

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

Rhode Island Atomic Energy Commission NUCLEAR SCIENCE CENTER 16 Reactor Road Narragansett, R.I. 02882-1165

August 26, 2002

Docket No. 50-193

Mr. Marvin Mendonca, Senior Project Manager Non-Power Reactors, Decommissioning and Environmental Project Directorate Division of Reactor Projects - III/IV/V U.S. Nuclear Regulatory Commission (NRC) Washington, D.C. 20555

Dear Mr. Mendonca,

This letter and enclosures constitute the annual report required by the RINSC Technical Specifications (Section 6.8.4). Enclosure 1 provides reactor operating statistics. Enclosure 2 provides information pertaining to inadvertent reactor shutdowns or scrams. Enclosure 3 discusses maintenance operations performed during the reporting period. Enclosure 4 describes changes to the facility carried out under the conditions of Section 50.59 of Chapter 10 of the Code of Federal Regulations. Lastly, Enclosure 5 summarizes the radiological controls information. If there are any questions regarding this information, please call me at 401-789-9391.

Sincerely,

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Wayne \$1moneau Assistant Director

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Enclosures (5)

Copy to :

Mr. Craig Bassett, USNRC Region I Dr. Harry Knickle, Chairman NRSC Dr. Vincent Rose, Chairman RIAEC Dr. Bruno Giletti, RIAEC Dr. Stanley J. Pickart, RIAEC Dr. Stephen Mecca, RIAEC Dr. Alfred L. Allen, RIAEC ŝ

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Technical Specifications Section 6.8.4.a (01-02)

		Reactor Critical	Energy Generated	Energy Generated
	Month	(hours)	(MWh)	(MWd)
Γ	July-01	13.28	24.62	1.03
	August-01	29.65	53.37	2.22
	September-01	9.25	17.40	0.73
	October-01	20.13	36.99	1.54
	November-01	15.77	28.84	1.20
	December-01	23.20	42.25	1.76
	January-02	24.05	45.13	1.88
	February-02	17.12	29.46	1.23
	March-02	15.95	31.84	1.33
	April-02	13.70	26.65	1.11
	May-02	17.87	33.28	1.39
	June-02	15.23	30.47	1.27
	2000-01 Totals:	215.20	400.30	16.68
Total Energy C	output since Initio	al Criticality:	58,065.66	2,419.40

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NSC-78		l		NSC-78					
	Month:	Jul-01				Revised	5/15/01		
			Cum	ulative M		TOTAL	LEU		
	Start:	57,665.36				End:	57,689.98	7,991.97	
	*adde	d HEU=496	98.01						
Run		Ave Pwr	Start	S/D	Operating	Todays	Stack	Ar-41 Re	leased
No.	Day	Level	Time	Time	Time	total	Monitor	Limit = 4E-4	uCi/cc
	(1-31)	(MW)	(hhmm)	(hhmm)	(hrs)	MWH	max CPM	uCl/cc	Ci/day
7396	3	1.85	0904	1144	2.67	4.93	9,000	2.74E-05	0.05
7397	5	1.85	0855	0907	0.20	0.37	7,000	2.13E-05	0.00
7398	10	1.85	0853	1054	2.02	3.73	8,000	2.43E-05	0.04
7399	13	1.85	0902	0935	0.55	1.02	1,000	3.04E-06	0.00
7400	17	1.85	1041	1146	1.08	2.00	9,000	2.74E-05	0.02
7401	19	1.90	1041	1132	0.85	1.62	1,000	3.04E-06	0.00
7402	24	1.85	1054	1150	0.93	1.73	7,000	2.13E-05	0.01
7403	26	1.85	1040	1237	1.95	3.61	8,000	2.43E-05	0.04
7404	31	1.85	0916	1218	3.03	5.61	9,000	2.74E-05	0.06
Totals:					13.28	24.62		1.79E-04	

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SUMMARY

Operating	Max.	Actual		Max.	Actual
Hours	140.0	13.3	MWH's:	280.0	24.6
Percentage		9%			9%

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NSC-78				NSC-78					
	Month:	Aug-01				Revised	5/15/01		
			Cum	ulative M	WH's		TOTAL	LEU	
	Start:	57,689.98				End:	57,743.35	8,045.34	
	*adde	d HEU=496	598.01						
Run		Ave Pwr	Start	S/D	Operating	Todays	Stack	Ar-41 R	eleased
No.	Day	Level	Time	Time	Time	total	Monitor	Limit = 4E-4 u	Ci/cc
	(1-31)	(MW)	(hhmm)	(hhmm)	(hrs)	MWH	max CPM	uCi/cc	Ci/day
7405	1	1.65	1019	1200	1.68	2.78	9,000	2.74E-05	0.03
7406	2	1.80	0912	1037	1.42	2.55	8,000	2.43E-05	0.03
7407	7	1.85	0915	1122	2.12	3.92	8,000	2.43E-05	0.04
7408	9	1.80	0926	1233	3.12	5.61	8,500	2.58E-05	0.06
7409	14	1.80	0902	1434	5.53	9.96	8,500	2.58E-05	0.11
7410	16	1.80	0907	1408	5.02	9.03	9,000	2.74E-05	0.10
7411	21	1.80	0908	1141	2.55	4.59	8,000	2.43E-05	0.05
7412	23	1.80	0913	1208	2.92	5.25	8,000	2.43E-05	0.05
7413	28	1.85	0911	1210	2.98	5.52	8,000	2.43E-05	0.05
7414	30	1.80	0917	1136	2.32	4.17	9,000	2.74E-05	0.05
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Totals:					29.65	53.37	1	2.55E-04	l

SUMMARY

Operating	Max.	Actual		Max.	Actual
Hours	140.0	29.7	MWH's:	280.0	53.4
Percentage		21%			19%

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NSC-78				NSC-78					
	Month:	Sep-01				Revised	5/15/01		
			Cum	ulative M	WH's		TOTAL	LEU	
	Start:	57,743.35				End:	57,760.75	8,062.74	
	*adde	d HEU=496	698.01						
Run		Ave Pwr	Start	S/D	Operating	Todays	Stack	Ar-41 R	eleased
No.	Day	Level	Time	Time	Time	total	Monitor	Limit = 4E-4 u	Ci/cc
	(1-31)	(MW)	(hhmm)	(hhmm)	(hrs)	MWH	max CPM	uCi/cc	Ci/day
7415	4	1.90	0911	0951	0.67	1.27	7,500	2.28E-05	0.01
7416	6	1.80	0907	0949	0.70	1.26	7,000	2.13E-05	0.01
7417	11	1.90	1131	1151	0.33	0.63	8,000	2.43E-05	0.01
7418	13	1.90	1135	1335	2.00	3.80	8,000	2.43E-05	0.04
7419	19	1.90	0918	1241	3.38	6.43	8,000	2.43E-05	0.06
7420	20	1.80	0858	0939	0.68	1.23	8,000	2.43E-05	0.01
7421	25	1.90	0851	0933	0.70	1.33	8,000	2.43E-05	0.01
7422	27	1.85	1030	1117	0.78	1.45	7,000	2.13E-05	0.01
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Totals:					9.25	17.40		1.87E-04	l

SUMMARY

Operating	Max.	Actual		Max.	Actual
Hours	140.0	9.3	MWH's:	280.0	17.4
Percentage		7%			6%

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NSC-78				NSC-78					
	Month:	Oct-01				Revised	5/15/01		
			Cum	ulative M	WH's		TOTAL	LEU	
	Start:	57,760.75				End:	57,797.74	8,099.73	
	*adde	d HEU=496	598.01						
Run		Ave Pwr	Start	S/D	Operating	Todays	Stack	Ar-41 R	eleased
No.	Day	Level	Time	Time	Time	total	Monitor	Limit = 4E-4 u	Ci/cc
	(1-31)	(MW)	(hhmm)	(hhmm)	(hrs)	MWH	max CPM	uCl/cc	Ci/day
7423	2	1.90	1029	1051	0.37	0.70	8,000	2.43E-05	0.01
7424	4	1.85	1017	1100	0.72	1.33	7,000	2.13E-05	0.01
7425	9	1.85	1053	1210	1.28	2.37	10,000	3.04E-05	0.03
7426	11	1.95	1044	1141	0.95	1.85	10,000	3.04E-05	0.02
7427	16	1.95	1054	1121	0.45	0.88	8,000	2.43E-05	0.01
7428	18	1.90	1051	1236	1.75	3.33	10,000	3.04E-05	0.04
7429	23	1.85	1049	1215	1.43	2.65	8,000	2.43E-05	0.03
7430	24	1.85	1316	1628	3.20	5.92	7,000	2.13E-05	0.05
7431	26	1.80	1053	1353	3.00	5.40	7,000	2.13E-05	0.05
7432	30	1.80	1044	1743	6.98	12.57	10,000	3.04E-05	0.16
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Totals:					20.13	36.99		2.58E-04	

SUMMARY

Operating	Max.	Actual		Max.	Actual
Hours	140.0	20.1	MWH's:	280.0	37.0
Percentage		14%			13%

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NSC-78				NSC-78					
	Month:	Nov-01				Revised	5/15/01		
			Cum	ulative M	WH's		TOTAL	LEU	
	Start:	57,797.74			End:	57,826.58	8,128.57		
	*adde	d HEU=496	598.01						
Run		Ave Pwr	Start	S/D	Operating	Todays	Stack	Ar-41 R	eleased
No.	Day	Level	Time	Time	Time	total	Monitor	Limit = 4E-4 u	Ci/cc
	(1-31)	(MW)	(hhmm)	(hhmm)	(hrs)	MWH	max CPM	uCi/cc	Ci/day
7433	1	1.90	1035	1149	1.23	2.34	6,000	1.82E-05	0.02
7434	6	1.65	0948	1109	1.35	2.23	9,000	2.74E-05	0.03
7435	8	1.90	1151	1455	3.07	5.83	10,000	3.04E-05	0.07
7436	13	1.85	1153	1301	1.13	2.10	7,000	2.13E-05	0.02
7437	15	1.85	1055	1426	3.52	6.51	10,000	3.04E-05	0.08
7438	20	1.80	1050	1125	0.58	1.05	8,000	2.43E-05	0.01
7439	26	1.80	1047	1256	2.15	3.87	8,000	2.43E-05	0.04
7440	29	1.80	1027	1311	2.73	4.92	9,000	2.74E-05	0.06
Totals:					15.77	28.84		2.04E-04	

SUMMARY

Operating	Max.	Actual		Max.	Actual
Hours	140.0	15.8	MWH's:	280.0	28.8
Percentage		11%			10%

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NSC-78				NSC-78					
	Month:	Dec-01				Revised	5/15/01		
			Cum		TOTAL	LEU			
	Start:	57,826.58		End:	57,868.84	8,170.83			
	*adde	d HEU=496	598.01					• ····	
Run		Ave Pwr	Start	S/D	Operating	Todays	Stack	Ar-41 R	eleased
No.	Day	Level	Time	Time	Time	total	Monitor	Limit = 4E-4 u	Ci/cc
	(1-31)	(MW)	(hhmm)	(hhmm)	(hrs)	MWH	max CPM	uCi/cc	Ci/day
7441	4	1.85	1047	1326	2.65	4.90	9,000	2.74E-05	0.05
7442	6		1126	1126					
7443	7	1.80	1008	1351	3.72	6.69	11,000	3.34E-05	0.09
7444	11	1.80	1109	1425	3.27	5.88	15,000	4.56E-05	0.11
7445	13	1.80	1042	1201	1.32	2.37	10,000	3.04E-05	0.03
7446	14	1.75	1117	1613	4.93	8.63	15,000	4.56E-05	0.17
7447	18	1.90	1047	1347	3.00	5.70	11,000	3.34E-05	0.07
7448	20	1.85	1209	1551	3.70	6.85	11,000	3.34E-05	0.09
7449	27	2.00	1108	1145	0.62	1.23	9,000	2.74E-05	0.01
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Totals:					23.20	42.25		2.77E-04	

SUMMARY

Operating	Max.	Actual		Max.	Actual
Hours	140.0	23.2	MWH's:	280.0	42.3
Percentage		17%			15%

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NSC-78			Monthly	[,] Informa	ation Shee	et		NSC-78		
1	Month:	Jan-02				Revised	5/15/01			
			Cum	ulative M	WH's		TOTAL	LEU		
	Start:	57,868.84				End:	57,913.97	8,215.95		
	*adde	d HEU=496	98.01							
Run		Ave Pwr	Start	S/D	Operating	Todays	Stack	Ar-41 Released		
No.	Day	Level	Time	Time	Time	total	Monitor	Limit = 4E-4 u	Ci/cc	
	(1-31)	(MW)	(hhmm)	(hhmm)	(hrs)	MWH	max CPM	uCi/cc	Ci/day	
7450	3	1.95	1056	1228	1.53	2.99	9,000	2.74E-05	0.03	
7451	8	1.95	1035	1159	1.40	2.73	8,000	2.43E-05	0.03	
7452	10	1.95	1055	1247	1.87	3.64	9,000	2.74E-05	0.04	
7453	11	0.10	1311	1417	1.10	0.11	1,500	4.56E-06	0.00	
7454	15	2.00	1106	1300	1.90	3.80	9,000	2.74E-05	0.04	
7455	17	1.95	1159	1500	3.02	5.88	8,000	2.43E-05	0.05	
7456	22	1.95	1107	1500	3.88	7.57	10,000	3.04E-05	0.09	
7457	24	1.90	1306	1606	3.00	5.70	10,000	3.04E-05	0.07	
7458	29	2.00	1128	1444	3.27	6.53	11,000	3.34E-05	0.08	
7459	31	2.00	1055	1400	3.08	6.17	11,000	3.34E-05	0.08	
Totals:					24.05	45.13		2.63E-04		

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SUMMARY

Operating	Max.	Actual		Max.	Actual
Hours	147.0	24.1	MWH's:	294.0	45.1
Percentage		16%		_	15%

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NSC-78		l		NSC-78					
1	Month:	Feb-02				Revised	5/15/01		
			Cum	ulative M	WH's		TOTAL	LEU	_
	Start:	57,913.97				End:	57,943.43	8,245.41	
	*adde	d HEU=496	98.01						
Run		Ave Pwr	Start	Start S/D Operating			Stack	Ar-41 Re	leased
No.	Day	Level	Time	Time Time Time		total	Monitor	Limit = 4E-4 u	ICI/cc
	(1-31)	(MW)	(hhmm)	(hhmm)	(hrs)	MWH	max CPM	uCi/cc	Ci/day
7460	5	2.00	1006	1050	0.73	1.47	8,000	2.43E-05	0.01
7461	7	1.90	1008	1308	3.00	5.70	9,000	2.74E-05	0.06
7462	12	1.95	1137	1220	0.72	1.40	7,000	2.13E-05	0.01
7463	14	2.00	1038	1338	3.00	6.00	9,000	2.74E-05	0.06
7464	19	2.00	1055	1150	0.92	1.83	8,000	2.43E-05	0.02
7465	21	2.00	1045	1200	1.25	2.50	9,000	2.74E-05	0.03
7466	26	1.25	0935	1530	5.92	7.40	9,000	2.74E-05	0.12
7467	28	2.00	1046	1221	1.58	3.17	9,000	2.74E-05	0.03
Totals:					17.12	29.46		2.07E-04	

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SUMMARY

Operating	Max.	Actual		Max.	Actual
Hours	140.0	17.1	MWH's:	280.0	29.5
Percentage		12%			11%

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NSC-78				NSC-78					
	Month:	Mar-02		Revised 5/15/01					
'			Cum	ulative M	WH's		TOTAL	LEU	
	Start:	57,943.43				End:	57,975.27	8,267.85	
	*adde	ed HEU=496	98.01						
Run		Ave Pwr	Start	S/D	Operating	Todays	Stack	Ar-41 Re	eleased
No.	Day	Level	Time	Time	Time	total	Monitor	Limit = 4E-4 uCi/cc	
	(1-31)	(MW)	(hhmm)	(hhmm)	(hrs)	MWH	max CPM	uCi/cc	Ci/day
7468	5	2.00	1030	1235	2.08	4.17	9,000	2.74E-05	0.04
7469	7	2.00	1116	1633	5.28	10.57	8,000	2.43E-05	0.10
7470	12	2.00	1049	1238	1.82	3.63	8,000	2.43E-05	0.03
7471	14	2.00	0949	1250	3.02	6.03	8,000	2.43E-05	0.05
7472	19	2.00	1112	1219	1.12	2.23	8,000	2.43E-05	0.02
7473	21	2.00	1107	1200	0.88	1.77	8,000	2.43E-05	0.02
7474	26	2.00	1136	1247	1.18	2.37	7,000	2.13E-05	0.02
7475	28	1.90	0915	0949	0.57	1.08	7,000	2.13E-05	0.01
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Totals:					15.95	31.84		1.92E-04	

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Operating	Max.	Actual		Max.	Actual
Hours	154.0	16.0	MWH's:	308.0	31.8
Percentage		10%			10%

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NSC-78		I	Monthly	[,] Informa	ation Shee	et		NSC-78	
	Month:	Apr-02				Revised	5/15/01		
			Cum	ulative M	WH's		TOTAL	LEU	
	Start:	57,975.27				End:	58,001.92	8,294.50	
	*adde	d HEU=496	98.01						
Run		Ave Pwr	Start	S/D	Operating	Todays	Stack	Ar-41 Released	
No.	Day	Level	Time	Time	Time	total	Monitor	Limit = 4E-4 u(Ci/cc
	(1-31)	(MW)	(hhmm)	(hhmm)	(hrs)	MWH	max CPM	uCi/cc	Ci/day
7476	2	2.00	0925	1135	2.17	4.33	7,000	2.13E-05	0.03
7477	4	2.00	1132	1212	0.67	1.33	7,000	2.13E-05	0.01
7478	9	1.95	0919	1019	1.00	1.95	7,000	2.13E-05	0.02
7479	11	1.95	1045	1311	2.43	4.75	10,000	3.04E-05	0.06
7480	16	1.85	0918	1112	1.90	3.52	10,000	3.04E-05	0.04
7481	18								
7482	23	1.90	0905	1200	2.92	5.54	10,000	3.04E-05	0.07
7483	25	2.00	1048	1147	0.98	1.97	9,000	2.74E-05	0.02
7484	30	2.00	1141	1319	1.63	3.27	7,000	2.13E-05	0.03
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	 				40.70	00.05		0.045.04	
Totals:	1				13.70	26.65	1	2.045-04	

Operating	Max.	Actual		Max.	Actual
Hours	147.0	13.7	MWH's:	294.0	26.7
Percentage		9%			9%

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NSC-78		1	Monthly		NSC-78				
	Month:	May-02				Revised	5/8/02		
			Cum	ulative M	WH's		TOTAL	LEU	_
	Start:	58,001.92				End:	58,035.20	8,327.78	
	*adde	ed HEU=496	98.01				Stack C	alibration Factor = 4	1 375E-9
Run		Ave Pwr	Start	S/D	Operating	Todays	Stack	Ar-41 Rele	ased
No.	Day	Level	Time	Time	Time	total	Monitor	Limit = 1.0E-03 uC	Ci/cc
	(1-31)	(MW)	(hhmm)	(hhmm)	(hrs)	MWH	max CPM	uCi/cc	% of Limit
7485	1	2.00	1052	1208	1.27	2.53	8,000	3.50E-05	3.50
7486	7	1.90	0857	1119	2.37	4.50	8,000	3.50E-05	3.50
7487	8	0.10	0926	1010	0.73	0.07	700	3.06E-06	0.31
7488	9	2.00	1120	1359	2.65	5.30	8,000	3.50E-05	3.50
7489	14	2.00	0909	1035	1.43	2.87	7,000	3.06E-05	3.06
7490	16	2.00	1111	1132	0.35	0.70	7,000	3.06E-05	3.06
7491	21	2.00	1051	1428	3.62	7.23	10,000	4.38E-05	4.38
7492	22	0.10	1444	1510	0.43	0.04	2,500	1.09E-05	1.09
7493	23	2.00	0959	1205	2.10	4.20	9,000	3.94E-05	3.94
7494	28	2.00	0902	1010	1.13	2.27	8,000	3.50E-05	3.50
7495	30	2.00	1013	1200	1.78	3.57	8,500	3.72E-05	3.72
Totals:					17.87	33.28	_	3.36E-04	

SUMMARY

Operating	Max.	Actual		Max.	Actual
Hours	161.0	17.9	MWH's:	322.0	33.3
Percentage		11%			10%

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NSC-78	Monthly Information Sheet							NSC-78	
	Month:	Jun-02				Revised	5/8/02		
I			Cum	ulative M	WH's		TOTAL	LEU	-
	Start:	58,035.20				End:	58,065.67	8,358.25	
	*adde	d HEU=496	98.01				Stack C	alibration Factor =	4 375E-9
Run		Ave Pwr	Start	S/D	Operating	Todays	Stack	Ar-41 Rele	eased
No.	Day	Level	Time	Time	Time	total	Monitor	Limit = 1.0E-03 u(
	(1-31)	(MW)	(hhmm)	(hhmm)	(hrs)	MWH	max CPM	uCi/cc	% of Limit
7496	4	2.00	0904	1116	2.20	4.40	9,000	3.94E-05	3.94
7497	6	2.00	1039	1151	1.20	2.40	7,000	3.06E-05	3.06
7498	11	2.00	1050	1114	0.40	0.80	8,000	3.50E-05	3.50
7499	13	2.00	1042	1155	1.22	2.43	8,000	3.50E-05	3.50
7500	18	2.00	1040	1406	3.43	6.87	9,000	3.94E-05	3.94
7501	20	2.00	1022	1243	2.35	4.70	9,000	3.94E-05	3.94
7502	25	2.00	0909	1150	2.68	5.37	8,000	3.50E-05	3.50
7503	27	2.00	1046	1231	1.75	3.50	6,000	2.63E-05	2.63
									<u> </u>
									<u> </u>
									<u> </u>
Totals:					15.23	30.47		2.80E-04	

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SUMMARY

Operating	Max.	Actual		Max.	Actual
Hours	147.0	15.2	MWH's:	294.0	30.5
Percentage		10%			10%

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EMERGENCY SHUTDOWNS AND SCRAMS

The following 1s a listing of the emergency shutdowns and inadvertent scrams, including the reasons, which occurred during the 2001-2002 reporting period. This information is required by Technical Specification 6.8.4.b.

DATE	RUN #	LOGBOOK / PAGE	CAUSE	
8/27/01	7412	50/17	Reactor scram caused by short period on the Log N	
			channel due to noise.	
8/30/01	7414	50/21	Reactor scram caused by short period on the Log N	
			channel due to noise.	
9/11/01	7417	50/24	Reactor scram caused by short period on the Log N	
			channel due to noise.	
9/13/01	7418	50/25	Reactor scram caused by short period on the Log N	
			channel due to noise.	
10/2/01	7423	50/31	Reactor scram caused by short period on the Log N	
			channel due to noise.	
10/9/01	7425	50/33	Reactor scram caused by short period on the Log N	
			channel due to noise.	
10/11/01	7426	50/35	Reactor scram caused by short period on the Log N	
			channel due to noise.	
10/16/01	7427	50/36	Reactor scram caused by short period on the Log N	
			channel due to noise.	
10/18/01	7428	50/37	Reactor scram caused by short period on the Log N	
			channel due to noise.	
11/13/01	7436	50/47	Reactor scram caused by short period on the Log N	
			channel due to noise.	
12/6/01	7442	50/58	Reactor scram caused by short period on the Log N	
10/6/04		50.450	channel due to noise.	
12/6/01	7442	50758	Reactor scram caused by spike on the wide Kange	
10/11/01		50.1.00	Monitor #2 channel due to loss of detector ground.	
12/11/01	/444	50760	Reactor scram caused by short period on the Log N	
10/20/01	7449	50165	Chainel due to holse.	
12/20/01	/448	50705	channel due to poise	
12/27/01	7440	50167	Chainer due to horse.	
12/2//01	7449	50707	channel due to poise	
1/3/02	7450	50/68	Reactor scram caused by short period on the Log N	
115/02	7450	50700	channel due to noise.	
1/10/02	7452	50 / 71	Reactor scram caused by short period on the Log N	
1,10,02	1.02	20111	channel due to noise.	
1/15/02	7454	50/74	Reactor scram caused by short period on the Log N	
			channel due to noise.	
1/17/02	7455	50 / 76	Reactor scram caused by short period on the Log N	
			channel due to noise.	
1/22/02	7456	50/78	Reactor scram caused by short period on the Log N	
			channel due to noise.	
1/24/02	7457	50/81	Reactor scram caused by short period on the Log N	
			channel due to noise.	
1/29/02	7458	50/83	Reactor scram caused by short period on the Log N	
			channel due to noise.	
2/5/02	7460	50/86	Reactor scram caused by short period on the Log N	
			channel due to noise.	
3/14/02	7471	50 / 100	Reactor scram caused by short period on the Log N	
			channel due to noise.	

3/19.02	7472	50 / 102	Reactor scram caused by short period on the Log N channel due to noise.
3/26/02	7474	50 / 104	Reactor scram caused by short period on the Log N channel due to noise.
4/30/02	7484	50/115	Reactor scram caused by short period on the Log N channel due to noise.
5/2/02	7485	50/117	Reactor scram caused by short period on the Log N channel due to noise.
5/9/02	7488	50 / 121	Reactor scram caused by short period on the Log N channel due to noise.
5/16/02	7490	50 / 124	Reactor scram caused by short period on the Log N channel due to noise.
5/21/02	7491	50 / 125	Reactor scram caused by short period on the Log N channel due to noise.
5/23/02	7493	50 / 127	Reactor scram caused by short period on the Log N channel due to noise.
6/6/02	7497	50 / 133	Reactor scram caused by short period on the Log N channel due to noise.

EMERGENCY SHUTDOWNS AND SCRAMS

All but one of the emergency shutdowns and scrams were due to noise on the Log N Period Channel. New instrumentation for this channel was installed, but the problem has continued. The connection between the detector and the instrumentation has been a makeshift connection because the connectors do not match. We are hopeful that once we get the proper matching connectors installed, the problem will be solved. The only scram that occurred that was not due to noise on the Log N Period channel was due to a spike on the Wide Range Monitor #2 channel. This was due to noise caused by the breakdown of the insulation between the detector and the shroud that it is in. The insulation has been replaced, and the channel is working properly.

The following is a listing of the major maintenance operations performed in the 2001-2002 reporting period which includes impact upon the safe operation of the reactor and the reasons for corrective maintenance. This information is required by Technical Specification 6.8.4.c.

1. Secondary System Cooling Tower Plumbing

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During the 2000-2001 reporting period, the secondary system cooling towers were relocated. The plumbing for this project was completed this year. Both cooling loops have been tested, and have been found to be working well.

FACILITY CHANGES - 10CFR50.59 REVIEW

The following is a listing and description of 10CFR50.59 evaluations conducted during the 2001-2002 reporting period. This information is required by Technical Specification 6 8.4.d.

1. Instrumentation Upgrade

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With funds from the Reactor Instrumentation Grant Program, RINSC purchased and received a new Gamma Metrics Neutron Flux Monitor to replace the Log N Power, Log N Period, and Start-Up channels. Pursuant to 10CFR50.59, a committee was formed to evaluate this change, and it found that the upgrade did not involve a change in the Technical specifications, nor did it create an unreviewed safety question.

RADIOLOGICAL CONTROLS

1. Environmental Surveys Outside the Facility - Technical Specification 6.8.4.e

3.

Quarterly OSL¹ badges are deployed outside the reactor building in three separate locations. The general public does not frequent these locations and therefore occupancy factors may be used to approximate annual dose. The allowable external dose rates must be below 50 mrem per year. The quarterly doses in units of mrem are shown in the table below.

LOCATION	3 RD QTR 2001	4 TH QTR 2001	1 ST QTR 2002	$2^{\text{ND}} \text{QTR } 2002^2$
Northeast Wall	49	33	29	32
Demineralizer Door	68	80	68	69
Heat Exchanger Door	5	6	4	13

These areas are in locations where access is limited. Consequently, the general public will not frequent these areas, and appropriate occupancy factors can be used to approximate annual dose. Assuming that the maximum time that a member of the general public would be present in one of these locations is 15 minutes per day, an occupancy factor of 0.01 can be used to obtain the annual dose that would be received by a member of the general public, in any of these areas.

The dose rate in the Northeast Wall area is due to storage of RAM, and is present regardless of reactor operation. Applying the occupancy factor, the annual dose to an individual in this area would be 1.43 mrem over the course of last year. The annual dose rate at the Demineralizer and Heat Exchanger Doors is dependent on the operations schedule of the reactor. Ignoring the fact that the dose rate is not present 24 hours per day, and applying the occupancy factor of 0.01, the annual dose that would be received by an individual at the Demineralizer Door would be 2.85 mrem. Likewise the dose received at the Heat Exchanger Door would be 0.28 mrem.

2. Annual Exposures Exceeding 500 mrem - Technical Specification 6.8.4.f

There were no personnel exposures greater than 500 mrem.

3. Radioactive Effluents - Technical Specification 6.8.4.g

A. Gaseous effluent concentrations are documented on the Monthly Information Sheets (Form NSC-78) enclosed. The gaseous effluents, primarily Argon-41, were less than 5% of the 10 CFR 20, Appendix B, Table 2, Column 1 effluent limits.

B. Liquid effluent concentrations released to the sewer are documented on the Sewer Disposal Record (Form NSC-52) and/or the Liquid Release Record (Form NSC-17). . No liquids were discharged during the reporting period.

¹ Optically Stimulated Luminescence

² Landauer reads the OSL dosimeters to 1 mrem.