



SACRAMENTO MUNICIPAL UTILITY DISTRICT □ 6201 S Street, Box 15830, Sacramento, California 95813; (916) 452-3211

Nov. 23, 1982

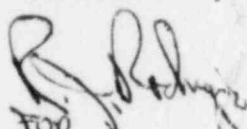
DIRECTOR OF NUCLEAR REACTOR REGULATION
ATTN: JOHN F STOLZ, CHIEF
OPERATING REACTORS BRANCH 4
U S NUCLEAR REGULATORY COMMISSION
WASHINGTON DC 20555

DOCKET NO. 50-312
LICENSE NO. DPR-54
ACTION PLAN ITEM II.k.3.17, REPORT ON OUTAGES OF ECCS SYSTEMS REQUEST
FOR ADDITIONAL INFORMATION

Attached is a compilation of the data requested by Franklin Research Center. In some instances, estimates have been made as was indicated as acceptable in your letter dated July 15, 1982.

This information should be considered as a supplement to the data provided in our January 16, 1982 letter to Mr. R. W. Reed.

If you have questions concerning this information, please contact Mr. Ron Colombo of my Rancho Seco staff.


FOY
John J. Mattioli
General Manager

Attachment

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PDR ADDCK 05000312
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ATTACHMENT I

EXPLANATION OF DATA

Section 1 Maintenance Outages of Specific ECCS Components and Valves

The period covered by this section is 1975 through 1980. There are two points that should be made clear concerning the data in this section. First, the outage date is the date the work request was signed off. Our current records system does not provide a satisfactory means, with the resources available, to identify the exact date that a component was actually worked on. Therefore, the data provided in Section 1 for the outage date represents an approximation of the date the component was worked on.

The second point that needs amplification is the column for duration. This data reflects the amount of the time actually spent working on the components, hence, it would logically underestimate slightly the overall outage time.

ECC and EMERGENCY DIESEL OUTAGE SUMMARY

SYSTEM	SIM				
Outage Date	Duration	Component, System or Train Involved	Reason for Outage (Surveillance Testing, Planned, Unplanned, Preventive Maint.)	Corrective Action Taken	Additional Comments
10-29-76	2 hrs.	P-236 Makeup Pump	Maintenance	Tightened Seal Water Fittings	Channel 1A & 1B
9-30-77	75 hrs.	P-236 Makeup Pump	Maintenance	Replace Seals	Channel 1A & 1B
9-14-77	2 hrs.	P-236 Makeup Pump	Testing (ISI on Suction & Discharge Piping)		Channel 1A & 1B
12-20-78	1 hr.	P-236 Makeup Pump	Maintenance	Adjust Setpoint	Channel 1A & 1B
4-24-81	1.5 hr.	P-236 Makeup Pump	Maintenance	Replace Gaskets	Channel 1A & 1B
8-19-78	2.5 hr.	P-236 Makeup Pump	Maintenance	Change Filters	Channel 1A & 1B
2-22-80	2 hr.	P-236 Makeup Pump	Maintenance	Install Additional Equipment	Channel 1A & 1B
1-30-80	6 hr.	P-236 Makeup Pump	Maintenance	Performed P.M.'s	Channel 1A & 1B

ECC and EMERGENCY DIESEL OUTAGE SUMMARY

SYSTEM	HPI				
Outage Date	Duration	Component, System or Train Involved	Reason for Outage (Surveillance Testing, Planned, Unplanned, Preventive Maint.)	Corrective Action Taken	Additional Comments
2-25-77	1 hrs.	P-238A HP Injection Pump	Maintenance		Channel 1A
1-09-79	10 hrs.	P-238A HP Injection Pump	Maintenance	Removed Oil Pump, Re-installed Pump & Rewired	Channel 1A
1-09-79	4 hrs.	P-238A HP Injection Pump	Maintenance	Adjust Pressure Setpoints	Channel 1A
2-26-80	20 hrs.	P-238A HP Injection Pump	Maintenance	Modification	Channel 1A

ECC and EMERGENCY DIESEL OUTAGE SUMMARY

SYSTEM	DHS				
Outage Date	Duration	Component, System or Train Involved	Reason for Outage (Surveillance Testing, Planned, Unplanned, Preventive Maint.)	Corrective Action Taken	Additional Comments
7-30-77	4 hrs.	P-261A D.H.R. Pump	Maintenance	Replace C.S. Piping With Copper	Channel 2A
12-15-78	2.5 hrs.	P-261A D.H.R. Pump	Maintenance	Grind Welds	Channel 2A
12-05-78	10 hrs.	P-261A D.H.R. Pump	Maintenance	Replace Casing Gasket & Mech. Seal	Channel 2A
5-23-79	10 hrs.	P-261A D.H.R. Pump	Maintenance	Install New Seal & Bearings	Channel 2A
10-11-76	2 hrs.	P-261B D.H.R. Pump	Maintenance	Reseated Bearing Cap on Inboard Motor Bearing	Channel 2B
7-30-77	8 hrs.	P-261B D.H.R. Pump	Maintenance	Replace C.S. Pipe With Copper	Channel 2B
6-29-78	9 hrs.	P-261B D.H.R. Pump	Maintenance	Repair Pump Seal	Channel 2A
6-27-78	2 hrs.	P-261B D.H.R. Pump	Maintenance	Tighten Coupling	Channel 2A
2-02-80	15 hrs.	P-261A D.H.R. Pump	Maintenance	Replaced Outboard Mechanical Seal	Channel 2A

ECC and EMERGENCY DIESEL OUTAGE SUMMARY

SYSTEM CBS

Outage Date	Duration	Component, System or Train Involved	Reason for Outage (Surveillance Testing, Planned, Unplanned, Preventive Maint.)	Corrective Action Taken	Additional Comments
10-06-77	10 hrs.	P-291A Rx Spray Pump	Maintenance	Cleaned Plug Threads & Replaced	Channel 3A
7-30-77	4 hrs..	P-291A Rx Spray Pump	Maintenance	Replaced C.S. Pipe With Copper	Channel 3A
9-10-76	1/2 hr.	P-291B Rx Spray Pump	Maintenance	Cleaned Threads & Installed Seal Line	Channel 3B
4-07-77	3 hrs.	P-291B Rx Spray Pump	Maintenance	Cleaned Bearing On Cooler	Channel 3B
5-02-78	2 hrs.	P-291B Rx Spray Pump	Maintenance	Replace Control BLPB	Channel 3B
4-07-80	12 hrs.	P-291A Rx Spray Pump	Maintenance	Disassemble and Reassemble Pump	Channel 3A
10-20-80	3.5 hrs.	P-291B Rx Spray Pump	Maintenance	Replace Suction Flange Gasket	Channel 3B

ECC and EMERGENCY DIESEL OUTAGE SUMMARY

SYSTEM	FIIS				
Outage Date	Duration	Component, System or Train Involved	Reason for Outage (Surveillance Testing, Planned, Unplanned, Preventive Maint.)	Corrective Action Taken	Additional Comments
2-18-77	1 hr.	P-318 Aux. Feedwater Pump (F.W.P.)	Maintenance	Tighten Oil Feeder	Channel 2A & 2B
5-05-78	1 hr.	P-318 Aux. Feedwater Pump (F.W.P.)	Maintenance	Inspected Bearing	Channel 2A & 2B
P-318 Aux.		Feedwater Pump (F.W.P.)	Maintenance	Changed Oil in Gov. System	Channel 2A & 2B
8-02-78	1/2 hr.	P-318 Aux. Feedwater Pump (F.W.P.)	Maintenance	Replace Cannon Plug (Electrical)	Channel 2A & 2B
11-09-78	4 hrs.	P-318 Aux. Feedwater Pump (F.W.P.)	Maintenance		

ECC and EMERGENCY DIESEL OUTAGE SUMMARY

SYSTEM	NRW				
Outage Date	Duration	Component, System or Train Involved	Reason for Outage (Surveillance Testing, Planned, Unplanned, Preventive Maint.)	Corrective Action Taken	Additional Comments
10-02-77	2 hrs.	P-472A NSRW Pump	Maintenance	Removed Temp. Orifice	Channel 1A
2-17-77	4 hrs.	P-472A NSRW Pump	Maintenance	Checked Start Circuit	Channel 1A
9-15-77	80 hrs.	P-472A NSRW Pump	Maintenance	Disassembled, Inspected & Reassembled Pump	Channel 1A
8-28-79	4 hrs.	P-472A NSRW Pump	Maintenance	Inspected Pump (Electrical)	Channel 1A
9-21-77	75 hrs.	P-472A NSRW Pump	Maintenance	Motor Maint.; Electrical	Channel 1A
10-13-76	1/2 hr.	P-472B NSRW Pump	Maintenance	Remove Orifice	Channel 1B
12-14-77	8 hrs.	P-472B NSRW Pump	Maintenance	Electrical Inspection	Channel 1B
6-13-79	1 hr.	P-472B NSRW Pump	Maintenance	Replace Bearings (Motor)	Channel 1B
10-18-77	147 hrs.	P-472B NSRW Pump	Maintenance	Motor	Channel 1B

ECC and EMERGENCY DIESEL OUTAGE SUMMARY

SYSTEM	NSW				
Outage Date	Duration	Component, System or Train Involved	Reason for Outage (Surveillance Testing, Planned, Unplanned, Preventive Maint.)	Corrective Action Taken	Additional Comments
10-31-77	50 hrs.	P-482A NSCW Pump	Maintenance	Disassemble, Inspect, & Reassemble	Channel 1A
9-30-77	15 hrs.	P-482A NSCW Pump	Maintenance	Motor	Channel 1A

ECC and EMERGENCY DIESEL OUTAGE SUMMARY

SYSTEM	HVS				
Outage Date	Duration	Component, System or Train Involved	Reason for Outage (Surveillance Testing, Planned, Unplanned, Preventive Maint.)	Corrective Action Taken	Additional Comments
9-30-77	1 hr.	A-500A Emer. Cooling Unit	Maintenance	Bridged and Meggered Motor	Channel 1A
10-18-77	10 hrs.	P-500A Emer. Cooling Unit	Maintenance	Modify Vent Line	Channel 1A
10-20-77	5 hrs.	P-500A Emer. Cooling Unit	Testing	Hydro Test Line 50050	Channel 1A
11-07-77	2 hrs.	P-500A Emer. Cooling Unit	Maintenance	Torqued Head and Plugged Vent Valve	Channel 1A
1-28-80	1/2 hr.	P-500A Emer. Cooling Unit	Maintenance	Inspection	Channel 1A
9-30-77	1 hr.	P-500B Emer. Cooling Unit	Maintenance	Meggered Motor	Channel 1B
10-28-77	2 hrs.	P-500B Emer. Cooling Unit	Maintenance	Torqued Head Bolts	Channel 1B
5-30-77	1 hr.	P-500C Emer. Cooling Unit	Maintenance	Bridged and Meggered Motor	Channel 1A
10-27-77	2 hrs.	A-500C Emer. Cooling Unit	Maintenance	Torqued Head and Capped Vent Valve	Channel 1A
9-30-77	3 hrs.	P-500D Emer. Cooling Unit	Maintenance	Meggered Motor	Channel 1B

ECC and EMERGENCY DIESEL OUTAGE SUMMARY

SYSTEM		HVS			
Outage Date	Duration	Component, System or Train Involved	Reason for Outage (Surveillance Testing, Planned, Unplanned, Preventive Maint.)	Corrective Action Taken	Additional Comments
2-10-76	5.5 hrs.	P-500D Emer. Cooling Unit	Testing	Replaced Control Device	Channel 1B
11-01-77	1 hr.	A-500D Emer. Cooling Unit	Maintenance	Installed Seal	Channel 1B
11-22-78	2 hrs.	A-532A Rx Bldg. Upper Dome Emer. Circulator	Maintenance (Preventive)	Lubricated Motor Bearings	Channel 1A
9-30-77	1 hr.	A-532B Rx Bldg. Upper Dome Emer. Circulator	Maintenance	Bridged and Meggered Motor	Channel 1A
9-30-77	1 hr.	A-532C Rx Bldg. Upper Dome Circulator	Maintenance	Bridged and Meggered Motor	Channel 1B
9-30-77	1 hr.	A-532D Rx Bldg. Upper Dome Circulator	Maintenance	Bridged and Meggered Motor	Channel 1B
9-30-77	1 hr.	A-532A Rx Bldg. Upper Dome Emer. Air Circulator	Maintenance	Bridged and Meggered Motor	Channel 1A

ECC and EMERGENCY DIESEL OUTAGE SUMMARY

SYSTEM		MISC. VALVES			
Outage Date	Duration	Component, System or Train Involved	Reason for Outage (Surveillance Testing, Planned, Unplanned, Preventive Maint.)	Corrective Action Taken	Additional Comments
3-14-77	2 hrs.	FV-30801 Channel 2B	Maintenance	Removed Reset Buttons	MSS System
11-30-77	4 hrs.	FV-30801 Channel 2B	Maintenance	Recalibrated Pressure Switches	MSS System
1-29-80	8 hrs.	FV-30801 Channel 2B	Maintenance	Controls Modification	MSS System
7-02-79	2 hrs.	SFV-20578 Channel 1A	Maintenance	Reset Torque Switch	FIS System
7-09-79	2 hrs.	SFV-20577 Channel 1B	Maintenance	Reset Torque Switch	FIS System
6-20-78	1 hr.	SFV-22005 Channel 1A	Maintenance	Installed New Bonnet Studs & Gaskets	PLS System
6-20-78	1.5 hrs.	SFV-22005 Channel 1A	Maintenance	Replaced Resistor	
12-09-78	2 hrs.	SFV-22009 Channel 1B	Maintenance	Adjust Limit Switches .	PLS System
4-01-80	4 hrs.	SFV-22009 Channel 1B	Maintenance	Controls Modification	
9-24-76	1 hr.	SFV-22023 Channel 1A	Maintenance	Clean Boric Acid From Packing Gland	PLS System
2-16-80	20 hrs.	SFV-22023 Channel 1A	Maintenance	Modification	

ECC and EMERGENCY DIESEL OUTAGE SUMMARY

SYSTEM MISC. VALVES

Outage Date	Duration	Component, System or Train Involved	Reason for Outage (Surveillance Testing, Planned, Unplanned, Preventive Maint.)	Corrective Action Taken	Additional Comments
5-19-79	1/2 hr.	SFV-23616 Channel 1A & 1B	Maintenance	Replaced Valve	SIM System
3-06-80	300 hrs.	SFV-23604 Channel 1A & 1B	Maintenance	Modification	SIM System
4-21-80	1 hr.	SFV-23604 Channel 1A & 1B	Maintenance	Adjusted Limit Switch Contacts	SIM System
3-14-80	200 hrs.	SFV-23809 Channel 1A & 1B	Maintenance	Modification	SIM System
3-04-80	3 hrs.	SFV-23809 Channel 1A & 1B	Maintenance	Removed AC Operator, Replaced With DC Operator	SIM System
10-12-76	4 hrs.	SFV-23810 Channel 1A & 1B	Maintenance	Repacked Valve	SIM System
9-21-77	2 hrs.	SFV-23810 Channel 1A & 1B	Maintenance	Repair Valve To Open Manually	SIM System
10-05-77	11.5 hrs.	SFV-23810 Channel 1A & 1B	Maintenance	Disconnect & Reconnect Valve (Electrical)	SIM System
3-06-80	300 hrs.	SFV-23810 Channel 1A & 1B	Maintenance	Modification	SIM System
3-11-80	300 hrs.	SFV-23811 Channel 1A & 1B	Maintenance	Modification	SIM System
9-29-77	2 hrs.	SFV-23812 Channel 1A & 1B	Maintenance	Repaired Valve To Open in Manual	SIM System

ECC and EMERGENCY DIESEL OUTAGE SUMMARY

SYSTEM MISC. VALVES

Outage Date	Duration	Component, System or Train Involved	Reason for Outage (Surveillance Testing, Planned, Unplanned, Preventive Maint.)	Corrective Action Taken	Additional Comments
3-06-80	300 hrs.	SFV-23604 Channel 1A & 1B	Maintenance	Modification	SIM System
11-30-77	1 hr.	SFV-25003 Channel 4A	Maintenance	Tested Torque Switch Setting	BWS System
11-02-77	4 hrs.	SFV-25003 Channel 4A	Maintenance	Installed New Gears	BWS System
5-06-80	1 hr.	SFV-25003 Channel 4A	Maintenance	Installed New Gears	BWS System
3-22-80	6 hrs.	SFV-25003 Channel 4A	Maintenance	Replaced Clutch & Gears	BWS System
6-03-76	8 hrs.	SFV-25004 Channel 1B	Maintenance	Disassembled, Repaired, Reassembled & Repacked	BWS System
10-31-77	2 hrs.	SFV-25004 Channel 1B	Maintenance	Replaced Damaged Gears	BWS System
1-13-78	6 hrs.	SFV-26005 Channel 2A	Maintenance	Disassembled & Inspected Clutch Gear & Internals	DHS System
1-13-78	1 hr.	SFV-26006 Channel 2B	Maintenance	Disassemble Operator, In- spected Clutch Gears	DHS System
10-09-78	3 hrs.	SFV-26006 Channel 2B	Maintenance	Replaced Gearing & Operator	DHS System
9-17-78	2 hrs.	SFV-26006 Channel 2B	Maintenance	Disconnected & Re- connected Motor Operator	DHS System

ECC and EMERGENCY DIESEL OUTAGE SUMMARY

SYSTEM	MISC. VALVES				
Outage Date	Duration	Component, System or Train Involved	Reason for Outage (Surveillance Testing, Planned, Unplanned, Preventive Maint.)	Corrective Action Taken	Additional Comments
10-25-77	5 hrs.	SFV-26039 Channel 2A	Maintenance	Replaced Torque Switch	DHS System
1-13-78	2 hrs.	SFV-26030 Channel 2A	Maintenance	Inspect Internal Gear & Clutch On Operator	DHS System
5-25-76	2 hrs.	SFV-26040 Channel 2B	Maintenance	Replaced Two Gears In Operator	DHS System
1-13-78	4 hrs.	SFV-26040 Channel 2B	Maintenance	Inspected Operator Clutch Dogs & Gears	DHS System
11-01-78	1 hr.	SFV-29108 Channel 4B	Maintenance	Tightened Plug	CBS
10-20-77	15 hrs.	SFV-50005 Channel 1A	Test	Test Valve For Leakage With Air & Water	NSW
10-20-77	10 hrs.	SFV-50007 Channel 1A	Test	Tested Valve For Leakage	NSW
10-20-77	10 hrs.	SFV-50008 Channel 1B	Test	Hydro Tested Valve	NSW
9-21-77	1 hr.	SFV-50009 Channel 1A	Maintenance	Cleaned Contacts On Motor Operator	NSW
10-20-77	20 hrs.	SFV-50009 Channel 1A	Maintenance	Removed & Replaced Valve; Tested For Leakage	NSW
10-20-77	5 hrs.	SFV-50010 Channel 1B	Test	Hydroed Valve	NSW
7-26-76	4 hrs.	SFV-50011 Channel 1A	Maintenance	Reset Close Limit	NSW

ECC and EMERGENCY DIESEL OUTAGE SUMMARY

SYSTEM MISC. VALVES

Outage Date	Duration	Component, System or Train Involved	Reason for Outage (Surveillance Testing, Planned, Unplanned, Preventive Maint.)	Corrective Action Taken	Additional Comments
9-21-77	1 hr.	SFV-50011 Channel 1A	Maintenance	Reseated Magnetic Coil	NSW
10-20-77	10 hrs.	SFV-50011 Channel 1A	Test	Tested Valve For Leakage	NSW
10-20-77	5 hrs.	SFV-50012 Channel 1B	Test	Hydro Tested Valve	NSW
9-29-77	4 hrs.	SFV-53503 Channel 1B	Maintenance	Adjusted Seal Ring	HVS
10-17-75	3 hr.	SFV-53504 Channel 1A	Maintenance	Adjusted Valve Seat Ring To Stop Leak	HVS
10-05-77	1 hr.	SFV-53504 Channel 1A	Maintenance	Adjusted Relay	HVS
9-29-77	3.5 hrs.	SFV-53504 Channel 1A	Maintenance	Replaced Seal Ring	HVS
12-21-77	6 hrs.	SFV-53504 Channel 1A	Maintenance	Changed Seats & Adjusted	HVS
12-15-78	10 hrs.	SFV-53504 Channel 1A	Maintenance	Changed Seats & Adjusted	HVS
12-12-77	1/2 hr.	SFV-53504 Channel 1A	Maintenance	Inspect Operator Internals	HVS
12-21-77	3 hrs.	SFV-53603 Channel 1A	Maintenance	Inspected Drive Gear & Clutch Assembly	HVS
12-12-77	1/2 hr.	SFV-53603 Channel 1A	Maintenance	Inspected Internals On Operator	HVS

ECC and EMERGENCY DIESEL OUTAGE SUMMARY

SYSTEM MISC. VALVES

Outage Date	Duration	Component, System or Train Involved	Reason for Outage (Surveillance Testing, Planned, Unplanned, Preventive Maint.)	Corrective Action Taken	Additional Comments
10-13-75	2 hrs.	SFV-50011 Channel 1B	Maintenance	Repositioned Seat Ring	HVS
10-13-75	4 hrs.	SFV-53604 Channel 1B	Maintenance	Replaced Seat	HVS
2-10-76	2 hrs.	SFV-53604 Channel 1B	Maintenance	Leak Checked Seat	HVS
9-29-77	3.5 hrs.	SFV-53604 Channel 1B	Maintenance	Adjusted Seal Ring	HVS
12-15-78	10 hrs	SFV-53604 Channel 1B	Maintenance	Replaced Seat & Adjusted	HVS
10-13-75	2 hrs.	SFV-53605 Channel 1A	Maintenance	Reposition Seat Ring	HVS

ECC and EMERGENCY DIESEL OUTAGE SUMMARY

SYSTEM MISC. VALVES

Outage Date Range*	Duration Approx*	Component, System or Train Involved	Reason for Outage (Surveillance Testing, Planned, Unplanned, Preventive Maint.)	Corrective Action Taken	Additional Comments
					HVS
9-29-77	3.5 hrs.	SFV-53605 Channel 1A	Maintenance	Replaced Seal Ring	HVS
12-21-77	3 hrs.	SFV-53605 Channel 1A	Maintenance	Inspect Gear & Clutch Assembly For Operator	HVS
12-15-78	10 hrs.	SFV-53605 Channel 1A	Maintenance	Replaced Seats & Adjusted	HVS
12-12-77	3 hrs.	SFV-53605 Channel 1A	Maintenance	Inspected Operator Internals	HVS
9-24-77	3 hrs.	SFV-70001 Channel 1A	Maintenance	Repaired Valve	RSS
5-25-76	1 hr.	SFV-70002 Channel 1B	Maintenance	Checked Valve Stroke & Limit Switch	RSS
9-21-77	1 hr.	SFV-72501 Channel 1A	Maintenance	Tighted Electrical Resistor Connection	PRT
10-13-76	1 hr.	SFV-72502 Channel 1B	Maintenance	Adjusted Limit Switch	PRT
4-12-77	3 hrs.	SFV-72502 Channel 1B	Maintenance	Adjusted Limit Switch	PRT
7-31-78	3 hrs.	SFV-72502 Channel 1B	Maintenance	Adjusted Limit Switch	PRT
7-21-77	1 hr.	SFV-92520 Channel 1A & 1B	Maintenance	Adjusted Limit Switch	NGS

ECC and EMERGENCY DIESEL OUTAGE SUMMARY

SYSTEM MISC. VALVES

Outage Date	Duration	Component, System or Train Involved	Reason for Outage (Surveillance Testing, Planned, Unplanned, Preventive Maint.)	Corrective Action Taken	Additional Comments
3-05-80	1.5 hrs.	SFV-26040 Channel 2B	Maintenance	Modification	DHS SYSTEM
9-24-80	2 hrs.	SFV-53503 Channel 1B	Maintenance	Inspection	HVS System
1-29-80	5 hrs.	SFV-53603 Channel 1A	Maintenance	Leak Test	HVS System
3-16-80	8 hrs.	SFV-53604 Channel 1B	Maintenance	Adjusted Valve Seats To Eliminate Leakage	HVS System
3-17-80	10 hrs.	SFV-53605 Channel 1A	Maintenance	Adjusted Valve Seats To Eliminate Leakage	HVS System

EXPLANATION OF DATA

Section 2 Outages of Emergency Diesel Generators

The data provided for the Emergency Diesels is for the period 1976-1980. This is a copy of a report submitted to the NRC on January 20, 1982. Specific outage dates are not readily available except for those outages corresponding to LER's. These are provided in Table 4.

The data was compiled in response to an Information Request dated July 21, 1981, regarding station blackout unresolved safety issue A-44.

EXPLANATION OF DATA

Section 2 Outages of Emergency Diesel Generators

The data provided for the Emergency Diesels is for the period 1976-1980. This is a copy of a report submitted to the NRC on January 20, 1982. Specific outage dates are not readily available except for those outages corresponding to LER's. These are provided in Table 4.

The data was compiled in response to an Information Request dated July 21, 1981, regarding station blackout unresolved safety issue A-44.

TABLE 1 Diesel Generator Operations Data
 Calendar Year 1976

Reason for DC Operation, & scheduled Duration of Run	No. Starts	Number of Failures	Percent Loading of DC (Kil)	Duration of Run Before Stop For Each DC Failure	Identification of Failure (Refer to Table 3)
Tech. Spec Req'd Test					
Monthly Surveillance (2 hrs.) (1 start/test)	A 13	1	91	25 min.	(LER 76-16)
	B 12	1	91	0 min.	(LER 76-09)
Refueling Outage (12 hrs.) (1 start/test)	A 1	0	100		
	B 1	0	100		
Tech. Spec. Req'd. Test (2 hrs.) (1 start/test)	A 10	1	91	0 min.	(LER 76-10)
	B 8	0	91		
DC Actual Demand Starts not for Testing					
	A 0	0			
	B 0	0			
Miscellaneous Tests (Specify Type)					
Training	A 1	0	91		
	B 2	1	91	0 min.	(LER 76-14)

TABLE 2 Diesel Generator Scheduled Downtime Record
 Calendar Year 1976
 SP206.03A & B
 SP206.02A & B

Reason for Downtime	Hours of Downtime										Comments	
	Reactor shutdown					Reactor not shutdown						
	DC# A	DC# B	DC#	DC#	DC#	DC# A	DC# B	DC#	DC#	DC#		
Scheduled Maintenance												
Preventive Maintenance Biennial, Annual Testing	128	108				9	11					
Modifications	28	0				0	0					1) Install new pressure switches to air start system on "A"-28 hours
Time DC is unavailable for emergency service because of required tests	11	13				0	0					

TABLE 3

Diesel Generator Unscheduled Downtime Record
 Calendar Year 1976

	Downtime Hours				Comments-If any of the reported failures would not been a failure under emergency conditions, please explain here. Refer to the failures listed in Table 1.
	Total Hours	Trouble-Shooting	Parts,Delivery, etc.	Repair/Replace	
See Table 4					
(76-09)	168	--	--	--	Detailed records are not kept for trouble shooting, parts, delivery times, etc.
(76-10)	216	--	--	--	
(76-14)	340	--	--	--	
(76-16)	51	--	--	--	

TABLE 1 Diesel Generator Operations Data
 Calendar Year 1977

Reason for DC Operation, & scheduled Duration of Run	DG No.	Number of Starts	Number of Failures	Percent Loading of DC (KW)	Duration of Run Before Stop For Each DC Failure	Identification of Failure (Refer to Table 3)
Tech. Spec Req'd Test						
Monthly Surveillance (2 hrs.) (1 start/test)	A	13	1	100	0 min.	(LER 77-1)
	B	12	0	100		
Refueling Outage (12 hrs.) (1 start/test)	A	1	0	100		
	B	1	0	100		
Misc. Tech. Spec. Req'd. Test. Verify Repairs (2 Hrs.) (1 start/test)	A	8	0	55		
	B	10	1	55	0 min.	Table 3, #2
DC Actual Demand Starts not for Testing	A	0	0			
	B	0	0			
Miscellaneous Tests (Specify Type)	A	0	0			
	B	0	0			

Enclosure 1 - Page 3
Plant Name Rancho Seco
Unit No. 1

TABLE 3

Diesel Generator Unscheduled Downtime Record
Calendar Year 1977

Ler No.	Downtime Hours				Comments-If any of the reported failures would not have been a failure under emergency conditions, please explain here. Refer the failures listed in Table 1
	Total Hours	Trouble-Shooting	Parts,Delivery,etc.	Repair/Replace	
See Table 4					
(77-1)	3 hrs.				Detailed records are not kept for trouble shooting, parts, delivery times, etc.
No LER No.	2 hrs.				Replaced governor hydraulic actuator due to hydraulic leakage.

TABLE 3
 Diesel Generator Operations Data
 Calendar Year 1978

Reason for DC Operation, & scheduled Duration of Run	DG No.	Number of Starts	Number of Failures	Percent Loading of DC (KW)	Duration of Run Before Stop For Each DC Failure	Identification of Failure (Refer to Table 3)
Tech. Spec Req'd Test						
Monthly Surveillance (2 hrs.) (1 start/test)	A	12	0	55		
	B	12	0	55		
Refueling Outage (12 hrs.) (1 start/test)	A	1	0	100	--	
	B	1	0	100	--	
Misc. Tech. Spec. Req'd. Test (2 hrs.) (1 start/test)	A	7	2	55	29 hrs.: 103.3 hrs.	(LER 78-14), (LER 78-16)
	B	3	0	55		
DC Actual Demand Starts not for Testing	A	1	0			
	B	1	0			
Miscellaneous Tests (Specify Type)	A	0	0			
	B	0	0			

TABLE 2 Diesel Generator Scheduled Downtime Record
 Calendar Year 1978
 SP206.03A & B
 SP206.02A & B

Reason for Downtime	Hours of Downtime										Comments
	Reactor shutdown					Reactor not shutdown					
	DC# A	DC# B	DC#	DC#	DC#	DC# A	DC# B	DC#	DC#	DC#	
Scheduled Maintenance											
Preventive Maint. Biennial & Annual	0	106.0				175.5	4.0				
Equipment Modifications	148	175				212	96				Fuel oil line modifications on "A" - Down 72 hours Fire protection system modifications on "A" - Down 140 hours Various modifications-"A" down 148 hours -"B" down 175 hours Fire protection system modifications on "B" - Down 96 hours.
Time DC is unavailable for emergency service because of required tests											
Annual Inspection	0	96				125	0				

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 Plant Name Rancho Seco
 Unit No. 1

TABLE 3

Diesel Generator Unscheduled Downtime Record
 Calendar Year 1978

Ler No.	Downtime Hours				Comments-If any of the reported failures would not been a failure under emergency conditions, please explain here. Refer to the failures listed in Table 1.
	Total Hours	Trouble-Shooting	Parts,Delivery,etc.	Repair/Replace	
See Table 4					
(78-14)	1	0	0	0	Detailed records are not kept for trouble shooting, parts, delivery times, etc.
(78-16)	7	0	0	0	

TABLE i Diesel Generator Operations Data
 Calendar Year 1979

Reason for DC Operation, & scheduled Duration of Run	DG No.	No. Starts	Number of Failures	Percent Loading of DC (KW)	Duration of Run Before Stop For Each DC Failure	Identification of Failure (Refer to Table 3)
Tech. Spec Req'd Test						
Monthly Surveillance (2 hrs.) (1 start/test)	A	12	0	55	--	
	B	12	0	55	--	
Refueling Outage (12 hrs.) (1 start/test)	A	0	0	0	--	No Refueling Outage
	B	0	0	0	--	No Refueling Outage
Misc. Tech. Spec. Req'd Test. (2 Hrs.) (1 start/test)	A	8	1	55	0 min.	(79-17)
	B	5	0	55	--	
DC Actual Demand Starts not for Testing						
	A	0	0			
	B	0	0			
Miscellaneous Tests (Specify Type)						
	A	0				
	B	0				

TABLE 2 Diesel Generator Scheduled Downtime Record
 SP206.03A & B Calendar Year 1979
 SP206.02A & B

Reason for Downtime	Hours of Downtime										Comments
	Reactor shutdown					Reactor not shutdown					
	DC# A	DC# B	DC#	DC#	DC#	DC# A	DC# B	DC#	DC#	DC#	
Scheduled Maintenance											
Preventive Maintenance Biennial, & Annual Testing	0	0				34	96				No Refueling Outage
Modifications	5	0				0	29				Exhaust fan installation on A & B Air Start System modification and Fire Protection System modifications on B
Time DC is unavailable for emergency service because of required tests	0	0				37	0				

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 Plant Name Rancho Seco
 Unit No. 1

TABLE 3

Diesel Generator Unscheduled Downtime Record
 Calendar Year 1979

Ler No.	Downtime Hours				Comments-If any of the reported failures would not been a failure under emergency conditions, please explain here. Refer to the failures listed in Table.
	Total Hours	Trouble-Shooting	Parts, Delivery, etc.	Repair/Replace	
See Table 4					
(79-17)	24 hrs.				Detailed records are not kept for trouble shooting, parts, delivery times, etc.

TABLE 1 Diesel Generator Operations Data
 Calendar Year 1980

Reason for DC Operation, & scheduled Duration of Run	DG No.	Number of Starts	Number of Failures	Percent Loading of DC (KW)	Duration of Run Before Stop For Each DC Failure	Identification of Failure (Refer to Table 3)
Tech. Spec Req'd Test						
Monthly Surveillance (2 hrs.) (1 start/test)	A	12	--	55	--	
	B	12	5	55	0 min, 0 min, 0 min 0 min, 0 min.	(80-41), #1 (80-49)
Refueling Outage (12 hrs.) (1 start/test)	A	4		100	10 sec.	(80-24)
	B	1	0*	100		(80-13)
Misc. Tech. Spec. Req'd. Test (2 hrs.) (1 start/test)	A	9	1	55	0 min.	(80-12)
	B	8	0	55		
DC Actual Demand Starts not for Testing	A	0	0			
	B	0	0			
Miscellaneous Tests (Specify Type)	A	0	0			
	B	0	0			

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 Plant Name Rancho Seco
 Unit No. 1

TABLE 3

Diesel Generator Unscheduled Downtime Record
 Calendar Year 1980

Ler No.	Downtime Hours				Comments-If any of the reported failures would not been a failure under emergency conditions, please explain here. Refer to the failures listed in Table 1.
	Total Hours	Trouble-Shooting	Parts,Delivery,etc.	Repair/Replace	
See Table 4					
(80-12)	2				Detailed records are not kept for trouble shooting, parts, delivery times, etc.
(80-13)	672				
(80-24)	45				
(80-41)	24				
(80-49)	90				

TABLE 4

<u>LER NO.</u>	<u>DATE</u>
76-09	7/15//76
76-10	8/06/76
76-14	9/26/76
76-16	12/6/76
77-1	2/14/77
78-14	10/4/78
78-16	10/24/78
79-17	12/9/79
80-12	2/19/80
80-13	2/18/80
80-24	4/9/80
80-41	8/23/80
80-49	12/19/80

EXPLANATION OF DATA

Section 3 Surveillance and Tests.

The period covered by this data is 1977-1981. This period was selected since it was felt to provide a more accurate picture of current surveillance practice. This data is divided by system and has specific dates that the tests were conducted. As such, this data is more exact than the data in Sections 1 and 2.

ECC and EMERGENCY DIESEL OUTAGE SUMMARY

SYSTEM	Duration	Component, System or Train Involved	Reason for Outage (Surveillance Testing, Planned, Unplanned, Preventive Maint.)	Corrective Action Taken	Additional Comments
			Surveillance		
	10/15/81	P-482A			
	10/05/81	B			
	7/09/81	A			
	7/09/81	B			
	4/22/81	B			
	4/21/81	A			
	1/22/81	3			
	1/20/81	A			
	10/21/80	B			
	10/18/80	A			
	8/04/80	B			
	8/03/80	A			
	4/12/80	A			
	4/11/80	B			
	2/07/80	A			
	1/14/80	A			
	1/14/80	A			
	10/24/79	B			
	10/23/79	A			
	7/26/79	A			
	7/26/79	B			
	4/25/79	A			
	4/25/79	B			
	1/24/79	B			
	1/23/79	A			
	10/16/78	A			
	10/16/78	B			

ECC and EMERGENCY DIESEL OUTAGE SUMMARY

SYSTEM	NSCH	Outage Date	Duration	Component, System or Train Involved	Reason for Outage (Surveillance Testing, Planned, Unplanned, Preventive Maint.)	Corrective Action Taken	Additional Comments
		7/27/78	1.0	A	Surveillance		
		7/27/78	0.7	B	"		
		4/07/78	0.5	B	"		
		4/05/78	0.4	A	"		
		1/20/78	0.6	B	"		
		1/19/78	0.5	A	"		
		10/20/77	2.0	B	"		
		10/19/77	1.0	A	"		
		7/13/77	0.4	B	"		
		7/12/77	0.5	A	"		
		4/13/77	0.5	B	"		
		4/12/77	0.6	A	"		
		1/14/77	0.5	B	"		
		1/12/77	0.5	A	"		

ECC and EMERGENCY DIESEL OUTAGE SUMMARY

SYSTEM	Duration	Component, System or Train Involved	Reason for Outage (Surveillance Testing, Planned, Unplanned, Preventive Maint.)	Corrective Action Taken	Additional Comments
	10/15/81	0.5	P-472A	Surveillance	
	10/06/81	0.7	B	"	
	7/09/81	1.0	A	"	
	7/09/81	1.1	B	"	
	4/21/81	1.4	A	"	
	4/21/81	0.8	B	"	
	1/22/81	0.7	B	"	
	1/20/81	1.0	A	"	
	10/20/80	1.1	B	"	
	10/17/80	1.0	A	"	
	8/04/80	1.1	A	"	
	8/04/80	0.5	B	"	
	4/12/80	0.5	A	"	
	4/11/80	0.7	B	"	
	1/11/80	0.6	B	"	
	1/10/80	0.5	A	"	
	10/24/79	0.7	B	"	
	10/23/79	0.8	A	"	
	7/26/79	0.5	A	"	
	7/26/79	0.4	B	"	
	4/26/79	1.0	A	"	
	4/25/79	0.4	B	"	
	1/24/79	0.5	B	"	
	1/23/79	0.5	A	"	
	10/16/78	0.6	A	"	
	10/15/78	0.6	B	"	

ECC and EMERGENCY DIESEL OUTAGE SUMMARY

SYSTEM	Duration (HRS)	Component, System or Train Involved	Reason for Outage (Surveillance Testing, Planned, Unplanned, Preventive Maint.)	Corrective Action Taken	Additional Comments
RB SPRAY	2.5	P-291B	Surveillance		
	6.0	A	"		
	2.0	A	"		
	2.5	B	"		
	2.0	A	"		
	4.0	B	"		
	1.1	A	"		
	1.0	B	"		
	1.5	A	"		
	2.5	B	"		
	1.2	A	"		
	1.7	B	"		
	1.0	A	"		
	1.4	B	"		
	1.2	A	"		
	1.0	B	"		
	1.0	B	"		
	1.0	A	"		
	1.0	B	"		
	1.5	A	"		
	0.6	B	"		
	1.0	A	"		
	0.7	A	"		
	1.4	B	"		
	0.5	A	"		
	0.7	B	"		

ECC and EMERGENCY DIESEL OUTAGE SUMMARY

SYSTEM RB SPRAY

Outage Date	Duration	Component, System or Train Involved	Reason for Outage (Surveillance Testing, Planned, Unplanned, Preventive Maint.)	Corrective Action Taken	Additional Comments
4/25/78	0.7	B	Surveillance		
4/24/78	0.7	A	"		
1/25/78	1.1	A	"		
1/25/78	1.2	B	"		
10/29/77	1.3	A	"		
10/29/77	0.8	B	"		
8/12/77	1.5	B	"		
7/25/77	1.0	A	"		
7/08/77	1.2	B	"		
5/09/77	1.0	A	"		
5/09/77	0.5	B	"		
4/05/77	1.0	B	"		
4/04/77	1.2	A	"		
2/15/77	1.1	A	"		
2/14/77	1.0	B	"		

ECC and EMERGENCY DIESEL OUTAGE SUMMARY

SYSTEM	HPI	Outage Date	Duration	Component, System or Train Involved	Reason for Outage (Surveillance Testing, Planned, Unplanned, Preventive Maint.)	Corrective Action Taken	Additional Comments
		11/22/81	3.2	P-238A & B	Surveillance Test		
		9/09/81	-	"A"	"		
		8/02/81	1.5	"B"	"		
		8/01/81	1.0	"A"	"		
		4/22/81	0.5	B	"		
		4/21/81	1.0	A	"		
		4/19/81	0.5	C	"		
		11/17/80	0.8	C	"		
		11/16/80	1.0	A	"		
		11/12/80	0.8	B	"		
		8/10/80	1.0	C	"		
		8/10/80	1.7	B	"		
		8/09/80	0.6	A	"		
		4/19/80	0.8	A	"		
		4/19/80	0.8	B	"		
		4/19/80	0.3	C	"		
		12/27/79	1.5	B	"		
		12/17/79	0.5	C	"		
		10/21/79	0.6	A	"		
		9/18/79	0.5	C	"		
		9/17/79	1.0	B	"		
		7/29/79	1.1	B	"		
		7/21/79	1.2	A	"		
		6/30/79	0.9	B	"		
		6/29/79	0.3	C	"		
		4/21/79	1.2	A	"		

ECC and EMERGENCY DIESEL OUTAGE SUMMARY

SYSTEM HPI

Outage Date	Duration	Component, System or Train Involved	Reason for Outage (Surveillance Testing, Planned, Unplanned, Preventive Maint.)	Corrective Action Taken	Additional Comments
3/24/79	0.3	C	Surveillance		
1/29/79	1.4	B	"		
1/24/79	1.3	A	"		
12/25/78	1.4	C	"		
10/31/78	2.1	B	"		
10/15/78	1.0	A	"		
7/29/78	0.8	B	"		
7/28/78	0.3	C	"		
7/25/78	1.0	A	"		
6/08/78	0.6	C	"		
5/17/78	0.7	B	"		
5/11/78	0.8	A	"		
3/07/78	0.4	C	"		
2/15/78	1.4	B	"		
2/14/78	1.2	A	"		
12/07/77	1.5	C	"		
11/19/77	1.4	B	"		
11/13/77	0.8	A	"		
9/27/77	0.5	C	"		
8/19/77	0.4	C	"		
8/12/77	1.2	B	"		
7/11/77	1.5	A	"		
6/14/77	1.2	B	"		
5/10/77	1.3	C	"		
4/13/77	2.1	A	"		
3/07/77	2.0	B	"		

ECC and EMERGENCY DIESEL OUTAGE SUMMARY

SYSTEM DECADE HEAT

Outage Date	Duration	Component, System or Train Involved	Reason for Outage (Surveillance Testing, Planned, Unplanned, Preventive Maint.)	Corrective Action Taken	Additional Comments
11/18/81	1.0	P-261B	Surveillance		
10/31/81	1.5	P-261A			
2/26/81	1.2	B			
8/01/81	1.7	A			
7/01/81	4.0	B			
4/21/81	2.0	A			
4/19/81	2.0	B			
1/27/81	1.7	A			
1/17/81	1.5	B			
10/17/80	2.2	A			
10/16/80	1.2	B			
7/28/80	1.0	A			
7/28/80	1.0	B			
6/09/80	1.3	B			
4/04/80	1.5	A			
2/15/80	1.5	B			
2/05/80	1.0	A			
1/15/80	0.7	B			
10/25/79	1.5	A			
10/20/79	0.6	B			
7/20/79	2.5	B			
7/19/79	1.0	A			
5/20/79	1.7	A			
4/21/79	0.8	B			
2/27/79	1.5	A			
1/30/79	0.9	B			

ECC and EMERGENCY DIESEL OUTAGE SUMMARY

SYSTEM DECAY HEAT

Outage Date	Duration	Component, System or Train Involved	Reason for Outage (Surveillance Testing, Planned, Unplanned, Preventive Maint.)	Corrective Action Taken	Additional Comments
11/30/78	1.5	A	Surveillance		
11/03/78	0.7	B	"		
11/01/78	0.8	A	"		
10/14/78	0.5	A	"		
7/28/78	0.6	A	"		
7/26/78	0.6	B	"		
6/23/78	0.9	B	"		
4/11/78	1.0	A	"		
4/11/78	1.0	B	"		
1/11/78	0.5	B	"		
1/10/78	0.9	A	"		
11/14/77	0.5	A	"		
10/30/77	1.0	B	"		
8/12/77	0.8	B	"		
7/25/77	0.9	A	"		
5/09/77	0.8	B	"		
5/09/77	0.8	A	"		
4/19/77	2.0	A	"		
2/08/77	0.6	A	"		
2/07/77	0.5	B	"		