

TABLE 8.3-1

CONNECTED, AUTOMATIC AND MANUAL LOADING AND UNLOADING
OF ENGINEERED SAFETY FEATURES SWITCHGEAR

Equipment Description	Number on Bus	HP Each	Full Load (Amperes)	Inrush Current (Amperes)	Maximum Operating Requirements Without Offsite Power Available					
					Forced Shutdown			Loss of Coolant Accident		
					(9) Time of Start	Req'd Running Time	Type of Control	(9) Time of Start	Req'd Running Time	Type of Control
<u>Unit 1, Division 1</u>										
Safety Feature Loads										
Low Pressure Core Spray Pump	1	1750	222	1443	-	-	(1)	0 sec	Cont	(3)
Residual Heat Removal Pump A	1	900	115	747	10 min	Cont	(1)	5 sec	Cont	(3)
Emergency Service Water Pump A	1	800	102	618	10 sec	Cont	(2)	10 sec	Cont	(2)
Emergency Closed Cooling Pump A	1	100	112	728	0 sec	Cont	(2)	0 sec	Cont	(3)
Low Pressure Core Spray and Residual Heat Removal A Water Leg Pump	1	5	6.35	46	0 sec	Cont	(1)	0 sec	Cont	(1)
Reactor Core Isolation Cooling Water Leg Pump	1	5	7.5	49	0 sec	Cont	(1)	0 sec	Cont	(1)
Standby Liquid Control Pump A	1	40	48.8	317	-	-	(1)	-	-	(1)
Fuel Pool Cooling and Circulating Water Pump A	1	200	229	1450	0 sec	Cont	(1)	0 sec	Cont	(1)
Diesel Room Supply Fans	2	50	57.5	376	0 sec	Cont	(2)	0 sec	Cont	(2)
Residual Heat Removal A Pump Room Cooling Fan	1	20	25	130	10 min	Cont	(2)	5 sec	Cont	(2)
Low Pressure Core Spray Pump Room Cooling Fan	1	20	25	130	-	-	(2)	0 sec	Cont	(2)
Annulus Exhaust Fan *	1	15	19	105	0 sec	Cont	(2)	0 sec	Cont	(3)
Annulus Exhaust System Heating Coil A	1	20 kW	24	-	0 sec	Cont	(2)	0 sec	Cont	(3)
Control Room Supply Fan A	1	60	77	436	0 sec	Cont	(2)	0 sec	Cont	(3)
Control Complex Chiller A	1	582 kW	94	540	152 sec	Cont	(2)	152 sec	Cont	(3)
Control Complex Chiller A Oil Pump	1	1.5	2.2	13.4	152 sec	Cont	(2)	152 sec	Cont	(2)

8.3-73

Am. 15 (12-31-84)

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NUCLEAR REGULATORY COMMISSION
Docket No. 50-440 53 Y41
In the matter of PNP
Official Exh. No. 16-1

Case: ☒
Applicant: ☒
Respondent: ☐
Third Party: ☐
Date: APR. 9 1985
By: C. WALSH

TABLE 8.3-1 (Continued)

Equipment Description	Number on Bus	HP Each	Full Load (Amperes)	Inrush Current (Amperes)	Maximum Operating Requirements Without Offsite Power Available					
					Forced Shutdown			Loss of Coolant Accident		
					(9) Time of Start	Req'd Running Time	Type of Control	(9) Time of Start	Req'd Running Time	Type o Control
Unit 1, Division 1 (Cont'd)										
Safety Feature Loads (Cont'd)										
Control Complex Chilled Water Pump A	1	100		710	0 sec	Cont	(2)	0 sec	Cont	(3)
Control Room Return Fan A	1	60	77	436	0 sec	Cont	(2)	-	-	-
Control Room Recirculation Fan A	1	100	116	660	0 sec	Cont	(2)	0 sec	Cont	(3)
Control Room Emergency Recirculation A Electric Heating Coil	1	100 kW	125	-	0 sec	Cont	(1)	0 sec	Cont	(3)
Battery Room Exhaust Fan A	1	10	13.5	80	15 sec	Cont	(2)	15 sec	Cont	(3)
Motor Control Center, Switchgear, and Battery Room Supply Fan A	1	100	116	490	25 sec	Cont	(2)	25 sec	Cont	(2)
Motor Control Center and Switchgear Room Return Fan A	1	100	116	490	25 sec	Cont	(2)	25 sec	Cont	(2)
Emergency Closed Cooling Pump Area Cooling Fan A	1	20	25	130	0 sec	Cont	(2)	0 sec	Cont	(2)
Off-Gas Building Vent Fan A	1	40	50	280	0 sec	Cont	(2)	0 sec	Cont	(2)
Fuel Handling Building Supply Fan A	1	30	38	210	0 sec	Cont	(1)	-	-	(1)
Fuel Handling Building Exhaust Fan A	1	40	50	255	0 sec	Cont	(1)	-	-	(1)
Fuel Handling Building Exhaust Fan C	1	40	50	255	0 sec	Cont	(1)	-	-	(11) (1)
Fuel Handling Building Exhaust Fan A Heating Coil	1	50 kW	63	-	0 sec	Cont	(1)	-	-	(2)
Fuel Handling Building Exhaust Fan C Heating Coil	1	50 kW	63	-	0 sec	Cont	(2)	-	-	(11) (2)
Reactor Core Isolation Cooling Pump Room Cooling Fan	1	5	7	42.7	0 sec	Cont	(2)	0 sec	Cont	(2)
Emergency Service Water Pumphouse Vent Supply Fan A	1	30	38	290	10 sec	Cont	(2)	10 sec	Cont	(2)
Emergency Service Water Pumphouse Intake Screen Wash Pump A	1	50	56	362	0 sec	Cycled ⁽⁵⁾	(2)	0 sec	Cont	(3)
Emergency Service Water Pumphouse Traveling Screen A	1	15	19.5	103	0 sec	Cycled ⁽⁵⁾	(2)	0 sec	Cont	(2)

TABLE 8.3-1 (Continued)

Equipment Description	Number on Bus	HP Each	Full Load (Amperes)	Inrush Current (Amperes)	Maximum Operating Requirements Without Offsite Power Available					
					Forced Shutdown			Loss of Coolant Accident		
					(9) Time of Start	Req'd Running Time	Type of Control	(9) Time of Start	Req'd Running Time	Type of Control
Unit 1, Division 1 (Cont'd)										
Safety Feature Loads (Cont'd)										
Emergency Service Water Suction Sluice Gate A	1	1	1.6	15	0 sec	20 min	(2)	0 sec	20 min	(2)
Diesel Generator Fuel Oil Transfer Pump	1	15	20	130	0 sec	Cycled ⁽⁶⁾	(2)	0 sec	Cycled ⁽⁶⁾	(2)
Diesel Generator Fuel Oil Transfer Backup Pump	1	15	20	130	0 sec	Cycled ⁽⁶⁾	(2)	0 sec	Cycled ⁽⁶⁾	(2)
Diesel Generator Jacket Water Keep Warm Pump	1	3	4.1	32	-	-	(2)	-	-	(2)
Diesel Generator Jacket Water Keep Warm Heater	1	75 kW	94	-	(10)	-	(2)	(10)	-	(2)
Diesel Generator Lube Oil Keep Warm Pump	1	15	19	116	-	-	(2)	-	-	(2)
Diesel Generator Lube Oil Keep Warm Heater	1	50 kW	63	-	(10)	-	(2)	(10)	-	(2)
Main Steam Isolation Valve Leakage Control Pipe Heaters	4	4 kW	5	-	0 sec	Cont	(2)	0 sec	Cont	(2)
Main Steam Isolation Valve Leakage Control Air Blower	1	4.5 HP	6.5	42.25	0 sec	Cont	(2)	0 sec	Cont	(2)
125 Volt D-C Battery Charger	1	50 kW	87	-	0 sec	Cont	(4)	0 sec	Cont	(4)
125 Volt D-C Reserve Battery Charger	1	50 kW	87	-	-	-	-	-	-	-
Hydrogen Recombiner A	1	75 kW	95	-	-	-	(1)	18.4 hr	Cont	(1)
Hydrogen Mixing Compressor A	1	60	77	436	10 min	Cont	(1)	287 hr	Cont	(2)
Motor Operated Valves	118	1.2 ⁽⁷⁾	-	-	0 sec	30 sec	-	0 sec	30 sec	-

TABLE 8.3-1 (Continued)

Equipment Description	Number on Bus	HP Each	Full Load (Amperes)	Inrush Current (Amperes)	Maximum Operating Requirements Without Offsite Power Available					
					(9) Time of Start	Forced Shutdown		Loss of Coolant Accident		
						Req'd Running Time	Type of Control	(9) Time of Start	Req'd Running Time	Type of Control
Unit 1, Division 1 (Cont'd)										
Nonsafety Feature Loads										
Nuclear Closed Cooling Pump A	1	700	90.5	588	0 sec	Cont	(1)	-	-	(1)
Control Rod Drive Pump A	1	400	52	312	-	-	(1)	-	-	(1)
Emergency Service Water Screen Wash Pump Discharge Strainer A	1	0.5	1	6.5	0 sec	Cycled ⁽⁵⁾	(2)	-	-	-
<div><div>Time Sequence</div><div>Forced Shutdown</div><div>Loss of Coolant Accident</div></div>										
Subtotal, kW per Time Sequence		0 sec		1772		2395				
		5 sec		-		718				
		10 sec		663		663				
		15 sec		10		10				
		25 sec		168		168				
		152 sec		584		584				
		10 min		791		-				
		18.4 hr		-		75				
		287 hr		-		55				
Net Total Maximum Continuous Load (kW)				3988		4668				
Unit 1, Division 2										
Safety Feature Loads										
Residual Heat Removal Pump B	1	900	115	747	10 min	Cont	(1)	5 sec	Cont	(3)
Residual Heat Removal Pump C	1	900	115	747	-	Cont	(1)	0 sec	Cont	(3)
Emergency Service Water Pump B	1	800	102	618	10 sec	Cont	(2)	10 sec	Cont	(2)
Emergency Closed Cooling Pump B	1	100	112	728	0 sec	Cont	(2)	0 sec	Cont	(3)
Residual Heat Removal B and C Water Leg Pump	1	5	6.35	46	0 sec	Cont	(1)	0 sec	Cont	(1)
Standby Liquid Control Pump B	1	40	48.8	317	-	-	(1)	-	-	(1)
Fuel Pool Cooling and Circulating Water Pump B	1	200	229	1450	0 sec	Cont	(1)	0 sec	Cont	(1)
Diesel Room Supply Fans	2	50	57.5	376	0 sec	Cont	(2)	0 sec	Cont	(2)

TABLE 8.3-1 (Continued)

Equipment Description	Number on Bus	HP Each	Full Load (Amperes)	Inrush Current (Amperes)	Maximum Operating Requirements Without Offsite Power Available					
					Forced Shutdown			Loss of Coolant Accident		
					(9) Time of Start	Req'd Running Time	Type of Control	(9) Time of Start	Req'd Running Time	Type of Control
Unit 1, Division 2 (Cont'd)										
Safety Feature Loads (Cont'd)										
Residual Heat Removal B Pump Room Cooling Fan	1	20	25	130	10 min	Cont	(2)	0 sec	Cont	(2)
Residual Heat Removal C Pump Room Cooling Fan	1	20	25	130	-	-	(2)	0 sec	Cont	(2)
Annulus Exhaust Fan B	1	15	19	105	0 sec	Cont	(2)	0 sec	Cont	(3)
Annulus Exhaust System Heating Coil B	1	20 kW	24	-	0 sec	Cont	(2)	0 sec	Cont	(3)
Control Room Supply Fan B	1	60	77	436	0 sec	Cont	(2)	0 sec	Cont	(3)
Control Complex Chiller B	1	582 kW	94	540	152 sec	Cont	(2)	152 sec	Cont	(3)
Control Complex Chiller B Oil Pump	1	1.5	2.2	13.4	152 sec	Cont	(2)	152 sec	Cont	(2)
Control Complex Chilled Water Pump B	1	100	115	710	0 sec	Cont	(2)	0 sec	Cont	(3)
Control Room Return Fan B	1	60	77	436	0 sec	Cont	(2)	-	-	-
Control Room Recirculation Fan B	1	100	116	660	0 sec	Cont	(2)	0 sec	Cont	(3)
Control Room Emergency Recirculation B Electric Heating Coil	1	100 kW	125	-	0 sec	Cont	(1)	0 sec	Cont	(3)
Battery Room Exhaust Fan B	1	10	13.5	80	15 sec	Cont	(2)	15 sec	Cont	(3)
Motor Control Center, Switchgear, and Battery Room Supply Fan B	1	100	116	490	25 sec	Cont	(2)	25 sec	Cont	(2)
Motor Control Center and Switchgear Room Return Fan B	1	100	116	490	25 sec	Cont	(2)	25 sec	Cont	(2)
Emergency Closed Cooling Pump Area Cooling Fan B	1	20	25	130	0 sec	Cont	(2)	0 sec	Cont	(2)
Off-Gas Building Vent Fan B	1	40	50	280	0 sec	Cont	(2)	0 sec	Cont	(2)
Fuel Handling Building Supply Fan B	1	30	38	210	0 sec	Cont	(1)	-	-	(1)
Fuel Handling Building Exhaust Fan B	1	40	50	255	0 sec	Cont	(1)	-	-	(1)
Fuel Handling Building Exhaust Fan C	1	40	50	255	0 sec	Cont	(1)	-	-	(11) (1)

TABLE 8.3-1 (Continued)

Equipment Description	Number on Bus	HP Each	Full Load (Amperes)	Inrush Current (Amperes)	Maximum Operating Requirements Without Offsite Power Available					
					Forced Shutdown			Loss of Coolant Accident		
					(9) Time of Start	Req'd Running Time	Type of Control	(9) Time of Start	Req'd Running Time	Type of Control
Unit 1, Division 2 (Cont'd)										
Safety Feature Loads (Cont'd)										
Fuel Handling Building Exhaust Fan B Heating Coil	1	50 kW	63	-	0 sec	Cont	(1)	-	-	(2)
Fuel Handling Building Exhaust Fan C Heating Coil	1	50 kW	63	-	0 sec	Cont.	(2)	-	-	(11) (2)
Emergency Service Water Pumphouse Vent Supply Fan B	1	30	38	290	10 sec	Cont	(2)	10 sec	Cont	(2)
Emergency Service Water Pumphouse Intake Screen Wash Pump B	1	50	56	352	0 sec	Cycled ⁽⁵⁾	(2)	0 sec	Cont	(3)
Emergency Service Water Pumphouse Traveling Screen B	1	15	19.5	103	0 sec	Cycled ⁽⁵⁾	(2)	0 sec	Cont	(2)
Emergency Service Water Suction Sluice Gate B	1	1	1.6	15	0 sec	20 min	(2)	0 sec	20 min	(2)
Diesel Generator Fuel Oil Transfer Pump	1	15	20	130	0 sec	Cycled ⁽⁶⁾	(2)	0 sec	Cycled ⁽⁶⁾	(2)
Diesel Generator Fuel Oil Transfer Backup Pump	1	15	20	130	0 sec	Cycled ⁽⁶⁾	(2)	0 sec	Cycled ⁽⁶⁾	(2)
Diesel Generator Jacket Water Keep Warm Pump	1	3	4.1	32	-	-	(2)	-	-	(2)
Diesel Generator Jacket Water Keep Warm Heater	1	75 kW	94	-	-	-	(2)	-	-	(2)
Diesel Generator Lube Oil Keep Warm Pump	1	15	19	116	-	-	(2)	-	-	(2)
Diesel Generator Lube Oil Keep Warm Heater	1	50 kW	63	-	-	-	(2)	-	-	(2)
Main Steam Isolation Valve Leakage Control Air Blower	2	4.5	6.5	42	0 sec	Cont	(2)	0 sec	Cont	(2)
125 Volt D-C Battery Charger	1	50 kW	87	-	0 sec	Cont	(4)	0 sec	Cont	(4)

TABLE 8.3-1 (Continued)

Equipment Description	Number on Bus	HP Each	Full Load (Amperes)	Inrush Current (Amperes)	Maximum Operating Requirements Without Offsite Power Available					
					Forced Shutdown			Loss of Coolant Accident		
					(9) Time of Start	Req'd Running Time	Type of Control	(9) Time of Start	Req'd Running Time	Type of Control
Unit 1, Division 2 (Cont'd)										
Safety Feature Loads (Cont'd)										
125 Volt D-C Reserve Battery Charger	1	50 kW	87	-	-	-	-	-	-	-
Hydrogen Recombiner B	1	75 kW	95	-	-	-	(1)	18.4 hr	Cont	(1)
Hydrogen Mixing Compressor A	1	60	77	436	10 min	Cont	(1)	287 hr	Cont	(2)
Motor Operated Valves	88	1.6 ⁽⁷⁾	-	-	0 sec	30 sec	-	0 sec	30 sec	-
Nonsafety Feature Loads										
Nuclear Closed Cooling Pump B	1	700	90.5	588	0 sec	Cont	(1)	-	-	(1)
Control Rod Drive Pump B	1	400	52	312	-	-	(1)	-	-	(1)
Service Water Pump B	1	1000	129	800	10 sec	Cont	(2)	-	-	(1)
Standby Liquid Control Operating Heater	1	10 kW	11	-	0 sec	Cont	(2)	-	-	(2)
Hydrogen Main Seal Oil Pump	1	20	28.7	145	0 sec	Cont	(1)	-	-	(1)
Hydrogen Recirculating Seal Oil Pump	1	7.5	11.2	63.5	0 sec	Cont	(1)	-	-	(1)
Hydrogen Seal Oil Vapor Extractor	1	2	3	21	0 sec	Cont	(1)	-	-	(1)
Turbine Turning Gear Motor	1	60	80	435	0 sec	Cont	(2)	-	-	(2)
Turbine Turning Gear Piggy Back Motor	1	10	15	98	0 sec	Cont	(2)	-	-	(2)
Turbine Bearing Lift Pumps	9	5	8.1	46	0 sec	Cont	(1)	-	-	(1)
Turbine Lube Oil Motor Suction Pump	1	50	61.5	363	0 sec	Cont	(2)	-	-	(2)
Turbine Turning Gear Oil Pump	1	50	61.5	363	0 sec	Cont	(2)	-	-	(2)
Reactor Feedwater Pump Turbine A Turning Gear	1	1.5	2.5	16	0 sec	Cont	(2)	-	-	(2)

TABLE 8.3-1 (Continued)

Equipment Description	Number on Bus	HP Each	Full Load (Amperes)	Inrush Current (Amperes)	Maximum Operating Requirements Without Offsite Power Available					
					Forced Shutdown			Loss of Coolant Accident		
					(9) Time of Start	Req'd Running Time	Type of Control	(9) Time of Start	Req'd Running Time	Type of Control
<u>Unit 1, Division 2 (Cont'd)</u>										
Nonsafety Feature Loads (Cont'd)										
Reactor Feedwater Pump Turbine B Turning Gear	1	1.5	2.5	16	0 sec	Cont	(2)	-	-	(2)
Diesel Generator Starting Air Compressors	4	30	34	217	10 min	Cycled(6)	(2)	-	-	(2)
Diesel Generator Starting Air Aftercoolers	4	1	1.68	15	10 min	Cycled(6)	(2)	-	-	(2)
Reactor Protection System Set A Motor Generator	1	25	38.9	253	0 sec	Cont	(1)	-	-	(1)
Reactor Water Cleanup Pump A	1	60	66.8	434	0 sec	Cont	(1)	-	-	(1)
Reactor Water Cleanup Pump B	1	60	66.8	434	0 sec	Cont	(1)	-	-	(1)
Lower Drywell Cooling Fans	2	60	73.5	435	0 sec	Cont	(2)	-	-	(2)
Middle Drywell Cooling Fans	2	60	73.5	435	0 sec	Cont	(2)	-	-	(2)
Upper Drywell Cooling Fans	2	60	73.5	435	0 sec	Cont	(2)	-	-	(2)
Diesel Driven Fire Pump A Fan	1	7.5	10.4	63.5	0 sec	Cont	(2)	-	-	(2)
Off-Gas Building Vent Exhaust Radiation Monitor	1	2	2.5	-	0 sec	Cont	(4)	-	-	(4)
125 Volt D-C System A Battery Charger	1	75 kW	133	-	0 sec	Cont	(4)	10 min	Cont	(4)
125 Volt D-C System A Reserve Battery Charger	1	75 kW	133	-	-	-	-	-	-	-
125 Volt D-C System B Battery Charger	1	37.5 kW	67	-	0 sec	Cont	(4)	10 min	Cont	(4)
Essential Lighting	-	84 kW	-	-	0 sec	Cont	(4)	10 min	Cont	(4)
Vital A-C Distribution System Alternate Supply Transformer	1	45 kVA	94	-	0 sec	Cont	(4)	10 min	Cont	(4)

