGNATIONS ARE TO BE PRECEDED BY MPL NO. 2P65 UNLESS OTHERWISE NOTED, I.E. 2P65-F001 A&B.
2. ANY ADDITIONAL HIGH POINT VENTS AND LOW POINT DRAINS TO BE ADDED BY FIELD AS REQUIRED.
3. VALVES ON THIS DWG ARE NUMBERED FD001 THRU FD019 FOR DRAIN VALVES, FV001 THRU FV007 FOR VENT VALVES. SEE NOTE 2 ON H-26008.
4. ALL OUTDOOR PIPING MAY REQUIRE HEAT TRACING LATER.
5. ✱ SUPPLIED BY VENDOR.
6. WALL EXHAUSTERS 2P65-C003A & B SHALL BE FURNISHED BY PRE-ENGINEERED METAL BLDG. (BUTLER BLDG.) SUPPLIER (REF. SPEC. SS-2114-10).
7. SEE DWG. NO. H-27127 FOR ELECTRICAL UNIT HEATERS 2P65-B003 A&B.
8. FOR PURGE UNIT COPPER TUBING:
   - 1/2" TUBE SIZE HAS AN OD OF 5/8"
   - 1/8" TUBE SIZE HAS AN OD OF 1/4"
9. COPPER TUBING HAS VARIOUS WELDED FITTINGS REQUIRED FOR FIT.

19.0

REFERENCES:

REFERENCE	MPL NO.	SS. NO.
1. PRIMARY CONTAINMENT CHILLED WATER SYSTEM P&ID AND PFD SH. 1.	2P64-1010	H-26080
2. DEMINERALIZED WATER SYSTEM P&ID	2P21-1010	H-26047
3. REACTOR & RADWASTE BLDG. CHILLED WATER SYSTEM P&ID AND P.F.D. SH. 2	2P65-1010	H-26008
4. REACTOR BLDG. VENTILATION SYSTEM P&ID.	2T41-1010	H-26067
5. RADWASTE BLDG. VENTILATION SYSTEM P&ID.	2V41-1010	H-26090
6. REACTOR & RADWASTE BLDG. CHILLED WATER SYS. P & ID SH. 3		H-50563

LVN: F133
LVN: FV007
LVN: FD019
SEE NOTE 3

CRITICAL DOCUMENT

MPL No. 2P65-1010 | Ovy2000 | H26025

SOUTHERN COMPANY

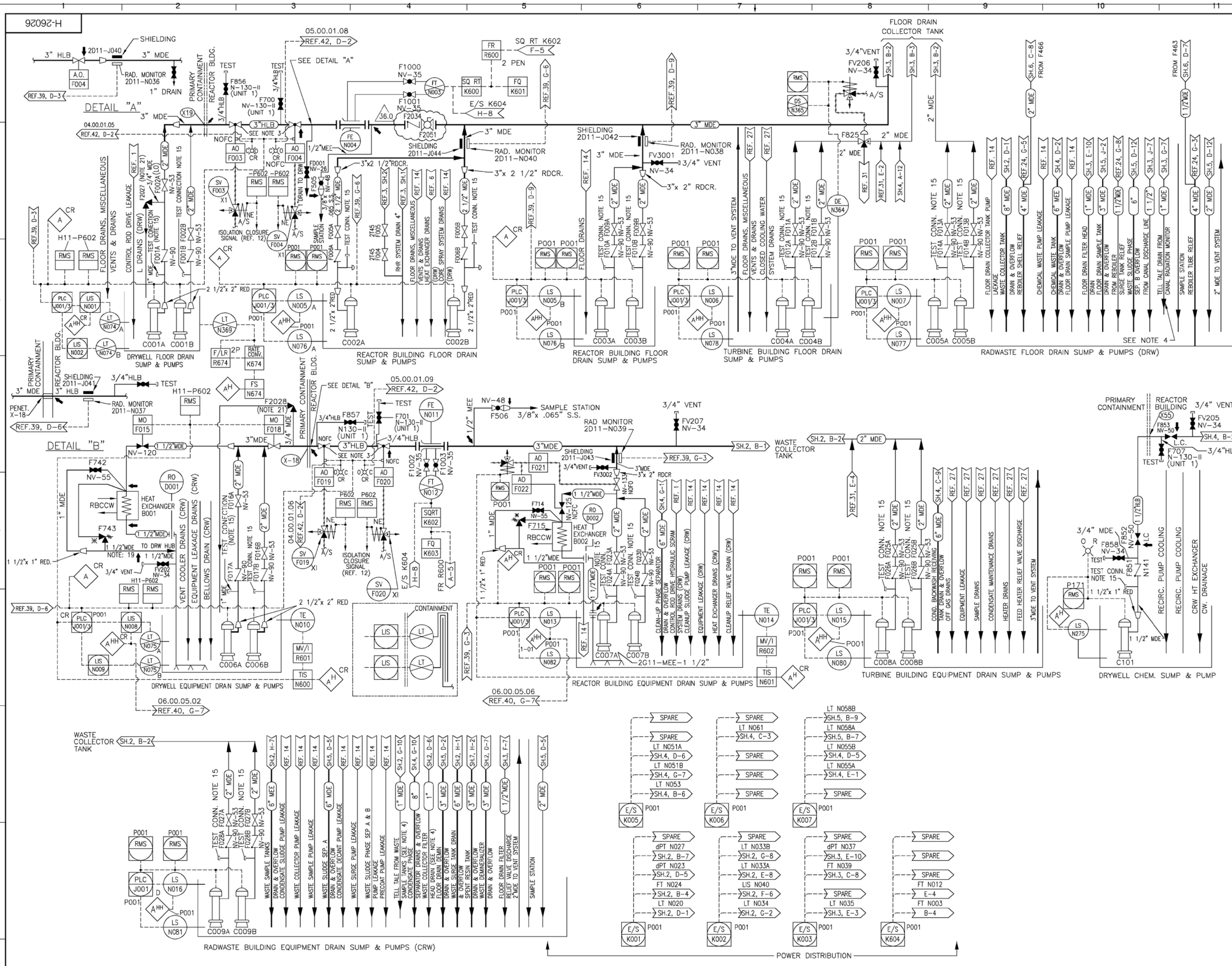
EDWIN I. HATCH NUCLEAR PLANT UNIT No. 2
REACTOR & RADWASTE BUILDING
CHILLED WATER SYSTEM
P & I.D. & P.F.D. SHEET 1

Version: 19.0	Date: 6-19-08
REVISED PER ABN-H00460, VERSION 2.0.	

BY	CHK'D	APPR.1	
TJS	MWD	PML	SEE MICROFILM FOR PREVIOUS REV. SIGNATURES.

DRAWN	DESIGNED	LOCATION	DRAWING NUMBER	VERSION
BWP	VCM	10-502	H-26025	19.0
DATE: 10-2-79	SCALE: None			

DRAWING CATEGORY: CRITICAL



NOTES :

1. ALL EQUIPMENT & INSTRUMENTS ARE PREFIXED BY SYSTEM NO. 2G11 UNLESS OTHERWISE NOTED.
2. VALVES F184 & F185 WILL CLOSE AUTOMATICALLY ON LOW DILUTION FLOW OR HIGH-HIGH RADIATION SIGNAL. IF EITHER SIGNAL EXISTS WHILE THE VALVES ARE CLOSED, THEY CANNOT BE OPENED.
3. ALL AIR OPERATED VALVES ARE FAIL CLOSED UNLESS SHOWN OTHERWISE.
4. INCOMING PIPING TO SUMPS SHALL TERMINATE BELOW LOW WATER LEVEL TO PROVIDE A WATER SEAL UNLESS OTHERWISE SHOWN. OFF GAS LINE DRAINS SHALL BE SEALED AS ABOVE OR WITH LOOP SEALS SUFFICIENT TO PREVENT OFF GASES FROM ENTERING SUMP.
5. ALL MOTOR AND SOLENOID OPERATED VALVES, CENTRIFUGES AND PUMPS SHALL BE PROVIDED WITH ONE SET OF STATUS INDICATING LIGHTS ADJACENT TO THE REMOTE MANUAL SWITCH. ADDITIONAL LIGHTS ARE NOTED.
6. INTERLOCK TO PREVENT OPENING BOTH VALVES AT THE SAME TIME.
7. USED DURING PRESTARTUP ONLY. TO BE REMOVED AFTER STARTUP.
8. EXCEPT AT POINTS OF CONNECTION WITH APED SUPPLIED EQUIPMENT, THE PIPING SUPPLIED SHALL BE RESIZED IF NECESSARY, DUE TO THE PIPING ARRANGEMENT TO COMPLY WITH THE APED SYSTEM PROCESS DIAGRAM AND SYSTEM DESIGN SPECIFICATION.
9. EQUIPMENT DRAINS & SEALS SHALL BE ROUTED TO EQUIPMENT DRAIN OR FLOOR DRAIN SYSTEM IN ACCORDANCE WITH DESIGN SPEC. FOR RADIOACTIVE DRAIN SYSTEM AND WILL NOT FLOW FREELY ACROSS THE FLOOR.
10. ONE SUMP PUMP WILL START AUTOMATICALLY ON HIGH LEVEL, THE SECOND PUMP WILL START AUTOMATICALLY ON HIGH-HIGH LEVEL AND BOTH WILL STOP AUTOMATICALLY ON LOW LEVEL.
11. FEED DILUTION ON HIGH TORQUE. FLUSH ON HIGH-HIGH TORQUE & HIGH HOPPER LEVEL.
12. OVERFLOW LINES FROM CLOSED TOP TANKS WILL HAVE A TWO FOOT WATER SEAL FILLED BY A CONDENSATE LINE OR WILL BE SUBMERGED IN THE COLLECTING SUMP TO PREVENT VENTING THROUGH THE OVERFLOW.
13. SINGLE ALARMS AND INDICATING LIGHTS ARE LOCATED IN THE RADWASTE CONTROL ROOM UNLESS OTHERWISE INDICATED.
14. FOR SAMPLING LINES SEE REF. 7.
15. TEST CONNECTIONS TO BE 3/4" SIZE.
16. DELETED
17. ANY ADDITIONAL HIGH POINT VENTS AND LOW POINT DRAINS TO BE ADDED BY FIELD AS REQUIRED.
18. VALVES ON THIS DWG. ARE NUMBERED: FD001 THRU FD020 FOR DRAIN VALVES
FV001 THRU FV020 FOR VENT VALVES
19. SPECIFICATION CHANGE AT TOP OF HUB TO AGREE WITH EMBEDDED PIPE.
20. 2G11/2G12 CONSTRUCTION CODE IS CHANGED FROM ASME SECTION III, CLASS 3 TO ANSI B31.1, EXCEPT FOR PORTIONS REQUIRED FOR CONTAINMENT ISOLATION AND EFFLUENT CONTROL (ISOLATION VALVES 2G11-F184 & F185).
21. VALVES 2G11-F2027 AND 2G11-F2028 ARE STAINLESS STEEL ASME III CLASS 3.
22. MATING FLANGES ON RELIEF VALVE ARE ISO#S.W.R.F., WITH CG STYLE FLEXITALLIC GASKET.

REFERENCES:		MPL NO	SSI NO
1. CONTROL ROD DRIVE HYDRAULIC SYSTEM P&ID	SHT. 1	2C11-1010	H-26006
	SHT. 2		H-26007
2. PROCESS RADIATION MON.-IED	SHT. 1	2D11-1010	H-26011
	SHT. 2		H-26012
3. RESIDUAL HEAT REMOVAL SYSTEM	SHT. 1	2E11-1010	H-26014
	SHT. 2		H-26015
4. RADWASTE SYSTEM FCD		2G11-1030	
5. REACTOR WATER CLEANUP SYS. P&ID	SHT. 1	2G31-1010	H-26036
	SHT. 2		H-26037
6. PRESSURE INTEGRITY SPECIFICATION		2A61-4030	S-25112
7. PLANT REQUIREMENTS		2A61-4020	
8. PIPING AND INSTRUMENT SYMBOLS		A42-1010	S-15051
9. RADWASTE SYSTEM P.D.		2G11-1020	S-25384
10. RADWASTE SYSTEM DES. SPEC.		2G11-4010	S-25126
11. CORE SPRAY SYSTEM P&ID		2E21-1010	H-26018
12. NUCLEAR BOILER SYSTEM FCD		2B21-1030	S-25154
13. FUEL POOL SYSTEM		2G41-1010	H-26039
14. REACTOR & RADWASTE DRAINAGE DIAGRAM		2T45-1010	H-26075
15. REACTOR & RADWASTE BLDGS. COND. STORAGE & TRANSFER SYS. DIAGRAM		2P11-1010	H-26046
16. REACTOR & RADWASTE & TURB. BLDGS. AUX. STEAM SYS. P&ID		2P61-1010	H-26063
17. CONDENSATE POLISHING DEMIN. SYS. P&ID		2N21-1010	H-21018
18. TURBINE BLDG. INSTR. AIR SYS. P&ID		2P52-1010	H-21077
19. RADWASTE BLDG. INSTR. AIR SYS. P&ID		2P52-1010	H-26059
20. TURBINE BLDG. SERVICE AIR SYS. P&ID		2P51-1010	H-21029
21. REACTOR & RADWASTE BLDG. SERVICE AIR SYS. P&ID		2P51-1020	H-26058
22. RADWASTE BUILDING-STEEL SUPPORTS FOR SHIELDED DETECTOR WELL-NEAT LINE AND REINF. FOR CONCRETE PADS AT EL. 103'-0"		2D11-J009	H-25705
23. DEMINERALIZED WATER SYS. P&ID		2P21-1010	H-26047
24. RADWASTE SYS. SUPPORT SYS. P&ID & PFD		2G11-1011	H-26035
25. SAMPLING SYS. P&ID & PFD		2P33-2010	H-26038
			H-21061
27. TURBINE BLDG. DRAINAGE DIAGRAM		2U45-1010	H-21062
28. WASTE GAS TREATMENT BLDG. SUPPORT SYS. P&ID		2N62-1015	H-26043
29. TURBINE BLDG. CONDENSATE & FEEDWATER SYS. P&ID		2N21-1010	H-21037
30. FUEL POOL FILTER/DEMIN SYS. P&ID		2G41-1010	H-26040
31. FLOOR AND EQUIPMENT DRAINS CONTROL BLDG. P&ID		2Z45-1010	H-21063
32. RADWASTE SOLIDIFICATION SYSTEM P&ID		2G12-1010	H-26033
33. TURBINE BLDG. CIRCULATING WATER SYSTEM		2N71-1010	H-21026
34. TURBINE BLDG. CONDENSATE & FEEDWATER P&ID SH. 1		2N21-1010	H-21037
		2P52-1010	
35. REACTOR BLDG. SOUTHSIDE INTERRUPTABLE INSTR. AIR P&ID SH. 1			H-26060
36. RADWASTE BLDG. FLOOR AND EQUIPMENT DRAINAGE DIAGRAM		2V45-1010	H-26092
37. REACTOR BLDG. CLOSED COOLING WATER SYS. P&ID		2P42-1010	H-26055
38. HOT MACHINE SHOP SUPPORT SYS. P&ID			H-26053
39. PROCESS RADIATION MONITORING SYS. I.E.D. SHT 4			H-26107
40. ANNUNCIATOR SIGNALS TO TSC, I.E.D.		2X75-1010	H-26159
41. DELETED			
42. DIGITAL INPUT SIGNALS TO THE SPDS/ERF COMPUTER SYSTEM I.E.D. SHEET 6 OF 15		2X75-P601	H-26175

THIS DWG. DEVELOPED FROM G.E. DWG. 791E240BA SHEET 1 REV. 3

CRITICAL DOCUMENT

MPL NO. 2G11-1010 ACAD07 H26026

SOUTHERN COMPANY

Version: 36.0 | Date: 6/28/13

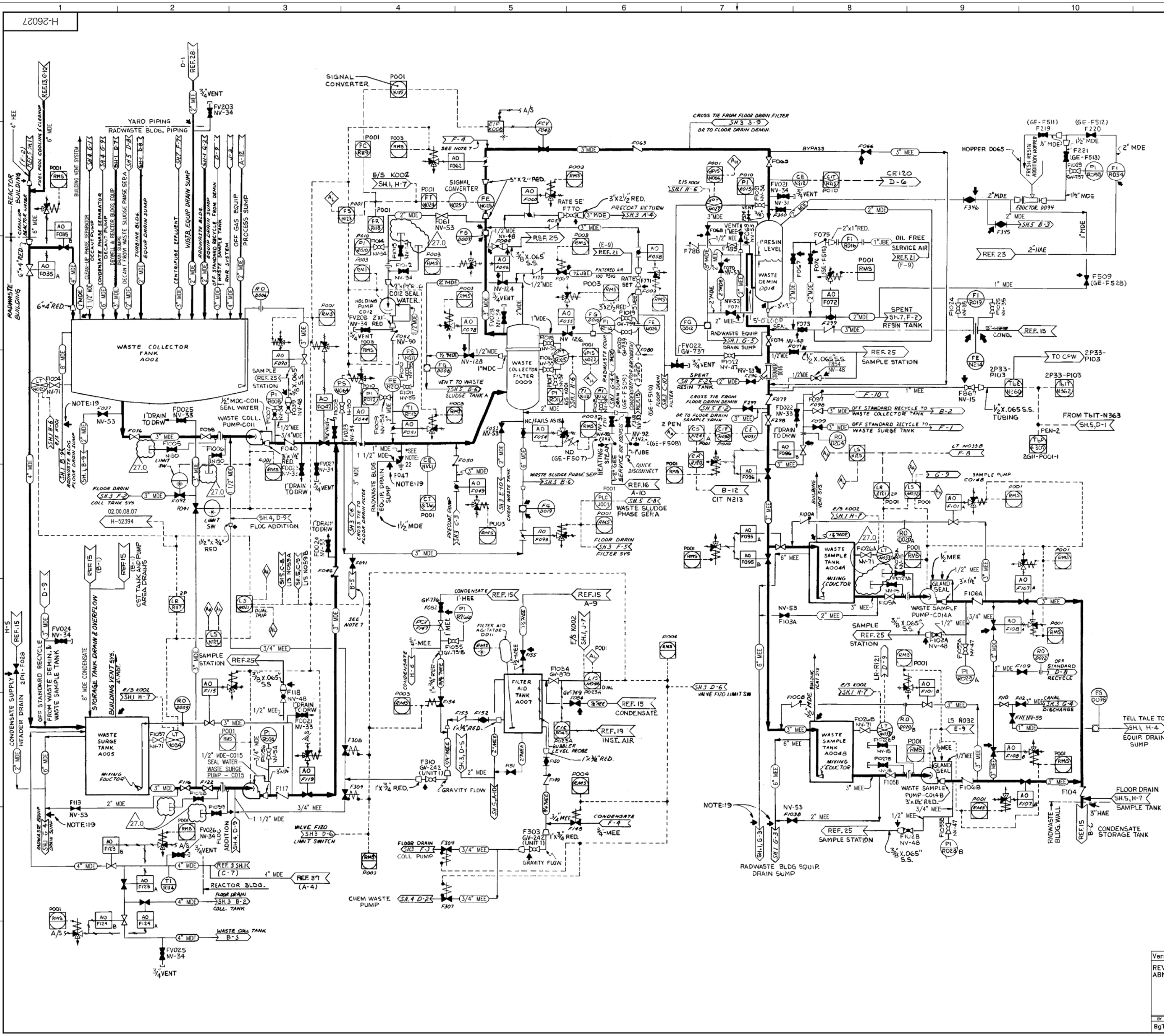
REVISED PER ABN 2100699501M002, VER. 2.0

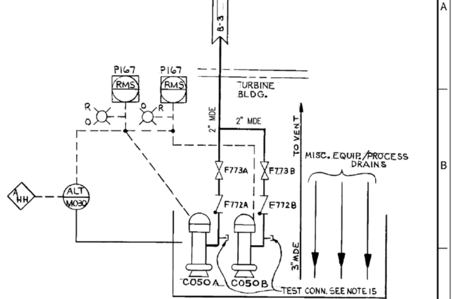
EDWIN I. HATCH NUCLEAR PLANT UNIT No. 2
RADWASTE SYSTEM P&ID
SHEET NO. 1

DRAWN	DESIGNED	LOCATION	DRAWING NUMBER	VERSION
RLG	JWP	10-502	H-26026	36.0
DATE 5/10/72	SCALE None			

BY JLO | CHKD CFC | APPR'L JMR | SEE MICROFILM FOR PREVIOUS REV. SIGNATURES.

DWG CATEGORY: CRITICAL

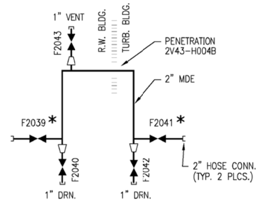




OFF-GAS EQUIP./PROCESS DRAIN SUMP & PUMPS

NOTES

1. VALVES ON THIS DWG. ARE NUMBERED FD021 THRU FD040 FOR DRAIN VALVES FV021 THRU FV040 FOR VENT VALVES



R.W. BLDG TO TURB. BLDG. CROSSTIE JUMPER DETAIL

* VALVES NORMALLY CLOSED, OPEN DURING R.W. CROSSTIE OPERATION

FOR NOTES AND REFERENCES, SEE DWG. H-26026

THIS DWG. DEVELOPED FROM G.E. DWG. S-25013

CRITICAL DOCUMENT

MPL # 2G11-1010

0VY2000 H26027

SOUTHERN COMPANY

Version: 27.0 Date: 12-19-13

REVISED PER ABN-H03468, VER.1.0

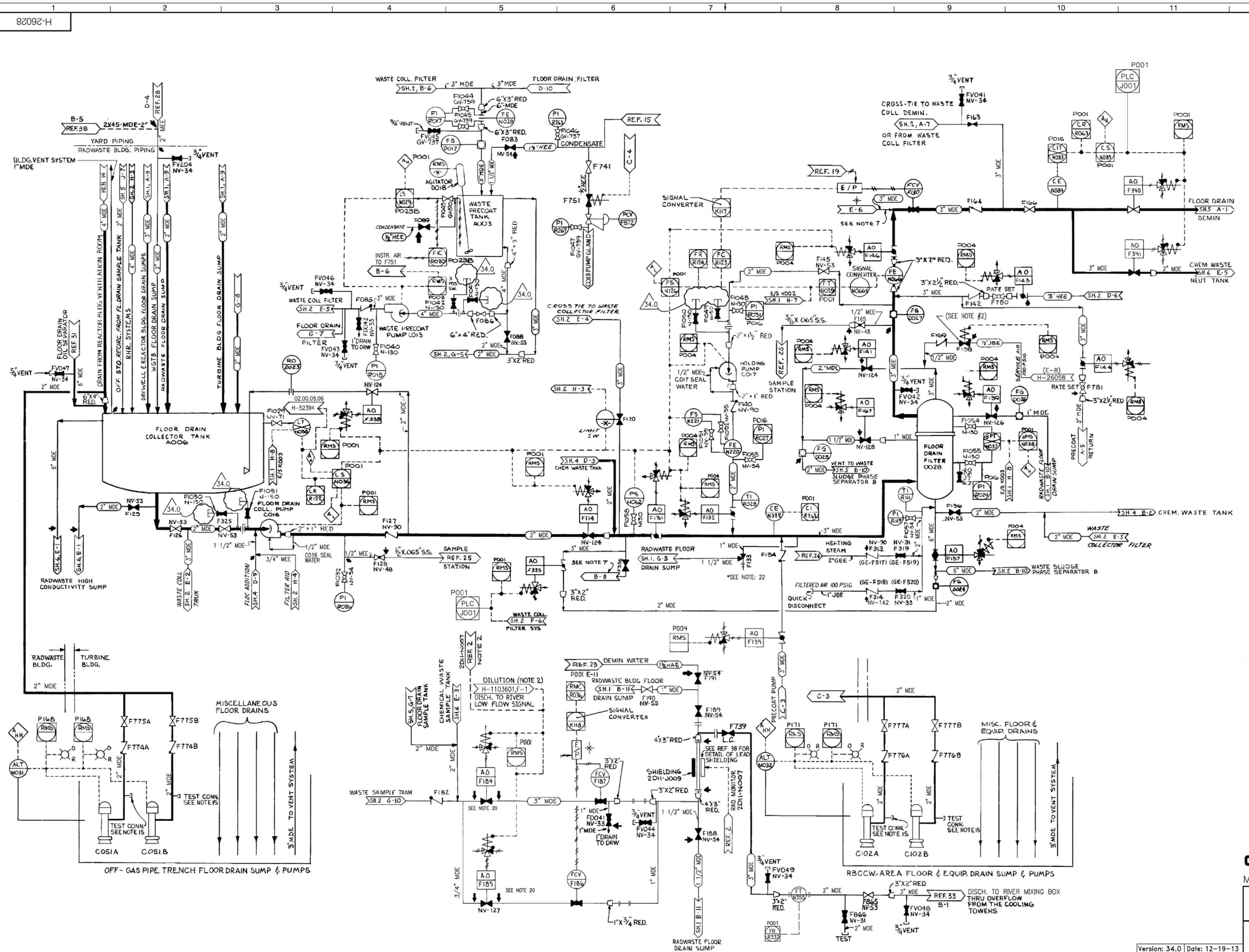
EDWIN I. HATCH NUCLEAR PLANT UNIT No. 2
RADWASTE SYSTEM P & I D
SHEET NO. 2

BY	CHK'D	APPR	SEE MICROFILM FOR PREVIOUS REV. SIGNATURES.
BgT	SRG	RKF	

DRAWN	DESIGNED	LOCATION	DRAWING NUMBER	VERSION
RLG	JWP	10-502	H-26027	27.0
DATE 3-9-72	SCALE None			

DRAWING CATEGORY: CRITICAL

H-26028



NOTES

1. VALVES ON THIS DWG. ARE NUMBERED FD041 THRU FD060 FOR DRAIN VALVES FV041 THRU FV060 FOR VENT VALVES
2. VALVE 2G11-F138 IS A S.S. VALVE WITH APPROXIMATELY 5" S.S. NIPPLES.

FOR NOTES AND REFERENCES, SEE DWG. H-26026

THIS DWG. DEVELOPED FROM G.E. DWG. S-25015

CRITICAL DOCUMENT

MPL NO. 2G11-1010 | 0VY2000 | H26028

SOUTHERN COMPANY

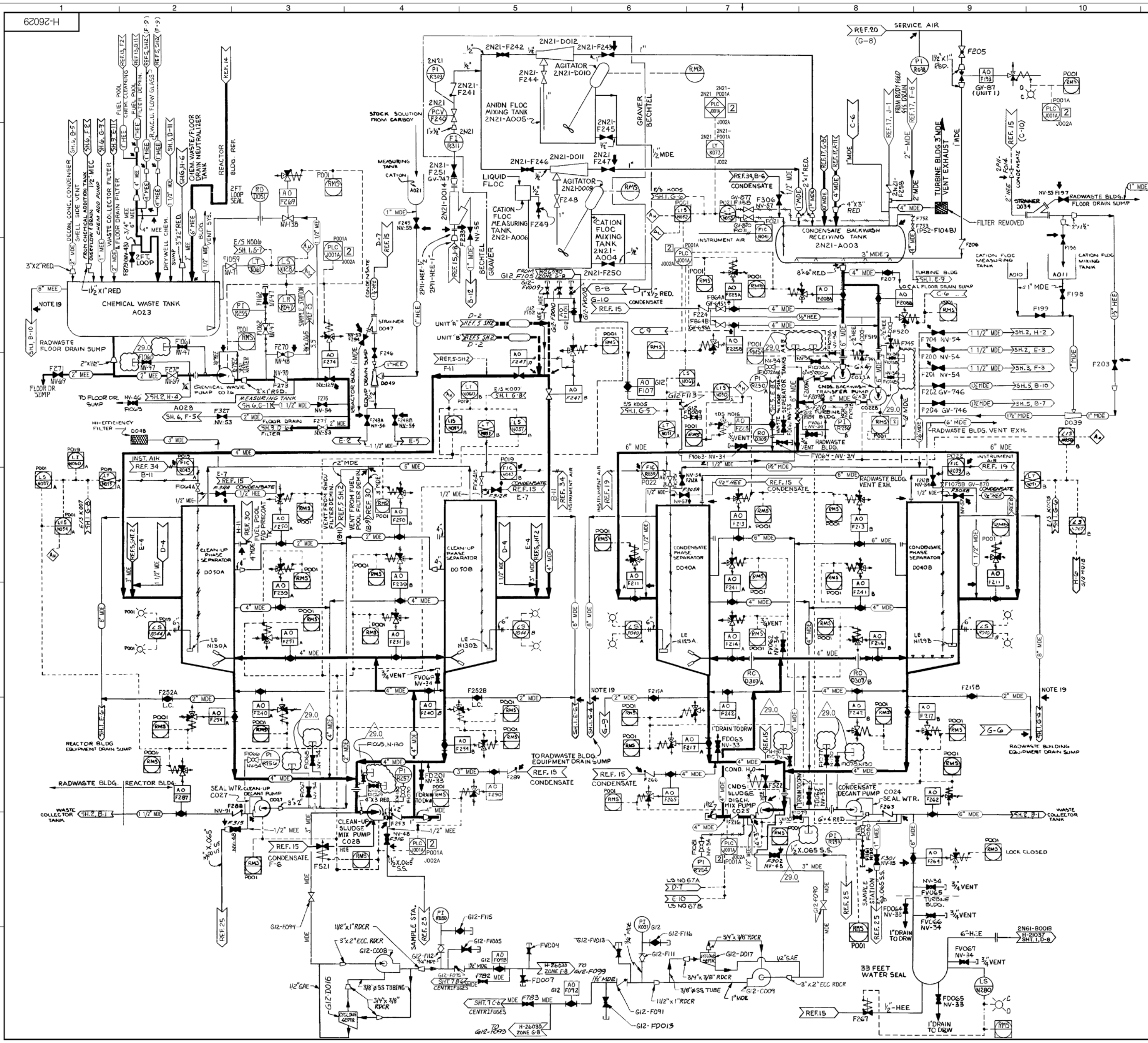
Version: 34.0 Date: 12-19-13

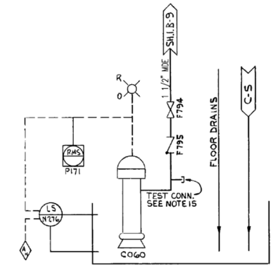
REVISED PER ABN-H03468, VER.1.0

EDWIN I. HATCH NUCLEAR PLANT UNIT No. 2
RADWASTE SYSTEM P & I D
SHEET NO. 3

BY	CHK'D	APPR'D		DRAWN	DESIGNED	LOCATION	DRAWING NUMBER	VERSION
BgT	SRG	RKF	SEE MICROFILM FOR PREVIOUS REV. SIGNATURES.	RLG	JWP	10-502	H-26028	34.0
				DATE 5-9-72	SCALE None			

DRAWING CATEGORY: CRITICAL





CONDENSATE BACKWASH RECEIVING TANK AREA SUMP & PUMP

NOTES

1. VALVES ON THIS DWG ARE NUMBERED FD061 THRU FD080 FOR DRAIN VALVES FV061 THRU FV080 FOR VENT VALVES
2. ONLY THE PLC IS SHOWN ON THIS DRAWING AS THE CONTROLLER. THE COMPUTERS (2N21-J001/2), MONITORS (2N21-J001B/2B) AND KEYBOARDS/MICE (2N21-J001C/2C) WHICH MAKE UP PART OF THE CONTROLLER (THEY ARE THE HMI) ARE NOT SHOWN FOR CLARITY.

FOR ADDITIONAL NOTES AND REFERENCES SEE DWG. H-26026

THIS DWG. DEVELOPED FROM G.E. DWG. S-25017

CRITICAL DOCUMENT

LVN FV068
LVN FV065

MPL No.2G11-1010 | 0VY2000 | H26029

SOUTHERN COMPANY

Version: 29.0 | Date: 12-19-13

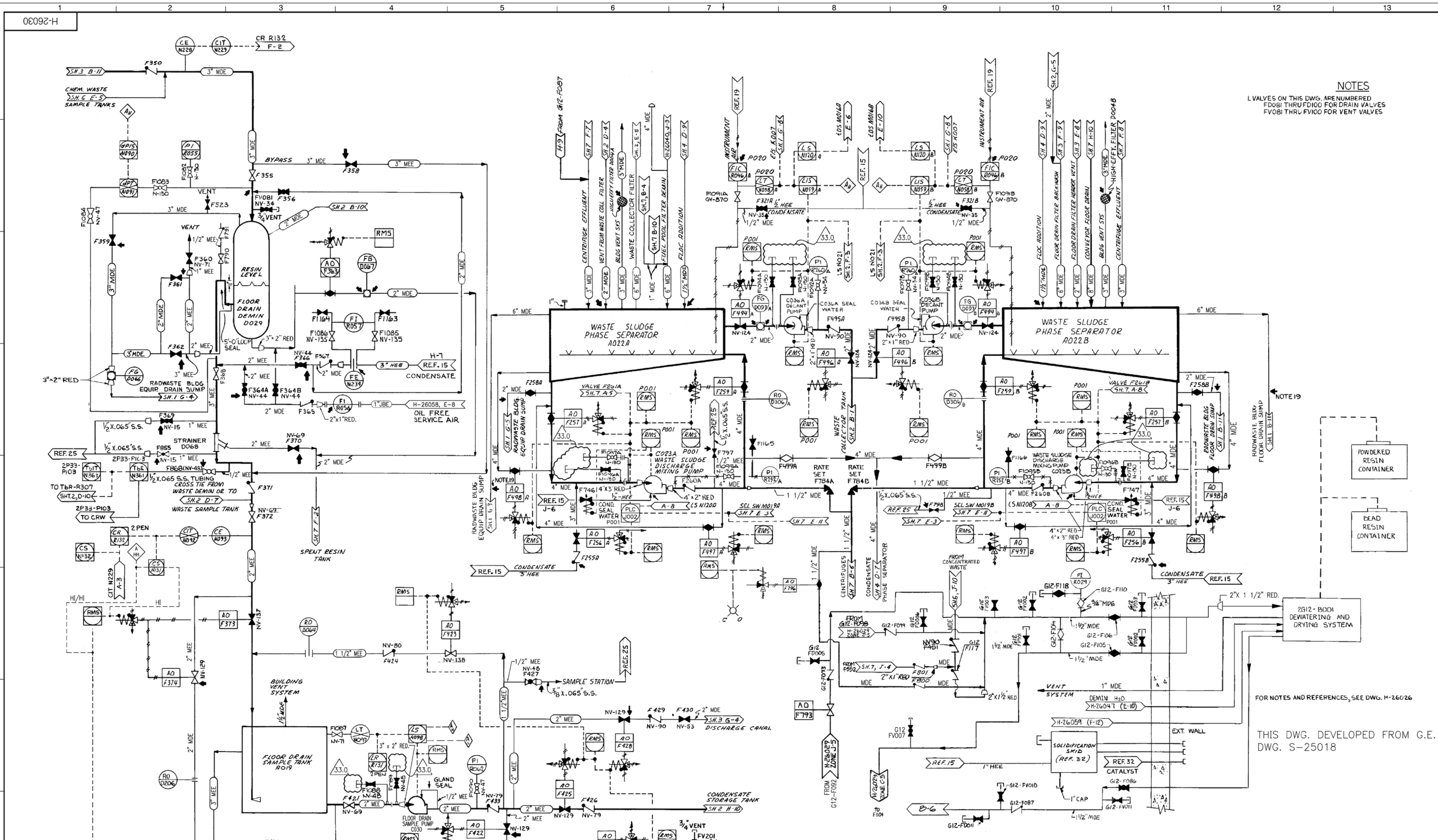
REVISED PER ABN ABN-H03468, VER.1.0

EDWIN I. HATCH NUCLEAR PLANT UNIT No. 2
RADWASTE SYSTEM P&ID
SHEET 4

BY	CHK'D	APPR'D	
BgT	SRG	RKF	SEE MICROFILM FOR PREVIOUS REV. SIGNATURES.

DRAWN	DESIGNED	LOCATION	DRAWING NUMBER	VERSION
RLG	JWP	10-502	H-26029	29.0
DATE: 5-9-72	SCALE: None			

DRAWING CATEGORY: CRITICAL



CRITICAL DOCUMENT

MPL No 2G11-1010

0VY2000 H26030

SOUTHERN COMPANY

Version: 33.0 Date: 12-19-13

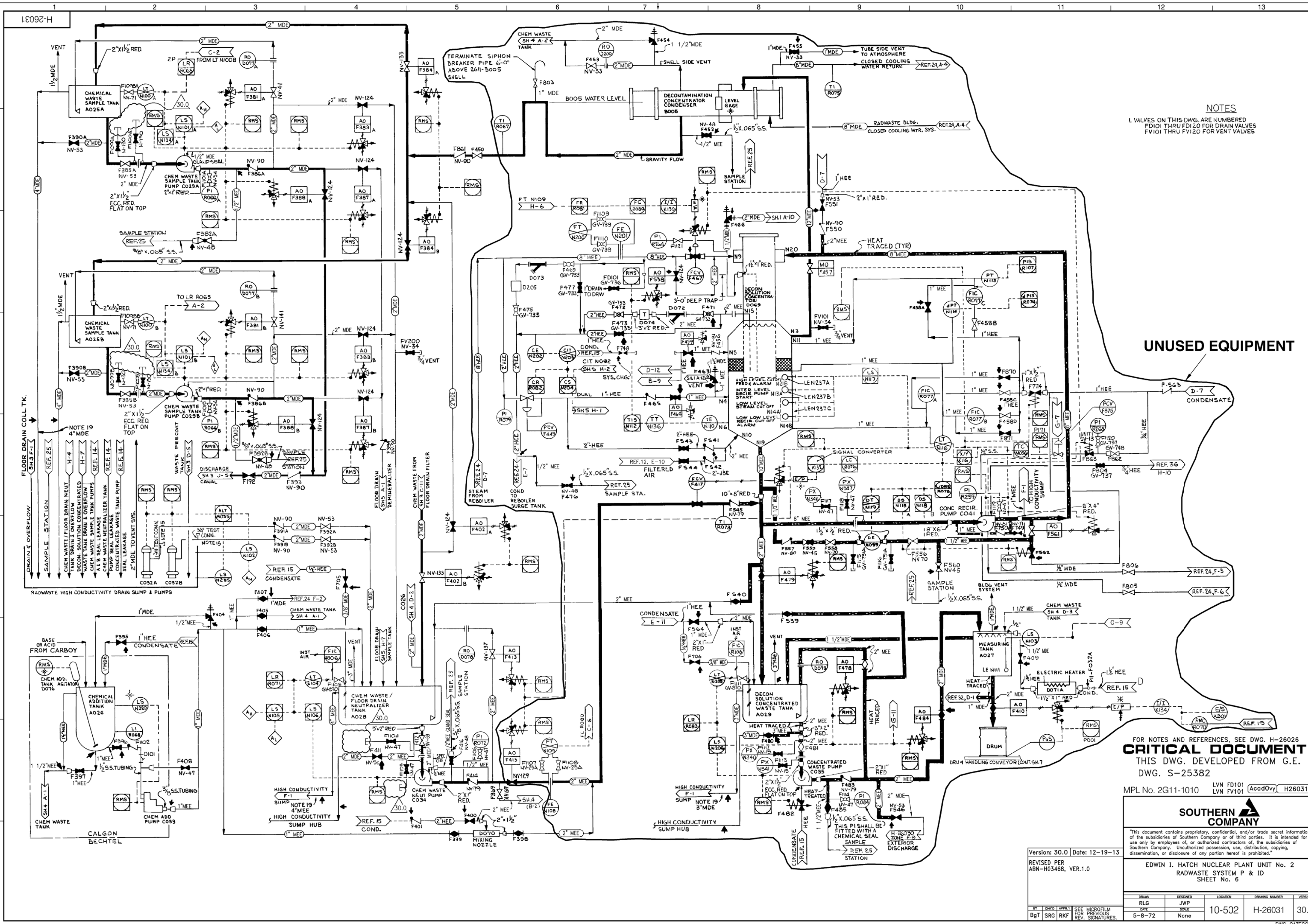
REVISED PER ABN-H03468, VER.1.0

EDWIN I. HATCH NUCLEAR PLANT UNIT No.2
RADWASTE SYSTEM P&ID
SHEET No 5

DRAWN	DESIGNED	LOCATION	DRAWING NUMBER	VERSION
RLG	JWP	10-502	H-26030	33.0
DATE 5-8-72	SCALE NONE			

BY	CHK'D	APPR'D	
BgT	SRG	RKF	SEE MICROFILM FOR PREVIOUS REV. SIGNATURES.

DRAWING CATEGORY: CRITICAL



NOTES

1. VALVES ON THIS DWG. ARE NUMBERED FD101 THRU FD120 FOR DRAIN VALVES FV101 THRU FV120 FOR VENT VALVES

FOR NOTES AND REFERENCES, SEE DWG. H-26026

CRITICAL DOCUMENT

THIS DWG. DEVELOPED FROM G.E. DWG. S-25382

MPL No. 2G11-1010 LVN FD101 LVN FV101 AcadOvy H26031

SOUTHERN COMPANY

Version: 30.0 | Date: 12-19-13

REVISED PER ABN-H03468, VER.1.0

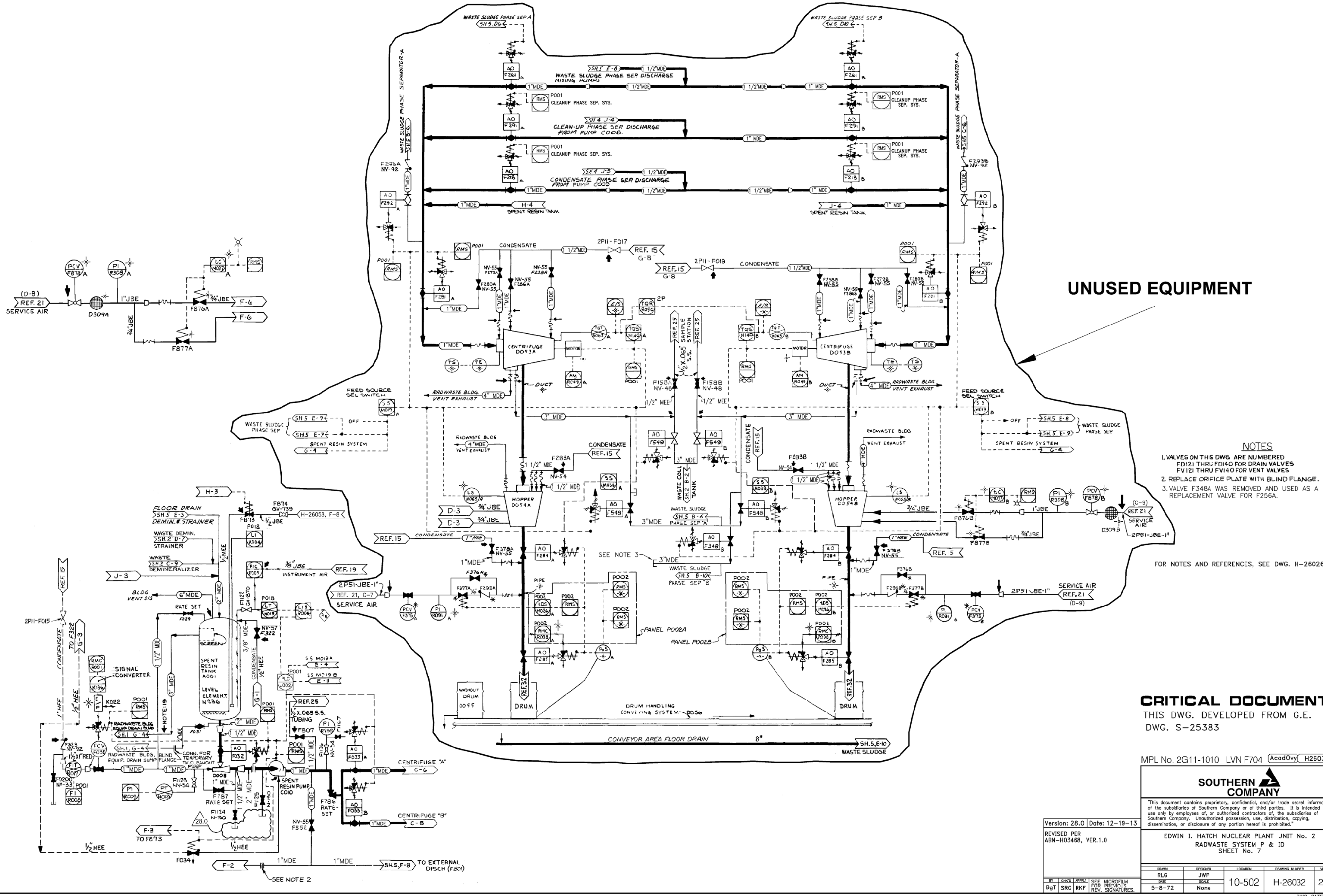
EDWIN I. HATCH NUCLEAR PLANT UNIT No. 2
RADWASTE SYSTEM P & ID
SHEET No. 6

DRAWN	DESIGNED	LOCATION	DRAWING NUMBER	VERSION
RLG	JWP	10-502	H-26031	30.0
DATE 5-8-72	SCALE None			

BY BgT | CHK'D SRG | APPR'D RKF | SEE MICROFILM FOR PREVIOUS REV. SIGNATURES.

DWG CATEGORY: CRITICAL

H-26032



NOTES

1. VALVES ON THIS DWG ARE NUMBERED
   FD121 THRU FD140 FOR DRAIN VALVES
   FV121 THRU FV140 FOR VENT VALVES
2. REPLACE ORIFICE PLATE WITH BLIND FLANGE.
3. VALVE F348A WAS REMOVED AND USED AS A REPLACEMENT VALVE FOR F256A.

FOR NOTES AND REFERENCES, SEE DWG. H-26026

CRITICAL DOCUMENT

THIS DWG. DEVELOPED FROM G.E. DWG. S-25383

MPL No. 2G11-1010 LVN F704 AcadOvy H26032

SOUTHERN COMPANY

Version: 28.0 Date: 12-19-13

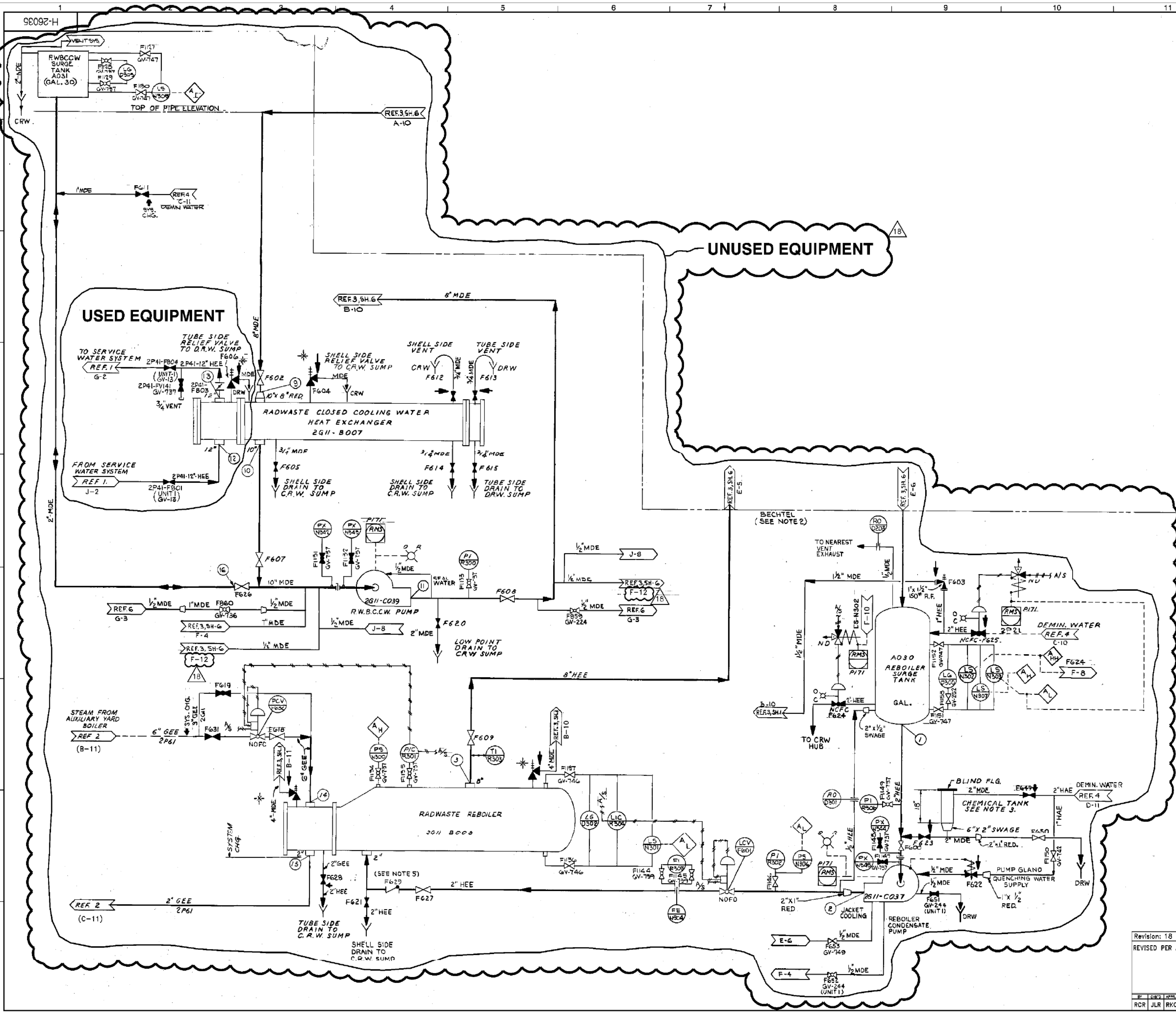
REVISED PER ABN-H03468, VER.1.0

BY	CHKD	APPR	
BgT	SRG	RKF	SEE MICROFILM FOR PREVIOUS REV. SIGNATURES.

EDWIN I. HATCH NUCLEAR PLANT UNIT No. 2
RADWASTE SYSTEM P & ID
SHEET No. 7

DRAWN	DESIGNED	LOCATION	DRAWING NUMBER	VERSION
RLG	JWP	10-502	H-26032	28.0
DATE 5-8-72	SCALE None			

DWG CATEGORY: CRITICAL



NOTES:

1. ALL EQUIP. & INSTR. NUMBERS ON THIS DWG. ARE PRECEDED BY MPL 2G11 UNLESS OTHERWISE NOTED. EXAMPLE 2G11-B005.
2. THE DIVISION OF RESPONSIBILITY LINE IS FOR SYS. DESIGN ONLY. ALL PIPING IS TO BE ROUTED BY BECHTEL.
3. CHEM. TANK TO BE PLACED IN HORIZONTAL RUN OF PIPE.
4. ANY ADDITIONAL HIGH POINT VENTS AND LOW POINT DRAINS TO BE ADDED BY FIELD AS REQUIRED.
5. VALVE TO BE PLACED AS CLOSE TO REBOILER SHELL AS POSSIBLE.
6. VALVES ON THIS DWG. ARE NUMBERED
   FD141 TO FD160 FOR DRAIN VALVES.
   FV141 TO FV160 FOR VENT VALVES.

REFERENCE	MPL. ITEM. NO.	S.S. DWG. NO.
1. SERVICE WATER SYS. P&I.D.	2P41-1010	H-21034
2. AUXILARY STEAM SYS. P&I.D.	2P61-1010	H-26063
3. RADWASTE SYS. P&I.D.	2G11-1010	H-26026-32
4. DEMIN. WATER SYS. P.&I.D.	2P21-1010	H-26047
5. PIPING AND INSTR. SYMBOLS	A42-1010	S-15051
6. SAMPLING SYS. P&ID AND PFD	2P33-2010	H-26039

	1	2	3					
FLOW #/HR	17,500	17,500	17,500					
PRESS. P.S.I.G.	40	125	70					
TEMP °F	287	287	316					

	9	10	11	12	13	14	15	16
FLOW #/HR	1,000,000	1,000,000	1,000,000	1,500,000	1,500,000	25,000	25,000	0
PRESS. P.S.I.G.	20	15	35	70	60	190	180	15
TEMP. °F	120	105	105	95	105	450	380	Amb.

CRITICAL DOCUMENT

MPL NO.
2G11-1011,LVN-FV142,LVN-650 ACADOVY H26035

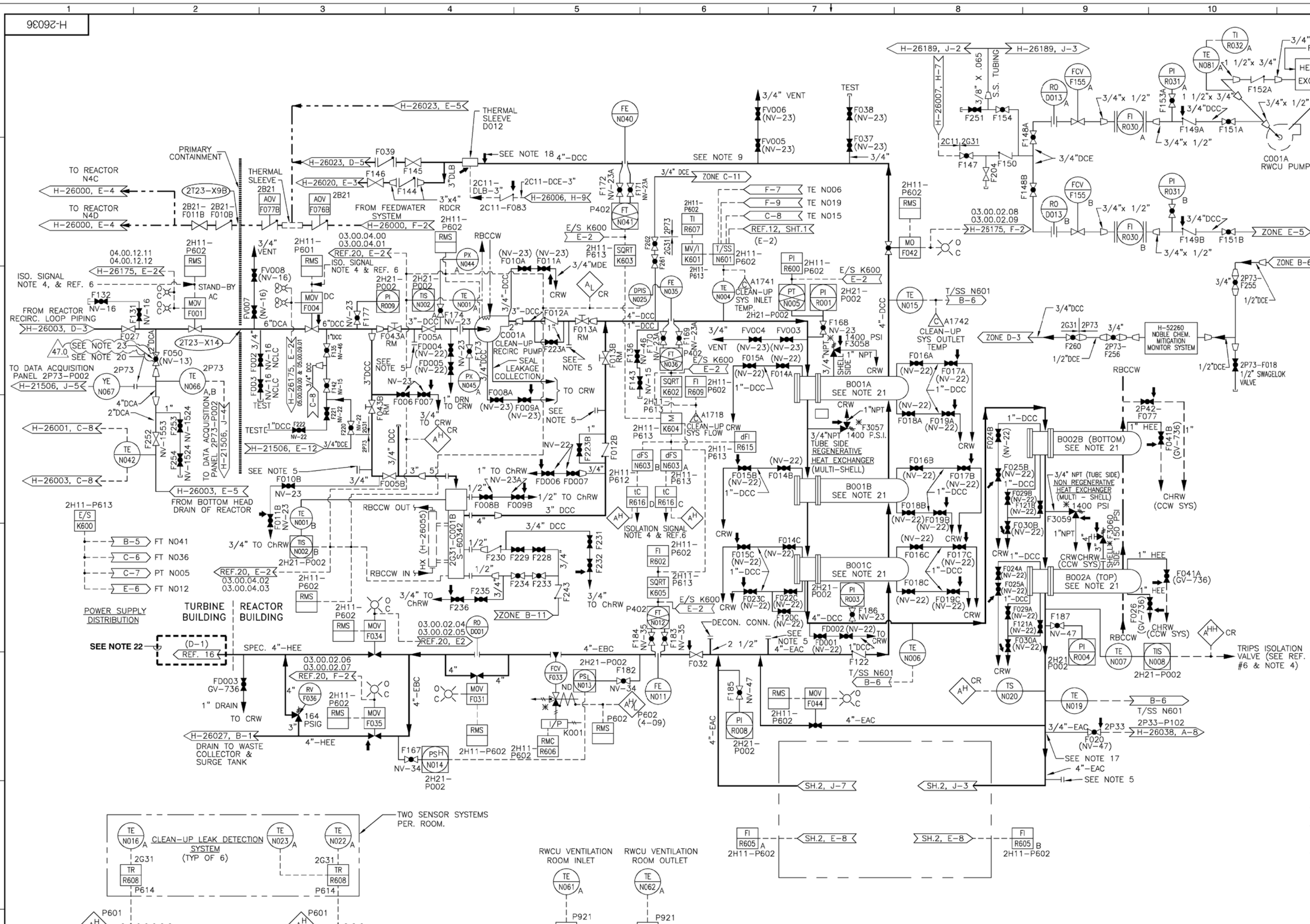
SOUTHERN COMPANY

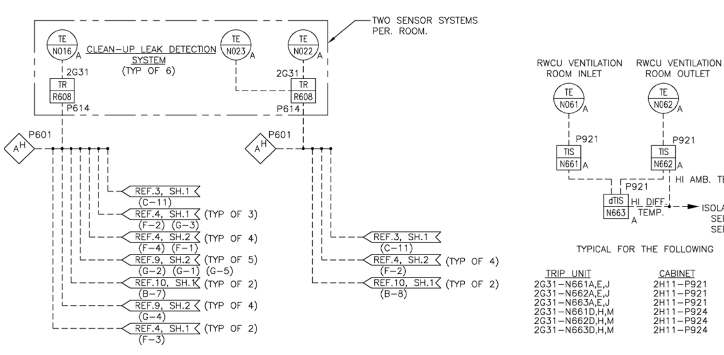
Revision: 18 Date: 7-30-02
REVISED PER ABN 02-0238.

EDWIN I. HATCH NUCLEAR PLANT UNIT No.2
RADWASTE BUILDING
SUPPORT SYSTEMS P&ID AND PFD

BY	CHK'D	APPR.	
RCR	JLR	RKC	SEE MICROFILM FOR PREVIOUS REV. SIGNATURES.

DRAWN	DESIGNED	LOCATION	DRAWING NUMBER	REVISION
KMJ	None	10-502	H-26035	18
DATE: 6-22-72	SCALE: None			





REFERENCES:

		MPL. NO	SSI NO
1. REACTOR WATER CLEANUP SYS PD		2G31-1030	S25285
2. PLANT REQUIREMENTS		2A61-4020	
3. NUCLEAR BOILER SYSTEM P&ID	SHT 1	2B21-1010	H-26000
	SHT 2		H-26001
4. RCIC SYSTEM P&ID	SHT 1	2E51-1010	H-26023
	SHT 2		H-26024
5. RADWASTE SYS P&ID	SHTS 1-7	2G11-1010	H-26026 - H-26032
6. REACTOR WATER CLEANUP SYSTEM FCD		2G31-1020	
7. PIPING & INSTRUMENT SYMBOLS		A42-1010	S-15051
8. PROCESS INSTRUMENT PIPING & TUBING INSTALLATION SPEC.		2A61-4070	S-25323
9. HPCI SYSTEM P&ID	SHT 1	2E41-1010	H-26020
	SHT 2		H-26021
10. RHR SYSTEM P&ID	SHT 1	2E11-1010	H-26014
	SHT 2		H-26015
11. PRESSURE INTEGRITY OF PIPING AND EQUIPMENT PRESSURE PARTS		2A61-4030	S-25112
12. REACTOR RECIRC SYSTEM P&ID	SHT 1	2B31-1010	H-26003
	SHT 2		H-26004
13. REACTOR WATER CLEANUP SYS DESIGN SPEC		2G31-4010	S-25161
14. LIQUID SAMPLING SYS.		2P33-2010	H-26038
15. COND. STOR & TRANS. SYS.		2P11-1010	H-26046
16. MSR & HTR VENTS & SHELL DRAINS		2N22-1010	
17. FUEL POOL COOLING SYS.		2G41-1010	H-26040
18. SERVICE AIR SYS. P&ID		2P51-1010	H-26058
19. CONTROL ROD DRIVE SYS. P&ID	SH. 1	2C11-1010	H-26006
	SH. 2		H-26007
20. DIGITAL INPUT SIGNALS TO THE SPDS/ERF COMPUTER SYS. I.E.D. SHT 6 OF 15		2X75-1010	H-26175
21. P&ID - H.W.C. SYSTEM - ELECTRO CHEMICAL POTENTIAL SYSTEM		2P73	H-21506
22. SPDS/ERF I/O LIST			H-52395

NOTES:

1. ALL EQUIPMENT AND INSTRUMENTS ARE PRECEDED BY MPL. NO. 2G31 UNLESS OTHERWISE NOTED.
2. WHERE GV-NUMBERS ARE SHOWN, THE VALVES ARE TAGGED WITH THESE NUMBERS; WHERE GV-NUMBERS ARE NOT SHOWN, THE VALVES ARE TAGGED WITH THE MPL NUMBER.
3. VENT, DRAIN & RELIEF VALVE DISCHARGE SYSTEMS, DRAIN TO CRW, CHRW WHERE APPLICABLE.
4. MOTOR OPER. ISOLATION VALVES CLOSE ON ANY OF THE FOLLOWING SIGNALS.
   (A) HIGH TEMP FOLLOWING NON REG HEAT EXCHANGER (ONLY F004)
   (B) STANDBY LIQUID CONTROL-SYS. ACTUATION (ONLY F004)
   (C) LOW REACTOR WATER LEVEL
   (D) HIGH Δ TEMP-LEAK DETECTION
   (E) HIGH Δ FLOW-LEAK DETECTION
   (F) HIGH AMBIENT TEMP - LEAK DETECTION
5. CHEMICAL CLEANING AND DECONTAMINATION CONNECTIONS SHALL BE PROVIDED TO GIVE OPTIMUM DECONTAMINATION. CONNECTIONS SHALL BE ARRANGED TO PROVIDE DECONTAMINATION OF ONE PIECE OF EQUIPMENT SEPARATELY FROM ALL OTHER EQUIPMENT. (I.E. FILTER-DEMINERALIZER VALVE MANIFOLD, SEPARATELY FROM THE FILTER-DEMINERALIZER, HEAT EXCHANGER ETC.)
6. NON-REGENERATIVE HEAT EXCHANGER SHELL VALVES & PIPING DESIGNED TO RBCCW SYSTEM CONDITIONS.
7. ANY ADDITIONAL HIGH POINT VENTS AND LOW POINT DRAINS TO BE ADDED BY FIELD AS REQUIRED.
8. TEMPORARY STRAINER SCREENS SHALL BE PROVIDED ON THE SUCTION SIDE OF ALL PUMPS IN ACCORDANCE WITH REFERENCE 2, SECTION 9-UNLESS OTHERWISE SPECIFIED.
9. PIPING TO BE DESIGNED FOR SAME PRESSURE & TEMP AS MAIN FEED PIPING.
10. FOR LOCATION AND IDENTIFICATION OF INSTRUMENTS, SEE INSTRUMENT DATA SHEET LISTED IN MPL FOR EACH INSTRUMENT.
11. WHERE TWO VALVES ARE INDICATED IN A DOUBLE BLOCK ARRANGEMENT ON VENTS AND DRAINS, BOTH VALVES SHALL BE THE SAME RATING AND COMPATIBLE WITH UPSTREAM SYSTEM SERVICE SPECIFICATIONS.
12. AIR OPERATED VALVES SHOWN IN FILTERING PROCESS STATUS, ARE FAIL CLOSE ON LOSS OF AIR PRESSURE TO VALVE OPERATOR OR LOSS OF ELECTRICAL POWER TO THE VALVE PILOT.
13. USE NORMAL AC POWER FOR ELECTRICAL DEVICES AND ELECTRIC POWERED VALVES UNLESS OTHERWISE NOTED.
14. FOR CONDUCTIVITY RECORDERS 2G31-CRS-R601, 2G31-CRS-R603, SEE P&ID DWG. H-26038.
15. VALVES ON THIS DWG ARE NUMBERED FD001 THRU FD020 FOR DRAIN VALVES FV001 THRU FV020 FOR VENT VALVES
16. PROVIDE REMOVABLE SUB-ASSEMBLY WITH THE PRESENT 1" VALVES F092, F093. THE 1" SUB-ASSEMBLY TO BE REPLACED WITH A 3" FOLLOWING DELIVERY OF 3" VALVES F092, F093.
17. SEE I.I.D A-26412-263 FOR SAMPLE PROBE DETAIL AND INSTALLATION.
18. PROVIDE TRANSITION BETWEEN CLASS DLB & DCC
19. ✳ REFERS TO VENDOR SUPPLIED MATERIAL.
20. IF SUPERBOLTS ARE TO BE USED, TORQUE BOLTING PER VENDOR MANUAL S-55936.
21. MULTI STAGE HEAT EXCHANGERS ARE A VENDOR SUPPLIED SKID. PIPING MAY NOT MATCH PIPE SPEC DESIGNATOR.

NOTES: (continued)

22. IN SUPPORT OF AST (10CFR50.67), THE HIGHLIGHTED EQUIPMENT, PIPING, AND ASSOCIATED SUPPORTS HAVE BEEN VERIFIED AS SEISMICALLY ADEQUATE FOR THE HATCH U2 1/2 SME EARTHQUAKE TO THE EXTENT REQUIRED TO PERFORM THEIR REQUIRED SAFETY FUNCTION. FUTURE REPAIRS OR MODIFICATIONS SHOULD BE PERFORMED IN A MANNER THAT MAINTAINS THIS SEISMIC QUALIFICATION. REFERENCE ENCLOSURE 10 OF NL-06-1637.
23. IT IS ACCEPTABLE TO INSTALL 2G31F050 BACKWARDS OR FORWARDS PER SX19833 SECTION III.3 AND CAR255058.

47.0

CRITICAL DOCUMENT

MPL NO. 2G31-1010

ACAD2000 H26036

SOUTHERN COMPANY

Version: 47.0 | Date: 7/27/15

REVISED PER ADC SNC684448W002 VER. 1.0

EDWIN I. HATCH NUCLEAR PLANT UNIT No. 2
REACTOR WATER CLEAN-UP SYSTEM
P&ID, SHEET 1

BY	CHK'D	APPR.	DRAWN	DESIGNED	LOCATION	DRAWING NUMBER	VERSION
JCP	JJF	JTL	GSN	EJR	10-502	H-26036	47.0
			DATE: 5/16/72	SCALE: None			

DRAWING CATEGORY: CRITICAL