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R. J. Kelly
Vice President and General Manager
Power Generation



December 31, 1979

Director of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

NRC DOCKETS 50-321,50-366
OPERATING LICENSES DPR-57, NPF-5
EDWIN I. HATCH NUCLEAR PLANT UNITS 1,2
IMPLEMENTATION OF NUREG-0578 REQUIREMENTS

Gentlemen:

Georgia Power Company's proposed actions for compliance with the requirements of NUREG-0578, as supplemented by the subsequent NRC correspondence of October 30, 1979, were described in our letters of October 19, November 21, December 20, and December 28, 1979. The commitments of those letters scheduled for completion in 1979 have been met. Further information is provided in the attachments to this letter in the cases of the three items listed below:

- 2.1.4 Attachment 1 gives a list of essential and non-essential systems with clarifications. Unit 1 modifications are underway and will be completed prior to its return to power operations. Unit 2 modifications are pending arrival of necessary hardware which is expected shortly.
- 2.1.6A Attachment 2 gives a description of the Leak Reduction Prevention Maintenance Program at Plant Hatch, along with the leak rates measured from the following systems: Unit 1 - Core Spray, RHR, and CRD; Unit 2 - HPCI, RHR, Core Spray, Jockey Pump, and CRD. The remainder of the systems will be completed per the schedule given in Attachment 2. Maintenance Requests have been issued to repair excessive leakage found in the course of the leakage measurement as part of the Immediate Leak Reduction Program.
- 2.1.6B The results of the shielding design review indicate some possible problem areas. The areas and proposed possible solutions are summarized in Attachment 3. No interim modifications are required. Complete evaluation and plant modifications are

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intended to be completed by January 1, 1981, in accordance
with the October 30, 1979, letter of the NRC.

If further clarification is required, please contact this office.

Yours very truly,

R. J. Kelly

Attachments

WEB/f1

xc: R. A. Thomas
G. F. Trowbridge, Esquire
R. A. Rogers, III

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Y63

Bechtel Power Corporation

Engineers—Constructors

15740 Shady Grove Road
Gaithersburg, Maryland 20760
301-948-2700



ATTACHMENT 1

November 12, 1979

Mr. J. R. Jordan
Georgia Power Company
P. O. Box 4545
Atlanta, Georgia 30302

Dear Mr. Jordan:

E. I. Hatch Nuclear Plant, Units 1 & 2
Bechtel Job 6511-013/033
Essential and Nonessential Penetrations
(NUREG 0578 Task 2.1.4)
File: A-29.3/A-60.31/B-GP-6420

We have concluded our review of containment penetrations as required by the subject task. A complete listing of penetrations and applicable PDCR's is attached.

As a result of our review, the containment isolation provisions have been found to be in accordance with SRP 6.2.4, where applicable. Some of the penetrations do not receive isolation signals post-accident for various reasons, and review of the logic for non-isolation resulted in no design changes recommended.

Processing of the PDCR's and scheduling the implementation of the design changes is not a part of this letter transmittal.

If there are any questions, please advise.

Very truly yours,

R. A. Glasby
Project Engineer

RAG:MSD:WJP:lf
Enclosure

cc: V. C. Valekis, w/o encl.
W. A. Widner, w/encl.
M. Manry, w/encl.
M. C. Brickell, w/encl.
O. Batum, w/encl.
D. M. Grove, w/encl.
H. W. Major, w/encl.

90009007

PENETRATION NUMBER	SYSTEM/SERVICE	NON-ESSENTIAL	ESSENTIAL	ISOLATION POS.	SHORT TERM POS.	LONG TERM POS.	NORMAL OP POS.	REMARKS	APPLICABLE PDCR B2E -
7A	MAIN STEAM A	✓		C	C	C	O	C = CLOSED O = OPEN	
7B	MAIN STEAM B	✓		C	C	C	O		
7C	MAIN STEAM C	✓		C	C	C	O		
7D	MAIN STEAM D	✓		C	C	C	O		
8	MAIN STEAM COND. DRAIN	✓		C	C	C	O		
9A	RFW B & HPCI		✓	C*	O*	O*	O	+ SEE NOTE 1	
9B	RFW A, RCIC & RWCU	✓		C*	O*	C*	O	+ SEE NOTE 2	
10	STEAM FOR RCIC TURBINE	✓		O*	O*	C	O	+ SEE NOTE 3	
11	STEAM FOR HPCI TURBINE		✓	O*	O*	C	O	+ SEE NOTE 4	
12	RHR S/C COOLING SUCT.		✓	C	C	C*	C	+ SEE NOTE 5	
13A	LPCI INJECTION A		✓	O*	O*	O*	C	+ SEE NOTE 6	
13B	LPCI INJECTION B		✓	O*	O*	O*	C	+ SEE NOTE 6	
14	REACTOR WATER CLEANUP	✓		C	C	C	O		
15A	CORE SPRAY A		✓	O*	O*	O*	C	+ SEE NOTE 6	
15B	CORE SPRAY B		✓	O*	O*	O*	C	+ SEE NOTE 6	
17	RPV HEAD SPRAY	✓		C	C	C*	C	+ SEE NOTE 7	
18	EQUIPM'T DRAIN SUMP DISCH	✓		C	C	C	C*	+ SEE NOTE 8	100
19	FLOOR DRAIN SUMP DISCH	✓		C	C	C	C*	+ SEE NOTE 8	100
20	DRYWELL COOLING SERVICE WTR	✓		AI	AI	AI	O	AI = AS IS THIS IS A CLOSED	
44	DRYWELL COOLING SERVICE WTR	✓		AI	AI	AI	O	SYSTEM INSIDE CONTAINM'T.	
21	DRYWELL SERVICE AIR	✓		C	C	C	C	LC MANUAL VALVES	
22	DRYWELL PNEUMATIC SYSTEM	✓		O*	O*	O*	O	+ SEE NOTE 9	
23	RB CLOSED COOLING WATER	✓		AI	AI	AI	O	THIS IS A CLOSED SYSTEM	
24	RB CLOSED COOLING WATER	✓		AI	AI	AI	O	INSIDE CONTAINMENT	
25	CONTAINMENT PURGE AIR SUPPLY	✓		C	C	C	C		100
	CONTAINMENT INERTING N ₂ SUPPLY	✓		C	C	C	C		100
	POST-ACCIDENT H ₂ CONTROL N ₂ SUPPLY	✓		AI	C	O*	C	+ SEE NOTE 10	
	NORMAL N ₂ MAKEUP SUPPLY	✓		C	C	C	C*	+ SEE NOTE 11	100
26	CONTAINMENT PURGE AIR EXHAUST	✓		C	C	C	C		100
	CONTAINMENT H ₂ CONTROL VENT		✓	AI	C	O*	C	+ SEE NOTE 12	
	NORMAL CONTAINMENT VENT	✓		C	C	C	C*	+ SEE NOTE 13	100
	H ₂ & O ₂ ANALYZER SAMPLE		✓	C	C	C	O		
28A	REACTOR COOLANT SAMPLE	✓		C	C	C	C	MAY BE OPENED FOR SAMPLE PA	100
28F	H ₂ & O ₂ ANALYZER SAMPLE		✓	C	C	C	O		
31D	H ₂ & O ₂ ANALYZER SAMPLE		✓	C	C	C	O		
35A	TRAVERSING INCORE PROBE	✓		C*	C*	O	O	+ TIP WITHDRAWN, VALVE(S) CLOSED	

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PENETRATION NUMBER	SYSTEM/SERVICE	NON-ESSENTIAL	ESSENTIAL	ISOLATION POS.	SHORT TERM POS.	LONG TERM POS.	NORMAL OP POS.	REMARKS	APPLICABLE FOR R.E.E.
35B	TRAVERSING INCORE PROBE	✓		C ⁺	C ⁺	O	O	+ SEE REMARKS PEN. # 35A	
35C									
35D									
35E	TIP GUIDE TUBE N ₂ PURGE	✓		O	O	O	O	OPERATES W/TIP LOGIC	
39A	DRYWELL CONTAINMENT SPRAY	✓		C	C	C	C	OPERABLE AFTER PERM. & RESET	
39B	DRYWELL CONTAINMENT SPRAY	✓		C	C	C	C	SEE NOTE 14	
40CF	DRYWELL PNEUMATIC COMP. S.	✓		C	C	C	O		100
42	STANDBY LIQUID CONTROL	✓		AI	AI	AI	AI	SIMPLE CHECK VALVES	
43 F	INT. LK RATE TEST-VERIF. FLOW	✓		C	C	C	C	L.C. MANUAL VALVES	
46	DEMINERALIZED WATER SRVCE	✓		C	C	C	C	L.C. MANUAL VALVES	
59A	REACTOR RECIRC PUMP SEAL B	✓		AI	AI	AI	AI	SIMPLE CHECK VALVES - WTR FOR SEAL FLUSH FROM CRDHS	
31 F	REACTOR RECIRC PUMP SEAL A	✓		AI	AI	AI	AI		
203	RCIC PUMP SUCTION	✓		AI	C	C	C	NORMAL SUCTION FROM CST.	
204 A	LPCI PUMP SUCTION A		✓	O	O	O	O		
204 B	B								
204 C	C								
204 D	D								
205	SUPP CHAMBER VACUUM PROTEC.	✓		C	C	C	C	OPERATES ON NEG P IN TORUS	
	SUPP CHAMBER AIR PURGE IN	✓		C	C	C	C		100
	SUPP CHAMBER NORM. N ₂ MAKEUP	✓		C	C	C	C ⁺	+ SEE NOTE 11	100
	SUPP CHMBE N ₂ PURGE for H ₂ CONTRL	✓		AI	C	O ⁺	C	+ SEE NOTE 10	
207	HPCI PUMP SUCTION	✓		AI	C	C	C	NORMAL SUCTION FROM CST	
208A	CORE SPRAY PUMP SUCT. A		✓	AI	O	O	O		
208B	B		✓	AI	O	O	O		
211A	SUPP CHMBR CONTAINMENT SPRAY	✓		C	C	C	C	OPERABLE AFTER PERM. & RESET	
211B		✓		C	C	C	C	SEE NOTE 14	
212	RCIC TURBINE EXHAUST	✓		+	+	+	+		
213	RCIC VACUUM PUMP DISCH	✓						SEE NOTE 15	
221C	RCIC TURB. EXH. VAC PROT.	✓							
210A	RHR/LPCI FULL FLOW TEST	✓		C	C	C	C		
	CS SYSTEM FULL FLOW TEST	✓		C	C	C	C		
	RHR/LPCI MIN FLOW	✓		AI	+	+	O	+ OPERATES WITH LPCI LOGIC	
	CS MIN FLOW	✓		AI	+	+	O	+ OPERATES WITH CS LOGIC	
	RHR/LPCI RV DISCHARGES	✓		+	+	+	+	+ RV'S OPERATE ON OVERPRESSURE	
	RCIC MIN FLOW	✓		AI	C	C	C	OPERATES WITH RCIC LOGIC	
	RHR H/X STM COND RUNDOWN	✓		C	C	C	C		

PENETRATION NUMERICAL	SYSTEM/SERVICE	NON-ESSENTIAL ESSENTIAL	ISOLATION POS.	SHORT TERM POS.	LONG TERM POS.	NORMAL OP POS.	PLANT HNP UNIT <u>1</u>	REMARKS	APPLICABLE HDCR BCE

210B	— LINE PENETRATIONS FOR 210A DUPLICATED EXCEPT RCIC MIN FLOW — ADDITIONAL SERVICES ARE:								
	HPCI MIN FLOW	✓	C	C	C	C	OPERATES WITH HPCI LOGIC		
	R. BLDG SUMP TO TORUS DISCH.	✓	C	C	C	C	L.C. MANUAL		
214	HPCI TURBINE EXHAUST	✓	+	+	+	+	} SEE NOTE 15		
215	HPCI TURB EXH LINE DRAIN	✓	+	+	+	+			
217	H ₂ & O ₂ ANALYZER	✓	C	C	O	O			
220	SUPP CHMBR AIR PURGE EXHAUST	✓	C	C	C	C		100	
	SUPP CHMBR NORM VENT	✓	C	C	C	C ⁺	+ SEE NOTE 13	100	
	SUPP CHMBR H ₂ CONTROL VENT	✓	A ⁺	C	O ⁺	C	+ SEE NOTE 12		
222A	HPCI TURB EXH VAC PROT.	✓	+	+	+	+	+ SEE NOTE 15		

NOTE THE REMAINING 101 CONTAINMENT PENETRATIONS ARE 1 INCH NOMINAL DIAMETER INSTRUMENT CONNECTIONS, AND ARE ESSENTIAL TO POST-ACCIDENT ASSESSMENT OF CONDITIONS.

PLANT HNP UNIT 1

NOTES:

1. The HPCI discharge/injection valve E41-F006 opens when the steam turbine admission valve E41-F001 opens on the HPCI AUTO-START signal. During the injection sequence, check valve B21-F010B will be opened by HPCI injection flow and check valve B21-F032B will be seated by the HPCI injection flow. Hence the penetration is classified as ESSENTIAL based on HPCI operation. For a rapid RPV depressurization event, the B21 system check valves will close when reactor feedwater flow decreases to zero flow.
2. Although the RCIC system is not a part of the ECCS, the system will respond on low RPV level (if available). The RCIC discharge/injection valve E51-F013 opens when the steam turbine admission valve E51-F045 opens on the RCIC AUTO-START signal. During the injection sequence, check valve B21-F010A will be opened by RCIC injection flow and check valve B21-F032A will be seated by the RCIC injection flow. Since RCIC is not required for ECCS, the penetration is classified as NONESSENTIAL; however, RCIC system operation in parallel with the HPCI system, given a small LOCA, would enhance core cooling and therefore the penetration should be capable of allowing fluid injection. Also, since the penetration isolation device is effectively controlled by flow direction (simple check valves) no isolation signals are required.
3. The isolation signals for this penetration are excessive steam line flow, abnormal equipment space temperatures and/or low steam pressure. Since operation of the RCIC post-accident results in enhanced core cooling, no modification of isolation signals is considered necessary.
4. The isolation signals for this penetration are excessive steam line flow, abnormal equipment space temperature and/or low steam pressure. Operation of the HPCI is designed to provide ECCS service for the small LOCA. Therefore, the penetration is classified as ESSENTIAL.
5. For the TMI-2 type event, where core damage has occurred without failure of the reactor coolant pressure boundary, the RHR S/D COOLING SUCTION should be available for the long term cooling event. For this reason the penetration is classified as ESSENTIAL, although there are alternate means available to accomplish long term cooling.
6. The penetration isolation valves are opened automatically post-accident by signals from the RPV level, RPV pressure and Drywell pressure instruments. These penetrations provide ESSENTIAL services for ECC.
7. Operation of the RHR in the S/D Cooling Mode may result in use of the RPV Head Spray. No change in isolation logic is required.

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8. Equipment and floor drain sump discharge valves are normally operated to OPEN during sump pumping operations. However, the valves are normally CLOSED. No change in the isolation logic is required.
9. This penetration is provided to introduce instrument air/N₂ into the drywell for operation of the AUTO-DEPRESSURIZATION SYSTEM, MAIN STEAM ISOLATION VALVES, DRYWELL COOLING WATER VALVES, CORE SPRAY AND LPCI TESTABLE CHECK VALVES and the RPV HEAD VENT VALVES. The system outside the containment is seismic category 1, safety grade with a seismic category 1 Nitrogen gas source backup for the pressure accumulator tank. Post-accident the system backs up the gas accumulators provided for the safety related valves in the containment. No change in the isolation logic is required.
10. This penetration is provided to introduce Nitrogen gas into the primary containment for pressurization of the containment to reduce Hydrogen gas concentrations post-accident.
11. This penetration is provided to allow Nitrogen gas makeup to the primary containment as necessary to maintain a Nitrogen rich, Oxygen deficient atmosphere in the primary containment. No change in isolation logic is required.
12. This penetration is provided to allow a controlled release of the containment atmosphere post-accident, to allow control of Hydrogen gas concentrations.
13. This penetration is provided to allow venting of the primary containment during normal plant operation, to allow discharge of the contained atmosphere as needed to maintain containment pressure less than 2 psig. Containment pressure increases occur during operation due to normal valve operator gas leakage and/or thermal energy changes.
14. Containment design and post-accident response analyses indicate that the spray systems are not required. Sprays are provided by the LPCI System and are manually initiated after satisfying the refill permissive level interlocks.
15. These penetrations are provided with flow reversal preventing valves (check valves and/or stop check valves). Position (i.e. - OPEN or CLOSED) is dependent on flow through the piping system.

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PENETRATION NUMBER	SYSTEM/SERVICE	NON-ESSENTIAL	ESSENTIAL	ISOLATION POS.	SHORT TERM POS.	LONG TERM POS.	NORMAL OP POS.	REMARKS	APPLICABLE DDCR (B2E)
3	H ₂ & O ₂ SAMPLING		✓	C	C	O	O	C = CLOSED O = OPEN	
7A	MAIN STEAM LINE A	✓		C	C	O	O		
	MSL LEAKAGE CONTROL		✓	AI	C	O	C	AI = AS IS	
7B	MAIN STEAM LINE B	✓		C	C	C	O		
	MSL LEAKAGE CONTROL		✓	AI	C	O	C		
7C	MAIN STEAM LINE C	✓		C	C	C	O		
	MSL LEAKAGE CONTROL		✓	AI	C	O	C		
7D	MAIN STEAM LINE D	✓		C	C	C	O		
	MSL LEAKAGE CONTROL		✓	AI	C	O	C		
8	MAIN STEAM COND. DRAIN	✓		C	C	C	O		
9A	RFW A, RCIC & RWCU	✓		C*	O*	C*	O	+ SEE NOTE 1	
9B	RFW B, & HPCI		✓	C*	O*	C*	O	+ SEE NOTE 2	
10	STEAM FOR RCIC TURBINE	✓		O*	O*	C	O	+ SEE NOTE 3	
11	STEAM FOR HPCI TURBINE		✓	O*	O*	C	O	+ SEE NOTE 4	
	RHR S/D COOLING SUCTION		✓	C	C	C*	C	+ SEE NOTE 5	
13A	LPCI INJECTION A		✓	O	O	O	C	} SEE NOTE 6	
13B	LPCI INJECTION B		✓	O	O	O	C		
14	REACTOR WATER CLEANUP	✓		C	C	C	O		
15	POST-LOCA H ₂ RECOMBINER		✓	AI	AI	O	C		
16A	CORE SPRAY A		✓	O	O	O	C	} SEE NOTE 6	
16B	CORE SPRAY B		✓	O	O	O	C		
17	RPV HEAD SPRAY	✓		C	C	C	C	SEE NOTE 7	
18	EQUIPM'T DRAIN SUMP DISCH	✓		C	C	C	C	} SEE NOTE 8	100
19	FLOOR DRAIN SUMP DISCH	✓		C	C	C	C		100
21	DRYWELL SERVICE AIR	✓		C	C	C	C	L.C. MANUAL VALVES	
22	DRYWELL PNEUMATIC SYSTEM	✓		O	O	O	O	SEE NOTE 9	
23	RB CLOSED COOLING WATER	✓		AI	AI	AI	O	} CLOSED SYSTEM INSIDE CONTAINMENT.	
24	RB CLOSED COOLING WATER	✓		AI	AI	AI	O		
25	CONTAINMENT PURGE AIR IN	✓		C	C	C	C		100
26	CONTAINMENT PURGE AIR OUT	✓		C	C	C	C		100
	NORMAL CONTAINMENT VENT	✓		C	C	C	C	SEE NOTE 10	100
27C	REACTOR RCIC PUMP SEAL A	✓		AI	AI	AI	AI	} SIMPLE CHECK VALVES - WATER FOR SEAL FLUSH FROM CRDHS	
	B								
28	H ₂ & O ₂ SAMPLING		✓	C	C	O	O		
34C	INT. LK RATE TEST-VERIF. FLOW	✓		C	C	C	C	L.C. MANUAL VALVES	
35A	TRAVERSING INCORE PROBE	✓		C*	C*	O	O	* TIP WITHDRAWN, VALVE(S) CLOSED	

PENETRATION NUMBER	SYSTEM/SERVICE	NON-ESSENTIAL	ESSENTIAL	ISOLATION POS.	SHORT TERM POS	LONG TERM POS.	NORMAL OP POS.	REMARKS	APPLICABLE PDCR B2E -
35B	TRaversing INCore PROBE	✓		C	C	O	O	* TIP WITHDRAWN, VALVE(S) CLOSED	
35C									
35D									
35E	TIP GUIDE TUBE N ₂ PURGE	✓		O	O	O	O	OPERATES W/ TIP LOGIC	
39A	DRYWELL CONTAINMENT SPRAY	✓		C	C	C	C	OPERABLE AFTER PERM & RESET	
39B	DRYWELL CONTAINMENT SPRAY	✓		C	C	C	C	SEE NOTE 11	
41	REACTOR COOLANT SAMPLE	✓		C	C	C	C	MAY BE OPENED FOR SAMPLE PA. 100	
42	STANDBY LIQUID CONTROL	✓		AI	AI	AI	AI	SIMPLE CHECK VALVES	
44	POST-ACCIDENT H ₂ CONTROL N ₂ MAKEUP	✓		AI	C	C	C	BACKS-UP H ₂ RECOMBINER	
81			✓	AI	C	C	C		
46	DEMINERALIZED WATER SRVCE	✓		C	C	C	C	L.C. MANUAL VALVES	
47	DRYWELL CHILL WATER SERVICE	✓		AI	AI	AI	O	CLOSED SYSTEM INSIDE	
48		✓		AI	AI	AI	O	CONTAINMENT	
55	DRYWELL CHEM SUMP DISCH.	✓		C	C	C	C	L.C. MANUAL VALVES	
60A	H ₂ & O ₂ SAMPLING	✓		C	C	O	O		
60B	FISSION PRODUCTS SAMPLING	✓		C	C	C	O	MAY BE USED FOR CONT. SAMPLE 100	
61A	POST-ACCIDENT H ₂ RECOMBINER	✓		AI	AI	O	C		
62	FISSION PRODUCTS SAMPLING	✓		C	C	C	O	SEE PEN. # 60 B	100
63	DRYWELL PNEUMATIC COMP SUCT	✓		C	C	C	O		
64	H ₂ & O ₂ SAMPLING	✓		C	C	O	O		
67	CONTAINMENT H ₂ CONTROL VENT	✓		AI	C	C	C	BACKS-UP H ₂ RECOMBINER	100
80		✓		AI	C	C	C		100
203	RCIC PUMP SUCTION	✓		AI	C	C	C	NORMAL SUCTION FROM CST	
204A	LPCI PUMP SUCTION	A	✓	O	O	O	O		
204B		B	✓	O	O	O	O		
204C		C	✓	O	O	O	O		
204D		D	✓	O	O	O	O		
205	SUPP CHAMBER VAC. PROT.		✓	C	C	C	C	OPERATES ON NEG P IN TORUS	
	SUPP CHAMBER AIR PURGE IN	✓		C	C	C	C		100
208A	CORE SPRAY PUMP SUCTION		✓	O	O	O	O		
208B			✓	O	O	O	O		
209A	RHR/LPCI FULL FLOW TEST	✓		C	C	C	C		
INTENTIONALLY BLANK									
	RHR/LPCI RV DISCHARGES	✓		+	+	+	+	+KVS OPERATE ON OVERPRESSURE	
	RCIC MIN FLOW	✓		AI	C	C	C	OPERATES WITH RCIC LOGIC	
76	DRYWELL FIRE PROTECTION	✓		C	C	C	C	L.C. MANUAL VALVE OUTSIDE	

PLANT CODE
PENETRATION
NUMBER

SYSTEM/SERVICE

NON-ESSENTIAL
ESSENTIAL
ISOLATION POS.
SHORT TERM POS.
LONG TERM POS.
NORMAL OP POS.

PLANT HNP UNIT 2

APPLICABLE
PDCR
B2E-

REMARKS

210B	RHR/LPCI FULL FLOW TEST	✓	C	C	C	C	
	INTENTIONALLY BLANK						
	RHR/LPCI RV DISCHARGES	✓	+	+	+	+	+ RVs OPERATE ON OVERPRESSURE
	HPCI MIN FLOW	✓	AT	C	C	C	OPERATES WITH HPCI LOGIC
211A	SUPP CHMBR CONTAINMENT SPRAY	✓	C	C	C	C	OPERABLE AFTER PERM. & RESET
211B	↓	✓	C	C	C	C	SEE NOTE 11
212	RCIC TURBINE EXHAUST	✓	+	+	+	+	+ SEE NOTE 12
213	RCIC VACUUM PUMP DISCH	✓					
221C	RCIC TURB EXH VAC PROT.	✓					
214	HPCI TURBINE EXHAUST	✓	+	+	+	+	+ SEE NOTE 12
215	HPCI EXHAUST LINE DRAIN	✓					
221B	HPCI TURB EXH VAC PROT.	✓					
217A	H ₂ & O ₂ SAMPLING	✓	C	C	O	O	
217B	↓	✓	C	C	O	O	
217C	FISSION PRODUCTS SAMPLING	✓	C	C	C	O	SEE PEN # 60B
218A	SUPP POOL WATER CLEANUP	✓	C	C	C	C	
220	SUPP CHMBR PURGE AIR OUT	✓	C	C	C	C	100
	SUPP CHMBR NORMAL VENT	✓	C	C	C	C	100
221A	POST-ACCIDENT H ₂ RECOMBINER	✓	AT	AT	O	C	
222B	↓	✓	AT	AT	O	C	
226A	CORE SPRAY FULL FLOW TEST	✓	C	C	C	C	
	RHR H/X STM COND'G RUNDOWN	✓	C	C	C	C	
	JOCKEY PUMP MIN FLOW	✓	AT	O	O	O	
	CORE SPRAY MIN FLOW	✓	AT	+	+	O	+ OPERATES WITH C.S. LOGIC
	RHR/LPCI MIN FLOW	✓	AT	+	+	O	+ OPERATES WITH RHR LOGIC
226B	CORE SPRAY FULL FLOW TEST	✓	C	C	C	C	
	RHR H/X STM COND'G RUNDOWN	✓	C	C	C	C	
	JOCKEY PUMP MIN FLOW	✓	AT	O	O	O	
	CORE SPRAY MIN FLOW	✓	AT	+	+	O	+ OPERATES WITH C.S. LOGIC
	RHR/LPCI MIN FLOW	✓	AT	+	+	O	+ OPERATES WITH RHR LOGIC
230	POST-ACCIDENT H ₂ CONTROL N ₂ MAKEUP	✓	AT	C	C	C	BACKS-UP H ₂ RECOMBINER
230B	↓	✓	AT	C	C	C	↓
231	POST-ACCIDENT H ₂ CONTROL VENT	✓	AT	C	C	C	BACKS-UP H ₂ RECOMBINER
235A	↓	✓	AT	C	C	C	↓
72	DEWELL TO TORUS ΔP	✓	C	C	C	C	100
233	↓	✓	C	C	C	C	100

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PENETRATION NUMBER	SYSTEM/SERVICE	NON-ESSENTIAL	ESSENTIAL	ISOLATION POS.	SHORT TERM POS.	LONG TERM POS.	NORMAL OP POS.	REMARKS	APPLICABLE PDCR B2E
234 A	TORUS WATER CLEANUP VAC. DRAG	✓		C	C	C	O		
207	HPCL PUMP SUCTION	✓	AT	C	C	C		NORMAL SUCTION FROM CST	

NOTE: THE REMAINING 91 PENETRATIONS ARE 1 INCH
 NOMINAL DIAMETER INSTRUMENT CONNECTIONS,
 AND ARE ESSENTIAL TO POST-ACCIDENT
 ASSESSMENT OF CONDITIONS.

PLANT RNP UNIT 2

NOTES

1. Although the RCIC system is not a part of the ECCS, the system will respond on low RPV level (if available). The RCIC discharge/injection valve E51-F013 opens when the steam turbine admission valve E51-F045 opens on the RCIC AUTO-START signal. During the injection sequence, check valves B21-F010A and F077A will be opened by RCIC injection flow and check valve B21-B076A will be seated by the RCIC injection flow. Since RCIC is not required for ECCS, the penetration is classified as NONESSENTIAL; however, RCIC system operation in parallel with the HPCI system, given a small LOCA, would enhance core cooling and therefore the penetration should be capable of allowing fluid injection. Also, since the penetration isolation device is effectively controlled by flow direction (simple check valves) no isolation signals are required.
2. The HPCI discharge/injection valve E41-F006 opens when the steam turbine admission valve E41-F001 opens on the HPCI AUTO-START signal. During the injection sequence, check valves B21-F010B and F077B will be opened by HPCI injection flow and check valve B21-F076B will be seated by the HPCI injection flow. Hence the penetration is classified as ESSENTIAL based on HPCI operation. For a rapid RPV depressurization event, the B21 system check valves will closed when reactor feedwater flow decreases to zero flow.
3. The isolation signals for this penetration are excessive steam line flow, abnormal equipment space temperatures and/or low steam pressure. Since operation of the RCIC post-accident results in enhanced core cooling, no modification of isolation signals is considered necessary.
4. The isolation signals for this penetration are excessive steam line flow, abnormal equipment space temperature and/or low steam pressure. Operation of the HPCI is designed to provide ECCS service for the small LOCA. Therefore, the penetration is classified as ESSENTIAL.
5. For the TMI-2 type event, where core damage has occurred without failure of the reactor coolant pressure boundary, the RHR S/D COOLING SUCTION should be available for the long term cooling event. For this reason the penetration is classified as ESSENTIAL, although there are alternate means available to accomplish long term cooling.
6. The penetration isolation valves are opened automatically post-accident by signals from the RPV level, RPV pressure and Drywell pressure instruments. These penetrations provide ESSENTIAL services for ECC.
7. Operation of the RHR in the S/D Cooling Mode may result in use of the RPV Head Spray. No change in isolation logic is required.

90009017

8. Equipment and floor drain sump discharge valves are normally operated to OPEN during sump pumping operations. However, the valves are normally CLOSED. No change in the isolation logic is required.
9. This penetration is provided to introduce instrument air/N₂ into the drywell for operation of the AUTO-DEPRESSURIZATION SYSTEM, MAIN STEAM ISOLATION VALVES, DRYWELL COOLING WATER VALVES, CORE SPRAY AND LPCI TESTABLE CHECK VALVES and the RPV HEAD VENT VALVES. The system outside the containment is seismic category 1, safety grade with a seismic category 1 Nitrogen gas source backup for the pressure accumulator tank. Post-accident the system backs up the gas accumulators provided for the safety related valves in the containment. No change in the isolation logic is required.
10. This penetration is provided to allow venting of the primary containment during normal plant operation, to allow discharge of the contained atmosphere as needed to maintain containment pressure less than 2 psig. Containment pressure increases occur during operation due to normal valve operator gas leakage and/or thermal energy changes.
11. Containment design and post-accident response analyses indicate that the spray systems are not required. Sprays are provided by the LPCI System and are manually initiated after satisfying the refill permissive level interlocks.
12. These penetrations are provided with flow reversal preventing valves (check valves and/or stop check valves). Position (i.e. - OPEN or CLOSED) is dependent on flow through the piping system.

90009018

LEAK REDUCTION
PREVENTIVE MAINTENANCE PROGRAM
(NUREG 0578, SECTION 2.1.6.a)

The preventive maintenance program for continuing leak reduction at Plant Hatch consists of the following:

System inspection, to be performed once per quarter, during system full flow tests to examine system components for leaks.

Corrective actions taken for any leaks found during the quarterly inspection.

Measurements of actual leakage rates with the system in operation to be performed at one year intervals, with the interval not to exceed the refueling cycle.

The first quarterly system inspections will be performed during the scheduled full flow tests in January 1980.

90009019

POOR ORIGINAL

Immediate Leakage Reduction
Program at Plant Hatch¹
(NUREG 0578, Section 2.1.6.a)

Leakrate testing for the "Immediate Leakage Reduction Program" at Plant Hatch for systems that could carry radioactive fluid outside of containments is in progress.

The tentative schedule for completion of leakrate testing for NUREG 0578, section 2.1.6.a requirements is as follows:

	<u>Unit 1</u>	<u>Unit 2</u>
HPCI	*Jan. 15	Complete
RCIC	*Jan. 15	Jan. 15
RHP	Complete	Complete
Core Spray	Complete	Complete
Jockey Pump	Jan. 15	Complete
CRD Scram Outlet Valves	Complete	Dec. 31
Post LOCA Recombiner	NA	Feb. 15

*Unit 1 HPCI and RCIC test completion is dependent on the length of the present outage.

Actual system leakage rates are being measured with the system in operation. Maintenance requests have been prepared to repair leaks found during the leakrate testing.

90009020

CORE SPRAY SYSTEM LEAKRATE TEST

REASON FOR TEST: (☒) SURVEILLANCE, (☐) OTHER _____PUMP E21-C001 A

COMPONENT NO.	COMPONENT DESCRIPTION	VISUAL INSPECTION PERFORMED (✓)	LEAKAGE FOUND		START TIME	STOP TIME	LEAKAGE VOLUME COLLECTED	LEAKAGE RATE
			YES	NO				
E21-C001	Core Spray Pump (Shaft Seal Leakage)	✓		✓				
E21-R0-D002	Test Line Restricting Orifice (Flange Leakage)	✓		✓				
E21-R0-D001 (At Minimum Flow)	Minimum Recirc. Line Restricting Orifice (Flange Leakage)	✓		✓				
E21-F036 (At Minimum Flow)	Minimum Recirc. Line Check Valve (Gasket Leakage)	✓		✓				
E21-F066	C003 Suction (Stem Leakage)	✓		✓				
E21-F008	Reactor Bldg. Floor Drain Sump Isolation (Stem Leakage)	✓		✓				
E21-F002	Condensate Test and Flush Supply Isolation (Stem Leakage)	✓		✓				
E21-F032	C001 Suction Relief (Inlet Flange Leakage)	✓		✓				
E21-F010	C001 Recirc. Line Manual Isolation (Stem Leakage)	✓		✓				
E21-F031	C001 Minimum Recirc. Line Isolation (Stem Leakage)	✓	✓		1346	1347	64 ml	3840 ml/hr
E21-F020	F003 Bypass (Stem Leakage)	✓		✓				
E21-F003	C001 Discharge Check (Gasket Leakage)	✓		✓				
E21-F012	C001 Discharge Relief (Stem Leakage)	✓		✓				
E21-F030	Condensate Supply Check Valve (Gasket Leakage)	✓		✓				

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COMPONENT NO.	COMPONENT DESCRIPTION	VISUAL INSPECTION PERFORMED ()	LEAKAGE EQUAL YES NO	START TIME	STOP TIME	LEAKAGE VOLUME COLLECTED	LEAKAGE RATE
E21-F015	CO01 Test Line Isolation (Stem Leakage)	✓					
E21-F040	CO03 Discharge to CS (Stem Leakage)	✓					
E21-F004	CO01 Discharge to RPV Isolation (Stem Leakage)	✓	✓	1300	1400	< 1 ml	< 1 ml/hr
E21-F013	CS Header Isolation Valve test Connection (Stem Leakage)	✓					
E21-FE-N002	CO01 Discharge Flow Element (Flange Leakage)	✓					
E21-S0-0003	CO01 Discharge Restricting Orifice (Flange)	✓	✓	1300	1400	< 1 ml	< 1 ml/hr
N/A	Core Spray Pump Discharge Flange (Flange Leakage)	NA	NA NA				
E21-F012	CO01 Discharge Relief (Inlet Flange Leakage)	✓					
E21-F032	CO01 Suction Relief (Stem Leakage)	✓					
E21-F001	Torus Suction (Stem Leakage)	✓					
E21-F005	Discharge to RPV (Stem Leakage)	✓					

COMMENTS: ROOT VALVE AT UPPER SIDE OF E21-

LS-N010 A LEAKING < 1 ml/hr

COMPLETED BY	DATE
T. Ban	12/7/79

90009022

CORE SPRAY SYSTEM LEAK RATE TEST

REASON FOR TEST: (☒) SURVEILLANCE, (☐) OTHER

PUMP E21-C001

B

COMPONENT NO.	COMPONENT DESCRIPTION	VISUAL INSPECTION PERFORMED ()	LEAKAGE EQUIV.		START TIME	STOP TIME	LEAKAGE VOLUME COLLECTED	LEAKAGE RATE
			YES	NO				
E21-C001	Core Spray Pump (Shaft seal Leakage)	✓		✓				
E21-R0-D002	Test Line Restricting Orifice (Flange Leakage)	✓		✓				
E21-R0-D001 (At Minimum Flow)	Minimum Recirc. Line Restricting Orifice (Flange Leakage)	✓		✓				
E21-F036 (At Minimum Flow)	Minimum Recirc. Line Check Valve (Gasket Leakage)	✓		✓				
E21-F066	C003 Suction (Stem Leakage)	✓		✓				
E21-F003	Reactor Bldg. Floor Drain Sump Isolation (Stem Leakage)	✓		✓				
E21-F002	Condensate Test and Flush Supply Isolation (Stem Leakage)	✓		✓				
E21-F032	C001 Suction Relief (Inlet Flange Leakage)	✓		✓				
E21-F010	C001 Recirc. Line Manual Isolation (Stem Leakage)	✓		✓				
E21-F031	C001 Minimum Recirc. Line Isolation (Stem Leakage)	✓		✓				
E21-F020	F003 Bypass (Stem Leakage)	✓		✓				
E21-F003	C001 Discharge Check (Gasket Leakage)	✓		✓				
E21-F012	C001 Discharge Relief (Stem Leakage)	✓		✓				
E21-F030	Condensate Supply Check Valve (Gasket Leakage)	✓	✓					

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2 M/HR

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CORE SPRAY SYSTEM LEAKAGE TEST

COMPONENT NO.	COMPONENT DESCRIPTION	VISUAL INSPECTION PERFORMED ()	LEAKAGE FOUND YES NO	START TIME	STOP TIME	LEAKAGE VOLUME COLLECTED	LEAKAGE RATE
E21-F015	CO01 Test Line Isolation (Stem Leakage)	✓	✓				
E21-F040	CO03 Discharge to CS (Stem Leakage)	✓	✓				
E21-F004	CO01 Discharge to RPV Isolation (Stem Leakage)	✓	✓	1415	1515	2.1ml	2.1ml/hr
E21-F013	CS Header Isolation Valve Test Connection (Stem Leakage)	✓	✓				
E21-FE-NO02	CO01 Discharge Flow Element (Flange Leakage)	✓	✓				
E21-RD-LOC3	CO01 Discharge Restricting Orifice (Flange)	✓	✓				
N/A	Core Spray Pump Discharge Flange (Flange Leakage)	NA	NA				
E21-F012	CO01 Discharge Relief (Inlet Flange Leakage)	✓	✓				
E21-F032	CO01 Suction Relief (Stem Leakage)	✓	✓				
E21-F001	Torus Suction (Stem Leakage)	✓	✓				
E21-F005	Discharge to RPV (Stem Leakage)	✓	✓				

COMPLETED BY V. Ban DATE 12/17/79

COMMENTS:

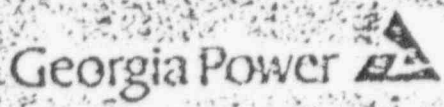
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COMPONENT NO.	DESCRIPTION	VISUAL INSPECTION PERFORMED	LEAKAGE		START TIME	STOP TIME	LEAKAGE VOLUME COLLECTED	LEAKAGE RATE
			YES	NO				
E11-C002A	R/R Pump A (Shaft Seal Leakage)	✓	✓					
E11-C002C	R/R Pump C (Shaft Seal Leakage)	✓	✓					
E11-F031A	Pump C002A Disch Check	✓	✓					
E11-F031C	Pump C002C Disch Check	✓	✓					
E11-F004A	Pump C002A Torus Suct	✓	✓		1415	1445	14 ml	28 ml/hr
E11-F004C	Pump C002C Torus Suct	✓	✓					
E11-F035C	Pump C002C Suct Relief	✓	✓		1415	1455	1 ml	1.5 ml/hr
E11-F032A	Pump C002A Suct Relief	✓	✓					
E11-F071A	Pump C002A Suct Piping Drain	✓	✓					
E11-F045A	R/R Pump C002A Min Flow Check	✓	✓					
E11-F071C	Pump C002C Suct Piping Drain	✓	✓					
E11-F046C	R/R Pump C002C Min Flow Check	✓	✓					
E11-F034A	Pump C002A Disch	✓	✓		1415	1515	< 1 ml	< 1 ml/hr
E11-F072A	Pump C002A Disch Piping Drain	✓	✓					
E11-C005A	Pump C002A Disch Restricting Orifice	✓	✓					

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RVR SYSTEM LEAKAGE RATE

COMPONENT NO.	DESCRIPTION	VISUAL INSPECTION PERFORMED	LEAKAGE EQUIP		START TIME	STOP TIME	LEAKAGE VOLUME COLLECTED	LEAKAGE RATE
			YES	NO				
E11-F0722	Pump COOEC Disch Piping to B1H	✓	✓					
E11-F032C	Pump COO2C Disch	✓	✓					
E11-R0-0005C	Pump COO2C Disch Re-stricting Orifice	✓	✓					
E11-F047A	RHR A HX Inlet	✓	✓		1400	1500	< 1 ml	< 1 $\frac{ml}{hr}$
E11-F051A	RHR A HX Inlet Fm HPCI	✓	✓					
E11-F055A	RHR A HX Inlet Relief	✓	✓					
E11-F104A	RHR A HX Shell Vent	✓	✓					
Thermal Relief A	RHR A HX Thermal Relief	✓	✓					
E11-F112A	RHR A HX Shell Drain	✓	✓					
E11-F053A	RHR Disch to RCIC	✓	✓					
E11-F054A	RHR Disch to RCIC Check	✓	✓					
E11-F025A	RHR Disch to RCIC	✓	✓					
E11-F007A	RHR Pump Min Flow A Loop	✓	✓					
E11-F011A	RHR A HX Drain to Suppression Pool	✓	✓					
E11-F122A	Jockey Pump Fill	✓	✓		1400	1500	< 1 ml	< 1 $\frac{ml}{hr}$

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RHR SYSTEM LEAKAGE RATE

COMPONENT NO.	DESCRIPTION	VISUAL INSPECTION PERFORMED	LEAKAGE EQUIV.		START TIME	STOP TIME	LEAKAGE VOLUME COLLECTED	LEAKAGE RATE
			YES	NO				
E11-F043A	RHR A HX Bypass	✓		✓				
E11-F018A	RHR Pump C002A Min Flow	✓		✓				
E11-R9-C001A	Pump C002A Disch Re-Striking Orificed	✓		✓				
E11-F018C	RHR Pump C002C Min Flow	✓		✓				
E11-R9-C001C	RHR Pump C002C Min Flow	✓		✓				
E11-F078A	RHR-RHR94 X-Conn Check	✓		✓				
E11-F082A	RHR Disch Line Flush	✓		✓				
E11-RV-F085A	RHR Disch to B31 Relief	✓	✓		1415	1515	35 ml	35 ml/hr
E11-F017A	RHR Disch. to B31 Throttle	✓		✓				
E11-FE-NO14A	RHR A HX Disch Flow Element	✓		✓				
E11-F010	RHR Contmt Spray X-Conn	✓		✓				
E11-F091A	RHR A HX Inlet from NPCI Isol	✓		✓				
E11-F028A	Torua Spray Outbd Isol	✓		✓				
E11-F016A	RHR Disch to Contmt Spray Outbd Isol	✓		✓				

POOR ORIGINAL

90009027

GEORGIA POWER PLANT

Georgia Power

THIS CHECKLIST CONTAINS
REPAIRABLE LEAKAGE CODES

COMPONENT NO.	DESCRIPTION	VISUAL INSPECTION PERFORMED	LEAKAGE FOUND YES NO	START TIME	STOP TIME	LEAKAGE VOLUME COLLECTED	LEAKAGE RATE
E11-F050A	R/R Chime Spray X Conn Line Flush	✓	✓				
E11-F060A	Jackey Pump CO2A Sulf Isol	✓	✓				
E11-F131A	Test Conn.	✓	✓				
E11-F134A	Test Conn.	✓	✓				
E11-F075A	R/R A Hx Disch Sample	✓	✓				
E11-F030A	R/R A Hx Disch	✓	✓	1415	1515	~1 ml	~1 ml/hr
E11-F058A	Test Conn.	✓	✓				
E11-F130A	Test Conn.	✓	✓				
E11-F015A	R/R Disch to B31 Insul Isol.	✓	✓				
E11-F150G	Test Conn.	✓	✓				

COMPLETED BY
I. Davis 12/27/79

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E. I. HATCH NUCLEAR PLANT

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DATA SHEET 2
RRR SYSTEM LEAKAGE

REASON FOR TEST: () SURVEILLANCE, () OTHER

COMPONENT NO.	DESCRIPTION	VISUAL INSPECTION PERFORMED	LEAKAGE FOUND		START TIME	STOP TIME	LEAKAGE VOLUME COLLECTED	LEAKAGE RATE
			YES	NO				
E11-C002B	RHR Pump B (Shaft Seal Leakage)	✓	✓					
E11-C002D	RHR Pump D (Shaft Seal Leakage)	✓	✓					
E11-F031B	Pump C002B Disch Check	✓	✓					
E11-F031D	Pump C002D Disch Check	✓	✓					
E11-F004B	Pump C002B Torus Suct	✓	✓					
E11-F004D	Pump C002D Torus Suct	✓	✓					
E11-RV-F0500	Pump C002D Suct Relief	✓	✓					
E11-RV-F0500	Pump C002B Suct Relief	✓	✓					
E11-F071B	Pump C002B Suct Piping Drain	✓	✓					
E11-F071D	Pump C002D Suct Piping Drain	✓	✓					
E11-F042D	RHR Pump C002D Min Flow Check	✓	✓					
E11-F042B	RHR Pump C002B Min Flow Check	✓	✓					
E11-F034B	Pump C002B Ditch.	✓	✓					
E11-F072B	Pump C002B Disch Piping Drain	✓	✓					
E11-R0-C002B	Pump C002B Disch Restricting Orifice	✓	✓					

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E. I. HATCH NUCLEAR PLANT

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DATA SHEET 2 KCOND
EXP SYSTEM LEAKAGE

REASON FOR TEST: () SURVEILLANCE, () OTHER

COMPONENT NO.	DESCRIPTION	VISUAL INSPECTION PERFORMED	LEAKAGE FOUND		START TIME	STOP TIME	LEAKAGE VOLUME COLLECTED	LEAKAGE RATE
			YES	NO				
E11-F0720	Pump C0020 Disch Piping Drain	✓		✓				
E11-F0340	Pump C0020 Disch.	✓		✓				
E11-RQ-00050	Pump C0020 Disch. Restricting Orifice	✓		✓				
E11-F0478	RWR B HX Inlet	✓	✓		1250	1333	13 ml	18 $\frac{ml}{HR}$
E11-F0518	RWR B HX Inlet Fm HPCI	✓		✓				
E11-F0558	RWR B HX Inlet Relief	✓		✓				
E11-F1048	RWR B HX Shell Vent	✓		✓				
Thermal Relief	RWR B HX Thermal Relief	✓		✓				
E11-F1126	RWR B HX Shell Drain	✓		✓				
E11-F0538	RWR Disch. to RCIC	✓		✓				
E11-F0548	RWR Disch. to RCIC check	✓		✓				
E11-F0268	RWR Disch. to RCIC	✓		✓				
E11-F0078	RWR Pump Min Flow B Loop	✓	✓		1300	1330	2 ml	4 $\frac{ml}{HR}$
E11-F0118	RWR B HX Drain to Suppression Pool	✓		✓				

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ENG SYSTEM LEAKAGE

REASON FOR TEST: () SURVEILLANCE, () OTHER

COMPONENT NO.	DESCRIPTION	VISUAL INSPECTION PERFORMED	LEAKAGE FOUND		START TIME	STOP TIME	LEAKAGE VOLUME COLLECTED	LEAKAGE RATE
			YES	NO				
E11-F1263	Jockey Pump Fill	✓	✓					
E11-F0488	RHR B HX Bypass	✓	✓					
E11-F0123	RHR Pump CO028 Min Flow	✓	✓					
E11-R0-DO01B	Pump CO028 Disch Restricting Orifice	✓	✓		1350	1353	13 MI	18 ¹ / ₄ ¹ / ₄
E11-F0110	Pump CO020 Mini Flow	✓	✓					
E11-R0-DO010	RHR Pump CO020 Mini Flow	✓	✓					
E11-F0723	RHR-RHR SW X-ConnCheck	✓	✓					
E11-F0228	RHR Disch. Line Flush	✓	✓					
E11-RV-F0229	RHR Disch. to B31 Relief	✓	✓					
E11-F0178	RHR Disch. to B31 Throttle	✓	✓					
E11-F2-NC046	RHR HX B Disch. flow Element	✓	✓					
E11-F0918	RHR B HX Inlet from HPCI Isol.	✓	✓					
E11-F0228	Torus Spray Outbd. Isol.	✓	✓		1350	1353	2 MI	4 ¹ / ₄ ¹ / ₄

POOR ORIGINAL

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Georgia Power



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RHR SYSTEM LEAKAGE

REASON FOR TEST: () SURVEILLANCE, () OTHER

COMPONENT NO.	DESCRIPTION	VISUAL INSPECTION PERFORMED	LEAKAGE FINDING		START TIME	STOP TIME	LEAKAGE VOLUME COLLECTED	LEAKAGE RATE
			YES	NO				
E11-F015B	R/R Disch. to Contmt. Spray Outbd. Isol.	✓	✓					
E11-F025B	R/R Contmt. Spray X-Conn	✓	✓					
E11-F065B	Jockey Pump COOEB Suct Isol.	✓	✓					
E11-F134B	Test Conn	✓	✓					
E11-F075B	R/R B Hx Disch Sample	✓	✓					
E11-F131B	Test Conn.	✓	✓					
E11-F003B	R/R B Hx Disch.	✓	✓		1300	1330	~1 ml	$\frac{1 \text{ ml}}{2 \text{ HR}}$
E11-F049	R/R to Waste Surge Tank	✓	✓					
E11-F055B	Test Conn.	✓	✓					
E11-F015B	R/R Disch. to B31 Outbd Isol.	✓	✓					
E11-F130B	Test Conn.	✓	✓					
E11-F136B	Test Conn.	✓	✓					

COMPLETED BY:	DATE
T. B. B. B.	12/22/74

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DATA SHEET 2

RHR SYSTEM LEAKAGE

REASON FOR TEST: () SURVEILLANCE, () OTHER

COMPONENT NO.	DESCRIPTION	VISUAL INSPECTION PERFORMED	LEAKAGE BEGIN		START TIME	STOP TIME	LEAKAGE VOLUME COLLECTED	LEAKAGE RATE
			YES	NO				
E11-F008	RHR Suct on B31 Outbd. Ito	✓		✓				
E11-F003	RHR Suct Line Flush	✓		✓				
E11-F029	RHR Suct Relief	✓		✓				
E11-F006A	Pump C002A Suct. X-conn	✓		✓				
E11-F006B	Pump C002B Suct X-conn	✓		✓				
E11-F006C	Pump C002C Suct X-conn	✓		✓				
E11-F006D	Pump C002D X-conn.	✓		✓				
E11-F006	RHR Suct Line Vent	✓		✓				

COMPLETED BY: **T. Barr**


DATE: **12/27/79**

POOR ORIGINAL

90009033

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E. I. HATCH NUCLEAR PLANT

Georgia Power 

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DATA SHEET 1

STEAM DISCHARGE NOISE TEST LEANAGE

REASON FOR TEST: ☒ SURVEILLANCE

☐ OTHER _____

ΔW

11360 ml.

START TIME (T1)

1032

STOP TIME (T2)

1101

ΔT (T2-T1)

29 min

$\frac{\Delta W}{\Delta T}$

23500 ml/hr

*IF GREATER THAN 8 HOURS ENTER ≤ 1420 ml/hr

FOR $\frac{\Delta W}{\Delta T}$

POOR ORIGINAL

COMPLETED BY:	DATE
<u>T. Barr</u>	<u>12/5/77</u>

90009034

APPROVAL
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DATE
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E. I. HATCH NUCLEAR PLANT

Georgia Power



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HNP-1-3989E
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DATA SHEET 1

SCRAM DISCHARGE VALVE SEAT LEAKAGE

REASON FOR TEST: ☒ SURVEILLANCE
☐ OTHER _____

POOR ORIGINAL

ΔW 11360 ml.
 START TIME (T1) 1032
 STOP TIME (T2) 1101
 ΔT (T2-T1) 29 min
 $\frac{\Delta W}{\Delta T}$ 23500 ml/hr

*IF GREATER THAN 8 HOURS ENTER $\frac{\Delta W}{\Delta T}$ FOR $\frac{\Delta W}{\Delta T}$

COMPLETED BY:	DATE
T. Ben	12/8/79

90009035

APPROVAL
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DATE
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E. I. HATCH NUCLEAR PLANT

Georgia Power 

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DATA SHEET 2

POOR ORIGINAL

DATA SHEET 2
SYSTEM LEAKAGE

Other

Reason for Test: () Surveillance ()

COMPONENT NO.	COMPONENT DESCRIPTION	VISUAL INSPECTION PERFORMED (✓)	LEAKS FOUND YES NO	START TIME	STOP TIME	LEAKAGE VOLUME	LEAKAGE RATE
2E41-F001	Steam Inlet to Turbine	✓	✓	1130	1135	25 ml	ml/hr
2E41-F054	Steam Inlet to Turbine Pot Drain Line Isolation	✓	✓	1400	1405	21 ml	ml/hr
2E41-F036	Trap D001 Drain	✓	✓				
2E41-F037	Trap D001 Drain	✓	✓	1350	1355	60 ml	ml/hr
2E41-F072	Trap D001 Drain Steam Leak	✓	✓				
2E11-F140A	RHR AHX Inlet from HPCI	✓	✓				
2E11-F140B	RHR BHX Inlet from HPCI	✓	✓				
Flange	10" Flush Connection Flange	✓	✓				
Flange	10" Auxiliary Steam Supply for Turbine Test	✓	✓				
2E41-F02B	Steam Inlet to Turbine Drain Pot Drain Line Isolation	✓	✓				

COMPLETED BY	DATE
T. Barr	12/3/71

INSTRUMENT VALVE AT 2E41-PT-ND13 9750 ml/hr
 INSTRUMENT VALVE TO 2E41-LS-ND14 (UPPER) 8100 ml/hr
 INSTRUMENT VALVE TO 2E41-LS-ND14 (LOWER) 7500 ml/hr
 INBOARD DRAIN VALVE FOR 2E41-LS-ND14 12 ml/hr
 INBOARD VENT VALVE FOR 2E41-LS-ND14 132 ml/hr
 2E41-LS-ND14 VENT VALVE SEATS 12 ml/hr
 2E41-LS-ND14 DRAIN VALVE SEATS 55800 ml/hr

90009036

DATA SHEET 1
RHR SYSTEM LEAKAGE RATE

COMPONENT NO.	DESCRIPTION	VISUAL INSPECTION PERFORMED	LEAKAGE FOUND		START TIME	STOP TIME	LEAKAGE VOLUME COLLECTED	LEAKAGE RATE
			YES	NO				
2E11-C002A	RHR Pump A (Shaft Seal Leakage)	✓		✓				
2E11-C002C	RHR Pump C (Shaft Seal Leakage)	✓		✓				
2E11-F031A	Pump C002A Disch Check	✓		✓				
2E11-F031C	Pump C002C Disch Check	✓		✓				
2E11-F004A	Pump C002A Torus Suct	✓		✓				
2E11-F004C	Pump C002C Torus Suct	✓		✓				
2E11-F030C	Pump C002C Suct Relief	✓	✓		0830	0930	< 1 ml	< 1 $\frac{ml}{HR}$
2E11-F030A	Pump C002A Suct Relief	✓		✓				
2E11-F071A	Pump C002A Suct Piping Drain	✓		✓				
2E11-F046A	RHR Pump C002A Min Flow Check	✓	✓		0830	0930	< 1 ml	< 1 $\frac{ml}{HR}$
2E11-F071C	Pump C002C Suct Piping Drain	✓		✓				
2E11-F046C	RHR Pump C002C Min Flow Check	✓		✓				
2E11-F034A	Pump C002A Disch	✓		✓				
2E11-F072A	Pump C002A Disch Piping Drain	✓	✓		0830	0930	~ 1.25 ml	1.25 $\frac{ml}{HR}$
2E11-D002A	Pump C002A Disch Restricting Orifice	✓		✓				

POOR ORIGINAL

DATA SHEET 1

APPROVAL	See Page 1
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E. I. HATCH NUCLEAR PLANT
Georgia Power

PROCEDURE NO.	HNP-2-3168
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PATCH NO.	004

900099037

POOR ORIGINAL

DATA SHEET 1 (CONT)
RHR SYSTEM LEAKAGE RATE

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E. I. HATCH NUCLEAR PLAN

Georgia Power

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COMPONENT NO.	DESCRIPTION	VISUAL INSPECTION PERFORMED	LEAKAGE FOUND		START TIME	STOP TIME	LEAKAGE VOLUME COLLECTED	LEAKAGE RATE
			YES	NO				
2E11-F072C	Pump C002C Disch Piping Drain	✓		✓				
2E11-F034C	Pump C002C Disch	✓		✓				
2E11-RD-D002C	Pump C002C Disch Restricting Orifice	✓		✓				
2E11-F047A	RHR A HX Inlet	✓		✓				
2E11-F051A	RHR A HX Inlet Fm HPCI	✓		✓				
2E11-F055A	RHR A HX Inlet Relief	✓		✓				
2E11-F104A	RHR A HX Shell Vent	✓		✓				
Thermal Relief A	RHR A HX Thermal Relief	✓		✓				
2E11-F112A	RHR A HX Shell Drain	✓		✓				
2E11-F053A	RHR Disch to RCIC	✓		✓				
2E11-F054A	RHR Disch to RCIC Check	✓		✓				
2E11-F02EA	RHR Disch to RCIC	✓		✓				
2E11-F007A	RHR Pump Min Flow A Loop	✓	✓					
2E11-F011A	RHR A HX Drain to Suppression Pool	✓		✓				
2E11-F124A	Jockey Pump Fill	✓		✓				

ml
70 HR

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DATA SHEET 1 (CONT)
BUR SYSTEM LEAKAGE RATE

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E. I. HATCH NUCLEAR PLANT
Georgia Power

DATA SHEET 1 (CONTINUED)

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POOR ORIGINAL

COMPONENT NO.	DESCRIPTION	VISUAL INSPECTION PERFORMED	LEAKAGE FOUND		START TIME	STOP TIME	LEAKAGE VOLUME COLLECTED	LEAKAGE RATE
			YES	NO				
2E11-F048A	RHR A HX Bypass	✓		✓				
2E19-F006A	RHR to Post LOCA H2 Recombiner	✓		✓				
2E11-F018A	RHR Pump C002A Min Flow	✓		✓				
2E11-R0-0001A	Pump C002A Disch Restricting Orifice	✓		✓				
2E11-F018C	RHR Pump C002C Min Flow	✓		✓				
2E11-R0-0001C	RHR Pump C002C Min Flow	✓		✓				
2E11-F078A	RHR-RHRSW X-Conn Check	✓		✓				
2E11-F082A	RHR Disch Line Flush	✓		✓				
2E11-RV-F025A	RHR Disch to 2B31 Relief	✓		✓				
2E11-F017A	RHR Disch to 2B31 Throttle	✓		✓				
2E11-FE-N014A	RHR A HX Disch Flow Element	✓		✓				
2E11-F010	RHR Contmt Spray X-Conn	✓		✓				
2E11-F091A	RHR A HX Inlet from HPCI Isol	✓		✓				
2E11-F026A	Torus Spray Outbd Isol	✓	✓		0830	0930	< 1 ml	< 1 ml/hr
2E11-F016A	RHR Disch to Contmt Spray Outbd. Isol	✓		✓				

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E. I. HATCH NUCLEAR PLANT

Georgia Power 

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DATA SHEET 1 (CONTINUED)

POOR ORIGINAL

DATA SHEET 1.1 CONTINUED
BUR SYSTEM LEAKAGE RATE

COMPONENT NO.	DESCRIPTION	VISUAL INSPECTION PERFORMED	LEAKAGE FOUND		START TIME	STOP TIME	LEAKAGE VOLUME COLLECTED	LEAKAGE RATE
			YES	NO				
CELL-F08CA	HR Cont Spray X-Conn Line Flush	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>				

COMPLETED BY	DATE
T. Barr	12/14/79

90009040

DATA SHEET 2
RRR SYSTEM LEAKAGE

REASON FOR TEST: () SURVEILLANCE, () OTHER

COMPONENT NO.	DESCRIPTION	VISUAL INSPECTION PERFORMED	LEAKAGE FOUND		START TIME	STOP TIME	LEAKAGE VOLUME COLLECTED	LEAKAGE RATE
			YES	NO				
2E11-C002B	RHR Pump B (Shaft Seal Leakage)	✓		✓				
2E11-C002D	RHR Pump D (Shaft Seal Leakage)	✓		✓				
2E11-F031B	Pump C002B Disch Check	✓		✓				
2E11-F031D	Pump C002D Disch Check	✓	✓		0945	1045	< 1 ml	< 1 $\frac{ml}{HR}$
2E11-F004B	Pump C002B Torus Suct	✓		✓				
2E11-F004D	Pump C002D Torus Suct	✓		✓				
2E11-RV-F030D	Pump C002D Suct Relief	✓		✓				
2E11-RV-F030B	Pump C002B Suct Relief	✓		✓				
2E11-F071B	Pump C002B Suct Piping Drain	✓		✓				
2E11-F071D	Pump C002D Suct Piping Drain	✓		✓				
2E11-F046D	RHR Pump C002D Min Flow Check	✓		✓				
2E11-F046B	RHR Pump C002B Min Flow Check	✓		✓				
2E11-F034B	Pump C002B Disch.	✓		✓				
2E11-F072B	Pump C002B Disch Piping Drain	✓		✓				
2E11-RD-C002B	Pump C002B Disch Restricting Orifice	✓		✓				

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E. I. HATCH NUCLEAR PLANT
Georgia Power

DATA SHEET 2

POOR ORIGINAL

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E. I. HATCH NUCLEAR PLANT

Georgia Power



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DATA SHEET 2 (CONTINUED)

POOR ORIGINAL

DATA SHEET 2 (CONTINUED)
BUR SYSTEM LEAKAGE

REASON FOR TEST: () SURVEILLANCE, () OTHER

COMPONENT NO.	DESCRIPTION	LEAKAGE FOUND		VISUAL INSPECTION PERFORMED	START TIME	STOP TIME	LEAKAGE VOLUME COLLECTED	LEAKAGE RATE
		YES	NO					
2E11-F072D	Pump CG02D Disch Piping Drain		✓	✓				
2E11-F034D	Pump CG02D Disch.		✓	✓				
2E11-F000D	Pump CG02D Disch. Restricting Orifice		✓	✓				
2E11-F047B	RHR B HX Inlet	✓		✓	0945	1045	< 1 ml	< 1 ml/hr
2E11-F051B	RHR B HX Inlet Fm HPCI		✓	✓				
2E11-F055B	RHR B HX Inlet Relief		✓	✓				
2E11-F104B	RHR B HX Shell Vent		✓	✓				
Thermal Relief	RHR B HX Thermal Relief		✓	✓				
2E11-F112B	RHR B HX Shell Drain		✓	✓				
2E11-F053B	RHR Disch. to RCIC		✓	✓				
2E11-F054B	RHR Disch. to RCIC check		✓	✓				
2E11-F026B	RHR Disch. to RCIC		✓	✓				
2E11-F007B	RHR Pump Min Flow B Loop		✓	✓				
2E11-F011B	RHR B HX Drain to Suppression Pool		✓	✓				

90009042

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E. I. HATCH NUCLEAR PLANT
Georgia Power

PROJECT ORIGIN NO.	INSTRUMENT NO.
HNP-2-3-1	10009043
DATE NO.	10 04 15

POOR ORIGINAL

DATA SHEET 6 - CONTINUED

D616 SHEET 2 (CONT)
RHR SYSTEM LEAKAGE


HEADLINE FIRE TEST () DRIVE BEANCH () OTHER

COMPONENT NO.	DESCRIPTION	VISUAL INSPECTION PERFORMED	LEAKAGE FOUND		START TIME	STOP TIME	LEAKAGE VOLUME COLLECTED	LEAKAGE RATE
			YES	NO				
2E11-F124B	Jockey Pump Fill	✓		✓				
2E11-F04EB	RHR B HX Bypass	✓		✓				
149-F00EB	RHR to Post LOCA H2 Recombiner	✓		✓				
2E11-F018B	RHR Pump C002B Min Flow	✓	✓		0945	1045	< 1 ml	< 1 ml/hr
2E11-R0-D001B	Pump C002B Disch Restricting Orifice	✓		✓				
2E11-F01ED	Pump C002D Min Flow	✓		✓				
2E11-R0-D001D	RHR Pump C002D Min Flow	✓		✓				
2E11-F07EB	RHR-RHR SW X-ConnCheck	✓		✓				
2E11-F062B	RHR Disch. Line Flush	✓		✓				
2E11-RV-F025B	RHR Disch. to 2B31 Relief	✓		✓				
2E11-F017B	RHR Disch. to 2B31 Throttle	✓		✓				
2E11-FE-NG14B	RHR HX B Disch. flow Element	✓		✓				
2E11-F031B	RHR B HX Inlet from HPC1 Isol.	✓		✓				
2E11-F026B	Torus Spray Outbd. Isol.	✓	✓		1032	1033	106 ml	6360 ml/hr

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E. I. HATCH NUCLEAR PLANT

Georgia Power 

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DATA SHEET 2 (CONTINUED)
REASON FOR TEST: () SURVEILLANCE, () OTHER

REASON FOR TEST: () SURVEILLANCE, () OTHER

CONSEQUENT NO.	DESCRIPTION	VISUAL INSPECTION PERFORMED	LEAKAGE FORM YES NO	START TIME	STOP TIME	LEAKAGE VOLUME COLLECTED	LEAKAGE RATE
CELL-F01EB	H/R Disch. to Contmt. Spray Carb. Isol.	✓	✓		1		
CELL-F05EB	H/R Contmt. Spray X-Comm	✓	✓				

COMPLETED BY:	DATE
V. Ban	12/14/77

POOR ORIGINAL

90009044

APPROVAL
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E. I. HATCH NUCLEAR PLANT

Georgia Power 

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DATA SHEET 1

POOR ORIGINAL

DATA SHEET 1

CORE SPRAY SYSTEM LEAKRATE TEST

REASON FOR TEST: () SURVEILLANCE, () OTHER

Plant No. 21-C001

COMPONENT NO.	COMPONENT DESCRIPTION	VISUAL INSPECTION PERFORMED (✓)	LEAKAGE EQUIP. YES NO	START TIME	STOP TIME	LEAKAGE VOLUME COLLECTED	LEAKAGE RATE
2E21-C001	Core Spray Pump (Shaft Seal Leakage)	✓	✓				
2E21-H0-D002	Test Line Restricting Orifice (Flange Leakage)	✓	✓				
2E21-H0-D001 (At Minimum Flow)	Minimum Recirc. Line Restricting Orifice (Flange Leakage)	✓	✓				
2E21-F036 (At Minimum Flow)	Minimum Recirc. Line Check Valve (Gasket Leakage)	✓	✓				
2E21-F051	C003 Suction (Stem Leakage)	✓	✓				
2E21-F008	Reactor Bldg. Floor Drain Sump Isolation (Stem Leakage)	✓	✓				
2E21-F002	Condensate Test and Flush Supply Isolation (Stem Leakage)	✓	✓				
2E21-F032	C001 Suction Relief (Inlet Flange Leakage)	✓	✓				
2E21-F011 (Loop Is only)	Isolation Gravity Fill Isolation (Stem Leakage)	✓	✓				
2E21-F010	C001 Recirc. Line Manual Isolation (Stem Leakage)	✓	✓				
2E21-F031	C001 Minimum Recirc. Line Isolation (Stem Leakage)	✓	✓				
2E21-F020	F003 Bypass (Stem Leakage)	✓	✓				
2E21-F003	C001 Discharge Check (Gasket Leakage)	✓	✓				
2E21-F012	C001 Discharge Relief (Stem Leakage)	✓	✓				

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E. I. HATCH NUCLEAR PLANT
Georgia Power

PROJECT NO.	REVISION NO.
HNP-3-33-3-1	0
DATE	4-9-8

DATA SHEET 1-1-1-1-1

POOR ORIGINAL

COMPONENT NO.	COMPONENT DESCRIPTION	VISUAL INSPECTION PERFORMED (✓)	LEAKAGE FOUND		START TIME	STOP TIME	LEAKAGE VOLUME COLLECTED	LEAKAGE RATE
			YES	NO				
2E21-F015	C001 Test Line Isolation (Stem Leakage)	✓	✓		0830	0930	~ 1 ml	~ 1 ml/HR
2E21-F040	C003 Discharge to CS (Stem Leakage)	✓		✓				
2E21-F004	C001 Discharge to RPV Isolation (Stem Leakage)	✓		✓				
2E21-F013	CS Header Isolation Valve Test Connection (Stem Leakage)	✓		✓				
2E21-FE-1002	C001 Discharge Flow Element (Flange Leakage)	✓		✓				
2E21-RD-1003	C001 Discharge Restricting Orifice (Flange)	✓		✓				
N/A	Core Spray Pump Suction Spoolpiece (Flange Leakage)	NA						
N/A	Core Spray Pump Suction Spoolpiece (Flange Leakage)	NA						
N/A	Core Spray Pump Discharge Flange (Flange Leakage)	✓		✓				
2E21-F012	C001 Discharge Relief (Inlet Flange Leakage)	✓		✓				
2E21-F032	C001 Suction Relief (Stem Leakage)	✓		✓				
2E21-F001	Torus Suction (Stem Leakage)	✓		✓				
2E21-F005	Discharge to RPV (Stem Leakage)	✓		✓				

COMMENTS: INSTRUMENT VALVE AT JOCKEY PUMP DISCH TO CS LINE ~ 1 ml/HR LEAKAGE

COMPLETED BY
Bar
12/6/79

900009046


APPROVED

09 09 7 6 0 0 1

DATE

09 09 7 6 0 0 1

E. I. HATCH NUCLEAR PLANT

Georgia Power 

PROCEDURE NO
HNP-B-554-1

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DATA SHEET 1

POOR ORIGINAL

DATA SHEET 1

CORE SPRAY SYSTEM LEAKRATE TEST

REVISION 1 (1) REVISION 1 (1) REVISION 1 (1) REVISION 1 (1)

FORM 10-1-1001-1-1

COMPONENT NO.	COMPONENT DESCRIPTION	VISUAL INSPECTION PERFORMED (✓)	LEAKAGE ELIMINATED YES NO	START TIME	STOP TIME	LEAKAGE VOLUME COLLECTED	LEAKAGE RATE
2E21-C001	Core Spray Pump (Shaft seal Leakage)	✓	✓				
2E21-H0-D002	Test Line Restricting Orifice (Flange Leakage)	✓	✓				
2E21-H0-D001 (At Minimum Flow)	Minimum Recirc. Line Restricting Orifice (Flange Leakage)	✓	✓				
2E21-F003 (At Minimum Flow)	Minimum Recirc. Line Check Valve (Gasket Leakage)	✓	✓				
2E21-F001	C003 Suction (Stem Leakage)	✓	✓				
2E21-F008	Reactor Bldg. Floor Drain Sump Isolation (Stem Leakage)	✓	✓				
2E21-F002	Condensate Test and Flush Supply Isolation (Stem Leakage)	✓	✓				
2E21-F032	C001 Suction Relief (Inlet Flange Leakage)	✓	✓				
2E21-F011 (Loop b only)	Isolation Gravity Fill Isolation (Stem Leakage)	✓	✓	1415	1515	21 ml	21 ml/hr
2E21-F010	C001 Recirc. Line Manual Isolation (Stem Leakage)	✓	✓				
2E21-F031	C001 Minimum Recirc. Line Isolation (Stem Leakage)	✓	✓				
2E21-F070	F003 Bypass (Stem Leakage)	✓	✓				
2E21-F003	C001 Discharge Check (Gasket Leakage)	✓	✓				
2E21-F012	C001 Discharge Relief (Gasket Leakage)	✓	✓				

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APPROVAL	00000001
DATE	00000001

E. I. HATCH NUCLEAR PLANT

Georgia Power 

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DATA SHEET 1 (CONT)

POOR ORIGINAL

COMPONENT ID.	COMPONENT DESCRIPTION	VISUAL INSPECTION PERFORMED (✓)	LEAKAGE FURTHER YES NO	START TIME	STOP TIME	LEAKAGE AMOUNT CERTIFIED	LEAKAGE RATE
2E21-F015	CO01 Test Line Isolation (Stem Leakage)		✓	1430	1435	5 ml	60 ml/hr
2E21-F040	CO03 Discharge to CS (Stem Leakage)		✓				
2E21-F004	CO01 Discharge to RPV Isolation (Stem Leakage)		✓				
2E21-F013	CS Header Isolation Valve Test Connection (Stem Leakage)		✓				
2E21-FE-10002	CO01 Discharge Flow Element (Flange Leakage)		✓	1415	1515	< 1 ml	< 1 ml/hr
2E21-R0-0003	CO01 Discharge Restricting Orifice (Flange)		✓				
N/A	Core Spray Pump Suction Spoolpiece (Flange Leakage)	NA					
N/A	Core Spray Pump Suction Spoolpiece (Flange Leakage)	NA					
N/A	Core Spray Pump Discharge Flange (Flange Leakage)		✓	1415	1515	< 1 ml	< 1 ml/hr
2E21-F012	CO01 Discharge Relief (Inlet Flange Leakage)		✓				
2E21-F032	CO01 Suction Relief (Stem Leakage)		✓				
2E21-F001	Torus Suction (Stem Leakage)		✓				
2E21-F005	Discharge to RPV (Stem Leakage)		✓				15 ml/hr

COMMENTS:

COMPLETED BY	DATE
T. Barn	12/6/79

90009048

90009049

Figure 1. Schematic representation of the experimental design. The subjects were divided into two groups: the control group (CG) and the experimental group (EG). The CG was divided into two subgroups: the control group (CG) and the control group (CG). The EG was divided into two subgroups: the experimental group (EG) and the experimental group (EG). The subjects were divided into two groups: the control group (CG) and the experimental group (EG). The CG was divided into two subgroups: the control group (CG) and the control group (CG). The EG was divided into two subgroups: the experimental group (EG) and the experimental group (EG).

POOR ORIGINAL

DATA FILE 11 (CONT.)
COUNTY PLANT CULTIVATION LOGS 1986
$$T_{\text{EVAL}} = \text{time for } T_{\text{EVAL}}(t) \text{ to converge to } T_{\text{EVAL}}(t_{\text{max}}) \quad (1)$$
[illegible]

DATE *2/2/71*
COLLECTED BY *W. C. Davis*

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APPROVAL
DATE

E. I. HATCH NUCLEAR PLANT

Georgia Power

PROCEDURE NO.	HNP-2-3211-11
REVISION NO.	0
PAGE NO.	5 of 5

POOR ORIGINAL

FORM 100-1-2
JOCKEY PUMP START/STOP LOG SHEET

LOG SHEET FOR TEST: () Surveillance () Other	TEST/OPERATION	START TIME	STOP TIME	LEAKAGE VOLUME GALLONS	LEAKAGE RATE GPM
Jockey Pump Start/Stop Log Sheet	Jockey Pump Start/Stop				
	Jockey Pump Start/Stop				
	Jockey Pump Start/Stop				
	Jockey Pump Start/Stop				
	Jockey Pump Start/Stop				
Jockey Pump Start/Stop Log Sheet	Jockey Pump Start/Stop				
	Jockey Pump Start/Stop				
	Jockey Pump Start/Stop				
	Jockey Pump Start/Stop				
	Jockey Pump Start/Stop				
Jockey Pump Start/Stop Log Sheet	Jockey Pump Start/Stop				
	Jockey Pump Start/Stop				
	Jockey Pump Start/Stop				
	Jockey Pump Start/Stop				
	Jockey Pump Start/Stop				
Jockey Pump Start/Stop Log Sheet	Jockey Pump Start/Stop				
	Jockey Pump Start/Stop				
	Jockey Pump Start/Stop				
	Jockey Pump Start/Stop				
	Jockey Pump Start/Stop				
Jockey Pump Start/Stop Log Sheet	Jockey Pump Start/Stop				
	Jockey Pump Start/Stop				
	Jockey Pump Start/Stop				
	Jockey Pump Start/Stop				
	Jockey Pump Start/Stop				

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POOR ORIGINAL

Table 1. *Continued*

WALSH, J. E. (1967)
JOEY'S SUBTLE CHANGE

Reason for Test: () Surveillance, () Other

[illegible]

COPIED BY	DATE
T. Bang	12/2/97

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TABLE 1

4

Tabulation of Potential Problems Areas Revealed
As the Result of the Shielding Design Review

<u>Description of Problem</u>	<u>Modification Being Considered</u>
1. The location of the sample cask the liquid sample on Unit 2 is over the RHR corner room. The operator will have to enter elevation 130' and disconnect the sample cask and remove it to the hot machine shop. It has been determined that the operator will receive an approximate dose of 100 mr to accomplish this operation which is considered acceptable for the short term.	1. Since the dose to the operator has been determined to be so limited, no modification is considered necessary.
2. Elevation 130 in the reactor building	2. A more detailed analysis will be conducted and the equipment in the area found deficient will either be shielded, removed or its qualification upgraded to assure acceptable operation.
3. The corner rooms where the RHR and RCIC pumps are located along with the HPCI rooms in the reactor building.	3. A more detailed analysis will be conducted and the equipment in the area found deficient will either be shielded, removed, or its qualification upgraded to assure acceptable operation.
4. The area inside the southern portion of the railroad air lock on unit 1.	4. Shield the door or the reactor spray line to reduce the dose rate.
5. The area outside the truck door on unit 2.	5. Shield the door or the reactor spray line to reduce the dose rate.

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