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 FACIL: 50-410 Nine Mile Point Nuclear Station, Unit 2, Niagara Moha 05000410  
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 MANGAN, C. V. Niagara Mohawk Power Corp.  
 RECIP. NAME RECIPIENT AFFILIATION  
 ADENSAM, E. G. BWR Project Directorate 3

SUBJECT: Forwards marked-up FSAR pages to show necessary changes, in addition to 860819 submittal. Summary of changes & explanation of each change to aid review of matl included. W/affidavit & 26 oversize encls.

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	IE/DEPER/EPB 36	1	0	IE/DQAVT/QAB 21		1	0
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	NRR BWR NL	1	1	NRR/DHFT/MTB		1	1
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	NSIC 05	1	1*	PNL GRUEL, R		1	1

Limited Dist.

\*- w/ Encl



August 22, 1986  
NMP2L 0851

Ms. Elinor G. Adensam, Director  
BWR Project Directorate No. 3  
U.S. Nuclear Regulatory Commission  
7920 Norfolk Avenue  
Washington, DC 20555

Dear Ms. Adensam:

Re: Nine Mile Point Unit 2  
Docket No. 50-410

As a result of Niagara Mohawk's verification of the Final Safety Analysis Report for Nine Mile Point Unit 2, we are submitting Final Safety Analysis Report pages marked to show the necessary changes. These changes are in addition to those in our August 19, 1986 submittal.

Generally, these changes are minor and do not affect the Safety Evaluation Report. However, where a change affects the Safety Evaluation Report, this is indicated. We have provided a summary of the changes and an explanation of each change to aid review of this material. Niagara Mohawk would appreciate your expeditious review of these items.

Typed versions of these changed pages will be provided as soon as possible. These changes will be included in a subsequent Final Safety Analysis Report update.

Although the majority of the changes submitted in this letter have been verified by our Compliance and Verification Department, the verification of some items have not been completed because of problems encountered in retrieving some of the supporting documents. The verification of these items will be completed as expeditiously as possible, and we will notify you if this results in any change to this submittal.

Very truly yours,

*C. V. Mangan*

C. V. Mangan  
Senior Vice President

WHB/ar  
1989G

xc: W. A. Cook, NRC Resident Inspector  
Project File (2)

*Boo/1/7 Limited Dist*

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PDR ADOCK 05000410  
A PDR





UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

In the Matter of )  
Niagara Mohawk Power Corporation )  
(Nine Mile Point Unit 2) )

Docket No. 50-410

AFFIDAVIT

C. V. Mangan, being duly sworn, states that he is Senior Vice President of Niagara Mohawk Power Corporation; that he is authorized on the part of said Corporation to sign and file with the Nuclear Regulatory Commission the documents attached hereto; and that all such documents are true and correct to the best of his knowledge, information and belief.

C. V. Mangan

Subscribed and sworn to before me, a Notary Public in and for the State of New York and County of Onondaga, this 22<sup>nd</sup> day of August, 1986.

Christine Austin  
Notary Public in and for  
Onondaga County, New York

My Commission expires:

CHRISTINE AUSTIN  
Notary Public in the State of New York  
Qualified in Onondaga Co. No. 4787687  
My Commission Expires March 30, 1987

7-18-60

# SUMMARY OF CHANGES

<u>Page</u>	<u>Change Description</u>	<u>Justification</u>	<u>Change Code</u>	<u>SER Impact</u>	<u>Tech. Spec. Impact</u>
Table 1.3-3 Page 2 of 3	Change the design environmental temperature of the suppression chamber from 275°F to 270°F.	This change is made to be consistent with design document.	E	No	No
Page 1.10-64i and Table II.B.3-1, pages 1 and 2	Incorporate radiation values to replace "later's" in text.	Final as-built calculations are now included.	E	No	No
Table 2.2-8 and III.D.3.4-1	Change toxic chemical analysis values to make tables consistent.	This change reflects the correct values for the results of the toxic chemical analysis. The allowable operator times either remained the same or increased. Therefore, the results are essentially unchanged.	E	No	No
Table 2.2-9	Change the ambient temperature from "33°C" to "32.8°C" and the vapor density from $1.55 \times 10^3 \text{ g/cm}^3$ to $1.55 \times 10^{-3} \text{ g/cm}^3$ .	These are typographical corrections to the table.	E	No	No
Page 2.5-171a	Changed "all the collected water" to "the collected water"	Clarification of actual system performance.	E	No	No
Figure 2.5-150	Remove $V_S$ from the figure.	As a matter of clarification, remove $V_S$ . As shown, the information was unclear.	E	No	No
Page 3.1-24	Change "two" to "one" control rod notch.	This change is based upon compliance review to NEDE 2149B.	E	No	No



# SUMMARY OF CHANGES

<u>Page</u>	<u>Change Description</u>	<u>Justification</u>	<u>Change Code</u>	<u>SER Impact</u>	<u>Tech. Spec. Impact</u>
Table 3.2-1 Page 1 of 26	Change the classification of reactor vessel stabilizer and reactor vessel insulation from "I" to "NA" for electrical classification and from "NA" to "I" for Seismic Category.	These changes are correction of errors in the table.	E	No	No
Page 3.6A-15	Change "S" to "S <sub>h</sub> "	This is typographical correction.	E	No	No
Table 3.8-4 Page 2 of 4	Insert revised table.	This change was erroneously changed to the wrong version of the page. It is now up to date.	E	No	No
Table 3.9A-12, Pages 1 and 9 of 21	Remove valves from table. The valves include 2CCP*MOV22A,B; 2CCP*MOV93A,B; 2CCP*RV82A,B,C,D; 2CCP*RV83A,B; 2CCP*RV84A,B; 2CCP*RV85A,B; 2LMS*SOV156	These valves are no longer used as active valves in the design. These valves normally closed or used for pressure boundary only.	E	No	No
Table 3.9B-2q	Change the loads on the discharge nozzle of the Standby Liquid Control Tank.	These changes are made to be consistent with design document.	E	No	No
Table 5.2-1 Page 8c of 8	Insert Code Case N-377 on the Table.	This change was erroneously removed from the FSAR but we still intend to use this code case.	E	No	No
Table 5.4-2	Change the capacity required/ actual for valves.	These changes are made to be consistent with design documents.	E	No	No



# SUMMARY OF CHANGES

<u>Page</u>	<u>Change Description</u>	<u>Justification</u>	<u>Change Code</u>	<u>SER Impact</u>	<u>Tech. Spec. Impact</u>
Page 5.4-34a, 5.4-34b, 5.4-34c	Various descriptive changes to total developed head calculation and flow rate of the Alternate Shutdown Cooling System.	These changes clarify the capability of the Alternate Shutdown Cooling System.	E	No	No
Table 6.1-1 Page 2 of 2	Delete the flow diverter doors from the table.	The flow diverter doors are not pressure retaining and therefore do not belong in Table.	E	No	No
Page 6.2-55b	Change the equation for bypass leakage rate.	This change is made to be consistent with design document.	E	No	No
Table 6.2-3 Page 1 of 2	Change the design environmental temperature of the suppression chamber from 275°F to 270°F.	This change is made to be consistent with design document.	E	No	No
Table 6.2-33 and Table 6.2-34	Change the data on subcompartment vent path description and blowdown data under recirculation suction line break.	These changes are made to be consistent with design documents.	E	No	No
Table 6.2-54	Change the reactor building design and performance data.	These changes are made to be consistent with design document.	E	No	No
Table 6.2-56 Page 2 of 24	Change feedwater valve MOV21B from Division II to Division I and add penetrations Z-5c and Z-6l including their contents to the table.	The change to the feedwater valve corrects a typographical error. The two penetrations and their contents are inadvertently omitted from Amendment 27 of the FSAR.	E	No	No





# SUMMARY OF CHANGES

<u>Page</u>	<u>Change Description</u>	<u>Justification</u>	<u>Change Code</u>	<u>SER Impact</u>	<u>Tech. Spec. Impact</u>
Table 6.2-56 Page 7 of 24	Change TIP N <sub>2</sub> purge line to a solenoid valve.	NRC requested that the outside N <sub>2</sub> purge line be changed from a check valve to a solenoid valve to meet 10CFR50 Appendix A.	E	No	No
Table 6.2-64	Change the estimated quantity of insulation used in drywell to actual quantity.	This change is made to revise estimated values to as-built values.	E	No	No
Figure 6.2-42	Replace the "deleted" figure with the attached figure for approximate spray coverage in suppression chamber.	This figure is added to show the capability of the containment spray	E	No	No
Figures 6.2-70 Sheet 21 of 43 and 6.2-86.	Delete the figures.	These figures are deleted because the text in Section 6.2 that referenced to those figures are deleted. These figures are shown in the figures of Section 9.3 of the FSAR.	E	No	No
Page 6.5-9	Delete the sentence that mentioned the drywell and suppression chamber sprays rated flows.	The rated flows for drywell and suppression chamber as mentioned in FSAR page 6.2-46a.	E	No	No
Figures 6A.4-40 and 6A.4-41	Replace the figures with attached new figures.	The new figures reflect actual design.	E	No	No
Page 7.1-7	Change FSAR to committ to set-point methodology in FSAR.	Our letter #0604 dated 2/7/86 committed to include this in the FSAR.	R	No	No



# SUMMARY OF CHANGES

<u>Page</u>	<u>Change Description</u>	<u>Justification</u>	<u>Change Code</u>	<u>SER Impact</u>	<u>Tech. Spec. Impact</u>
Table 7.5-1 Page 7 of 14	Change control room/outside differential pressure and overall differential pressure to special filter train flow.	Actual design use 2 recorders for special filter train flow. Differential pressure is available on another recorder.	E	No	No
Page 8.2-24c	Change some of the degraded voltage relay set points.	These changes are made to be consistent with Technical Specifications.	E	No	No
Table 8.2-1 Page 4 of 4	Expand discussion of footnote 9 on 2025KVA running load.	This change clarifies the basis for 2025KVA running load.	E	No	No
Table 8.3-1 Pages 1 to 13 Table 8.3-2 Pages 1 to 11 Table 8.3-5 Table 8.3-6	Change various values diesel generators loads.	These are vendor supplied values which reflect as-built condition.	E	No	No
Table 8.3-4 Pages 1 to 60	Add values that have been designated "later" and update existing information to the Class 1E loads.	This table is changed to update the Class 1E load per as-built conditions.	E	No	No
Page 9.1-10	Change "negative" to "positive"	The actual effect of the addition of the channels based upon the reactivity analysis is positive. This corrects this page.	E	No	No



# SUMMARY OF CHANGES

<u>Page</u>	<u>Change Description</u>	<u>Justification</u>	<u>Change Code</u>	<u>SER Impact</u>	<u>Tech. Spec. Impact</u>
Page 9.1-29	Revise description of lifting slings and strong backs.	Sling assembly is proof tested at 150 percent rated load. The slings are designed with safety factor of 3 times the rated load but not all slings are rated at 125 tons. Sling assemblies will be used to move other equipment. Spreader beams are used in lieu of a lifting cruciform.	E	No	No
Figures 9.1-19 and 9.1-20	Revision to figures.	Revision to these figures to match design drawings.	E	No	No
Page 9.2-9	Remove service water discharge pH and conductivity indications.	Continuous monitoring of pH and conductivity is not required.	E	No	No
Tables 9.2-1 and 9.2-2	Replace Tables 9.2-1 and 9.2-2 with the attached Tables 9.2-1A, 9.2-1B, and 9.2-2 with new formats to show required service water flows for Division I, Division II, and normal operation.	These changes are made to support the Technical Specifications.	E	No	No
Table 9.2-3 Page 1 of 2	Delete ADS air compressor from components being supplied with RBCLCWS	The ADS air compressor is not used because the ADS uses the instrument air.	E	No	No



# SUMMARY OF CHANGES

<u>Page</u>	<u>Change Description</u>	<u>Justification</u>	<u>Change Code</u>	<u>SER Impact</u>	<u>Tech. Spec. Impact</u>
Page 9.3-11	Change "172 psig" to approximately "175 psig" for nitrogen gas to the ADS.	This change is made to be consistent with other FSAR sections and logic diagrams.	E	No	No
Page 9.3-35	Remove "locally". Insert "utilizing switches in the main control room."	The actual location of the switches are in the control room.	E	No	No
Page 9.4-14	Remove "smoke is detected in computer room."	This change reflects actual design in the logic diagram.	E	No	No
Pages 9.4-44 and 9.4-45	Change the description of the post accident monitoring indicators to reflect Figure 9.4-13.	This change reflects the logic shown in Figure 9.4-13 previously provided in Amendment 23.	E	No	No
Pages 9.5-38, 9.5-38a, and 9.5-45	Change the description of the diesel generator compressed air starting system.	These changes reflect as-built condition.	E	No	No
Figure 9A.3-3	Change the fire area designation in the figure.	The change reflects actual configuration of the fire designation.	E	No	No





# SUMMARY OF CHANGES

<u>Page</u>	<u>Change Description</u>	<u>Justification</u>	<u>Change Code</u>	<u>SER Impact</u>	<u>Tech. Spec. Impact</u>
Figure 9A.3-14 Pages 1 and 2, Figure 9A.3-15 Pages 1 and 2, Figures 9A.3-16 Pages 1 and 2, Figures 9A.3-17 Pages 1 and 2.	Replace reference to page 1 of the figures with door identifications. Delete page 2 of the figures.	Page 2 of the figures are deleted. The information in page 2 of the figures are already provided in Table 9A.3-17.	E	No	No
Table 9A.3-16 Pages 1 and 2	Modify existing information in the area of fire loading.	These changes reflect as-built condition.	E	No	No
Table 9A.3-17 Pages 1 to 3	Delete reference to radiation shield and pressure tight for special purpose doors. Expand table to incorporate additional comparison of non-labeled doors.	This change reflects as-built condition.	E	No	No
Page 9A.3-42	Change the description of the door opening.	This change reflects the as-built condition.	E	No	No
Page 9A.3-44	Remove the statement on floor and equipment drains in areas protected by total flooding gaseous suppression systems.	Floor and equipment drains are not provided in these areas to preclude the loss of gaseous suppression agents.	N	No	No



# SUMMARY OF CHANGES

<u>Page</u>	<u>Change Description</u>	<u>Justification</u>	<u>Change Code</u>	<u>SER Impact</u>	<u>Tech. Spec. Impact</u>
Tables 9B.6-1, 9B.6-3, 9B.8-1 and 9B.8-2	Update various pages of the tables in the area of fire area/subarea and fire zone identification.	These changes are made to be consistent with Section 9A of the FSAR. There is no safe shutdown effect.	E	No	No
Page 10.2-3a	Delete the statement of 0.10 second closing time for power assisted nonreturned valves in the extraction lines.	This 0.10 second closing time has not been verified.	E	No	No
Page 11.2-17	Change "13,400" gpm to "30,428", and " $2.67 \times 10^{13}$ cc/yr" to " $6.05 \times 10^{13}$ cc/yr" and change the average liquid radwaste influent and effluent flow.	These changes are made to be consistent with Table 11.2-5 previously submitted. The changed values are consistent with FSAR Table 11.2-5 and supported by design document.	E	No	No
			E	No	No
Page 11.3-5	Change "vacuum pump shutdown" to "vacuum pump" and delete "auto switchover to a standby train" for the offgas control panel.	These changes reflect the as built design.	E	No	No
Table 11.4-4 Page 1	Change the flow capacity of various solid radwaste equipment.	These changes are made to be consistent with design documents.	E	No	No
Table 14.2-63 Pages 1 and 2	Add a reference, NFPA 12-1985, to the test procedure 3 for concentration tests.	This change clarifies the requirement of the test procedure.	E	No	No



# SUMMARY OF FSAR CHANGES

<u>Page</u>	<u>Change Description</u>	<u>Justification</u>	<u>Change Code</u>	<u>SER Impact</u>	<u>Tech. Spec. Impact</u>
Table 14.2-77	Change acceptance criteria #4 to match FSAR changes described on page 6.2.57d.	The design capacity of the standby gas treatment is required to meet Section 6.2	E	6-21 6-40 6-14(SSER 3)	6-4
Table 14.2-129	Change the overspeed setpoint to match the Technical Specifications.	The words in the FSAR have been modified to match the Technical Specifications.	E	No	No
Table 14.2-225	Insert page 3 of 3 of Table 14.2-225.	This page was previously deleted.	E	No	No
Questions and Responses Table 421.36-1	Change instrument numbers for compliance with Reg. Guide 1.97.	These changes reflect recent as-built review of compliance with Regulatory Guide 1.97.	E	May affect supplement 4	No
Questions and Responses F421.39(7.6)	Change the response section from ". . . "I" off an existing reactor vessel pressure transmitter . . ." to ". . . directly senses reactor vessel pressure . . . "	This change clarifies the function of the high-pressure top connection of this transmitter.	E	No	No
Table 430.50-1	Change "1.5" to "1.25" to meet ASME Section III.	This change is made to respond to NRC item requested to meet ASME Section III Class II. ASME Section III requires piping be tested to 1.25 design pressure.	E	No	No



Nine Mile Point Unit 2 PSAP

TABLE 1.3-3 (Cont)

	NMP <u>Unit 2</u>	WPPSS <u>Unit 2</u>	Zimmer <u>Unit 1</u>	La Salle <u>Units 1, 2</u>
Submergence of vent pipe below suppression pool surface, ft	9.5 min 11.0 max	11.67 min 12.00 max	10	12
Design environmental temperature of drywell, °F	340	340	340	340
Design environmental temperature of pressure suppression chamber, °F	275 <i>270</i>	275	275	275
Downcomer vent pipe pressure loss factor	1.37 <sup>(6)</sup>	1.9	2.17	1.9
Break area/total vent area	0.0108	0.0105	0.008	0.0105
Calculated maximum pressure after blowdown to drywell, psig	39.7	34.7	40.4	34
Calculated maximum pressure in suppression chamber, psig	34.0	28.0	35.6	28
Calculated maximum initial pressure suppression pool temperature rise, °F	50	35	35	50
Leakage rate, % free volume/day at 45 psig and 340°F	1.1 @ 200°F	0.5 @ 200°F	0.635	0.5
<u>Reactor Building (Sections 3.8.4, 6.2)</u>				
Type	Controlled leakage, elevated release <sup>(7)</sup>	Controlled leakage, elevated release	Controlled leakage, elevated release	Controlled leakage, elevated release
Construction				
Lower levels	Reinforced concrete	Reinforced concrete	Reinforced concrete	Reinforced concrete
Upper levels	Steel super- structure and siding	Steel super- structure and siding	Steel super- structure and siding	Steel super- structure and siding
Roof	Steel decking	Steel decking	Steel decking	Steel decking





## Nine Mile Point Unit 2 FSAR

10 Ci/gm to well below the maximum level that can be tolerated at the normal reactor sample station.

The counting room used for post-accident sampling analysis is located in Unit 1. It is surrounded by concrete walls approximately 3 ft thick. The emergency ventilation system inlet duct for this room is 1500 ft from the Unit 2 stack. It has particulate filters. Assuming containment isolation, background radiation levels are predicted to be (later) 0.3 mrem/hr. 10

To demonstrate the effect of background radiation, a Cs-137 source was counted with a 5 mR/hr background level from a Eu-152 source. The Cs-137 was counted with an accuracy of 10 percent, which is well within the factor of 2 requirement.

### Criterion 10

Accuracy, range, and sensitivity shall be adequate to provide pertinent data to the operator in order to describe radiological and chemical status of the reactor coolant systems.

### Clarification 10

The recommended ranges for the required accident sample analyses are given in Regulatory Guide 1.97, Rev. 2. The necessary accuracy within the recommended ranges are as follows:

1. Gross activity, gamma spectrum: Measured to estimate core damage these analyses should be accurate within a factor of 2 across the entire range.
2. Boron: Measured to verify shutdown margin.

In general, this analysis should be accurate within  $\pm 5\%$  of the measured value (i.e., at 6,000 ppm B the tolerance is  $\pm 300$  ppm while at 1,000 ppm B the tolerance is  $\pm 50$  ppm.) For concentrations below 1,000 ppm, the tolerance band should remain at  $\pm 50$  ppm.

3. Chloride: Measured to determine coolant corrosion potential.



Nine Mile Point Unit 2 FSAR

TABLE II.B.3-1

TIME AND DOSE PROJECTIONS FOR PASS SAMPLING, TRANSPORT, AND ANALYSIS

Task	Time (min)		Persons (1)	Exposure (2) (mR)		Notes
	Start	Stop		Whole Body	Extremities	
Decision to take sample	0	0	NA	Ltr N/A	Ltr N/A	Assumes TSC and OSC activated and sample room habitated
Read containment atmosphere H <sub>2</sub> levels in control room	0	5	1	Ltr NEG	Ltr N/A	
Operate control panel for dilute reactor coolant	0	20	(2) <sup>4</sup>	Ltr 9.5	Ltr 9.5	6" lead shielding
Transport dilute reactor coolant to laboratory	20	42 (40)	2	Ltr 3.6+1	Ltr 2.5+2	6" lead shielding (MAX) 3" lead shielding (MIN)
Prepare coolant for isotopic	42 (40)	44.5 (60)	1	Ltr 5.0-1	Ltr 6.3+1	Glass 4" lead for W.B. (MAX)
Perform isotopic analysis of coolant	44.5 (60)	49.5 (90)	1	Ltr 2.2-A	Ltr 2.0-1	1/2" lead shielding (MIN)
Analyze coolant for Boron	49.5 (95)	54.2 (180)	1	Ltr 2.5	Ltr 8.6+1	Glass + 2" lead 4" lead for W.B.
Prepare sample panel for containment atmosphere	20	40 (20)	2	Ltr 0	Ltr 0	1/2" lead shielding 6" lead shielding
Operate control panel for containment atmosphere	20 (40)	35 (50)	2	Ltr 4.8+0	Ltr 4.8+0	2" lead shielding
Transfer containment atmosphere to small cask	35 (50)	39.8 (55)	1	Ltr 1.8+1	Ltr 2.4+2	2" lead shielding
Transport containment atmosphere to laboratory	39.8 (55)	58.5 (75)	2	Ltr 5.8+2	Ltr 2.4+3	3" lead shielding
Prepare containment atmosphere for isotopic	58.5 (75)	63.9 (95)	1	Ltr 3.3	Ltr 5.2+2	Glass 2" lead 4" lead for W.B. (MAX)
Perform isotopic analysis of containment atmosphere	63.9 (95)	68.9 (125)	1	Ltr 2.7-3	Ltr 2.0+0	1/2" lead shielding (MIN)
Operate control panel for total dissolved gas	31.8 (55)	109.8 (180)	(2) <sup>3</sup>	Ltr 2.5+1	Ltr 2.5+1	6" lead shielding
Operate control panel for 10-ml reactor coolant	109.8 (180)	119.8 (195)	(2) <sup>3</sup>	Ltr 3.6+0	Ltr 3.6+0	6" lead shielding



Wine Mile Point Unit 2 PSAB

TABLE II.B.3-1 (Cont)

Task	Time (min)		Persons(1)	Exposure(2) (mR)		Notes
	Start	Stop		Whole Body	Extremities	
Transport 10-ml reactor coolant to laboratory	119.8 (195)	179.1 (255)	3	Ltr 6.0+1	Ltr 3.8-3	6" lead shielding (Max) 2" lead shielding (Min)
Analyze 10-ml reactor coolant for chloride	179.1 (255)	183.6 (315)	21	Ltr 2.4+1	Ltr 8.1+3	Glass 2" lead 4" lead for W.B. (Max) 1/2" lead shielding (Min)

(1) Number of persons performing particular task.

(2) Doses are based on the assumption that the decision to take a sample is made 1 hr after reactor scram.



Nine Mile Point Unit 2 FSAR

TABLE III.D.3.4-1

RESULTS OF TOXIC CHEMICAL ANALYSIS FOR THE CONTROL ROOM  
HABITABILITY STUDY

Chemical Location	Chemical	Maximum Control Room Concentration (g/m <sup>3</sup> )	Toxic Limit (g/m <sup>3</sup> )	Allowable Time Period (min)
J.A. FitzPatrick Plant	N <sub>2</sub>	<del>8.65</del> 7.5	274	15
	H <sub>2</sub> SO <sub>4</sub>	<del>1.32 x 10<sup>-4</sup></del> 6.6 x 10 <sup>-5</sup>	0.002	2
	CO <sub>2</sub>	<del>4.46</del> 4.3	54.8	15
	Propane	<del>4.15</del> 0.9	43.1	15
Alcan	Cl <sub>2</sub>	<del>0.019</del> 0.02	0.045	2
	Propane	<del>3.78</del> 3.5	43.1	15
	N <sub>2</sub>	0.918	274	15
	H <sub>2</sub> SO <sub>4</sub> HCl	<del>7.56 x 10<sup>-4</sup></del> 0.02	<del>0.002</del> 0.005	<del>2</del> 15
	CO <sub>2</sub>	0.06	54.8	2
Route 104	HCB <i>lower case L</i>	<del>0.008</del> 0.09	0.050	2
	N <sub>2</sub>	<del>0.389</del> 0.4	274	15
	CO <sub>2</sub>	0.066	54.8	2
Nine Mile Point Unit 1	N <sub>2</sub>	<del>27.2</del> 15.0	274	15
	CO <sub>2</sub>	<del>14.3</del> 10.2	54.8	15
	H <sub>2</sub> SO <sub>4</sub>	<del>2.69 x 10<sup>-4</sup></del> 1.3 x 10 <sup>-4</sup>	0.002	2
Nine Mile Point Unit 2	H <sub>2</sub> SO <sub>4</sub>	0.0017	0.002	2
	CO <sub>2</sub>	<del>37.9</del> 32.8	54.8	15
	Halon 1301	<del>4.68</del> 4.0	432	15
	N <sub>2</sub>	20.5	274	15
Copper Weld Bi-METALLICS GROUP	Isopropyl Alcohol	4.0 x 10 <sup>-4</sup>	1.2	15

1.10-133





# Nine Mile Point Unit 2 FSAR

TABLE 2.2-8

## PREDICTED VAPOR CONCENTRATIONS IN THE UNIT 2 CONTROL ROOM

Chemical Location	Chemical	Maximum Control Room Concentration (g/m <sup>3</sup> )	Toxic Limit (g/m <sup>3</sup> )	Allowable Time Period (min)
James A. FitzPatrick plant	N <sub>2</sub>	7.5	274	15
	H <sub>2</sub> SO <sub>4</sub>	6.6 x 10 <sup>-5</sup>	0.002	2
	CO <sub>2</sub>	4.3	54.8	15
	Propane	0.9	43.1	15
Alcan	Cl <sub>2</sub>	0.017 0.02	0.045	2
	Propane	3.5	43.1	15
	N <sub>2</sub>	0.9	274	15
	HCL	0.02	0.002 0.05	15
	CO <sub>2</sub>	0.06	54.8	2
Route 104	HCl	0.04	0.050	2
	N <sub>2</sub>	0.4	274	15
	CO <sub>2</sub>	0.06	54.8	2
Nine Mile Point Unit 1	N <sub>2</sub>	15.0	274	15
	CO <sub>2</sub>	10.2	54.8	15
	H <sub>2</sub> SO <sub>4</sub>	1.3 x 10 <sup>-4</sup>	0.002	2
Nine Mile Point Unit 2	H <sub>2</sub> SO <sub>4</sub>	0.002 0.0017	0.002	2
	CO <sub>2</sub>	32.8	54.8	15
	Halon 1301	4.0	432	15
	N <sub>2</sub>	20.5	274	15
	Isopropyl Alcohol	4.0 x 10 <sup>-4</sup>	1.2	15
Copperweld Bimetallics Group				

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Nine Mile Point Unit 2 FSAR

TABLE 2.2-9

INPUT DATA FOR VAPOR RUN

Ambient temperature	32.8 33°C
Wind speed	1 m/sec
Liquid density of propane	0.585 g/cm <sup>3</sup>
Boiling point	-42.2°C
Vapor density	1.55 × 10 <sup>-3</sup> g/cm <sup>3</sup>
Heat of vaporization	81.7 cal/g
Specific heat	0.576 cal/g °C



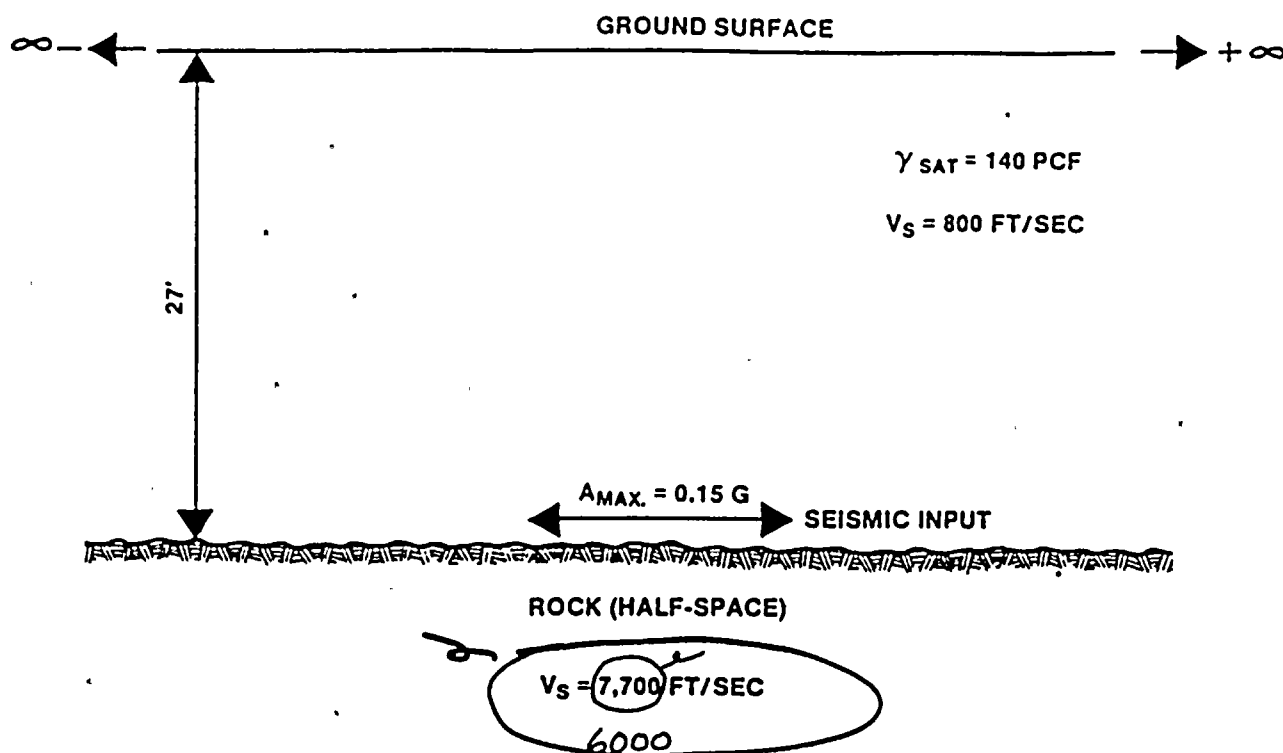
## Nine Mile Point Unit 2 FSAR

one of the pumps, the pump in the second sump will be able to pump all the collected water. Each sump and each vertical access shaft connecting the sumps to the surface consists of concrete pipes.

### 2.5.4.6.4 Permeability Determinations

Permeabilities of the foundation materials are estimated on the basis of recent studies performed at the Unit 2 site, and previous studies conducted at the adjacent Nine Mile Point Unit 1 and James A. FitzPatrick sites<sup>(82)</sup>. The permeability studies for Unit 2 consisted of the following:





**NOTES:**

TO SIMPLIFY THE ANALYSIS, DUCTLINES 907, 922, AND MANHLE NO. 1 ARE CONSERVATIVELY TREATED AS LAYERS OF SOIL THAT HAS SAME PROPERTIES AS STRUCTURAL FILL. THE SOIL SYSTEM IS ASSUMED TO HAVE INFINITE AREAL EXTENT AND IS DIVIDED INTO 13 LAYERS.

INPUT DATA FOR THIS COMPUTER ANALYSIS INCLUDE THE FOLLOWING:

1. EARTHQUAKE ACCELEROGRAPHS
2. UNIT WEIGHT AND SHEAR WAVE VELOCITY OF SOILS
3. RELATIONS BETWEEN SOIL DYNAMIC PROPERTIES AND SHEAR STRAIN.

FIGURE 2.5-150

THE INPUT SOIL SYSTEM

NIAGARA MOHAWK POWER CORPORATION  
NINE MILE POINT-UNIT 2  
FINAL SAFETY ANALYSIS REPORT





## Nine Mile Point Unit 2 FSAR

trip systems have tripped. This logic scheme is called a one-out-of-two taken twice arrangement. The RPS can be tested during reactor operation. Manual scram testing is performed by operating one of the four manual scram controls. Two manual scram controls are associated with each trip system, one in each trip channel. Operating one manual scram control tests one trip channel and one trip system. The total test verifies the ability to deenergize the scram pilot valve solenoids. Indicating lights verify that the actuator contacts have opened. This capability for a thorough testing program significantly increases reliability.

Control rod drive (CRD) operability can be tested during normal reactor operation. Drive position indicators and in-core neutron detectors are used to verify control rod movement. Each control rod can be withdrawn ~~to~~ <sup>one</sup> notches and then reinserted to the original position without significantly perturbing the nuclear system at most power levels. One control rod is tested at a time. Control rod drive mechanism overtravel testing demonstrates rod-to-drive coupling integrity. Hydraulic supply subsystem pressures can be observed on main control room instrumentation. More importantly, the hydraulic control unit scram accumulators pressure and the scram discharge volume water level are monitored. The scram discharge volume is sensed by level switches which automatically scram the reactor when the volume is high enough to verify that the volume is filling up, yet low enough to ensure that the remaining capacity can accommodate a scram.

Main steam isolation valves can be tested during reactor operation. For test, the valves move shut a very small distance from the fully open position, then automatically open fully without affecting reactor operation. If reactor power is sufficiently reduced, the isolation valves can be fully closed. During the refueling operation, valve leakage rates can be determined.

Residual heat removal (RHR) system testing can be performed during normal operation. Main system pumps can be evaluated by taking suction from the suppression pool and discharging through test lines back to the suppression pool. System design and operating procedures also permit testing discharge valves to the reactor recirculation loops. The low pressure coolant injection (LPCI) mode can be tested after reactor shutdown.

Each active component of the emergency core cooling system (ECCS) required to operate in a DBA is designed to be



Nine Mile Point Unit 2 FSAP

TABLE 3.2-1  
EQUIPMENT AND STRUCTURE CLASSIFICATION

	Scope of Supply	Location	Electrical Classifi- cation	Seismic Category	Quality Group Classifi- cation	Quality (31,32, Assurance 33, Requirement 34)	Tornado Protection	Notes
<u>Reactor System</u>								
Reactor vessel	GE	PC	NA	I	A	I	D	
Reactor vessel support skirt	GE	PC	NA	I	A	I	D	
Reactor vessel appurtenances,								
pressure retaining portions	GE	PC	NA	I	A	I	D	
CFD housing supports	GE	PC	NA	I	NA	I	P	
Reactor internal structures,								
engineering safety features	GE	PC	NA	I	NA	I	P	(1)
Reactor internal structures,								
other	GE	PC	NA	NA	NA	NA	P	(2,34)
Control rods	GE	PC	NA	I	NA	I	D	
Control rod drives	GE	PC	NA	I	NA	I	P	
Core support structure	GE	PC	NA	I	NA	I	D	
Fuel assemblies	GE	PC	NA	I	NA	I	P	
Reactor vessel stabilizer	GE	PC	NA	I	NA	I	D	(30)
Reactor vessel insulation	P	PC	NA	I	NA	NA	P	(34)

Ref. Spec. 306V

Nuclear Boiler System

Instrumentation condensing chambers	GE	PC	NA	I	A	I	P	(38)
SRV air accumulators	P	PC	NA	I	B	I	D	
Piping, SRV discharge	P	PC	NA	I	C	I	P	
Piping, main steam within outermost isolation valve	P	PC	NA	I	A	I	P	(3)
Pipe supports, main steam within outermost isolation valve	P	PC	NA	I	A	I	D	
Pipe whip restraints, main steam, and feedwater	P	PC,RB	NA	I	NA	I	D	
Piping, feedwater within outermost isolation valve	P	PC	NA	I	A	I	D	
Piping, other RCPB piping within outermost isolation valve	P	PC	NA	I	A	I	P	(3)
Piping, instrumentation beyond outermost isolation valve	P	RB,TB	NA	I or NA	B or D	I or NA	D	(3)
Safety/relief valves	GE	PC	1E	I	A	I	D	



Nine Mile Point Unit 2 FSAR

- b. The following design stress limits are not exceeded for Safety Class 2 piping:
- (1) The maximum stress ranges do not exceed  $0.8 (1.2 S_h + S_a)$ , as calculated by Equations (9) and (10) in Paragraph NC-3652, ASME Code Section III, considering normal and upset plant conditions (i.e., sustained loads, occasional loads, and thermal expansion) and an OBE event. 12
  - (2) The  $S_h$  maximum stresses do not exceed  $1.8 S$ , as calculated by Equation (9) in Paragraph NC-3652 under the loadings resulting from a postulated piping failure of fluid system piping beyond these portions of piping. 12
- c. Welded attachments for pipe supports or other purposes, to these portions of piping are avoided, except where detailed stress analysis demonstrates compliance with the limits discussed in Items 2a and 2b.
- d. The number of circumferential and longitudinal piping welds and branch connections is minimized.
- e. The length of these portions of piping is reduced to the minimum length practicable.
- f. The design of pipe anchors or restraints (e.g., connections to containment penetrations and pipe whip restraints) does not require welding directly to the outer surface of the piping (e.g., flued integrally forged pipe fittings are used), except where such welds are capable of 100-percent volumetric inservice inspection. This criterion is also applicable to the portion of piping between the containment and the inside containment isolation valves.
- g. For these portions of high-energy fluid system piping, preservice and subsequent inservice examinations are performed in accordance with



Nine Mile Point Unit 2 PSAR

TABLE 3.8-4 (Cont)

PART II

Where Structure Is Not Integral and Continuous (Closure Joint Region Only)

Design Category	Load Combination	Stress Comparisons	ASME Paragraph
Design I	D + PD + OBE	$P_m \leq 1.0 S_m @ TD$ $P_l \leq 1.5 S_m @ TD$ $P_l + P_b \leq 1.5 S_m @ TD$	NE-3131 (C)
	D + PD + OBE + J	$P_m \leq \text{larger of } 1.2 S_m \text{ or } S_y @ TD \text{ or } TD^1$ $P_l \leq \text{larger of } 1.8 S_m \text{ or } 1.5 S_y @ TD \text{ or } TD^1$ $P_l + P_b \leq \text{larger of } 1.8 S_m \text{ or } 1.5 S_y @ TD \text{ or } TD^1$	NE-3131-2   26
	D + PD + SSE	$P_m \leq S_m @ TD$ $P_l \leq 1.5 S_m @ TD$ $P_l + P_b \leq 1.5 S_m @ TD$	NE-3131 (C)
Design II	D + PD + SSE + J	$P_m \leq \text{larger of } 1.2 S_m \text{ or } S_y @ TD \text{ or } TD^1$ $P_l \leq \text{larger of } 1.8 S_m \text{ or } 1.5 S_y @ TD \text{ or } TD^1$ $P_l + P_b \leq \text{larger of } 1.8 S_m \text{ or } 1.5 S_y @ TD \text{ or } TD^1$	NE-3131-2   26
	D + PE	$P_m \leq 1.0 S_m @ TE$ $P_l \leq 1.5 S_m @ TE$ $P_l + P_b \leq 1.5 S_m @ TE$ ASME III instability criteria	NE-3131 (C) NE-3133 & NE-3131(C)
		Deleted	
Design III	D + PE		
Design IV			
Design V	D + Pf + OBE	$P_m + 1.5 S_m @ TE$	Peg. Guide 1.57
Operating I	D + Po + To + OBE	$P_l + P_b + Q \leq 3 S_m$ $P_l + P_b + Q + F$ (fatigue evaluation)	NE-3222

Replace with Attached





# Nine Mile Point Unit 2 PSAF

TABLE 3.6-4 (Cont)

## PART II

Where Structure Is Not Integral and Continuous (Closure Joint Region Only)

Design Category	Load Combination	Stress Comparisons	ASME Paragraph
Design I	D + PD + OBE + SRV + LOCA	$P_m \leq 1.0 S_m @ TD$ $P_1 \leq 1.5 S_m @ TD$ $P_1 + P_b \leq 1.5 S_m @ TD$	NE-3131 (C)
	D + PD + OBE + SRV + LOCA + J	$P_m \leq \text{larger of } 1.2 S_m \text{ or } S_y @ TD \text{ or } TD_1$	NE-3131-2
	D + PD + OBE + SRV + LOCA + J	$P_1 \leq \text{larger of } 1.8 S_m \text{ or } 1.5 S_y @ TD \text{ or } TD_1$ $P_1 + P_b \leq \text{larger of } 1.8 S_m \text{ or } 1.5 S_y @ TD \text{ or } TD_1$	
Design II	D + PD + SSE + SRV + LOCA	$P_m \leq S_m @ TD$ $P_1 \leq 1.5 S_m @ TD$ $P_1 + P_b \leq 1.5 S_m @ TD$	NE-3131 (C)
	D + PD + SSE + SRV + LOCA + J	$P_m \leq \text{larger of } 1.2 S_m \text{ or } S_y @ TD \text{ or } TD_1$	NE-3131-2
	D + PD + SSE + SRV + LOCA + J	$P_m \leq \text{larger of } 1.8 S_m \text{ or } 1.5 S_y @ TD \text{ or } TD_1$ $P_1 + P_b \leq \text{larger of } 1.8 S_m \text{ or } 1.5 S_y @ TD \text{ or } TD_1$	
Design III	D + PE + OBE	$P_m \leq 1.0 S_m @ TE$	NE-3131 (C)
	D + PE + SSE	$P_1 \leq 1.5 S_m @ TE$ $P_1 + P_b \leq 1.5 S_m @ TE$ ASME III instability criteria	NE-3133 & NE-3131 (C)
Operating I	D + Po + To + OBE + SRV + LOCA	$P_1 + P_b + Q \leq 3 S_m$ $P_1 + P_b + Q + P$ (fatigue evaluation)	NE-3222
Operating II	D + Po + To + SSE + SRV + LOCA	$P_1 + P_b + Q \leq 3 S_m$	NE-3222
Test	D + PT	$P_m \leq 0.85 S_y @ TT$ $P_1 + P_b \leq 1.25 S_y @ TT$	NE-6322

ATTACHMENT-1



Nine Mile Point Unit 2 FSAR

TABLE 3.9A-12

ACTIVE VALVES (BOP)

SYSTEM NAME	MARK NUMBER	SIZE	VALVE TYPE	PRESSURE RATING (*)	ASME CLASS	MFG.	VALVE OPERATOR MODEL (MFG)	ACTIVE FUNCTION	SPEC.
Reactor plant component cooling (CCP)	2CCP*MOV14A,B	12	Gate	150	3	1	SMB-0-25(1)	63*	P304R
	2CCP*MOV15A,B	4	Gate	150	2	1	SMB-000-5(1)	9	P304R
	2CCP*MOV16A,B	4	Gate	150	2	1	SMB-000-5(1)	9	P304R
	2CCP*MOV17A,B	4	Gate	150	2	1	SMB-000-5(1)	9	P304R
	2CCP*MOV18A,B	12	Gate	150	3	1	SMB-0-25(1)	63*	P304R
	2CCP*MOV22A,B	6	Gate	150	3	1	SMB-00-15(1)	65*	P304R
	2CCP*MOV93A,B	6	Gate	150	3	1	SMB-00-10(1)	65*	P304R
	2CCP*MOV122	8	Gate	150	2	1	SMB-00-15(1)	9	P304R
	2CCP*MOV124	8	Gate	150	2	1	SMB-00-15(1)	9	P304R
	2CCP*MOV265	8	Gate	150	2	1	SMB-00-15(1)	9	P304R
	2CCP*MOV273	8	Gate	150	2	1	SMB-00-15(1)	9	P304R
	2CCP*RV60A,B,C	3/4 x 1	SRV	150/150	3	8	None	4	C051A
	2CCP*RV64A,B	2 x 3	SRV	150/150	3	8	None	4	C051A
	2CCP*RV170	3/4 x 1	SRV	150/150	2	8	None	4	C051A
	2CCP*RV171	3/4 x 1	SRV	300/150	2	8	None	4	C051A
	2CCP*RV82A-D	3/4 x 1	SRV	150/150	3	8	None	4	C051A
	2CCP*RV83A,B	3/4 x 1	SRV	150/150	3	8	None	4	C051A
	2CCP*RV84A,B	3/4 x 1	SRV	150/150	3	8	None	4	C051A
	2CCP*RV85A,B	3/4 x 1	SRV	150/150	3	8	None	4	C051A
	2CCP*MOV94A,B	4	Gate	150	2	1	SMB-000-5(1)	9	P304R
	2CCP*AOV37A	1 1/2	Plug	150	3	4	NCB520-SR80(2)	64*	P304K
	2CCP*AOV37B	2	Plug	150	3	4	NCB725-SR80(2)	64*	P304K
	2CCP*AOV38A	1 1/2	Plug	150	3	4	NCB520-SR80(2)	64*	P304K
	2CCP*AOV38B	2	Plug	150	3	4	NCB725-SR80(2)	64*	P304K

\*Active functions 63-65 are not listed at end of this table.



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TABLE 3.9A-12 (Cont)

<u>SYSTEM NAME</u>	<u>MARK NUMBER</u>	<u>SIZE</u>	<u>VALVE TYPE</u>	<u>PRESSURE RATING (*)</u>	<u>ASME CLASS</u>	<u>MFG.</u>	<u>VALVE OPERATOR MODEL (MFG)</u>	<u>ACTIVE FUNCTION</u>	<u>SPEC.</u>
	2ISC*EFV17	3/4	Check	1250	2	13	None	60	C151C
	2ISC*EFV18	3/4	Check	1250	2	13	None	60	C151C
	2ISC*EFV19	3/4	Check	1250	2	13	None	60	C151C
	2ISC*EFV20	3/4	Check	1250	2	13	None	60	C151C
	2ISC*EFV21	3/4	Check	1250	2	13	None	60	C151C
	2ISC*EFV22	3/4	Check	1250	2	13	None	60	C151C
	2ISC*EFV23	3/4	Check	1250	2	13	None	60	C151C
	2ISC*EFV24	3/4	Check	1250	2	13	None	60	C151C
	2ISC*EFV25	3/4	Check	1250	2	13	None	60	C151C
	2ISC*EFV26	3/4	Check	1250	2	13	None	60	C151C
	2ISC*EFV27	3/4	Check	1250	2	13	None	60	C151C
	2ISC*EFV28	3/4	Check	1250	2	13	None	60	C151C
	2ISC*EFV29	3/4	Check	1250	2	13	None	60	C151C
	2ISC*EFV30	3/4	Check	1250	2	13	None	60	C151C
	2ISC*EFV31	3/4	Check	1250	2	13	None	60	C151C
	2ISC*EFV32	3/4	Check	1250	2	13	None	60	C151C
	2ISC*EFV33	3/4	Check	1250	2	13	None	60	C151C
	2ISC*EFV34	3/4	Check	1250	2	13	None	60	C151C
	2ISC*EFV35	3/4	Check	1250	2	13	None	60	C151C
	2ISC*EFV36	3/4	Check	1250	2	13	None	60	C151C
	2ISC*EFV37	3/4	Check	1250	2	13	None	60	C151C
	2ISC*EFV38	3/4	Check	1250	2	13	None	60	C151C
	2ISC*EFV39	3/4	Check	1250	2	13	None	60	C151C
	2ISC*EFV40	3/4	Check	1250	2	13	None	60	C151C
	2ISC*EFV41	3/4	Check	1250	2	13	None	60	C151C
	2ISC*EFV42	3/4	Check	1250	2	13	None	60	C151C
Containment leakage monitoring (LMS)	2LMS*SOV152	3/4	Globe	1500	2	6	76P-001(7)	16	P304X
	2LMS*SOV153	3/4	Globe	1500	2	6	76P-001(7)	16	P304X
	2LMS*SOV156	3/4	Globe	1500	2	6	76P-001(7)	16	P304X
	2LMS*SOV157	3/4	Globe	1500	2	6	76P-001(7)	16	P304X



Wine Mile Point Unit 2 PSAB

TABLE 3.9B-2g

STANDBY LIQUID CONTROL TANK

Criteria	Method of Analysis	Allowable Stress or Minimum Thickness Required or Load	Actual Stress or Thickness or Load
1. Shell thickness			
Loads: Normal and upset design pressure and temperature	Brownell & Young "Process Equipment Design"	0.010 in	0.25 in
Stress limit	ASME Section III	30,000 psi	1,203 psi
2. Nozzle loads			
Loads: Normal and upset design pressure and temperature	The maximum moments due to pipe reaction and maximum forces shall not exceed the allowable limits.		
Overflow nozzle		Po = 450 lb Mo = 310 ft-lb	98 lb 195 ft-lb
Discharge nozzle		Po = 450 lb Mo = 310 ft-lb	287 204 lb 289 211 ft-lb
Loads: Faulted dead weight, thermal expansion, and SSE	The maximum moments due to pipe reaction and maximum forces shall not exceed the allowable limits		350 162 lb 191 94 ft-lb
Overflow nozzle		Po = 540 lb Mo = 372 ft-lb	109 lb 209 ft-lb
Discharge nozzle		Po = 540 lb Mo = 372 ft-lb	298 257 lb 315 311 ft-lb
3. Anchor bolts	ASME Section III	10,000 psi	8,104 psi
4. Dynamic loads	Equivalent static	1.75 g horizontal 1.75 g vertical	1.046 g horizontal 0.71 g vertical
a. SSE			
b. SNV all			
c. LOCA			





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TABLE 5.2-1 (Cont)

Code Case Number/ Revision		Applicable Equipment	Title
No.	System Identification Line No.	Location In System Support No.	Attachment Method (Weld Type)
1	Service Water 2SWP-006-104-3	2-SWP-PSR 491A3	Fillet - Two sides
2	Service Water 2SWP-003-901-3	2-SWP-PSR 1101A3	Fillet - Two sides
N-339	CRD penetra- tion sleeve guides, con- duit supports attached to suppression chamber liner	Examination of Ends of Fillet Welds, Section III, Division 1, Classes 1, 2, and MC	
N-369	Class 2 and 3, and MC con- struction of bellows	Resistance Welding of Bellows, Section III, Division 1	
N-392	Class 2 and 3 pipe supports	Procedure for Evaluation of the Design of Hollow Circular Cross Section Welded Attachments on Classes 2 and 3 Piping, Sec- tion III, Division 1	
N-413	Pipe supports	Minimum Size of Fillet Welds For Linear Type Supports, Section III, Division 1, Subsection NF	

In accordance with Code Case N-413, allowable weld stress of 21 ksi for base metals with a tensile strength range of 58 ksi to 70 ksi will be used.

(1) For NSSS-supplied equipment only, code cases applicable to reactor coolant pressure boundary components (but not their supports) are identified.



Insert - for Table 5.2-1, Sl. 8c

N-377

ASME III  
Component  
Supports

Effective Throat Thickness of  
Partial Penetration Groove Welds  
Section III, Division 1, Classes 1,  
2, and 3



## Nine Mile Point Unit 2 FSAR

Further operational description of the alternate shutdown cooling method is discussed in Section 15.2.9. The adequacy of the SRVs for liquid flow in this mode of operation is discussed in Section 1.12.

The RHR pumps have sufficient head to satisfy the requirement of the alternate shutdown cooling mode of operation. The following calculation demonstrates the adequacy of the pump flow/head requirement.

The following design features/criteria were applied to the calculation.

1. Suppression pool level is assumed at minimum drawdown level of 197 ft-8 in.
2. Frictional flow losses are based on a 40°F suppression pool water temperature.

The total developed head (TDH) required to provide adequate cooling water flow rate in this mode of operation is given by the following formula:

$$TDH = Z_2 - Z_1 + \frac{P_2 - P_1}{\rho} + \frac{V_2^2}{2g} - \frac{V_1^2}{2g} + h_L$$

where:

$Z_2$  = Elevation of the RPV outlet nozzle (el 322 ft-0 in);  
no credit is taken for the lower elevation of the SRV discharge return to the suppression pool.

$Z_1$  = Elevation of the suppression pool water level (el 197 ft-8 in) corresponding to the minimum pool drawdown level.

$\frac{P_2 - P_1}{\rho}$  = Difference in pressure between the inlet and outlet of the flow path, assumed to be zero since the pump suction source and SRV discharge destination are the same, i.e., the suppression pool.

$\frac{V_2^2}{2g}$  = Velocity head at the outlet of the SRV piping discharge to the suppression pool.  
*water surface within the RPV, assumed to be negligible*

$\frac{V_1^2}{2g}$  = Velocity head in the suppression pool at the RHR pump suction, conservatively assumed to be zero ft (i.e., constant pool level).  
*at the water surface, negligible.*



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$h_L$  = Frictional head loss from all components in the flow path, including the RHS suction strainers (50 percent clogged); RHS heat exchangers, RPV, main steam safety-relief valves, SRV discharge T-quencher, and all interconnecting piping, valves, etc, *assuming a flow of 7060 GPM*

The head loss across the SRVs is based on data provided in the Analysis of Generic BWR Safety/Relief Valve Operability Test Results, GE-NEG, NEDE-24988-P, dated October 1981. For this calculation, *three* SRVs are assumed open in the ADS mode of operation. The flow coefficient Cv for each valve was taken as 415 in accordance with NEDE-24988-P, Table 5.2-1. *four*

*Relocate  
→ TO  
Pg 5  
AS shown*

Based on the piping/equipment arrangements of flow resistances described previously, and on the RHR pump characteristics shown in Figure 6.3-5B, the RHR pump will provide a flow rate of 7,060 gpm in the alternate shutdown cooling mode.

Evaluation of the terms in the foregoing equation at this flow rate is shown as follows:

$$Z_2 - Z_1 = 322 \text{ ft} - 197 \text{ ft} - 8 \text{ in} = 124.3 \text{ ft}$$

$$\frac{P_2 - P_1}{\rho} = \frac{35 \text{ PSIG} - 0 \text{ PSIG}}{\rho} = 80.8 \text{ ft}$$

$$\frac{V_2^2}{2g} = 1.4 \text{ ft (at the SRV discharge outlet)}$$

$h_L$  = 3.9 ft (suction strainer, RHR pump suction piping and valves)

+ 157.8 ft. (RHR heat exchanger, RHR pump discharge piping and valves)

+ 35.9 ft (RPV)

+ 83.6 ft (main steam piping, SRV, SRV discharge piping, and T-quenchers)

$$\text{Total } h_L = \frac{281.2}{197.6} \text{ ft}$$





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Calculating TDH required using preceding values:

$$\text{TDH} = 124.3 \text{ ft.} + \frac{80.8 \text{ ft} + 197.6 \text{ ft}}{0} + 1.4 \text{ ft} + 281.2 \text{ ft} = 402.7 \text{ ft}$$

The developed TDH for the RHR pump at 7,060 gpm is 407 ft, which satisfies the preceding TDH requirement.

Low Pressure Coolant Injection Mode

The functional design basis for the LPCI mode is to pump a total of 7,450 gpm of water per loop using the separate pump loops from the suppression pool into the core region of the vessel, when the vessel pressure is 20 psid over drywell pressure. Injection flow commences at 225 psid vessel pressure above drywell pressure.

Based upon the RHR pump characteristics shown in Figure 6.3-5B, the RHR pump will deliver a flow rate of approximately 7060 gpm at 402.7 ft. This equates to the 982 lb/sec assumed in the Alternate Shutdown Cooling analysis per Table 15.2-13.

Sufficient head exists to "push" the water back down to the suppression pool via the SRVs. This is demonstrated by the following calculation.

$$\left( \frac{P_2 - P_3}{\rho} \right) + \left( \frac{V_2^2 - V_3^2}{2g} \right) + z_2 - z_3 \geq h_L$$

where:

$\frac{P_2 - P_3}{\rho}$  = Difference in pressure between the SRPV and the suppression chamber, assumed to be zero for this part of the calculation (i.e. no credit is taken for any pressure head within the RAV).

$z_2 - z_3 = 124.3 \text{ ft}$ , as before

$\frac{V_2^2 - V_3^2}{2g} = 0$ , as before



(Continuation of Insert for pg. 5.4-34c)

pg 5

$h_L =$  Frictional head loss from all piping and components in the flow path, including the SRV and the T-Quencher =  $\textcircled{83.6 \text{ ft}}$   
47.8

— Insert TP from pg 3 here —  
(pg. 5A-34b)

Evaluating these terms demonstrates that the head requirement is met: 47.8  
 $124.3 \text{ ft} > \textcircled{83.6 \text{ ft}}$

Therefore sufficient head exists to ensure the return of the water from the RPV to the suppression pool, even with no credit taken for any pressure head which may exist within the RPV.



Nine Mile Point Unit 2 FSAR

TABLE 5.4-2

RHR RELIEF AND SAFETY VALVE DATA

<u>Valve</u>	<u>Function</u>	<u>Capacity Required/Actual (gpm)</u>	<u>Set Pressure (psig) Maximum</u>
F025 (2RHS*RV20 A,B,C)	Thermal relief	NA/10	470
F088A,B (2RHS*RV61 A,B)	Thermal relief	NA/1	200
F088C (2RHS*RV61C)	Thermal relief	NA/1	105
F055 (2RHS*SV34 A,B)	Safety	97,000/119,972 (lb/hr) 122539	500
2RHS*SV62A,B	Safety	194,000/293,688 (lb/hr)	500
F036 (2RHS*RV108).	Safety	519/519 380/465	125
F005 (2RHS*RV110)	Thermal relief	NA/1	200 <del>220</del> stet
F030 (2RHS*RV139)	Thermal relief	NA/1	220
(F231) 2RHS*RV152	Thermal relief	NA/10	1240 <del>1250</del> stet
2RHS*RV56A,B	Thermal relief	NA/20	500
2RHS*RV42A,B	Thermal relief	NA/20	500
(F236) 2RHS*RV117	Thermal relief	NA/2.6 3.6	180



Nine Mile Point Unit 2 FSAR

TABLE 6.1-1 (Cont)

<u>Component</u>	<u>Form</u>	<u>Material</u>	<u>Specification (ASME/ASTM)</u>
Valves	Forging	Carbon steel	SA-105
Flow diverter doors (24-in recirculation suction lines)	Plate	Carbon steel	A 36
ECCS			
Piping	Pipe	Carbon steel	SA-106 Gr.B
	Pipe	Stainless steel	SA-358 Type 304 Cl.1 or Type 316
	Pipe	Stainless steel	SA-376 Type 304 or SA-312 Type 304
Fittings	Forging	Carbon steel	SA-105
		Carbon steel	SA-234 WPB
		Stainless steel	SA-182 F304
		Stainless steel	SA-403 WP304 or WP304W
Valves	Forging	Carbon steel	SA-105
	Castings	Carbon steel	SA-216 Gr. WCB
	Plates	Carbon steel	SA-515 Gr. 70
	Forgings	Stainless steel	SA-182 F316 or F304
	Castings	Stainless steel	SA-351 Gr. CF8
Standby liquid control system			
Injection line	Pipe	Stainless steel	SA-312 Type 316L
Valves: ASME Safety Class I	Forgings	Stainless steel	SA182-F316L
	Forgings	Stainless Steel	SA182-F316

Delete

3

3





losses and leakage. Post-accident makeup  $N_2$  will be provided by two bottled nitrogen connections located outside the reactor building (see Section 1.10, Item II.K.3.28).

#### 6.2.3.2.4 Bypass Leakage Rates

Bypass leakage rates as a function of time after the postulated LOCA are predicted for each path by two methods, assuming isothermal flow and isentropic flow. Table 6.2-55a lists the bypass paths considered and their contributions to the total bypass leakage, assuming isothermal flow determined with the following equation:

$$\dot{m} = K \left\{ (P_u^2 - P_D^2) / RT_u \right\}^{1/2} \quad (6.2-12)$$

Where:

$$\dot{m} = \frac{A}{\sqrt{K}} \left\{ \frac{g_c (P_u^2 - P_D^2)}{RT_u} \right\}^{1/2}$$

$P_u$  = Upstream absolute pressure (post-LOCA pressure/temperature profile per Section 6.2.1)

$P_D$  = Downstream absolute pressure

$T_u$  = Upstream absolute temperature

$R$  = Gas constant

$K$  = Resistance Coefficient  
(Constant (determined from the technical specification of allowable leak rate))

$\dot{m}$  = Mass flow rate  
←  $A$  = Flow Area

$g_c$  = Conversion constant

To quantify the sensitivity of the bypass leakage analysis to the flow model assumption, the bypass calculation was repeated considering the leakage flow to be characterized as isentropic flow through an orifice. Table 6.2-55b summarizes the isentropic flow results determined with the following equation:

$$\dot{m} = A \left\{ 2 g_c \left( \frac{\gamma}{\gamma-1} \right) \left( \frac{P_u^2}{RT_u} \right) \left( \frac{P_D}{P_u} \right)^{\frac{2}{\gamma}} \left[ 1 - \left( \frac{P_D}{P_u} \right)^{\frac{\gamma-1}{\gamma}} \right] \right\}^{1/2} \quad (6.2-13)$$

Where:



Nine Mile Point Unit 2 FSAR

TABLE 6.2-3  
CONTAINMENT DESIGN PARAMETERS

Design Parameters

Drywell

1. Internal design pressure, psig	45	
2. External design pressure, psig	4.7	
3. Drywell floor design differential pressure, psid		
a. Downward	25	
b. Upward	10	
4. Design environmental temperature, °F	340	
5. Design structural temperature, °F	293	
6. Design leak rate, % of free volume/day at 45 psig and 293°F	1.1	27
7. Drywell net free volume (including downcomers), ft <sup>3</sup>	3.11 x 10 <sup>5</sup> **	

Suppression Chamber

1. Internal design pressure, psig	45	
2. External design pressure, psig	4.7	
3. Drywell floor design differential pressure, psid		
a. Downward	25	
b. Upward	10	
4. Design environmental temperature, °F	275 270	
5. Design structural temperature, °F	212	
6. Design leak rate, % of free volume/day at 45 psig and 293°F	1.1	27
7. Suppression chamber free volume, ft <sup>3</sup>		
a. Minimum at HWL	192,028	
b. Maximum at LWL	201,322	

Suppression Pool

1. Suppression pool volume, ft <sup>3</sup>		
a. Minimum at LWL	145,495	
b. Maximum at HWL	154,794	
2. Suppression pool surface area, ft <sup>2</sup>	5,813	



Nine Mile Point Unit 2 FSAR

TABLE 6.2-33

SUBCOMPARTMENT VENT PATH DESCRIPTION

24-Inch Recirculation Suction Line Break  
Drywell Head Subcompartment

Vent Path No.	From Volume Node No.	To Volume Node No.	Description of Vent Path Flow (Choked/Unchoked)	Vent Area (ft <sup>2</sup> )	L/A (ft/ft <sup>2</sup> )	Head Loss Coefficient				Total
						Friction	Turning	Expansion	Contraction	
1	2	1	Unchoked	2.405	0.473	0.0017	1.231	0.9277	0.4924	2.65
2	2	1	Unchoked	1.009	0.569	0.0072	1.080	0.9694	0.4968	2.55
3	2	1	Unchoked	2.584	0.468	0.0060	1.086	0.9225	0.4918	2.51
4	2	1	Unchoked	1.009	0.569	0.0072	1.080	0.9694	0.4968	2.55
5	2	1	Unchoked	2.405	0.473	0.0017	1.231	0.9277	0.4924	2.65
6	2	1	Unchoked	1.009	0.569	0.0072	1.080	0.9694	0.4968	2.55
				1.536	0.513	0.0048	1.186	0.9536	0.4951	2.64



Nine Mile Point Unit 2 FSAR

TABLE 6.2-34

BLOWDOWN DATA

24-Inch Recirculation Suction Line Break  
Drywell Head Subcompartment

<u>Time</u> <u>(sec)</u>	<u>Blowdown</u> <u>Mass</u> <u>Flow Rate</u> <u>(lbm/sec)</u>	<u>Blowdown</u> <u>Enthalpy</u> <u>(Btu/lbm)</u>	<u>Blowdown</u> <u>Energy</u> <u>Release Rate</u> <u>(Btu/sec)</u>
0.00	26,310	550.7	$1.449 \times 10^7$
0.25	26,410	551.6	$1.457 \times 10^7$
0.50	26,500	552.4	$1.464 \times 10^7$
0.75	26,580	553.2	$1.470 \times 10^7$
1.00	26,650	554.0	$1.476 \times 10^7$
1.25	26,720	554.7	$1.482 \times 10^7$
1.50	26,800	555.4	$1.488 \times 10^7$
1.75	26,860	556.1	$1.494 \times 10^7$
2.00	26,920	556.7	$1.499 \times 10^7$
2.25	26,970	557.3	$1.503 \times 10^7$
2.50	27,020	557.9	$1.507 \times 10^7$

0.00	33600	551.0	$1.850 \times 10^7$
2.50	33600	551.0	$1.850 \times 10^7$





TABLE 6.2-54

REACTOR BUILDING DESIGN AND PERFORMANCE DATA

I. Secondary Containment Design 4,593,600 \*

- A. Free volume: 4,547,304 ft<sup>3</sup>; the entire reactor building (including auxiliary bays) is considered as one volume. X

II. Transient Analysis

B. Thermal Characteristics

1. Primary Containment Wall

	<u>Thickness</u>	<u>Thermal Conductivity (Btu/hr ft-°F)</u>	<u>Thermal Capacitance (Btu/ft<sup>3</sup>-°F)</u>
Steel	0.375"	Neglected	Neglected
Liner			
Concrete	63.0"	1.0	28.8

Primary containment atmosphere to steel liner heat transfer coefficient,  $h_o$ :

$$2.0 \text{ Btu/hr-ft}^2\text{-°F}$$

Primary containment concrete to reactor building atmosphere,  $h_o$ :

$$5.0 \text{ Btu/hr-ft}^2\text{-°F}$$

Combined overall coefficient of heat transfer,  $U$ : X

Capital  $\rightarrow U = 1/(1/h_i + 63.0/(12k) + 1/h_o) = 0.17 \text{ Btu/hr-ft}^2\text{-°F}$  X

2. Reactor Building Wall

Heat transfer is considered across the reactor building walls as this results in a net positive heat gain.

\* The drawdown analysis considered a secondary containment free volume of 4,547,304 ft<sup>3</sup> and inletage rate of 3158 CFM. The analysis remains valid considering one percent difference



## Nine Mile Point Unit 2 PSAR

TABLE 6.2-56 (Cont)

TABLE 6.2-56 (Cont)																											
Penetration No.	System Designation	GDC or Reg. Guide	ESP System	Fluid	Size (in)	PSAR Arrangement (Fig. 6.2-1)	Location of Valve Inside/Outside Primary Containment	Length of Pipe - Containment to Outside Isolation Valve	Type Test (1)	Potential Bypass Leakage Path	Valve(s)												Notes				
											Number		Type	Operator	Actuator Mode		Position			Isolation Signal (4)	Closure Time (s, 6)	Power Source (7)					
											SWEC	GE			Primary	Secondary	Normal (3)	Shutdown	Post-Accident					Power Failure (10)			
Z-4A	Feedwater line A to RPV	55	No	Water	24	6.2-70 Sh. 3	Outside	2'-1"	C	Yes (20)	2FWS*MOV23A	D22-F032A	Swing Check	MOV	Process	Spring (test only)	Open	Closed	Closed	N/A	Reverse flow	The time it takes for one valve volume to pass through the valve	N/A	11,32			
							Inside	C		2FWS*V12A	D22-F010A	Swing Check	N/A	Process	N/A	Open	Closed	Closed	N/A	Reverse flow							
							Outside	15'-4"	C		2FWS*MOV21A	D22-F065A	Gate	MOV	Elec.	Manual	Open	Closed	Closed	FAI	RM	N/A	Div I				
							Outside	C		2FWS*MOV200	G33-F040	Globe	MOV	Elec.	Manual	Open	Open	Closed	FAI	RM	N/A	Div I					
Z-4B	Feedwater line B to RPV	55	No	Water	24	6.2-70 Sh. 3	Inside		C	Yes	2FWS*V12B	D22-F010B	Swing Check	N/A	Process	N/A	Open	Closed	Closed	N/A	Reverse flow	The time it takes for one valve volume to pass through the valve	N/A	11,32			
							Outside	C		2FWS*MOV23B	D22-F012B	Swing Check	MOV	Process	Spring (test only)	Open	Closed	Closed	N/A	Reverse flow							
							Outside	15'-4"	C		2FWS*MOV21B	D22-F065B	Gate	MOV	Elec.	Manual	Open	Closed	Closed	FAI	RM	N/A	Div I				
							Outside	C		2FWS*MOV200	G33-F040	Globe	MOV	Elec.	Manual	Open	Open	Closed	FAI	RM	N/A	Div I					
Z-5A	RHS Pump A suction from suppression pool	56	Yes	Water	24	6.2-70 Sh. 4	Outside	5'-6"	C	No (29)	2RHS*MOV1A	E12-F004A	Tricentric butterfly	MOV	Elec.	Manual	Open	Closed	Open	FAI	RM	45	Div I	13,35			
Z-5B	RHS Pump B suction from suppression pool	56	Yes	Water	24	6.2-70 Sh. 4	Outside	29'-9"	C	No (29)	2RHS*MOV1B	E12-F004B	Tricentric butterfly	MOV	Elec.	Manual	Open	Closed	Open	FAI	RM	45	Div II	13,35			
Z-5C	RHS Pump C suction from suppression pool	56	Yes	Water	24	6.2-70 Sh. 4	Outside	9'-9"	C	No (29)	2RHS*MOV1C	E12-F004C	Tricentric butterfly	MOV	Elec.	Manual	Open	Closed	Open	FAI	RM	45	Div II	13			
Z-61	RHS test line Loop B to suppression pool	56	Yes	Water	18	6.2-70 Sh. 6	Outside	19'-3"	C	No (29)	2RHS*MOV30B	E12-F201B	Tricentric butterfly	MOV	Elec.	Manual	Open	Closed	Open	FAI	RM	85	Div I	15			

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TABLE 6.2-56 (Cont)

TABLE 6.2-56 (Cont)																								
Penetration No.	System Designation	GDC or Reg. Guide	ESP System	Fluid	Size (in)	PSAR Arrangement Figure(1)	Location of valve Inside/Outside Primary Containment	Length of Pipe-- Containment to Outside Isolation Valve	Type Test (1)	Potential Bypass Leakage Path	Number		TYPE	Operator	Valve(2)			Power Failure (10)	Isolation Signal (4)	Closure Time (5, 6)			Power Source Notes	
											SVEC	GE			Normal (3)	Position				(7)				
																Shutdown	Post-Accident							
2-28	RDS lines to RPV 39 Insert 39 Withdrawal		Yes	Water	1 3/4	N/A	Outside Outside	125'-0" 125'-0"		No(29)							See Note 17							
2-29	SLCS to RPV	55	Yes	Boron solution	1 1/2	6.2-70 Sh. 43	Inside	2'-10"	C	No(31)	2SLS*V10	C41-P007	Check Stop	N/A	Process	N/A	Closed	Closed	Closed	N/A	Reverse flow	N/A	N/A	
							Outside	2'-10"	C		2SLS*MOV5A	C41-P006A	check globe	MOV	Elec.	Manual	Closed	Closed	Closed	Closed	Reverse flow	N/A	N/A	
							Outside	3'-10"	C		2SLS*MOV5B	C41-P006B	Stop check globe	MOV	Elec.	Manual	Closed	Closed	Closed	Closed	Reverse flow	N/A	N/A	
2-30A	Spare		No		3				A															
2-30B	Spare		No		3				A															
2-31A	TIP drive guide tube to RPV	57	No	Note 19	1 1/2	6.2-70 Sh. 19	Outside	2'-4"	C	No(31)	N/A	2NMS*SOV1A 2NMS*VEX1A	Ball Shear	SOV N/A	Elec. N/A	N/A N/A	Closed Open	Closed Open	Closed Open	Closed Open	B, F, RM, Z RM	N/A N/A	120 VAC 18, 19 125 VDC 28, 34	27
2-31B	TIP drive guide tube to RPV	57	No	Note 19	1 1/2	6.2-70 Sh. 19	Outside	5'-4"	C	No(31)	N/A	2NMS*SOV1B 2NMS*VEX1B	Ball Shear	SOV N/A	Elec. N/A	N/A N/A	Closed Open	Closed Open	Closed Open	Closed Open	B, F, RM, Z RM	N/A N/A	120 VAC 18, 19 125 VDC 28, 34	27
2-31C	TIP drive guide tube to RPV	57	No	Note 19	1 1/2	6.2-70 Sh. 19	Outside	2'-4"	C	No(31)	N/A	2NMS*SOV1C 2NMS*VEX1C	Ball Shear	SOV N/A	Elec. N/A	N/A N/A	Closed Open	Closed Open	Closed Open	Closed Open	B, F, RM, Z RM	N/A N/A	120 VAC 18, 19 125 VDC 28, 34	27
2-31D	TIP drive guide tube to RPV	57	No	Note 19	1 1/2	6.2-70 Sh. 19	Outside	2'-4"	C	No(31)	N/A	2NMS*SOV1D 2NMS*VEX1D	Ball Shear	SOV N/A	Elec. N/A	N/A N/A	Closed Open	Closed Open	Closed Open	Closed Open	B, F, RM, Z RM	N/A N/A	120 VAC 18, 19 125 VDC 28, 34	27
2-31E	TIP drive guide tube to RPV	57	No	Note 19	1 1/2	6.2-70 Sh. 19	Outside	2'-7"	C	No(31)	N/A	2NMS*SOV1E 2NMS*VEX1E	Ball Shear	SOV N/A	Elec. N/A	N/A N/A	Closed Open	Closed Open	Closed Open	Closed Open	B, F, RM RM	N/A N/A	120 VAC 18, 19 125 VDC 28, 34	27
2-32	N2 purge to TIP index mechanism	56	No	N2	1 1/2	6.2-70 Sh. 42	Outside	7'-6"	C	Yes	2GSN*SOV166	-	Globe Check	SOV	Electric	N/A	Open	Closed	Closed	N/A	B, F, RM, Z	5	120 VAC	27
2-33A	CCP supply to RCS Pump A	56	No	Water	4	6.2-70 Sh. 20	Inside	-	C	No(31)	2CCP*MOV94A	-	Gate	MOV	Elec.	Manual	Open	Open	Closed	FAI	B, F, RM, Z	20	Div II 6	
							Outside	7'-0"	C		2CCP*MOV17A	-	Gate	MOV	Elec.	Manual	Open	Open	Closed	FAI	B, F, RM, Z	20	Div I	

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TABLE 6.2-64

TYPE AND QUANTITY OF  
INSULATION USED IN DRYWELL

<u>Material</u>	<u>Volume, ft<sup>3</sup></u>	<u>25% Margin, ft<sup>3</sup></u>
Temp-Mat	(122.25) 69	(153) 87
Min-K	(91.5) 366	(115) 458

15





THIS FIGURE HAS  
BEEN DELETED

REPLACE WITH  
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(FOLLOWING  
PAGE)

FIGURE 6.2-42
NIAGARA MOHAWK POWER CORPORATION NINE MILE POINT-UNIT 2 FINAL SAFETY ANALYSIS REPORT



INSERT "A"

8/14

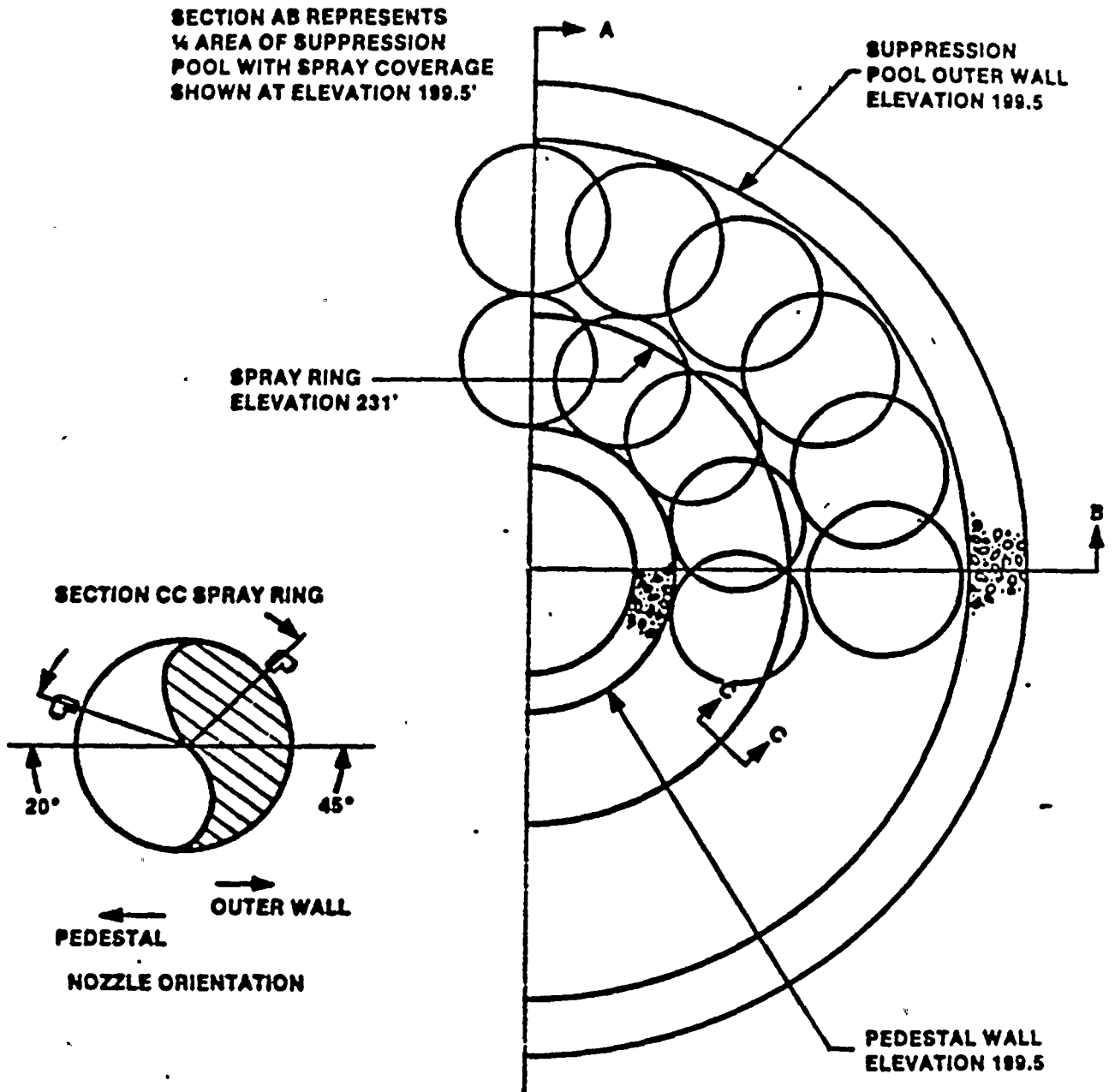
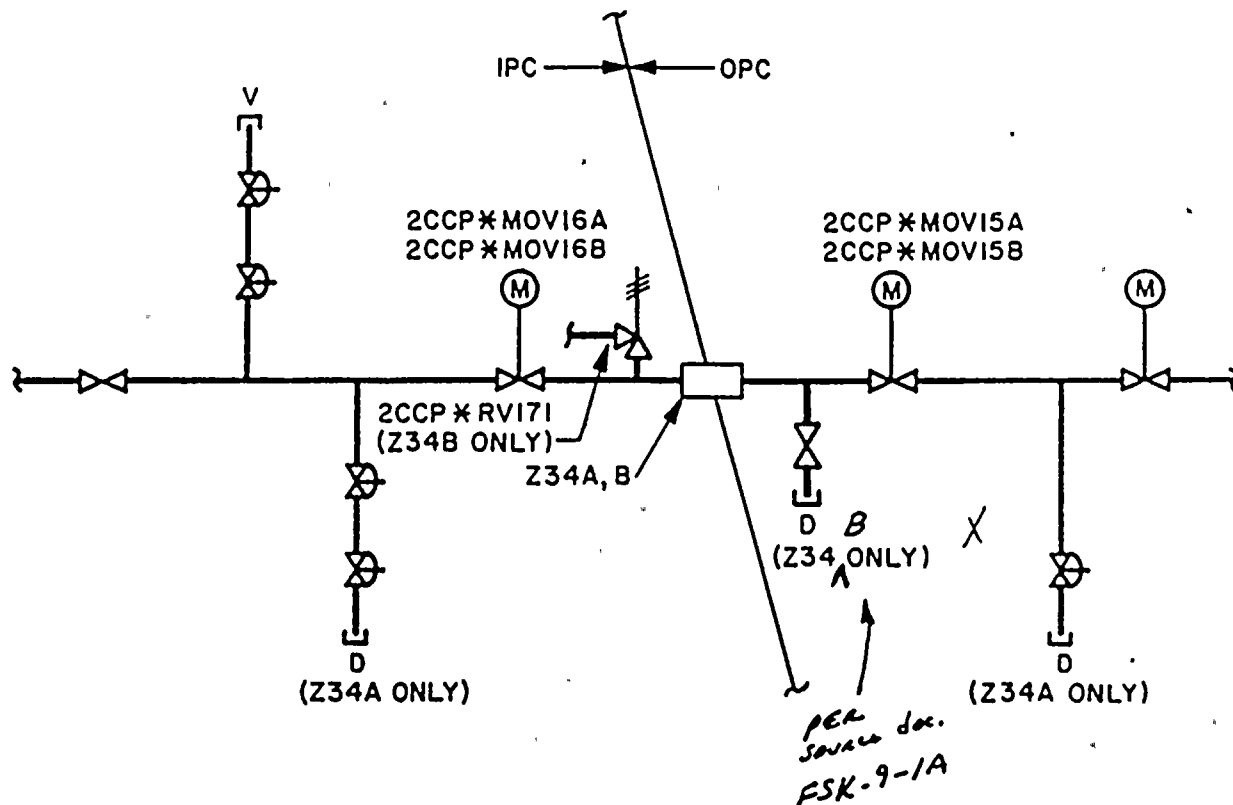


FIGURE 6.2-42

APPROXIMATE  
SPRAY COVERAGE IN  
SUPPRESSION CHAMBER

NIAGARA MOHAWK POWER CORPORATION  
NINE MILE POINT-UNIT 2  
FINAL SAFETY ANALYSIS REPORT





Z-34A, B CCP RETURN FROM RECIRC PUMP A & B

Delete  
Figure

FIGURE 6.2-70

ISOLATION VALVE ARRANGEMENT  
FOR PENETRATION Z-34A, B  
SHEET 21 OF 43

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NINE MILE POINT-UNIT 2  
FINAL SAFETY ANALYSIS REPORT



FROM NITROGEN GAS  
STORAGE TANKS

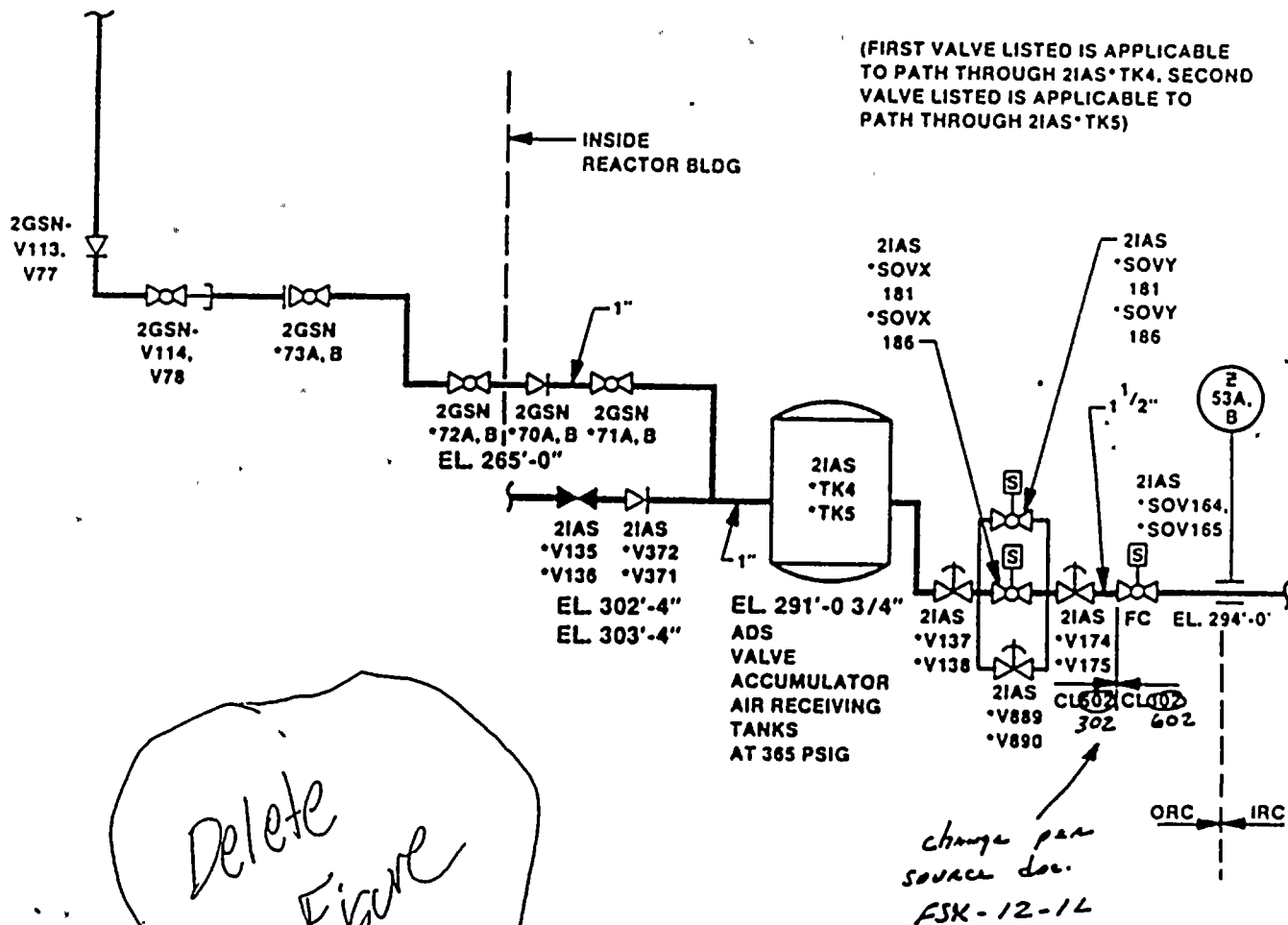


FIGURE 6.2-86

NITROGEN SYSTEM LINES TO INSTRUMENT  
AIR ADS VALVE ACCUMULATOR AIR  
RECEIVING TANKS

NIAGARA MOHAWK POWER CORPORATION  
NINE MILE POINT-UNIT 2  
FINAL SAFETY ANALYSIS REPORT





decomposition of construction materials of the charcoal filters, is not postulated to occur simultaneously with any other plant accident requiring the operation of the SGTS for radioiodine removal credit.

## 6.5.2 Containment Spray System

### 6.5.2.1 Design Bases

The containment spray system is capable of quickly reducing containment pressure during the post-accident period of a LOCA through condensation of steam in the drywell and through cooling of the noncondensable gases in the free volume above the suppression pool. The design of the containment spray system is to Category I and Safety Class 2 requirements.

### 6.5.2.2 System Design

The containment spray system consists of two subsystems: the drywell spray and the suppression chamber spray. The drywell spray consists of two independent loops and spray headers. The suppression chamber spray consists of one spray header supplied from two otherwise independent loops. Since the water source for all containment sprays is the suppression pool, the system is a closed loop. The spray water is cooled by the RHR heat exchangers. The rated flows for the drywell and suppression chamber sprays are 7,450 gpm/loop and 450 gpm/loop, respectively. Containment spray is an operational mode of the RHR system (Section 5.4.7).

The containment spray isolation valves are electrically interlocked to allow actuation of the drywell spray, only when there is a high drywell pressure signal present. After a high drywell pressure signal is present, a second electrical interlock prevents actuation of either the drywell or suppression chamber spray lines until the corresponding LPCI injection valve is shut.

The containment spray system is safety related and, in case of loss of offsite power, supplied with a redundant onsite standby power source.

The system is designed to operate under the conditions indicated in Table 6.2-6.

A procedural restriction prohibits the operators, during the first 10 min following a LOCA, from closing an LPCI injection valve and interrupting core cooling



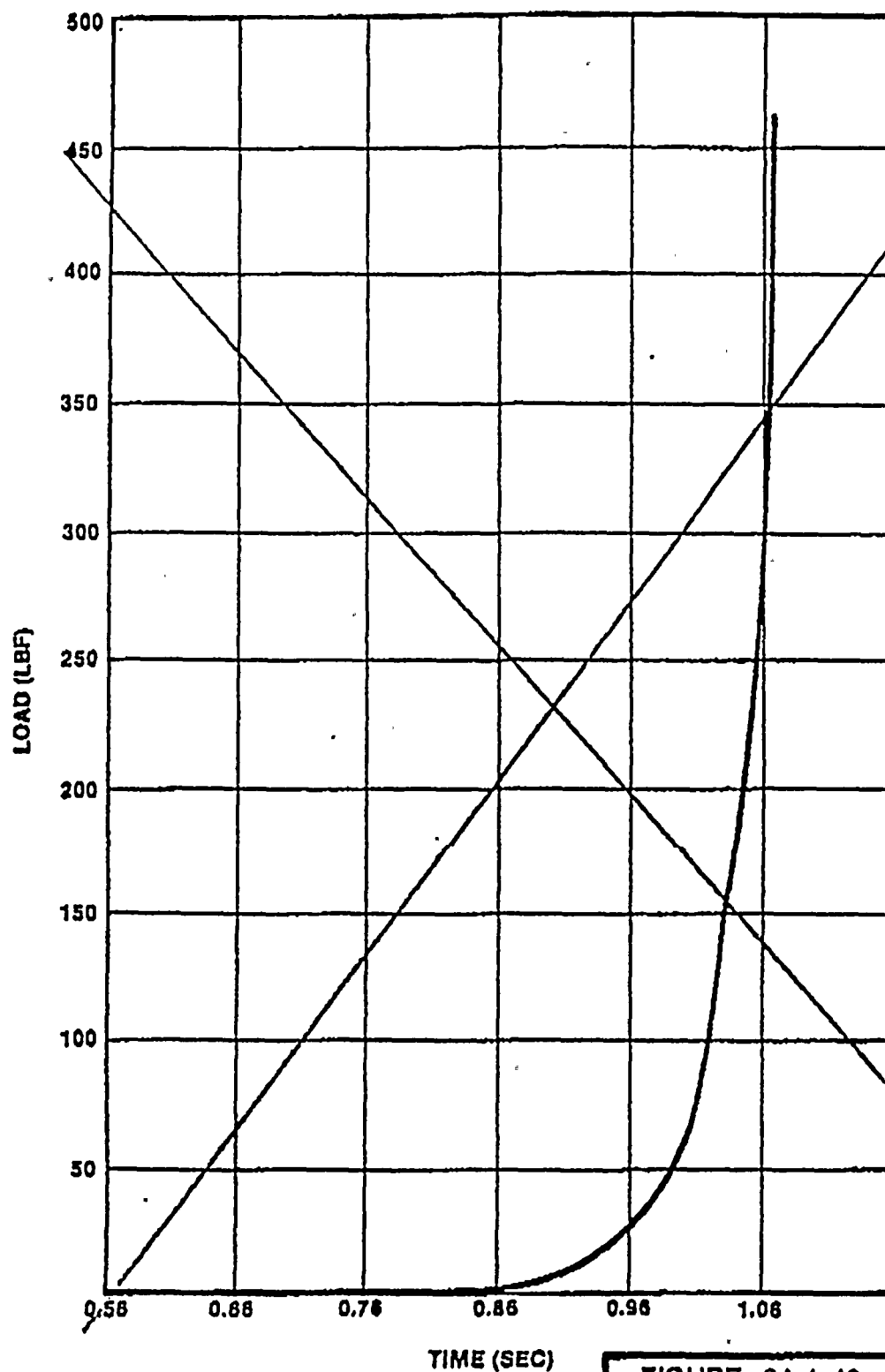


FIGURE 6A.4-40

WATER JET TIME HISTORY ONE QUENCHER  
ARM SEGMENT IN X-Y PLANE (HORIZONTAL)

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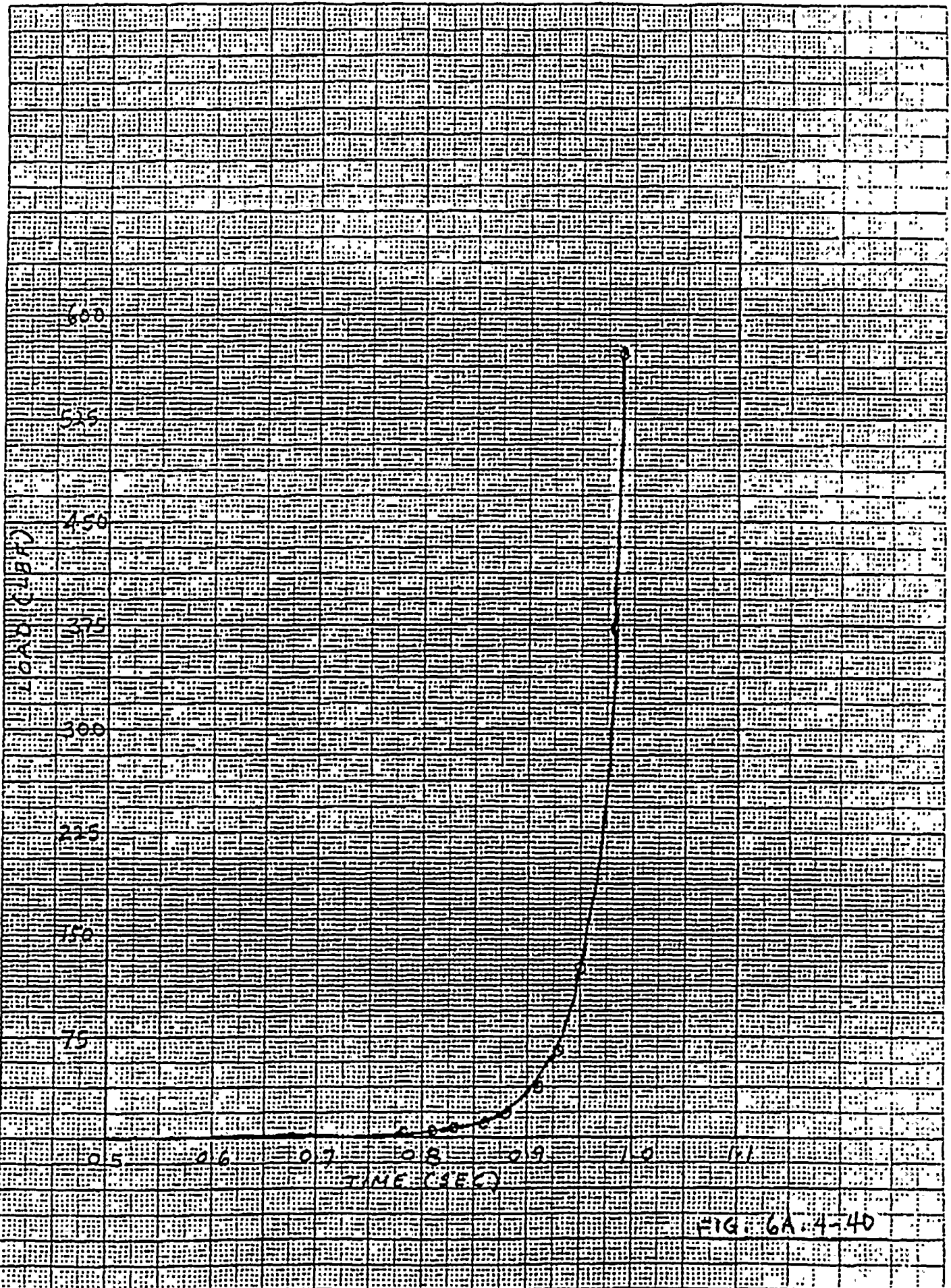


FIG. 6A-4-40



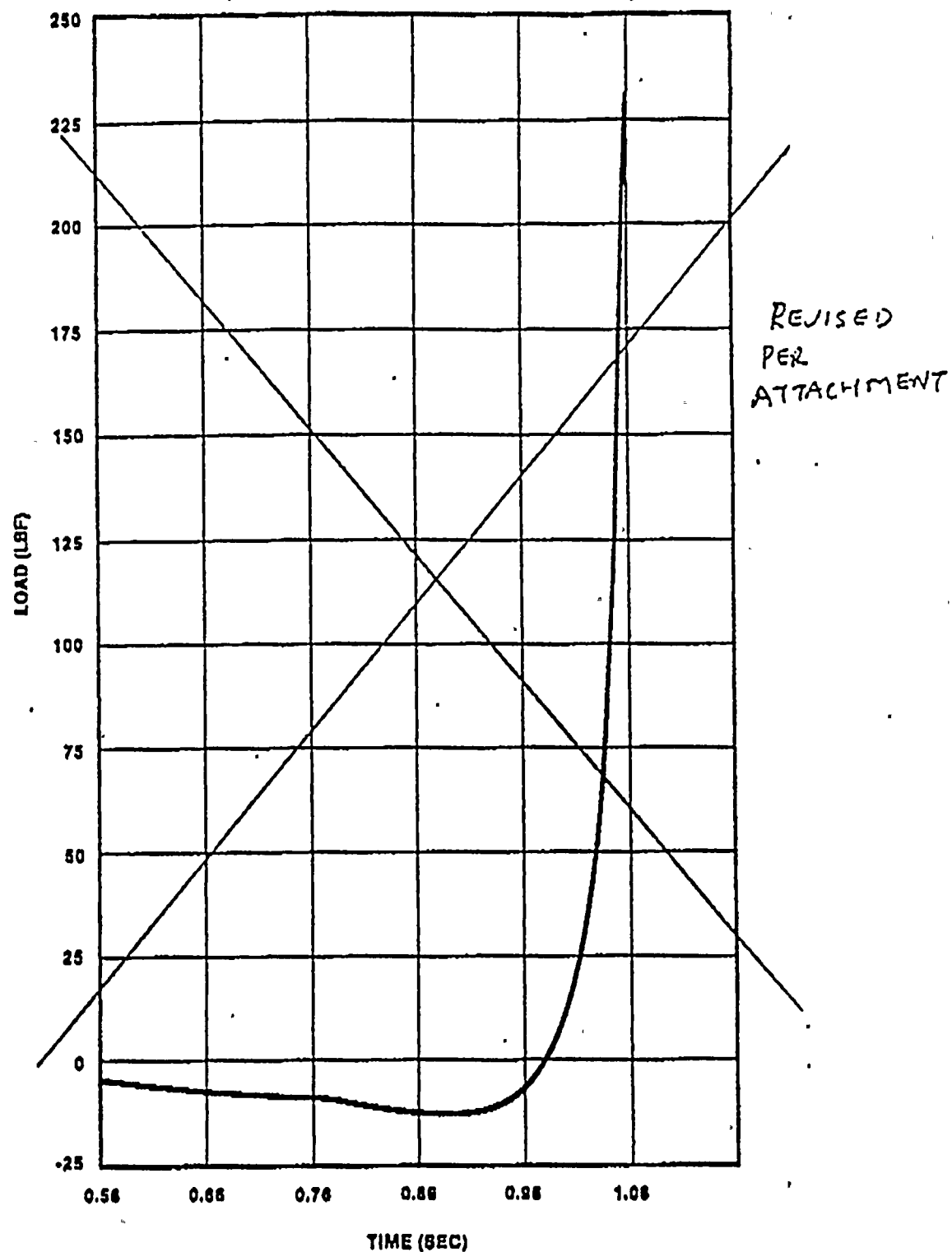


FIGURE 6A.4-41

WATER JET TIME HISTORY ONE QUENCHER  
ARM SEGMENT IN Z PLANE (VERTICAL)

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NINE MILE POINT-UNIT 2  
FINAL SAFETY ANALYSIS REPORT





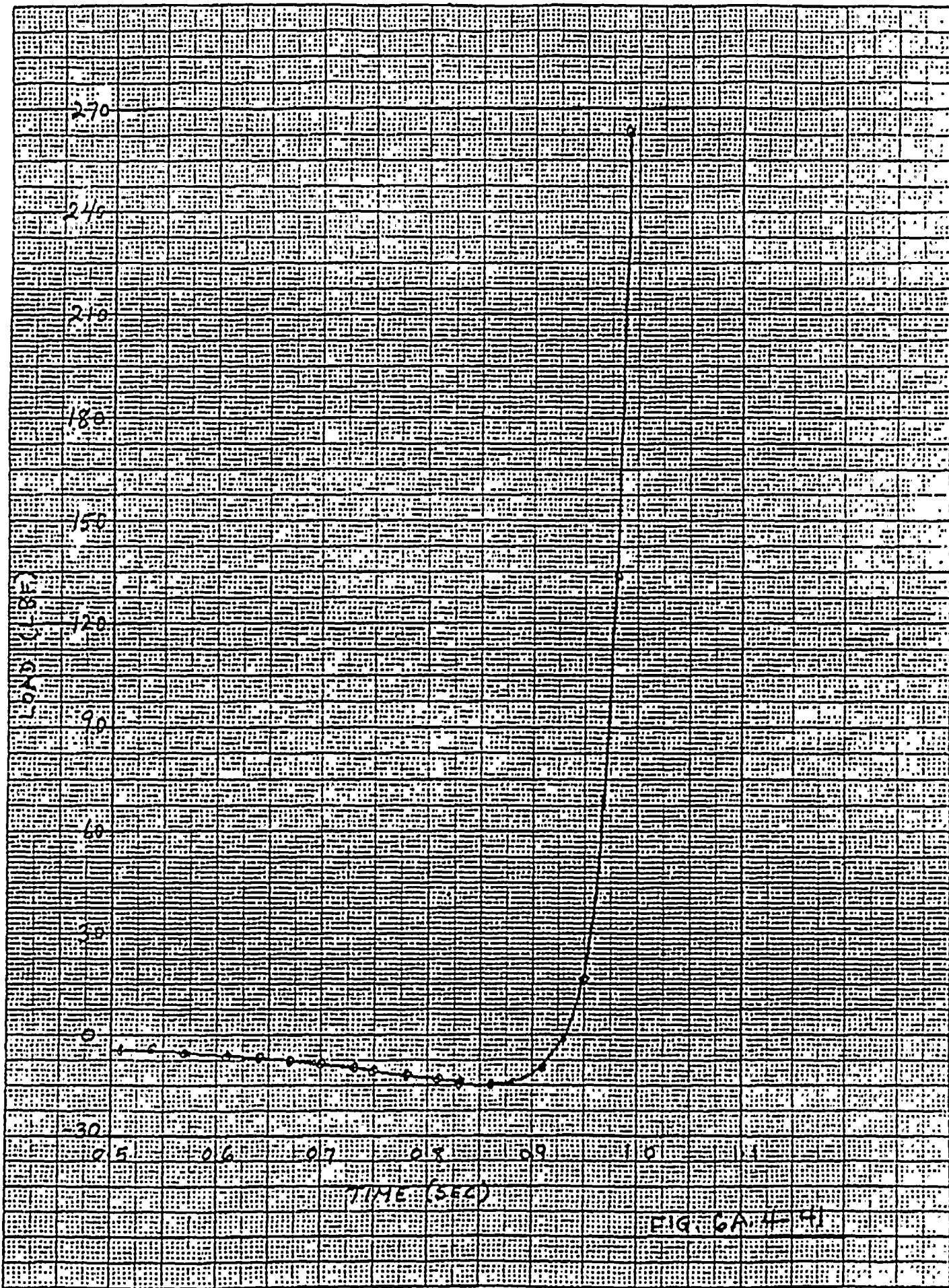


FIG. 6A-4-91



## Nine Mile Point Unit 2 FSAR

2. Physical separation between divisions of essential systems and between essential systems and essential circuits is maintained for all essential nuclear steam supply systems (NSSS) except the NMS, the RPS, the PRM system, and the control rod drive (CRD) hydraulic system.
3. Design criteria for fire protection is discussed in Section 9.5.1.

Regulatory Guide 1.89 Refer to Sections 3.10 and 3.11.

Regulatory Guide 1.97 Refer to Section 1.10.

Regulatory Guide 1.100 Refer to Section 3.10.

Regulatory Guide 1.105 The trip set point (instrument set point) and allowable value (technical specification limit) are contained in Chapter 16. These parameters are all appropriately separated from each other and their selection is based on instrument accuracy, calibration capability, and design drift (estimated) allowance data. The set points are within the instrument accuracy range. The established set points provide margin to satisfy both safety requirements and plant availability objectives.

→ Insert Next Page ←

Regulatory Guide 1.118 This guide endorses/modifies IEEE-338-1975. Discussion of IEEE-338 is presented on a system-by-system basis in the analysis portions of Sections 7.2, 7.3, 7.4, and 7.6 with the following clarification of the regulatory guide requirements.

Position C.6b Trip of an associated protective channel or actuation of an associated Class 1E load group is required on removal of fuses or opening of a breaker only for the purpose of deactivating instrumentation and control circuits.

### 7.1.2.4 Instrument Errors

The determination of set points requires that during the design of safety-related systems, instrument drift, setability, and repeatability be considered when selecting instruments and controls.

Adequate margin between safety limits and instrument set points is provided to allow for instrument error. The appropriate trip setpoints and allowable values are listed in Chapter 16. The amount of instrument error is determined by test and experience. The set point is selected based on these



NMPC will provide to the NRC, prior to the startup following the first refueling outage, a detailed technical assessment of the methods used to establish protection system setpoints and allowable values supplied by General Electric. The assessment will be based on the generic findings of the Instrument Setpoint Methodology Program currently in process and being reviewed by the Nuclear Regulatory Commission.

~NRC

The technical assessment will include the following:

- 1) The values assigned to each component of the combined channel error allowance (e.g., modeling uncertainties, analytical uncertainties, transient overshoot, response times, trip unit setting accuracy, sensor accuracy, test equipment accuracy, sensor drift, nominal and harsh environmental allowances, trip unit drift), the basis for these values, and the methods used to sum the individual errors. Where zero is assumed for an error, a justification that the error is negligible shall be provided;
- 2) Confirmation that the setpoints selected for the initiation of protective actions ensure that the reactor core and reactor coolant system are prevented from exceeding the licensing safety limits for the transients and accidents analyzed.



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TABLE 7.5-1 (Cont)

<u>System</u>	<u>Parameter</u>	<u>Type Readout</u>	<u>Number of Channels</u>	<u>Range</u>
Control building HVAC	Control building HVAC fan status	Indicating lights	12	N/A
	Control building HVAC dampers position	Indicating lights	14	N/A
	Control switch OPEN-CLOSE position for:			
	Outside air isolation valve position	Indicating lights	2	N/A
	Air inlet isolation damper position	Indicating lights	2	N/A
	Inoperability	Status lights	17	N/A
	Heater inlet air temperature	Indicator	2	60°F - 120°F
	Heater outlet air temperature	Indicator	2	60°F - 150°F
	Filter train outlet temperature	Indicator	2	60°F - 250°F
	Control room A/C return air temperature	Indicator	2	32°F - 120°F
	Control room/outside differential pressure	Indicator recorder	① 2	-3 - +3 in W.G. - 0-100%
	Overall differential pressure	Recorder	2	-5 - +5 in W.G. - 0-100%
Special Filter Train Flow	Special filter train out-of-service status	Status lights	2	N/A
	Control room A/C out-of-service status	Status lights	2	N/A
	Relay room A/C return air temperature	Indicator	2	60°F - 120°F





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FSAR SEC. 8.2.2

The minimum voltages at the various buses and their connected loads under different loading conditions are summarized in Table 8.2-1.

Two levels of undervoltage protection are provided at the 4.16-kV emergency buses: one to detect loss of offsite power, and one to detect degraded voltage conditions. The loss of offsite power relay is set to trip the offsite power supply breaker, alarm the control room, and initiate emergency diesel generator starting when the 4.16-kV bus voltage drops to 3212.86 V, which corresponds to 475.5 V at the 600-V buses. The time setting is 3.0 sec. <sup>approximately</sup> 430.6

In order to maintain 90 percent voltage at the 600-V motor terminals, it is calculated that the degraded voltage relay would have to be set at 3,847 V. This assumes that all of the 600-V connectable load is being supplied simultaneously from the load center. NMPC is concerned that setting this

relay too high could result in an unnecessary transfer of power supply during motor starting conditions. Additional field test and analysis will be performed to determine the lowest level this relay can be set and still ensure minimum voltage at the 600-V motor terminals. The NRC will be consulted prior to lowering this relay setpoint below 3,847 V.

Setting the degraded voltage relay at 3,847 V corresponds to 529.5 V at the 600-V buses. With the maximum of 12-V permissible drop between the 600-V load center bus and any 600-V load during normal running, this corresponds to 517.5 V at the 600-V load terminals, which is 90 percent of the rated load voltage of 575 V. <sup>approximately</sup> 90.3

The degraded voltage relay is provided with two time delays. The first time delay is at 8 sec. Following this time delay, the degraded voltage condition is alarmed in the control room under normal plant operating conditions. Under accident conditions, the offsite power supply breaker will trip, and the emergency diesel generator will start following this time delay. The second time delay is set at 30 sec. Following this time delay, the degraded voltage condition will be alarmed in the control room, the offsite power supply breaker will trip, and the emergency diesel generator will start under normal plant operating conditions. <sup>approximately</sup>

When the emergency buses are energized from the diesel generators, the undervoltage protection scheme prevents any load shedding during sequencing of emergency loads on the bus under an accident condition. When the emergency buses are energized from the offsite source (preferred source) the undervoltage protection scheme is functionally operational.

Add Attachment 1



## Attachment -1 (8.2-24c)

Assuming the maximum variation of the degraded voltage relay set point due to accuracy, calibration, drift, environmental effects, etc, the voltage at the 600 V motor terminals may reach ~~to~~ about 88.27 percent of the motor rated voltage during a degraded voltage condition. An analysis has been performed to show that this will not affect the qualified thermal life of the motors.



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TABLE 8.2-1 (Cont)

- (6) Light load indicates very lightly loaded 4.16-kV bus (2-6 MVA or less) and very lightly loaded 13.8-kV bus (1 MVA). The load tap changer for the reserve station service transformer adjusts according to the load on the 13.8-kV bus. For the auxiliary boiler transformer, the tap changer is set at the center tap (115 kV).
- (7) Maximum load indicates maximum load on the 4.16 kV as well as the 13.8-kV buses (for reserve station service transformer, 57.8 MVA on 13.8-kV bus and 8.7 MVA on 4.16-kV bus; for auxiliary boiler transformer, 12 MVA on 13.8-kV bus, and 5.5 MVA on 4.16-kV bus).
- (8) Partial load indicates very heavily loaded 4.16-kV bus and very lightly loaded 13.8-kV bus (for reserve station service transformer, 8.7 MVA on 4.16-kV bus and 1 MVA on 13.8-kV bus; for auxiliary boiler transformer, 5.5 MVA on 4.16 kV and 1 MVA on 13.8 kV). Since the load tap changer on the reserve station service transformer adjusts according to the load on the 13.8-kV bus, the 4.16-kV buses experience worst voltage under this condition.
- (9) Light load for the 600-V load centers indicates lightly loaded load center bus (100 kVA running load); the voltage on the 4.16-kV bus is assumed to be the lowest (3,832 V at load center transformer primary side).
- (10) Maximum load for the 600-V load center indicates maximum load on the load center bus (2,025 kVA running load); the voltage on the 4.16-kV bus is assumed to be the lowest (3,832 V at load center transformer primary side).
- (11) Normal load for the 600-V load centers indicates that only the loads which are energized during normal plant operation are on the 600-V load center bus (estimated 1,600 kVA; the load center transformer is rated for 1,500/2,025 kVA, and the actual load is approximately 1,200 kVA); the voltage on the 4.16-kV bus is assumed to be the lowest.
- (12) Light load, maximum load, and normal load on MCCs indicate light loading, maximum loading, and normal loading conditions, respectively, of the MCC bus; all these conditions assume the lowest voltage on the 600-V load center from which it is fed.

*This is based on the maximum rating of the transformer; the actual maximum load that the load center will have is about 1700 KVA.*



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TABLE 8.3-1

DIVISION-1 STANDBY DIESEL GENERATOR 2EGS-EG1  
LOAD TABULATION

DESIGN BASIS ACCIDENT DIESEL GENERATOR LOADING POSSIBILITIES

NONACCIDENT LOADING

POWER SOURCE/ EQUIPMENT IDENTITY NO.	DESCRIPTION	DIVI- SION	RATING	VOLTS	PHASE	SIMULTANEOUS LOOP 4 LOCA			LOOP WITH DELAYED LOCA			LOCA WITH DELAYED LOOP			LOOP WITH UNIT TRIP		
						STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME	STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME	STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME	STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME
2ENS-SHG101																	
2RHS-P1A	RHR PUMP A	G	1,000 HP	4,000	3	5.681 PF=0.115	790	0.9 T=0 SEC	5.681 PF=0.115	790	0.9 T=0 SEC	5.681 PF=0.115	790	0.9 T=0 SEC	5.681 PF=0.115	790	MANUAL AFTER T=3.25 HR
2CSL-P1	LPCS PUMP	G	1,500 HP	4,000	3	8.425 PF=0.16	1,160	5.4 T=0 SEC	8.425 PF=0.16	1,160	5.4 T=0 SEC	8.425 PF=0.16	1,160	5.4 T=0 SEC	-	-	NOT REQUIRED
2SHP-P1A	SH PUMP A	G	600 HP	4,000	3	3.097 PF=0.247	500	37 42 1 PUMP (AUTOSTART) T=32.39 OR 46 SEC 4 T=69 SEC 1 PUMP MANUAL 70	3.097 PF=0.247	500	37 42 1 PUMP (AUTOSTART) T=32.39 OR 46 SEC 4 T=69 SEC 1 PUMP MANUAL 70	3.097 PF=0.247	500	37 42 1 PUMP (AUTOSTART) T=32.39 OR 46 SEC 4 T=69 SEC 1 PUMP MANUAL 70	3.097 PF=0.247	500	37 42 1 PUMP (AUTOSTART) T=32.39 OR 46 SEC 4 T=69 SEC 1 PUMP MANUALLY STARTED 70
2SHP-P1C	SH PUMP C	G	600 HP	4,000	3	3.097 PF=0.247	500	37 42 1 PUMP (AUTOSTART) T=32.39 OR 46 SEC 4 T=69 SEC 1 PUMP MANUAL 70	3.097 PF=0.247	500	37 42 1 PUMP (AUTOSTART) T=32.39 OR 46 SEC 4 T=69 SEC 1 PUMP MANUAL 70	3.097 PF=0.247	500	37 42 1 PUMP (AUTOSTART) T=32.39 OR 46 SEC 4 T=69 SEC 1 PUMP MANUAL 70	3.097 PF=0.247	500	37 42 1 PUMP (AUTOSTART) T=32.39 OR 46 SEC 4 T=69 SEC 1 PUMP MANUALLY STARTED 70
2SHP-P1E	SH PUMP E	G	600 HP	4,000	3	3.097 PF=0.247	500	37 42 1 PUMP (AUTOSTART) T=32.39 OR 46 SEC 4 T=69 SEC 1 PUMP MANUAL 70	3.097 PF=0.247	500	37 42 1 PUMP (AUTOSTART) T=32.39 OR 46 SEC 4 T=69 SEC 1 PUMP MANUAL 70	3.097 PF=0.247	500	37 42 1 PUMP (AUTOSTART) T=32.39 OR 46 SEC 4 T=69 SEC 1 PUMP MANUAL 70	3.097 PF=0.247	500	37 42 1 PUMP (AUTOSTART) T=32.39 OR 46 SEC 4 T=69 SEC 1 PUMP MANUALLY STARTED 70
2SFC-P1A	SFC WATER CIRCULATION PUMP A	G	450 HP	4,000	3	2.279 PF=0.281	360	MANUAL AFTER T=2 HR	2.279 PF=0.281	360	MANUAL AFTER T=2 HR	2.279 PF=0.281	360	MANUAL AFTER T=2 HR	2.279 PF=0.281	360	MANUAL AFTER T=2 HR
2EJS-US1																	
2EJS-X1A	LOAD CENTER TRANSFORMER	G	1,500/ 2,025 KVA	4,160/ 600 V	3	18,000 (T ≤ 0.1 SEC)	19	T=0	18,000 (T ≤ 0.1 SEC)	19	T=0	18,000 (T ≤ 0.1 SEC)	19	T=0	18,000 (T = 0.1 SEC)	19	T=0
2EJS-X1B	LOAD CENTER TRANSFORMER	G	1,500/ 2,025 KVA	4,160/ 600 V	3	18,000 (T ≤ 0.1 SEC)	19	T=0	18,000 (T ≤ 0.1 SEC)	19	T=0	18,000 (T ≤ 0.1 SEC)	19	T=0	18,000 (T = 0.1 SEC)	19	T=0
2HVR-UC413A	REACTOR BUILDING UNIT COOLER A	G	150 HP	575	3	860	150	T=1.5 SEC	860	150	T=1.5 SEC	860	150	T=1.5 SEC	860	150	T=30 SEC MANUAL
2HVK-CHL1A(1)	CONTROL BUILDING CHILLER 1A	G	180 HP	575	3	722	180	T=30 SEC MANUAL	722	180	T=30 SEC MANUAL	722	180	T=30 SEC MANUAL	722	180	T=30 SEC MANUAL
2HCS-PNL22A	HYDROGEN RECOMBINER POWER CABLE A	G	120 KW	575	3	120	120	T=2.5 HR	120	120	T=2.5 HR	120	120	T=2.5 HR	120	120	T=2.5 HR
TOTAL LOAD ON 2EJS-US1						36,000 (35,166)	-	T ≤ 0.1 SEC	36,000 (35,166)	-	T ≤ 0.1 SEC	36,000 (35,166)	-	T ≤ 0.1 SEC	36,000 (35,166)	-	T ≤ 0.1 SEC
						860(806)	38	0.1 ≤ T < 1.5 SEC	860(806)	38	0.1 ≤ T < 1.5 SEC	860(806)	38	0.1 ≤ T < 1.5 SEC	860(806)	38	0.1 ≤ T < 1.5 SEC
						180	38	1.5 ≤ T < 4 SEC	180	38	1.5 ≤ T < 4 SEC	180	38	1.5 ≤ T < 4 SEC	180	38	1.5 ≤ T < 4 SEC
						180	188	4 ≤ T < 30 SEC	180	188	4 ≤ T < 30 SEC	180	188	4 ≤ T < 30 SEC	180	188	4 ≤ T < 30 SEC
						722(677)	188	30 ≤ T < 36 SEC	722(677)	188	30 ≤ T < 36 SEC	722(677)	188	30 ≤ T < 36 SEC	722(677)	188	30 ≤ T < 36 SEC
						-	368	36 ≤ T < 2.5 HR	-	368	36 ≤ T < 2.5 HR	-	368	36 ≤ T < 2.5 HR	-	368	36 ≤ T < 2.5 HR
						-	488	T ≥ 2.5 HR	-	488	T ≥ 2.5 HR	-	488	T ≥ 2.5 HR	-	488	T ≥ 2.5 HR

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TABLE 8.3-1 (CONT)

DESIGN BASIS ACCIDENT DIESEL GENERATOR LOADING POSSIBILITIES

DESIGN BASIS ACCIDENTS - REACTOR GENERATOR LOADING POSSIBILITIES																	
POWER SOURCE/ EQUIPMENT IDENTITY NO.	DESCRIPTION	DIVI- SION	RATING	VOLTS	PHASE	SIMULTANEOUS LOOP & LOCA			LOOP WITH DELAYED LOCA			LOCA WITH DELAYED LOOP			NONACCIDENT LOADING LOOP WITH UNIT TRIP		
						STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME	STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME	STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME	STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME
2EHS-MCC101																	
2HVV-UC2A	SH PUMP PIT UNIT COOLER	G	40 HP	575	3	240	40	T=60 SEC MANUAL	240	40	T=60 SEC MANUAL	240	40	T=60 SEC MANUAL	240	40	T=60 SEC MANUAL
2HVV-UC2C	SH PUMP PIT UNIT COOLER	G	40 HP	575	3	240	40	T=60 SEC MANUAL	240	40	T=60 SEC MANUAL	240	40	T=60 SEC MANUAL	240	40	T=60 SEC MANUAL
2SHP-MOV1A	SH BACKHASH LINE	G	0.13 HP	575	3	1.3	0.26	T=0	1.3	0.26	T=0	1.3	0.26	T=0	1.3	0.26	T=0
2SHP-MOV1C	SH BACKHASH LINE	G	0.13 HP	575	3	1.3	0.26	T > 10 MIN MANUAL	1.3	0.26	T > 10 MIN MANUAL	1.3	0.26	T > 10 MIN MANUAL	1.3	0.26	T > 10 MIN MANUAL
2SHP-MOV1E	SH STRAINER BACKHASH	G	0.13 HP	575	3	1.3	0.26	T > 10 MIN MANUAL	1.3	0.26	T > 10 MIN MANUAL	1.3	0.26	T > 10 MIN MANUAL	1.3	0.26	T > 10 MIN MANUAL
2SHP-MOV3A	SH TO TURBINE PLANT	G	<sup>4.0</sup> <del>2.7</del> HP	575	3	<sup>27</sup> <sup>40</sup> <del>27</del>	<sup>8.0</sup> <del>5.5</del>	T=0	<sup>27</sup> <sup>40</sup> <del>27</del>	<sup>8.0</sup> <del>5.5</del>	T=0	<sup>27</sup> <sup>40</sup> <del>27</del>	<sup>8.0</sup> <del>5.5</del>	T=0	<sup>27</sup> <sup>40</sup> <del>27</del>	<sup>8.0</sup> <del>5.5</del>	T=0
2SHP-MOV30A	MOTOR-OPERATED GATE	G	1 HP	575	3	10	2	T=0	10	2	T=0	<sup>10</sup> <del>0</del>	2	T=0	10	2	T=0
2SHP-MOV50A	SH PUMPS DISCHARGE HEADER	G	<sup>9.9</sup> <del>4.7</del> HP	575	3	<sup>41</sup> <sup>99</sup> <del>41</del>	<sup>19.8</sup> <del>8.2</del>	T=0	<sup>41</sup> <sup>99</sup> <del>41</del>	<sup>19.8</sup> <del>8.2</del>	T=0 (LOCA)	<sup>41</sup> <sup>99</sup> <del>41</del>	<sup>19.8</sup> <del>8.2</del>	T=0 (LOOP)	<sup>41</sup> <sup>99</sup> <del>41</del>	<sup>19.8</sup> <del>8.2</del>	T=0 MANUAL
2SHP-MOV74A	SH PUMP DISCHARGE BLOCK VALVE	G	2.6 HP	575	3	26	5.2	T=0	26	5.2	T=0	26	5.2	T=0	26	5.2	T=0
2SHP-MOV74C	SH PUMP DISCHARGE BLOCK VALVE	G	2.6 HP	575	3	26	5.2	T=0	26	5.2	T=0	26	5.2	T=0	26	5.2	T=0
2SHP-MOV74E	SH PUMP DISCHARGE BLOCK VALVE	G	2.6 HP	575	3	26	5.2	T > 10 MIN MANUAL	26	5.2	T > 10 MIN MANUAL	26	5.2	T > 10 MIN MANUAL	26	5.2	T > 10 MIN MANUAL
2SHP-MOV77A	MOTOR-OPERATED GATE	G	<sup>0.7</sup> <del>0.66</del> HP	575	3	<sup>7.0</sup> <del>6.6</del>	<sup>1.4</sup> <del>1.32</del>	T=0 MANUAL	<sup>7.0</sup> <del>6.6</del>	<sup>1.4</sup> <del>1.32</del>	T=0 MANUAL	<sup>7.0</sup> <del>6.6</del>	<sup>1.4</sup> <del>1.32</del>	T=0 MANUAL	<sup>7.0</sup> <del>6.6</del>	<sup>1.4</sup> <del>1.32</del>	T=0 MANUAL
2SHP-SSR1A	BAR RACK HEATER	G	2.8 KH	575	1	<del>2.8</del> <del>(16.8 TOT) (16.8 TOT)</del>	<del>2.8</del>	T=0	<del>2.8</del> <del>(16.8 TOT) (16.8 TOT)</del>	<del>2.8</del>	T=0	<del>2.8</del> <del>(16.8 TOT) (16.8 TOT)</del>	<del>2.8</del>	T=0	<del>2.8</del> <del>(16.8 TOT) (16.8 TOT)</del>	<del>2.8</del>	T=0
2SHP-SSR2A	BAR RACK HEATER	G	2.8 KH	575	1	<del>2.8</del> <del>(16.8 TOT) (16.8 TOT)</del>	<del>2.8</del>	T=0	<del>2.8</del> <del>(16.8 TOT) (16.8 TOT)</del>	<del>2.8</del>	T=0	<del>2.8</del> <del>(16.8 TOT) (16.8 TOT)</del>	<del>2.8</del>	T=0	<del>2.8</del> <del>(16.8 TOT) (16.8 TOT)</del>	<del>2.8</del>	T=0
2SHP-SSR3A	BAR RACK HEATER	G	2.8 KH	575	1	<del>2.8</del> <del>(16.8 TOT) (16.8 TOT)</del>	<del>2.8</del>	T=0	<del>2.8</del> <del>(16.8 TOT) (16.8 TOT)</del>	<del>2.8</del>	T=0	<del>2.8</del> <del>(16.8 TOT) (16.8 TOT)</del>	<del>2.8</del>	T=0	<del>2.8</del> <del>(16.8 TOT) (16.8 TOT)</del>	<del>2.8</del>	T=0
2SHP-SSR4A	BAR RACK HEATER	G	2.8 KH	575	1	<del>2.8</del> <del>(16.8 TOT) (16.8 TOT)</del>	<del>2.8</del>	T=0	<del>2.8</del> <del>(16.8 TOT) (16.8 TOT)</del>	<del>2.8</del>	T=0	<del>2.8</del> <del>(16.8 TOT) (16.8 TOT)</del>	<del>2.8</del>	T=0	<del>2.8</del> <del>(16.8 TOT) (16.8 TOT)</del>	<del>2.8</del>	T=0
2SHP-SSR5A	BAR RACK HEATER	G	2.8 KH	575	1	<del>2.8</del> <del>(16.8 TOT) (16.8 TOT)</del>	<del>2.8</del>	T=0	<del>2.8</del> <del>(16.8 TOT) (16.8 TOT)</del>	<del>2.8</del>	T=0	<del>2.8</del> <del>(16.8 TOT) (16.8 TOT)</del>	<del>2.8</del>	T=0	<del>2.8</del> <del>(16.8 TOT) (16.8 TOT)</del>	<del>2.8</del>	T=0
2SHP-SSR6A	BAR RACK HEATER	G	2.8 KH	575	1	<del>2.8</del> <del>(16.8 TOT) (16.8 TOT)</del>	<del>2.8</del>	T=0	<del>2.8</del> <del>(16.8 TOT) (16.8 TOT)</del>	<del>2.8</del>	T=0	<del>2.8</del> <del>(16.8 TOT) (16.8 TOT)</del>	<del>2.8</del>	T=0	<del>2.8</del> <del>(16.8 TOT) (16.8 TOT)</del>	<del>2.8</del>	T=0
2SHP-STR4A	STRAINER SH	G	3 HP	575	3	<del>18</del> <del>(16.8 TOT) (16.8 TOT)</del>	3	T=0	<del>18</del> <del>(16.8 TOT) (16.8 TOT)</del>	3	T=0	<del>18</del> <del>(16.8 TOT) (16.8 TOT)</del>	3	T=0	<del>18</del> <del>(16.8 TOT) (16.8 TOT)</del>	3	T=0
2SHP-STR4C	STRAINER SH	G	3 HP	575	3	18	3	T > 10 MIN MANUAL	18	3	T > 10 MIN MANUAL	18	3	T > 10 MIN MANUAL	18	3	T > 10 MIN MANUAL
2SHP-STR4E	STRAINER SH	G	3 HP	575	3	18	3	T > 10 MIN MANUAL	18	3	T > 10 MIN MANUAL	18	3	T > 10 MIN MANUAL	18	3	T > 10 MIN MANUAL

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TABLE B.3-1 (CONT)

POWER SOURCE/ EQUIPMENT IDENTITY NO. TOTAL LOAD ON 2EHS-MCC101	DESCRIPTION	DIVI- SION	RATING	VOLTS	PHASE	DESIGN BASIS ACCIDENT OIL-ILL GENERATOR LOADING POSSIBILITIES												NONACCIDENT LOADING		
						SIMULTANEOUS LOOP & LOCA			LOOP WITH DELAYED LOCA			LOCA WITH DELAYED LOOP			LOOP WITH UNIT TRIP			STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME
						STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME	STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME	STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME	STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME			
						244(213) 173(150)	43-49 43-49	0 ≤ T < 6 SEC 6 ≤ T < 60 SEC 60 ≤ T < 66 SEC 120-120 10 MIN ≤ T < 10 MIN 6 SEC T ≥ 10 MIN 6 SEC	244(213) 173(150)	43-49 43-49	0 ≤ T < 6 SEC 6 ≤ T < 60 SEC 60 ≤ T < 66 SEC 120-120 10 MIN ≤ T < 10 MIN 6 SEC T ≥ 10 MIN 6 SEC	244(213) 173(150)	43-49 43-49	0 ≤ T < 6 SEC 6 ≤ T < 60 SEC 60 ≤ T < 66 SEC 120-120 10 MIN ≤ T < 10 MIN 6 SEC T ≥ 10 MIN 6 SEC	262(245) 91(180)	59-45 59-45	0 ≤ T < 6 SEC 6 ≤ T < 60 SEC 60 ≤ T < 66 SEC 120-120 10 MIN ≤ T < 10 MIN 6 SEC T ≥ 10 MIN 6 SEC			
2EJS-PNL101A	SWITCHGEAR ROOM A EMERGENCY 600-V PANEL	G	400 A	575	3	480(450) 65(60) 36(34)	43-49 43-49 117-129	T=0	480(450) 65(60) 36(34)	43-49 43-49 117-129	T=0	480(450) 65(60) 36(34)	43-49 43-49 117-129	T=0	480(450) 65(60) 36(34)	43-49 43-49 117-129	T=0	300	50	T=0
2EJS-PNL103A	AB-N EMERGENCY 600-V PANEL	G	400 A	575	3	150	25	T=0	150	25	T=0	150	25	T=0	150	25	T=0	150	25	T=0
2EJS-PNL104A	AB-N EMERGENCY 600-V PANEL	G	400 A	575	3	300	50	T=0	300	50	T=0	300	50	T=0	300	50	T=0	300	50	T=0
2FWS-MOV21A	FEEDWATER TO REACTOR	G	26.6 HP	575	3	610	122	T=10 MIN MANUAL	610	122	T=10 MIN MANUAL	610	122	T=10 MIN MANUAL	610	122	T=10 MIN MANUAL	610	122	T=10 MIN MANUAL
2FWS-MOV21B	FEEDWATER TO REACTOR	G	26.6 HP	575	3	610	122	T=10 MIN MANUAL	610	122	T=10 MIN MANUAL	610	122	T=10 MIN MANUAL	610	122	T=10 MIN MANUAL	610	122	T=10 MIN MANUAL
2GTS-FN1A	SGTS FILTER TRAIN DISCHARGE FAN	G	40 HP	575	3	240	40	T=0	240	40	T=0	240	40	T=0	240	40	T=0	240	40	T=0
2GTS-MOV1A	HVR MIX PLENUM TO SGTS	G	0.34 HP	575	3	3.4	0.68	T=0	3.4	0.68	T=0	3.4	0.68	T=0	3.4	0.68	T=0	3.4	0.68	T=0
2GTS-MOV2A	SGTS FILTER TRAIN A INLET	G	2 HP	575	3	10	2	T=0	10	2	T=0	10	2	T=0	10	2	T=0	10	2	T=0
2GTS-MOV3A	SGTS FILTER TRAIN A DISCHARGE	G	2 HP	575	3	10	2	T=0	10	2	T=0	10	2	T=0	10	2	T=0	10	2	T=0
2GTS-MOV4A	DECAY HEAT COOLER TO TRAIN A	G	1 HP	575	3	10	1.7	T=0	10	1.7	T=0	10	1.7	T=0	10	1.7	T=0	10	1.7	T=0
2HCS-MOV1A	HEWELL HYDROGEN RECOMBINER ISOLATION VALVE	G	0.33 HP	575	3	3.3	0.66	MANUAL AS REQUIRED	3.3	0.66	MANUAL AS REQUIRED	3.3	0.66	MANUAL AS REQUIRED	3.3	0.66	MANUAL AS REQUIRED	3.3	0.66	MANUAL AS REQUIRED
2HCS-MOV2A	HEWELL HYDROGEN RECOMBINER ISOLATION VALVE	G	0.33 HP	575	3	3.3	0.66	MANUAL AS REQUIRED	3.3	0.66	MANUAL AS REQUIRED	3.3	0.66	MANUAL AS REQUIRED	3.3	0.66	MANUAL AS REQUIRED	3.3	0.66	MANUAL AS REQUIRED
2HCS-MOV3A	HEWELL HYDROGEN RECOMBINER ISOLATION VALVE	G	0.33 HP	575	3	3.3	0.66	MANUAL AS REQUIRED	3.3	0.66	MANUAL AS REQUIRED	3.3	0.66	MANUAL AS REQUIRED	3.3	0.66	MANUAL AS REQUIRED	3.3	0.66	MANUAL AS REQUIRED

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NINE MILE POINT UNIT 2 FSAR

TABLE 8.3-1 (CONT)

DESIGN BASIS ACCIDENT DIESEL GENERATOR LOADING POSSIBILITIES

POWER SOURCE/ EQUIPMENT IDENTITY NO.	DESCRIPTION	DIVI- SION	RATING	VOLTS	PHASE	SIMULTANEOUS LOOP & LOCA			LOOP WITH DELAYED LOCA			LOCA WITH DELAYED LOOP			NONACCIDENT LOADING LOOP WITH UNIT TRIP		
						STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME	STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME	STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME	STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME
2HCS=MOV4A	WETWELL HYDROGEN RECOMBINER ISOLATION VALVE	G	0.33 HP	575	3	3.3	<del>0.33</del> 0.66	MANUAL AS REQUIRED	3.3	<del>0.33</del> 0.66	MANUAL AS REQUIRED	3.3	<del>0.33</del> 0.66	MANUAL AS REQUIRED	3.3	<del>0.33</del> 0.66	MANUAL AS REQUIRED
2HCS=MOV5A	WETWELL HYDROGEN RECOMBINER ISOLATION VALVE	G	0.33 HP	575	3	3.3	<del>0.33</del> 0.66	MANUAL AS REQUIRED	3.3	<del>0.33</del> 0.66	MANUAL AS REQUIRED	3.3	<del>0.33</del> 0.66	MANUAL AS REQUIRED	3.3	<del>0.33</del> 0.66	MANUAL AS REQUIRED
2HCS=MOV6A	WETWELL HYDROGEN RECOMBINER ISOLATION VALVE	G	0.33 HP	575	3	3.3	<del>0.33</del> 0.66	MANUAL AS REQUIRED	3.3	<del>0.33</del> 0.66	MANUAL AS REQUIRED	3.3	<del>0.33</del> 0.66	MANUAL AS REQUIRED	3.3	<del>0.33</del> 0.66	MANUAL AS REQUIRED
2SHP=MOV17A	SH TO RBCLCH	G	1.6 HP	575	3	16	3	T>10 MIN MANUAL	16	3	T>10 MIN MANUAL	16	3	T>10 MIN MANUAL	16	3	T>10 MIN MANUAL
2SHP=MOV18A	RBCLCH TO SH	G	1.6 HP	575	3	16	3	T>10 MIN MANUAL	16	3	T>10 MIN MANUAL	16	3	T>10 MIN MANUAL	16	3	T>10 MIN MANUAL
2SHP=MOV19A	SH TO RBCLCH HEAT EXCHANGER	G	1 HP	575	3	10	2	T=0	10	2	T=0	10	2	T=0	10	2	T=0
2SHP=MOV21A	RBCLCH TO SFC COOL POOL	G	0.33 HP	575	3	3.3	0.45	T=10 MIN MANUAL	3.3	0.45	T=10 MIN MANUAL	3.3	0.45	T=10 MIN MANUAL	3.3	0.45	T=10 MIN MANUAL
2SHP=MOV33A	RHR HEAT EXCHANGER A TO DISCHARGE	G	0.86 HP	575	3	8.6	1.72	T~10 MIN MANUAL	8.6	1.72	T~10 MIN MANUAL (LOCA)	8.6	1.72	T~10 MIN MANUAL	-	-	NOT REQUIRED
2SHP=MOV38A	SH TO RBCLCH	G	0.6 HP	575	3	6	1.2	T=10 MIN MANUAL	6	1.2	T=10 MIN MANUAL	6	1.2	T=10 MIN MANUAL	6	1.2	T=10 MIN MANUAL
2SHP=MOV39A	RBCLCH TO SH	G	0.6 HP	575	3	6	1.2	T=10 MIN MANUAL	6	1.2	T=10 MIN MANUAL	6	1.2	T=10 MIN MANUAL	6	1.2	T=10 MIN MANUAL
2SHP=MOV90A	SH TO RHR HEAT EXCHANGER	G	0.86 HP	575	3	8.6	1.72	T~10 MIN MANUAL	8.6	1.72	T~10 MIN MANUAL	8.6	1.72	T~10 MIN MANUAL	-	-	NOT REQUIRED
2DER=MOV120	CONTAINMENT ISOLATION VALVE	G	0.64 HP	575	3	6.4	0.71	T=0	6.4	0.71	T=0	6.4	0.71	T=0	6.4	0.71	T=0
2DER=MOV131	DER TANK I VENT	G	0.33 HP	575	3	3.2	0.36	T=0	3.2	0.36	T=0	3.2	0.36	T=0	3.2	0.36	T=0
2OFR=MOV120	DRYWELL FLOOR DRAIN DISCHARGE ISOLATION VALVE	G	<del>1.3</del> 0.6 HP	575	3	<del>6</del> 13.0	<del>1.7</del> 2.6	T=0	<del>6</del> 13.0	<del>1.7</del> 2.6	T=0	<del>6</del> 13.0	<del>1.7</del> 2.6	T=0	<del>6</del> 13.0	<del>1.7</del> 2.6	T=0
2OFR=MOV139	DRYWELL FLOOR DRAIN VENT ISOLATION VALVE	G	<del>0.6</del> 0.3 HP	575	3	<del>4.2</del> 6.0	<del>0.36</del> 1.2	T=0	<del>4.2</del> 6.0	<del>0.36</del> 1.2	T=0	<del>4.2</del> 6.0	<del>0.36</del> 1.2	T=0	<del>4.2</del> 6.0	<del>0.36</del> 1.2	T=0
2ICS=MOV121	TURBINE STEAM SUPPLY ISO OUTBOARD	G	8 HP	575	3	80	24	T=3 SEC	80	24	T=3 SEC	80	24	T=3 SEC	80	24	T=3 SEC
2SLS=MOV1A	STANDBY LIQUID CONTROL	G	<del>0.33</del> 0.13 HP	575	3	<del>1.3</del> 3.3	<del>0.1</del> 0.66	T=98 SEC	<del>1.3</del> 3.3	<del>0.1</del> 0.66	T=98 SEC (LOCA)	<del>1.3</del> 3.3	<del>0.1</del> 0.66	T=98 SEC	-	-	NOT REQUIRED
2SLS=P1A	STANDBY LIQUID PUMP A	G	40 HP	575	3	240	40	T=98 SEC	240	40	T=98 SEC (LOCA)	240	40	T=98 SEC	-	-	NOT REQUIRED
2HSS=MOV112	MAIN STEAM TO CONDENSER	G	1.6 HP	575	3	<del>3.2</del> 3.2	8.1	T=0	<del>3.2</del> 3.2	8.1	T=0	<del>3.2</del> 3.2	8.1	T=0	32	8.1	T=0

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NINE MILE POINT UNIT 2 FSAR

TABLE 8.3-1 (CONT)

DESIGN BASIS ACCIDENT DIESEL GENERATOR LOADING POSSIBILITIES

POWER SOURCE/ EQUIPMENT IDENTITY NO.	DESCRIPTION	DIVI- SION	RATING	VOLTS	PHASE	SIMULTANEOUS LOOP 4 LOCA			LOOP WITH DELAYED LOCA			LOCA WITH DELAYED LOOP			NONACCIDENT LOADING LOOP WITH UNIT TRIP		
						STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME	STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME	STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME	STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME
2CNS-22A-PNL66A	N2/O2 ANALYZER PUMP	G	1.0 HP	575	3	6	1	T > 1 HR MANUAL	6	1	T > 1 HR MANUAL	6	1	T > 1 HR MANUAL	6	1	T > 1 HR MANUAL
2SLS-MOV5A	STANDBY LTOUO STOP CHECK VALVE	G	0.70 1.67 HP	575	3	6.4-7.0	0.71-1.4	T > 10 MIN MANUAL	6.4-7.0	0.71-1.4	T > 10 MIN MANUAL	6.4-7.0	0.71-1.4	T > 10 MIN MANUAL	6.4-7.0	0.71-1.4	T > 10 MIN MANUAL
2MSS-MOV119	VENT VALVE	G	0.33 HP	575	3	3.2	0.36	MANUAL	3.2	0.36	MANUAL	3.2	0.36	MANUAL	3.2	0.36	MANUAL
2MSS-MOV208	MAIN STEAM VALVE	G	0.33 HP	575	3	3.2	0.36	T=0	3.2	0.36	T=0	3.2	0.36	T=0	3.2	0.36	T=0
2CSL-FV114	LPCS TEST	G	0.34 HP	575	3	-	-	NOT REQUIRED	-	-	NOT REQUIRED	-	-	NOT REQUIRED	-	-	NOT REQUIRED
2CSL-MOV104	LPCS PUMP TO REACTOR	G	8.0 HP	575	3	80	16	T=17 SEC	80	16	T=17 SEC	80	16	T=17 SEC	80	NOT REQUIRED	NOT REQUIRED
2CSL-MOV107	LPCS MINIMUM FLOW TO RHR	G	2 HP	575	3	20	5.5	T=0	20	5.5	T=0	20	5.5	T=0	20	5.5	T=0
2CSL-MOV112	SUPPRESSION POOL TO LPCS POOL	G	0.68 HP	575	3	6.8	1.46	T=0 MANUAL	6.8	1.46	T=0 MANUAL	6.8	1.46	T=0 MANUAL	6.8	1.46	T=0 MANUAL
2CSL-P2	LPCS SYSTEM PRESSURE PUMP	G	10 HP	575	3	60	10	T=0	60	10	T=0	60	10	T=0	60	10	T=0
21CS-P2	RCIC SYSTEM PRESSURE PUMP A	G	10 HP	575	3	60	10	T=0	60	10	T=0	60	10	T=0	60	10	T=0
2HCS-MOV112	RHCU OUTBOARD ISOLATION STEAM VALVE	G	5.2 HP	575	3	48	8.48	T=0	48	8.48	T=0	48	8.48	T=0	48	8.48	T=0
2HCS-MOV200 A	WATER CLEANUP TO FEEDWATER	G	1.6 HP	575	3	16	3.1	Long Time MANUAL	16	3.1	Long Time MANUAL	16	3.1	Long Time MANUAL	16	3.1	Long Time MANUAL
310 104 ≤ T ≤ 120 SEC						1332 (1248) 1293 (1211) 80 (72) 229-221 - 253-243 80 (72) 253-243 - 269-260 242 (237) 269-260 - 293-280 120-105 T ≤ 10 MIN 120-105 T ≤ 10 MIN 6 SEC 6 (5) 293-280 - 294-280			1332 (1248) 1293 (1211) 80 (72) 229-221 - 253-243 80 (72) 253-243 - 269-260 242 (237) 269-260 - 293-280 120-105 T ≤ 10 MIN 120-105 T ≤ 10 MIN 6 SEC 6 (5) 293-280 - 294-280			1332 (1248) 1293 (1211) 80 (72) 229-221 - 253-243 80 (72) 253-243 - 269-260 242 (237) 269-260 - 293-280 120-105 T ≤ 10 MIN 120-105 T ≤ 10 MIN 6 SEC 6 (5) 293-280 - 294-280			1396 (1308) 1373 (1286) - 217-209 1274 217-209 10 MIN ≤ T ≤ 10.1 MIN 10 MIN ≤ T ≤ 10.1 MIN 10 MIN ≤ T ≤ 10.1 MIN 10 MIN ≤ T ≤ 10.1 MIN 10 MIN ≤ T ≤ 10.1 MIN 10 MIN ≤ T ≤ 10.1 MIN		

TOTAL LOAD ON  
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TABLE 8.3-1 (CONT)

DESIGN BASIS ACCIDENT DIESEL GENERATOR LOADING POSSIBILITIES

POWER SOURCE/ EQUIPMENT IDENTITY NO.	DESCRIPTION	DIVI- SION	RATING	VOLTS	PHASE	SIMULTANEOUS LOOP & LOCA			LOOP WITH DELAYED LOCA			LOCA WITH DELAYED LOOP			NONACCIDENT LOADING (LOOP WITH UNIT TRIP)		
						STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME	STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME	STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME	STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME
2ENS=NCC103									10	2.2		10	2.2		10	2.2	
2CCP=NOV124	DRYWELL COOLER TO RBCLCH OUTBOARD 1	G	1 HP	575	3	16	3.5	T=0 MANUAL	16	3.5	T=0 MANUAL	16	3.5	T=0 MANUAL	16	3.5	T=0 MANUAL
2CCP=NOV14A	RBCLCH TO SFC HEAT EXCHANGER A	G	1.6 HP	575	3	16	3.5	T=0 MANUAL	16	3.5	T=0 MANUAL	16	3.5	T=0 MANUAL	16	3.5	T=0 MANUAL
2CCP=NOV18A	SFC HEAT EXCHANGER A TO RBCLCH	G	1.6 HP	575	3	16	3.5	T=0 MANUAL	16	3.5	T=0 MANUAL	16	3.5	T=0 MANUAL	16	3.5	T=0 MANUAL
2CCP=NOV22A	RCS PUMP A TO RBCLCH	G	1 HP	575	3	10	1.8	T=0	10	1.8	T=0	10	1.8	T=0	10	1.8	T=0
2CCP=NOV26S	CONTAINMENT ISOLATION VALVE	G	1 HP	575	3	10	2.2	T=0	10	2.2	T=0	10	2.2	T=0	10	2.2	T=0
2CCP=NOV15A	RBCLCH TO RCS PUMP A OUTBOARD ISOLATION	G	0.33 HP	575	3	3.3	0.55	T=0	3.3	0.55	T=0	3.3	0.55	T=0	3.3	0.55	T=0
2CCP=NOV15B	RBCLCH TO RCS PUMP B OUTBOARD ISOLATION	G	0.33 HP	575	3	3.3	0.55	T=0	3.3	0.55	T=0	3.3	0.55	T=0	3.3	0.55	T=0
2CCP=NOV17A	TO RBCLCH RCS PUMP A OUTBOARD ISOLATION	G	0.33 HP	575	3	3.3	0.55	T=0	3.3	0.55	T=0	3.3	0.55	T=0	3.3	0.55	T=0
2CCP=NOV17B	TO RBCLCH RCS PUMP B OUTBOARD ISOLATION	G	0.33 HP	575	3	3.3	0.55	T=0	3.3	0.55	T=0	3.3	0.55	T=0	3.3	0.55	T=0
2CCP=NOV93A	RBCLCH TO 2KCS-PIA COOLERS	G	0.67 HP	575	3	6.7	1.5	T=0	6.7	1.5	T=0	6.7	1.5	T=0	6.7	1.5	T=0
2EGA-M1A	OG 1 AIR COMPRESSOR 1A	G	15 HP	575	3	90	15	T=0	90	15	T=0	90	15	T=0	90	15	T=0
2EGA-M2A	OG 1 AIR COMPRESSOR 2A	G	15 HP	575	3	90	15	T=0	90	15	T=0	90	15	T=0	90	15	T=0
2EGF-P1A	OG 1 FUEL OIL TRANSFER PUMP A	G	1 HP	575	3	6	1	T=0	6	1	T=0	6	1	T=0	6	1	T=0
2EGF-P1C	OG 1 FUEL OIL TRANSFER PUMP C	G	1 HP	575	3	6	1	T=0	6	1	T=0	6	1	T=0	6	1	T=0
2EGO-P1A	LUBE OIL CIRCULATION PUMP	G	15 HP	575	3	-	-	NOT REQUIRED	-	-	NOT REQUIRED	-	-	NOT REQUIRED	-	-	NOT REQUIRED
2EGS-M2	GENERATOR SPACE HEATER	G	12 KW	575	3	-	-	NOT REQUIRED	-	-	NOT REQUIRED	-	-	NOT REQUIRED	-	-	NOT REQUIRED
2EGS-P1A	JACKET WATER CIRCULATION PUMP	G	5 HP	575	3	-	-	NOT REQUIRED	-	-	NOT REQUIRED	-	-	NOT REQUIRED	-	-	NOT REQUIRED
2EGT-CH2	LUBE OIL HEATER	G	12 KW	575	3	-	-	NOT REQUIRED	-	-	NOT REQUIRED	-	-	NOT REQUIRED	-	-	NOT REQUIRED

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TABLE 8.3-1 (CONT)

DESIGN BASIS ACCIDENT DIESEL GENERATOR LOADING POSSIBILITIES

POWER SOURCE/ EQUIPMENT IDENTITY NO.	DESCRIPTION	DIVI- SION	RATING	VOLTS	PHASE	SIMULTANEOUS LOOP 4 LOCA			LOOP WITH DELAYED LOCA			LOCA WITH DELAYED LOOP			NONACCIDENT LOADING LOOP WITH UNIT TRIP		
						STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME	STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME	STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME	STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME
2EGT*CH04	JACKET WATER HEATER	G	18 KW	575	3	-	-	NOT REQUIRED	-	-	NOT REQUIRED	-	-	NOT REQUIRED	-	-	NOT REQUIRED
2HVC*ACU1A	CONTROL ROOM A/C UNIT 1A	G	40 HP	575	3	240	40	T=0	240	40	T=0	240	40	T=0	240	40	T=0
2HVC*ACU2A	RELAY ROOM A/C UNIT 2A	G	40 HP	575	3	240	40	T=0	240	40	T=0	240	40	T=0	240	40	T=0
2HVC*ACU3A	REMOTE SHUTDOWN ROOM A/C UNIT	G	2 HP	575	3	12	2	T=0	12	2	T=0	12	2	T=0	12	2	T=0
2HVC*FN11A	MAKEUP AIR SWITCHGEAR FLOOR	G	7.5 HP	575	3	45	7.5	T=30	45	7.5	T=30	45	0.5	T=30	45	7.5	T=30 SEC
2HVC*FN2A	CONTROL ROOM A/C BOOSTER FAN A	G	10 HP	575	3	60	10	T=0	60	10	T=0	60	10	T=0	60	10	T=0
2HVC*FN4A	BATTERY ROOM A EXHAUST FAN	G	3 HP	575	3	18	3	T=0	18	3	T=0	18	3	T=0	18	3	T=0
2HVC*NOV1A	CONTROL ROOM A/C SPECIAL FILTER BYPASS	G	0.25 HP	575	3	2.5	0.5	T=0	2.5	0.5	T=0	2.5	0.75	T=0	2.5	0.5	T=0
2HVK*CHL1A(3)	AUXILIARY OIL PUMP	G	0.75 HP	575	3	4.5	0.75	T=0	4.5	0.75	T=0	4.5	0.75	T=0	4.5	0.75	T=0
2HVK*PIA	CONTROL BUILDING CHILLED WATER CIRCULATION PUMP A	G	15 HP	575	3	90	15	T=0	90	15	T=0	90	15	T=0	90	15	T=0
<sup>FV</sup> 2SHP*NOV47A	SH TO CHS PUMPS	G	0.7 HP	575	3	4.2-7.0	0.7-1.4	T > 10 MIN MANUAL	4.2-7.0	0.7-1.4	T > 10 MIN MANUAL	4.2-7.0	0.7-1.4	T > 10 MIN MANUAL	4.2-7.0	0.7-1.4	T > 10 MIN MANUAL
2SHP*NOV66A	SH TO STANDBY COOLERS EA	G	1 HP	575	3	10	2	T=0	10	2	T=0	10	2	T=0	10	2	T=0
2SHP*NOV67A	SH TO CONTROL RELAY ROOM CHILLER	G	6.4 1.9 HP	575	3	10-64	1-12.8	T > 10 MIN MANUAL	10-64	1-12.8	T > 10 MIN MANUAL	10-64	1-12.8	T > 10 MIN MANUAL	10-64	1-12.8	T > 10 MIN MANUAL
2SHP*NOV599	SH TO DISCHARGE TUNNEL ISOLATION	G	1.6 HP	575	3	16	3.2	T=0	16	3.2	T=0	16	3.2	T=0	16	3.2	T=0
2SHP*NOV93A	SH TO DISCHARGE TUNNEL ISOLATION	G	1.0 10.1 HP	575	3	10-10	2.1-2	T=0	10-10	2.1-2	T=0	10-10	2.1-2	T=0	10-10	2.1-2	T=0
2SHP*NOV95A	SH TO STANDBY DG COOLERS	G	1 HP	575	3	10	2	T > 10 MIN MANUAL	10	2	T > 10 MIN MANUAL	10	2	T > 10 MIN MANUAL	10	2	T > 10 MIN MANUAL
2SHP*P2A	REACTOR BUILDING CHILLER SH PUMP A	G	10 HP	575	3	60	10	T=0	60	10	T=0	60	10	T=0	60	10	T=0
2HVP*FN1A	DG 1 EXHAUST FAN 1A	G	30 HP	575	3	180	30	T=0	180	30	T=0	180	30	T=0	180	30	T=0
2SNP*FY54A	SWP A HEATER PRESS	G	0.70HP	575	3	7.0	1.4	T=0	7.0	1.4	T=0	7.0	1.4	T=0	7.0	1.4	T=0

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TABLE 8.3-1

DESIGN BASIS ACCIDENT DIESEL GENERATOR LOADING POSSIBILITIES

POWER SOURCE/ EQUIPMENT IDENTITY NO.	DESCRIPTION	DIVI- SION	RATING	VOLTS	PHASE	SIMULTANEOUS LOOP & LOCA			LOOP WITH DELAYED LOCA			LOCA WITH DELAYED LOOP			NONACCIDENT LOADING LOOP WITH UNIT TRIP		
						STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME	STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME	STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME	STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME
2HVP-FN1C	OG 1 EXHAUST FAN 1C	G	30 HP	575	5	180	30	T=0	180	30	T=0	180	30	T=0	180	30	T=0
2RHS-FV38A	TEST LINE A TO SUPPRESSION POOL	G	0.34 HP	575	3	3.4	0.34	T=0	3.4	0.34	T=0	3.4	0.34	T=0	3.4	0.34	NOT REQUIRED
2RHS-MOV1A	SUPPRESSION POOL TO RIIR PUMP A	G	<sup>1.6</sup> <del>0.3</del> HP	575	3	16	<del>0.9</del> 3.2	T=0	16	<del>0.9</del> 3.2	T=0	16	<del>0.9</del> 3.2	T=0	16	<del>0.9</del> 3.2	Long Time MANUAL AS REQUIRED
2RHS-MOV10A	HEAD SPRAY TO OUTBOARD ISOLATION	G	0.7 HP	575	3	7	1.4	T=0	7	1.4	T=0	7	1.4	T=0	7	1.4	Long Time MANUAL AS REQUIRED
2RHS-MOV11B	SHUTDOWN COOLING SUPPLY OUTBOARD ISOLATION	G	20 HP	575	3	200	21.7	T=0	200	21.7	T=0	200	21.7	T=0	200	21.7	Long Time MANUAL AS REQUIRED
2RHS-MOV12A	HEAT EXCHANGER A TO REACTOR	G	1 HP <sup>0.33</sup> <del>0.3</del>	575	3	10	2.6	T=10 MIN	10	2.6	T=10 MIN	10	2.6	T=10 MIN	10	2.6	Long Time Manual T=0 Manual
2RHS-MOV14Z	HEAT EXCHANGER B TO LWS	G	<sup>0.33</sup> <del>0.3</del> HP	575	3	3.3	0.42	T=0	3.3	0.42	T=0	3.3	0.42	T=0	3.3	0.42	Long Time Manual MANUAL AS REQUIRED
2RHS-MOV15A	CONTAINMENT SPRAY A	G	2.6 HP	575	3	26	8.1	T=10 MIN	26	8.1	T=10 MIN	26	8.1	T=10 MIN	26	8.1	NOT REQUIRED
2RHS-MOV2A	REACTOR TO RIIR PUMP A	G	0.86 HP	575	3	8.6	2.2	T=0	8.6	2.2	T=0	8.6	2.2	T=0	8.6	2.2	Long Time Manual MANUAL AS REQUIRED
2RHS-MOV22A	STEAM CONDENSING TO EXCHANGER A	G	1.6 HP	575	3	22	4.4	T=0	16	4.4	T=0	16	4.4	T=0	16	4.4	T=0 Manual
2RHS-MOV23A	STEAM CONDENSING TO EXCHANGER A	G	1.6 HP	575	3	22	4.4	T=0	16	4.4	T=0	16	4.4	T=0	16	4.4	Long Time Manual MANUAL AS REQUIRED
2RHS-MOV24A	LPCI INLET A	G	6.6 HP	575	3	66	12.4	T=0	66	12.4	T=0	66	12.4	T=0	66	12.4	NOT REQUIRED
2RHS-MOV25A	CONTAINMENT SPRAY A	G	2.6 HP	575	3	40.5	8.1	T=0	26	8.1	T=0	26	8.1	T=0	26	8.1	NOT REQUIRED
2RHS-MOV26A	HEAT EXCHANGER A VENT TO SUPPRESSION POOL	G	0.13 HP	575	3	1.3	0.13	MANUAL AS REQUIRED	1.3	0.13	MANUAL AS REQUIRED	1.3	0.13	MANUAL AS REQUIRED	1.3	0.13	MANUAL AS REQUIRED
2RHS-MOV27A	HEAT EXCHANGER A VENT TO SUPPRESSION POOL	G	0.13 HP	575	3	1.3	0.13	MANUAL AS REQUIRED	1.3	0.13	MANUAL AS REQUIRED	1.3	0.13	MANUAL AS REQUIRED	1.3	0.13	MANUAL AS REQUIRED
2RHS-MOV30A	RHR RETURN TO SUPPRESSION POOL	G	<sup>1.6</sup> <del>0.33</del> HP	121	121	<del>0.3</del> 16	<del>0.3</del> 3.2	MANUAL AS REQUIRED	<del>0.3</del> 16	<del>0.3</del> 3.2	MANUAL AS REQUIRED	<del>0.3</del> 16	<del>0.3</del> 3.2	MANUAL AS REQUIRED	<del>0.3</del> 16	<del>0.3</del> 3.2	MANUAL AS REQUIRED
2RHS-MOV80A	GLOBE VALVE	G	0.13HP	575	3	1.3	0.26	T=0	1.3	0.26	T=0	1.3	0.26	T=0	1.3	0.26	T=0
25VIP-MOV94A	SWP TO CIR 2EGS & EG2	G	0.33HP	575	3	3.3	0.33	T=0	3.3	0.33	T=0	3.3	0.33	T=0	3.3	0.33	T=0
25VIP-MOV94B	SWP TO CIR 2EGS & EG2	G	0.33HP	575	3	3.3	0.33	T=0	3.3	0.33	T=0	3.3	0.33	T=0	3.3	0.33	T=0

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TABLE 8.3-1 (CONT)

DESIGN BASIS ACCIDENT DIESEL GENERATOR LOADING POSSIBILITIES

POWER SOURCE/ EQUIPMENT IDENTITY NO.	DESCRIPTION	DIVI- SION	RATING	VOLTS	PHASE	SIMULTANEOUS LOOP & LOCA			LOOP WITH DELAYED LOCA			LOCA WITH DELAYED LOOP			NONACCIDENT LOADING LOOP WITH UNIT TRIP		
						STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME	STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME	STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME	STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME
2KJB-DRA1(3)	REACTOR BLOW PERSONNEL AIRLOCK	G	4HP	575	3	-	-	NOT REQUIRED	-	-	NOT REQUIRED	-	-	NOT REQUIRED	-	-	NOT REQUIRED
TOTAL LOAD ON 2EJS-PNL100A						1850(1653) 590(393)	70 315	0 ≤ T ≤ 0.1 SEC 0.1 ≤ T ≤ 6 SEC T > 6 SEC	1850(1653) 590(393)	70 315	0 ≤ T ≤ 0.1 SEC 0.1 ≤ T ≤ 6 SEC T > 6 SEC	1850(1653) 590(393)	70 315	0 ≤ T ≤ 0.1 SEC 0.1 ≤ T ≤ 6 SEC T > 6 SEC	1850(1653) 590(393)	70 315	0 ≤ T ≤ 0.1 SEC 0.1 ≤ T ≤ 6 SEC T > 6 SEC
2LAC-PNL100A																	
2BYS-CHGR2A1	125-V BATTERY CHARGER DIV 1	G	300 A	575	3	70	70	T=0	70	70	T=0	70	70	T=0	70	70	T=0
2LAC-XLE01	LIGHTING TRANSFORMER 600-208Y/120V	G	30 KVA	575	3	360 (0.1 SEC)	30-10	T=0	360 (0.1 SEC)	30	T=0	360 (0.1 SEC)	30	T=0	360 (0.1 SEC)	30	T=0
2LAC-XLE04	LIGHTING TRANSFORMER 600-208Y/120V	G	30 KVA	575	3	360 (0.1 SEC)	30-10	T=0	360 (0.1 SEC)	30	T=0	360 (0.1 SEC)	30	T=0	360 (0.1 SEC)	30	T=0
2LAC-XLE06	LIGHTING TRANSFORMER 600-208Y/120V	G	30 KVA	575	3	360 (0.1 SEC)	30-10	T=0	360 (0.1 SEC)	30	T=0	360 (0.1 SEC)	30	T=0	360 (0.1 SEC)	30	T=0
2SCH-XD101A	DISTRIBUTION TRANSFORMER 600V-120/240V	G	25 KVA	575	1	300 (0.1 SEC)	25-5	T=0	300 (0.1 SEC)	25	T=0	300 (0.1 SEC)	25	T=0	300 (0.1 SEC)	25	T=0
2SCH-XD102A	DISTRIBUTION TRANSFORMER 600-120/240V	G	25 KVA	575	1	300 (0.1 SEC)	25-5	T=0	300 (0.1 SEC)	25	T=0	300 (0.1 SEC)	25	T=0	300 (0.1 SEC)	25	T=0
2SCH-XD103A	DISTRIBUTION TRANSFORMER 600-120/240V	G	25 KVA	575	1	300 (0.1 SEC)	25-5	T=0	300 (0.1 SEC)	25	T=0	300 (0.1 SEC)	25	T=0	300 (0.1 SEC)	25	T=0
2SCH-XD104A	DISTRIBUTION TRANSFORMER 600-120/240V	G	25 KVA	575	1	300	5	T=0	300	5	T=0	300	5	T=0	300	5	T=0
2SCH-XD105A	DISTRIBUTION TRANSFORMER 600-120/240V	G	25 KVA	575	1	300	5	T=0	300	5	T=0	300	5	T=0	300	5	T=0
2VBA-UPS2A (AC2)	DIV 1A CONTROL UPS	G	25 KVA	575	1	-	-	-	-	-	-	-	-	-	-	-	T=0
TOTAL LOAD ON 2LAC-PNL100A						2650(2558)	125	T ≤ 0.1 SEC T > 0.1 SEC	2650(2558)	125	T ≤ 0.1 SEC T > 0.1 SEC	2650(2558)	125	T ≤ 0.1 SEC T > 0.1 SEC	2650(2558)	125	T ≤ 0.1 SEC T > 0.1 SEC
2NNS-SHG014																	
2CCP-3C	RODCLCH PUMP 3C	N	150 HP	4,000	3		(1)			(1)			(1)		900	150	AS REQUIRED
2CCP-P1C	RODCLCH PUMP 1C	N	150 HP	4,000	3		(1)			(1)			(1)		900	150	AS REQUIRED
2RDS-P1A	CONTROL ROD DRIVE PUMP A	N	300 HP	4,000	3		(1)			(1)			(1)		1,800	300	AS REQUIRED

\* LOAD INCLUDED IN 2EJS-PNL100A

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TABLE 8.3-1 (CONT)

DESIGN BASIS ACCIDENT DIESEL GENERATOR LOADING POSSIBILITIES

POWER SOURCE/ EQUIPMENT IDENTITY NO.	DESCRIPTION	DIVI- SION	RATING	VOLTS	PHASE	SIMULTANEOUS LOOP 4 LOCA			LOOP WITH DELAYED LOCA			LOCA WITH DELAYED LOOP			NONACCIDENT LOADING LOOP WITH UNIT TRIP		
						STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME	STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME	STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME	STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME
2HJS-USS							(1)		(1)				(1)		450	75	AS REQUIRED
2AAS-C1	BREATHING AIR COMPRESSOR	N	75 HP	575	3		(1)		(1)				(1)		115	115	
2BYS-CHGR1A1	125-V BATTERY CHARGER TRAIN	N	500 A	575	3		(1)		(1)				(1)		900	150	AS REQUIRED
2IAS-C1A	INSTRUMENT AIR COMPRESSOR A	N	150 HP	575	3		(1)		(1)				(1)		NONCOINCIDENT	110	T=0 MANUAL
2NJS-PNL500	DISTRIBUTION PANEL 600-V	N		575	3		(1)		(1)				(1)		1,344 (T=0.1 SEC)	112	T=0 MANUAL
2VBB-XDS00	ISOLATION TRANSFORMER UPS	N	112 KVA	575	3		(1)		(1)				(1)		1,344 (T=0.1 SEC)	112	T=0 MANUAL
2VBB-XDS01	ISOLATION TRANSFORMER UPS	N	112 KVA	575	3		(1)		(1)				(1)		900	150	T=0 MANUAL
2HCS-P1A	RHCU PUMP A	N	150 HP	575	3		(1)		(1)				(1)		60	10	T=0 MANUAL
2NHS-NCC008 2DER-P5A	REACTOR BUILDING EQUIPMENT DRAIN PUMP A	N	10 HP	575	3		(1)		(1)				(1)		60	10	T=0 MANUAL
2DER-P5C	REACTOR BUILDING EQUIPMENT DRAIN PUMP C	N	10 HP	575	3		(1)		(1)				(1)		150	25	T=0 MANUAL
2FPF-P1A	A/C FOAM CONCENTRATION PUMP	N	25 HP	575	3		(1)		(1)				(1)		18	3	T=0 MANUAL
2FPF-P2A	A/C FOAM NOSE STATION PUMP	N	3 HP	575	3		(1)		(1)				(1)		120	20	T=10 SEC MANUAL
2GMO-P1	MAIN SEAL OIL PUMP	N	20 HP	575	3		(1)		(1)				(1)		12	2	T=10 SEC MANUAL
2GMO-P3	SEAL OIL VACUUM PUMP	N	2 HP	575	3		(1)		(1)				(1)		45	7.5	T=10 SEC MANUAL
2GMO-P4	RECIRCULATION SEAL OIL PUMP	N	7.5 HP	575	3		(1)		(1)				(1)		0.8	0.13	T=0 MANUAL
2RDS-PV101	DRIVE WATER PRESSURE CONTROL	N	0.13 HP	575	3		(1)		(1)				(1)		150	25	T=0 MANUAL
2RPH-MC1A	REACTOR PROTECTION NO SET A	N	25 HP	575	3		(1)		(1)				(1)		30	5	T=1 HR
2TNL-P6A	TURBINE BEARING LIFT PUMP A	N	5 HP	575	3		(1)		(1)				(1)		30	5	T=1 HR
2TNL-P6B	TURBINE BEARING LIFT PUMP B	N	5 HP	575	3		(1)		(1)				(1)				

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TABLE 8.3-1 (CONT)

## DESIGN BASIS ACCIDENT DIESEL GENERATOR LOADING POSSIBILITIES

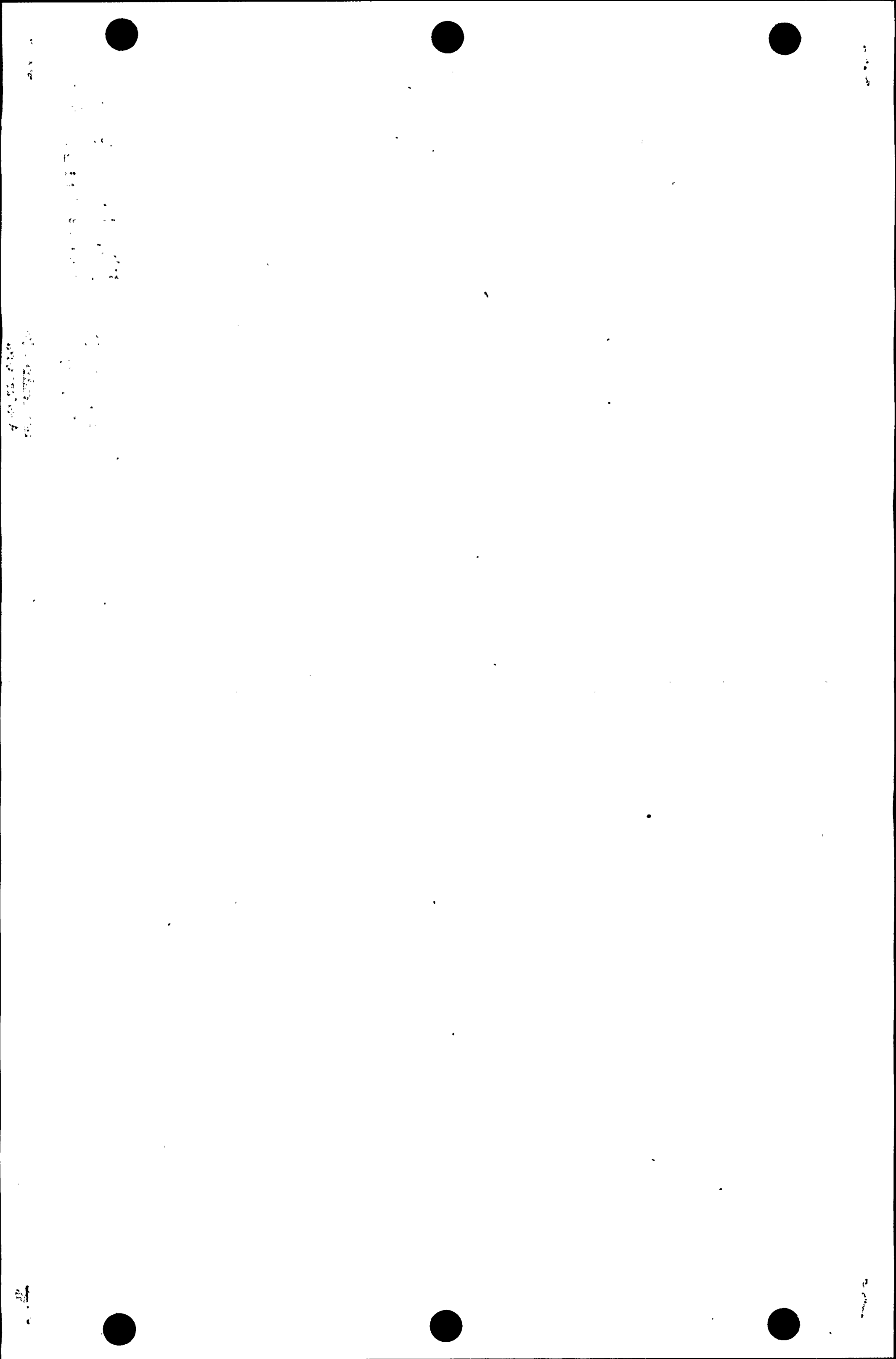
POWER SOURCE/ EQUIPMENT IDENTITY NO.	DESCRIPTION	DIVI- SION	RATING	VOLTS	PHASE	SIMULTANEOUS LOOP & LOCA			LOOP WITH DELAYED LOCA			LOCA WITH DELAYED LOOP			NONACCIDENT LOADING LOOP WITH UNIT TRIP		
						STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME	STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME	STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME	STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME
2TnL-P6C	TURBINE BEARING LIFT PUMP C	N	5 HP	575	3		(1)			(1)			(1)		30	5	T=1 HR
2TnL-P6D	TURBINE BEARING LIFT PUMP D	N	5 HP	575	3		(1)			(1)			(1)		30	5	T=1 HR
2TnL-P6E	TURBINE BEARING LIFT PUMP E	N	5 HP	575	3		(1)			(1)			(1)		30	5	T=1 HR
2TnL-P6F	TURBINE BEARING LIFT PUMP F	N	5 HP	575	3		(1)			(1)			(1)		30	5	T=1 HR
2TnL-P6G	TURBINE BEARING LIFT PUMP G	N	5 HP	575	3		(1)			(1)			(1)		30	5	T=1 HR
2TnL-P6H	TURBINE BEARING LIFT PUMP H	N	5 HP	575	3		(1)			(1)			(1)		30	5	T=1 HR
2HCS-MIX100A	RHCU PRECOAT AGITATOR A	N	1 HP	575	3		(1)			(1)			(1)		6	1	T=0 MANUAL
2HCS-MIX101A	RHCU RESIN FEED AGITATOR A	N	1 HP	575	3		(1)			(1)			(1)		6	1	T=0 MANUAL
2HCS-NOV106	RHCU TO LWS	N	2.6 HP	575	3		(1)			(1)			(1)		26	7.1	T=0 MANUAL
2HCS-NOV107	RHCU TO MAIN CONDENSER	N	2.6 HP	575	3		(1)			(1)			(1)		26	7.1	T=0 MANUAL
2HCS-NOV108	RHCU SYSTEM DRAIN	N	0.67 HP	575	3		(1)			(1)			(1)		6.7	1.1	T=0 MANUAL
2HCS-NOV109	REGENERANT HEAT EXCHANGER TO REACTOR	N	1.6 HP	575	3		(1)			(1)			(1)		16	4.9	T=0 MANUAL
2HCS-NOV110	CLEANUP SYSTEM BYPASS	N	1.6 HP	575	3		(1)			(1)			(1)		16	4.9	T=0 MANUAL
2HCS-NOV111	HEAT EXCHANGER BYPASS TO REACTOR	N	1.6 HP	575	3		(1)			(1)			(1)		16	4.9	T=0 MANUAL
2HCS-P12A	RHCU PRECOAT PUMP A	N	10 HP	575	3		(1)			(1)			(1)		85	8.5	T=0 MANUAL
2HCS-P6A	RHCU FILTER DEMINERALIZER HOLOUP PUMP A	N	3 HP	575	3		(1)			(1)			(1)		20.77	3.7	T=0 MANUAL
2HCS-P6C	RHCU FILTER DEMINERALIZER	N	3 HP	575	3		(1)			(1)			(1)		20.77	3.7	T=0 MANUAL
2OER-P3A	REACTOR BUILDING EQUIPMENT DRAIN PUMP A	N	10 HP	575	3		(1)			(1)			(1)		60	10	T=0 MANUAL
2NHS-MCC011																	
2CCP-NOV1A	RHCU TO OR/MLL COOLER OUTBOARD ISOLATION	N	0.13 HP	575	3		(1)			(1)			(1)		1.3	0.39	T=0 MANUAL

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TABLE 8.3-1 (CONT)  
DESIGN BASIS ACCIDENT DIESEL GENERATOR LOADING POSSIBILITIES

POWER SOURCE/ EQUIPMENT IDENTITY NO.	DESCRIPTION	DIVI- SION	RATING	VOLTS	PHASE	SIMULTANEOUS LOOP 4 LOCA			LOOP WITH DELAYED LOCA			LOCA WITH DELAYED LOOP			NONACCIDENT LOADING LOOP WITH UNIT TRIP		
						STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME	STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME	STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME	STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME
2CCP-MOV1C	RBCLCW TO DRYHELL COOLER OUTBOARD ISOLATION	N	0.13 HP	575	3		(1)			(1)			(1)		1.3	0.39	T=0 MANUAL
2CCP-MOV2A	RBCLCW TO DRYHELL COOLER OUTBOARD ISOLATION	N	0.13 HP	575	3		(1)			(1)			(1)		1.3	0.39	T=0 MANUAL
2CCP-MOV2C	RBCLCW TO DRYHELL COOLER OUTBOARD ISOLATION	N	0.13 HP	575	3		(1)			(1)			(1)		1.3	0.39	T=0 MANUAL
2CCP-MOV3A	RBCLCW TO DRYHELL COOLER OUTBOARD ISOLATION	N	0.13 HP	575	3		(1)			(1)			(1)		1.3	0.39	T=0 MANUAL
2ORS-UC1A	DRYHELL COOLER 1A	N	20 HP	575	3		(1)			(1)			(1)		120	20	T=30 MIN MANUAL
2ORS-UC1C	DRYHELL COOLER 1C	N	20 HP	575	3		(1)			(1)			(1)		120	20	T=30 MIN MANUAL
2ORS-UC2A	DRYHELL COOLER 2A	N	10 HP	575	3		(1)			(1)			(1)		60	10	T=30 MIN MANUAL
2ORS-UC2C	DRYHELL COOLER 2C	N	10 HP	575	3		(1)			(1)			(1)		60	10	T=30 MIN MANUAL
2ORS-UC3A	DRYHELL COOLER 3A	N	15 HP	575	3		(1)			(1)			(1)		90	15	T=30 MIN MANUAL
2IAS-C2	AOS VALVE COMPRESSOR	N	7.5 HP	575	3		(1)			(1)			(1)		45	7.5	NOT REQUIRED
2HSS-HYV7A	HSIV OUTBOARD	N	3 HP	575	3		(1)			(1)			(1)		18	3	T=0 MANUAL
2HSS-HYV7B	HSIV OUTBOARD	N	3 HP	575	3		(1)			(1)			(1)		18	3	T=0 MANUAL
2HSS-HYV7C	HSIV OUTBOARD	N	3 HP	575	3		(1)			(1)			(1)		18	3	T=0 MANUAL
2HSS-HYV7D	HSIV OUTBOARD	N	3 HP	575	3		(1)			(1)			(1)		18	3	T=0 MANUAL
2RCS-MOV10A	RECIRCULATION PUMP A SUCTION VALVE	N	4 HP	575	3		(1)			(1)			(1)		40	11.2	T=0 MANUAL
2RCS-MOV18A	RECIRCULATION PUMP A SUCTION VALVE	N	4 HP	575	3		(1)			(1)			(1)		40	11.2	T=0 MANUAL
2HCS-MOV101	RCS TO RHCW	N	0.7 (0.6) HP	575	3		(1)			(1)			(1)		6-7	2.1	T=0 MANUAL
2HCS-MOV103	RCS TO RHCW	N	1.6 HP	575	3		(1)			(1)			(1)		16	5.1	T=0 MANUAL
2HCS-MOV104	RCS TO RHCW	N	0.6 HP	575	3		(1)			(1)			(1)		6	2.1	T=0 MANUAL
2HCS-MOV105	RCS TO RHCW	N	0.6 HP	575	3		(1)			(1)			(1)		6	2.1	T=0 MANUAL

(1) DISCONNECTED DURING LOCA

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NINE MILE POINT UNIT 2 FSAR  
TABLE 8.3-2  
DIVISION 11 STANDBY DIESEL GENERATOR 2EGS-EG3  
LOAD TABULATION

DESIGN BASIS ACCIDENT DIESEL GENERATOR LOADING POSSIBILITIES																	NONACCIDENT LOADING		
POWER SOURCE/ EQUIPMENT IDENTITY NO.	DESCRIPTION	DIVI- SION	RATING	VOLTS	PHASE	SIMULTANEOUS LOOP 4 LOCA			LOOP WITH DELAYED LOCA			LOCA WITH DELAYED LOOP			LOOP WITH UNIT TRIP				
						STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME	STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME	STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME	STARTING KVA (KVAR)	RUNNING (KVA)	STARTING TIME		
2ENS-SWG103																			
2RHS-P1B	RHR PUMP B	Y	1,000 HP	4,000	3	5.681 PF=0.115	790	T=0 <sup>0.9</sup> SEC	5.681 PF=0.115	790	T=0 <sup>0.9</sup> SEC	5.681 PF=0.115	790	T=0 <sup>0.9</sup> SEC	5.681 PF=0.115	790	MANUAL AFTER T=1 HR IF REQUIRED		
2RHS-P1C	RHR PUMP C	Y	1,000 HP	4,000	3	5.681 PF=0.115	790	T=0 <sup>5.4</sup> SEC	5.681 PF=0.115	790	T=0 <sup>5.4</sup> SEC	5.681 PF=0.115	790	T=0 <sup>5.4</sup> SEC	5.681 PF=0.115	790	MANUAL AFTER T=1 HR		
2SWP-P1B	SW PUMP B PUMP B	Y	600 HP	4,000	3	3.097 PF=0.247	500	1 PUMP AUTOSTART T=32.39 OR 46 SEC 4 @ T=55 SEC 1 PUMP MANUALLY STARTED	3.097 PF=0.247	500	1 PUMP AUTOSTART T=32.39 OR 46 SEC 4 @ T=55 SEC 1 PUMP MANUALLY STARTED	3.097 PF=0.247	500	1 PUMP AUTOSTART T=32.39 OR 46 SEC 4 @ T=55 SEC 1 PUMP MANUALLY STARTED	3.097 PF=0.247	500	1 PUMP AUTOSTART T=32.39 OR 46 SEC 4 @ T=55 SEC 1 PUMP MANUALLY STARTED		
2SWP-P1D	SW PUMP D	Y	600 HP	4,000	3	3.097 PF=0.247	500	1 PUMP AUTOSTART T=32.39 OR 46 SEC 4 @ T=55 SEC 1 PUMP MANUALLY STARTED	3.097 PF=0.247	500	1 PUMP AUTOSTART T=32.39 OR 46 SEC 4 @ T=55 SEC 1 PUMP MANUALLY STARTED	3.097 PF=0.247	500	1 PUMP AUTOSTART T=32.39 OR 46 SEC 4 @ T=55 SEC 1 PUMP MANUALLY STARTED	3.097 PF=0.247	500	1 PUMP AUTOSTART T=32.39 OR 46 SEC 4 @ T=55 SEC 1 PUMP MANUALLY STARTED		
2SWP-P1F	SW PUMP F	Y	600 HP	4,000	3	3.097 PF=0.247	500	1 PUMP AUTOSTART T=32.39 OR 46 SEC 4 @ T=55 SEC 1 PUMP MANUALLY STARTED	3.097 PF=0.247	500	1 PUMP AUTOSTART T=32.39 OR 46 SEC 4 @ T=55 SEC 1 PUMP MANUALLY STARTED	3.097 PF=0.247	500	1 PUMP AUTOSTART T=32.39 OR 46 SEC 4 @ T=55 SEC 1 PUMP MANUALLY STARTED	3.097 PF=0.247	500	1 PUMP AUTOSTART T=32.39 OR 46 SEC 4 @ T=55 SEC 1 PUMP MANUALLY STARTED		
2SFC-P1B	SFC WATER CIRCULATION PUMP B	Y	450 HP	4,000 (4,160)	3	2,279 PF=0.281	360	MANUAL AFTER T=2 HR	2,279 PF=0.281	360	MANUAL AFTER T=2 HR	2,279 PF=0.281	360	MANUAL AFTER T=2 HR	2,279 PF=0.281	360	MANUAL AFTER T=2 HR		
2EJS-US3																			
2EJS-X3A	LOAD CENTER TRANSFORMER	Y	1,500/ 2,025 KVA	4,160/ 600	3	18,000 (T≤0.1 SEC)	19	T=0	18,000 (T≤0.1 SEC)	19	T=0	18,000 (T≤0.1 SEC)	19	T=0	18,000 (T≤0.1 SEC)	19	T=0		
2EJS-X3B	LOAD CENTER TRANSFORMER	Y	1,500/ 2,025 KVA	4,160/ 600	3	18,000 (T≤0.1 SEC)	19	T=0	18,000 (T≤0.1 SEC)	19	T=0	18,000 (T≤0.1 SEC)	19	T=0	18,000 (T≤0.1 SEC)	19	T=0		
2HVR-UC413B	REACTOR BUILD- ING UNIT COOLER B	Y	150 HP	575	3	860	150	T=1.5 SEC	860	150	T=1.5 SEC	860	150	T=1.5 SEC	860	150	T=30 MIN MANUAL		
2HVK-CHL1B(1)	CONTROL BUILD- ING CHILLER 1B	Y	180 HP	575	3	722	180	T=30 SEC	722	180	T=30 SEC	722	180	T=30 SEC	722	180	T=30 SEC MANUAL		
2HCS-PNL22B	HYDROGEN RE- COMBINER POWER CABLE B	Y	120 KW	575	3	120	120	T=2.5 HR	120	120	T=2.5 HR	120	120	T=2.5 HR	120	120	T=2.5 HR		
TOTAL LOAD ON 2EJS-US3						36,000 (35,166)	-	T≤0.1 SEC	36,000 (35,166)	-	T≤0.1 SEC	36,000 (35,166)	-	T≤0.1 SEC	36,000 (35,166)	-	T≤0.1 SEC		
						-	38	0.1≤T<1.5 SEC	-	38	0.1≤T<1.5 SEC	-	38	0.1≤T<1.5 SEC	-	38	0.1≤T<1.5 SEC		
						-	38	1.5≤T<4 SEC	-	38	1.5≤T<4 SEC	-	38	1.5≤T<4 SEC	-	38	1.5≤T<4 SEC		
						-	188	4≤T<30 SEC	-	188	4≤T<30 SEC	-	188	4≤T<30 SEC	-	188	4≤T<30 SEC		
						-	188	30≤T<36 SEC	-	188	30≤T<36 SEC	-	188	30≤T<36 SEC	-	188	30≤T<36 SEC		
						-	368	36 SEC≤T<2.5 HR	-	368	36 SEC≤T<2.5 HR	-	368	36 SEC≤T<2.5 HR	-	368	36 SEC≤T<2.5 HR		
						-	488	T≥2.5 HR	-	488	T≥2.5 HR	-	488	T≥2.5 HR	-	488	T≥2.5 HR		

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TABLE 8.3-2 (CONT)

DESIGN BASIS ACCIDENT DIESEL GENERATOR LOADING POSSIBILITIES

POWER SOURCE/ EQUIPMENT IDENTITY NO.	DESCRIPTION	DIVI- SION	RATING	VOLTS	PHASE	SIMULTANEOUS LOOP 4 LOCA			LOOP WITH DELAYED LOCA			LOCA WITH DELAYED LOOP			NONACCIDENT LOADING		
						STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME	STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME	STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME	STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME
2EHS-NCC301																	
2HVV-UC28	SH PUMP PIT UNIT COOLER	Y	40 HP	575	3	240	40	T=60 SEC <u>MANUAL</u>	240	40	T=60 SEC <u>MANUAL</u>	240	40	T=60 SEC	240	40	MANUAL T=60 SEC
2HVV-UC20	SH PUMP PIT UNIT COOLER	Y	40 HP	575	3	240	40	T=60 SEC <u>MANUAL</u>	240	40	T=60 SEC <u>MANUAL</u>	240	40	T=60 SEC	240	40	MANUAL T=60 SEC
2SHP-NOV18	SH BACKWASH LINE	Y	0.13 HP	575	3	1.3	0.26	T=0	1.3	0.26	T=0	1.3	0.26	T=0	1.3	0.26	T=0
2SHP-NOV10	SH BACKWASH LINE	Y	0.13 HP	575	3	1.3	0.26	T=10 MIN MANUAL	1.3	0.26	T=10 MIN MANUAL	1.3	0.26	T=10 MIN MANUAL	1.3	0.26	T=10 MIN MANUAL
2SHP-NOV1F	SH STRAINER BACKWASH	Y	0.13 HP	575	3	1.3	0.26	T=10 MIN MANUAL	1.3	0.26	T=10 MIN MANUAL	1.3	0.26	T=10 MIN MANUAL	1.3	0.26	T=10 MIN MANUAL
2SHP-NOV38	SH TO TURBINE BUILDING	Y	<u>6.4</u> HP	575	3	<u>27-40</u>	<u>5.5-8</u>	T=0	<u>27-40</u>	<u>5.5-8</u>	T=0	<u>27-40</u>	<u>5.5-8</u>	T=0	<u>27-40</u>	<u>5.5-8</u>	T=0
2SHP-NOV30B	MOTOR-OPERATED GATE	Y	1 HP	575	3	10	2	T=0	10	2	T=0	10	2	T=0	10	2	T=0
2SHP-NOV50B	SH PUMPS DIS- CHARGE HEADER	Y	<u>9.7</u> HP	575	3	<u>41-99</u>	<u>8.2-19.8</u>	T=0	<u>41-99</u>	<u>8.2-19.8</u>	T=0 (LOCA)	<u>41-99</u>	<u>8.2-19.8</u>	T=0 (LOOP)	<u>41-99</u>	<u>8.2-19.8</u>	T=0 MANUAL
2SHP-NOV74B	SH PUMP DIS- CHARGE BLOCK VALVE	Y	2.6 HP	575	3	26	<u>5.5-5.2</u>	T=0	26	<u>5.5-5.2</u>	T=0	26	<u>5.5-5.2</u>	T=0	26	<u>5.5-5.2</u>	T=0
2SHP-NOV74D	SH PUMP DIS- CHARGE BLOCK VALVE	Y	2.6 HP	575	3	26	<u>5.5-5.2</u>	T=0	26	<u>5.5-5.2</u>	T=0	26	<u>5.5-5.2</u>	T=0	26	<u>5.5-5.2</u>	T=0
2SHP-NOV74F	SH PUMP DISCHARGE BLOCK VALVE	Y	2.6 HP	575	3	26	<u>5.5-5.2</u>	T>10 MIN MANUAL	26	<u>5.5-5.2</u>	T>10 MIN MANUAL	26	<u>5.5-5.2</u>	T>10 MIN MANUAL	26	<u>5.5-5.2</u>	T>10 MIN MANUAL
2SHP-NOV77B	MOTOR-OPERATED GATE	Y	<u>0.7</u> HP	575	3	<u>6.5-7.0</u>	<u>1.32-1.4</u>	T=0 MANUAL	<u>6.5-7.0</u>	<u>1.32-1.4</u>	T=0 MANUAL	<u>6.5-7.0</u>	<u>1.32-1.4</u>	T=0 MANUAL	<u>6.5-7.0</u>	<u>1.32-1.4</u>	T=0 MANUAL
2SHP-SSR18	BAR RACK HEATER	Y	2.8 KW	575	1	2.8	2.8	T=0	2.8	2.8	T=0	2.8	2.8	T=0	2.8	2.8	T=0
2SHP-SSR28	BAR RACK HEATER	Y	2.8 KW	575	1	2.8	2.8	T=0	2.8	2.8	T=0	2.8	2.8	T=0	2.8	2.8	T=0
2SHP-SSR38	BAR RACK HEATER	Y	2.8 KW	575	1	2.8	2.8	T=0	2.8	2.8	T=0	2.8	2.8	T=0	2.8	2.8	T=0
2SHP-SSR48	BAR RACK HEATER	Y	2.8 KW	575	1	2.8	2.8	T=0	2.8	2.8	T=0	2.8	2.8	T=0	2.8	2.8	T=0
2SHP-SSR58	BAR RACK HEATER	Y	2.8 KW	575	1	2.8	2.8	T=0	2.8	2.8	T=0	2.8	2.8	T=0	2.8	2.8	T=0
2SHP-SSR68	BAR RACK HEATER	Y	2.8 KW	575	1	2.8	2.8	T=0	2.8	2.8	T=0	2.8	2.8	T=0	2.8	2.8	T=0
2SHP-STR48	STRAINER SH	Y	3 HP	575	3	18	3	T=0	18	3	T=0	18	3	T=0	18	3	T=0
2SHP-STR4D	STRAINER SH	Y	3 HP	575	3	18	3	T>10 MIN MANUAL	18	3	T>10 MIN MANUAL	18	3	T>10 MIN MANUAL	18	3	T>10 MIN MANUAL
2SHP-STR4F	STRAINER SH	Y	3 HP	575	3	18	3	T>10 MIN MANUAL	18	3	T>10 MIN MANUAL	18	3	T>10 MIN MANUAL	18	3	T>10 MIN MANUAL

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TABLE 8.3-2 (CONT)

## DESIGN BASIS ACCIDENT DIESEL GENERATOR LOADING POSSIBILITIES

DESIGN BASIS DIESEL GENERATOR LOADING POSSIBILITIES															NONACCIDENT LOADING					
POWER SOURCE/ EQUIPMENT IDENTITY NO.		DESCRIPTION	DIVI- SION	RATING	VOLTS	PHASE	SIMULTANEOUS LOOP & LOCA			LOOP WITH DELAYED LOCA			LOCA WITH DELAYED LOOP			LOOP WITH UNIT TRIP				
							STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME	STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME	STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME	STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME		
TOTAL LOAD ON 2EHS-MCC301							244(217) 173(150)	-	0 ≤ T < 6 SEC	244(217) 173(150)	-	0 ≤ T < 6 SEC	244(217) 173(150)	-	0 ≤ T < 6 SEC	244(217) 173(150)	-	0 ≤ T < 6 SEC		
							62-49	6 ≤ T < 60 SEC	62-49	62-49	6 ≤ T < 60 SEC	62-49	62-49	6 ≤ T < 60 SEC	62-49	62-49	6 ≤ T < 60 SEC	59-49	6 ≤ T < 60 SEC	
							480(450) 62-49	60 ≤ T < 66 SEC	480(450) 62-49	480(450) 62-49	60 ≤ T < 66 SEC	480(450) 62-49	480(450) 62-49	60 ≤ T < 66 SEC	480(450) 62-49	480(450) 62-49	60 ≤ T < 66 SEC	480(450) 59-49	60 ≤ T < 66 SEC	
							142-129	66 SEC ≤ T < 10 MIN	142-129	142-129	66 SEC ≤ T < 10 MIN	142-129	142-129	66 SEC ≤ T < 10 MIN	142-129	142-129	66 SEC ≤ T < 10 MIN	139-125	66 SEC ≤ T < 10 MIN	
							110-129	10 MIN ≤ T < 10.1 MIN	110-129	110-129	10 MIN ≤ T < 10.1 MIN	110-129	110-129	10 MIN ≤ T < 10.1 MIN	110-129	110-129	10 MIN ≤ T < 10.1 MIN	139-125	10 MIN ≤ T < 10.1 MIN	
							116-131	10.1 MIN ≤ T	116-131	116-131	10.1 MIN ≤ T	116-131	116-131	10.1 MIN ≤ T	116-131	116-131	10.1 MIN ≤ T	139-125	10.1 MIN ≤ T	
2EHS-MCC302																				
2EJS-PNL302B	AB-S EMERGENCY 600-V PANEL	Y	400A	575	3	180	30	T=0	180	30	T=0	180	30	T=0	180	30	T=0	180	30	T=0
2EJS-PNL303B	AB-S EMERGENCY 600-V PANEL	Y	400A	575	3	150	25	T=0	150	25	T=0	150	25	T=0	150	25	T=0	150	25	T=0
2EJS-PNL304B	AB-S EMERGENCY 600-V PANEL	Y	400A	575	3	360	50	T=0	360	50	T=0	360	50	T=0	360	50	T=0	360	50	T=0
2GTS-FN1B	SGTS FILTER TRAIN B INLET DISCHARGE FAN	Y	40 HP	575	3	240	40	T=0	240	40	T=0	240	40	T=0	240	40	T=0	240	40	T=0
2GTS-MOV1B	HVR MIX PLENUM TO SGTS	Y	0.34 HP	575	3	3.4	0.68	T=0	3.4	0.68	T=0	3.4	0.68	T=0	3.4	0.68	T=0	3.4	0.68	T=0
2GTS-MOV2B	SGTS FILTER TRAIN B INLET	Y	1 HP	575	3	10-20	2-4	T=0	10-20	2-4	T=0	10-20	2-4	T=0	10-20	2-4	T=0	10-20	2-4	T=0
2GTS-MOV3B	SGTS FILTER TRAIN B DISCHARGE	Y	1 HP	575	3	10-20	2-4	T=0	10-20	2-4	T=0	10-20	2-4	T=0	10-20	2-4	T=0	10-20	2-4	T=0
2GTS-MOV2B	CRACKS ELEV L VALVE	Y	2 HP	575	3	20	4	T=0	20	4	T=0	20	4	T=0	20	4	T=0	20	4	T=0
2GTS-MOV4B	DECAY HEAT COOLER TO TRAIN B	Y	1 HP	575	3	10	1.7	T=0	10	1.7	T=0	10	1.7	T=0	10	1.7	T=0	10	1.7	T=0
2HCS-MOV1B	WETWELL HYDRO- GEN RECOMBINER ISOLATION VALVE	Y	0.33 HP	575	3	3.3	0.33 0.66	MANUAL AS REQUIRED	3.3	0.33 0.66	MANUAL AS REQUIRED	3.3	0.33 0.66	MANUAL AS REQUIRED	3.3	0.33 0.66	MANUAL AS REQUIRED	3.3	0.33 0.66	MANUAL AS REQUIRED
2HCS-MOV2B	WETWELL HYDRO- GEN RECOMBINER ISOLATION VALVE	Y	0.33 HP	575	3	3.3	0.33 0.66	MANUAL AS REQUIRED	3.3	0.33 0.66	MANUAL AS REQUIRED	3.3	0.33 0.66	MANUAL AS REQUIRED	3.3	0.33 0.66	MANUAL AS REQUIRED	3.3	0.33 0.66	MANUAL AS REQUIRED
2HCS-MOV3B	WETWELL HYDRO- GEN RECOMBINER ISOLATION VALVE	Y	0.33 HP	575	3	3.3	0.33 0.66	MANUAL AS REQUIRED	3.3	0.33 0.66	MANUAL AS REQUIRED	3.3	0.33 0.66	MANUAL AS REQUIRED	3.3	0.33 0.66	MANUAL AS REQUIRED	3.3	0.33 0.66	MANUAL AS REQUIRED
2HCS-MOV4B	DRYWELL HYDRO- GEN RECOMBINER ISOLATION VALVE	Y	0.33 HP	575	3	3.3	0.33 0.66	MANUAL AS REQUIRED	3.3	0.33 0.66	MANUAL AS REQUIRED	3.3	0.33 0.66	MANUAL AS REQUIRED	3.3	0.33 0.66	MANUAL AS REQUIRED	3.3	0.33 0.66	MANUAL AS REQUIRED
2HCS-MOV5B	DRYWELL HYDRO- GEN RECOMBINER ISOLATION VALVE	Y	0.33 HP	575	3	3.3	0.33 0.66	MANUAL AS REQUIRED	3.3	0.33 0.66	MANUAL AS REQUIRED	3.3	0.33 0.66	MANUAL AS REQUIRED	3.3	0.33 0.66	MANUAL AS REQUIRED	3.3	0.33 0.66	MANUAL AS REQUIRED
2HCS-MOV6B	DRYWELL HYDRO- GEN RECOMBINER ISOLATION VALVE	Y	0.33 HP	575	3	3.3	0.33 0.66	MANUAL AS REQUIRED	3.3	0.33 0.66	MANUAL AS REQUIRED	3.3	0.33 0.66	MANUAL AS REQUIRED	3.3	0.33 0.66	MANUAL AS REQUIRED	3.3	0.33 0.66	MANUAL AS REQUIRED
2SHP-MOV17B	SH TO RUCLEH	Y	1.6 HP	575	3	16	3	T > 10 MIN MANUAL	16	3	T > 10 MIN MANUAL	16	3	T > 10 MIN MANUAL	16	3	T > 10 MIN MANUAL	16	3	T > 10 MIN MANUAL
2SHP-MOV18B	RUCLEH TO SH	Y	1.6 HP	575	3	16	3	T > 10 MIN MANUAL	16	3	T > 10 MIN MANUAL	16	3	T > 10 MIN MANUAL	16	3	T > 10 MIN MANUAL	16	3	T > 10 MIN MANUAL
2SHP-MOV19B	SH TO RUCLEH HEAT EXCHANGER	Y	1 HP	575	3	10	2	T=0	10	2	T=0	10	2	T=0	10	2	T=0	10	2	T=0

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TABLE 8.3-2 (CONT)

DESIGN BASIS ACCIDENT DIESEL GENERATOR LOADING POSSIBILITIES

DESIGN BASIS ACCIDENT DIESEL GENERATOR LOADING POSSIBILITIES																				
						SIMULTANEOUS LOOP & LOCA			LOOP WITH DELAYED LOCA			LOCA WITH DELAYED LOOP			NONACCIDENT LOADING					
POWER SOURCE/ EQUIPMENT IDENTITY NO.		DESCRIPTION	DIVI- SION	RATING	VOLTS	PHASE	STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME	STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME	STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME	STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME		
2SHP-MOV218		RBCLCH TO SFC COOL POOL	Y	0.33 HP	575	3	3.3	0.45	T=10 MIN MANUAL	3.3	0.45	T=10 MIN MANUAL	3.3	4.5	T=10 MIN MANUAL	3.3	0.45	T=10 MIN MANUAL		
2SHP-MOV338		RHR HEAT EX- CHANGER B TO DISCHARGE TUNNEL	Y	0.53 0.86 HP	575	3	8.6-3.3	1.66 1.72	T=10 MIN MANUAL	8.6-3.3	1.66 1.72	T=10 MIN MANUAL (LOCA)	8.6-3.3	1.66 1.72	T=10 MIN MANUAL LOCA	-	-	NOT REQUIRED		
2CHS-PNL668 (21)		ANALYZER PUMP	Y	1 HP	575	3	6	1	T>1 HR MANUAL	6	1	T>1 HR MANUAL	6	1	T>1 HR MANUAL	6	1	T>1 HR MANUAL		
2SLS-MOV58		STANDBY LIQUID STOP CHECK VALVE	Y	0.7 1.5 HP	575	3	6.7-7.0	1.7-1.4	T>1 HR MANUAL	6.7-7.0	1.7-1.4	T>1 HR MANUAL	6.7-7.0	1.7-1.4	T>1 HR MANUAL	6.7-7.0	1.7-1.4	T>1 HR MANUAL		
2SHP-MOV388		SH TO RBCLCH	Y	0.7 1.5 HP	575	3	6-7.0	1.2-1.4	T=10 MIN MANUAL	6-7.0	1.2-1.4	T=10 MIN MANUAL	6-7.0	1.2-1.4	T=10 MIN MANUAL	6-7.0	1.2-1.4	T=10 MIN MANUAL		
2SHP-MOV398		RBCLCH TO SH	Y	0.7 1.5 HP	575	3	6-7.0	1.2-1.4	T=10 MIN MANUAL	6-7.0	1.2-1.4	T=10 MIN MANUAL	6-7.0	1.2-1.4	T=10 MIN MANUAL	6-7.0	1.2-1.4	T=10 MIN MANUAL		
2SHP-MOV908		RHR HEAT EX- CHANGER INLET	Y	0.86 HP	575	3	8.6	1.72	T=10 MIN MANUAL	8.6	1.72	T=10 MIN MANUAL (LOCA)	8.6	1.72	T=10 MIN MANUAL LOCA	-	-	NOT REQUIRED		
2OER-MOV119		CONTAINMENT ISOLATION VALVE	Y	0.64 HP	575	3	6.4	0.71	T=0	6.4	0.71	T=0	6.4	0.71	T=0	6.4	0.71	T=0		
2OER-MOV130		OER TANK VENT	Y	0.33 HP	575	3	3.2	0.36	T=0	3.2	0.36	T=0	3.2	0.36	T=0	3.2	0.36	T=0		
2OFR-MOV121		DRYWELL FLOOR DRAIN DISCHARGE ISOLATION VALVE	Y	11.3 1.5 HP	575	3	6.9-13.0	1.2-2.6	T=0	6.9-13.0	1.2-2.6	T=0	6.9-13.0	1.2-2.6	T=0	6.9-13.0	1.2-2.6	T=0		
2OFR-MOV140		DRYWELL FLOOR DRAIN VENT ISOLATION VALVE	Y	3.3 0.9 HP	575	3	1.2-2.3	0.66 1.36	T=0	1.2-2.3	0.66 1.36	T=0	1.2-2.3	0.66 1.36	T=0	1.2-2.3	0.66 1.36	T=0		
2ICS-MOV128		NOV STEAM SUPPLY LINE	Y	7.3 9 HP	575	3	8.0-78	15.6 23	T=3 SEC	8.0-78	15.6 23	T=3 SEC	8.0-78	15.6 23	T=3 SEC	-	-	NOT REQUIRED		
2ICS-MOV170		BYPASS OF NOV128	Y	0.13 0.9 HP	575	3	1.3 1.9	0.26 0.09	T=3 SEC	1.3 1.9	0.26 0.09	T=3 SEC	1.3 1.9	0.26 0.09	T=3 SEC	1.3 1.9	0.26 0.09	T=3 SEC		
2HSS-MOV111		MAIN STEAM TO CONDENSATE INBOARD ISOLATION	Y	1.6 HP	575	3	16	8.1	T=0	16	8.1	T=0	16	8.1	T=0	16	8.1	T=0		
2HSS-MOV118		VENT VALVE	Y	0.33 HP	575	3	3.2	0.36	T=0 MANUAL	3.2	0.36	T=0 MANUAL	3.2	0.36	T=0 MANUAL	3.2	0.36	T=0 MANUAL		
2SLS-MOV18		STANDBY LIQUID CONTROL	Y	0.33 1.1 HP	575	3	3.3 1.1	1-0.66	T=98 SEC	3.3 1.1	1-0.66	T=98 SEC (LOCA)	3.3 1.1	1-0.66	T=98 SEC (LOCA)	-	-	NOT REQUIRED		
2SLS-P18		STANDBY LIQUID PUMP B	Y	40 HP	575	3	240	40	T=98 SEC	240	40	T=98 SEC (LOCA)	240	40	T=98 SEC (LOCA)	-	-	NOT REQUIRED		
2HCS-MOV102		RHCU OUTBOARD ISOLATION STEAM VALVE	Y	5.2 HP	575	3	48	8.5	T=0	48	8.5	T=0	48	8.5	T=0	48	8.5	T=0		
TOTAL LOAD ON 2EHS-MCC302						(1129)(1113) (1079)(1068) 811(751)			174-179 198-199 240(225) 247(235)	0.5T<3 SEC 3.5T<6 SEC 6.5T<10 SEC 9.8T<104 SEC	(1129)(1113) (1079)(1068) 811(751)			174-179 198-199 240(225) 247(235)	0.5T<3 SEC 3.5T<6 SEC 6.5T<10 SEC 9.8T<104 SEC	(1129)(1113) (1079)(1068) 811(751)			174-179 198-199 240(225) 247(235)	0.5T<3 SEC 3.5T<6 SEC 6.5T<10 SEC 9.8T<104 SEC
						(1129)(1113) (1079)(1068) 811(751)			174-179 198-199 240(225) 247(235)	0.5T<3 SEC 3.5T<6 SEC 6.5T<10 SEC 9.8T<104 SEC	(1129)(1113) (1079)(1068) 811(751)			174-179 198-199 240(225) 247(235)	0.5T<3 SEC 3.5T<6 SEC 6.5T<10 SEC 9.8T<104 SEC	(1060)(993) (1012) 182-179 50-170 179-179 181-181			0.5T<6 SEC 6.5T<10 SEC 10.1 MIN ST<1 HR 1 HR ST<1 HR 1 HR, 6 SEC ST	

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TABLE 8.3-2 (CONT)

DESIGN BASIS ACCIDENT DIESEL GENERATOR LOADING POSSIBILITIES

POWER SOURCE/ EQUIPMENT IDENTITY NO.	DESCRIPTION	DIVI- SION	RATING	VOLTS	PHASE	SIMULTANEOUS LOOP & LOCA			LOOP WITH DELAYED LOCA			LOCA WITH DELAYED LOOP			NONACCIDENT LOADING		
						STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME	STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME	STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME	STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME
2EHS-MCC303																	
2CCP-MOV122	DRYWELL COOLER TO RBCLCH IN- BOARD ISOLATION	Y	1 HP	575	3	10	2.2	T=0	10	2.2	T=0	10	2.2	T=0	10	2.2	T=0
2CCP-MOV14B	RBCLCH TO SFC HEAT EXCHANGER B	Y	1.6 HP	575	3	16	3.5	T=0 MANUAL	16	3.5	T=0 MANUAL	16	3.5	T=0 MANUAL	16	3.5	T=0 MANUAL
2CCP-MOV18B	SFC HEAT EX- CHANGER B TO RBCLCH	Y	1.6 HP	575	3	16	3.5	T=0 MANUAL	16	3.5	T=0 MANUAL	16	3.5	T=0 MANUAL	16	3.5	T=0 MANUAL
2CCP-MOV16A	RCS PUMP A TO RBCLCH	Y	0.33 HP	575	3	3.3	0.54	T=0	3.3	0.54	T=0	3.3	0.54	T=0	3.3	0.54	T=0
2CCP-MOV16B	RCS PUMP B TO RBCLCH	Y	0.33 HP	575	3	3.3	0.54	T=0	3.3	0.54	T=0	3.3	0.54	T=0	3.3	0.54	T=0
2CCP-MOV22B	RCS PUMP B TO RBCLCH	Y	1 HP	575	3	10	1.8	T=0	10	1.8	T=0	10	1.8	T=0	10	1.8	T=0
2CCP-MOV273	RBCLCH TO DRY- WELL COOLER IN- BOARD ISOLATION	Y	1.0 HP	575	3	10	1.8	T=0	10	1.8	T=0	10	1.8	T=0	10	1.8	T=0
2CCP-MOV93B	RBCLCH TO 2RCS-P1B COOLERS	Y	0.7 (0.67) HP	575	3	7.0 (6.7)	1.4 (1.3)	T=0	7.0 (6.7)	1.4 (1.3)	T=0	7.0 (6.7)	1.4 (1.3)	T=0	7.0 (6.7)	1.4 (1.3)	T=0
2CCP-MOV94A	COOLING WATER TO PUMP 1A	Y	0.33 HP	575	3	3.3	0.66	T=0	3.3	0.66	T=0	3.3	0.66	T=0	3.3	0.66	T=0
2CCP-MOV94B	COOLING WATER TO PUMP 1B	Y	0.33 HP	575	3	3.3	0.66	T=0	3.3	0.66	T=0	3.3	0.66	T=0	3.3	0.66	T=0
2EGA-M1B	DC 2 AIR COMPRESSOR 1B	Y	15 HP	575	3	90	15	T=0	90	15	T=0	90	15	T=0	90	15	T=0
2EGA-M2B	DC 2 AIR COMPRESSOR 2B	Y	15 HP	575	3	90	15	T=0	90	15	T=0	90	15	T=0	90	15	T=0
2EGF-P1B	DC 2 FUEL OIL TRANSFER PUMP B	Y	1.5 (1) HP	575	3	6-9	1.5 (1)	T=0	6-9	1.5 (1)	T=0	6-9	1.5 (1)	T=0	6-9	1.5 (1)	T=0
2EGF-P1D	DC 2 FUEL OIL TRANSFER PUMP D	Y	1.5 (1) HP	575	3	6-9	1.5 (1)	T=0	6-9	1.5 (1)	T=0	6-9	1.5 (1)	T=0	6-9	1.5 (1)	T=0
2EGD-P1B	LUBE OIL CIR- CULATION PUMP	Y	15 HP	575	3	-	-	NOT REQUIRED	-	-	NOT REQUIRED	-	-	NOT REQUIRED	-	-	NOT REQUIRED
<del>2EGS-M3</del>	<del>GENERATOR SPACE HEATER</del>	<del>Y</del>	<del>5 KW</del>	<del>575</del>	<del>3</del>	<del>-</del>	<del>-</del>	<del>NOT REQUIRED</del>	<del>-</del>	<del>-</del>	<del>NOT REQUIRED</del>	<del>-</del>	<del>-</del>	<del>NOT REQUIRED</del>	<del>-</del>	<del>-</del>	<del>NOT REQUIRED</del>
2EGS-P1B	JACKET WATER CIRCULATION PUMP	Y	5 HP	575	3	-	-	NOT REQUIRED	-	-	NOT REQUIRED	-	-	NOT REQUIRED	-	-	NOT REQUIRED
2EGT-CH3	LUBE OIL HEATER	Y	12 KW	575	3	-	-	NOT REQUIRED	-	-	NOT REQUIRED	-	-	NOT REQUIRED	-	-	NOT REQUIRED
2EGT-CH5	JACKET WATER HEATER	Y	18 KW	575	3	-	-	NOT REQUIRED	-	-	NOT REQUIRED	-	-	NOT REQUIRED	-	-	NOT REQUIRED
2HVC-ACU1B	CONTROL ROOM A/C UNIT 1B	Y	40 HP	575	3	240	40	T=0	240	40	T=0	240	40	T=0	240	40	T=0
2HVC-ACU2B	RELAY ROOM A/C UNIT 2B	Y	40 HP	575	3	240	40	T=0	240	40	T=0	240	40	T=0	240	40	T=0

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DESIGN BASIS ACCIDENT DIESEL GENERATOR LOADING POSSIBILITIES

POWER SOURCE/ EQUIPMENT IDENTITY NO.	DESCRIPTION	DIVI- SION	RATING	VOLTS	PHASE	SIMULTANEOUS LOOP & LOCA			LOOP WITH DELAYED LOCA			LOCA WITH DELAYED LOOP			NONACCIDENT LOADING		
						STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME	STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME	STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME	STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME
2HVC-ACU38	REMOTE SHUT- DOWN ROOM A/C UNIT	Y	2 HP	575	3	12	2	T=0	12	2	T=0	12	2	T=0	12	2	T=0
2HVC-FN118	MAKEUP AIR SWITCHGEAR FLOOR	Y	7.5 HP	575	3	40	7.5	T=0	40	7.5	T=0	40	7.5	T=0	40	7.5	T=0
2HVC-FN28	CONTROL ROOM A/C BOOSTER FAN B	Y	10 HP	575	3	60	10	T=0	60	10	T=0	60	10	T=0	60	10	T=0
2HVC-FN48	BATTERY ROOM B EXCHANGE FAN	Y	3 HP	575	3	18	3	T=0	18	3	T=0	18	3	T=0	18	3	T=0
2HVC-MOV18	CONTROL ROOM A/C SPECIAL FILTER BYPASS	Y	0.25 HP	575	3	2.5	0.25	T=0	10	0.25	T=0	10	0.25	T=0	10	0.25	T=0
2HVK-P18	CONTROL BUILDING CHILLED WATER CIRCULATION PUMP B	Y	15 HP	575	3	90	15	T=0	90	15	T=0	90	15	T=0	90	15	T=0
2SHP-FV475 (MOV475)	SH 10 CHS PUMPS	Y	0.7 (2.7) HP	575	3	27-70	5.3-1.4	T>10 MIN MANUAL	27-70	5.3-1.4	T>10 MIN MANUAL	27-70	5.3-1.4	T>10 MIN MANUAL	27-70	5.3-1.4	T>10 MIN MANUAL
2SHP-MOV668	SH 10 STANDBY DG COOLERS E38	Y	1 HP	575	3	10	2	T=0	10	2	T=0	10	2	T=0	10	2	T=0
2SHP-MOV678	SH 10 CONTROL RELAY ROOM CHILLER	Y	6.4 (1) HP	575	3	10-64	2-12.8	T>10 MIN MANUAL	10-64	2-12.8	T>10 MIN MANUAL	10-64	2-12.8	T>10 MIN MANUAL	10-64	2-12.8	T>10 MIN MANUAL
2SHP-FV548 SWP B HEADCR PRESS	SH 10 DISCHARGE TUNNEL ISOLATION	Y	0.70HP (0.3) HP	575	3	7.0	1.4	T=0	7.0	1.4	T=0	7.0	1.4	T=0	7.0	1.4	T=0
2SHP-MOV938		Y		575	3	10-10	2-2	T=0	10-10	2-2	T=0	10-10	2-2	T=0	10-10	2-2	T=0
2SHP-MOV958	SH 10 STANDBY DG COOLERS	Y	1 HP	575	3	10	2	T>10 MIN MANUAL	10	2	T>10 MIN MANUAL	10	2	T>10 MIN MANUAL	10	2	T>10 MIN MANUAL
2SHP-P28	REACTOR BUILDING CHILL- ER SH PUMP B	Y	10 HP	575	3	60	10	T>10 MIN MANUAL	60	10	T>10 MIN MANUAL	60	10	T>10 MIN MANUAL	60	10	T>10 MIN MANUAL
2HVP-FN18	DG 2 EXHAUST FAN 18	Y	30 HP	575	3	180	30	T=0	180	30	T=0	180	30	T=0	180	30	T=0
2HVP-FN10	DG 2 EXHAUST FAN 10	Y	30 HP	575	3	180	30	T=0	180	30	T=0	180	30	T=0	180	30	T=0
2RHS-FV388	TEST LINE B TO SUPPRESSION POOL	Y	0.33 (0.3) HP	575	3	2.04-1.98	0.33 (0.3)	T=0	2.04-1.98	0.33 (0.3)	T=0	2.04-1.98	0.33 (0.3)	T=0	2.04-1.98	0.33 (0.3)	NOT REQUIRED
2RHS-FV38C	RHR PUMP C TO SUPPRESSION POOL	Y	0.34 HP	575	3	2.04	0.34	T=0	2.04	0.34	T=0	2.04	0.34	T=0	2.04	0.39	NOT REQUIRED
2RHS-MOV18	SUPPRESSION POOL TO RHR PUMP B	Y	1.6 HP	575	3	16	3.9	T=0	16	3.2	T=0	16	3.2	T=0	16	3.2	LONG TIME MANUAL

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DESIGN BASIS ACCIDENT DIESEL GENERATOR LOADING POSSIBILITIES

POWER SOURCE/ EQUIPMENT IDENTITY NO.	DESCRIPTION	DIVI- SION	RATING	VOLTS	PHASE	SIMULTANEOUS LOOP 4 LOCA			LOOP WITH DELAYED LOCA			LOCA WITH DELAYED LOOP			NONACCIDENT LOADING		
						STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME	STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME	STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME	STARTING KVA (KVAR)	RUNNING KVA	STARTING TIME
2RHS-MOV1C	SUPPRESSION POOL TO RHR PUMP C	Y	1.6 HP	575	3	16	3.9	T=0	16	3.2	T=0	16	3.2	T=0	16	3.2	NOT REQUIRED
2RHS-MOV112	SD COOLING SUPPLY INBOARD ISOLATION	Y	<sup>19.2</sup> 20 HP	575	3	<sup>192</sup> 200	<sup>25.1</sup> 21.7	T=0	<sup>192</sup> 200	<sup>35.4</sup> 21.7	T=0	<sup>192</sup> 200	<sup>38.4</sup> 21.7	T=0	<sup>192</sup> 200	<sup>36.4</sup> 21.7	LONG TIME MANUAL
2RHS-MOV115	SW INJECTION TO REACTOR	Y	1.6 HP	575	3	22	4.4	NOT REQUIRED	22	4.4	NOT REQUIRED	22	4.4	NOT REQUIRED	22	4.4	NOT REQUIRED
2RHS-MOV116	SW INJECTION TO REACTOR	Y	1.6 HP	575	3	25	5.0	NOT REQUIRED	25	5.0	NOT REQUIRED	25	5.0	NOT REQUIRED	25	5.0	NOT REQUIRED
2RHS-MOV128	HEAT EXCHANGER B TO REACTOR	Y	1 HP	575	3	10	2.6	T=10 MIN	10	2.6	T=10 MIN	10	2.6	T=10 MIN	10	2.6	T=0
2RHS-MOV149	HEAT EXCHANGER B TO LWS	Y	0.33 HP	575	3	3.3	0.53	T=0	3.3	0.53	T=0	3.3	0.53	T=0	3.3	0.53	MANUAL AS REQUIRED Long Time Manual
2RHS-MOV158	CONTAINMENT SPRAY B	Y	2.6 HP	575	3	40.5	8.1	T=10 MIN	40.5	8.1	T=10 MIN	40.5	8.1	T=10 MIN	40.5	8.1	NOT REQUIRED
2RHS-MOV28	REACTION TO RHR PUMP B	Y	0.86 HP	575	3	8.6	2.2	NOT REQUIRED	8.6	2.2	NOT REQUIRED	8.6	2.2	NOT REQUIRED	8.6	2.2	MANUAL AS REQUIRED Long Time Manual
2RHS-MOV228	STEAM CONDENSING TO EXCHANGER B	Y	1.6 HP	575	3	16	4.4	T=0	16	4.4	T=0	16	4.4	T=0	16	4.4	T=0
2RHS-MOV238	STEAM CONDENSING TO EXCHANGER B	Y	1.6 HP	575	3	16	4.4	T=0	16	4.4	T=0	16	4.4	T=0	16	4.4	MANUAL AS REQUIRED Long Time Manual
2RHS-MOV248	LPCI INLET B	Y	6.6 HP	575	3	66	12.4	T=0	66	12.4	T=0	66	12.4	T=0	66	12.4	NOT REQUIRED
2RHS-MOV24C	LPCI INLET C	Y	6.6 HP	575	3	66	12.4	T=0	66	12.4	T=0	66	12.4	T=0	66	12.4	NOT REQUIRED
2RHS-MOV258	CONTAINMENT SPRAY B	Y	2.6 HP	575	3	40.5	8.1	T=10 MIN	40.5	8.1	T=10 MIN	40.5	8.1	T=10 MIN	40.5	8.1	T=0
2RHS-MOV268	HEAT EXCHANGER B VENT TO SUPPRESSION POOL	Y	0.13 HP	575	3	1.3	0.13	MANUAL AS REQUIRED	1.3	0.13	MANUAL AS REQUIRED	1.3	0.13	MANUAL AS REQUIRED	1.3	0.13	T=0
2RHS-MOV278	HEAT EXCHANGER B VENT TO SUPPRESSION POOL	Y	0.13 HP	575	3	1.3	0.13	MANUAL AS REQUIRED	1.3	0.13	MANUAL AS REQUIRED	1.3	0.13	MANUAL AS REQUIRED	1.3	0.13	T=0
2RHS-MOV308	RHRB RTN TO SUPPRESSION POOL	Y	<sup>1.6</sup> 0.3 HP	<sup>575</sup> (2) 575	(2) 3	<sup>16</sup> 6.3	<sup>3.2</sup> 1.3	MANUAL AS REQUIRED	<sup>16</sup> 6.3	<sup>3.2</sup> 1.3	MANUAL AS REQUIRED	<sup>16</sup> 6.3	<sup>3.2</sup> 1.3	MANUAL AS REQUIRED	<sup>16</sup> 6.3	<sup>3.2</sup> 1.3	NOT REQUIRED
2RHS-MOV308B	GLOBE VALVE	Y	0.13 HP	575	3	1.3	0.26	T=0	1.3	0.26	T=0	1.3	0.26	T=0	1.3	0.26	T=0
2RHS-MOV328	HEAT EXCHANG- ER B TO RCIC	Y	<sup>0.7</sup> 0.7 HP	575	3	<sup>7</sup> 6-7	1.4	T=0	<sup>7</sup> 6-7	1.4	T=0	<sup>7</sup> 6-7	1.4	T=0	<sup>7</sup> 6-7	1.4	T=30 SEC
2RHS-MOV338	SUPPRESSION POOL SPRAY HEADER B	Y	0.33 HP	575	3	3.3	0.92	T=0	3.3	0.92	T=0	3.3	0.92	T=0	3.3	0.92	NOT REQUIRED
2RHS-MOV378	RHR LINE B TO SUPPRESSION POOL	Y	0.33 HP	575	3	3.3	0.5	T=0	3.3	0.5	T=0	3.3	0.5	T=0	3.3	0.5	T=0
2RHS-MOV48	RHR MINIMUM FLOW TO SUP- PRESSION POOL	Y	1.9 HP	575	3	19	3.8	T=9 SEC	19	3.8	T=9 SEC	19	3.8	T=9 SEC	19	3.8	LONG TERM
2RHS-MOV4C	RHR MINIMUM FLOW TO SUP- PRESSION POOL	Y	1.9 HP	575	3	19	3.8	T=14 SEC	19	3.8	T=14 SEC	19	3.8	T=14 SEC	19	3.8	NOT REQUIRED

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NINE MILE POINT UNIT 2 FSAR

TABLE B.3-2 (CONT)

DESIGN BASIS ACCIDENT DIESEL GENERATOR LOADING POSSIBILITIES

| POWER SOURCE/<br>EQUIPMENT<br>IDENTITY NO. | DESCRIPTION                                   | DIVI-<br>SION | RATING  | VOLTS | PHASE | SIMULTANEOUS LOOP 4 LOCA  |                |  | LOOP WITH DELAYED LOCA    |                |  | LOCA WITH DELAYED LOOP    |                |  | NONACCIDENT LOADING       |                               |  |
|--|---|---------------|---------|-------|-------|---------------------------|----------------|--|---------------------------|----------------|--|---------------------------|----------------|--|---------------------------|-------------------------------|--|
|  |   |               |         |       |       | STARTING<br>KVA<br>(KVAR) | RUNNING<br>KVA | STARTING<br>TIME   | STARTING<br>KVA<br>(KVAR) | RUNNING<br>KVA | STARTING<br>TIME   | STARTING<br>KVA<br>(KVAR) | RUNNING<br>KVA | STARTING<br>TIME   | STARTING<br>KVA<br>(KVAR) | RUNNING<br>KVA                | STARTING<br>TIME                                 |
| 2RHS-MOV40B                                | SHUTDOWN COOL-<br>ING RETURN B                | Y             | 10.6 HP | 575   | 3     | 106                       | 15.9           | T=0  | 106                       | 15.9           | T=0  | 106                       | 15.9           | T=0  | 106                       | 15.9                          | LONG TERM  |
| 2RHS-MOV57B                                | RHR SHUTDOWN<br>BYPASS                        | Y             | 0.33 HP | 575   | 3     | 3.3                       | 0.33           | NOT REQUIRED   | 3.3                       | 0.33           | NOT REQUIRED   | 3.3                       | 0.33           | NOT REQUIRED   | 3.3                       | 0.33                          | LONG TERM  |
| 2RHS-MOV88B                                | HEAT EXCHANG-<br>ER B BYPASS                  | Y             | 1.6 HP  | 575   | 3     | 16                        | 1.6            | T=0  | 16                        | 1.6            | T=0  | 16                        | 1.6            | T=0  | 16                        | 1.6                           | LONG TERM  |
| 2RHS-MOV98B                                | RHR PUMP B TO<br>HEAT EXCHANGER B             | Y             | 1.6 HP  | 575   | 3     | 16                        | 1.6            | T=0  | 16                        | 1.6            | T=0  | 16                        | 1.6            | T=0  | 16                        | 1.6                           | LONG TERM  |
| 2RHS-P2                                    | RHR SYSTEM<br>PRESSURE PUMP                   | Y             | 10 HP   | 575   | 3     | 60                        | 10             | T=0  | 60                        | 10             | T=0  | 60                        | 10             | T=0  | 60                        | 10                            | T=0  |
| 2HVK-CHL1B                                 | AUXILIARY OIL<br>PUMP                         | Y             | 0.75 HP | 575   | 3     | 4.5                       | 0.75           | T=0  | 4.5                       | 0.75           | T=0  | 4.5                       | 0.75           | T=0  | 4.5                       | 0.75                          | T=0  |
| TOTAL LOAD ON<br>2EHS-MCC303               |   |               |         |       |       | 1926(1842)<br>2055(1990)  | 345            | 0 ≤ T < 4 SEC<br>4 ≤ T < 9 SEC<br>9 ≤ T < 14 SEC<br>14 ≤ T < 20 SEC<br>20 ≤ T < 10.1 MIN<br>10.1 MIN ≤ T | 1926(1842)<br>2055(1990)  | 345            | 0 ≤ T < 4 SEC<br>4 ≤ T < 9 SEC<br>9 ≤ T < 14 SEC<br>14 ≤ T < 20 SEC<br>20 ≤ T < 10.1 MIN<br>10.1 MIN ≤ T | 1926(1842)<br>2055(1990)  | 345            | 0 ≤ T < 4 SEC<br>4 ≤ T < 9 SEC<br>9 ≤ T < 14 SEC<br>14 ≤ T < 20 SEC<br>20 ≤ T < 10.1 MIN<br>10.1 MIN ≤ T | 1513(1417)<br>1594(1491)  | 252-259<br>263-269<br>273-289 | 0 ≤ T < 6 SEC<br>6 ≤ T < 120 SEC<br>10.1 MIN ≤ T |
| 2EJS-PNL300B                               |   |               |         |       |       | 259 120 ≤ T < 10 MIN.     |                |  | 259 120 ≤ T < 10 MIN.     |                |  | 259 120 ≤ T < 10 MIN.     |                |  | 259 120 ≤ T < 10 MIN.     |                               |  |
| 2BYS-CHGR2B2                               | 125-V BATTERY<br>CHARGER                      | Y             | 300 A   | 575   | 3     | 70                        | 70             | T=0  | 70                        | 70             | T=0  | 70                        | 70             | T=0  | 70                        | 70                            | T=0  |
| 2EJA-XD300B                                | DISTRIBUTION<br>TRANSFORMER<br>600V-208Y/120V | Y             | 30 KVA  | 575   | 3     | 360<br>(0.1 SEC)          | 5              | T=0  | 360<br>(0.1 SEC)          | 5              | T=0  | 360<br>(0.1 SEC)          | 5              | T=0  | 360<br>(0.1 SEC)          | 5                             | T=0  |
| 2EJA-XD301B                                | DISTRIBUTION<br>TRANSFORMER<br>600V-120/240   | Y             | 25 KVA  | 575   | 1     | 300<br>(0.1 SEC)          | 5              | T=0  | 300<br>(0.1 SEC)          | 5              | T=0  | 300<br>(0.1 SEC)          | 5              | T=0  | 300<br>(0.1 SEC)          | 5                             | T=0  |
| 2EJS-PNL301B                               | SWITCHGEAR<br>ROOM B EMERGENCY<br>600-V PANEL | Y             | 400A    | 575   | 3     | 420                       | 70             | T=0  | 420                       | 70             | T=0  | 420                       | 70             | T=0  | 420                       | 70                            | T=0  |
| 2HVC-PNLCH1B                               | CONTROL BLDG<br>RELAY ROOM<br>306 HEATER      | Y             | 60 KW   | 575   | 3     | 60                        | 60             | T=0  | 60                        | 60             | T=0  | 60                        | 60             | T=0  | 60                        | 60                            | T=0  |
| 2HVC-PNLCH12B                              | CONTROL BLDG<br>RELAY ROOM<br>288 HEATER      | Y             | 40 KW   | 575   | 3     | 40                        | 40             | T=0  | 40                        | 40             | T=0  | 40                        | 40             | T=0  | 40                        | 40                            | T=0  |
| 2SCV-XD301B                                | DISTRIBUTION<br>TRANSFORMER<br>600V-120/240V  | Y             | 25 KVA  | 575   | 1     | 300<br>(0.1 SEC)          | 5              | T=0  | 300<br>(0.1 SEC)          | 5              | T=0  | 300<br>(0.1 SEC)          | 5              | T=0  | 300<br>(0.1 SEC)          | 5                             | T=0  |
| 2VBA-UPS2B<br>(AC1)                        | DIV 11A CON-<br>TROL UPS                      | Y             | 25 KVA  | 575   | 3     | 300<br>(0.1 SEC)          | 45             | T=0  | 300<br>(0.1 SEC)          | 45             | T=0  | 300<br>(0.1 SEC)          | 45             | T=0  | 300<br>(0.1 SEC)          | 45                            | T=0  |
| TOTAL LOAD ON<br>2EJS-PNL300B              |   |               |         |       |       | 1850(1653)<br>590(393)    | 60<br>300      | 0 ≤ T ≤ 0.1 SEC<br>0.1 ≤ T ≤ 6 SEC<br>T > 6 SEC  | 1850(1653)<br>590(393)    | 60<br>300      | 0 ≤ T ≤ 0.1 SEC<br>0.1 ≤ T ≤ 6 SEC<br>T > 6 SEC  | 1850(1653)<br>590(393)    | 60<br>300      | 0 ≤ T ≤ 0.1 SEC<br>0.1 ≤ T ≤ 6 SEC<br>T > 6 SEC  | 1850(1653)<br>590(393)    | 60<br>300                     | 0 ≤ T ≤ 0.1 SEC<br>0.1 ≤ T ≤ 6 SEC<br>T > 6 SEC  |

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TABLE 8.3-2 (CONT)

DESIGN BASIS ACCIDENT DIESEL GENERATOR LOADING POSSIBILITIES

| POWER SOURCE/<br>EQUIPMENT<br>IDENTITY NO. | DESCRIPTION                                  | DIVI-<br>SION | RATING | VOLTS | PHASE | SIMULTANEOUS LOOP 4 LOCA  |                |                        | LOOP WITH DELAYED LOCA    |                |                        | LOCA WITH DELAYED LOOP    |                |                        | NONACCIDENT LOADING<br>LOOP WITH UNIT TRIP |                |                        |
|--|--|---------------|--------|-------|-------|---------------------------|----------------|------------------------|---------------------------|----------------|------------------------|---------------------------|----------------|------------------------|--|----------------|------------------------|
|  |  |               |        |       |       | STARTING<br>KVA<br>(KVAR) | RUNNING<br>KVA | STARTING<br>TIME       | STARTING<br>KVA<br>(KVAR) | RUNNING<br>KVA | STARTING<br>TIME       | STARTING<br>KVA<br>(KVAR) | RUNNING<br>KVA | STARTING<br>TIME       | STARTING<br>KVA<br>(KVAR)                  | RUNNING<br>KVA | STARTING<br>TIME       |
| 2LAC-PNL300B                               |  |               |        |       |       |                           |                |                        |                           |                |                        |                           |                |                        |  |                |                        |
| 2BYS-CHGR28:                               | 125-V BATTERY<br>CHARGER STAND-<br>BY DIV 11 | Y             | 300 A  | 575   | 3     | 70                        | 70             | T=0                    | 70                        | 70             | T=0                    | 70                        | 70             | T=0                    | 70   | 70             | T=0                    |
| 2LAC-XLE02                                 | LIGHTING<br>TRANSFORMER<br>600-208Y/120V     | Y             | 30 KVA | 575   | 3     | 360<br>(0.1 SEC)          | 5              | T=0                    | 360<br>(0.1 SEC)          | 5              | T=0                    | 360<br>(0.1 SEC)          | 5              | T=0                    | 360<br>(0.1 SEC)                           | 30             | T=0                    |
| 2LAC-XLE05                                 | LIGHTING<br>TRANSFORMER<br>600-208Y/120V     | Y             | 30 KVA | 575   | 3     | 360<br>(0.1 SEC)          | 15             | T=0                    | 360<br>(0.1 SEC)          | 15             | T=0                    | 360<br>(0.1 SEC)          | 15             | T=0                    | 360<br>(0.1 SEC)                           | 30             | T=0                    |
| 2LAC-XLE07                                 | LIGHTING<br>TRANSFORMER<br>600-208Y/120V     | Y             | 30 KVA | 575   | 3     | 360<br>(0.1 SEC)          | 20             | T=0                    | 360<br>(0.1 SEC)          | 20             | T=0                    | 360<br>(0.1 SEC)          | 20             | T=0                    | 360<br>(0.1 SEC)                           | 30             | T=0                    |
| 2SCN-XD301B                                | DISTRIBUTION<br>TRANSFORMER<br>600-120/240V  | Y             | 25 KVA | 575   | 1     | 300<br>(0.1 SEC)          | 5              | T=0                    | 300<br>(0.1 SEC)          | 5              | T=0                    | 300<br>(0.1 SEC)          | 5              | T=0                    | 300<br>(0.1 SEC)                           | 25             | T=0                    |
| 2SCN-XD302B                                | DISTRIBUTION<br>TRANSFORMER<br>600-120/240V  | Y             | 25 KVA | 575   | 1     | 300<br>(0.1 SEC)          | 5              | T=0                    | 300<br>(0.1 SEC)          | 5              | T=0                    | 300<br>(0.1 SEC)          | 5              | T=0                    | 300<br>(0.1 SEC)                           | 25             | T=0                    |
| 2SCN-XD303B                                | DISTRIBUTION<br>TRANSFORMER<br>600-120/240V  | Y             | 25 KVA | 575   | 1     | 300<br>(0.1 SEC)          | 5              | T=0                    | 300<br>(0.1 SEC)          | 5              | T=0                    | 300<br>(0.1 SEC)          | 5              | T=0                    | 300<br>(0.1 SEC)                           | 25             | T=0                    |
| 2VBA-UPS2B<br>(AC2)                        | DIV 11A<br>CONTROL UPS                       | Y             | 25 KVA | 575   | 1     | ⊖-*                       | ⊖-*            | T=0                    | ⊖-*                       | ⊖-*            | T=0                    | ⊖-*                       | ⊖-*            | T=0                    | ⊖-*  | ⊖-*            | T=0                    |
| 2SCN-XD305B                                | DISTRIBUTION<br>TRANSFORMER<br>600-120/240V  | Y             | 25 KVA | 575   | 1     | 300<br>(0.1 SEC)          | 5              | T=0                    | 300<br>(0.1 SEC)          | 5              | T=0                    | 300<br>(0.1 SEC)          | 5              | T=0                    | 300<br>(0.1 SEC)                           | 5              | T=0                    |
| 2SCN-XD304B                                | DISTRIBUTION<br>TRANSFORMER<br>600-120/240V  | Y             | 25 KVA | 575   | 1     | 300<br>(0.1 SEC)          | 5              | T=0                    | 300<br>(0.1 SEC)          | 5              | T=0                    | 300<br>(0.1 SEC)          | 5              | T=0                    | 300<br>(0.1 SEC)                           | 5              | T=0                    |
| TOTAL LOAD ON<br>2LAC-PNL300B              |  |               |        |       |       | 2650(2558)                | -<br>135       | T≤0.1 SEC<br>T>0.1 SEC | 2650(2558)                | -<br>135       | T≤0.1 SEC<br>T>0.1 SEC | 2650(2558)                | -<br>135       | T≤0.1 SEC<br>T>0.1 SEC | 2650(2558)                                 | -<br>135       | T≤0.1 SEC<br>T>0.1 SEC |
| 2NNS-SHG015                                |  |               |        |       |       |                           |                |                        |                           |                |                        |                           |                |                        |  |                |                        |
| 2ROS-P1B                                   | CRD PUMP B                                   | N             | 300 HP | 4,000 | 3     |                           | (1)            |                        |                           | (1)            |                        |                           | (1)            |                        | 1,800                                      | 300            | AS REQUIRED            |
| 2CCP-P1B                                   | RBCLCH PUMP 1B                               | N             | 150 HP | 4,000 | 3     |                           | (1)            |                        |                           | (1)            |                        |                           | (1)            |                        | 900  | 150            | AS REQUIRED            |
| 2CCP-P3B                                   | RBCLCH PUMP 3B                               | N             | 150 HP | 4,000 | 3     |                           | (1)            |                        |                           | (1)            |                        |                           | (1)            |                        | 900  | 150            | AS REQUIRED            |
| 2HJS-US6                                   |  |               |        |       |       |                           |                |                        |                           |                |                        |                           |                |                        |  |                |                        |
| 2IAS-C1B                                   | INSTRUMENT AIR<br>COMPRESSOR B               | N             | 150 HP | 575   | 3     |                           | (1)            |                        |                           | (1)            |                        |                           | (1)            |                        | 900  | 150            | MANUAL                 |
| 2BYS-CHGR1B1                               | 125-V BATTERY<br>CHARGER                     | N             | 500 A  | 575   | 3     |                           | (1)            |                        |                           | (1)            |                        |                           | (1)            |                        | 115  | 115            |                        |
| 2BYS-CHGR1C1                               | 125-V BATTERY<br>CHARGER                     | N             | 500 A  | 575   | 3     |                           | (1)            |                        |                           | (1)            |                        |                           | (1)            |                        | 115  | 115            |                        |

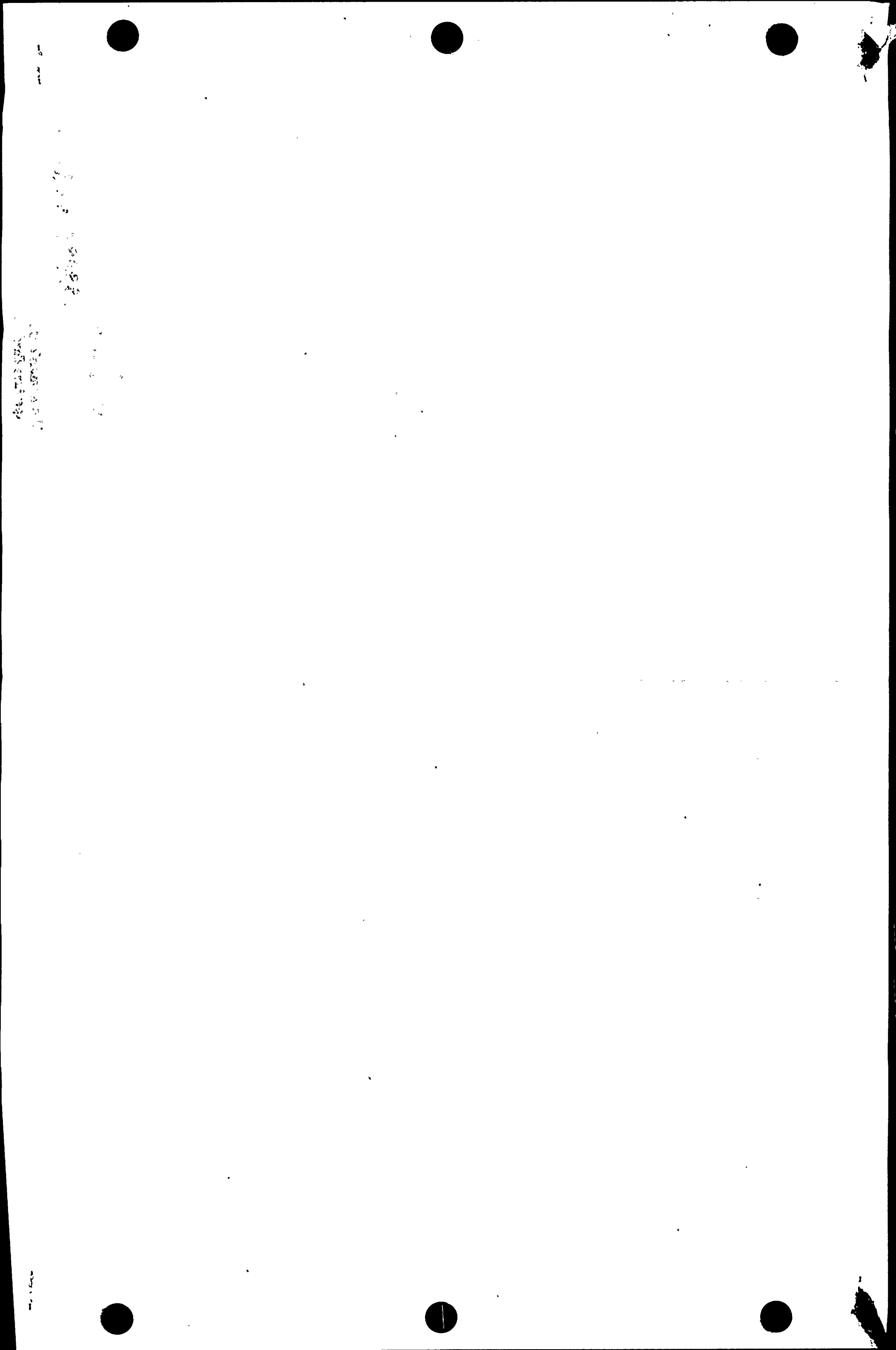
\* LOAD INCLUDED IN 2EJS-PNL300A

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TABLE 8.3-2 (CONT)

DESIGN BASIS ACCIDENT DIESFL GENERATOR LOADING POSSIBILITIES

| POWER SOURCE/<br>EQUIPMENT<br>IDENTITY NO. | DESCRIPTION                                     | DIVI-<br>SION | RATING  | VOLTS | PHASE | SIMULTANEOUS LOOP 4 LOCA  |                |                  | LOOP WITH DELAYED LOCA    |                |                  | LOCA WITH DELAYED LOOP    |                |                  | NONACCIDENT LOADING       |                |                  |
|--|---|---------------|---------|-------|-------|---------------------------|----------------|------------------|---------------------------|----------------|------------------|---------------------------|----------------|------------------|---------------------------|----------------|------------------|
|  |   |               |         |       |       | STARTING<br>KVA<br>(KVAR) | RUNNING<br>KVA | STARTING<br>TIME | STARTING<br>KVA<br>(KVAR) | RUNNING<br>KVA | STARTING<br>TIME | STARTING<br>KVA<br>(KVAR) | RUNNING<br>KVA | STARTING<br>TIME | STARTING<br>KVA<br>(KVAR) | RUNNING<br>KVA | STARTING<br>TIME |
| 2NJS-PNL600                                | DISTRIBUTION<br>PANEL 600 V                     | H             |         | 575   | 3     |                           | (1)            |                  |                           | (1)            |                  |                           | (1)            |                  | NON-<br>COINCIDENT        | 110            |                  |
| 2VGB-M1                                    | TURBINE<br>TURNING GEAR                         | N             | 60 HP   | 575   | 3     |                           | (1)            |                  |                           | (1)            |                  |                           | (1)            |                  | 360                       | 60             | T=10 SEC         |
| 2VBB-XD600                                 | ISOLATION<br>TRANSFORMER UPS                    | N             | 112 KVA | 575   | 3     |                           | (1)            |                  |                           | (1)            |                  |                           | (1)            |                  | 1.344<br>T≤0.1 SEC        | 112            |                  |
| 2VBB-XD601                                 | ISOLATION<br>TRANSFORMER UPS                    | N             | 112 KVA | 575   | 3     |                           | (1)            |                  |                           | (1)            |                  |                           | (1)            |                  | 1.344<br>T≤0.1 SEC        | 112            |                  |
| 2VBB-XD602                                 | ISOLATION<br>TRANSFORMER UPS                    | N             | 112 KVA | 575   | 3     |                           | (1)            |                  |                           | (1)            |                  |                           | (1)            |                  | 900                       | 150            | MANUAL           |
| 2WCS-P1B                                   | RNCU PUMP B                                     | N             | 150 HP  | 575   | 3     |                           | (1)            |                  |                           | (1)            |                  |                           | (1)            |                  | 900                       | 150            | MANUAL           |
| 2DER-P3B                                   | DRYWELL EQUIP-<br>MENT DRAIN<br>PUMP B          | N             | 10 HP   | 575   | 3     |                           | (1)            |                  |                           | (1)            |                  |                           | (1)            |                  | 60                        | 10             | T=0 MANUAL       |
| 2DER-P5B                                   | REACTOR BUILD-<br>ING EQUIPMENT<br>DRAIN PUMP B | N             | 10 HP   | 575   | 3     |                           | (1)            |                  |                           | (1)            |                  |                           | (1)            |                  | 60                        | 10             | T=0 MANUAL       |
| 2DER-P5D                                   | REACTOR BUILD-<br>ING EQUIPMENT<br>DRAIN PUMP D | N             | 10 HP   | 575   | 3     |                           | (1)            |                  |                           | (1)            |                  |                           | (1)            |                  | 60                        | 10             | T=0 MANUAL       |
| 2FPF-P1B                                   | A/C FOAM CON-<br>CENTRATION PUMP                | N             | 25 HP   | 575   | 3     |                           | (1)            |                  |                           | (1)            |                  |                           | (1)            |                  | 150                       | 25             | T=0 MANUAL       |
| 2FPF-P2B                                   | A/C FOAM HOSE<br>STATION PUMP                   | N             | 3 HP    | 575   | 3     |                           | (1)            |                  |                           | (1)            |                  |                           | (1)            |                  | 18                        | 3              | T=0 MANUAL       |
| 2RPM-MG1B                                  | REACTOR PRO-<br>TECTION MG<br>SET B             | N             | 25 HP   | 575   | 3     |                           | (1)            |                  |                           | (1)            |                  |                           | (1)            |                  | 150                       | 25             | T=0 MANUAL       |
| 2TML-P4                                    | TURNING GEAR<br>OIL PUMP                        | N             | 50 HP   | 575   | 3     |                           | (1)            |                  |                           | (1)            |                  |                           | (1)            |                  | 500                       | 50             | T=0 MANUAL       |
| 2WCS-MIX100B                               | RNCU PRECOAT<br>AGITATOR B                      | N             | 1 HP    | 575   | 3     |                           | (1)            |                  |                           | (1)            |                  |                           | (1)            |                  | 6                         | 1              | T=0 MANUAL       |
| 2WCS-MIX101B                               | RNCU RESIN<br>FEED AGITATOR B                   | N             | 1 HP    | 575   | 3     |                           | (1)            |                  |                           | (1)            |                  |                           | (1)            |                  | 6                         | 1              | T=0 MANUAL       |
| 2WCS-P12B                                  | RNCU PRECOAT<br>PUMP B                          | N             | 10 HP   | 575   | 3     |                           | (1)            |                  |                           | (1)            |                  |                           | (1)            |                  | 85                        | 8.5            | T=0 MANUAL       |
| 2WCS-P6B                                   | RNCU FILTER<br>DEMINERALIZER<br>HOLDUP PUMP B   | N             | 3 HP    | 575   | 3     |                           | (1)            |                  |                           | (1)            |                  |                           | (1)            |                  | 37                        | 3.7            | T=0 MANUAL       |
| 2WCS-P6D                                   | RNCU FILTER<br>DEMINERALIZER<br>HOLDUP PUMP D   | N             | 3 HP    | 575   | 3     |                           | (1)            |                  |                           | (1)            |                  |                           | (1)            |                  | 37                        | 3.7            | T=0 MANUAL       |
| 2CCP-NOV1B                                 | RNCU TO<br>DRYWELL COOLER<br>OUTBOARD ISOLATION | N             | 0.13 HP | 575   | 3     |                           | (1)            |                  |                           | (1)            |                  |                           | (1)            |                  | 1.3                       | 0.39           | T=0 MANUAL       |
| 2CCP-NOV1D                                 | RNCU TO<br>DRYWELL COOLER<br>OUTBOARD ISOLATION | N             | 0.13 HP | 575   | 3     |                           | (1)            |                  |                           | (1)            |                  |                           | (1)            |                  | 1.3                       | 0.39           | T=0 MANUAL       |

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NINE MILE POINT UNIT 2 FSAR

TABLE 0.3-2 (CONT)

DESIGN BASIS ACCIDENT DIESEL GENERATOR LOADING POSSIBILITIES

| POWER SOURCE/<br>EQUIPMENT<br>IDENTITY NO. | DESCRIPTION  | DIVI-<br>SION | RATING            | VOLTS          | PHASE        | SIMULTANEOUS LOOP & LOCA  |                |                  | LOOP WITH DELAYED LOCA    |                |                  | LOCA WITH DELAYED LOOP    |                |                  | NONACCIDENT LOADING       |                |                       |
|--|--|---------------|-------------------|----------------|--------------|---------------------------|----------------|------------------|---------------------------|----------------|------------------|---------------------------|----------------|------------------|---------------------------|----------------|-----------------------|
|  |  |               |                   |                |              | STARTING<br>KVA<br>(KVAR) | RUNNING<br>KVA | STARTING<br>TIME | STARTING<br>KVA<br>(KVAR) | RUNNING<br>KVA | STARTING<br>TIME | STARTING<br>KVA<br>(KVAR) | RUNNING<br>KVA | STARTING<br>TIME | STARTING<br>KVA<br>(KVAR) | RUNNING<br>KVA | STARTING<br>TIME      |
| 2CCP-MOV28                                 | RDCI CH TO<br>DRYWELL COOLER<br>OUTBOARD ISOLATION | N             | 0.13 HP           | 575            | 3            |                           | (1)            |                  | (1)                       |                |                  |                           | (1)            |                  | 1.3                       | 0.39           | T=0 MANUAL            |
| 2CCP-MOV20                                 | RDCI CH TO<br>DRYWELL COOLER<br>OUTBOARD ISOLATION | N             | 0.13 HP           | 575            | 3            |                           | (1)            |                  | (1)                       |                |                  |                           | (1)            |                  | 1.3                       | 0.39           | T=0 MANUAL            |
| 2CCP-MOV38                                 | RDCI CH TO<br>DRYWELL COOLER<br>OUTBOARD ISOLATION | N             | 0.13 HP           | 575            | 3            |                           | (1)            |                  | (1)                       |                |                  |                           | (1)            |                  | 1.3                       | 0.39           | T=0 MANUAL            |
| 2DER-MOV128                                | RPV DRAIN  | N             | 0.22<br>0.53 HP   | 575            | 3            |                           | (1)            |                  | (1)                       |                |                  |                           | (1)            |                  | 3.2-3.3                   | 0.52-0.66      | T=0 MANUAL            |
| 2DER-MOV129                                | RPV DRAIN  | N             | 0.53<br>0.59 HP   | 575            | 3            |                           | (1)            |                  | (1)                       |                |                  |                           | (1)            |                  | 3.2-3.3                   | 0.52-0.66      | T=0 MANUAL            |
| 2ORS-UC18                                  | DRYWELL<br>COOLER 18                               | N             | 20 HP             | 575            | 3            |                           | (1)            |                  | (1)                       |                |                  |                           | (1)            |                  | 120                       | 20             | T=0. MANUAL           |
| 2ORS-UC10                                  | DRYWELL<br>COOLER 10                               | N             | 20 HP             | 575            | 3            |                           | (1)            |                  | (1)                       |                |                  |                           | (1)            |                  | 120                       | 20             | T=10 MIN MANUAL       |
| 2ORS-UC28                                  | DRYWELL<br>COOLER 28                               | N             | 10 HP             | 575            | 3            |                           | (1)            |                  | (1)                       |                |                  |                           | (1)            |                  | 60                        | 10             | T=10 MIN MANUAL       |
| 2ORS-UC20                                  | DRYWELL<br>COOLER 20                               | N             | 10 HP             | 575            | 3            |                           | (1)            |                  | (1)                       |                |                  |                           | (1)            |                  | 60                        | 10             | T=10 MIN MANUAL       |
| 2ORS-UC38                                  | DRYWELL<br>COOLER 38                               | N             | 15 HP             | 575            | 3            |                           | (1)            |                  | (1)                       |                |                  |                           | (1)            |                  | 90                        | 15             | T=10 MIN MANUAL       |
| 2NSS-HYV6A                                 | HSIV INBOARD                                       | N             | 3 HP              | 575            | 3            |                           | (1)            |                  | (1)                       |                |                  |                           | (1)            |                  | 18                        | 3              | T=0 MANUAL            |
| 2NSS-HYV6B                                 | HSIV INBOARD                                       | N             | 3 HP              | 575            | 3            |                           | (1)            |                  | (1)                       |                |                  |                           | (1)            |                  | 18                        | 3              | T=0 MANUAL            |
| 2NSS-HYV6C                                 | HSIV INBOARD                                       | N             | 3 HP              | 575            | 3            |                           | (1)            |                  | (1)                       |                |                  |                           | (1)            |                  | 18                        | 3              | T=0 MANUAL            |
| 2NSS-HYV60                                 | HSIV INBOARD                                       | N             | 3 HP              | 575            | 3            |                           | (1)            |                  | (1)                       |                |                  |                           | (1)            |                  | 18                        | 3              | T=0 MANUAL            |
| 2NSS-MOV108                                | VENT VALVE   | N             | 0.22<br>0.5 HP    | 575            | 3            |                           | (1)            |                  | (1)                       |                |                  |                           | (1)            |                  | 4.5                       | 0.9            | T=0 MANUAL            |
| <del>2NSS-MOV118</del>                     | <del>VENT VALVE</del>                              | <del>N</del>  | <del>0.9 HP</del> | <del>575</del> | <del>3</del> | <del>(1)</del>            | <del>(1)</del> | <del>(1)</del>   | <del>(1)</del>            | <del>(1)</del> | <del>(1)</del>   | <del>(1)</del>            | <del>(1)</del> | <del>(1)</del>   | <del>5.6</del>            | <del>0.9</del> | <del>T=0 MANUAL</del> |
| <del>2NSS-MOV119</del>                     | <del>VENT VALVE</del>                              | <del>N</del>  | <del>0.9 HP</del> | <del>575</del> | <del>3</del> | <del>(1)</del>            | <del>(1)</del> | <del>(1)</del>   | <del>(1)</del>            | <del>(1)</del> | <del>(1)</del>   | <del>(1)</del>            | <del>(1)</del> | <del>(1)</del>   | <del>5.6</del>            | <del>0.9</del> | <del>T=0 MANUAL</del> |
| 2NSS-MOV189                                | MAIN STEAM<br>VALVE                                | N             | 0.32<br>0.5 HP    | 575            | 3            |                           | (1)            |                  | (1)                       |                |                  |                           | (1)            |                  | 3.3                       | 0.9-0.66       | T=0 MANUAL            |
| 2NSS-MOV207                                | MAIN STEAM<br>VALVE                                | N             | 0.32<br>0.5 HP    | 575            | 3            |                           | (1)            |                  | (1)                       |                |                  |                           | (1)            |                  | 3.3                       | 0.9-0.66       | T=0 MANUAL            |
| 2RCS-MOV108                                | RECIRCULATION<br>PUMP B SUCTION<br>VALVE           | N             | 4 HP              | 575            | 3            |                           | (1)            |                  | (1)                       |                |                  |                           | (1)            |                  | 40                        | 8.0            | T=0 MANUAL            |
| 2RCS-MOV108                                | RECIRCULATION<br>PUMP B DIS<br>CHARGE VALVE        | N             | 4 HP              | 575            | 3            |                           | (1)            |                  | (1)                       |                |                  |                           | (1)            |                  | 40                        | 8.0            | T=0 MANUAL            |

(1) DISCONNECTED DURING LOCA

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TO: 11/11/72 8:35 AM

DIVISION I STANDBY DIESEL GENERATOR 2EGS-EG  
LOAD SUMMARY

| SIMULTANEOUS LOOP AND LOCA |                           |                          |            |        |       | LOOP WITH DELAYED LOCA # |                           |                          |            |        |       | LOCA WITH DELAYED LOOP |                           |                          |            |        |       | LOOP WITH UNIT TRIP   |                           |                          |            |        |       |
|----------------------------|---------------------------|--------------------------|------------|--------|-------|--------------------------|---------------------------|--------------------------|------------|--------|-------|------------------------|---------------------------|--------------------------|------------|--------|-------|-----------------------|---------------------------|--------------------------|------------|--------|-------|
| TIME                       | STARTING<br>KVA<br>(KVAR) | RUNNING<br>KVA<br>(KVAR) | TOTAL LOAD |        |       | TIME                     | STARTING<br>KVA<br>(KVAR) | RUNNING<br>KVA<br>(KVAR) | TOTAL LOAD |        |       | TIME                   | STARTING<br>KVA<br>(KVAR) | RUNNING<br>KVA<br>(KVAR) | TOTAL LOAD |        |       | TIME                  | STARTING<br>KVA<br>(KVAR) | RUNNING<br>KVA<br>(KVAR) | TOTAL LOAD |        |       |
|                            |                           |                          | KVA        | KVAR   | KW    |                          |                           |                          | KVA        | KVAR   | KW    |                        |                           |                          | KVA        | KVAR   | KW    |                       |                           |                          | KVA        | KVAR   | KW    |
| T ≤ 0.1 SEC                | 40,500<br>(139,377)       | -                        | 40,500     | 39,377 | 9,471 | T ≤ 0.1 SEC              | 40,500<br>(139,377)       | -                        | 40,500     | 39,377 | 9,471 | T ≤ 0.1 SEC            | 40,500<br>(139,377)       | -                        | 40,500     | 39,377 | 9,471 | T ≤ 0.1 SEC           | 40,500<br>(139,377)       | -                        | 40,500     | 39,377 | 9,471 |
| 0.1 SEC < T < 9 SEC        | 3578<br>(3336)            | 233<br>(117)             | 3811       | 3453   | 1613  | 0.1 SEC < T < 9 SEC      | 3578<br>(3336)            | 233<br>(117)             | 3811       | 3453   | 1613  | 0.1 SEC < T < 9 SEC    | 3578<br>(3336)            | 233<br>(117)             | 3811       | 3453   | 1613  | 0.1 SEC < T < 9 SEC   | 3578<br>(3336)            | 233<br>(117)             | 3811       | 3453   | 1613  |
| 9 SEC ≤ T ≤ 1.5 SEC        | 9259<br>(8979)            | 233<br>(117)             | 9492       | 9096   | 2713  | 9 SEC ≤ T ≤ 1.5 SEC      | 9259<br>(8979)            | 233<br>(117)             | 9492       | 9096   | 2713  | 9 SEC ≤ T ≤ 1.5 SEC    | 9259<br>(8979)            | 233<br>(117)             | 9492       | 9096   | 2713  | 9 SEC ≤ T ≤ 1.5 SEC   | 9259<br>(8979)            | 233<br>(117)             | 9492       | 9096   | 2713  |
| 1.5 SEC ≤ T < 4 SEC        | 10,119<br>(9,785)         | 233<br>(117)             | 10352      | 9902   | 3019  | 1.5 SEC ≤ T < 4 SEC      | 10,119<br>(9,785)         | 233<br>(117)             | 10352      | 9902   | 3019  | 1.5 SEC ≤ T < 4 SEC    | 10,119<br>(9,785)         | 233<br>(117)             | 10352      | 9902   | 3019  | 1.5 SEC ≤ T < 4 SEC   | 10,119<br>(9,785)         | 233<br>(117)             | 10352      | 9902   | 3019  |
| 4 SEC ≤ T < 5.4 SEC        | 5726<br>(5764)            | 1517<br>(759)            | 5726       | 4523   | 3511  | 4 SEC ≤ T < 5.4 SEC      | 5726<br>(5764)            | 1517<br>(759)            | 5726       | 4523   | 3511  | 4 SEC ≤ T < 5.4 SEC    | 5726<br>(5764)            | 1517<br>(759)            | 5726       | 4523   | 3511  | 4 SEC ≤ T < 5.4 SEC   | 5726<br>(5764)            | 1517<br>(759)            | 5726       | 4523   | 3511  |
| 5.4 SEC ≤ T < 9 SEC        | 8,425<br>(8,316)          | 2029<br>(1035)           | 10494      | 9351   | 4763  | 5.4 SEC ≤ T < 9 SEC      | 8,425<br>(8,316)          | 2029<br>(1035)           | 10494      | 9351   | 4763  | 5.4 SEC ≤ T < 9 SEC    | 8,425<br>(8,316)          | 2029<br>(1035)           | 10494      | 9351   | 4763  | 5.4 SEC ≤ T < 9 SEC   | 8,425<br>(8,316)          | 2029<br>(1035)           | 10494      | 9351   | 4763  |
| 9 SEC ≤ T < 23 SEC         | 19<br>(18)                | 3229<br>(1615)           | 3248       | 1633   | 2808  | 9 SEC ≤ T < 23 SEC       | 19<br>(18)                | 3229<br>(1615)           | 3248       | 1633   | 2808  | 9 SEC ≤ T < 23 SEC     | 19<br>(18)                | 3229<br>(1615)           | 3248       | 1633   | 2808  | 9 SEC ≤ T < 23 SEC    | 19<br>(18)                | 3229<br>(1615)           | 3248       | 1633   | 2808  |
| 23 SEC ≤ T ≤ 28 SEC        | -                         | 3233<br>(1617)           | 3233       | 1617   | 2800  | 23 SEC ≤ T ≤ 28 SEC      | -                         | 3233<br>(1617)           | 3233       | 1617   | 2800  | 23 SEC ≤ T ≤ 28 SEC    | -                         | 3233<br>(1617)           | 3233       | 1617   | 2800  | 23 SEC ≤ T ≤ 28 SEC   | -                         | 3233<br>(1617)           | 3233       | 1617   | 2800  |
| 28 SEC ≤ T ≤ 32 SEC        | 802<br>(749)              | 3233<br>(1617)           | 4035       | 2366   | 3269  | 28 SEC ≤ T ≤ 32 SEC      | 802<br>(749)              | 3233<br>(1617)           | 4035       | 2366   | 3269  | 28 SEC ≤ T ≤ 32 SEC    | 802<br>(749)              | 3233<br>(1617)           | 4035       | 2366   | 3269  | 28 SEC ≤ T ≤ 32 SEC   | 802<br>(749)              | 3233<br>(1617)           | 4035       | 2366   | 3269  |
| 32 SEC ≤ T < 44 SEC        | 6526<br>(3097)            | 3229<br>(1715)           | 6526       | 4716   | 4511  | 32 SEC ≤ T < 44 SEC      | 6526<br>(3097)            | 3229<br>(1715)           | 6526       | 4716   | 4511  | 32 SEC ≤ T < 44 SEC    | 6526<br>(3097)            | 3229<br>(1715)           | 6526       | 4716   | 4511  | 32 SEC ≤ T < 44 SEC   | 6526<br>(3097)            | 3229<br>(1715)           | 6526       | 4716   | 4511  |
| 44 SEC ≤ T < 60 SEC        | -                         | 3929<br>(1965)           | 3929       | 1965   | 3402  | 44 SEC ≤ T < 60 SEC      | -                         | 3929<br>(1965)           | 3929       | 1965   | 3402  | 44 SEC ≤ T < 60 SEC    | -                         | 3929<br>(1965)           | 3929       | 1965   | 3402  | 44 SEC ≤ T < 60 SEC   | -                         | 3929<br>(1965)           | 3929       | 1965   | 3402  |
| 60 SEC ≤ T < 66 SEC        | 480<br>(450)              | 3929<br>(1965)           | 4409       | 2415   | 3689  | 60 SEC ≤ T < 66 SEC      | 480<br>(450)              | 3929<br>(1965)           | 4409       | 2415   | 3689  | 60 SEC ≤ T < 66 SEC    | 480<br>(450)              | 3929<br>(1965)           | 4409       | 2415   | 3689  | 60 SEC ≤ T < 66 SEC   | 480<br>(450)              | 3929<br>(1965)           | 4409       | 2415   | 3689  |
| 66 SEC ≤ T < 110 SEC       | -                         | 4009<br>(2005)           | 4009       | 2005   | 3472  | 66 SEC ≤ T < 110 SEC     | -                         | 4009<br>(2005)           | 4009       | 2005   | 3472  | 66 SEC ≤ T < 110 SEC   | -                         | 4009<br>(2005)           | 4009       | 2005   | 3472  | 66 SEC ≤ T < 110 SEC  | -                         | 4009<br>(2005)           | 4009       | 2005   | 3472  |
| 110 SEC ≤ T < 116 SEC      | 242<br>(226)              | 4009<br>(2005)           | 4251       | 2231   | 3619  | 110 SEC ≤ T < 116 SEC    | 242<br>(226)              | 4009<br>(2005)           | 4251       | 2231   | 3619  | 110 SEC ≤ T < 116 SEC  | 242<br>(226)              | 4009<br>(2005)           | 4251       | 2231   | 3619  | 110 SEC ≤ T < 116 SEC | 242<br>(226)              | 4009<br>(2005)           | 4251       | 2231   | 3619  |
| 116 SEC ≤ T < 120 SEC      | -                         | 4050<br>(2025)           | 4050       | 2025   | 3507  | 116 SEC ≤ T < 120 SEC    | -                         | 4050<br>(2025)           | 4050       | 2025   | 3507  | 116 SEC ≤ T < 120 SEC  | -                         | 4050<br>(2025)           | 4050       | 2025   | 3507  | 116 SEC ≤ T < 120 SEC | -                         | 4050<br>(2025)           | 4050       | 2025   | 3507  |
| 120 SEC ≤ T < 10 MIN       | -                         | 3921<br>(1961)           | 3921       | 1961   | 3395  | 120 SEC ≤ T < 10 MIN     | -                         | 3921<br>(1961)           | 3921       | 1961   | 3395  | 120 SEC ≤ T < 10 MIN   | -                         | 3921<br>(1961)           | 3921       | 1961   | 3395  | 120 SEC ≤ T < 10 MIN  | -                         | 3921<br>(1961)           | 3921       | 1961   | 3395  |
| 10 MIN ≤ T ≤ 10.1 MIN      | 3139<br>(3040)            | 3921<br>(1961)           | 7060       | 5001   | 4983  | 10 MIN ≤ T ≤ 10.1 MIN    | 3139<br>(3040)            | 3921<br>(1961)           | 7060       | 5001   | 4983  | 10 MIN ≤ T ≤ 10.1 MIN  | 3139<br>(3040)            | 3921<br>(1961)           | 7060       | 5001   | 4983  | 10 MIN ≤ T ≤ 10.1 MIN | 3139<br>(3040)            | 3921<br>(1961)           | 7060       | 5001   | 4983  |
| 10.1 MIN ≤ T < 2 HR        | -                         | 4428<br>(2214)           | 4428       | 2214   | 2835  | 10.1 MIN ≤ T < 2 HR      | -                         | 4428<br>(2214)           | 4428       | 2214   | 2835  | 10.1 MIN ≤ T < 2 HR    | -                         | 4428<br>(2214)           | 4428       | 2214   | 2835  | 10.1 MIN ≤ T < 2 HR   | -                         | 4428<br>(2214)           | 4428       | 2214   | 2835  |
| 2 HR ≤ T < 2 HR 6 SEC      | 2,279<br>(2,187)          | 4428<br>(2214)           | 6707       | 4401   | 5061  | 2 HR ≤ T < 2 HR 6 SEC    | 2,279<br>(2,187)          | 4428<br>(2214)           | 6707       | 4401   | 5061  | 2 HR ≤ T < 2 HR 6 SEC  | 2,279<br>(2,187)          | 4428<br>(2214)           | 6707       | 4401   | 5061  | 2 HR ≤ T < 2 HR 6 SEC | 2,279<br>(2,187)          | 4428<br>(2214)           | 6707       | 4401   | 5061  |
| 2 HR 6 SEC ≤ T             | -                         | 4708<br>(2454)           | 4908       | 2454   | 4251  | 2 HR 6 SEC ≤ T           | -                         | 4708<br>(2454)           | 4908       | 2454   | 4251  | 2 HR 6 SEC ≤ T         | -                         | 4708<br>(2454)           | 4908       | 2454   | 4251  | 2 HR 6 SEC ≤ T        | -                         | 4708<br>(2454)           | 4908       | 2454   | 4251  |

\* TIME, T, IS MEASURED FROM THE INSTANT THE DIESEL GENERATOR ATTAINS ITS RATED VOLTAGE AND FREQUENCY AND IS CONNECTED TO ITS BUS BY CLOSING THE SUPPLY BREAKER 101-1 (2ENS-SHG101).

# Under the scenarios of a LOOP with a subsequent LOCA, the diesel generator is started on the standby diesel generator with the administrative control by KVR2 operations to prevent the diesel generator from being on any division. It is not expected that the diesel generator will be started on any division. The diesel generator is started on the standby diesel generator with the administrative control by KVR2 operations to prevent the diesel generator from being on any division. The diesel generator is started on the standby diesel generator with the administrative control by KVR2 operations to prevent the diesel generator from being on any division.

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Table 8.3-6

DIVISION II STANDBY DIESEL GENERATOR 2E05-E03  
LOAD SUMMARY

| SIMULTANEOUS LOOP AND LOCA |                     |                    |            |        |      | LOOP WITH DELAYED LOCA # |                     |                    |            |        |      | LOCA WITH DELAYED LOOP |                     |                    |            |        |      | LOOP WITH UNIT TRIP   |                     |                    |            |        |      |
|----------------------------|---------------------|--------------------|------------|--------|------|--------------------------|---------------------|--------------------|------------|--------|------|------------------------|---------------------|--------------------|------------|--------|------|-----------------------|---------------------|--------------------|------------|--------|------|
| TIME                       | STARTING KVA (KVAR) | RUNNING KVA (KVAR) | TOTAL LOAD |        |      | TIME                     | STARTING KVA (KVAR) | RUNNING KVA (KVAR) | TOTAL LOAD |        |      | TIME                   | STARTING KVA (KVAR) | RUNNING KVA (KVAR) | TOTAL LOAD |        |      | TIME                  | STARTING KVA (KVAR) | RUNNING KVA (KVAR) | TOTAL LOAD |        |      |
|                            |                     |                    | KVA        | KVAR   | KW   |                          |                     |                    | KVA        | KVAR   | KW   |                        |                     |                    | KVA        | KVAR   | KW   |                       |                     |                    | KVA        | KVAR   | KW   |
| T ≤ 0.1 SEC                | 40.500 (39.377)     | -                  | 40.500     | 39.377 | 9471 | T ≤ 0.1 SEC              | 40.500 (39.377)     | -                  | 40.500     | 39.377 | 9471 | T ≤ 0.1 SEC            | 40.500 (39.377)     | -                  | 40.500     | 39.377 | 9471 | T ≤ 0.1 SEC           | 40.500 (39.377)     | -                  | 40.500     | 39.377 | 9471 |
| 0.1 SEC < T < 1 SEC        | 3929 (3565)         | 233 (117)          | 4162       | 3682   | 1910 | 0.1 SEC < T < 1 SEC      | 3929 (3565)         | 233 (117)          | 4162       | 3682   | 1910 | 0.1 SEC < T < 1 SEC    | 3929 (3565)         | 233 (117)          | 4162       | 3682   | 1910 | 0.1 SEC < T < 1 SEC   | 3425 (3048)         | 233 (117)          | 3658       | 3165   | 1834 |
| 1 SEC < T ≤ 1.5 SEC        | 9610 (9208)         | 233 (117)          | 9843       | 9325   | 3151 | 1 SEC < T ≤ 1.5 SEC      | 9610 (9208)         | 233 (117)          | 9843       | 9325   | 3151 | 1 SEC < T ≤ 1.5 SEC    | 9610 (9208)         | 233 (117)          | 9843       | 9325   | 3151 | 1 SEC < T ≤ 1.5 SEC   | 3425 (3048)         | 233 (117)          | 3658       | 3165   | 1834 |
| 1.5 SEC ≤ T < 4 SEC        | 10470 (10,017)      | 233 (117)          | 10703      | 10131  | 3452 | 1.5 SEC ≤ T < 4 SEC      | 10470 (10,017)      | 233 (117)          | 10703      | 10131  | 3452 | 1.5 SEC ≤ T < 4 SEC    | 10470 (10,017)      | 233 (117)          | 10703      | 10131  | 3452 | 1.5 SEC ≤ T < 4 SEC   | 4285 (3854)         | 233 (117)          | 4518       | 3971   | 2155 |
| 4 SEC < T ≤ 9 SEC          | 4010 (3640)         | 1518 (759)         | 4528       | 4399   | 1073 | 4 SEC < T ≤ 9 SEC        | 4010 (3640)         | 1518 (759)         | 4528       | 4399   | 1073 | 4 SEC < T ≤ 9 SEC      | 4010 (3640)         | 1518 (759)         | 4528       | 4399   | 1073 | 4 SEC < T ≤ 9 SEC     | 3425 (3048)         | 383 (195)          | 3808       | 3243   | 1996 |
| 9 SEC < T ≤ 23 SEC         | 5.681 (5.643)       | 2018 (1007)        | 7699       | 6652   | 3876 | 9 SEC < T ≤ 23 SEC       | 5.681 (5.643)       | 2018 (1007)        | 7699       | 6652   | 3876 | 9 SEC < T ≤ 23 SEC     | 5.681 (5.643)       | 2018 (1007)        | 7699       | 6652   | 3876 | 9 SEC < T ≤ 23 SEC    | -                   | 1116 (558)         | 1116       | 558    | 967  |
| 23 SEC < T ≤ 32 SEC        | 19 (18)             | 2812 (1406)        | 2831       | 1424   | 2147 | 23 SEC < T ≤ 32 SEC      | 19 (18)             | 2812 (1406)        | 2831       | 1424   | 2147 | 23 SEC < T ≤ 32 SEC    | 19 (18)             | 2812 (1406)        | 2831       | 1424   | 2147 | 23 SEC < T ≤ 32 SEC   | -                   | 1116 (558)         | 1116       | 558    | 967  |
| 32 SEC ≤ T < 44 SEC        | 722 (677)           | 2976 (1478)        | 3718       | 2175   | 3015 | 32 SEC ≤ T < 44 SEC      | 722 (677)           | 2976 (1478)        | 3718       | 2175   | 3015 | 32 SEC ≤ T < 44 SEC    | 722 (677)           | 2976 (1478)        | 3718       | 2175   | 3015 | 32 SEC ≤ T < 44 SEC   | 722 (677)           | 1796 (898)         | 4893       | 3899   | 2956 |
| 44 SEC < T < 60 SEC        | 3097 (3001)         | 2976 (1478)        | 6093       | 4499   | 4109 | 44 SEC < T < 60 SEC      | 3097 (3001)         | 2976 (1478)        | 6093       | 4499   | 4109 | 44 SEC < T < 60 SEC    | 3097 (3001)         | 2976 (1478)        | 6093       | 4499   | 4109 | 44 SEC < T < 60 SEC   | 3097 (3001)         | 1796 (898)         | 1796       | 898    | 1555 |
| 60 SEC ≤ T ≤ 66 SEC        | 480 (450)           | 3496 (1748)        | 3976       | 2198   | 3313 | 60 SEC ≤ T ≤ 66 SEC      | 480 (450)           | 3496 (1748)        | 3976       | 2198   | 3313 | 60 SEC ≤ T ≤ 66 SEC    | 480 (450)           | 3496 (1748)        | 3976       | 2198   | 3313 | 60 SEC ≤ T ≤ 66 SEC   | 480 (450)           | 1796 (898)         | 2276       | 1348   | 1834 |
| 66 SEC < T < 110 SEC       | -                   | 3576 (1788)        | 3576       | 1788   | 3097 | 66 SEC < T < 110 SEC     | -                   | 3576 (1788)        | 3576       | 1788   | 3097 | 66 SEC < T < 110 SEC   | -                   | 3576 (1788)        | 3576       | 1788   | 3097 | 66 SEC < T < 110 SEC  | -                   | 2255 (1128)        | 2255       | 1128   | 1953 |
| 110 SEC ≤ T ≤ 116 SEC      | 240 (235)           | 3576 (1788)        | 3816       | 2073   | 3204 | 110 SEC ≤ T ≤ 116 SEC    | 240 (235)           | 3576 (1788)        | 3816       | 2073   | 3204 | 110 SEC ≤ T ≤ 116 SEC  | 240 (235)           | 3576 (1788)        | 3816       | 2073   | 3204 | 110 SEC ≤ T ≤ 116 SEC | -                   | 2265 (1133)        | 2265       | 1133   | 1961 |
| 116 SEC < T ≤ 120 SEC      | -                   | 3616 (1808)        | 3616       | 1808   | 3132 | 116 SEC < T ≤ 120 SEC    | -                   | 3616 (1808)        | 3616       | 1808   | 3132 | 116 SEC < T ≤ 120 SEC  | -                   | 3616 (1808)        | 3616       | 1808   | 3132 | 116 SEC < T ≤ 120 SEC | -                   | 2265 (1133)        | 2265       | 1133   | 1961 |
| 120 SEC < T < 10 MIN       | -                   | 3457 (1729)        | 3457       | 1729   | 2994 | 120 SEC < T < 10 MIN     | -                   | 3457 (1729)        | 3457       | 1729   | 2994 | 120 SEC < T < 10 MIN   | -                   | 3457 (1729)        | 3457       | 1729   | 2994 | 120 SEC < T < 10 MIN  | -                   | 2265 (1133)        | 2265       | 1133   | 1961 |
| 10 MIN ≤ T ≤ 10.1 MIN      | 3199 (3096)         | 3457 (1729)        | 6656       | 4825   | 4585 | 10 MIN ≤ T ≤ 10.1 MIN    | 3199 (3096)         | 3457 (1729)        | 6656       | 4825   | 4585 | 10 MIN ≤ T ≤ 10.1 MIN  | 3199 (3096)         | 3457 (1729)        | 6656       | 4825   | 4585 | 10 MIN ≤ T ≤ 10.1 MIN | -                   | 2265 (1133)        | 2265       | 1133   | 1961 |
| 10.1 MIN < T < 2 HR        | -                   | 3974 (1987)        | 3974       | 1987   | 3442 | 10.1 MIN < T < 2 HR      | -                   | 3974 (1987)        | 3974       | 1987   | 3442 | 10.1 MIN < T < 2 HR    | -                   | 3974 (1987)        | 3974       | 1987   | 3442 | 10.1 MIN < T < 2 HR   | -                   | 2265 (1133)        | 2265       | 1133   | 1961 |
| 2 HR ≤ T ≤ 2 HR 6 SEC      | 2279 (2187)         | 3974 (1987)        | 6253       | 4174   | 4656 | 2 HR ≤ T ≤ 2 HR 6 SEC    | 2279 (2187)         | 3974 (1987)        | 6253       | 4174   | 4656 | 2 HR ≤ T ≤ 2 HR 6 SEC  | 2279 (2187)         | 3974 (1987)        | 6253       | 4174   | 4656 | 2 HR ≤ T ≤ 2 HR 6 SEC | 2.279 (2.187)       | 3845 (1923)        | 6124       | 4110   | 4540 |
| 2 HR 6 SEC < T             | -                   | 4454 (2227)        | 4454       | 2227   | 3857 | 2 HR 6 SEC < T           | -                   | 4454 (2227)        | 4454       | 2227   | 3857 | 2 HR 6 SEC < T         | -                   | 4454 (2227)        | 4454       | 2227   | 3857 | 2 HR 6 SEC < T        | -                   | 4325 (2163)        | 4325       | 2163   | 3745 |

\* TIME, T, IS MEASURED FROM THE INSTANT THE DIESEL GENERATOR  
ATTAINS ITS RATED VOLTAGE AND FREQUENCY AND IS CONNECTED  
TO ITS BUS BY CLOSING THE SUPPLY BREAKER 103-14 (2E05-SHG103).

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APERTURE  
CARD

8608260141-28

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Nine Mile Point Unit 2 FSAR

TABLE 8.3-4

LIST OF CLASS 1E SAFETY-RELATED LOADS BY POWER SOURCE

| <u>Equipment<br/>Identity No.</u> | <u>Description(1)</u>           | <u>Division(2)</u> | <u>Rating</u> | <u>Volts</u> | <u>Phase</u> | <u>Amps<br/>Full<br/>Load</u> | <u>Amps<br/>Locked<br/>Rotor</u> | <u>Rpm</u> | <u>Power Source<br/>Identity No.</u> |
|-----------------------------------|---------------------------------|--------------------|---------------|--------------|--------------|-------------------------------|----------------------------------|------------|--------------------------------------|
| 2CCP*SOV87A                       | *                               | *                  | *             | *            | *            | *                             | *                                | *          | *                                    |
| 2CCP*SOV87B                       | *                               | *                  | *             | *            | *            | *                             | *                                | *          | *                                    |
| 2CCP*SOV87C                       | *                               | *                  | *             | *            | *            | *                             | *                                | *          | *                                    |
| 2CMS*RU10A                        | Radiation<br>monitor unit       | G                  | *             | *            | *            | *                             | *                                | *          | *                                    |
| 2CMS*RU10B                        | Radiation<br>monitor unit       | Y                  | *             | *            | *            | *                             | *                                | *          | *                                    |
| 2CMS*SOV37A                       | Isolation valve                 | G                  | 1.5 A         | 120          | 1            | 1.5                           | *                                | *          | *                                    |
| 2CMS*SOV37B                       | Isolation valve                 | Y                  | 1.5 A         | 120          | 1            | 1.5                           | *                                | *          | *                                    |
| 2CMS*SOV38A                       | Isolation valve                 | G                  | 1.5 A         | 120          | 1            | 1.5                           | *                                | *          | *                                    |
| 2CMS*SOV38B                       | Isolation valve                 | Y                  | 1.5 A         | 120          | 1            | 1.5                           | *                                | *          | *                                    |
| 2CSH*SOV108                       | *                               | *                  | *             | *            | *            | *                             | *                                | *          | *                                    |
| 2GTS*UC1A                         | Unit cooler 1A                  | G                  | 10 hp         | 575          | 3            | *                             | *                                | *          | *                                    |
| 2GTS*UC1B                         | Unit cooler 1B                  | Y                  | 10 hp         | 575          | 3            | *                             | *                                | *          | *                                    |
| 2HVC*UC108A                       | Unit cooler<br>battery room 275 | G                  | 10 hp         | 575          | 3            | *                             | *                                | *          | 2EJS*PNL102A                         |
| 2HVC*UC108B                       | Unit cooler<br>battery room 275 | Y                  | 10 hp         | 575          | 3            | *                             | *                                | *          | 2EJS*PNL301B                         |
| 2HVR*SOV204                       | Reactor discharge<br>dumper     | G                  | *             | *            | *            | *                             | *                                | *          | *                                    |
| 2RHS*SOV126                       | 2RHS*E48 SWP<br>Cross-tie drain | Y                  | 8.0 A         | 120          | 1            | 8.0                           | *                                | *          | 2SCM*PNL103A                         |
| 2RHS*SOV35A                       | Isolation valve                 | Y                  | 0.5 A         | 120          | 1            | 0.5                           | *                                | *          | 2SCM*PNL303B                         |
| 2RHS*SOV35B                       | Isolation valve                 | Y                  | 0.5 A         | 120          | 1            | 0.5                           | *                                | *          | 2SCM*PNL303B                         |



Nine Mile Point Unit 2 PSAR

TABLE 8.3-4 (Cont)

| Equipment Identity No. | Description(1)                              | Division(2) | Rating | Volts | Phase | Amps Full Load  | Amps Locked Rotor | RPM | Power Source Identity No. |
|------------------------|---|-------------|--------|-------|-------|-----------------|-------------------|-----|---------------------------|
| 2RHS*SOV36A            | Isolation valve                             | G           | 0.5 A  | 120   | 1     | 0.5             | ②                 | •   | 28CH*PNL101A              |
| 2RHS*SOV36B            | Isolation valve                             | Y           | 0.5 A  | 120   | 1     | 0.5             | ②                 | •   | 28CH*PNL101A              |
| 2SPC*SOV148            | Drain valve                                 | N           | 0.5 A  | 120   | 1     | 0.5             | ②                 | •   | 25CI-PNL104               |
| 2SPC*SOV149            | Isolation valve                             | N           | 0.5 A  | 120   | 1     | 0.5             | ②                 | •   | 25CI-PNL104               |
| ✓ 2SPC*SOV54A          | Skimmer surge tank outlet                   | G           | 0.5 A  | 120   | 1     | 0.5             | ②                 | •   | 28CH*PNL101A              |
| ✓ 2SPC*SOV54B          | Skimmer surge tank outlet                   | Y           | 0.5 A  | 120   | 1     | 0.5             | ②                 | •   | 28CH*PNL302B              |
| 2SPC*SOV56A            | •   | G           | 0.5 A  | 120   | 1     | 0.5             | •                 | •   | •                         |
| 2SPC*SOV56B            | •   | Y           | 0.5 A  | 120   | 1     | 0.5             | •                 | •   | •                         |
| FV54A<br>2SWP*FV54A    | Motor-operated pressure valve               | G           | 7 HP   | 275   | 3     | 1.1             | 29.20             | •   | 2EHS*MC103                |
| FV54B<br>2SWP*FV54B    | Motor-operated pressure valve               | Y           | 7 HP   | 575   | 3     | 1.1             | 29.20             | •   | 2EHS*MC103                |
| 2VBS*PNLA103           | Control room RPS and NS4 distribution panel | G           | 200 A  | 120   | 1     | 100.0<br>200.0  | ②                 | •   | 2VBS*PNLA101              |
| 2VBS*PNLA104           | RPS and NS4 distribution panel              | G           | 200 A  | 120   | 1     | 100.0<br>200.0  | ②                 | •   | 2VBS*PNLA101              |
| 2VBS*PNLA105           | NSIV distribution panel (G/W)               | G           | 200 A  | 120   | 1     | 100.0<br>200.0  | ②                 | •   | 2VBS*PNLA101              |
| 2VBS*PNLA106           | NSIV distribution panel                     | Y           | 200 A  | 120   | 1     | 100.0<br>200.00 | ②                 | •   | 2VBS*PNLA101              |
| 2VBS*PNLB103           | Control room RPS distribution panel         | Y           | 200 A  | 120   | 1     | 100.0<br>200.0  | ②                 | •   | 2VBS*PNLA101              |
| 2VBS*PNLB104           | RPS and NS4 distribution panel              | B           | 200 A  | 120   | 1     | 100.0<br>200.0  | ②                 | •   | 2VBS*PNLA101              |



# Nine Mile Point Unit 2 PSAR

TABLE 6.3-4 (Cont)

| Equipment Identity No. | Description(1)                    | Division(2) | Rating                   | Volts | Phase       | Amps Full Load | Amps Locked Rotor | Rpm | Power Source Identity No. |
|------------------------|-----------------------------------|-------------|--------------------------|-------|-------------|----------------|-------------------|-----|---------------------------|
| 2VBS*PNLB105           | MSIV distribution panel           | G           | 200 A                    | 120   | 1           | 200.0          | ⊙                 | •   | 2VBS*PNLB101              |
| 2VBS*PNLB106           | MSIV distribution panel (Y/W)     | Y/W         | 200 A                    | 120   | 1           | 200.0          | ⊙                 | •   | 2VBS*PNLB101              |
| 2EGS*EG1               | DG Div. I                         | G           | 5500KVA 4160<br>4,800 kW | 4160  | 3           | 763.3          | ⊙                 | •   | Diesel generator          |
| 2EGS*EG2               | DG Div. III                       | P           | 3250KVA 2,600 kW         | 4160  | 3 451-376.3 | 763.3          | ⊙                 | •   | Diesel generator          |
| 2EGS*EG3               | DG Div. II                        | Y           | 5500KVA 4,800 kW         | 4160  | 3           | 763.3          | ⊙                 | •   | Diesel generator          |
| 2BYS*SWG002A(3) 2      | 125-V dc switch-gear              | G           | 2,000 A                  | 125   | 0           | 449            | ⊙                 | •   | 2BYS*BAT2A                |
| 2BYS*SWG002B(3) 2      | 125-V dc switch-gear              | Y           | 2,000 A                  | 125   | 0           | 283            | ⊙                 | •   | 2BYS*BAT2B                |
| 2BYS*BAT2A             | 125-V 1E standby battery Div. I   | G           | 2,500 AH                 | 125   | 0           | 330            | ⊙                 | •   | 2BYS*CHGR2A1              |
| 2BYS*SWG002A(1)        | 125-V dc switch-gear              | G           | 2000<br>800 A            | 125   | 0           | 330            | ⊙                 | •   | 2BYS*CHGR2A1              |
| 2BYS*SWG002A(3) 2      | 125-V dc switch-gear              | G           | 2000<br>800 A            | 125   | 0           | 330            | ⊙                 | •   | 2BYS*CHGR2A2              |
| 2BYS*BAT2B             | 125-V 1E standby battery Div. II  | Y           | 2,500 AH                 | 125   | 0           | 330            | ⊙                 | •   | 2BYS*CHGR2B1              |
| 2BYS*SWG002B(1)        | 125-V dc switch-gear              | Y           | 2000<br>800 A            | 125   | 0           | 330            | ⊙                 | •   | 2BYS*CHGR2B1              |
| 2BYS*SWG002B(3) 2      | 125-V dc switch-gear              | Y           | 2000<br>800 A            | 125   | 0           | 330            | ⊙                 | •   | 2BYS*CHGR2B2              |
| 2BYS*BAT2C             | 125-V 1E standby battery Div. III | P           | 60<br>100 AH             | 125   | 0           | 55             | ⊙                 | •   | 2BYS*CHGR2C1              |





Wine Mile Point Unit 2 PSAR

TABLE 6.3-4 (Cont)

2BYS\*SWG002A

| Equipment Identity No. | Description(1)                               | Division(2) | Rating | Volts | Phase | Amps Full Load | Amps Locked Rotor | Rpm   | Power Source Identity No. |
|------------------------|--|-------------|--------|-------|-------|----------------|-------------------|-------|---------------------------|
| 2BYS*PNL204A           | 125-v dc distribution panel                  | G           | 225 A  | 125   | 0     | 200-225        | 5                 | *     | 2BYS*PNL201A              |
| 2BYS*PNL204B           | 125-v dc distribution panel                  | Y           | 225 A  | 125   | 0     | 200-225        | 5                 | *     | 2BYS*PNL201B              |
| 2CES*IPNL407(1)        | DG control panel                             | G           | 125    | 125   | 0     | 10             | 10                | *     | 2BYS*PNL204A              |
| 2CES*IPNL407(2)        | DG control panel                             | G           | 125    | 125   | 0     | 10             | 10                | *     | 2BYS*PNL204A              |
| 2CES*IPNL407(3)        | DG control panel                             | G           | 125    | 125   | 0     | 10             | 10                | *     | 2BYS*PNL204A              |
| 2CES*IPNL407(8)        | DG control panel                             | G           | 125    | 125   | 0     | 10             | 10                | *     | 2BYS*PNL204A              |
| 2EGE*EXC1              | Emergency generator excitation               | G           | 125    | 125   | 0     | 10             | 10                | *     | 2BYS*PNL204A              |
| 2EGF*P1                | DG fuel pump                                 | G           | 1.5 hp | 125   | 3     | 1.76           | 4.4               | 1,800 | 2BYS*PNL204A              |
| 2CES*IPNL412(1)        | DG control panel                             | Y           | 125    | 125   | 0     | 10             | 10                | *     | 2BYS*PNL204B              |
| 2CES*IPNL412(2)        | DG control panel                             | Y           | 125    | 125   | 0     | 10             | 10                | *     | 2BYS*PNL204B              |
| 2CES*IPNL412(3)        | DG control panel                             | Y           | 125    | 125   | 0     | 10             | 10                | *     | 2BYS*PNL204B              |
| 2CES*IPNL412(8)        | DG control panel                             | Y           | 125    | 125   | 0     | 10             | 10                | *     | 2BYS*PNL204B              |
| 2EGE*EXC2              | Emergency generator excitation               | Y           | 125    | 125   | 0     | 10             | 10                | *     | 2BYS*PNL204B              |
| 2EGF*P2                | DG fuel pump                                 | Y-P         | 1.5 hp | 125   | 3     | 1.76           | 4.4               | 1,800 | 2BYS*PNL204B              |
| 2BYS*PNL201A           | 125-v dc distribution panel                  | G           | 400 A  | 125   | 0     | 200            | 10                | *     | 2BYS*SWG002A              |
| 2DMS*MCCA1             | 125-v dc MCC reactor building el 240         | G           | 600 A  | 125   | 0     | 600            | 10                | *     | 2BYS*SWG002A              |
| 2EJS*US1(3)            | 600-v emergency switch-gear dc control power | G           | *      | 125   | 0     | *              | *                 | *     | 2BYS*SWG002A              |



# Five Mile Point Unit 2 PSAP

TABLE 8.3-4 (Cont)

| Equipment Identity No. | Description(1)                                 | Division(2) | Rating  | Volts | Phase | Amps Full Load | Amps Locked Rotor | RPM | Power Source Identity No. |
|------------------------|--|-------------|---------|-------|-------|----------------|-------------------|-----|---------------------------|
| 2EWS*SWG101(2)         | 4160-V emergency switchgear main               | G           |         | 125   | 0     |                |                   |     | 2BYS*SWG002A              |
| 2VBA*UPS2A(DC)         | Div. IA control UPS                            | G           | 25 kVA  | 125   | 0     |                |                   |     | 2BYS*SWG002A              |
| 2BYS*PHL201B           | 125-V dc distribution panel                    | Y           | 400 A   | 125   | 0     | 200            | 400               |     | 2BYS*SWG002B              |
| 2DHS*HCCB1             | 125-V dc HCC reactor building el 240'          | Y           | 600 A   | 125   | 0     | 600            |                   |     | 2BYS*SWG002B              |
| 2EJS*US3(3)            | 600-V US emergency switchgear dc control power | Y           |         | 125   | 0     |                |                   |     | 2BYS*SWG002B              |
| 2EWS*SWG103(2)         | 4160-V emergency switchgear dc control power   | Y           |         | 125   | 0     |                |                   |     | 2BYS*SWG002B              |
| 2VBA*UPS2B(DC)         | Div. IIA control UPS                           | Y           | 25 kVA  | 125   | 0     |                |                   |     | 2BYS*SWG002B              |
| 2ICS*PV108             | RCIC pump to condensate storage                | G           | 0.36 hp | 125   | 0     | 4.2            | 20.8              | 190 | 2DHS*HCCA1                |
| 2ICS*NOV116            | Lube oil cooling water supply                  | G           | 0.36 hp | 125   | 0     | 4.0            | 21.70             |     | 2DHS*HCCA1                |
| 2ICS*NOV120            | RCIC steam supply                              | G           | 0.7 hp  | 125   | 0     | 8.00           | 39.09             | 190 | 2DHS*HCCA1                |
| 2ICS*NOV122            | RCIC turbine exhaust                           | G           | 1.6 hp  | 125   | 0     | 14.50          | 82                | 190 | 2DHS*HCCA1                |
| 2ICS*NOV124            | RCIC pump to condensate storage                | G           | 0.7 hp  | 125   | 0     | 8.00           | 39                | 190 | 2DHS*HCCA1                |



# Five Mile Point Unit 2 PSAR

TABLE 8.3-4 (Cont)

| Equipment Identity No.                    | Description(1)  | Division(2) | Rating                     | Volts | Phase | Amps Full Load           | Amps Locked Rotor         | RPM | Power Source Identity No.                        |
|---|---|-------------|----------------------------|-------|-------|--------------------------|---------------------------|-----|--|
| 2ICS*NOV126                               | RCIC pump to reactor  | G           | <del>4.00</del><br>2.6 hp  | 125   | 0     | <del>24.00</del><br>23.0 | 104                       | 190 | 2DHS*HCCA1                                       |
| 2ICS*NOV129                               | Condensate storage to RCIC pump                               | G           | <del>0.72</del><br>0.7 hp  | 125   | 0     | <del>8.00</del><br>6.0   | 39                        | 190 | 2DHS*HCCA1                                       |
| 2ICS*NOV136                               | Suppression pool into RCIC pump                               | G           | <del>0.72</del><br>0.7 hp  | 125   | 0     | <del>8.00</del><br>6.0   | 39                        | 190 | 2DHS*HCCA1                                       |
| 2ICS*NOV143                               | RCIC pump minimum flow to suppression pool                    | G           | 0.36 hp                    | 125   | 0     | 4.0                      | 21.70                     | *   | 2DHS*HCCA1                                       |
| 2ICS*NOV150                               | RCIC trip throttle valve                                      | G           | <del>0.33</del><br>0.3 hp  | 125   | 0     | <del>4.0</del><br>8.1    | <del>21.70</del><br>*     | *   | 2DHS*HCCA1                                       |
| 2ICS*NOV164                               | Vacuum breaker valve outboard                                 | G           | <del>0.14</del><br>0.66 hp | 125   | 0     | <del>1.6</del><br>1.6    | <del>15.9</del><br>*      | *   | 2DHS*HCCA1                                       |
| 2ICS*NOV148                               | Vacuum breaker valve inboard                                  | Y           | <del>0.14</del><br>0.66 hp | 125   | 0     | <del>1.6</del><br>1.6    | <del>15.9</del><br>*      | *   | 2DHS*HCCB1                                       |
| <del>2EG-A-C4</del><br><del>2ECC*CA</del> | HPCS air compressor(MOTOR)                                    | P           | <del>2HP</del><br>2.0      | 125   | 0     | <del>2</del><br>*        | <del>2</del><br>*         | *   | <del>2CES*FWL414</del><br><del>2ECS*PBL002</del> |
| 2HVI*UC2A                                 | Service water pump pressure indicator transmitter unit cooler | G           | 40 hp                      | 575   | 3     | <del>26.80</del><br>*    | <del>324</del><br>*       | *   | 2EHS*HCC101                                      |
| 2HVI*UC2C                                 | SAME AS ABOVE   | G           | 40HP                       | 575   | 3     | 26.80                    | 324                       | *   | 2EHS*HCC101                                      |
| 2SNP*NOV1A                                | Service water backwash line                                   | G           | 0.13 hp                    | 575   | 3     | .36                      | 2.52                      | *   | 2EHS*HCC101                                      |
| 2SNP*NOV1C                                | Service water backwash line                                   | G           | 0.13 hp                    | 575   | 3     | .36                      | 2.52                      | *   | 2EHS*HCC101                                      |
| 2SNP*NOV1E                                | Service water strainer backwash                               | G           | 0.13 hp                    | 575   | 3     | .36                      | 2.52                      | *   | 2EHS*HCC101                                      |
| 2SNP*NOV3A                                | Service water to turbine plant                                | G           | <del>4</del><br>2.70 hp    | 575   | 3     | <del>5.60</del><br>4.72  | <del>47.80</del><br>29.20 | *   | 2EHS*HCC101                                      |
| 2ICS*NOV159                               | RCIC BY PASS TO STEAM SUPPLY                                  | G           | .13HP                      | 125   | 0     | 2.3                      | 16.16                     | *   | 2DHS*HCCA1                                       |



Nine Mile Point Unit 2 PSAR

TABLE 8.3-4 (Cont)

| Equipment Identity No. | Description(s)                            | Division(s) | Rating                    | Volts | Phase | Amps Full Load           | Amps Locked Rotor         | Rpm   | Power Source Identity No. |
|------------------------|---|-------------|---------------------------|-------|-------|--------------------------|---------------------------|-------|---------------------------|
| 25WP*MOV30A            | Motor-operated gate valve                 | G           | 1 hp                      | 575   | 3     | 2.24                     | 12.8                      | 1,800 | 2EHS*MCC101               |
| 25WP*MOV30A            | Service water pump discharge header valve | G           | <del>9.90</del><br>4.1 hp | 575   | 3     | <del>15.60</del><br>5.36 | <del>104.00</del><br>47.8 | *     | 2EHS*MCC101               |
| 25WP*MOV74A            | Service water pump discharge block valve  | G           | 2.6 hp                    | 575   | 3     | 4.7                      | 29.2                      | *     | 2EHS*MCC101               |
| 25WP*MOV74C            | Service water pump discharge block valve  | G           | 2.6 hp                    | 575   | 3     | 4.7                      | 29.2                      | *     | 2EHS*MCC101               |
| 25WP*MOV74E            | Service water pump discharge block valve  | G           | 2.6 hp                    | 575   | 3     | 4.7                      | 29.2                      | *     | 2EHS*MCC101               |
| 25WP*MOV77A            | Motor-operated gate valve                 | G           | <del>70</del><br>0.66 hp  | 575   | 3     | 1.88                     | 9.6                       | 1,800 | 2EHS*MCC101               |
| 25WP*SSR1A             | Bar rack heater                           | G           | <del>3.15</del><br>2.0 kW | 575   | 1     | <del>10.5</del><br>5     | <del>10.5</del><br>5      | *     | 2EHS*MCC101               |
| 25WP*SSR2A             | Bar rack heater                           | G           | <del>3.15</del><br>2.0 kW | 575   | 1     | <del>10.5</del><br>5     | <del>10.5</del><br>5      | *     | 2EHS*MCC101               |
| 25WP*SSR3A             | Bar rack heater                           | G           | <del>3.15</del><br>2.0 kW | 575   | 1     | <del>10.5</del><br>5     | <del>10.5</del><br>5      | *     | 2EHS*MCC101               |
| 25WP*SSR4A             | Bar rack heater                           | G           | <del>3.15</del><br>2.0 kW | 575   | 1     | <del>10.5</del><br>5     | <del>10.5</del><br>5      | *     | 2EHS*MCC101               |
| 25WP*SSR5A             | Bar rack heater                           | G           | <del>3.15</del><br>2.0 kW | 575   | 1     | <del>10.5</del><br>5     | <del>10.5</del><br>5      | *     | 2EHS*MCC101               |
| 25WP*SSR6A             | Bar rack heater                           | G           | <del>3.15</del><br>2.0 kW | 575   | 1     | <del>10.5</del><br>5     | <del>10.5</del><br>5      | *     | 2EHS*MCC101               |
| 25WP*STR4A             | Strainer service water                    | G           | 3 hp                      | 575   | 3     | 3.68                     | 21.7                      | 1,730 | 2EHS*MCC101               |
| 25WP*STR4C             | Strainer service water                    | G           | 3 hp                      | 575   | 3     | 3.68                     | 21.7                      | 1,730 | 2EHS*MCC101               |
| 25WP*STR4E             | Strainer service water                    | G           | 3 hp                      | 575   | 3     | 3.68                     | 21.7                      | 1,730 | 2EHS*MCC101               |





Nine Mile Point Unit 2 PSAR

TABLE 8.3-4 (Cont)

| Equipment Identity No. | Description(s)                                    | Division(s) | Rating                   | Volts   | Phase | Amps Full Load | Amps Locked Rotor | Rpm   | Power Source Identity No. |
|------------------------|---|-------------|--------------------------|---------|-------|----------------|-------------------|-------|---------------------------|
| 2EJS*PML101A           | Switchgear room A emergency 600-V panel           | G           | <del>400</del><br>600 A  | 575 600 | 3     | 150            | 3                 | *     | 2EHS*MCC102A              |
| 2EJS*PML103A           | AB-N emergency 600-V panel                        | G           | 400 A                    | 575 600 | 3     | 150            | 3                 | *     | 2EHS*MCC102A              |
| 2EJS*PML104A           | AB-N emergency 600-V panel                        | G           | 400 A                    | 575 600 | 3     | 150            | 3                 | *     | 2EHS*MCC102A              |
| 2FWS*MOV21A            | Feedwater to reactor                              | G           | 26.6 hp                  | 575     | 3     | 27.1           | 236               | 3,600 | 2EHS*MCC102A              |
| 2FWS*MOV21B            | SAME AS ABOVE                                     | G           | 26.6                     | 575     | 3     | 27.10          | 236.00            |       | 2EHS*MCC102A              |
| 2GTS*FM1A              | SGTS filter train discharge fan                   | G           | 40 hp                    | 575     | 3     | 38.5<br>39.20  | 261<br>236.00     | 1,775 | 2EHS*MCC102A              |
| 2GTS*MOV1A             | Reactor building ventilation mix plenum to grates | G           | 0.38 hp                  | 575     | 3     | 1.92           | 4.96<br>232       | *     | 2EHS*MCC102A              |
| 2GTS*MOV2A             | SGTS filter train A inlet                         | G           | <del>2.0</del><br>1.0 hp | 575     | 3     | 3.00           | 3                 | *     | 2EHS*MCC102A              |
| 2GTS*MOV3A             | SGTS filter train A discharge                     | G           | <del>2.0</del><br>1.0 hp | 575     | 3     | 3.00           | 3                 | *     | 2EHS*MCC102A              |
| 2GTS*MOV4A             | Decay heat cool to train A                        | G           | 1.0 hp                   | 575     | 3     | 2.2            | 12.8              | 1,800 | 2EHS*MCC102A              |
| 2HCS*MOV1A             | Wetwell hydrogen recombiner isolation valve       | G           | 0.33 hp                  | 575     | 3     | 0.75           | 5.25              | *     | 2EHS*MCC102A              |
| 2HCS*MOV2A             | Wetwell hydrogen recombiner isolation valve       | G           | 0.33 hp                  | 575     | 3     | 0.75           | 5.25              | *     | 2EHS*MCC102A              |
| 2HCS*MOV3A             | Wetwell hydrogen recombiner isolation valve       | G           | 0.33 hp                  | 575     | 3     | 0.75           | 5.25              | *     | 2EHS*MCC102A              |
| 2CMS*PRL66A            | H2 ANALYZER PANEL A                               | G           | 1.0 HP                   | 575     | 3     | 1.70           | -                 |       | 2EHS*MCC102A              |
| 2GTS*MOV28A            | CROSS-BLEED LVLV                                  | G           | 2.0 HP                   | 575     | 3     | 2.50           | -                 |       | 2EHS*MCC102A              |



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TABLE 8.3-4 (Cont)

| Equipment<br>Identity No. | Description(s)                                      | Division(s) | Rating  | Volts | Phase | Amps<br>Full<br>Load | Amps<br>Locked<br>Rotor | Rpm   | Power Source<br>Identity No. |
|---------------------------|---|-------------|---------|-------|-------|----------------------|-------------------------|-------|------------------------------|
| 2HCS*MOV4A                | Wetwell hydrogen<br>recombiner iso-<br>lation valve | G           | 0.33 hp | 575   | 3     | 0.75                 | 5.25                    | *     | 2EHS*MCC102A                 |
| 2HCS*MOV5A                | Wetwell hydrogen<br>recombiner iso-<br>lation valve | G           | 0.33 hp | 575   | 3     | 0.75                 | 5.25                    | *     | 2EHS*MCC102A                 |
| 2HCS*MOV6A                | Wetwell hydrogen<br>recombiner iso-<br>lation valve | G           | 0.33 hp | 575   | 3     | 0.75                 | 5.25                    | *     | 2EHS*MCC102A                 |
| 2N3S*MOV112               | Main steam to<br>condenser                          | G           | 1.6 hp  | 575   | 3     | 3.2                  | 20.4                    | 1,800 | 2EHS*MCC102A                 |
| 2M5S*MOV119               | VENT VALVE  | G           | 0.33 HP | 575   | 3     | 0.60                 | 4.20                    | *     | 2EHS*MCC102A                 |
| 2N3S*MOV208               | Main steam valve                                    | G           | 0.33 HP | 575   | 3     | 0.60                 | 4.20                    | *     | 2EHS*MCC102A                 |
| 2SWP*MOV17A               | Service water<br>to RBCLCW                          | G           | 1.6 hp  | 575   | 3     | 2.9                  | 20.2                    | 1,800 | 2EHS*MCC102A                 |
| 2SWP*MOV18A               | RBCLCW to<br>service water                          | G           | 1.6 hp  | 575   | 3     | 2.9                  | 20.2                    | 1,800 | 2EHS*MCC102A                 |
| 2SWP*MOV19A               | Service water<br>to RBCLCW heat<br>exchanger        | G           | 1.0 hp  | 575   | 3     | 2.24                 | 12.8                    | *     | 2EHS*MCC102A                 |
| 2SWP*MOV21A               | RBCLCW to SFC<br>cooling pool                       | G           | 0.33 hp | 575   | 3     | 0.92                 | 3.6                     | 1,700 | 2EHS*MCC102A                 |
| 2SWP*MOV33A               | RHR heat ex-<br>changer A to dis-<br>charge tunnel  | G           | 0.86 hp | 575   | 3     | 3.4                  | 10.3                    | *     | 2EHS*MCC102A                 |
| 2SWP*MOV38A               | Service water<br>to RBCLCW                          | G           | 0.6 hp  | 575   | 3     | 1.68                 | 9.52                    | 1,800 | 2EHS*MCC102A                 |
| 2SWP*MOV39A               | RBCLCW to<br>service water                          | G           | 0.6 hp  | 575   | 3     | 1.68                 | 9.52                    | 1,800 | 2EHS*MCC102A                 |
| 2SWP*MOV90A               | Service water<br>to RRS heat<br>exchanger           | G           | 0.86 hp | 575   | 3     | 3.4                  | 10.3                    | *     | 2EHS*MCC102A                 |



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TABLE 6.3-4 (Cont)

| Equipment Identity No. | Description(s)   | Division(s) | Rating                        | Volts | Phase | Amps Full Load              | Amps Locked Rotor           | Rpm.  | Power Source Identity No. |
|------------------------|--|-------------|-------------------------------|-------|-------|-----------------------------|-----------------------------|-------|---------------------------|
| 2CSL*PV114             | LPCS test  | G           | <u>0.33</u><br><u>0.34</u> hp | 575   | 3     | 0.66                        | 4.0                         | 1,800 | 2EHS*MCC102C              |
| 2CSL*MOV104            | LPCS pump to reactor                                   | G           | <u>7.80</u><br><u>8.0</u> hp  | 575   | 3     | <u>9.12</u><br><u>9.2</u>   | <u>75.00</u><br><u>75.8</u> | 3,600 | 2EHS*MCC102C              |
| 2CSL*MOV107            | LPCS minimum flow to RHR                               | G           | 2.0 hp                        | 575   | 3     | 2.8                         | 20.8                        | 3,600 | 2EHS*MCC102C              |
| 2CSL*MOV112            | Suppression pool to LPCS pump                          | G           | <u>.70</u><br><u>0.68</u> hp  | 575   | 3     | <u>1.84</u><br><u>1.89</u>  | <u>9.00</u><br><u>9.52</u>  | *     | 2EHS*MCC102C              |
| 2CSL*P2                | LPCS system pressure pump                              | G           | 10 hp                         | 575   | 3     | 10.3                        | 51.0                        | 3,455 | 2EHS*MCC102C              |
| 2DER*MOV120            | Containment isolation valve                            | G           | 0.64 hp                       | 575   | 3     | 0.66                        | 3.8                         | 1,800 | 2EHS*MCC102C              |
| 2DER*MOV131            | Reactor building equipment drains TR1 vent             | G           | <u>0.33</u><br><u>0.3</u> hp  | 575   | 3     | <u>.70</u><br><u>0.8</u>    | <u>4.20</u><br><u>4.2</u>   | *     | 2EHS*MCC102C              |
| 2DPR*MOV120            | Reactor building floor drain discharge isolation valve | G           | 1.3 hp                        | 575   | 3     | 2.2                         | <u>9.0</u><br><u>8.0</u>    | 1,800 | 2EHS*MCC102C              |
| 2DPR*MOV139            | Reactor plant floor drain vent isolation valve         | G           | 0.6 hp                        | 575   | 3     | 0.56                        | 4.2                         | 1,800 | 2EHS*MCC102C              |
| 2ICS*MOV121            | Turbine steam supply isolation outboard                | G           | 8 hp                          | 575   | 3     | 8.5                         | 75.4                        | 3,600 | 2EHS*MCC102C              |
| 2ICS*P2                | RCIC system pressure pump A                            | G           | 10 hp.                        | 575   | 3     | <u>10.30</u><br><u>11.0</u> | <u>51.00</u><br><u>66</u>   | 3,455 | 2EHS*MCC102C              |
| 2SL8*MOV1A             | Standby liquid control                                 | G           | <u>.33</u><br><u>0.13</u> hp  | 575   | 3     | <u>.72</u><br><u>0.44</u>   | <u>4.00</u><br><u>2.1</u>   | *     | 2EHS*MCC102C              |
| 2SL8*MOV5A             | SLCS OUTBD ISOLATION VALVE                             | G           | <u>.70</u> HP                 | 575   | 3     | 1.90                        | 10.00                       |       | 2EHS*MCC102A              |
| 2SL8*P1A               | Standby liquid pump A                                  | G           | 40 hp                         | 575   | 3     | 41.0                        | 246                         | 1,755 | 2EHS*MCC102C              |
| 2CMS*PNL6A             | H2 ANALYZER PANEL A                                    | G           | 1 HP                          | 575   | 3     | 1.70                        | -                           |       | 2EHS*MCC102C              |



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TABLE 8.3-4 (Cont)

| Equipment Identity No. | Description(s)                              | Division(s) | Rating                    | Volts | Phase | Amps Full Load          | Amps Locked Rotor        | RPM   | Power Source Identity No. |
|------------------------|---|-------------|---------------------------|-------|-------|-------------------------|--------------------------|-------|---------------------------|
| 2WCS*MOV112            | RMCU system out-board steam isolation valve | G           | <del>5.2</del><br>10.6 hp | 575   | 3     | <del>8.48</del><br>12.2 | <del>48.00</del><br>18.7 | *     | 2EHS*MCC102C              |
| 2WCS*MOV112A           | RMCU RETURN ISOLATION VALVE                 | G           | 1.6<br>0.33 hp            | 575   | 3     | 3.20<br>0.8             | 20.2<br>4.5              | *     | 2EHS*MCC102C              |
| 2CCP*MOV124            | Domestic water cooler to RBCLCW outboard I  | G           | 1 hp                      | 575   | 3     | 2.1                     | 8.8                      | 1,700 | 2EHS*MCC103A              |
| 2CCP*MOV14A            | RBCLCW to SFC heat exchanger A              | G           | 1.6 hp                    | 575   | 3     | 3.20<br>2.9             | 20.40<br>20.2            | 1,800 | 2EHS*MCC103A              |
| 2CCP*MOV18A            | SFC heat exchanger A to RBCLCW              | G           | 1.6 hp                    | 575   | 3     | 3.20<br>2.9             | 20.00<br>20.2            | 1,800 | 2EHS*MCC103A              |
| 2CCP*MOV22A            | RBCLCW from RCS pump A                      | G           | 1.0 hp                    | 575   | 3     | 2.2                     | 12.8                     | 1,800 | 2EHS*MCC103A              |
| 2CCP*MOV265            | Isolation valve containment                 | G           | 1 hp                      | 575   | 3     | 2.1                     | 8.8                      | 1,700 | 2EHS*MCC103A              |
| 2CCP*MOV14A            | RBCLCW to RCS pump A outboard I             | G           | 0.33 hp                   | 575   | 3     | .60<br>0.56             | 4.2                      | 1,800 | 2EHS*MCC103A              |
| 2CCP*MOV14B            | RBCLCW to RCS pump B outboard I             | G           | 0.33 hp                   | 575   | 3     | .60<br>0.56             | 4.2                      | 1,800 | 2EHS*MCC103A              |
| 2CCP*MOV15A            | To RBCLCW RCS pump A outboard I             | G           | 0.33 hp                   | 575   | 3     | .60<br>0.56             | 4.2                      | 1,800 | 2EHS*MCC103A              |
| 2CCP*MOV15B            | To RBCLCW RCS pump A outboard I             | G           | 0.33 hp                   | 575   | 3     | .60<br>0.56             | 4.2                      | 1,800 | 2EHS*MCC103A              |
| 2CCP*MOV93A            | RBCLCW to 2 RCS-P1A coolers                 | G           | .70<br>0.67 hp            | 575   | 3     | 1.90<br>1.95            | 9.00<br>6.9              | 1,700 | 2EHS*MCC103A              |
| 2EGA*M1A               | DG 1 AIR COMP 1A MOTOR                      | G           | 15HP                      | 575   | 3     | 15.80                   | 84.0<br>84.0             |       | 2EHS*MCC103A              |
| 2EGA*M2A               | DG 1 AIR COMP 2A MOTOR                      | G           | 15HP                      | 575   | 3     | 15.80                   | 84.0<br>84.0             |       | 2EHS*MCC103A              |





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TABLE 8.3-4 (Cont)

| Equipment<br>Identity No. | Description(s)                               | Division(s) | Rating              | Volts | Phase | Amps<br>Full<br>Load      | Amps<br>Locked<br>Rotor     | Rpm   | Power Source<br>Identity No. |
|---------------------------|--|-------------|---------------------|-------|-------|---------------------------|-----------------------------|-------|------------------------------|
| 2EGF*P1A                  | DG 1 fuel oil<br>transfer pump A             | G           | <u>1.5</u><br>1 hp  | 575   | 3     | <u>1.76</u><br><u>1.5</u> | <u>9.04</u><br><u>8.8</u>   | *     | 2EHS*MCC103A                 |
| 2EGF*P1C                  | DG 1 fuel oil<br>transfer pump C             | G           | <u>1.5</u><br>1 hp  | 575   | 3     | <u>1.76</u><br><u>1.5</u> | <u>9.04</u><br><u>8.8</u>   | *     | 2EHS*MCC103A                 |
| 2EGO*P1A                  | Lube oil circula-<br>tion pump               | G           | 15 hp               | 575   | 3     | 14.5                      | 83.5                        | 1,800 | 2EHS*MCC103A                 |
| 2EGS*B2                   | General space<br>heater                      | G           | 5.7 kW              | 575   | 3     | 5.7                       | *                           | *     | 2EHS*MCC103A                 |
| 2EGS*P1A                  | Jacket water cir-<br>culation pump           | G           | 5 hp                | 575   | 3     | 5.6                       | 34.2                        | 1,800 | 2EHS*MCC103A                 |
| 2EGT*CH2                  | Lube oil heater                              | G           | 12 kW               | 575   | 3     | 12                        | <u>8</u>                    | *     | 2EHS*MCC103A                 |
| 2EGT*CH4                  | Jacket water<br>heater                       | G           | 18 kW               | 575   | 3     | 18                        | <u>8</u>                    | *     | 2EHS*MCC103A                 |
| 2HVC*ACU1A                | Control room A/C<br>unit 1A                  | G           | 40 hp               | 575   | 3     | 41                        | 246                         | *     | 2EHS*MCC103A                 |
| 2HVC*ACU2A                | Relay room A/C<br>unit 2A                    | G           | 40 hp               | 575   | 3     | 41                        | 246                         | *     | 2EHS*MCC103A                 |
| 2HVC*ACU3A                | Remote shutdown<br>on room A/C unit          | G           | 2 hp                | 575   | 3     | <u>2.50</u><br><u>2.5</u> | <u>16.30</u><br><u>15.5</u> | *     | 2EHS*MCC103A                 |
| 2HVC*FN11A                | Makeup air<br>switchgear floor               | G           | 7.5 hp              | 575   | 3     | 9.0                       | 54                          | *     | 2EHS*MCC103A                 |
| 2HVC*FN2A                 | Control room A/C<br>booster fan A            | G           | 10 hp               | 575   | 3     | 10.5                      | 65                          | 1,760 | 2EHS*MCC103A                 |
| 2HVC*FN4A                 | Battery room A<br>exchange fan               | G           | 3 hp                | 575   | 3     | 2.6                       | 29.2                        | *     | 2EHS*MCC103A                 |
| 2HVC*MOV1A                | Control room A/C<br>special filter<br>bypass | G           | <u>0.25</u><br>1 hp | 575   | 3     | <u>42</u><br><u>5</u>     | <u>4.00</u><br><u>11</u>    | *     | 2EHS*MCC103A                 |



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TABLE 8.3-8 (Cont)

| Equipment Identity No. | Description(1)                                    | Division(2) | Rating             | Volts | Phase | Amps Full Load | Amps Locked Rotor | Rpm   | Power Source Identity No. |
|------------------------|---|-------------|--------------------|-------|-------|----------------|-------------------|-------|---------------------------|
| 2HVK*CHL1A(2)          | Auxiliary oil pump                                | G           | 0.75 hp            | 575   | 3     | 0.75<br>1.1    | 4.5<br>6.6        | *     | 2EHS*MCC103A              |
| 2HVK*P1A               | Control building chilled water circulating pump A | G           | 15 hp              | 575   | 3     | 14.8           | 90                | 1,750 | 2EHS*MCC103A              |
| 2SWP*MOV67A            | Service water to CWS pumps                        | G           | 0.7<br>1.9 hp      | 575   | 3     | 1.10<br>1      | 29.20<br>1        | *     | 2EHS*MCC103A              |
| 2SWP*MOV66A            | Service water to standby DG coolers E3A           | G           | 1 hp               | 575   | 3     | 2.1            | 8.8               | 1,700 | 2EHS*MCC103A              |
| 2SWP*MOV67A            | Service water to control DG relay room coil       | G           | 6.4<br>1.0 hp      | 575   | 3     | 6.6<br>1       | 38<br>1           | *     | 2EHS*MCC103A              |
| 2SWP*MOV92A            | Service water to discharge tunnel isolation       | G           | 1.6 hp             | 575   | 3     | 3.2            | 20.2              | *     | 2EHS*MCC103A              |
| 2SWP*MOV93A            | Service water to discharge tunnel isolation       | G           | 10.6<br>10.6 hp    | 575   | 3     | 2.20<br>2      | 12.50<br>1        | *     | 2EHS*MCC103A              |
| 2SWP*MOV95A            | Service water to standby DG coolers               | G           | 1 hp               | 575   | 3     | 2.1            | 8.8               | 1,700 | 2EHS*MCC103A              |
| 2SWP*P2A               | Control building chiller service water pump A     | G           | 10<br>3 hp         | 575   | 3     | 10.5<br>3.5    | 64.00<br>20       | 1,145 | 2EHS*MCC103A              |
| 2HVP*FN1A              | DG 1 exhaust fan 1A                               | G           | 30 hp              | 575   | 3     | 32.0           | 186               | *     | 2EHS*MCC103C              |
| 2HVP*FN1C              | DG 1 exhaust fan 1C                               | G           | 30 hp              | 575   | 3     | 32.0           | 186               | *     | 2EHS*MCC103C              |
| 2RHS*FV38A             | Test line A to suppression pool                   | G           | 0.34 hp            | 575   | 3     | 0.66           | 4.0               | *     | 2EHS*MCC103C              |
| 2RHS*MOV80A            | GLOBE VALVE                                       | G           | 0.13HP<br>13 of 60 | 575   | 3     | .36            | 2.50              | *     | 2EHS*MCC103C              |



Nine Mile Point Unit 2 PSAR

TABLE 8.3-4 (Cont)

| <u>Equipment<br/>Identity No.</u> | <u>Description(1)</u>                              | <u>Division(2)</u> | <u>Rating</u> | <u>Volts</u> | <u>Phase</u> | <u>Amps<br/>Full<br/>Load</u> | <u>Amps<br/>Locked<br/>Rotor</u> | <u>Rpm</u> | <u>Power Source<br/>Identity No.</u> |
|-----------------------------------|--|--------------------|---------------|--------------|--------------|-------------------------------|----------------------------------|------------|--------------------------------------|
| 2RHS*MOV1A                        | Suppression pool<br>to RHR pump A                  | G                  | 1.6 hp        | 575          | 3            | 3.2                           | 20.2                             | *          | 2RHS*MCC103C                         |
| 2RHS*MOV104                       | Head spray in<br>outboard isola-<br>tion           | G                  | 0.7 hp        | 575          | 3            | 1.64                          | 9.6                              | 1,700      | 2RHS*MCC103C                         |
| 2RHS*MOV113                       | Cooling supply<br>outboard isola-<br>tion          | G                  | 20 hp         | 575          | 3            | 20.6                          | 156                              | 3,600      | 2RHS*MCC103C                         |
| 2RHS*MOV12A                       | Heat exchanger A<br>to reactor                     | G                  | 1.0 hp        | 575          | 3            | 2.8                           | 16.0                             | *          | 2RHS*MCC103C                         |
| 2RHS*MOV142                       | Heat exchanger B<br>to liquid rad-<br>waste system | G                  | 0.33 hp       | 575          | 3            | 0.56                          | 4.2                              | 1,800      | 2RHS*MCC103C                         |
| 2RHS*MOV15A                       | Containment<br>spray A                             | G                  | 2.6 hp        | 575          | 3            | 4.72                          | 29.2                             | 1,800      | 2RHS*MCC103C                         |
| 2RHS*MOV2A                        | Reactor to RHR<br>pump A                           | G                  | 0.86 hp       | 575          | 3            | 3.44                          | 10.31                            | *          | 2RHS*MCC103C                         |
| 2RHS*MOV22A                       | Steam condensing<br>to heat ex-<br>changer A       | G                  | 1.6 hp        | 575          | 3            | 3.1                           | 16                               | 1,700      | 2RHS*MCC103C                         |
| 2RHS*MOV23A                       | Steam condensing<br>to heat ex-<br>changer A       | G                  | 1.6 hp        | 575          | 3            | 3.1                           | 16                               | 1,700      | 2RHS*MCC103C                         |
| 2RHS*MOV24A                       | LPCI inlet A                                       | G                  | 6.6 hp        | 575          | 3            | 8.0                           | 67.5                             | *          | 2RHS*MCC103C                         |
| 2RHS*MOV25A                       | Containment<br>spray A                             | G                  | 2.6 hp        | 575          | 3            | 4.72                          | 29.2                             | 1,800      | 2RHS*MCC103C                         |
| 2RHS*MOV26A                       | Heat exchanger A<br>vent to suppres-<br>sion pool  | G                  | 0.13 hp       | 575          | 3            | 0.85                          | 1.70                             | *          | 2RHS*MCC103C                         |



Nine Mile Point Unit 2 PSAR

TABLE 8.3-4 (Cont)

| Equipment Identity No. | Description(s)                            | Division(s) | Rating          | Volts | Phase | Amps Full Load | Amps Locked Rotor | Rpm   | Power Source Identity No. |
|------------------------|---|-------------|-----------------|-------|-------|----------------|-------------------|-------|---------------------------|
| 2RHS*MOV27A            | Heat exchanger A vent to suppression pool | G           | 0.13 hp         | 575   | 3     | 0.85           | 1.70              | *     | 2RHS*MCC103C              |
| 2RHS*MOV30A            | RHR return to suppression pool            | G           | 1.6 HP          | 575   | 3     | 3.20           | 20.00             | *     | 2RHS*MCC103C              |
| 2RHS*MOV32A            | Heat exchanger A to RCIC                  | G           | 0.6 hp          | 575   | 3     | 1.68           | 9.52              | 1,800 | 2RHS*MCC103C              |
| 2RHS*MOV33A            | Suppression pool spray header A           | G           | 0.33 hp         | 575   | 3     | 0.56           | 4.2               | 1,800 | 2RHS*MCC103C              |
| 2RHS*MOV37A            | RHR line A to suppression pool            | G           | 0.33 hp         | 575   | 3     | 0.56           | 4.2               | 18.00 | 2RHS*MCC103C              |
| 2RHS*MOV4A             | RHR minimum flow to suppression pool      | G           | 1.9 hp          | 575   | 3     | 2.8            | 21.00             | 1,800 | 2RHS*MCC103C              |
| 2RHS*MOV40A            | Shutdown cooling return A                 | G           | 10.6 hp         | 575   | 3     | 12.2           | 147               | 3,400 | 2RHS*MCC103C              |
| 2RHS*MOV67A            | RHR shutdown bypass                       | G           | 0.33<br>0.13 hp | 575   | 3     | 0.64           | 4.50              | *     | 2RHS*MCC103C              |
| 2RHS*MOV6A             | Heat exchanger A bypass                   | G           | 1.7 hp          | 575   | 3     | 3.2            | 20.2              | *     | 2RHS*MCC103C              |
| 2RHS*MOV9A             | RHR pump A to heat exchanger A            | G           | 1.6 hp          | 575   | 3     | 3.2            | 20.2              | *     | 2RHS*MCC103C              |
| 2BYS*CHGR2C1           | 125-V battery charger standby Div. III    | P           | 50<br>25 A 50DC | 575   | 3     | 12.00          | -                 | *     | 2RHS*MCC201               |
| 2BYS*CHGR2C2           | 125-V battery charger                     | P           | 50<br>25 A 50DC | 575   | 3     | 12.00          | -                 | *     | 2RHS*MCC201               |
| 2CSH*MOV101            | Condensate storage to HPCS pump           | P           | 0.7 hp          | 575   | 3     | 1.9<br>1.88    | 10<br>9.52        | *     | 2RHS*MCC201               |





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TABLE 8.3-4 (Cont)

| Equipment Identity No. | Description(s)                    | Division(s) | Rating                     | Voltage | Phase | Amps Full Load           | Amps Locked Rotor      | Volts | Power Source Identity No. |
|------------------------|-----------------------------------|-------------|----------------------------|---------|-------|--------------------------|------------------------|-------|---------------------------|
| 2CSH*NOV105            | Flow bypass to suppression pool   | P           | <del>3.3</del><br>3.2 hp   | 575     | 3     | <del>4.2</del><br>4.15   | 29.0                   | •     | 2EHS*BCC2C1               |
| 2CSH*NOV107            | HPCS pump to reactor              | P           | <del>19.2</del><br>12.8 hp | 575     | 3     | <del>20.5</del><br>14.5  | <del>156</del><br>107  | •     | 2EHS*BCC2C1               |
| 2CSH*NOV110            | Test bypass to condensate storage | P           | <del>13.1</del><br>13.2 hp | 575     | 3     | <del>18.4</del><br>15.2  | <del>131</del><br>129  | •     | 2EHS*BCC2C1               |
| 2CSH*NOV111            | Test bypass to suppression pool   | P           | <del>13.25</del><br>10 hp  | 575     | 3     | 11.6                     | 68                     | •     | 2EHS*BCC2C1               |
| 2CSH*NOV112            | Test bypass to condensate storage | P           | <del>13.1</del><br>13.2 hp | 575     | 3     | <del>18.4</del><br>15.2  | <del>131</del><br>129  | •     | 2EHS*BCC2C1               |
| 2CSH*NOV118            | Suppression pool to HPCS          | P           | <del>3.3</del><br>3.2 hp   | 575     | 3     | <del>4.2</del><br>4.15   | <del>29.0</del><br>29  | •     | 2EHS*BCC2C1               |
| 2CSH*P2                | Standby water leg pump B22-C003   | P           | 10 hp                      | 575     | 3     | <del>10.90</del><br>10.3 | 51                     | 3,455 | 2EHS*BCC2C1               |
| 2EGM*P3                | DG 2 air compressor 3             | P           | 7.5 hp                     | 575     | 3     | <del>8.80</del><br>7.0   | 54                     | •     | 2EHS*BCC2C1               |
| 2EGP*P2A               | DG 2 fuel oil transfer pump A     | P           | <del>1.5</del><br>1 hp     | 575     | 3     | <del>1.82</del><br>1.4   | <del>9.04</del><br>8.4 | •     | 2EHS*BCC201               |
| 2EGP*P2B               | DG 2 fuel oil transfer pump B     | P           | <del>1.5</del><br>1 hp     | 575     | 3     | <del>1.82</del><br>1.4   | <del>9.04</del><br>8.4 | •     | 2EHS*BCC201               |
| 2EGO*P1                | HPCS DG 2 circulating oil pump    | P           | 1 hp                       | 575     | 3     | <del>2.00</del><br>1.4   | <del>8.4</del><br>8.4  | •     | 2EHS*BCC201               |
| 2EGT*CH1               | HPCS DG 2 immersion heater        | P           | 15 kW                      | 575     | 3     | 15.0                     | 5                      | •     | 2EHS*BCC201               |
| 2EGT*H1                | HPCS DG 2 space heater            | P           | <del>2.15</del><br>3 kW    | 575     | 3     | <del>2.15</del><br>3.0   | <del>5</del><br>5      | •     | 2EHS*BCC201               |



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TABLE 8.3-8 (Cont)

| Equipment<br>Identity No. | Description(1)                                       | Division(2) | Rating                         | Volts   | Phase | Amps<br>Full<br>Load | Amps<br>Locked<br>Rotor | FRN   | Power Source<br>Identity No. | 21 |
|---------------------------|--|-------------|--------------------------------|---------|-------|----------------------|-------------------------|-------|------------------------------|----|
| 2HVC*UC102                | HPCS switchgear<br>room unit cooler                  | P           | 5 hp                           | 575     | 3     | 5.44                 | 32.9                    | *     | 2ENS*HCC201                  |    |
| 2HVP*FN2A                 | DG 2 exhaust<br>fan 2A                               | P           | 30 hp                          | 575     | 3     | 32.0                 | 186                     | *     | 2ENS*HCC201                  |    |
| 2HVP*FN2B                 | DG 2 exhaust<br>fan 2B                               | P           | 30 hp                          | 575     | 3     | 32.0                 | 186                     | *     | 2ENS*HCC201                  |    |
| 2HVP*UC2                  | DG 2 unit cooler<br>HPCS DG room                     | P           | 5 hp                           | 575     | 3     | 5.44                 | 32.9                    | *     | 2ENS*HCC201                  |    |
| 2HVR*UC403A               | Reactor building<br>HPCS separator<br>cooler el 196' | P           | 2 motors<br>7.5 hp<br>15 TOTAL | 575     | 3     | 16.00<br>8.0         | 129.20<br>64.6          | *     | 2ENS*HCC201                  |    |
| 2HVR*UC403B               | Reactor building<br>separator cooler<br>el 196'      | P           | 2 motors<br>7.5 hp<br>15 TOTAL | 575     | 3     | 16.00<br>8.0         | 129.20<br>64.6          | *     | 2ENS*HCC201                  |    |
| 2LAC*XL803                | LTG transformer<br>600-208Y/120-V                    | P           | 30 kVA                         | 575-600 | 3     | 30.0                 | 6                       | *     | 2ENS*HCC201                  |    |
| 25CH*XRC200P              | Regulating<br>transformer                            | P           | 15 kVA                         | 575     | 1     | 15                   | *                       | *     | 2ENS*HCC2C1                  |    |
| 25CV*XD200P               | Distribution<br>transformer<br>600-120-V             | P           | 25 kVA                         | 575-600 | 1     | 43.40<br>9.0         | 6                       | *     | 2ENS*HCC2C1                  |    |
| 25WP*NOV15A               | Service water<br>to HPCS unit<br>cooler              | P           | 0.33 hp                        | 575     | 3     | 0.64<br>0.92         | 4.50<br>3.6             | 1,700 | 2ENS*HCC201                  |    |
| 25WP*NOV15B               | Service water<br>to HPCS unit<br>cooler              | P           | 0.33 hp                        | 575     | 3     | 0.64<br>0.92         | 4.50<br>3.6             | 1,700 | 2ENS*HCC201                  |    |
| 25WP*NOV94A               | Service water<br>to standby D/G<br>coolers E38       | P           | 1 hp                           | 575     | 3     | 2.1                  | 8.8                     | 1,700 | 2ENS*HCC201                  |    |



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TABLE 8.3-4 (Cont)

| <u>Equipment<br/>Identity No.</u> | <u>Description(s)</u>                           | <u>Division(s)</u> | <u>Rating</u> | <u>Volts</u> | <u>Phase</u> | <u>Amps<br/>Full<br/>Load</u> | <u>Amps<br/>Locked<br/>Rotor</u> | <u>Rpm</u> | <u>Power Source<br/>Identity No.</u> |
|-----------------------------------|---|--------------------|---------------|--------------|--------------|-------------------------------|----------------------------------|------------|--------------------------------------|
| 2SWP*MOV94B                       | Service water to<br>standby DG cool-<br>ers E3B | F                  | 1 hp          | 575          | 3            | 2.1                           | 8.8                              | 1,700      | 2EHS*MCC201                          |
| 2HVP*UC2B                         | Service water<br>pump PIT unit<br>cooler        | Y                  | 40 hp         | 575          | 3            | 26.80                         | 324.00                           | *          | 2EHS*MCC301                          |
| 2HVP*UC2D                         | Service water<br>pump PIT unit<br>cooler        | Y                  | 40 hp         | 575          | 3            | 26.80                         | 324.00                           | *          | 2EHS*MCC301                          |
| 2SWP*MOV1B                        | Service water<br>backwash line                  | Y                  | 0.13 hp       | 575          | 3            | 0.36                          | 2.52                             | *          | 2EHS*MCC301                          |
| 2SWP*MOV1D                        | Service water<br>backwash line                  | Y                  | 0.13 hp       | 575          | 3            | 0.36                          | 2.52                             | *          | 2EHS*MCC301                          |
| 2SWP*MOV1F                        | Service water<br>strainer backwash              | Y                  | 0.13 hp       | 575          | 3            | 0.36                          | 2.52                             | *          | 2EHS*MCC301                          |
| 2SWP*MOV3B                        | Service water to<br>turbine plant               | Y                  | 4.2<br>2.7 hp | 575          | 3            | 5.6<br>4.72                   | 47.8<br>29.2                     | *          | 2EHS*MCC301                          |
| 2SWP*MOV30B                       | Motor-operated<br>gate valve                    | Y                  | 1 hp          | 575          | 3            | 2.24                          | 12.8                             | 1,800      | 2EHS*MCC301                          |
| 2SWP*MOV50B                       | Service water<br>pump discharge<br>header       | Y                  | 9.9<br>4.1 hp | 575          | 3            | 15.60<br>5.30                 | 104.00<br>47.40                  | *          | 2EHS*MCC301                          |
| 2SWP*MOV74B                       | Service water<br>discharge block<br>valve       | Y                  | 2.6<br>7.9 hp | 575          | 3            | 4.7<br>*                      | 29.2<br>*                        | *          | 2EHS*MCC301                          |
| 2SWP*MOV74D                       | Service water<br>pump discharge<br>block valve  | Y                  | 2.6 hp        | 575          | 3            | 4.7<br>*                      | 29.2                             | *          | 2EHS*MCC301                          |
| 2SWP*MOV74F                       | Service water<br>pump discharge<br>block valve  | Y                  | 2.6<br>7.9 hp | 575          | 3            | 4.7<br>*                      | 29.2<br>*                        | *          | 2EHS*MCC301                          |



Nine Mile Point Unit 2 PSAR

TABLE 8.3-4 (Cont)

| Equipment Identity No.    | Description(1)                 | Division(2) | Rating             | Volts          | Phase | Amps Full Load   | Amps Locked Rotor | Rpm   | Power Source Identity No. |
|---------------------------|--------------------------------|-------------|--------------------|----------------|-------|------------------|-------------------|-------|---------------------------|
| 2SWP*MOV77B               | Motor-operated gate valve      | Y           | <del>0.66</del> hp | 575            | 3     | 1.84             | 9.6               | 1,800 | 2EHS*MCC301               |
| 2SWP*SSR1B                | Bar rack heater                | Y           | <del>2.0</del> kw  | <del>575</del> | 300 1 | <del>10.5</del>  | <del>1</del>      | *     | 2EHS*MCC301               |
| 2SWP*SSR2B                | Bar rack heater                | Y           | <del>2.0</del> kw  | <del>575</del> | 300 1 | <del>10.5</del>  | <del>1</del>      | *     | 2EHS*MCC301               |
| 2SWP*SSR3B                | Bar rack heater                | Y           | <del>2.0</del> kw  | <del>575</del> | 300 1 | <del>10.5</del>  | <del>1</del>      | *     | 2EHS*MCC301               |
| 2SWP*SSR4B                | Bar rack heater                | Y           | <del>2.0</del> kw  | <del>575</del> | 300 1 | <del>10.5</del>  | <del>1</del>      | *     | 2EHS*MCC301               |
| 2SWP*SSR5B                | Bar rack heater                | Y           | <del>2.0</del> kw  | <del>575</del> | 300 1 | <del>10.5</del>  | <del>1</del>      | *     | 2EHS*MCC301               |
| 2SWP*SSR6B                | Bar rack heater                | Y           | <del>2.0</del> kw  | <del>575</del> | 300 1 | <del>10.5</del>  | <del>1</del>      | *     | 2EHS*MCC301               |
| 2SWP*STR4B                | Strainer service water         | Y           | 3 hp               | 575            | 3     | 3.68             | 21.7              | 1,730 | 2EHS*MCC301               |
| 2SWP*STR4D                | Strainer service water         | Y           | 3 hp               | 575            | 3     | 3.68             | 21.7              | 1,730 | 2EHS*MCC301               |
| 2SWP*STR4F                | Strainer service water         | Y           | 3 hp               | 575            | 3     | 3.68             | 21.7              | 1,730 | 2EHS*MCC301               |
| 2EJS*PNL302B              | AB-S emergency 600-V panel     | Y           | 400 A              | <del>575</del> | 600 3 | 150.             | <del>1</del>      | *     | 2EHS*MCC302B              |
| 2EJS*PNL303B              | AB-S emergency 600-V panel     | Y           | 400 A              | <del>575</del> | 600 3 | 150              | <del>1</del>      | *     | 2EHS*MCC302B              |
| 2EJS*PNL304B              | AB-S emergency 600-V panel     | Y           | 400 A              | <del>575</del> | 600 3 | <del>150</del>   | <del>1</del>      | *     | 2EHS*MCC302B              |
| 2FWS*MOV21B               | Feedwater to reactor           | Y           | 26.6 hp            | 575            | 3     | 27.1             | 236               | 3,600 | 2EHS*MCC302B              |
| 2GTS*FN1B                 | GTS filter train discharge fan | Y           | 40 hp              | 575            | 3     | <del>39.20</del> | <del>232.00</del> | 1,775 | 2EHS*MCC302B              |
| 2GTS*MOV1B                | HVR mix plenum to GTS          | Y           | 0.34 hp            | 575            | 3     | 1.92             | 4.96              | *     | 2EHS*MCC302B              |
| 2CMS*PNL66B<br>(REWORKED) | H2 ANALYZER PANEL B            | Y           | 1 HP               | 575            | 3     | 1.70             | -                 |       | 2EHS*MCC302B              |





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TABLE 8.3-4 (Cont)

| Equipment<br>Identity No. | Description(s)                                    | Division(s) | Rating                   | Volts | Phase | Amps<br>Full<br>Load    | Amps<br>Locked<br>Rotor   | RPM   | Power Source<br>Identity No. |
|---------------------------|---|-------------|--------------------------|-------|-------|-------------------------|---------------------------|-------|------------------------------|
| 20TS*MOV2B                | GTS filter<br>train B inlet                       | Y           | <del>2.0</del><br>1.0 hp | 575   | 3     | <del>3.00</del><br>3.00 | <del>5</del><br>5         | *     | 2EH5*MCC302B                 |
| 30TS*MOV3B                | GTS filter<br>train B discharge                   | Y           | <del>2.0</del><br>1.0 hp | 575   | 3     | <del>3.00</del><br>3.00 | <del>5</del><br>5         | *     | 2EH5*MCC302B                 |
| 20TS*MOV4B                | Decay heat cooler<br>to train B                   | Y           | 1.0 hp                   | 575   | 3     | 2.2                     | 12.8                      | 1,800 | 2EH5*MCC302B                 |
| 2HCS*MOV1B                | Wetwell hydrogen<br>recombiner<br>isolation valve | Y           | 0.33 hp                  | 575   | 3     | 0.75                    | 5.25                      | *     | 2EH5*MCC302B                 |
| 2HCS*MOV2B                | Wetwell hydrogen<br>recombiner<br>isolation valve | Y           | 0.33 hp                  | 575   | 3     | <del>0.64</del><br>0.75 | 5.25                      | *     | 2EH5*MCC302B                 |
| 2HCS*MOV3B                | Wetwell hydrogen<br>recombiner<br>isolation valve | Y           | 0.33 hp                  | 575   | 3     | 0.75                    | 5.25                      | *     | 2EH5*MCC302B                 |
| 2HCS*MOV4B                | Drywell hydrogen<br>recombiner<br>isolation valve | Y           | 0.33 hp                  | 575   | 3     | 0.75                    | 5.25                      | *     | EH5*MCC302B                  |
| 2HCS*MOV5B                | Drywell hydrogen<br>recombiner<br>isolation valve | Y           | 0.33 hp                  | 575   | 3     | 0.75                    | 5.25                      | *     | 2EH5*MCC302B                 |
| 2HCS*MOV6B                | Drywell hydrogen<br>recombiner<br>isolation valve | Y           | 0.33 hp                  | 575   | 3     | <del>0.64</del><br>0.75 | 5.25                      | *     | 2EH5*MCC302B                 |
| 28WP*MOV17B               | Service water<br>to RBCLCW                        | Y           | 1.6 hp                   | 575   | 3     | <del>3.2</del><br>2.9   | <del>20.00</del><br>20.2  | *     | 2EH5*MCC302B                 |
| 28WP*MOV18B               | RBCLCW to<br>service water                        | Y           | <del>1.6</del><br>1 hp   | 575   | 3     | <del>2.9</del><br>2.9   | <del>20.20</del><br>20.20 | *     | 2EH5*MCC302B                 |
| 28WP*MOV19B               | Service water to<br>RBCLCW heat<br>exchanger      | Y           | 1.0 hp                   | 575   | 3     | 2.24                    | 12.8                      | *     | 2EH5*MCC302B                 |
| 23LS*MOV5B                | SLCS INBOARD<br>ISOLATION VALVE                   | Y           | 0.70 HP                  | 575   | 3     | 1.90                    | 10.00                     | *     | 2EH5*MCC302B                 |
| 2GT3*MOV28B               | CROSS-BLEED LVLV                                  | Y           | 2.0 HP                   | 575   | 3     | 2.50                    | -                         | *     | 2EH5*MCC302B                 |

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TABLE 8.3-8 (Cont)

| Equipment Identity No. | Description(s)                                | Division(s) | Rating                             | Volts | Phase                     | Amps Full Load                  | Amps Locked Rotor               | Rpm   | Power Source Identity No.  |
|------------------------|---|-------------|------------------------------------|-------|---------------------------|---------------------------------|---------------------------------|-------|----------------------------|
| 2SWP*MOV21B            | RDCLW to SPC cooling pool                     | Y           | 0.33 hp                            | 575   | 3                         | 0.92                            | 3.6                             | 1,700 | 2EHS* <sup>5</sup> MCC302B |
| 2SWP*MOV33B            | RHR heat exchanger B to discharge tunnel      | Y           | <del>0.86</del> <sup>0.83</sup> hp | 575   | 3                         | <del>3.1</del> <sup>3.5</sup>   | 10.3                            | *     | 2EHS* <sup>5</sup> MCC302B |
| 2SWP*MOV38B            | Service water to RDCLW                        | Y           | <del>0.6</del> <sup>0.7</sup> hp   | 575   | 3                         | 1.68                            | <del>9.52</del> <sup>9.00</sup> | 1,800 | 2EHS* <sup>5</sup> MCC302B |
| 2SWP*MOV39B            | RDCLW to service water                        | Y           | <del>0.6</del> <sup>0.7</sup> hp   | 575   | 3                         | 1.68                            | <del>9.52</del> <sup>9.00</sup> | 1,800 | 2EHS* <sup>5</sup> MCC302B |
| 2SWP*MOV90B            | RHR heat exchanger inlet                      | Y           | 0.66 hp                            | 575   | 3                         | 3.4                             | 10.3                            | *     | 2EHS* <sup>5</sup> MCC302B |
| 2DER*MOV119            | Containment isolation valve                   | Y           | 0.64 hp                            | 575   | <del>2</del> <sup>3</sup> | 0.66                            | 3.8                             | 1,800 | 2EHS* <sup>5</sup> MCC302D |
| 2DER*MOV130            | Der TKI vent                                  | Y           | <del>0.53</del> <sup>0.53</sup>    | 575   | 3                         | <del>0.6</del> <sup>0.6</sup>   | <del>4.20</del> <sup>4.20</sup> | *     | 2EHS* <sup>5</sup> MCC302D |
| 2DFR*MOV121            | Drywell floor drain discharge isolation valve | Y           | 1.3 hp                             | 575   | 3                         | 2.2                             | 9.0                             | 1,800 | 2EHS* <sup>5</sup> MCC302D |
| 2DFR*MOV140            | Drywell floor drain discharge isolation valve | Y           | <del>0.53</del> <sup>0.53</sup> hp | 575   | 3                         | <del>0.56</del> <sup>0.64</sup> | <del>4.2</del> <sup>4.5</sup>   | 1,800 | 2EHS* <sup>5</sup> MCC302D |
| 2ICS*MOV128            | MOV steam supply line                         | Y           | <del>6.0</del> <sup>7.80</sup> hp  | 575   | 3                         | 9.12                            | 75.4                            | 3,600 | 2EHS* <sup>5</sup> MCC302D |
| 2ICS*MOV170            | Bypass of MOV128                              | Y           | <del>0.09</del> <sup>0.13</sup> hp | 575   | 3                         | <del>0.36</del> <sup>0.36</sup> | <del>2.52</del> <sup>2.52</sup> | *     | 2EHS* <sup>5</sup> MCC302D |
| 2MSI*MOV1B             | MSIV seal out-board isolation                 | Y           | 0.33 hp                            | 575   | 3                         | 0.56                            | 4.2                             | 1,800 | 2EHS* <sup>5</sup> MCC302D |
| 2MSI*MOV2B             | MSIV seal inboard isolation                   | Y           | 0.33 hp                            | 575   | 3                         | 0.56                            | 4.2                             | 1,800 | 2EHS* <sup>5</sup> MCC302D |
| 2MSS*MOV111            | Main steam to condensate inboard isolation    | Y           | 1.6 hp                             | 575   | 3                         | 3.2                             | 20.4                            | 1,800 | 2EHS* <sup>5</sup> MCC302D |
| 2MSS*MOV118            | VENT VALVE                                    | Y           | 0.33HP                             | 575   | 3                         | 0.60                            | 4.2                             |       | 2EHS* <sup>5</sup> MCC302A |



Nine Mile Point Unit 2 PSAR

TABLE 8.3-4 (Cont)

| Equipment Identity No. | Description(1)                            | Division(2) | Rating                     | Volts | Phase | Amps Full Load          | Amps Locked Rotor        | Rpm   | Power Source Identity No. |
|------------------------|---|-------------|----------------------------|-------|-------|-------------------------|--------------------------|-------|---------------------------|
| 2SL8*MOV1B             | Standby liquid control                    | Y           | <del>0.33</del><br>0.13 hp | 575   | 3     | <del>0.72</del><br>0.48 | <del>4.00</del><br>2.1   | *     | 2EH5*MCC302D              |
| 2SL8*P1B               | Standby liquid pump B                     | Y           | 40 hp                      | 575   | 3     | 41.0                    | 246                      | 1,755 | 2EH5*MCC302D              |
| 2WCS*MOV102            | RWCU inboard isolation valve              | Y           | <del>5.2</del><br>10.6 hp  | 575   | 3     | <del>8.48</del><br>12.2 | <del>48.00</del><br>187  | *     | 2EH5*MCC302D              |
| (2)<br>2HVR*CHL1B(3)   | Auxiliary oil pump                        | Y           | 0.75 hp                    | 575   | 3     | 0.75<br><del>1.1</del>  | 4.50<br><del>6.6</del>   | *     | 2EH5*MCC303B              |
| 2CCP*MOV122            | Drywell cooler to RBCLW inboard I         | Y           | 1 hp                       | 575   | 3     | <del>2.24</del><br>2.1  | <del>12.80</del><br>8.8  | 1,700 | 2EH5*MCC303B              |
| 2CCP*MOV14B            | RBCLW to SFC heat exchanger B             | Y           | 1.6 hp                     | 575   | 3     | <del>3.20</del><br>2.9  | <del>20.00</del><br>20.2 | 1,800 | 2EH5*MCC303B              |
| 2CCP*MOV18B            | SFC heat exchanger to RBCLW               | Y           | 1.6 hp                     | 575   | 3     | <del>3.20</del><br>2.9  | <del>20.00</del><br>20.2 | 1,800 | 2EH5*MCC303B              |
| 16A<br>2CCP*MOV21A     | RBCLW from RCS pump A                     | Y           | 0.33 hp                    | 575   | 3     | <del>0.60</del><br>0.56 | 4.2                      | 1,800 | 2EH5*MCC303B              |
| 16B<br>2CCP*MOV21B     | RBCLW from RCS pump B                     | Y           | 0.33 hp                    | 575   | 3     | <del>0.60</del><br>0.56 | 4.2                      | 1,800 | 2EH5*MCC303B              |
| V2<br>2CCP*MOV22B      | RBCLW from RCS pump B                     | Y           | 1.0 hp                     | 575   | 3     | 2.2                     | 12.8                     | 1,800 | 2EH5*MCC303B              |
| 2CCP*MOV273            | RBCLW to drywell cooler inboard isolation | Y           | <del>1.0HP</del><br>1.0 hp | 575   | 3     | <del>2.2</del><br>2.2   | <del>12.5</del><br>12.5  | *     | 2EH5*MCC303B              |
| 2CCP*MOV93B            | RBCLW to 2RCS-P1B coolers                 | Y           | <del>0.7</del><br>0.67 hp  | 575   | 3     | <del>1.90</del><br>1.95 | <del>9.00</del><br>6.9   | 1,700 | 2EH5*MCC303B              |
| 2CCP*MOV94A            | Cooling water to P1A                      | Y           | <del>0.33</del><br>0.33 hp | 575   | 3     | <del>0.64</del><br>0.64 | <del>4.50</del><br>4.50  | *     | 2EH5*MCC303B              |
| 2CCP*MOV94B            | Cooling water to P1B                      | Y           | <del>0.33</del><br>0.33 hp | 575   | 3     | <del>0.64</del><br>0.64 | <del>4.50</del><br>4.50  | *     | 2EH5*MCC303B              |



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TABLE 8.3-4 (Cont)

| Equipment Identity No. | Description(s)                         | Division(s) | Rating        | Volts | Phase | Amps Full Load            | Amps Locked Rotor          | RPM   | Power Source Identity No. |
|------------------------|--|-------------|---------------|-------|-------|---------------------------|----------------------------|-------|---------------------------|
| 2EGF*P1B               | DG 3 fuel oil transformer pump B       | Y           | <u>1.5</u> hp | 575   | 3     | <u>1.76</u><br><u>1.4</u> | <u>8.8</u><br><u>9.04</u>  | *     | 2EHS*MCC303B              |
| 2EGF*P1D               | DG 3 fuel oil transformer pump D       | Y           | <u>1.5</u> hp | 575   | 3     | <u>1.76</u><br><u>1.4</u> | <u>8.8</u><br><u>9.04</u>  | *     | 2EHS*MCC303B              |
| 2EQO*P1B               | Lube oil circulation pump              | Y           | 15 hp         | 575   | 3     | 14.5                      | 83.5                       | 1,800 | 2EHS*MCC303B              |
| 2EGS*H3                | Generator space heater                 | Y           | 5.7 kW        | 575   | 3     | 5.7                       | *                          | *     | 2EHS*MCC303B              |
| 2EGS*P1B               | Jacket water circulation pump          | Y           | 5 hp          | 575   | 3     | 5.6                       | 34.2                       | 1,800 | 2EHS*MCC303B              |
| 2EGT*CH3               | Lube oil heater                        | Y           | 12 kW         | 575   | 3     | 12                        | <u>6.4</u>                 | *     | 2EHS*MCC303B              |
| 2EGT*CH5               | Jacket water heater                    | Y           | 18 kW         | 575   | 3     | 18                        | <u>6.4</u>                 | *     | 2EHS*MCC303B              |
| 2HVC*ACU1B             | Control room A/C unit 1B               | Y           | 40 hp         | 575   | 3     | 41                        | 246                        | *     | 2EHS*MCC303B              |
| 2HVC*ACU2B             | Relay room A/C unit 2B                 | Y           | 40 hp         | 575   | 3     | 41                        | 246                        | *     | 2EHS*MCC303B              |
| 2HVC*ACU3B             | Remote shutdown on room A/C unit       | Y           | 2 hp          | 575   | 3     | <u>2.5</u><br><u>2.6</u>  | <u>16.3</u><br><u>15.6</u> | *     | 2EHS*MCC303B              |
| 2HVC*FN1B              | Makeup air switchgear floor            | Y           | 7.5 hp        | 575   | 3     | 9.0                       | 54                         | *     | 2EHS*MCC303B              |
| 2HVC*FN2B              | Control room A/C booster fan B         | Y           | 10 hp         | 575   | 3     | 10.5                      | 65                         | 1,760 | 2EHS*MCC303B              |
| 2HVC*FN4B              | Battery room B exchange fan            | Y           | 3 hp          | 575   | 3     | 2.6                       | 29.2                       | *     | 2EHS*MCC303B              |
| 2HVC*NOV1B             | Control room A/C special filter bypass | Y           | <u>2.5</u> hp | 575   | 3     | <u>4.2</u><br><u>6</u>    | <u>4.00</u><br><u>11</u>   | *     | 2EHS*MCC303B              |
| 2EGA*M1B               | DG 3 AIR COMP 1B MOTOR                 | Y           | 15HP          | 575   | 3     | 15.8                      | 84.00                      |       | 2EHS*MCC303B              |
| 2EGA*M2B               | DG 3 AIR COMP 2B MOTOR                 | Y           | 15HP          | 575   | 3     | 15.8                      | 84.00                      |       | 2EHS*MCC303B              |





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TABLE 6.3-4 (Cont)

| Equipment Identity No.     | Description(1)                                    | Division(2)  | Rating                               | Volts          | Phase        | Amps Full Load                    | Amps Locked Rotor                  | RPM          | Power Source Identity No. |
|----------------------------|---|--------------|--------------------------------------|----------------|--------------|-----------------------------------|------------------------------------|--------------|---------------------------|
| 2BVK*P1B                   | Control building chilled water circulating pump B | Y            | 15 hp                                | 575            | 3            | 14.8                              | 90                                 | 1,750        | 2EHS*MCC303B              |
| 2BWP* <sup>FV</sup> MOV47B | Service water to CWS pumps                        | Y            | <sup>20</sup><br><del>2.7</del> hp   | 575            | 3            | <sup>1.1</sup><br><del>4.7</del>  | <sup>29.2</sup><br><del>29.2</del> | *            | 2EHS*MCC303B              |
| 2BWP*MOV66B                | Service water to standby DG coolers E3B           | Y            | 1 hp                                 | 575            | 3            | 2.1                               | 8.8                                | 1,700        | 2EHS*MCC303B              |
| 2BWP*MOV67B                | Service water to cont ground relay room coil      | Y            | <sup>6.4</sup><br><del>1.0</del> hp  | 575            | 3            | <sup>6.6</sup><br><del>6</del>    | <sup>3.8</sup><br><del>6</del>     | *            | 2EHS*MCC303B              |
| 2BWP*MOV92B                | Service water to discharge tunnel isolation       | Y            | 1.6 hp                               | 575            | 3            | *                                 | *                                  | *            | 2EHS*MCC303B              |
| 2BWP*MOV93B                | Service water to discharge tunnel isolation       | Y            | <sup>10</sup><br><del>10.5</del> hp  | 575            | 3            | <sup>2.2</sup><br><del>2</del>    | <sup>12.5</sup><br><del>12.5</del> | *            | 2EHS*MCC303B              |
| 2BWP*MOV95B                | Service water to standby DG coolers               | Y            | 1 hp                                 | 575            | 3            | 2.1                               | 8.8                                | 1,700        | 2EHS*MCC303B              |
| 2BWP*P2B                   | Catch basin chiller service water pump B          | Y            | <sup>10</sup><br><del>3</del> hp     | 575            | 3            | <sup>10.5</sup><br><del>3.5</del> | <sup>64.00</sup><br><del>20</del>  | 1,145        | 2EHS*MCC303B              |
| 2BVP*FN1B                  | DG 3 exhaust fan 1B                               | Y            | 30 hp                                | 575            | 3            | 32.0                              | 186                                | *            | 2EHS*MCC303D              |
| 2BVP*FN1D                  | DG 3 exhaust fan 1D                               | Y            | 30 hp                                | 575            | 3            | 32.0                              | 186                                | *            | 2EHS*MCC303D              |
| 2RHS*FV38B                 | Test line B to suppression pool                   | Y            | <sup>.33</sup><br><del>0.38</del> hp | 575            | 3            | 0.66                              | <sup>3.8</sup><br><del>4.0</del>   | *            | 2EHS*MCC303D              |
| 2RHS*FV38C                 | RHR pump C to suppression pool                    | Y            | 0.34 hp                              | 575            | 3            | 0.66                              | 4.0                                | *            | 2EHS*MCC303D              |
| <del>2BVK*P1B(1)</del>     | <del>AUX ON PUMP</del>                            | <del>Y</del> | <del>0.75 HP</del>                   | <del>575</del> | <del>3</del> | <del>0.75</del>                   | <del>4.5</del>                     | <del>*</del> | <del>2EHS*MCC303B</del>   |



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TABLE 8.3-8 (Cont)

| Equipment<br>Identity No. | Description(1)                                   | Division(2) | Rating                    | Volts | Phase | Amps<br>Full<br>Load    | Amps<br>Locked<br>Rotor  | Rpm   | Power Source<br>Identity No. |
|---------------------------|--|-------------|---------------------------|-------|-------|-------------------------|--------------------------|-------|------------------------------|
| 2RHS*MOV1B                | Suppression pool<br>to RHR pump E                | Y           | 1.6 hp                    | 575   | 3     | 3.2                     | 20.2                     | *     | 2EHS*MCC303D                 |
| 2RHS*MOV1C                | Suppression pool<br>to RHR pump C                | Y           | <sup>1.6</sup><br>1.3 hp  | 575   | 3     | 3.2                     | 20.2                     | *     | 2EHS*MCC303D                 |
| 2RHS*MOV112               | Shutdown cooling<br>supply inboard<br>isolation  | Y           | <sup>19.2</sup><br>20 hp  | 575   | 3     | <sup>20.5</sup><br>20.6 | <sup>156</sup><br>155    | 3,600 | 2EHS*MCC303D                 |
| 2RHS*MOV115               | Service water<br>bypass to reactor               | Y           | 1.6 hp                    | 575   | 3     | 2.9                     | 20.2                     | 1,800 | 2EHS*MCC303D                 |
| 2RHS*MOV116               | Service water<br>bypass to reactor               | Y           | 1.6 hp                    | 575   | 3     | 2.9                     | 20.2                     | 1,800 | 2EHS*MCC303D                 |
| 2RHS*MOV12B               | Heat exchanger B<br>to reactor                   | Y           | <sup>1.00</sup><br>1.9 hp | 575   | 3     | <sup>2.80</sup><br>2.8  | <sup>16.00</sup><br>16   | *     | 2EHS*MCC303D                 |
| 2RHS*MOV149               | Heat exchanger B<br>to liquid radwaste<br>system | Y           | 0.33 hp                   | 575   | 3     | 0.56                    | 4.2                      | 1,800 | 2EHS*MCC303D                 |
| 2RHS*MOV15B               | Containment<br>spray B                           | Y           | 2.6 hp                    | 575   | 3     | <sup>4.7</sup><br>4.72  | <sup>30.00</sup><br>29.2 | 1,800 | 2EHS*MCC303D                 |
| 2RHS*MOV2B                | Reactor to RHR<br>pump B                         | Y           | 0.86 hp                   | 575   | 3     | 3.44                    | 10.31                    | *     | 2EHS*MCC303D                 |
| 2RHS*MOV22B               | Steam condensing<br>to heat ex-<br>changer B     | Y           | 1.6 hp                    | 575   | 3     | 3.1                     | 16                       | 1,700 | 2EHS*MCC303D                 |
| 2RHS*MOV23B               | Steam condensing<br>to heat ex-<br>changer B     | Y           | 1.6 hp                    | 575   | 3     | 3.1                     | 16                       | 1,700 | 2EHS*MCC303D                 |
| 2RHS*MOV24B               | LPCI inlet B                                     | Y           | 6.6 hp                    | 575   | 3     | 8.0                     | 67.5                     | *     | 2EHS*MCC303D                 |
| 2RHS*MOV24C               | LPCI inlet C                                     | Y           | 6.6 hp                    | 575   | 3     | 8.0                     | 67.5                     | *     | 2EHS*MCC303D                 |
| 2RHS*MOV25B               | Containment<br>spray B                           | Y           | 2.6 hp                    | 575   | 3     | 4.72                    | 29.2                     | 1,800 | 2EHS*MCC303D                 |
| 2RHS*MOV80B               | GLOBE VALVE                                      | Y           | 0.13HP                    | 575   | 3     | 0.36                    | 2.50                     |       | 2EHS*MCC303D                 |



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TABLE 6.3-4 (Cont)

| Equipment<br>Identity No. | Description(1)                                | Division(2) | Rating          | Volts      | Phase  | Amps<br>Full<br>Load | Amps<br>Locked<br>Rotor | Rpm   | Power Source<br>Identity No. |
|---------------------------|---|-------------|-----------------|------------|--------|----------------------|-------------------------|-------|------------------------------|
| 2RHS*MOV26B               | Heat exchanger B<br>vent to suppression pool. | Y           | 0.13 hp         | 575        | 3      | 0.85<br>0.8          | 1.70<br>1.7             | *     | 2RHS*MCC303D                 |
| 2RHS*MOV27B               | Heat exchanger B<br>vent to suppression pool  | Y           | 0.13 hp         | 575        | 3      | 0.85<br>0.8          | 1.70<br>1.7             | *     | 2RHS*MCC303D                 |
| 2RHS*MOV30B               | RHR return to<br>suppression pool             | Y           | 1.60<br>1.6     | 575<br>575 | 3<br>3 | 3.20<br>3.2          | 20.00<br>20.0           | *     | 2RHS*MCC303D                 |
| 2RHS*MOV32B               | Heat exchanger<br>B to RCIC                   | Y           | 0.7<br>0.6 hp   | 575        | 3      | 1.80<br>1.68         | 9.0<br>9.52             | 1,800 | 2RHS*MCC303D                 |
| 2RHS*MOV33B               | Suppression pool<br>spray header B            | Y           | 0.33 hp         | 575        | 3      | 0.56                 | 4.2                     | 1,800 | 2RHS*MCC303D                 |
| 2RHS*MOV37B               | RHR line B to<br>suppression pool             | Y           | 0.33 hp         | 585<br>575 | 3      | 0.56                 | 4.2                     | 1,800 | 2RHS*MCC303D                 |
| 2RHS*MOV4B                | RHR minimum<br>flow to<br>suppression pool    | Y           | 1.9 hp          | 575        | 3      | 2.8                  | 20.8                    | 1,800 | 2RHS*MCC303D                 |
| 2RHS*MOV4C                | RHR minimum<br>flow to suppression pool       | Y           | 1.9 hp          | 575        | 3      | 2.8                  | 20.8                    | 1,800 | 2RHS*MCC303D                 |
| 2RHS*MOV40B               | Shutdown cooling<br>return B                  | Y           | 10.6 hp         | 575        | 3      | 12.2                 | 147                     | 3,400 | 2RHS*MCC303D                 |
| 2RHS*MOV67B               | RHR shutdown<br>bypass                        | Y           | 0.33<br>0.13 hp | 575        | 3      | 0.64<br>0.6          | 4.50<br>4.5             | *     | 2RHS*MCC303D                 |
| 2RHS*MOV8B                | Heat exchanger<br>B bypass                    | Y           | 1.6<br>1.5 hp   | 575        | 3      | 3.2                  | 20.00<br>20.2           | *     | 3RHS*MCC303D                 |
| 2RHS*MOV9B                | RHR pump B to<br>heat exchanger B             | Y           | 1.6 hp          | 575        | 3      | 3.2                  | 20.20<br>20.2           | *     | 2RHS*MCC303D                 |
| 2RHS*P2                   | RHR system<br>pressure pump                   | Y           | 10 hp           | 575        | 3      | 10.3                 | 51                      | 3,455 | 2RHS*MCC303D                 |



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TABLE 8.3-4 (Cont)

| Equipment<br>Identity No. | Description(s)                                   | Division(s) | Rating                | Volts | Phase | Amps<br>Full<br>Load | Amps<br>Locked<br>Rotor | Rpm | Power Source<br>Identity No. |
|---------------------------|--|-------------|-----------------------|-------|-------|----------------------|-------------------------|-----|------------------------------|
| 2HVR*UC2C                 | Service water<br>pump PIT<br>unit cooler         | G           | 40 hp                 | 575   | 3     | *                    | *                       | *   | 2EHS*UC101                   |
| ✓ 2CSL*H1A                | LPCS pump heater                                 | G           | 0.9 kW<br>200 W       | 120   | 1     | 7.8<br>1.7           | 2.7<br>1.7              | *   | 2EJA*PNL100A                 |
| ✓ 2HVR*H013A              | Reactor building<br>#13A heater<br>unit cooler A | G           | 2.0 kW                | 120   | 1     | 1.7                  | 1.7                     | *   | 2EJA*PNL100A                 |
| 2TCS*H1                   | Air compression<br>motor heater                  | G           | 30 W                  | 420   | 1     | *                    | *                       | *   | 2EJA*PNL100A                 |
| 2RHS*H1A                  | RHR motor heater<br>pump A                       | G           | 0.6 kW                | 120   | 1     | 5.22                 | 2.7                     | *   | 2EJA*PNL100A                 |
| 2SPC*H1A                  | SPC water circula-<br>tion pump<br>A heater      | G           | 5.0 kW 250W<br>6.0 kW | 120   | 1     | 2.08                 | 0.0                     | *   | 2EJA*PNL100A                 |
| 2SL5*H1A                  | Standby liquid<br>pump A heater                  | G           | 40 W                  | 120   | 1     | 0.33<br>1.0          | 0.0                     | *   | 2EJA*PNL100A                 |
| ✓ 2BYS*BWGH002A           | Switchgear<br>heater                             | G           | 1.5 kW                | 240   | 1     | 6.25                 | 2.7                     | *   | 2EJA*PNL101A                 |
| 2EGS*GVR1                 | Generator<br>governor                            | G           | *                     | 120   | 1     | *                    | *                       | *   | 2EJA*PNL101A                 |
| 2EGS*PH1                  | Panel heater                                     | G           | *                     | 120   | 1     | *                    | *                       | *   | 2EJA*PNL101A                 |
| ✓ 2EJS*USH1               | Load center<br>heater                            | G           | 3.6 kW                | 240   | 1     | 15                   | 2.7                     | *   | 2EJA*PNL101A                 |
| 2ENS*BWGH101              | Switchgear<br>heater                             | G           | 4.25 kW               | 120   | 1     | 35.4                 | 2.7                     | *   | 2EJA*PNL101A                 |
| 2HVR*CHL1A(2)             | Control building<br>chiller 1A                   | G           | 2.0 kVA               | 120   | 1     | 16.66<br>4.16        | 2.7<br>0.0              | *   | 2EJA*PNL101A                 |
| 2SWP*H1A                  | Service water<br>pump A<br>motor heater          | G           | 500 W                 | 120   | 1     | 4.16                 | 0.0                     | *   | 2EJA*PNL101A                 |





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TABLE 8.3-4 (Cont)

| Equipment Identity No. | Description(1)                             | Division(2) | Rating  | Volts | Phase | Amps Full Load | Amps Locked Rotor | Rm | Power Source Identity No. |
|------------------------|--|-------------|---------|-------|-------|----------------|-------------------|----|---------------------------|
| 28WP*H1C               | Service water pump C motor heater          | G           | 500W    | 120   | 1     | 4.16           | 0.0               | *  | 2EJA*PNL101A              |
| 28WP*H1E               | Service water pump E motor heater          | G           | 500W    | 120   | 1     | 4.16           | 0.0               | *  | 2EJA*PNL101A              |
| 28VR*H413B             | Reactor building 413B heater unit cooler A | Y           | 2.0 kW  | 120   | 1     | 16.66          | 0.0               | *  | 2EJA*PNL300B              |
| 28HG*H1B               | RHR motor heater pump B                    | Y           | 0.6 kW  | 120   | 1     | 5.22           | 0.0               | *  | 2EJA*PNL300B              |
| 28HS*H1C               | RHR pump C motor heater                    | Y           | 0.6 kW  | 120   | 1     | 5.22           | 0.0               | *  | 2EJA*PNL300B              |
| 28PC*H1B               | SPC water circulation pump B heater        | Y           | 5.0 kW  | 120   | 1     | 2.08           | 0.0               | *  | 2EJA*PNL300B              |
| 28LS*H1B               | Standby liquid pump B heater               | Y           | 40 kW   | 120   | 1     | 1.0            | *                 | *  | 2EJA*PNL300B              |
| 28YS*SWGH002B          | Switchgear heater                          | Y           | 1.5 kW  | 240   | 1     | 6.25           | 0.0               | *  | 2EJA*PNL301B              |
| 2EGS*GVR3              | Generator governor                         | Y           | *       | 120   | 1     | *              | *                 | *  | 2EJA*PNL301B              |
| 2EGS*PH4               | Panel heater                               | Y           | *       | 120   | 1     | *              | *                 | *  | 2EJA*PNL301B              |
| 2EJS*USH3              | Load center heater                         | Y           | 3.6 kW  | 240   | 1     | 15             | 0.0               | *  | 2EJA*PNL301B              |
| 2ENS*SWGH103           | Switchgear heater                          | Y           | 4.25 kW | 120   | 1     | 35.4           | 0.0               | *  | 2EJA*PNL301B              |
| 28VK*CHL1B(2)          | Control building chiller 1B                | Y           | 2.0 kVA | 120   | 1     | 16.66          | 0.0               | *  | 2EJA*PNL301B              |



# Nine Mile Point Unit 2 PSAR

TABLE 8.3-4 (Cont)

| Equipment Identity No. | Description(s)                           | Division(s) | Rating   | Volts   | Phase | Amps Full Load | Amps Locked Rotor | Rpm | Power Source Identity No.  |
|------------------------|--|-------------|----------|---------|-------|----------------|-------------------|-----|----------------------------|
| 28WP*H1B               | Service water pump B motor heater        | Y           | 500 W    | 120     | 1     | 4.16           | 0.0               | *   | 2EJA*PNL301B               |
| 28WP*H1D               | Service water pump D motor heater        | Y           | 500 W    | 120     | 1     | 4.16           | 0.0               | *   | 2EJA*PNL301B               |
| 28WP*H1F               | Service water pump F motor heater        | Y           | 500 W    | 120     | 1     | 4.16           | 0.0               | *   | 2EJA*PNL301B               |
| 2EJA*PNL100A           | Reactor building 120-V heater panel      | G           | 150 A    | 208     | 3     | 150<br>83.0    | 0.0               | *   | 2EJA*XD100A                |
| 2EJA*PNL101A           | Control building 120/240-V heater panel  | G           | 150 A    | 240     | 1     | 150<br>104.0   | 0.0               | *   | 2EJA*XD101A<br>2EJA*XD100A |
| 2EJA*PNL300B           | Reactor building 120-V heater panel      | Y           | 150 A    | 208     | 3     | 150<br>83.0    | 0.0               | *   | 2EJA*XD300B                |
| 2EJA*PNL301B           | Control building 120/240-V heater panel  | Y           | 150 A    | 240     | 1     | 150<br>104.0   | 0.0               | *   | 2EJA*XD301B                |
| 2BYS*CHGR2A2           | 125-V battery charger                    | G           | 300 A DC | 575     | 3     | 80             | 0.0               | *   | 2EJS*PNL100A               |
| 2EJA*XD100A            | Distribution transformer 600V-208Y/120-V | G           | 30 kVA   | 575-600 | 3     | 30.0           | 0.0               | *   | 2EJS*PNL100A               |
| 2EJA*XD101A            | Distribution transformer 600V-120/240-V  | G           | 25 kVA   | 600-575 | 1     | 43.40<br>25.0  | 0.0               | *   | 2EJS*PNL100A               |
| 2EJS*PNL102A           | Switchgear room A emergency 600-V panel  | G           | 400 A    | 575-600 | 3     | 100            | 0.0               | *   | 2EJS*PNL100A               |



Nine Mile Point Unit 2 PSAR

TABLE 8.3-4 (Cont)

| Equipment Identity No. | Description(1)                             | Division(2) | Rating                    | Volts                 | Phase | Amps Full Load            | Amps Locked Rotor        | Rpm | Power Source Identity No.    |
|------------------------|--|-------------|---------------------------|-----------------------|-------|---------------------------|--------------------------|-----|------------------------------|
| 2HVC*CH11A             | Control building equipment room 306 heater | G           | 60 kW                     | 575                   | 3     | <del>60</del><br>60.30    | <del>8</del><br>8        | *   | 2EJS*PNL100A                 |
| 2HVC*CH12A             | Control building equipment room 288        | G           | 40 kW                     | 575                   | 3     | <del>40</del><br>40.20    | <del>8</del><br>8        | *   | 2EJS*PNL101A <sup>100A</sup> |
| 2BCV*XD101A            | Distribution transformer 600-V-120/240-V   | G           | 25 kVA                    | <del>575</del><br>600 | 1     | <del>17.5</del><br>17.5   | <del>8.0</del><br>8.0    | *   | 2EJS*PNL100A                 |
| 2VBA*UP82A(AC1)        | Div. 1A control UPS                        | G           | 25 kVA                    | 575                   | 3     | <del>76.00</del><br>76.00 | <del>8.0</del><br>8.0    | *   | 2EJS*PNL100A                 |
| 2HVR*UC401A            | Reactor building space cooler el 175'      | G           | 2 hp                      | 575                   | 3     | 2.5                       | 16.0                     | *   | 2EJS*PNL101A                 |
| 2HVR*UC401D            | Reactor building space cooler el 175'      | G           | 2 hp                      | 575                   | 3     | 2.5                       | 16.0                     | *   | 2EJS*PNL101A                 |
| 2HVR*UC402A            | Reactor building space cooler el 175'      | G           | <del>5.0</del><br>10.7 hp | 575                   | 3     | <del>5.6</del><br>11.20   | <del>39.2</del><br>78.40 | *   | 2EJS*PNL101A                 |
| 2HVR*UC402B            | Reactor building space cooler el 175'      | G           | <del>5.0</del><br>10.7 hp | 575                   | 3     | <del>5.6</del><br>11.20   | <del>39.2</del><br>78.40 | *   | 2EJS*PNL101A                 |
| 2HVR*UC404A            | Reactor building space cooler el 196'      | G           | 3 hp                      | 575                   | 3     | 3.60                      | <del>25</del><br>36.00   | *   | 2EJS*PNL101A                 |
| 2HVR*UC404B            | Reactor building space cooler el 196'      | G           | 3 hp                      | 575                   | 3     | 3.60                      | 25                       | *   | 2EJS*PNL101A                 |
| 2HVR*UC410A            | Reactor building space cooler el 175'      | G           | <del>5</del><br>3.7 hp    | 575                   | 3     | <del>5.6</del><br>3.36    | <del>8</del><br>25.00    | *   | 2EJS*PNL101A <sup>100A</sup> |



Nine Mile Point Unit 2 PSAP

TABLE 8.3-8 (Cont)

| Equipment<br>Identity No.                           | Description(s)                                  | Division(s)                  | Rating                    | Voltage | Phase | Amps<br>Full<br>Load   | Amps<br>Locked<br>Rotor   | Rpm | Power Source<br>Identity No. |
|---|---|------------------------------|---------------------------|---------|-------|------------------------|---------------------------|-----|------------------------------|
| <del>2KJB*</del> <sup>MSTI</sup> <del>ORAI(3)</del> | Reactor building<br>personnel airlock           | <del>G</del> <sup>EQPT</sup> | 4 hp                      | 575     | 3     | 5.4                    | 31.2                      | *   | 2EJS*PNL101A                 |
| <sup>XD2A</sup><br>2HVC*CH7A                        | Spec filter train<br>electric heater            | G                            | <sup>15KVA</sup><br>10 kW | 575     | 3     | <sup>15</sup><br>10    | <sup>0.0</sup><br>0.0     | *   | 2EJS*PNL102A                 |
| 2HVC*UC101A   | Standby switch-<br>gear room A<br>unit cooler   | G                            | 7.5 hp                    | 575     | 3     | 8.4                    | <sup>54.0</sup><br>49.6   | *   | 2EJS*PNL102A                 |
| 2HVC*UC103A   | Chloride room<br>unit cooler                    | G                            | 1 hp                      | 575     | 3     | 1.23                   | 10.5                      | *   | 2EJS*PNL102A                 |
| 2HVC*UC104  | Control building<br>cable tunnel<br>unit cooler | G                            | 15 hp                     | 575     | 3     | 15.2                   | 84                        | *   | 2EJS*PNL102A                 |
| 2HVC*UC106  | Cable area base<br>unit cooler                  | G                            | 15 hp                     | 575     | 3     | 15.2                   | 84                        | *   | 2EJS*PNL102A                 |
| 2HVP*UC1A   | DG 1 unit cooler<br>standby DG room             | G                            | <sup>57</sup><br>1 hp     | 575     | 3     | <sup>5.44</sup><br>5.4 | <sup>3920</sup><br>3920   | *   | 2EJS*PNL102A                 |
| 2HVR*UC405  | Reactor building<br>space cooler<br>el 198'     | G                            | 3 hp                      | 575     | 3     | 3.6                    | 23.1                      | *   | 2EJS*PNL103A                 |
| 2HVR*UC407A   | Reactor building<br>space cooler<br>el 215'     | G                            | 1.5 hp                    | 575     | 3     | 1.85                   | <sup>47</sup><br>12.6     | *   | 2EJS*PNL103A                 |
| 2HVR*UC407B   | Reactor building<br>space cooler<br>el 215'     | G                            | 1.5 hp                    | 575     | 3     | 1.85                   | 12.6                      | *   | 2EJS*PNL103A                 |
| <sup>2HVR</sup><br><del>2HVR</del> *UC407C          | Reactor building<br>space cooler<br>el 215'     | G                            | 1.5 hp                    | 575     | 3     | 1.85                   | 12.6                      | *   | 2EJS*PNL103A                 |
| 2HVR*UC415A   | SGT space cooler<br>el 261'                     | G                            | <sup>27</sup><br>3 hp     | 575     | 3     | <sup>2.24</sup><br>5.6 | <sup>16.80</sup><br>16.80 | *   | 2EJS*PNL103A                 |
| 2HVC* CAB18A  | CONT/RELAY ROOMS<br>INTAKE RADN                 | G                            | 1.5HP                     | 575     | 3     | 1.8                    | 10.50                     | *   | 2EJS*PNL102A                 |
| 2HVC* CAB18C  | CONT/RELAY ROOMS<br>INTAKE RADN                 | G                            | 1.5HP                     | 575     | 3     | 1.8                    | 10.50                     | *   | 2EJS*PNL102A                 |





Nine Mile Point Unit 2 PSAR

TABLE 8.3-4 (Cont)

| Equipment Identity No.    | Description(s)                             | Division(s) | Rating   | Volts      | Phase | Amps Full Load | Amps Locked Rotor | Rpm | Power Source Identity No.    |
|---------------------------|--|-------------|----------|------------|-------|----------------|-------------------|-----|------------------------------|
| 2GTS*CH1A <sup>XD1A</sup> | Filter train A heater                      | G           | 20 kW    | 575        | 3     | 20.0           | 2                 | •   | 2EJS*PNL104A                 |
| 2HVR*UC408A               | Reactor building space cooler el 240°      | G           | 5 hp     | 575        | 3     | 5.68<br>5.6    | 36.70<br>38.2     | •   | 2EJS*PNL104A                 |
| 2HVR*UC408B               | Reactor building space cooler el 240°      | G           | 5 hp     | 575        | 3     | 5.68<br>5.6    | 36.70<br>38.2     | •   | 2EJS*PNL104A                 |
| 2HVR*UC410A               | Reactor building space cooler el 240°      | G           | 1.5 hp   | 575        | 3     | 1.85           | 12.40<br>12.6     | •   | 2EJS*PNL104A                 |
| 2HVR*UC411A               | Reactor building space cooler el 261°      | G           | 3 hp     | 575        | 3     | 3.36           | 25                | •   | 2EJS*PNL104A                 |
| 2HVR*UC412A               | Reactor building space cooler el 261°      | G           | 3 hp     | 575        | 3     | 3.36           | 25                | •   | 2EJS*PNL104A <sup>101A</sup> |
| 2BYS*CHGR2B2              | 125-V battery charger                      | Y           | 300 A DC | 575        | 3     | 80             | 0.0               | •   | 2EJS*PNL300B                 |
| 2EJA*XD300B               | Distribution transformer 600-V-208Y/120-V  | Y           | 30 kVA   | 575<br>600 | 3     | 30             | 0.0               | •   | 2EJS*PNL300B                 |
| 2EJA*XD301B               | Distribution transformer 600-V-120/240-V   | Y           | 25 kVA   | 575<br>600 | 1     | 43.40<br>25    | 0.0               | •   | 2EJS*PNL300B                 |
| 2EJS*PNL301B              | Switchgear room B emergency 600-V panel    | Y           | 400 A    | 575<br>600 | 3     | 100            | 0.0               | •   | 2EJS*PNL300B                 |
| 2HVC*CH11B                | Control building equipment room 306 heater | Y           | 60 kW    | 575        | 3     | 60.30<br>60    | 0.0               | •   | 2EJS*PNL300B                 |
| 2HVR*CAB14A               | RX BLDG ABOVE REFUEL FLOOR RADN            | G           | 1.5HP    | 575        | 3     | 1.60           | 10.00             | •   | 2EJS*PNL104A                 |
| 2HVR*CAB32A               | RX BLDG BELOW REFUEL                       | G           | 1.5HP    | 575        | 3     | 1.60           | 10.00             | •   | 2EJS*PNL104A                 |

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Nine Mile Point Unit 2 PSAR

TABLE 8.3-4 (Cont)

1.5HP 575 3

1.8  
Amps  
Full  
Load  
40.20  
40  
Amps  
Locked  
Rotor  
5

2EJ5\*PNL301B

| Equipment<br>Identity No. | Description(1)   | Division(2) | Rating         | Volts      | Phase | Amps<br>Full<br>Load | Amps<br>Locked<br>Rotor | Rpm | Power Source<br>Identity No. |
|---------------------------|--|-------------|----------------|------------|-------|----------------------|-------------------------|-----|------------------------------|
| 2SWPX CAB 146B            | WATER<br>SERVICE A: EFF<br>RAD MON                     | Y           |                |            |       |                      |                         |     |                              |
| 2HVC*CH12B                | Control building<br>equipment room<br>100 heater       | Y           | 40 kW          | 575        | 3     | 40.20<br>40          | 5                       | *   | 2EJ5*PNL300B                 |
| 2DCV*XD301B               | Distribution<br>transformer<br>600-V-120/240-V         | Y           | 25 kVA         | 600<br>575 | 1     | 43.40<br>17.4        | 5                       | *   | 2EJ5*PNL300B                 |
| 2VDA*UPB2B(AC1)           | Div. IIA<br>control UPS                                | Y           | 25 kVA         | 575        | 3     | 76.00<br>0           | 5                       | *   | 2EJ5*PNL300B                 |
| 2HVC*CH7B                 | XFMR 600V-480V<br>Spec filter-train<br>electric heater | Y           | 15KVA<br>10 kW | 575        | 3     | 15<br>10             | 5                       | *   | 2EJ5*PNL301B                 |
| 2HVC*UC101B               | Standby switch-<br>gear room B<br>unit cooler          | Y           | 7.5 hp         | 575        | 3     | 8.4<br>49.6          | 54                      | *   | 2EJ5*PNL301B                 |
| 2HVC*UC103B               | Chloride room<br>unit cooler                           | Y           | 1 hp           | 575        | 3     | 1.23                 | 10.5                    | *   | 2EJ5*PNL301B                 |
| 2HVC*UC105                | Control building<br>cable tunnel<br>unit cooler        | Y           | 5 hp           | 575        | 3     | 5.44                 | 35                      | *   | 2EJ5*PNL301B                 |
| 2HVC*UC107                | Cable area base<br>unit cooler                         | Y           | 15 hp          | 575        | 3     | 15.2<br>10.80        | 84                      | *   | 2EJ5*PNL301B                 |
| 2HVC*UC108B               | CONT/RELAY ROOMS<br>INTAKE RADN                        | Y           | 10 HP          | 575        | 3     | 5.44                 | 39.20                   | *   | 2EJ5*PNL301B                 |
| 2HVP*UC1B                 | DG 3 unit cooler<br>standby DG room                    | Y           | 5 hp           | 575        | 3     | 9                    | 5                       | *   | 2EJ5*PNL302B                 |
| 2HVR*UC401B               | Reactor building<br>space cooler<br>el 175'            | Y           | 2 hp           | 575        | 3     | 2.5                  | 14-17.10                | *   | 2EJ5*PNL302B                 |
| 2HVR*UC401C               | Reactor building<br>space cooler<br>el 175'            | Y           | 2 hp           | 575        | 3     | 2.5                  | 16                      | *   | 2EJ5*PNL302B                 |
| 2HVR*UC401E               | Reactor building<br>space cooler<br>el 175'            | Y           | 2 hp           | 575        | 3     | 2.5                  | 16                      | *   | 2EJ5*PNL302B                 |
| 2HVC*CAB18B               | CONT/RELAY ROOMS<br>INTAKE RADN                        | Y           | 1.5HP          | 575        | 3     | 1.8                  | 10.5                    | *   | 2EJ5*PNL301B                 |
| 2HVC*CAB18D               | CONT/RELAY ROOMS                                       | Y           | 1.5HP          | 575        | 3     | 1.8                  | 10.5                    | *   | 2EJ5*PNL301B                 |



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TABLE 8.3-4 (Cont)

| Equipment Identity No. | Description(s)                        | Division(s) | Rating | Volts | Phase | Amps Full Load | Amps Locked Rotor | Rpm | Power Source Identity No. |
|------------------------|---------------------------------------|-------------|--------|-------|-------|----------------|-------------------|-----|---------------------------|
| 2HVR*UC401F            | Reactor building space cooler el 175' | Y           | 2 hp   | 575   | 3     | 2.5            | 16                | *   | 2EJS*PNL302B              |
| 2HVR*UC404C            | Reactor building space cooler el 196' | Y           | 3 hp   | 575   | 3     | 3.60<br>3.36   | 25                | *   | 2EJS*PNL302B              |
| 2HVR*UC404D            | Reactor building space cooler el 196' | Y           | 3 hp   | 575   | 3     | 3.60<br>3.36   | 25                | *   | 2EJS*PNL302B              |
| 2HVR*UC414B            | Reactor building space cooler el 175' | Y           | 3 hp   | 575   | 3     | 3.36<br>5.6    | 25.00             | *   | 2EJS*PNL302B              |
| 2HVR*UC406             | Reactor building space cooler el 198' | Y           | 2 hp   | 575   | 3     | 2.4            | 15.7              | *   | 2EJS*PNL303B              |
| 2HVR*UC407D            | Reactor building space cooler el 215' | Y           | 1.5 hp | 575   | 3     | 1.85           | 12.6              | *   | 2EJS*PNL303B              |
| 2HVR*UC407E            | Reactor building space cooler el 215' | Y           | 1.5 hp | 575   | 3     | 1.85           | 12.6              | *   | 2EJS*PNL303B              |
| 2HVR*UC415B            | SGT space cooler el 261'              | Y           | 2 hp   | 575   | 3     | 2.24<br>5.6    | 16.80             | *   | 2EJS*PNL303B              |
| 2GTS*CH1B              | Filter train B heater                 | Y           | 20 kW  | 575   | 3     | 20.0           | *                 | *   | 2EJS*PNL304B              |
| 2HVR*UC409A            | Reactor building space cooler el 240' | Y           | 5 hp   | 575   | 3     | 5.6            | 34.20<br>36       | *   | 2EJS*PNL304B              |
| 2HVR*UC409B            | Reactor building space cooler el 240' | Y           | 5 hp   | 575   | 3     | 5.6            | 34.2              | *   | 2EJS*PNL304B              |
| 2HTS*-XD004            | HEAT TRACING XFMR                     | Y           | 25KVA  | 600   | 1     | 43.40          | -                 | -   | 2EJS*PNL302B              |
| 2HTS*-XD003            | HEAT TRACING XFMR                     | Y           | 25KVA  | 600   | 1     | 43.40          | -                 | -   | 2EJS*PNL302B              |



Nine Mile Point Unit 2 PSAR

TABLE 8.3-8 (Cont)

| Equipment Identity No. | Description(s)                            | Division(s) | Rating | Volts      | Phase | Amps Full Load | Amps Locked Rotor | Rpm | Power Source Identity No.    |
|------------------------|---|-------------|--------|------------|-------|----------------|-------------------|-----|------------------------------|
| 2HVR*UC#10B            | Reactor building space cooler el 240°     | Y           | 1.5 hp | 575        | 3     | 1.85           | 12.40<br>12       | *   | 2EJS*PNL304B                 |
| 2HVR*UC#10C            | Reactor building space cooler el 240°     | Y           | 1.5 hp | 575        | 3     | 1.85           | 12.60<br>12       | *   | 2EJS*PNL304B                 |
| 2HVR*UC#11B            | Reactor building space cooler el 261°     | Y           | 3 hp   | 575        | 3     | 3.36           | 25                | *   | 2EJS*PNL304B                 |
| 2HVR*UC#11C            | Reactor building space cooler el 261°     | Y           | 3 hp   | 575        | 3     | 3.36           | 25                | *   | 2EJS*PNL304B                 |
| 2HVR*UC#12B            | Reactor building space cooler el 261°     | Y           | 3 hp   | 575        | 3     | 3.36           | 25                | *   | 2EJS*PNL304B <sup>302B</sup> |
| 2EBS*MCC101(1)         | 600-V MCC screen-well el 261°             | G           | 600 A  | 600<br>575 | 3     | 600            | 6                 | *   | 2EJS*US1                     |
| 2EBS*MCC101(2)         | 600-V MCC screen-well el 261°             | G           | 600 A  | 600<br>575 | 3     | 600            | 6                 | *   | 2EJS*US1                     |
| 2EBS*MCC102(1)         | 600-V MCC reactor building el 240°        | G           | 600 A  | 600<br>575 | 3     | 600            | 6                 | *   | 2EJS*US1                     |
| 2EBS*MCC102(2)         | 600-V MCC reactor building el 240°        | G           | 600 A  | 600<br>575 | 3     | 600            | 6                 | *   | 2EJS*US1                     |
| 2EBS*MCC103(1)         | 600-V MCC control building room A el 240° | G           | 600 A  | 600<br>575 | 3     | 600            | 6                 | *   | 2EJS*US1                     |
| 2EBS*MCC103(2)         | 600-V MCC control building el 240°        | G           | 600 A  | 600<br>575 | 3     | 600            | 6                 | *   | 2EJS*US1                     |





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TABLE 6.3-4 (Cont)

| Equipment Identity No. | Description(s)                            | Division(s) | Rating                          | Volts                 | Phase | Amps Full Load        | Amps Locked Rotor          | Rpm | Power Source Identity No. |
|------------------------|---|-------------|---------------------------------|-----------------------|-------|-----------------------|----------------------------|-----|---------------------------|
| 2EJS*PNL100A           | Switchgear room A emergency 600-V panel   | G           | 600 A                           | <del>575</del><br>600 | 3     | 600                   | <del>575</del><br>600      | *   | 2EJS*US1                  |
| 2HCS*PNL22A*           | Hydrogen recombiner power cable A         | G           | 120 kW                          | 575                   | 3     | 120                   | <del>575</del><br>600      | *   | 2EJS*US1                  |
| 2HVR*CHL1A(1)          | Control building chiller 1A               | G           | 180 <del>kW</del> <sup>HP</sup> | 575                   | 3     | <del>120</del><br>122 | 725                        | *   | 2EJS*US1                  |
| 2HVR*UC*13A            | Reactor building unit cooler A            | G           | 150 hp                          | 575                   | 3     | 138.8                 | <del>162.4</del><br>782.40 | *   | 2EJS*US1                  |
| 2LAC*PNL100A           | Control room A emergency lighting panel   | G           | <del>400 A</del><br>600 A       | <del>575</del><br>600 | 3     | 400                   | <del>575</del><br>600      | *   | 2EJS*US1                  |
| 2EHS*MCC301(1)         | 600-V MCC screen-well el 261'             | Y           | 600 A                           | <del>575</del><br>600 | 3     | 600                   | <del>575</del><br>600      | *   | 2EJS*US3                  |
| 2EHS*MCC301(2)         | 600-V MCC screen-well el 261'             | Y           | 600 A                           | <del>575</del><br>600 | 3     | 600                   | <del>575</del><br>600      | *   | 2EJS*US3                  |
| 2EHS*MCC302(1)         | 600-V MCC reactor building el 240'        | Y           | 600 A                           | <del>575</del><br>600 | 3     | 600                   | <del>575</del><br>600      | *   | 2EJS*US3                  |
| 2EHS*MCC302(2)         | 600-V MCC reactor building el 240'        | Y           | 600 A                           | <del>575</del><br>600 | 3     | 600                   | <del>575</del><br>600      | *   | 2EJS*US3                  |
| 2EHS*MCC303(1)         | 600-V MCC control building room B el 261' | Y           | 600 A                           | <del>575</del><br>600 | 3     | 600                   | <del>575</del><br>600      | *   | 2EJS*US3                  |
| 2EHS*MCC303(2)         | 600-V MCC control building el 261'        | Y           | 600 A                           | <del>575</del><br>600 | 3     | 600                   | <del>575</del><br>600      | *   | 2EJS*US3                  |
| 2EJS*PNL300B           | Switchgear room B emergency 600-V panel   | Y           | 600 A                           | <del>575</del><br>600 | 3     | 600                   | <del>575</del><br>600      | *   | 2EJS*US3                  |



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TABLE 8.3-4 (Cont)

| Equipment<br>Identity No. | Description(1)                                | Division(2) | Rating                    | Volts            | Phase | Amps<br>Full<br>Load | Amps<br>Locked<br>Rotor | Rpm   | Power Source<br>Identity No. |
|---------------------------|---|-------------|---------------------------|------------------|-------|----------------------|-------------------------|-------|------------------------------|
| 2HCS*PNL22B*              | Hydrogen<br>recombiner<br>power cable B       | Y           | 120 kW                    | 575              | 3     | 120                  | ⊙                       | *     | 2EJS*US3                     |
| 2HVK*CHL1B(1)             | Control building<br>chiller 1B                | Y           | 180 <sup>HP</sup><br>(KR) | 575              | 3     | 120.00<br>(12)       | 725.00<br>(125)         | *     | 2EJS*US3                     |
| 2HVR*UC413B               | Reactor building<br>unit cooler B             | Y           | 150 hp                    | 575              | 3     | 138.80<br>(138)      | 782.4<br>(182)          | *     | 2EJS*US3                     |
| 2LAC*PNL300B              | Control room B<br>emergency<br>lighting panel | Y           | 400A<br>(225 A)           | 600<br>(575)     | 3     | 400<br>(4)           | ⊙                       | *     | 2EJS*US3                     |
| 2EJS*MCC201(1)            | 600-V MCC HPCS<br>switchgear room             | P           | 600A<br>(600)             | 600<br>(575)     | 3     | ⊙                    | ⊙                       | *     | 2EJS*X2                      |
| 2EJS*MCC201(2)            | 600-V MCC HPCS<br>switchgear room             | P           | 600A<br>(600)             | 600<br>(575)     | 3     | ⊙                    | ⊙                       | *     | 2EJS*X2                      |
| 2CSL*P1                   | LPCS pump                                     | G           | 1,500 hp                  | 4,000            | 3     | 187.0                | 1,216                   | 1,780 | 2ENS*SWG101                  |
| 2EJS*US1(1)               | 600-V US emer-<br>gency switchgear<br>room A  | G           | 1,600 A                   | 600<br>(575)     | 3     | 962                  | ⊙                       | *     | 2ENS*SWG101                  |
| 2EJS*US1                  | 600-V US emer-<br>gency switchgear<br>room A  | G           | 1,600 A                   | 600<br>(575)     | 3     | 962                  | ⊙                       | *     | 2EJS*SWG101                  |
| 2EJS*P1A                  | RHR pump A                                    | G           | 1,000 hp                  | 4,000            | 3     | 126                  | 820                     | 1,775 | 2ENS*SWG101                  |
| 2SFC*P1A                  | SFC water circ-<br>ulating pump A             | G           | 450 hp                    | 4,000<br>(4,150) | 3     | 56                   | 329                     | 1,779 | 2ENS*SWG101                  |
| 2SWP*P1A                  | Service water<br>pump A                       | G           | 600 hp                    | 4,000            | 3     | 77.2                 | 447                     | 1,200 | 2ENS*SWG101                  |
| 2SWP*P1C                  | Service water<br>pump C                       | G           | 600 hp                    | 4,000            | 3     | 77.2                 | 447                     | 1,200 | 2ENS*SWG101                  |
| 2SWP*P1E                  | Service water<br>pump P1E                     | G           | 600 hp                    | 4,000            | 3     | 77.2                 | 447                     | 1,200 | 2ENS*SWG101                  |



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TABLE 6.3-4 (Cont)

| Equipment Identity No. | Description(1)                      | Division(2) | Rating   | Volts          | Phase | Amps Full Load | Amps Locked Rotor | Rpm   | Power Source Identity No. |
|------------------------|-------------------------------------|-------------|----------|----------------|-------|----------------|-------------------|-------|---------------------------|
| 2CSH*P1                | HPCS pump                           | P           | 3,050 hp | 4,000          | 3     | 378            | 2457              | 1,780 | 2ENS*SWG102               |
| 2EJS*X2                | 4160/600-V HPCS transformer         | P           | 225 kVA  | 4,160<br>4,000 | 3     | 31.0           | 3                 | *     | 2ENS*SWG102               |
| 2EJS*US3               | 600-V emergency switchgear room B   | Y           | 1,600 A  | 600<br>575     | 3     | 962            | 3                 | *     | 2ENS*SWG103               |
| 2EJS*US3 (2)           | 600-V emergency switchgear room B   | Y           | 1,600 A  | 600<br>575     | 3     | 962            | 3                 | *     | 2ENS*SWG103               |
| 2RHS*P1B               | RHR pump B                          | Y           | 1,000 hp | 4,000          | 3     | 126            | 820               | 1,775 | 2ENS*SWG103               |
| 2RHS*P1C               | RHR pump C                          | Y           | 1,000 hp | 4,000          | 3     | 126            | 820               | 1,775 | 2ENS*SWG103               |
| 2SPC*P1B               | SFC water circulating pump B        | Y           | 450 hp   | 4,000<br>4,160 | 3     | 56             | 329               | 1,779 | 2ENS*SWG103               |
| 2SWP*P1B               | Service water pump B                | Y           | 600 hp   | 4,000          | 3     | 77.2           | 447               | 1,200 | 2ENS*SWG103               |
| 2SWP*P1D               | Service water pump D                | Y           | 600 hp   | 4,000          | 3     | 77.2           | 447               | 1,200 | 2ENS*SWG103               |
| 2SWP*P1F               | Service water pump P1F              | Y           | 600 hp   | 4,000          | 3     | 77.2           | 447               | 1,200 | 2ENS*SWG103               |
| 2EPS*SWG002            | Emergency switchgear                | Y           | 1,200 A  | 13.8KV<br>13 K | 3     | 1200 A         | 3                 | *     | 2EPS*SWG001               |
| 2EPS*SWG004            | Emergency switchgear                | Y           | 1,200 A  | 13.8KV<br>12 K | 3     | 1200 A         | 3                 | *     | 2EPS*SWG003               |
| 2BYS*CHGR2A1           | 125-V battery charger Div. 1        | G           | 300 A DC | 575            | 3     | 80             | 3                 | *     | 2LAC*PKL100A              |
| 2LAC*XL204             | Lighting transformer 600-208Y/120-V | G           | 30 kVA   | 600<br>575     | 3     | 30.0           | 3                 | *     | 2LAC*PKL100A              |



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TABLE 8.3-8 (Cont)

| Equipment<br>Identity No. | Description(4)                                 | Division(4) | Rating   | Volts      | Phase | Amps<br>Full<br>Load | Amps<br>Locked<br>Rotor | Rpm | Power Source<br>Identity No. |
|---------------------------|--|-------------|----------|------------|-------|----------------------|-------------------------|-----|------------------------------|
| 2LAC*XL04                 | Lighting<br>transformer<br>600-208Y/120-V      | G           | 30 kVA   | 575 600    | 3     | 30.0                 | 5                       | *   | 2LAC*PNL100A                 |
| CL<br>2LAC*XL06           | Lighting<br>transformer<br>600-208Y/120-V      | G           | 30 kVA   | 575 600    | 3     | 30                   | 5                       | *   | 2LAC*PNL100A                 |
| 2SCM*XD101A               | Distribution<br>transformer<br>600-120/240-V   | G           | 25 kVA   | 575 600    | 1     | 43.40<br>26.0        | 5                       | *   | 2LAC*PNL100A                 |
| 2SCM*XD102A               | Distribution<br>transformer<br>600-120/240-V   | G           | 25 kVA   | 575 600    | 1     | 43.40<br>26.0        | 5                       | *   | 2LAC*PNL100A                 |
| 2SCM*XD103A               | Distribution<br>transformer<br>600-120/240-V   | G           | 25 kVA   | 575 600    | 1     | 43.40<br>26.0        | 5                       | *   | 2LAC*PNL100A                 |
| 2VBA*UPB2A(AC2)           | Div. IA<br>control UPS                         | G           | 25 kVA   | 575<br>120 | 1     | 68.00<br>208         | 5                       | *   | 2LAC*PNL100A                 |
| 2BY8*CHGR2B1              | 125-V battery<br>charger standby<br>Div. II    | Y           | 300 A DC | 575        | 3     | 80                   | 5                       | *   | 2LAC*PNL300B                 |
| 2LAC*XL02                 | Lighting<br>transformer<br>600-208Y/120-V      | Y           | 30 kVA   | 575 600    | 3     | 30.0                 | 5                       | *   | 2LAC*PNL300B                 |
| 2LAC*XL05                 | Lighting<br>transformer<br>600-208Y/120-V      | Y           | 30 kVA   | 575 600    | 3     | 30.0                 | 5                       | *   | 2LAC*PNL300B                 |
| 2LAC*XL07                 | Lighting<br>transformer<br>600-208Y/120-V      | Y           | 30 kVA   | 575 600    | 3     | 30                   | 5                       | *   | 2LAC*PNL300B                 |
| 2SCM*XD301B               | Distribution<br>transformer<br>600 V-120/250-V | Y           | 25 kVA   | 575 600    | 1     | 43.40<br>26.0        | 5                       | *   | 2LAC*PNL300B                 |
| 2SCM*XD104A               | Distribution<br>transformer                    | G           | 25KVA    | 600        | 1     | 43.40 -              | -                       |     | 2LAC*PNL100A                 |
| 2SCM*XD105A               | "  | G           | 25KVA    | 600        | 1     | 43.40 -              | -                       |     | 2LAC*PNL100A                 |





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TABLE 8.3-8 (Cont)

| Equipment Identity No. | Description(1)                      | Division(2) | Rating  | Volts | Phase | Amps Full Load | Amps Locked Rotor | RPM   | Power Source Identity No. |
|------------------------|-------------------------------------|-------------|---------|-------|-------|----------------|-------------------|-------|---------------------------|
| 2SCM*XD302B            | 120-V distribution panel            | Y           | 25 kVA  | 600   | 1     | 43.40          | 26.0              | *     | 2LAC*PNL300B              |
| 2SCM*XD303B            | 120-V distribution panel            | Y           | 25 kVA  | 600   | 1     | 43.40          | 26.0              | *     | 2LAC*PNL300B              |
| 2VBA*UP82B(AC2)        | Div. IIA control UPS                | Y           | 25 kVA  | 575   | 1     | 68.00          | 208               | *     | 2LAC*PNL300B              |
| 2LAC*PNLE01            | Lighting panel                      | G           | 150 A   | 208   | 3     | 150 A          | 10                | *     | 2LAC*XLE01                |
| 2LAC*PNLE02            | Lighting panel                      | Y           | 150 A   | 208   | 3     | 150 A          | 10                | *     | 2LAC*XLE02                |
| 2LAC*PNLE04            | Lighting panel                      | G           | 150 A   | 208   | 3     | 150 A          | 10                | *     | 2LAC*XLE04                |
| 2LAC*PNLE05            | Lighting panel                      | Y           | 150 A   | 208   | 3     | 150 A          | 10                | *     | 2LAC*XLE05                |
| 2LAC*PNLE06            | Lighting panel                      | G           | 150 A   | 208   | 3     | 150 A          | 10                | *     | 2LAC*XLE06                |
| 2LAC*PNLE07            | Lighting panel                      | Y           | 150 A   | 208   | 3     | 150 A          | 10                | *     | 2LAC*XLE07                |
| 2LAC*PNLE03            | Lighting panel                      | P           | 150 A   | 208   | 3     | 150 A          | 10                | *     | 2LAC*XL200P               |
| 2NBS*MOV10A            | Main steam valve                    | N           | 0.13 hp | 575   | 3     | 0.42           | 2.1               | 1,700 | 2NBS-MCC003A              |
| 2NBS*MOV10C            | Main steam valve                    | N           | 0.13 hp | 575   | 3     | 0.42           | 2.1               | 1,700 | 2NBS-MCC003C              |
| 2NBS*MOV199            | Main steam valve                    | N           | 0.13 hp | 575   | 3     | 0.36           | 2.5               | 1,800 | 2NBS-MCC003C              |
| 2HVY*FN15A             | Electrical bay exhaust fan          | N           | 0.75 hp | 575   | 3     | 1.4            | 8.4               | 1,200 | 2NBS-MCC006A              |
| 2HVY*FN15B             | Electrical bay exhaust fan          | N           | 0.75 hp | 575   | 3     | 1.4            | 8.4               | 1,200 | 2NBS-MCC006B              |
| 2NBS*HYV7A             | MSIV outboard                       | N           | 3 hp    | 575   | 3     | 9A             | 9A                | *     | 2NBS-MCC011               |
| 2NBS*HYV7B             | MSIV outboard                       | N           | 3 hp    | 575   | 3     | 9A             | 9A                | *     | 2NBS-MCC011               |
| 2NBS*HYV7C             | MSIV outboard                       | N           | 3 hp    | 575   | 3     | 9A             | 9A                | *     | 2NBS-MCC011               |
| 2NBS*HYV7D             | MSIV outboard                       | N           | 3 hp    | 575   | 3     | 9A             | 9A                | *     | 2NBS-MCC011               |
| 2SCM*XD304B            | 120V DISTRIBUTION PANEL TRANSFORMER | Y           | 25KVA   | 600   | 1     | 43.40          | -                 | *     | 2LAC*PNL300B              |
| 2SCM*XD305B            | 120V DISTRIBUTION PANEL TRANSFORMER | Y           | 25KVA   | 600   | 1     | 43.40          | -                 | *     | 2LAC*PNL300B              |



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TABLE 6.3-4 (Cont)

| Equipment Identity No. | Description(s)                       | Division(s) | Rating  | Volts | Phase | Amps Full Load | Amps Locked Rotor | Rpm   | Power Source Identity No. |
|------------------------|--------------------------------------|-------------|---------|-------|-------|----------------|-------------------|-------|---------------------------|
| 2RCS*MOV10A            | Recirculation pump A suction valve   | N           | 0 hp    | 575   | 3     | 5.6            | 47.0              | 1,800 | 2NBS-MCC011               |
| 2RCS*MOV18A            | Recirculation pump A discharge valve | N           | 0 hp    | 575   | 3     | 5.6            | 47.8              | 1,800 | 2NBS-MCC011               |
| 2WCS*MOV101            | RCS to water cleanup                 | N           | 0.6 hp  | 575   | 3     | 1.68           | 9.52              | 1,800 | 2NBS-MCC017               |
| 2WCS*MOV103            | RCS to water cleanup                 | N           | 1.6 hp  | 575   | 3     | 3.1            | 16                | 1,700 | 2NBS-MCC017               |
| 2WCS*MOV104            | RCS to water cleanup                 | N           | 0.6 hp  | 575   | 3     | 1.68           | 9.52              | 1,800 | 2NBS-MCC017               |
| 2WCS*MOV105            | RCS to water cleanup                 | N           | 0.6 hp  | 575   | 3     | 1.68           | 9.52              | 1,800 | 2NBS-MCC017               |
| 2DER*MOV128            | RPV drain ISOL VALVE                 | N           | 33 hp   | 575   | 3     | 6              | 4.2               | *     | 2NBS-MCC012               |
| 2DER*MOV129            | RPV drain ISOL VALVE                 | N           | 33 hp   | 575   | 3     | 6              | 4.2               | *     | 2NBS-MCC012               |
| 2MSB*HYV6A             | MSIV inboard                         | N           | 3 hp    | 575   | 3     | 6              | 4.2               | *     | 2NBS-MCC012               |
| 2MSB*HYV6B             | MSIV inboard                         | N           | 3 hp    | 575   | 3     | 6              | 4.2               | *     | 2NBS-MCC012               |
| 2MSB*HYV6C             | MSIV inboard                         | N           | 3 hp    | 575   | 3     | 6              | 4.2               | *     | 2NBS-MCC012               |
| 2MSB*HYV6D             | MSIV inboard                         | N           | 3 hp    | 575   | 3     | 6              | 4.2               | *     | 2NBS-MCC012               |
| 2MSB*MOV108            | Vent. valve                          | N           | 33 hp   | 575   | 3     | 6              | 4.2               | *     | 2NBS-MCC012               |
| 2MSB*MOV118            | Vent valve                           | N           | 0.66 hp | 575   | 3     | *              | *                 | *     | 2NBS-MCC012               |
| 2MSB*MOV119            | Vent valve                           | N           | 0.66 hp | 575   | 3     | *              | *                 | *     | 2NBS-MCC012               |
| 2MSB*MOV189            | Main steam valve                     | N           | 33 hp   | 575   | 3     | 6              | 4.2               | *     | 2NBS-MCC012               |
| 2MSB*MOV207            | Main steam valve                     | N           | 33 hp   | 575   | 3     | 6              | 4.2               | *     | 2NBS-MCC012               |



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TABLE 8.3-4 (Cont)

| Equipment Identity No. | Description(1)                             | Division(2) | Rating  | Volts                        | Phase | Amps Full Load | Amps Locked Rotor   | RPM   | Power Source Identity No. |
|------------------------|--|-------------|---------|------------------------------|-------|----------------|---|-------|---------------------------|
| 2RCS*MOV10B            | Recirculation pump B suction valve         | N           | 4 hp    | 575                          | 3     | 5.6            | <u>47.8</u><br><u>47.0</u>  | 1,800 | 2NHS-MCC012               |
| 2RCS*MOV10B            | Recirculation pump B discharge valve       | N           | 4 hp    | 575                          | 3     | 5.6            | 47.8  | 1,800 | 2NHS-MCC012               |
| 2NHR*CRN1              | Reactor building polar crane motor el 387° | N           | 200 hp  | 575                          | 3     | 192            | 1,152   | *     | 2NJS-082C                 |
| 2ENS*SWG102            | 4160-V HPCS switchgear 102                 | P           | 1,200 A | <u>4160</u><br><u>4,000</u>  | 3     | 1,200          |    | *     | 2NNS-SWG16/17             |
| ✓2ENS*SWG101(1)        | 4160-V emergency switchgear 101            | G           | 1,200 A | <u>4160</u><br><u>4,000</u>  | 3     | 1,200          |    | *     | 2NNS-SWG16/18             |
| ✓2ENS*SWG103(1)        | 4160-V emergency switchgear 102            | Y           | 1,200 A | <u>4160</u><br><u>4,000</u>  | 3     | 1,200          |    | *     | 2NNS-SWG17/18             |
| 2EPS*SWG001            | Emergency switchgear                       | G           | 1,200 A | <u>575</u><br><u>15.8 KV</u> | 3     | 1,200          |   | *     | 2NPS-SWG001               |
| 2EPS*SWG003            | Emergency switchgear                       | G           | 1,200 A | <u>575</u><br><u>15.8 KV</u> | 3     | 1,200          |  | *     | 2NPS-SWG003               |
| 2CES*RAK008(1)         | SRM/IRM CRD rack                           | N           | 0.2 kW  | 120                          | 1     | *              | *   | *     | 2SCA-PNL200               |
| 2CES*RAK008(2)         | SRM/IRM CRD rack                           | N           | 3.7 kW  | 208                          | 3     | *              | *   | *     | 2SCA-PNL200               |
| 2MSS*IPNL90A(3)        | Relay logic cabinet (2MSS*HVV6A)           | N           | *       | 120                          | 1     | *              | *   | *     | 2SCA-PNL200               |
| 2MSS*IPNL90B(3)        | Relay logic cabinet (2MSS*HVV6B)           | N           | *       | 120                          | 1     | *              | *   | *     | 2SCA-PNL200               |
| 2MSS*IPNL90C(3)        | Relay logic cabinet (2MSS*HVV6C)           | N           | *       | 120                          | 1     | *              | *   | *     | 2SCA-PNL200               |
| 2MSS*IPNL90D(3)        | Relay logic cabinet                        | N           | *       | 120                          | 1     | *              | *   | *     | 2SCA-PNL200               |



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TABLE 8.3-4 (Cont)

| <u>Equipment<br/>Identity No.</u> | <u>Description(1)</u>                     | <u>Division(2)</u> | <u>Rating</u> | <u>Volts</u> | <u>Phase</u> | <u>Amps<br/>Full<br/>Load</u> | <u>Amps<br/>Locked<br/>Rotor</u> | <u>Rpm</u> | <u>Power Source<br/>Identity No.</u> |
|-----------------------------------|---|--------------------|---------------|--------------|--------------|-------------------------------|----------------------------------|------------|--------------------------------------|
| 2CES*RAK002                       | RWCU instrument rack A                    | N                  | *             | 120          | 1            | *                             | *                                | *          | 2SCA-PNL201                          |
| 2MSS*IPNL91A(3)                   | Relay logic cabinet (2MSS*HVV7A)          | N                  | *             | 120          | 1            | *                             | *                                | *          | 2SCA-PNL201                          |
| 2MSS*IPNL91B(3)                   | Relay logic cabinet (2MSS*HVV7B)          | N                  | *             | 120          | 1            | *                             | *                                | *          | 2SCA-PNL201                          |
| 2MSS*IPNL91C(3)                   | Relay logic cabinet (2MSS*HVV7C)          | N                  | *             | 120          | 1            | *                             | *                                | *          | 2SCA-PNL201                          |
| 2MSS*IPNL91D(3)                   | Relay logic cabinet (2MSS*HVV7D)          | N                  | *             | 120          | 1            | *                             | *                                | *          | 2SCA-PNL201                          |
| 2GTS*SOV101                       | Primary containment purge isolation valve | N                  | 0.5 A         | 120          | 1            | 0.5                           | *                                | *          | 2SCI-PNLA101                         |
| 2GTS*SOV102                       | Primary containment purge isolation valve | N                  | 0.5 A         | 120          | 1            | 0.5                           | *                                | *          | 2SCI-PNLA101                         |
| 2MSS*SOV93A                       | MSIV drain valve 2MSSN27                  | N                  | *             | 120          | 1            | *                             | *                                | *          | 2SCI-PNLA101                         |
| 2MSS*SOV93B                       | MSIV drain valve 2MSSN27                  | N                  | *             | 120          | 1            | *                             | *                                | *          | 2SCI-PNLA101                         |
| 2MSS*SOV93C                       | MSIV drain valve 2MSSN27                  | N                  | *             | 120          | 1            | *                             | *                                | *          | 2SCI-PNLA101                         |
| 2MSS*SOV93D                       | MSIV drain valve                          | N                  | *             | 120          | 1            | *                             | *                                | *          | 2SCI-PNLA101                         |
| 2IAS*SOV171                       | Isolation Valve 2IASN01                   | N                  | 0.5 A         | 120          | 1            | 0.5                           | *                                | *          | 2SCI-PNLB101                         |
| 2SFC*SOV114                       | Cleaning valves 2SFCN11                   | N                  | 0.5 A         | 120          | 1            | 0.5                           | *                                | *          | 2SCI-PNLC104                         |
| 2SFC*SOV115                       | Cleaning valves 2SFCN11                   | N                  | 0.5 A         | 120          | 1            | 0.5                           | *                                | *          | 2SCI-PNLC104                         |





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TABLE 8.3-4 (Cont)

| <u>Equipment<br/>Identity No.</u> | <u>Description(1)</u>                          | <u>Division(2)</u> | <u>Rating</u> | <u>Volts</u> | <u>Phase</u> | <u>Amps<br/>Full<br/>Load</u> | <u>Amps<br/>Locked<br/>Rotor</u> | <u>Rpm</u> | <u>Power Source<br/>Identity No.</u> |
|-----------------------------------|--|--------------------|---------------|--------------|--------------|-------------------------------|----------------------------------|------------|--------------------------------------|
| 2HVP*MOD6A                        | Exhaust fan 1A<br>2HVPA04                      | G                  | 0.25 hp       | 120          | 1            | 5.8                           | *                                | *          | 2SCM*PNL101A                         |
| 2HVP*MOD6C                        | Exhaust fan 1C<br>2HVPA04                      | G                  | 0.25 hp       | 120          | 1            | 5.8                           | *                                | *          | 2SCM*PNL101A                         |
| 2HVP*SOV4A                        | DG 1 vent 2HVPA04                              | G                  | *             | 120          | 1            | *                             | *                                | *          | 2SCM*PNL101A                         |
| 2HVP*SOV4C                        | DG 1 vent 2HVPA04                              | G                  | *             | 120          | 1            | *                             | *                                | *          | 2SCM*PNL101A                         |
| 2HVR*MOD6A                        | P859 inlet<br>damper 2HVRA88                   | G                  | 0.5 hp        | 120          | 1            | 9.8                           | 58.8                             | *          | 2SCM*PNL101A                         |
| 2HVR*MOD7A                        | Fan A P859<br>discharge<br>2HVRA88             | G                  | 0.5 hp        | 120          | 1            | 9.8                           | 58.8                             | *          | 2SCM*PNL101A                         |
| 2HVR*SOV1A                        | Reactor building<br>vent valve<br>P859 2HVRA89 | G                  | 0.5 A         | 120          | 1            | 0.5                           | *                                | *          | 2SCM*PNL101A                         |
| 2HVR*SOV10A                       | Reactor building<br>vent valve<br>P859 2HVRA89 | G                  | 0.5 A         | 120          | 1            | 0.5                           | *                                | *          | 2SCM*PNL101A                         |
| 2HVR*SOV34A                       | *  | G                  | *             | *            | *            | *                             | *                                | *          | 2SCM*PNL101A                         |
| 2HVR*SOV9A                        | Reactor building<br>vent valve<br>P859 2HVRA89 | G                  | 0.5 A         | 120          | 1            | 0.5                           | *                                | *          | 2SCM*PNL101A                         |
| 2SFC*SOV35A                       | SFC valve P859<br>2SFCA06                      | G                  | 0.5 A         | 120          | 1            | 0.5                           | *                                | *          | 2SCM*PNL101A                         |
| 2SFC*SOV5A                        | SFP valves P859<br>2SFCA06                     | G                  | 0.5 A         | 120          | 1            | 0.5                           | *                                | *          | 2SCM*PNL101A                         |
| 2SFC*SOV6A                        | SFP valves P859<br>2SFCA06                     | G                  | 0.5 A         | 120          | 1            | 0.5                           | *                                | *          | 2SCM*PNL101A                         |
| 2SWP*SOV7A                        | Pump seal P601<br>2SWPA32                      | G                  | 0.5 A         | 120          | 1            | 0.5                           | *                                | *          | 2SCM*PNL101A                         |



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TABLE 8.3-4 (Cont)

| Equipment<br>Identity No. | Description(s)                  | Division(s) | Rating              | Volts | Phase | Amps<br>Full<br>Load | Amps<br>Locked<br>Rotor | Rpm | Power Source<br>Identity No. |
|---------------------------|---------------------------------|-------------|---------------------|-------|-------|----------------------|-------------------------|-----|------------------------------|
| ✓ 2SWP*80V8A              | Pump seal P601<br>2SWPA32       | G           | <u>0.8</u><br>0.5 A | 120   | 1     | <u>0.8</u><br>0.5    | <u>0.8</u><br>0.5       | *   | 28CM*PNL101A                 |
| ✓ 2CCP*80V12A             | Bearing cooler<br>P859 2CCPA13  | G           | <u>0.8</u><br>0.5 A | 120   | 1     | <u>0.8</u><br>0.5    | <u>0.8</u><br>0.5       | *   | 28CM*PNL102A                 |
| ✓ 2CCP*80V9A              | Bearing cooler<br>P859 2CCPA13  | G           | <u>0.8</u><br>0.5 A | 120   | 1     | <u>0.8</u><br>0.5    | <u>0.8</u><br>0.5       | *   | 28CM*PNL102A                 |
| ✓ 2CMS*80V15A             | Isolation valve<br>P859 2CMSA03 | G           | 0.5 A               | 120   | 1     | 0.5                  | <u>0.8</u><br>0.5       | *   | 28CM*PNL102A                 |
| ✓ 2CMS*80V16A             | Isolation valve<br>P859 2CMSA03 | G           | 0.5 A               | 120   | 1     | 0.5                  | <u>0.8</u><br>0.5       | *   | 28CM*PNL102A                 |
| 2CMS*80V23A               | Isolation valve<br>P859 2CMSA03 | G           | <u>0.5 A</u> 0.8 A  | 120   | 1     | <u>0.8</u><br>0.5    | <u>0.8</u><br>0.5       | *   | 28CM*PNL102A                 |
| 2CMS*80V23C               | Isolation valve<br>P859 2CMSA03 | G           | <u>0.5 A</u> 0.8 A  | 120   | 1     | <u>0.8</u><br>0.5    | <u>0.8</u><br>0.5       | *   | 28CM*PNL102A                 |
| 2CMS*80V23E               | Isolation valve<br>P859 2CMSA03 | G           | <u>0.5 A</u> 0.8 A  | 120   | 1     | <u>0.8</u><br>0.5    | <u>0.8</u><br>0.5       | *   | 28CM*PNL102A                 |
| 2CMS*80V24A               | Isolation valve<br>P859 2CMSA03 | G           | <u>0.5 A</u> 0.8 A  | 120   | 1     | <u>0.8</u><br>0.5    | <u>0.8</u><br>0.5       | *   | 28CM*PNL102A                 |
| 2CMS*80V24C               | Isolation valve<br>P859 2CMSA03 | G           | <u>0.5 A</u> 0.8 A  | 120   | 1     | <u>0.8</u><br>0.5    | <u>0.8</u><br>0.5       | *   | 28CM*PNL102A                 |
| 2CMS*80V25A               | Isolation valve<br>P859 2CMSA03 | G           | <u>0.5 A</u> 0.8 A  | 120   | 1     | <u>0.8</u><br>0.5    | <u>0.8</u><br>0.5       | *   | 28CM*PNL102A                 |
| 2CMS*80V25C               | Isolation valve<br>P859 2CMSA03 | G           | <u>0.5 A</u> 0.8 A  | 120   | 1     | <u>0.8</u><br>0.5    | <u>0.8</u><br>0.5       | *   | 28CM*PNL102A                 |
| 2CMS*80V26A               | Isolation valve<br>P859 2CMSA03 | G           | <u>0.5 A</u> 0.8 A  | 120   | 1     | <u>0.8</u><br>0.5    | <u>0.8</u><br>0.5       | *   | 28CM*PNL102A                 |
| 2CMS*80V26C               | Isolation valve<br>P859 2CMSA03 | G           | <u>0.5 A</u> 0.8 A  | 120   | 1     | <u>0.8</u><br>0.5    | <u>0.8</u><br>0.5       | *   | 28CM*PNL102A                 |



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TABLE 6.3-4 (Cont)

| Equipment Identity No. | Description <sup>(1)</sup>                      | Division <sup>(2)</sup> | Rating   | Volts | Phase | Amps Full Load | Amps Locked Rotor | Run | Power Source Identity No. |
|------------------------|---|-------------------------|----------|-------|-------|----------------|-------------------|-----|---------------------------|
| 2CMS*80V32A            | Isolation valve<br>P859 2CMSA03                 | G                       | 0.5 A    | 120   | 1     | 0.5            | 0.5               | *   | 28CM*PNL102A              |
| 2CMS*80V33A            | Isolation valve<br>P859 2CMSA03                 | G                       | 0.5 A    | 120   | 1     | 0.5            | 0.5               | *   | 28CM*PNL102A              |
| 2CMS*80V34A            | Isolation valve<br>P859 2CMSA03                 | G                       | 0.5 A    | 120   | 1     | 0.5            | 0.5               | *   | 28CM*PNL102A              |
| 2CMS*80V35A            | Isolation valve<br>P859 2CMSA03                 | G                       | 0.5 A    | 120   | 1     | 0.5            | 0.5               | *   | 28CM*PNL102A              |
| 2CMS*80V60A            | Isolation valve                                 | G                       | 0.8A     | 120   | 1     | 0.8            | 0.8               | *   | 28CM*PNL102A              |
| 2CMS*80V61A            | Isolation valve                                 | G                       | 0.8A     | 120   | 1     | 0.8            | 0.8               | *   | 28CM*PNL102A              |
| 2CMS*80V62A            | Isolation valve                                 | G                       | 0.8A     | 120   | 1     | 0.8            | 0.8               | *   | 28CM*PNL102A              |
| 2CMS*80V63A            | Isolation valve                                 | G                       | 0.8A     | 120   | 1     | 0.8            | 0.8               | *   | 28CM*PNL102A              |
| 2CMS*80V64A            | Isolation valve                                 | G                       | 0.8A     | 120   | 1     | 0.8            | 0.8               | *   | 28CM*PNL102A              |
| 2CMS*80V65A            | Isolation valve                                 | G                       | 0.8A     | 120   | 1     | 0.8            | 0.8               | *   | 28CM*PNL102A              |
| 2HVC*MOD3A             | HEPA filter 2A<br>2HVCA12                       | G                       | 0.125 hp | 120   | 1     | *              | *                 | *   | 28CM*PNL102A              |
| 2HVC*MOD54A            | Makeup air<br>2HVCA12                           | G                       | 1 hp     | 120   | 1     | *              | *                 | *   | 28CM*PNL102A              |
| 2HVC*MOD64A            | Control building<br>isolation damper<br>2HVCA12 | G                       | 0.25 hp  | 120   | 1     | *              | *                 | *   | 28CM*PNL102A              |
| 2HVC*80V12A            | Relay room<br>A/C 2A 2HVCA12                    | G                       | 0.25 hp  | 120   | 1     | 0.8            | 0.8               | *   | 28CM*PNL102A              |
| 2HVC*80V170            | Discharge damper<br>P859<br>2HVCM33             | G                       | 0.5 A    | 120   | 1     | 0.5            | 0.5               | *   | 28CM*PNL102A              |



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TABLE 8.3-8 (Cont)

| Equipment<br>Identity No. | Description(s)                      | Division(s) | Rating         | Voltage | Phase | Amps<br>Full<br>Load | Amps<br>Locked<br>Rotor | Rpm | Power Source<br>Identity No. |
|---------------------------|-------------------------------------|-------------|----------------|---------|-------|----------------------|-------------------------|-----|------------------------------|
| 2HVC*80V103               | Discharge damper<br>P859<br>2HVCN33 | G           | 0.5 A          | 120     | 1     | 0.5                  | 0.5                     | *   | 28CN*PNL102A                 |
| 2HVC*80V6A                | Control room<br>A/C 1A 2HVCA12      | G           | 0.25 hp        | 120     | 1     | 0.5                  | 27.6                    | *   | 28CN*PNL102A                 |
| 2HVC*80V36A               | Computer A/C<br>P859 2HVKA04        | G           | 0.5 A          | 120     | 1     | 0.5                  | 0.5                     | *   | 28CN*PNL102A                 |
| 2IAS*80VX101              | Isolation valve<br>2IASA17          | G           | 0.8<br>0.5 A   | 120     | 1     | 0.8<br>0.5           | 0.8                     | *   | 28CN*PNL102A                 |
| 2IAS*80VY101              | Isolation valve<br>2IASA17          | G           | 0.8<br>0.5 A   | 120     | 1     | 0.8<br>0.5           | 0.8                     | *   | 28CN*PNL102A                 |
| 2IAS*80V160               | Isolation valves<br>P859 2IASA11    | G           | 0.80<br>0.75 A | 120     | 1     | 0.8<br>0.75          | 0.8                     | *   | 28CN*PNL102A                 |
| 2IAS*80V166               | Isolation valves<br>P859 2IASA11    | G           | 0.80<br>0.75 A | 120     | 1     | 0.8<br>0.75          | 0.8                     | *   | 28CN*PNL102A                 |
| 2IAS*80V167               | Isolation valves<br>P859 2IASA11    | G           | 0.80<br>0.75 A | 120     | 1     | 0.8<br>0.75          | 0.8                     | *   | 28CN*PNL102A                 |
| 2IAS*80V168               | Isolation valves<br>P861 2IASB11    | G           | 0.80<br>0.75 A | 120     | 1     | 0.8<br>0.75          | 0.8                     | *   | 28CN*PNL102A                 |
| 2IAS*80V169               | Isolation valves<br>P859 2IASA11    | G           | 0.80<br>0.75 A | 120     | 1     | 0.8<br>0.75          | 0.8                     | *   | 28CN*PNL102A                 |
| 2IAS*80V170               | Isolation valves<br>P861 2IASB11    | G           | 0.80<br>0.75 A | 120     | 1     | 0.8<br>0.75          | 0.8                     | *   | 28CN*PNL102A                 |
| 28WP*80V150A              | SWT cooler valve<br>28WPA29         | G           | 10.5W<br>0.5 A | 120     | 1     | 0.2<br>0.5           | 0.2                     | *   | 28CN*PNL102A                 |
| 28WP*80V572               | SWT cooler valve<br>28WPA29         | G           | 0.5 A          | 120     | 1     | 0.5                  | 0.5                     | *   | 28CN*PNL102A                 |
| 28WP*80V573               | SWT cooler valve<br>28WPA29         | G           | 10.5W<br>0.5 A | 120     | 1     | 0.2<br>0.5           | 0.2                     | *   | 28CN*PNL102A                 |





Nine Mile Point Unit 2 PSAR

TABLE 8.3-8 (Cont)

| Equipment Identity No. | Description(s)                        | Division(s) | Rating  | Voltage | Phase | Amps Full Load | Amps Locked Rotor | Rpm | Power Source Identity No. |
|------------------------|---------------------------------------|-------------|---------|---------|-------|----------------|-------------------|-----|---------------------------|
| 25WP*SOV573            | SWT cooler valve<br>25WPA29           | G           | 0.5 A   | 120     | 1     | 0.5            | 0.5               | *   | 28CM*PNL102A              |
| 2CES*IPNL407(5)        | DG control panel                      | G           | *       | 120     | 1     | *              | *                 | *   | 28CM*PNL103A              |
| 2CES*IPNL407(7)        | DG control panel                      | G           | *       | 120     | 1     | *              | *                 | *   | 28CM*PNL103A              |
| 2FPW*SOV218            | Primary containment isolation valve   | G           | 0.5 A   | 120     | 1     | 0.5            | 0.5               | *   | 28CM*PNL103A              |
| 2FPW*SOV220            | Primary containment isolation valve   | G           | 0.5 A   | 120     | 1     | 0.5            | 0.5               | *   | 28CM*PNL103A              |
| 2HVC*SOV147            | Control building smoke removal damper | G           | 0.5 A   | 120     | 1     | 0.5            | 0.5               | *   | 28CM*PNL103A              |
| 2HVC*SOV120            | Solenoid valve                        | G           | 0.5 A   | 120     | 1     | 0.5            | 0.5               | *   | 28CM*PNL103A              |
| 2HVC*SOV142            | Solenoid valve                        | G           | 0.5 A   | 120     | 1     | 0.5            | 0.5               | *   | 28CM*PNL103A              |
| 2HVC*SOV145            | Solenoid valve                        | G           | 0.5 A   | 120     | 1     | 0.5            | 0.5               | *   | 28CM*PNL103A              |
| 2HVC*SOV148            | Solenoid valve                        | G           | 0.5 A   | 120     | 1     | 0.5            | 0.5               | *   | 28CM*PNL103A              |
| 2HVC*SOV169            | Control building A/C                  | G           | 0.5 A   | 120     | 1     | 0.5            | 0.5               | *   | 28CM*PNL103A              |
| 2HVC*SOV171            | Control building A/C                  | G           | 0.5 A   | 120     | 1     | 0.5            | 0.5               | *   | 28CM*PNL103A              |
| 2HVC*SOV182            | Control building A/C 2HVCN32          | G           | 0.5 A   | 120     | 1     | 0.5            | 0.5               | *   | 28CM*PNL103A              |
| 2HVC*SOV212            | Solenoid valve                        | G           | 0.5 A   | 120     | 1     | 0.5            | 0.5               | *   | 28CM*PNL103A              |
| 2HVC*SOV213            | Solenoid valve                        | G           | 0.5 A   | 120     | 1     | 0.5            | 0.5               | *   | 28CM*PNL103A              |
| 2HVK*TV21A             | Control building A/C 2HVKA02          | G           | 0.25 hp | 120     | 1     | 0.5            | 27.6              | *   | 28CM*PNL103A              |



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TABLE 8.3-4 (Cont)

| Equipment<br>Identity No. | Description(1)                         | Division(2) | Rating       | Volts | Phase | Amps<br>Full<br>Load | Amps<br>Locked<br>Rotor | RPM | Power Source<br>Identity No. |
|---------------------------|--|-------------|--------------|-------|-------|----------------------|-------------------------|-----|------------------------------|
| 2HVK*TV22A                | Control building<br>A/C 2HVKA02        | G           | 0.25 hp      | 120   | 3     | 5                    | 27.6                    | *   | 28CM*PNL103A                 |
| 2LMS*BOV153               | Isolation valves<br>2LMSA01            | G           | 0.8<br>0.5 A | 120   | 1     | 0.8<br>0.5           | 1                       | *   | 28CM*PNL103A                 |
| 2LMS*BOV157               | Isolation valves<br>2LMSA01            | G           | 0.8<br>0.5 A | 120   | 1     | 0.8<br>0.5           | 1                       | *   | 28CM*PNL103A                 |
| 28FC*BOV17A               | Cooling valves<br>P859 28FCA05         | G           | 0.5 A        | 120   | 1     | 0.5                  | 1                       | *   | 28CM*PNL103A                 |
| 28FC*BOV18A               | Cooling valves<br>P859 28FCA05         | G           | 0.5 A        | 120   | 1     | 0.5                  | 1                       | *   | 28CM*PNL103A                 |
| 28FC*BOV19A               | Cooling valves<br>P859 28FCA05         | G           | 0.5 A        | 120   | 1     | 0.5                  | 1                       | *   | 28CM*PNL103A                 |
| 28FC*BOV33A               | Cooling valves<br>P859 28FCA05         | G           | 0.5 A        | 120   | 1     | 0.5                  | 1                       | *   | 28CM*PNL103A                 |
| 28FC*BOV37A               | SFP valves<br>28FCA05                  | G           | 0.5 A        | 120   | 1     | 0.5                  | 1                       | *   | 28CM*PNL103A                 |
| 2CPS*BOV106               | Isolation valve<br>P861 2CPSB01        | Y           | 0.5 A        | 120   | 1     | 0.5                  | 1                       | *   | 28CM*PNL301B                 |
| 2CPS*BOV107               | Isolation valve<br>P861 2CPSB01        | Y           | 0.5 A        | 120   | 1     | 0.5                  | 1                       | *   | 28CM*PNL301B                 |
| 2HCS*BOV10B               | Hydrogen<br>recombiner<br>P861 2HCSB07 | Y           | 0.8<br>0.5 A | 120   | 1     | 0.8<br>0.5           | 1                       | *   | 28CM*PNL301B                 |
| 2HCS*BOV11B               | Hydrogen<br>recombiner<br>P861 2HCSB07 | Y           | 0.8<br>0.5 A | 120   | 1     | 0.8<br>0.5           | 1                       | *   | 28CM*PNL301B                 |
| 2HVP*MOD1B                | DG room 3 exhaust<br>fan 2HVPA04       | Y           | 0.25 hp      | 120   | 1     | 5.8                  | 27.6                    | *   | 28CM*PNL301B                 |
| 2HVP*MOD1D                | DG room 3 exhaust<br>fan 2HVPA04       | Y           | 0.25 hp      | 120   | 1     | 5.8                  | 27.6                    | *   | 28CM*PNL301B                 |



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TABLE 8.3-4 (Cont)

| Equipment Identity No. | Description(1)                        | Division(2) | Rating       | Volts | Phase | Amps Full Load | Amps Locked Rotor | RPM | Power Source Identity No. |
|------------------------|---------------------------------------|-------------|--------------|-------|-------|----------------|-------------------|-----|---------------------------|
| 2HVP*MOD6B             | Exhaust fan 1B<br>2HVPB04             | Y           | 0.25 hp      | 120   | 1     | 5.8            | 27.6              | *   | 28CM*PNL301B              |
| 2HVP*MOD6D             | Exhaust fan 1D<br>2HVPB04             | Y           | 0.25 hp      | 120   | 1     | 5.8            | 27.6              | *   | 28CM*PNL301B              |
| 2HVP*80V4B             | DG 3 vent P861<br>2HVPB04             | Y           | 0.5A         | 120   | 1     | 0.5            | 0.5               | *   | 28CM*PNL301B              |
| 2HVP*80V4B             | DG 3 vent P861<br>2HVPB04             | Y           | 0.5A         | 120   | 1     | 0.5            | 0.5               | *   | 28CM*PNL301B              |
| 2HVR*MOD6B             | P861 inlet damper 2HVRB88             | Y           | 0.5 hp       | 120   | 1     | 9.8            | 58.8              | *   | 28CM*PNL301B              |
| 2HVR*MOD7B             | Fan B P861 discharge<br>2HVRB88       | Y           | 0.5 hp       | 120   | 1     | 9.8            | 58.8              | *   | 28CM*PNL301B              |
| 2HVR*80V1B             | Reactor building vent P861<br>2HVRB89 | Y           | 0.5 A        | 120   | 1     | 0.5            | 0.5               | *   | 28CM*PNL301B              |
| 2HVR*80V10B            | Reactor building vent P861<br>2HVRB89 | Y           | 0.5 A        | 120   | 1     | 0.5            | 0.5               | *   | 28CM*PNL301B              |
| 2HVR*80V34B            | SOLENOID VALVE FOR AOD34B             | Y           | 0.5A         | 120   | 1     | 0.5            | 0.5               | *   | 28CM*PNL301B              |
| 2HVR*80V5B             | Reactor building vent P861<br>2HVRB89 | Y           | 0.5 A        | 120   | 1     | 0.5            | 0.5               | *   | 28CM*PNL301B              |
| 2SWP*80V7B             | Pump seal P601<br>2SWPB32             | Y           | 1.4<br>0.9 A | 120   | 1     | 1.4<br>0.9     | 1.4               | *   | 28CM*PNL301B              |
| 2SWP*80V8B             | Pump seal P601<br>2SWPB32             | Y           | 1.4<br>0.5 A | 120   | 1     | 1.4<br>0.5     | 1.4               | *   | 28CM*PNL301B              |
| 2CCP*80V12B            | Bearing cooler P861 2CCPB13           | Y           | 1.4<br>0.9 A | 120   | 1     | 1.4<br>0.9     | 1.4               | *   | 28CM*PNL302B              |



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TABLE 8.3-4 (Cont)

| Equipment<br>Identity No. | Description(1)                   | Division(2) | Rating                  | Voltage | Phase | Amps<br>Full<br>Load  | Amps<br>Locked<br>Rotor | Rpm | Power Source<br>Identity No. |
|---------------------------|----------------------------------|-------------|-------------------------|---------|-------|-----------------------|-------------------------|-----|------------------------------|
| 2CCP*80V9B                | Bearing cooler<br>P861 2CCPB13   | Y           | <del>1.4</del><br>0.5 A | 120     | 1     | <del>1.4</del><br>0.5 | <del>1.4</del><br>0.5   | *   | 28CM*PNL302B                 |
| ✓ 2CHS*80V15B             | Isolation valves<br>P861 2CHSB03 | Y           | 0.5 A                   | 120     | 1     | 0.5                   | 0.5                     | *   | 28CM*PNL302B                 |
| ✓ 2CHS*80V16B             | Isolation valves<br>P861 2CHSB03 | Y           | 0.5 A                   | 120     | 1     | 0.5                   | 0.5                     | *   | 28CM*PNL302B                 |
| 2CHS*80V23B               | Isolation valves<br>P861 2CHSB03 | Y           | <del>0.8</del><br>0.5 A | 120     | 1     | <del>0.8</del><br>0.5 | <del>0.8</del><br>0.5   | *   | 28CM*PNL302B                 |
| 2CHS*80V23D               | Isolation valves<br>P861 2CHSB03 | Y           | <del>0.8</del><br>0.5 A | 120     | 1     | <del>0.8</del><br>0.5 | <del>0.8</del><br>0.5   | *   | 28CM*PNL302B                 |
| 2CHS*80V23F               | Isolation valves<br>P861 2CHSB03 | Y           | <del>0.8</del><br>0.5 A | 120     | 1     | <del>0.8</del><br>0.5 | <del>0.8</del><br>0.5   | *   | 28CM*PNL302B                 |
| 2CHS*80V24B               | Isolation valves<br>P861 2CHSB03 | Y           | <del>0.8</del><br>0.5 A | 120     | 1     | <del>0.8</del><br>0.5 | <del>0.8</del><br>0.5   | *   | 28CM*PNL302B                 |
| 2CHS*80V24D               | Isolation valves<br>P861 2CHSB03 | Y           | <del>0.8</del><br>0.5 A | 120     | 1     | <del>0.8</del><br>0.5 | <del>0.8</del><br>0.5   | *   | 28CM*PNL302B                 |
| 2CHS*80V25B               | Isolation valves<br>P861 2CHSB03 | Y           | <del>0.8</del><br>0.5 A | 120     | 1     | <del>0.8</del><br>0.5 | <del>0.8</del><br>0.5   | *   | 28CM*PNL302B                 |
| 2CHS*80V25D               | Isolation valves<br>P861 2CHSB03 | Y           | <del>0.8</del><br>0.5 A | 120     | 1     | <del>0.8</del><br>0.5 | <del>0.8</del><br>0.5   | *   | 28CM*PNL302B                 |
| 2CHS*80V26B               | Isolation valves<br>P861 2CHSB03 | Y           | <del>0.8</del><br>0.5 A | 120     | 1     | <del>0.8</del><br>0.5 | <del>0.8</del><br>0.5   | *   | 28CM*PNL302B                 |
| 2CHS*80V26D               | Isolation valves<br>P861 2CHSB03 | Y           | <del>0.8</del><br>0.5 A | 120     | 1     | <del>0.8</del><br>0.5 | <del>0.8</del><br>0.5   | *   | 28CM*PNL302B                 |
| 2CHS*80V32B               | Isolation valves<br>P861 2CHSB03 | Y           | 0.5 A                   | 120     | 1     | 0.5                   | 0.5                     | *   | 28CM*PNL302B                 |
| 2CHS*80V33B               | Isolation valves<br>P861 2CHSB03 | Y           | 0.5 A                   | 120     | 1     | 0.5                   | 0.5                     | *   | 28CM*PNL302B                 |





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TABLE 8.3-4 (Cont)

| Equipment Identity No. | Description <sup>(1)</sup>                      | Division <sup>(2)</sup> | Rating                  | Voltage | Phase | Amps Full Load        | Amps Locked Rotor   | Rpm | Power Source Identity No. |
|------------------------|---|-------------------------|-------------------------|---------|-------|-----------------------|---------------------|-----|---------------------------|
| 2CMS*80V34B            | Isolation valves<br>P861 2CMSB03                | Y                       | <del>0.8</del><br>0.5 A | 120     | 1     | <del>0.8</del><br>0.5 | <del>10</del><br>10 | *   | 28CM*PNL302B              |
| 2CMS*80V35B            | Isolation valves<br>P861 2CMSB03                | Y                       | <del>0.8</del><br>0.5 A | 120     | 1     | <del>0.8</del><br>0.5 | <del>10</del><br>10 | *   | 28CM*PNL302B              |
| 2CMS*80V60B            | Isolation valves                                | Y                       | <del>0.8A</del><br>0.8A | 120     | 1     | <del>0.8</del><br>0.8 | <del>10</del><br>10 | *   | 28CM*PNL302B              |
| 2CMS*80V61B            | Isolation valves                                | Y                       | <del>0.8A</del><br>0.8A | 120     | 1     | <del>0.8</del><br>0.8 | <del>10</del><br>10 | *   | 28CM*PNL302B              |
| 2CMS*80V62B            | Isolation valves                                | Y                       | <del>0.8A</del><br>0.8A | 120     | 1     | <del>0.8</del><br>0.8 | <del>10</del><br>10 | *   | 28CM*PNL302B              |
| 2CMS*80V63B            | Isolation valves                                | Y                       | <del>0.8A</del><br>0.8A | 120     | 1     | <del>0.8</del><br>0.8 | <del>10</del><br>10 | *   | 28CM*PNL302B              |
| 2CMS*80V64B            | Isolation valves                                | Y                       | <del>0.8A</del><br>0.8A | 120     | 1     | <del>0.8</del><br>0.8 | <del>10</del><br>10 | *   | 28CM*PNL302B              |
| 2CMS*80V65B            | Isolation valves                                | Y                       | <del>0.8A</del><br>0.8A | 120     | 1     | <del>0.8</del><br>0.8 | <del>10</del><br>10 | *   | 28CM*PNL302B              |
| 2CPS*80V108            | Isolation valves<br>P861 2CPSB02                | Y                       | 0.5 A                   | 120     | 1     | 0.5                   | <del>10</del><br>10 | *   | 28CM*PNL302B              |
| 2CPS*80V109            | Isolation valves<br>P861 2CPSB02                | Y                       | 0.5 A                   | 120     | 1     | 0.5                   | <del>10</del><br>10 | *   | 28CM*PNL302B              |
| 2CPS*80V121            | Isolation valves<br>P861 2CPSB02                | Y                       | <del>1.4</del><br>0.9 A | 120     | 1     | <del>1.4</del><br>0.9 | <del>10</del><br>10 | *   | 28CM*PNL302B              |
| 2CPS*80V122            | Isolation valves<br>P861 2CPSB02                | Y                       | <del>1.4</del><br>0.9 A | 120     | 1     | <del>1.4</del><br>0.9 | <del>10</del><br>10 | *   | 28CM*PNL302B              |
| 2HVC*MOD3B             | HEPA filter 2B<br>2HVCB12                       | Y                       | 0.125 hp                | 120     | 1     | *                     | *                   | *   | 28CM*PNL302B              |
| 2HVC*MOD54B            | Makeup air<br>2HVCB12                           | Y                       | 1 hp                    | 120     | 1     | *                     | *                   | *   | 28CM*PNL302B              |
| 2HVC*MOD61B            | Control building<br>isolation damper<br>2HVCB12 | Y                       | 0.25 hp                 | 120     | 1     | *                     | *                   | *   | 28CM*PNL302B              |
| 2HVC*80V12B            | Relay room<br>A/C 2B 2HVCB12                    | Y                       | 0.25 hp                 | 120     | 1     | <del>1.4</del><br>0.9 | <del>10</del><br>10 | *   | 28CM*PNL302B              |



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TABLE 0.3-4 (Cont)

| Equipment<br>Identity No. | Description(1)                    | Division(2) | Rating           | Volts | Phase | Amps<br>Full<br>Load | Amps<br>Locked<br>Rotor | Rpm | Power Source<br>Identity No. |
|---------------------------|-----------------------------------|-------------|------------------|-------|-------|----------------------|-------------------------|-----|------------------------------|
| 2HVC*80V178               | Discharge damper<br>P861 2HVCN34  | Y           | 0.5 A            | 120   | 1     | 0.5                  | 0.5                     | *   | 28CH*PNL302B                 |
| 2HVC*80V193               | Discharge damper<br>P861 2HVCN34  | Y           | 0.5 A            | 120   | 1     | 0.5                  | 0.5                     | *   | 28CH*PNL302B                 |
| 2HVC*80V6B                | Control room<br>A/C 1B<br>2HVCB12 | Y           | 0.25 hp<br>5.8 A | 120   | 1     | 0.5                  | 27.6                    | *   | 28CH*PNL302B                 |
| 2HVK*80V36B               | Computer A/C<br>P861 2HVKB04      | Y           | 0.5 A            | 120   | 1     | 0.5                  | 0.5                     | *   | 28CH*PNL302B                 |
| 2IAS*80VX186              | Isolation valve<br>2IASB11        | Y           | 0.87<br>0.5 A    | 120   | 1     | 0.87<br>0.5          | 0.5                     | *   | 28CH*PNL302B                 |
| 2IAS*80VX186              | Isolation valve<br>1IASB11        | G           | 0.87<br>0.5 A    | 120   | 1     | 0.87<br>0.5          | 0.5                     | *   | 28CH*PNL302B                 |
| 2IAS*80V165               | Isolation valves<br>P861 2IASB11  | Y           | 0.87<br>0.75 A   | 120   | 1     | 0.87<br>0.75         | 0.5                     | *   | 28CH*PNL302B                 |
| 2IAS*80V180               | Isolation valves<br>P861 2IASB11  | Y           | 0.87<br>0.5 A    | 120   | 1     | 0.87<br>0.5          | 0.5                     | *   | 28CH*PNL302B                 |
| ✓ 2IAS*80V182             | Isolation valves<br>P859 2IASB11  | Y           | 0.87<br>0.5 A    | 120   | 1     | 0.87<br>0.5          | 0.5                     | *   | 28CH*PNL302B                 |
| ✓ 2IAS*80V183             | Isolation valves<br>P859 2IASB11  | Y           | 0.5 A            | 120   | 1     | 0.5                  | 0.5                     | *   | 28CH*PNL302B                 |
| ✓ 2IAS*80V184             | Isolation valves<br>P859 2IASB11  | Y           | 0.87<br>0.5 A    | 120   | 1     | 0.87<br>0.5          | 0.5                     | *   | 28CH*PNL302B                 |
| 2IAS*80V185               | Isolation valve<br>2IASB11        | Y           | 0.87<br>0.5 A    | 120   | 1     | 0.87<br>0.5          | 0.5                     | *   | 28CH*PNL302B                 |
| 28FC*80V35B               | SFP valves<br>P861 28FCB06        | Y           | 0.5 A            | 120   | 1     | 0.5                  | 0.5                     | *   | 28CH*PNL302B                 |
| ✓ 28FC*80V5B              | SFP valves P861<br>28FCB06        | Y           | 0.5 A            | 120   | 1     | 0.5                  | 0.5                     | *   | 28CH*PNL302B                 |



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TABLE 8.3-4 (Cont)

| Equipment<br>Identity No. | Description(1)                              | Division(2) | Rating         | Volts | Phase | Amps<br>Full<br>Load | Amps<br>Locked<br>Rotor | RPM | Power Source<br>Identity No. |
|---------------------------|---|-------------|----------------|-------|-------|----------------------|-------------------------|-----|------------------------------|
| 28PC*SOV6B                | SFP valves P861<br>28PCB06                  | Y           | 0.5 A          | 120   | 1     | 0.5                  | 0.5                     | •   | 28CM*PNL302B                 |
| 28WP*SOV154B              | SWT cooler valve<br>P861 28WPB29            | Y           | 10.5W<br>0.5 A | 120   | 1     | 0.2<br>0.5           | 0.5                     | •   | 28CM*PNL302B                 |
| 28WP*SOV571               | SWT cooler valve<br>P861 28WPB29            | Y           | 10.5W<br>0.5 A | 120   | 1     | 0.2<br>0.5           | 0.5                     | •   | 28CM*PNL302B                 |
| 28WP*SOV574               | SWT cooler valve<br>P861 28WPB29            | Y           | 10.5W<br>0.5 A | 120   | 1     | 0.2<br>0.5           | 0.5                     | •   | 28CM*PNL302B                 |
| 2CE5*IPNL412(5)           | DG control panel                            | Y           | *              | 120   | 1     | *                    | *                       | •   | 28CM*PNL303B                 |
| 2CE5*IPNL412(7)           | DG control panel                            | Y           | *              | 120   | 1     | *                    | *                       | •   | 28CM*PNL303B                 |
| 2FPW*SOV219               | Primary contain-<br>ment isolation<br>valve | Y           | 0.8<br>0.5 A   | 120   | 1     | 0.8<br>0.5           | 0.5                     | •   | 28CM*PNL303B                 |
| 2FPW*SOV221               | Primary contain-<br>ment isolation<br>valve | Y           | 0.8<br>0.5 A   | 120   | 1     | 0.8<br>0.5           | 0.5                     | •   | 28CM*PNL303B                 |
| 2HVC*SOV177               | Control building<br>A/C 2HVCR32             | Y           | 0.5 A          | 120   | 1     | 0.5                  | 0.5                     | •   | 28CM*PNL303B                 |
| 2HVC*SOV179               | Control building<br>A/C 2HVCR32             | Y           | 0.5 A          | 120   | 1     | 0.5                  | 0.5                     | •   | 28CM*PNL303B                 |
| 2HVC*SOV192               | Control building<br>A/C 2HVCR32             | Y           | 0.5 A          | 120   | 1     | 0.5                  | 0.5                     | •   | 28CM*PNL303B                 |
| 2HVC*SOV214               | Solenoid valve                              | Y           | 0.5 A          | 120   | 1     | 0.5                  | 0.5                     | •   | 28CM*PNL303B                 |
| 2HVC*SOV215               | Solenoid valve                              | Y           | 0.5 A          | 120   | 1     | 0.5                  | 0.5                     | •   | 28CM*PNL303B                 |
| 2HVK*TV21B                | Control building<br>A/C 2HVKB02             | Y           | 0.25 hp        | 120   | 1     | 27.6                 | 27.6                    | •   | 28CM*PNL303B                 |
| 2HVK*TV22B                | Control building<br>A/C 2HVKB02             | Y           | 0.25 hp        | 120   | 1     | 27.6                 | 27.6                    | •   | 28CM*PNL303B                 |



Nine Mile Point Unit 2 PSAR

TABLE 8.3-8 (Cont)

| Equipment<br>Identity No. | Description(s)                 | Division(s) | Rating                   | Volts                 | Phase | Amps<br>Full<br>Load   | Amps<br>Locked<br>Rotor | Rpm | Power Source<br>Identity No. |
|---------------------------|--------------------------------|-------------|--------------------------|-----------------------|-------|------------------------|-------------------------|-----|------------------------------|
| 2LMS*SOV152               | Isolation valves<br>2LMSB01    | Y           | <del>0.87</del><br>0.5 A | 120                   | 1     | <del>0.87</del><br>0.5 | <del>10</del><br>9      | *   | 28CM*PNL303B                 |
| 2LMS*SOV156               | Isolation valves<br>2LMSB01    | Y           | <del>0.87</del><br>0.5 A | 120                   | 1     | <del>0.87</del><br>0.5 | <del>10</del><br>9      | *   | 28CM*PNL303B                 |
| 28FC*SOV17B               | Cooling valves<br>P861 28FCB05 | Y           | 0.5 A                    | 120                   | 1     | 0.5                    | <del>10</del><br>9      | *   | 28CM*PNL303B                 |
| 28FC*SOV18B               | Cooling valves<br>P861 28FCB05 | Y           | 0.5 A                    | 120                   | 1     | 0.5                    | <del>10</del><br>9      | *   | 28CM*PNL303B                 |
| 28FC*SOV19B               | Cooling valves<br>P861 28FCB05 | Y           | 0.5 A                    | 120                   | 1     | 0.5                    | <del>10</del><br>9      | *   | 28CM*PNL303B                 |
| 28FC*SOV33B               | Cooling valves<br>P861 28FCB05 | Y           | 0.5 A                    | 120                   | 1     | 0.5                    | <del>10</del><br>9      | *   | 28CM*PNL303B                 |
| 28FC*SOV37B               | SFP valves<br>28FCB05          | Y           | 0.5 A                    | 120                   | 1     | 0.5                    | <del>10</del><br>9      | *   | 28CM*PNL303B                 |
| 28CM*PNL101A              | 120-V distribu-<br>tion panel  | G           | 225 A                    | 120<br><del>240</del> | 1     | 150<br>104             | <del>10</del><br>9      | *   | 28CM*XD101A                  |
| 28CM*PNL102A              | 120-V distribu-<br>tion panel  | G           | 225 A                    | 120<br><del>240</del> | 1     | 150<br>104             | <del>10</del><br>9      | *   | 28CM*XD102A                  |
| 28CM*PNL103A              | 120-V distribu-<br>tion panel  | G           | 225 A                    | 120<br><del>240</del> | 1     | 150<br>104             | <del>10</del><br>9      | *   | 28CM*XD103A                  |
| 28CM*PNL301B              | 120-V distribu-<br>tion panel  | Y           | 225 A                    | 120<br><del>240</del> | 1     | 150<br>104             | <del>10</del><br>9      | *   | 28CM*XD301B                  |
| 28CM*PNL302B              | 120-V distribu-<br>tion panel  | Y           | 225 A                    | 120<br><del>240</del> | 1     | 150<br>104             | <del>10</del><br>9      | *   | 28CM*XD302B                  |
| 28CM*PNL303B              | 120-V distribu-<br>tion panel  | Y           | 225 A                    | 120<br><del>240</del> | 1     | 150<br>104             | <del>10</del><br>9      | *   | 28CM*XD303B                  |
| 28CM*PNL200P              | 120-V distribu-<br>tion panel  | P           | 225 A                    | 120                   | 1     | <del>150</del><br>150  | <del>10</del><br>9      | *   | 28CM*XRC200P                 |





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TABLE 8.3-4 (Cont)

| Equipment Identity No. | Description(1)                              | Division(2) | Rating         | Volts | Phase | Amps Full Load | Amps Locked Rotor | Rpm | Power Source Identity No.    |
|------------------------|---|-------------|----------------|-------|-------|----------------|-------------------|-----|------------------------------|
| 2GTS*PV5A              | SGTS filter pv train A inlet                | G           | 0.16 hp        | 120   | 1     |                |                   | *   | 28CV*PNL101A                 |
| 2KJB*DRA1(1)           | Reactor building personnel airlock-control  | G           | *              | 120   | 1     | *              | *                 | *   | 28CV*PNL101A                 |
| 2KJB*DRA1(2)           | Reactor building personnel airlock-lighting | G           | *              | 120   | 1     | *              | *                 | *   | 28CV*PNL101A                 |
| 2SWP*80V97A            | Reactor building vent 28WPA40               | G           | 0.5 A          | 120   | 1     | 0.5            |                   | *   | 28CM*PNL100A<br>28CV*PNL101A |
| 2CSH*B1                | HPCS pump heater                            | P           | 1.38 kW        | 120   | 1     | 12             |                   | *   | 28CV*PNL200P                 |
| 2HVP*MOD2A             | DG room 2 exhaust fan 2A discharge          | P           | 0.25 hp        | 120   | 1     | 5.8            | 27.6              | *   | 28CV*PNL200P                 |
| 2HVP*MOD2B             | DG room 2 exhaust fan 2B discharge          | P           | 0.25 hp        | 120   | 1     | 5.8            | 27.6              | *   | 28CV*PNL200P                 |
| 2HVP*MOD7A             | Exhaust fan 2A discharge 2HVPC04            | P           | 0.25 hp        | 120   | 1     | 5.8            | 27.6              | *   | 28CV*PNL200P                 |
| 2HVP*MOD7B             | Exhaust fan 2B discharge 2HVPC04            | P           | 0.25 hp        | 120   | 1     | 5.8            | 27.6              | *   | 28CV*PNL200P                 |
| 2HVP*80V5A             | DG 2 vent inlet 2HVPC04                     | P           | 0.5 A          | 120   | 1     | 0.5            |                   | *   | 28CV*PNL200P                 |
| 2HVP*80V5B             | DG 2 vent inlet 2HVPC04                     | P           | 0.5 A          | 120   | 1     | 0.5            |                   | *   | 28CV*PNL200P                 |
| 2SWP*80V501            | Service water valve P871 2SWPN45            | P           | 0.5 W<br>0.5 A | 120   | 1     | 0.2            |                   | *   | 28CV*PNL200P                 |
| 2GTS*PV5B              | GTS filter pv                               | Y           | 0.16 hp        | 120   | 1     |                |                   | *   | 28CV*PNL301B                 |



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TABLE 8.3-4 (Cont)

| Equipment<br>Identity No. | Description(1)                                    | Division(2) | Rating | Volts      | Phase | Amps<br>Full<br>Load | Amps<br>Locked<br>Rotor | Rpm. | Power Source<br>Identity No. |
|---------------------------|---|-------------|--------|------------|-------|----------------------|-------------------------|------|------------------------------|
| 2KJB*DRA2(1)              | Reactor building<br>personnel<br>airlock-control  | Y           | *      | 120        | 1     | *                    | *                       | *    | 28CV*PNL301B                 |
| 2KJB*DRA2(2)              | Reactor building<br>personnel<br>airlock-lighting | Y           | *      | 120        | 1     | *                    | *                       | *    | 28CV*PNL301B                 |
| 28WP*80V97B               | Reactor building<br>vent 28WPB40                  | Y           | 0.5 A  | 120        | 1     | 0.5                  | 0.5                     | *    | 28CV*PNL301B                 |
| 28CV*PNL101A              | GTS misc.<br>120/240-V panel                      | G           | 150 A  | 240        | 1     | 104<br>150           | 104<br>150              | *    | 28CV*XD101A                  |
| 28CV*PNL200P              | HPCS switchgear<br>room 120-V<br>misc. panel      | P           | 225 A  | 240        | 1     | 104<br>150           | 104<br>150              | *    | 28CV*XD200P                  |
| 28CV*PNL301B              | GTS misc.<br>120/240 - V panel                    | Y           | 150 A  | 120<br>240 | 1     | 104<br>150           | 104<br>150              | *    | 28CV*XD301B                  |
| 2VBS*PNL101A              | 120-V UPS dis-<br>tribution panel                 | G           | 200 A  | 120        | 1     | 200                  | 200                     | *    | 2VBA*UP82A                   |
| 2VBS*PNL301B              | 120-V UPS dis-<br>tribution panel                 | Y           | 200 A  | 120        | 1     | 200                  | 200                     | *    | 2VBA*UP82B                   |
| 2MSS*IPNL91A(1)           | Relay logic cabi-<br>net HVY7A                    | G           | *      | 120        | 1     | 10                   | *                       | *    | 2VBS*PNLA105                 |
| 2MSS*IPNL91B(1)           | Relay logic cabi-<br>net HVY7B                    | G           | *      | 120        | 1     | 10                   | *                       | *    | 2VBS*PNLA105                 |
| 2MSS*IPNL91C(1)           | Relay logic cabi-<br>net HVY7C                    | G           | *      | 120        | 1     | 10                   | *                       | *    | 2VBS*PNLA105                 |
| 2MSS*IPNL91D(1)           | Relay logic cabi-<br>net HVY7D                    | G/W         | *      | 120        | 1     | 10                   | *                       | *    | 2VBS*PNLA105                 |
| 2MSS*IPNL90A(1)           | Relay logic cabi-<br>net (2MSS*HVY6A)             | Y           | *      | 120        | 1     | 15                   | *                       | *    | 2VBS*PNLA105                 |



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TABLE 8.3-4 (Cont)

| Equipment Identity No. | Description(1)                   | Division(2) | Rating | Voltage | Phase | Amps Full Load | Amps Locked Rotor | Rpm. | Power Source Identity No. |
|------------------------|----------------------------------|-------------|--------|---------|-------|----------------|-------------------|------|---------------------------|
| 2MSS*IPNL90B(1)        | Relay logic cabinet (2MSS*HVI6B) | Y           | 15     | 120     | 1     | 15             | 15                | *    | 2VBS*PNLA105              |
| 2MSS*IPNL90C(1)        | Relay logic cabinet (2MSS*HVI6C) | Y           | 15     | 120     | 1     | 15             | 15                | *    | 2VBS*PNLB106              |
| 2MSS*IPNL90D(1)        | Relay logic cabinet (2MSS*HVI6D) | Y           | 15     | 120     | 1     | 15             | 15                | *    | 2VBS*PNLB105              |
| 2MSS*IPNL91A(2)        | Relay logic cabinet (2MSS*HVI7A) | G           | 15     | 120     | 1     | 15             | 15                | *    | 2VBS*PNLB105              |
| 2MSS*IPNL91B(2)        | Relay logic cabinet (2MSS*HVI7B) | G           | 15     | 120     | 1     | 15             | 15                | *    | 2VBS*PNLB105              |
| 2MSS*IPNL91C(2)        | Relay logic cabinet (2MSS*HVI7C) | G           | 15     | 120     | 1     | 15             | 15                | *    | 2VBS*PNLB105              |
| 2MSS*IPNL91D(2)        | Relay logic cabinet (2MSS*HVI7D) | G           | 15     | 120     | 1     | 15             | 15                | *    | 2VBS*PNLB105              |
| 2MSS*IPNL90A(2)        | Relay logic cabinet HVI6A        | Y           | 15     | 120     | 1     | 15             | 15                | *    | 2VBS*PNLB106              |
| 2MSS*IPNL90B(2)        | Relay logic cabinet HVI6B        | Y           | 15     | 120     | 1     | 15             | 15                | *    | 2VBS*PNLB106              |
| 2MSS*IPNL90C(2)        | Relay logic cabinet HVI6C        | Y           | 15     | 120     | 1     | 15             | 15                | *    | 2VBS*PNLB106              |
| 2MSS*IPNL90D(2)        | Relay logic cabinet HVI6D        | Y           | 15     | 120     | 1     | 15             | 15                | *    | 2VBS*PNLB106              |
| 2CES*IPNL407(4)        | DG control panel                 | G           | 15     | 120     | 1     | 15             | 15                | *    | 2VBS*PNL101A              |
| 2MSS*IPNL407(6)        | DG control panel                 | G           | 15     | 120     | 1     | 15             | 15                | *    | 2VBS*PNL101A              |
| 2CES*IPNL412(4)        | DG control panel                 | Y           | 15     | 120     | 1     | 15             | 15                | *    | 2VBS*PNL301B              |
| 2MSS*IPNL412(6)        | DG control panel                 | Y           | 15     | 120     | 1     | 15             | 15                | *    | 2VBS*PNL301B              |
| 2CES*IPNL413           | DG control panel                 | *           | 15     | *       | *     | 15             | 15                | *    |                           |



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TABLE 8.3-8 (Cont)

| Equipment<br>Identity No. | Description(s)                             | Division(s) | Rating | Volts | Phase | Amps<br>Full<br>Load | Amps<br>Locked<br>Rotor | Rpm | Power Source<br>Identity No. |
|---------------------------|--|-------------|--------|-------|-------|----------------------|-------------------------|-----|------------------------------|
| 2HTS*XD001                | HEAT TRACING<br>XFMR                       | G           | 25KVA  | 575   | 3     | 43.40                | -                       |     | 2EJS*PNL103A                 |
| 2HTS*XD002                | HEAT TRACING<br>XFMR                       | G           | 25KVA  | 575   | 1     | 43.40                | -                       |     | 2EJS*PNL103A                 |
| 2SWP*CAB146A              | WATER<br>SERVICE & EFFLUENT<br>RAD MONITOR | G           | 1.5HP  | 575   | 3     | 1.8                  | -                       |     | 2EJS*PNL102A                 |
| 2GTS*PNL5A                | REACTOR BUILDING<br>IN/OUT DIFF PRESS      | G           | 1.5HP  | 575   | 1     | 3.0                  | -                       |     | 2EJS*PNL103A                 |
| 2CMS*CAB10A               | CONTAINMENT ATMOS.<br>LEAKAGE RADN         | G           | 1.5HP  | 575   | 3     | 1.6                  | 10.0                    |     | 2EJS*PNL104A                 |
| 2SWP*CAB23A               | RHR SERVICE WATER<br>A RAD MONITOR         | G           | 1.5HP  | 575   | 3     | 1.8                  | 10.0                    |     | 2EJS*PNL104A                 |
| 2CMS*CAB10B               | CONTAINMENT ATMOS.<br>LEAKAGE RADN         | Y           | 1.5HP  | 575   | 3     | 1.6                  | 10.0                    |     | 2EJS*PNL303B                 |
| 2HVR*CAB14B               | RX BLDG ABOVE<br>REFUEL RADN               | Y           | 1.5HP  | 575   | 3     | 1.6                  | 10.0                    |     | 2EJS*PNL303B                 |
| 2HVR*CAB32B               | RX BLDG REFUEL<br>FLOOR RADN               | Y           | 1.5HP  | 575   | 3     | 1.6                  | 10.0                    |     | 2EJS*PNL303B                 |
| 2GTS*PNL5B                | REACTOR BUILDING<br>IN/OUT DIFF PRESS      | Y           | 1.5HP  | 575   | 03    | 3.0                  | -                       |     | 2EJS*PNL303B                 |
| 2SWP*CAB23B               | RHR SERVICE WATER<br>B RAD MONITOR         | Y           | 1.5HP  | 575   | 3     | 1.6                  | 10.0                    |     | 2EJS*PNL303B                 |





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TABLE 8.3-4 (Cont)

| Equipment<br>Identity No. | Description(1)     | Division(2) | Rating | Volts | Phase | Amps<br>Full<br>Load | Amps<br>Locked<br>Rotor | Rpm | Power Source<br>Identity No. |
|---------------------------|--------------------|-------------|--------|-------|-------|----------------------|-------------------------|-----|------------------------------|
| 2CES*1PNL414              | DG ct 5 pt cubicle | .           | *      | *     | *     | *                    | *                       | *   |                              |

\*To be provided in an amendment to the PSAR.

*Note*

*Add the last page here.*

(1) KEY TO DESCRIPTION:

A/C = Air conditioning  
 CWS = Circulating water system  
 DG = Diesel generator  
 GTS = Gas treatment system  
 HPCS = High-pressure core spray  
 HVR = Reactor building ventilation  
 LPCS = Low-pressure core spray  
 MCC = Motor control center  
 MSIV = Main steam isolation valve  
 PIT = Pressure indicator transmitter  
 RBCLCW = Reactor building closed loop cooling water  
 RCIC = Reactor core isolation cooling  
 RHR = Residual heat removal  
 RPS = Reactor protection system  
 RWCU = Reactor water cleanup  
 SFC = Spent fuel cooling and cleanup  
 SFP = Spent fuel pool  
 SGTB = Standby gas treatment system  
 SWT = Service water traveling screens, wash and disposal  
 TBCLCW = Turbine building closed loop cooling water  
 UPS = Uninterruptible power supply

(2) KEY TO DIVISION:

G = Green (Division I)  
 Y = Yellow (Division II)  
 P = Purple (Division III)  
 N = Non-division or normal  
 O = Orange (Division of RPS)  
 B = Blue (Division of RPS)  
 W = White (Division of RPS)



## Nine Mile Point Unit 2 FSAR

The basic cell geometry is shown on Figure 9.1-4. The reactivity of the basic cell is a function of  $B^{10}$  loading in the Boraflex. The  $B^{10}$  loading used for the criticality analysis is the minimum to be incorporated into the design and corresponds to 0.028 grams of  $B^{10}$  per square centimeter of cross sectional area. The nominal Boraflex thickness is 0.106 in. The thickness tolerance of +0.010 is addressed as one of the perturbations to the multiplication factor of the basic cell.

14 | The fuel assembly is represented by an explicit fuel pin distribution of selected U-235 enrichments typical of the General Electric Company's intra-assembly fuel pin arrangement (which produces a bundle slightly enriched section enrichment of 3.60 weight percent U-235). No credit was taken for burnable poison in the fuel. If this fuel with uniform 3.6 weight percent U-235 were to be analyzed for infinite lattice reactivity ( $K_{\infty}$ ), as was done for the new fuel racks, the resultant  $K_{\infty}$  would be 1.40.

The reactivity perturbation effect of the Zircaloy fuel channel around the bundle when located in the spent fuel rack is negative. As an added conservatism, the assumption is made that all fuel assemblies are stored without channels. *positive*

All reactivity perturbation effects are included in the criticality analysis. The final result shows that the worst case multiplication factor,  $K_{\infty} \leq 0.8961$ .

The racks, on their pedestals, provide adequate space underneath for relatively unrestricted coolant water flow. The holes in the cell bottom plates allow sufficient flow through and around each fuel assembly.

The spent fuel pool is cooled by the spent fuel pool cooling and cleanup system (Section 9.1.3). Decay heat loads are computed for a filled pool for the following cases:

Case 1: A normal refueling discharge containing 260 fuel assemblies cooled 12 days after reactor shutdown (12 DARS). The remainder of the pool is filled with normal refueling discharges cooled for multiples of 18 months. The total heat load is  $14.4 \times 10^6$  Btu/hr.

Case 2: A full core of 764 fuel assemblies cooled 12 DARS, discharged 180 days after the last refueling. The remainder of the pool is filled with normal refueling discharges (260 fuel assemblies each) cooled 180 days



### Lifting Strongback

The lifting strongback (Figure 9.1-19) is used for lifting the pressure vessel head, the drywell head, and all other critical loads during refueling. The strongback conforms to the lifting configuration required for each lift. This strongback has dual load attaching points providing a redundant lifting design.

The strongback is designed to support three times the rated load (static and dynamic) in accordance with NUREG-0554. All welding is in accordance with the ASME Boiler and Pressure Vessel Code Section IX and AWS D1.1. The completed assembly is proof tested at 125 percent rated load. After the load test, all structural welds are magnetic particle inspected.

150

### Lifting Slings and Strongbacks

Lifting slings (Figure 9.1-19) will be used in conjunction with the main strongback to lift and transport all critical loads during refueling. The slings and strongbacks are designed incorporating a safety factor of 3 times the rated load of 125 tons. The slings and strongbacks form a redundant lifting system. The slings are designed incorporating a safety load of 3 times the rated load.

Inset A

A complete set of four slings will be used when lifting and transporting the shield plugs, drywell head, reactor vessel insulation, reactor pressure vessel head, fuel transfer shielding bridge, and service platform. The slings are solid lifting bars that will set using strain gauges. This will ensure equal loading at each point and will also ensure a level lift.

A separate sling set and lifting cruciform will be used when lifting the dryer and separator (Figure 9.1-20). These slings and the lifting cruciform are designed for underwater service. The cruciform structure is designed in accordance with the AISC Manual of Steel Construction.

Spider beams

Each completed sling assembly is proof tested at 125 percent of the rated load. All welds after load testing are magnetic particle inspected.

150

### Service Platform

The service platform (Figure 9.1-21) is provided to facilitate maintenance work on reactor internals. It provides a working platform for people and hand-guided tools, and it also can support a jib crane. The service

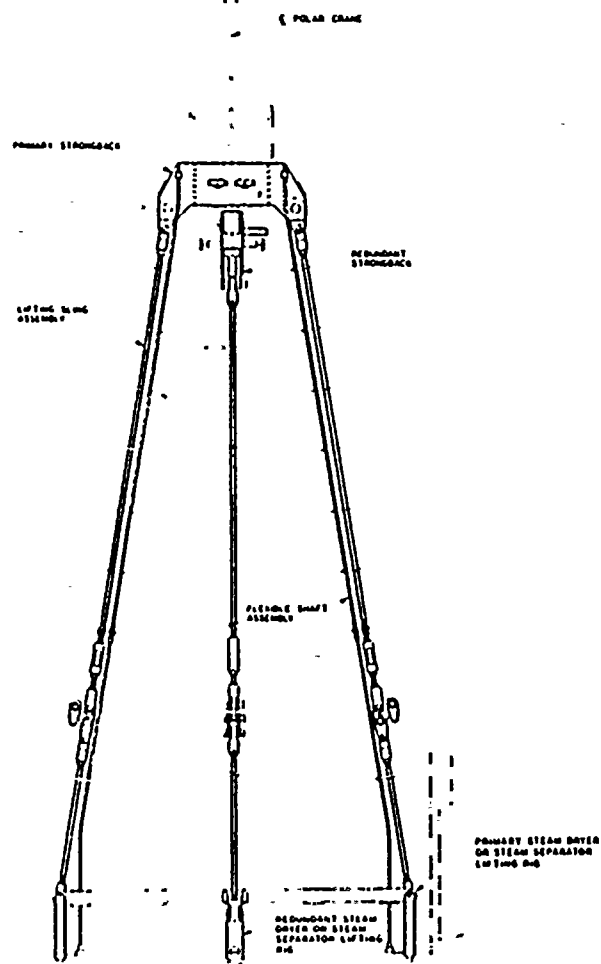


## Insert A:

SFC and WCS filter removal plugs, storage pool gate, service platform, and other critical loads. The sling lifting assemblies are solid bars with turnbuckles that independently attach to both strongbacks to facilitate distribution of load to all slings.







SECTION A-A

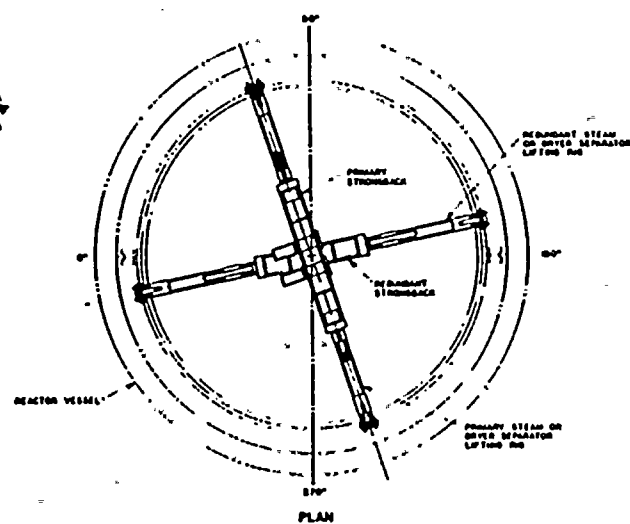


FIGURE 9 1-20

LIFTING RIG FOR  
STEAM DRYER OR STEAM  
SEPARATOR

NIAGARA MOHAWK POWER CORPORATION  
NINE MILE POINT-UNIT 2  
FINAL SAFETY ANALYSIS REPORT



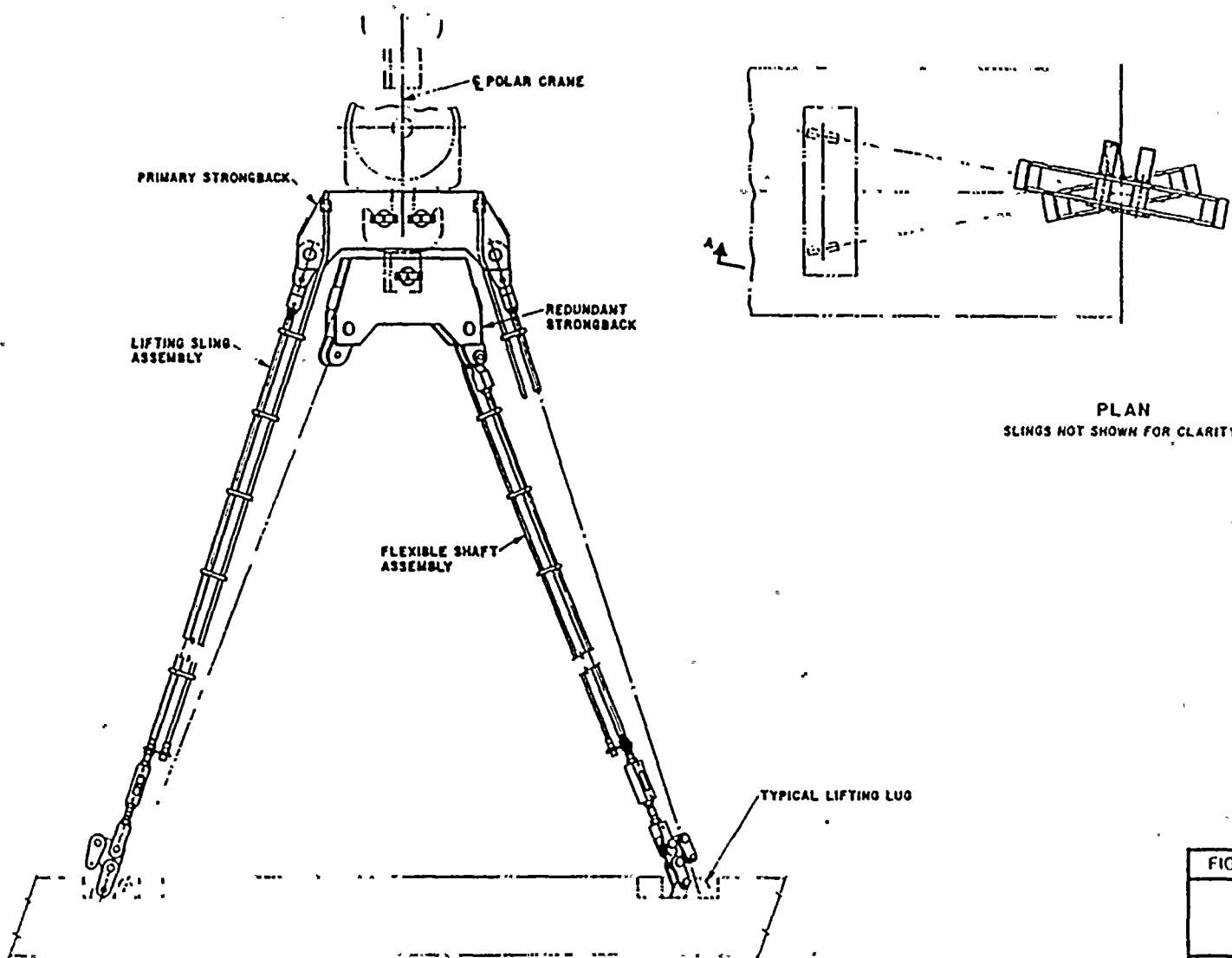


FIGURE 9 1-19

LIFTING STRONGBACK & SLINGS

NIAGARA MOHAWK POWER CORPORATION  
NINE MILE POINT-UNIT 2  
FINAL SAFETY ANALYSIS REPORT



Nine Mile Point Unit 2 FSAR

- |   |    |
|---|----|
| 9. Each service water pump discharge header pressure.             |    |
| 10. Each RHR heat exchanger service water return radiation level. | 22 |
| 11. Each service water discharge loop radiation level.            | 22 |
| 12. Service water return temperature from each component (LOCAL). | 22 |
| 13. Service water discharge pH and conductivity (LOCAL).          | 22 |

Recorders are provided for:

1. Each RHR heat exchanger service water return radiation level (Section 11.5.1.1.1, Item 5).
2. Each service water discharge loop radiation level (Section 11.5.1.1.1, Item 6).

Alarms are provided for:

1. Service water system inoperable.
2. Service water pumps suction pressure low.
3. Service water pumps autostart.
4. Service water pumps motor/pump bearing temperature high. | 22
5. Service water pumps auto trip/fail to start.
6. Service water pumps discharge flow low.
7. Service water pump discharge headers pressure low.
8. Spent fuel pool makeup valve not closed.
9. Service water to TBCLCW heat exchangers pressure low.
10. Service water to RBCLCW heat exchangers pressure low.

| 22



Nine Mile Point Unit 2 FSAR

TABLE 9.2-1A

DIVISION I COMPONENTS REQUIRED SERVICE WATER FLOWS (GPM)  
ASSUMING COMPLETE FAILURE OF DIVISION II

| <u>Equipment<br/>Identification<br/>Number</u> | <u>Division</u> | <u>LOCA<sup>(1)</sup></u> | <u>LOCA &amp;<br/>LOOP</u> | <u>Shutdown<sup>(1)</sup></u> | <u>LOOP</u> | <u>NOTES</u> |
|--|-----------------|---------------------------|----------------------------|-------------------------------|-------------|--------------|
| <u>Reactor Building</u>                        |                 |                           |                            |                               |             |              |
| 2HVR*UC401A                                    | I               | 29                        | 29                         | 29                            | 29          | (4),(7)      |
| 2HVR*UC401B                                    | II              | 0                         | 0                          | 0                             | 0           | (4),(7)      |
| 2HVR*UC401C                                    | II              | 0                         | 0                          | 0                             | 0           | (4),(7)      |
| 2HVR*UC401D                                    | I               | 0                         | 0                          | 0                             | 0           | (4),(7)      |
| 2HVR*UC401E                                    | II              | 0                         | 0                          | 0                             | 0           | (4),(7)      |
| 2HVR*UC401F                                    | II              | 0                         | 0                          | 0                             | 0           | (4),(7)      |
| 2HVR*UC402A                                    | I               | 54                        | 54                         | 54                            | 54          | (5)          |
| 2HVR*UC402B                                    | I               | 0                         | 0                          | 0                             | 0           | (5)          |
| 2HVR*UC403A                                    | I               | 77                        | 77                         | 77                            | 77          | (5)          |
| 2HVR*UC403B                                    | II              | 0                         | 0                          | 0                             | 0           | (5)          |
| 2HVR*UC404A                                    | I               | 21                        | 21                         | 21                            | 21          |              |
| 2HVR*UC404B                                    | I               | 21                        | 21                         | 21                            | 21          |              |
| 2HVR*UC404C                                    | II              | 0                         | 0                          | 0                             | 0           |              |
| 2HVR*UC404D                                    | II              | 0                         | 0                          | 0                             | 0           |              |
| 2HVR*UC405                                     | I               | 13                        | 13                         | 13                            | 13          |              |
| 2HVR*UC406                                     | II              | 0                         | 0                          | 0                             | 0           |              |
| 2HVR*UC407A                                    | I               | 16                        | 16                         | 16                            | 16          |              |





Nine Mile Point Unit 2 FSAR

TABLE 9.2-1A (Cont'd)

DIVISION I COMPONENTS REQUIRED SERVICE WATER FLOWS (GPM)  
ASSUMING COMPLETE FAILURE OF DIVISION II

| <u>Equipment<br/>Identification<br/>Number</u> | <u>Division</u> | <u>LOCA<sup>(1)</sup></u> | <u>LOCA &amp;<br/>LOOP</u> | <u>Shutdown<sup>(1)</sup></u> | <u>LOOP</u> | <u>NOTES</u> |
|--|-----------------|---------------------------|----------------------------|-------------------------------|-------------|--------------|
| <u>Reactor Building (Cont'd)</u>               |                 |                           |                            |                               |             |              |
| 2HVR*UC407B                                    | I               | 16                        | 16                         | 16                            | 16          |              |
| 2HVR*UC407C                                    | I               | 16                        | 16                         | 16                            | 16          |              |
| 2HVR*UC407D                                    | II              | 0                         | 0                          | 0                             | 0           |              |
| 2HVR*UC407E                                    | II              | 0                         | 0                          | 0                             | 0           |              |
| 2HVR*UC408A                                    | I               | 29                        | 29                         | 29                            | 29          | (5)          |
| 2HVR*UC408B                                    | I               | 0                         | 0                          | 0                             | 0           | (5)          |
| 2HVR*UC409A                                    | II              | 0                         | 0                          | 0                             | 0           |              |
| 2HVR*UC409B                                    | II              | 0                         | 0                          | 0                             | 0           |              |
| 2HVR*UC410A                                    | I               | 16                        | 16                         | 16                            | 16          |              |
| 2HVR*UC410B                                    | II              | 0                         | 0                          | 0                             | 0           |              |
| 2HVR*UC410C                                    | II              | 0                         | 0                          | 0                             | 0           |              |
| 2HVR*UC411A                                    | I               | 21                        | 21                         | 21                            | 21          |              |
| 2HVR*UC411B                                    | II              | 0                         | 0                          | 0                             | 0           |              |
| 2HVR*UC411C                                    | II              | 0                         | 0                          | 0                             | 0           |              |
| 2HVR*UC412A                                    | I               | 21                        | 21                         | 21                            | 21          |              |
| 2HVR*UC412B                                    | II              | 0                         | 0                          | 0                             | 0           |              |
| 2HVR*UC413A                                    | I               | 350                       | 350                        | 0                             | 0           | (5)          |



Nine Mile Point Unit 2 FSAR

TABLE 9.2-1A (Cont'd)

DIVISION I COMPONENTS REQUIRED SERVICE WATER FLOWS (GPM)  
ASSUMING COMPLETE FAILURE OF DIVISION II

| <u>Equipment<br/>Identification<br/>Number</u> | <u>Division</u> | <u>LOCA<sup>(1)</sup></u> | <u>LOCA &amp;<br/>LOOP</u> | <u>Shutdown<sup>(1)</sup></u> | <u>LOOP</u>          | <u>NOTES</u> |
|--|-----------------|---------------------------|----------------------------|-------------------------------|----------------------|--------------|
| <u>Reactor Building (Cont'd)</u>               |                 |                           |                            |                               |                      |              |
| 2HVR*UC413B                                    | II              | 0                         | 0                          | 0                             | 0                    | (5)          |
| 2HVR*UC414A                                    | I               | 26                        | 26                         | 26                            | 26                   | (5)          |
| 2HVR*UC414B                                    | II              | 0                         | 0                          | 0                             | 0                    | (5)          |
| 2HVR*UC415A                                    | I               | 20                        | 20                         | 20                            | 20                   | (5)          |
| 2HVR*UC415B                                    | II              | 0                         | 0                          | 0                             | 0                    | (5)          |
| 2RHS*E1A                                       | I               | 7,400 <sup>(2)</sup>      | 7,400 <sup>(2)</sup>       | 7,400 <sup>(2)</sup>          | 7,400 <sup>(2)</sup> |              |
| 2RHS*E1B                                       | II              | 0                         | 0                          | 0                             | 0                    |              |
| 2RHS*P1A                                       | I               | 20 <sup>(3)</sup>         | 20 <sup>(3)</sup>          | 20 <sup>(3)</sup>             | 20 <sup>(3)</sup>    |              |
| 2RHS*P1B                                       | II              | 0                         | 0                          | 0                             | 0                    |              |
| 2RHS*P1C                                       | II              | 0                         | 0                          | 0                             | 0                    |              |
| 2SFC*E1A                                       | I               | 2,410 <sup>(3)</sup>      | 2,410 <sup>(3)</sup>       | 2,410 <sup>(3)</sup>          | 2,410 <sup>(3)</sup> | (5)          |
| 2SFC*E1B                                       | II              | 0                         | 0                          | 0                             | 0                    | (5)          |
| 2HCS*RBNR1A                                    | I               | 10                        | 10                         | 0                             | 0                    |              |
| 2HCS*RBNR1B                                    | II              | 0                         | 0                          | 0                             | 0                    |              |



Nine Mile Point Unit 2 FSAR

TABLE 9.2-1A (Cont'd)

DIVISION I COMPONENTS REQUIRED SERVICE WATER FLOWS (GPM)  
ASSUMING COMPLETE FAILURE OF DIVISION II

| <u>Equipment<br/>Identification<br/>Number</u> | <u>Division</u> | <u>LOCA<sup>(1)</sup></u> | <u>LOCA &amp;<br/>LOOP</u> | <u>Shutdown<sup>(1)</sup></u> | <u>LOOP</u> | <u>NOTES</u> |
|--|-----------------|---------------------------|----------------------------|-------------------------------|-------------|--------------|
| <u>Control Building</u>                        |                 |                           |                            |                               |             |              |
| 2HVK*CHL1A                                     | I               | 340                       | 340                        | 340                           | 340         | (5)          |
| 2HVK*CHL1B                                     | II              | 0                         | 0                          | 0                             | 0           | (5)          |
| 2HVC*UC101A                                    | I               | 29                        | 29                         | 29                            | 29          |              |
| 2HVC*UC101B                                    | II              | 0                         | 0                          | 0                             | 0           |              |
| 2HVC*UC102                                     | II              | 0                         | 0                          | 0                             | 0           |              |
| 2HVC*UC103A                                    | I               | 11                        | 11                         | 11                            | 11          |              |
| 2HVC*UC103B                                    | II              | 0                         | 0                          | 0                             | 0           |              |
| 2HVC*104                                       | I               | 29                        | 29                         | 29                            | 29          |              |
| 2HVC*105                                       | II              | 0                         | 0                          | 0                             | 0           |              |
| 2HVC*106                                       | I               | 52                        | 52                         | 52                            | 52          |              |
| 2HVC*107                                       | II              | 0                         | 0                          | 0                             | 0           |              |
| 2HVC*108A                                      | I               | 50                        | 50                         | 50                            | 50          |              |
| 2HVC*108B                                      | II              | 0                         | 0                          | 0                             | 0           |              |

Diesel Generator Building

|          |     |     |     |   |     |  |
|----------|-----|-----|-----|---|-----|--|
| 2EGS*EG1 | I   | 800 | 800 | 0 | 800 |  |
| 2EGS*EG2 | III | 600 | 600 | 0 | 600 |  |



Nine Mile Point Unit 2 FSAR

TABLE 9.2-1A (Cont'd)

DIVISION I COMPONENTS REQUIRED SERVICE WATER FLOWS (GPM)  
ASSUMING COMPLETE FAILURE OF DIVISION II

| <u>Equipment<br/>Identification<br/>Number</u> | <u>Division</u> | <u>LOCA<sup>(1)</sup></u> | <u>LOCA &amp;<br/>LOOP</u> | <u>Shutdown<sup>(1)</sup></u> | <u>LOOP</u>   | <u>NOTES</u> |
|--|-----------------|---------------------------|----------------------------|-------------------------------|---------------|--------------|
| <u>Diesel Generator Building (Cont'd)</u>      |                 |                           |                            |                               |               |              |
| 2EGS*EG3                                       | II              | 0                         | 0                          | 0                             | 0             |              |
| 2HVP*UC1A                                      | I               | 11                        | 11                         | 0                             | 11            |              |
| 2HVP*UC1B                                      | II              | 0                         | 0                          | 0                             | 0             |              |
| 2HVP*UC2                                       | III             | 11                        | 11                         | 0                             | 11            |              |
| <u>Screenwell Building</u>                     |                 |                           |                            |                               |               |              |
| 2HVY*UC2A                                      | I               | 85                        | 85                         | 85                            | 85            | (6)          |
| 2HVY*UC2B                                      | II              | 0                         | 0                          | 0                             | 0             | (6)          |
| 2HVY*UC2C                                      | I               | 0                         | 0                          | 0                             | 0             | (6)          |
| 2HVY*UC2D                                      | II              | 0                         | 0                          | 0                             | 0             | (6)          |
| <hr/>  |                 |                           |                            |                               |               |              |
| TOTAL FLOW (GPM)                               |                 | <u>12.604</u>             | <u>12.604</u>              | <u>10.899</u>                 | <u>12.244</u> |              |





Nine Mile Point Unit 2 FSAR

TABLE 9.2-1A (Cont'd)

DIVISION I COMPONENTS REQUIRED SERVICE WATER FLOWS (GPM)  
ASSUMING COMPLETE FAILURE OF DIVISION II

NOTES:

- (1) Manual isolation of divisions and non-safety related equipment is assumed.
- (2) Flow required after manual initiation.
- (3) Flow required after manual initiation when cooling water from RBCLCW is unavailable; no sooner than seven hours into event.
- (4) Only three of six components in operation.
- (5) Only one of two components in operation.
- (6) Only two of four components in operation.
- (7) Backup loop normally valved out. No automatic initiation of backup divisional components.

KEY:

HVR = Reactor building unit coolers  
RHS = Residual heat removal heat exchangers and pumps  
SFC = Spent fuel pool cooling heat exchangers  
HCS = DBA hydrogen recombiners  
HVK = Control building chilled water chillers  
HVC = Control building unit coolers  
EGS = Diesel generator coolers  
HVP = Diesel generator control room unit coolers  
HVV = Service water pump room unit coolers



Nine Mile Point Unit 2 FSAR

Table 9.2-1B

DIVISION II COMPONENTS REQUIRED SERVICE WATER FLOWS (GPM)  
ASSUMING COMPLETE FAILURE OF DIVISION I

| <u>Equipment<br/>Identification<br/>Number</u> | <u>Division</u> | <u>LOCA</u> <sup>(1)</sup> | <u>LOCA &amp;<br/>LOOP</u> | <u>Shutdown</u> <sup>(1)</sup> | <u>LCOP</u> | <u>NOTES</u> |
|--|-----------------|----------------------------|----------------------------|--------------------------------|-------------|--------------|
| <u>Reactor Building</u>                        |                 |                            |                            |                                |             |              |
| 2HVR*UC401A                                    | I               | 0                          | 0                          | 0                              | 0           | (4),(7)      |
| 2HVR*UC401B                                    | II              | 29                         | 29                         | 29                             | 29          | (4),(7)      |
| 2HVR*UC401C                                    | II              | 29                         | 29                         | 29                             | 29          | (4),(7)      |
| 2HVR*UC401D                                    | I               | 0                          | 0                          | 0                              | 0           | (4),(7)      |
| 2HVR*UC401E                                    | II              | 0                          | 0                          | 0                              | 0           | (4),(7)      |
| 2HVR*UC401F                                    | II              | 0                          | 0                          | 0                              | 0           | (4),(7)      |
| 2HVR*UC402A                                    | I               | 0                          | 0                          | 0                              | 0           | (5)          |
| 2HVR*UC402B                                    | I               | 0                          | 0                          | 0                              | 0           | (5)          |
| 2HVR*UC403A                                    | I               | 0                          | 0                          | 0                              | 0           | (5)          |
| 2HVR*UC403B                                    | II              | 77                         | 77                         | 77                             | 77          | (5)          |
| 2HVR*UC404A                                    | I               | 0                          | 0                          | 0                              | 0           |              |
| 2HVR*UC404B                                    | I               | 0                          | 0                          | 0                              | 0           |              |
| 2HVR*UC404C                                    | II              | 21                         | 21                         | 21                             | 21          |              |
| 2HVR*UC404D                                    | II              | 21                         | 21                         | 21                             | 21          |              |
| 2HVR*UC405                                     | I               | 0                          | 0                          | 0                              | 0           |              |
| 2HVR*UC406                                     | II              | 13                         | 13                         | 13                             | 13          |              |
| 2HVR*UC407A                                    | I               | 0                          | 0                          | 0                              | 0           |              |
| 2HVR*UC407B                                    | I               | 0                          | 0                          | 0                              | 0           |              |



Nine Mile Point Unit 2 FSAR

Table 9.2-1B (Cont'd)

DIVISION II COMPONENTS REQUIRED SERVICE WATER FLOWS (GPM)  
ASSUMING COMPLETE FAILURE OF DIVISION I

| <u>Equipment<br/>Identification<br/>Number</u> | <u>Division</u> | <u>LOCA<sup>(1)</sup></u> | <u>LOCA &amp;<br/>LOOP</u> | <u>Shutdown<sup>(1)</sup></u> | <u>LOOP</u> | <u>NOTES</u> |
|--|-----------------|---------------------------|----------------------------|-------------------------------|-------------|--------------|
| <u>Reactor Building (Cont'd)</u>               |                 |                           |                            |                               |             |              |
| 2HVR*UC407C                                    | I               | 0                         | 0                          | 0                             | 0           |              |
| 2HVR*UC407D                                    | II              | 16                        | 16                         | 16                            | 16          |              |
| 2HVR*UC407E                                    | II              | 16                        | 16                         | 16                            | 16          |              |
| 2HVR*UC408A                                    | I               | 0                         | 0                          | 0                             | 0           | (5)          |
| 2HVR*UC408B                                    | I               | 0                         | 0                          | 0                             | 0           | (5)          |
| 2HVR*UC409A                                    | II              | 29                        | 29                         | 29                            | 29          |              |
| 2HVR*UC409B                                    | II              | 0                         | 0                          | 0                             | 0           |              |
| 2HVR*UC410A                                    | I               | 0                         | 0                          | 0                             | 0           |              |
| 2HVR*UC410B                                    | II              | 16                        | 16                         | 16                            | 16          |              |
| 2HVR*UC410C                                    | II              | 16                        | 16                         | 16                            | 16          |              |
| 2HVR*UC411A                                    | I               | 0                         | 0                          | 0                             | 0           |              |
| 2HVR*UC411B                                    | II              | 21                        | 21                         | 21                            | 21          |              |
| 2HVR*UC411C                                    | II              | 21                        | 21                         | 21                            | 21          |              |
| 2HVR*UC412A                                    | I               | 0                         | 0                          | 0                             | 0           |              |
| 2HVR*UC412B                                    | II              | 21                        | 21                         | 21                            | 21          |              |
| 2HVR*UC413A                                    | I               | 0                         | 0                          | 0                             | 0           | (5)          |
| 2HVR*UC413B                                    | II              | 350                       | 350                        | 0                             | 0           | (5)          |
| 2HVR*UC414A                                    | I               | 0                         | 0                          | 0                             | 0           | (5)          |



Nine Mile Point Unit 2 FSAR

Table 9.2-1B (Cont'd)

DIVISION II COMPONENTS REQUIRED SERVICE WATER FLOWS (GPM)  
ASSUMING COMPLETE FAILURE OF DIVISION I

| <u>Equipment<br/>Identification<br/>Number</u> | <u>Division</u> | <u>LOCA<sup>(1)</sup></u> | <u>LOCA &amp;<br/>LOOP</u> | <u>Shutdown<sup>(1)</sup></u> | <u>LOOP</u>          | <u>NOTES</u> |
|--|-----------------|---------------------------|----------------------------|-------------------------------|----------------------|--------------|
| <u>Reactor Building (Cont'd)</u>               |                 |                           |                            |                               |                      |              |
| 2HVR*UC414B                                    | II              | 26                        | 26                         | 26                            | 26                   | (5)          |
| 2HVR*UC415A                                    | I               | 0                         | 0                          | 0                             | 0                    | (5)          |
| 2HVR*UC415B                                    | II              | 20                        | 20                         | 20                            | 20                   | (5)          |
| 2RHS*E1A                                       | I               | 0                         | 0                          | 0                             | 0                    |              |
| 2RHS*E1B                                       | II              | 7,400 <sup>(2)</sup>      | 7,400 <sup>(2)</sup>       | 7,400 <sup>(2)</sup>          | 7,400 <sup>(2)</sup> |              |
| 2RHS*P1A                                       | I               | 0                         | 0                          | 0                             | 0                    |              |
| 2RHS*P1B                                       | II              | 20 <sup>(3)</sup>         | 20 <sup>(3)</sup>          | 20 <sup>(3)</sup>             | 20 <sup>(3)</sup>    |              |
| 2RHS*P1C                                       | II              | 20 <sup>(3)</sup>         | 20 <sup>(3)</sup>          | 20 <sup>(3)</sup>             | 20 <sup>(3)</sup>    |              |
| 2SFC*E1A                                       | I               | 0                         | 0                          | 0                             | 0                    | (5)          |
| 2SFC*E1B                                       | II              | 2,410 <sup>(3)</sup>      | 2,410 <sup>(3)</sup>       | 2,410 <sup>(3)</sup>          | 2,410 <sup>(3)</sup> | (5)          |
| 2HCS*RBNR1A                                    | I               | 0                         | 0                          | 0                             | 0                    |              |
| 2HCS*RBNR1B                                    | II              | 10                        | 10                         | 0                             | 0                    |              |
| <u>Control Building</u>                        |                 |                           |                            |                               |                      |              |
| 2HVK*CHL1A                                     | I               | 0                         | 0                          | 0                             | 0                    | (5)          |
| 2HVK*CHL1B                                     | II              | 340                       | 340                        | 340                           | 340                  | (5)          |
| 2HVC*UC101A                                    | I               | 0                         | 0                          | 0                             | 0                    |              |





Nine Mile Point Unit 2 FSAR

Table 9.2-1B (Cont'd)

DIVISION II COMPONENTS REQUIRED SERVICE WATER FLOWS (GPM)  
ASSUMING COMPLETE FAILURE OF DIVISION I

| <u>Equipment<br/>Identification<br/>Number</u> | <u>Division</u> | <u>LOCA<sup>(1)</sup></u> | <u>LOCA &amp;<br/>LOOP</u> | <u>Shutdown<sup>(1)</sup></u> | <u>LOOP</u> | <u>NOTES</u> |
|--|-----------------|---------------------------|----------------------------|-------------------------------|-------------|--------------|
|--|-----------------|---------------------------|----------------------------|-------------------------------|-------------|--------------|

Control Building (Cont'd)

|             |    |    |    |    |    |  |
|-------------|----|----|----|----|----|--|
| 2HVC*UC101B | II | 29 | 29 | 29 | 29 |  |
| 2HVC*UC102  | II | 19 | 19 | 19 | 19 |  |
| 2HVC*UC103A | I  | 0  | 0  | 0  | 0  |  |
| 2HVC*UC103B | II | 11 | 11 | 11 | 11 |  |
| 2HVC*104    | I  | 0  | 0  | 0  | 0  |  |
| 2HVC*105    | II | 13 | 13 | 13 | 13 |  |
| 2HVC*106    | I  | 0  | 0  | 0  | 0  |  |
| 2HVC*107    | II | 52 | 52 | 52 | 52 |  |
| 2HVC*108A   | I  | 0  | 0  | 0  | 0  |  |
| 2HVC*108B   | II | 50 | 50 | 50 | 50 |  |

Diesel Generator Building

|           |     |     |     |   |     |  |
|-----------|-----|-----|-----|---|-----|--|
| 2EGS*EG1  | I   | 0   | 0   | 0 | 0   |  |
| 2EGS*EG2  | III | 600 | 600 | 0 | 600 |  |
| 2EGS*EG3  | II  | 800 | 800 | 0 | 800 |  |
| 2HVP*UC1A | I   | 0   | 0   | 0 | 0   |  |
| 2HVP*UC1B | II  | 11  | 11  | 0 | 11  |  |
| 2HVP*UC2  | III | 11  | 11  | 0 | 11  |  |



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Table 9.2-1B (Cont'd)

DIVISION II COMPONENTS REQUIRED SERVICE WATER FLOWS (GPM)  
ASSUMING COMPLETE FAILURE OF DIVISION I

| <u>Equipment<br/>Identification<br/>Number</u> | <u>Division</u> | <u>LOCA</u> <sup>(1)</sup> | <u>LOCA &amp;<br/>LOOP</u> | <u>Shutdown</u> <sup>(1)</sup> | <u>LOOP</u>   | <u>NOTES</u> |
|--|-----------------|----------------------------|----------------------------|--------------------------------|---------------|--------------|
| <u>Screenwell Building</u>                     |                 |                            |                            |                                |               |              |
| 2HVY*UC2A                                      | I               | 0                          | 0                          | 0                              | 0             | (6)          |
| 2HVY*UC2B                                      | II              | 85                         | 85                         | 85                             | 85            | (6)          |
| 2HVY*UC2C                                      | I               | 0                          | 0                          | 0                              | 0             | (6)          |
| 2HVY*UC2D                                      | II              | 0                          | 0                          | 0                              | 0             | (6)          |
| <hr/>  |                 |                            |                            |                                |               |              |
| TOTAL FLOW (GPM)                               |                 | <u>12.623</u>              | <u>12.623</u>              | <u>10.841</u>                  | <u>12.263</u> |              |

NOTES:

- (1) Manual isolation of divisions and non-safety related equipment is assumed.
- (2) Flow required after manual initiation.
- (3) Flow required after manual initiation when cooling water from RBCLCW is unavailable; no sooner than seven hours into event.
- (4) Only three of six components in operation.
- (5) Only one of two components in operation.
- (6) Only two of four components in operation.
- (7) Backup loop normally valved out. No automatic initiation of Backup Divisional Components.

KEY:

HVR = Reactor building unit coolers  
 RHS = Residual heat removal heat exchangers and pumps  
 SFC = Spent fuel pool cooling heat exchangers  
 HCS = DBA hydrogen recombiners  
 HVK = Control building chilled water chillers  
 HVC = Control building unit coolers  
 EGS = Diesel generator coolers  
 HVP = Diesel generator control room unit coolers  
 HVY = Service water pump room unit coolers



Replace all  
of table 9.2-2  
with attached

TABLE 9.2-2

NONESSENTIAL COMPONENTS COOLED BY  
THE SERVICE WATER (SWP) SYSTEM

| <u>Identification<br/>Number</u> | <u>Flow/Unit<br/>(gpm)</u> | <u>Total Flow<br/>(gpm)</u> | <u>Notes<sup>(1)</sup></u> |
|----------------------------------|----------------------------|-----------------------------|----------------------------|
| <u>Reactor Building</u>          |                            |                             |                            |
| 2CCP-EIA-C                       | 5,834                      | 11,688                      | 2                          |
| 2HVR-CLC2                        | 400                        | 400                         |                            |
| <u>Turbine Building</u>          |                            |                             |                            |
| 2CCS-EIA-C                       | 8,760                      | 17,520                      | 2                          |
| 2ARC-EIA,B                       | 300                        | 300                         | 3                          |
| 2ARC-E2A,B                       | 1,900                      | 1,900                       | 3                          |
| 2CNA-DCL1                        | 190                        | 190                         |                            |
| 2HVT-UC201A,B                    | 58                         | 116                         |                            |
| 2HVT-UC202A,B                    | 58                         | 116                         |                            |
| 2HVT-UC203A,B                    | 58                         | 116                         |                            |
| 2HVT-UC204                       | 32                         | 32                          |                            |
| 2HVT-UC205                       | 32                         | 32                          |                            |
| 2HVT-UC206A-F                    | 64                         | 384                         |                            |
| 2HVT-UC207A,B                    | 58                         | 116                         |                            |
| 2HVT-UC208A,B                    | 53                         | 106                         |                            |
| 2HVT-UC209A,B                    | 49                         | 98                          |                            |
| 2HVT-UC210A,B                    | 49                         | 98                          |                            |
| 2HVT-UC211                       | 32                         | 32                          |                            |
| 2HVT-UC212A,B                    | 53                         | 106                         |                            |
| 2HVT-UC213A,B                    | 53                         | 106                         |                            |
| 2HVT-UC214A,B                    | 53                         | 106                         |                            |
| 2HVT-UC215A,B                    | 53                         | 106                         |                            |
| 2HVT-UC216A-E                    | 65                         | 325                         |                            |
| 2HVT-UC217A,B                    | 43                         | 86                          |                            |
| 2HVT-UC218A-E                    | 65                         | 325                         |                            |
| 2HVT-UC219                       | 32                         | 32                          |                            |
| 2HVT-UC220                       | 25                         | 25                          |                            |
| 2HVT-UC221A,B                    | 53                         | 106                         |                            |
| 2HVT-UC222A-F                    | 49                         | 294                         |                            |
| 2HVT-UC223A,B                    | 53                         | 106                         |                            |



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Table 9.2-2

SERVICE WATER FLOW REQUIREMENTS FOR  
NORMAL POWER GENERATION

| <u>Equipment<br/>Identification<br/>Number</u> | <u>Division</u> | <u>Flow (GPM)</u> |
|--|-----------------|-------------------|
| <u>Essential Component Flows</u>               |                 |                   |
| <u>Reactor Building</u>                        |                 |                   |
| 2HVR*UC401A                                    | I               | 29                |
| 2HVR*UC401B                                    | II              | 29                |
| 2HVR*UC401C                                    | II              | 29                |
| 2HVR*UC401D                                    | I               | 0                 |
| 2HVR*UC401E                                    | II              | 0                 |
| 2HVR*UC401F                                    | II              | 0                 |
| 2HVR*UC402A                                    | I               | 54                |
| 2HVR*UC402B                                    | I               | 0                 |
| 2HVR*UC403A                                    | I               | 77                |
| 2HVR*UC403B                                    | II              | 77                |
| 2HVR*UC404A                                    | I               | 21                |
| 2HVR*UC404B                                    | I               | 21                |
| 2HVR*UC404C                                    | II              | 21                |
| 2HVR*UC404D                                    | II              | 21                |
| 2HVR*UC405                                     | I               | 13                |
| 2HVR*UC406                                     | II              | 13                |
| 2HVR*UC407A                                    | I               | 16                |
| 2HVR*UC407B                                    | I               | 16                |
| 2HVR*UC407C                                    | I               | 16                |





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Table 9.2-2

SERVICE WATER FLOW REQUIREMENTS FOR  
NORMAL POWER GENERATION

| <u>Equipment<br/>Identification<br/>Number</u> | <u>Division</u> | <u>Flow (GPM)</u> |
|--|-----------------|-------------------|
| <u>Reactor Building (Cont'd)</u>               |                 |                   |
| 2HVR*UC407D                                    | II              | 16                |
| 2HVR*UC407E                                    | II              | 16                |
| 2HVR*UC408A                                    | I               | 29                |
| 2HVR*UC408B                                    | I               | 0                 |
| 2HVR*UC409A                                    | II              | 29                |
| 2HVR*UC409B                                    | II              | 0                 |
| 2HVR*UC410A                                    | I               | 16                |
| 2HVR*UC410B                                    | II              | 16                |
| 2HVR*UC410C                                    | II              | 16                |
| 2HVR*UC411A                                    | I               | 21                |
| 2HVR*UC411B                                    | II              | 21                |
| 2HVR*UC411C                                    | II              | 21                |
| 2HVR*UC412A                                    | I               | 21                |
| 2HVR*UC412B                                    | II              | 21                |
| 2HVR*UC413A                                    | I               | 0                 |
| 2HVR*UC413B                                    | II              | 0                 |
| 2HVR*UC414A                                    | I               | 26                |
| 2HVR*UC414B                                    | II              | 0                 |



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Table 9.2-2

SERVICE WATER FLOW REQUIREMENTS FOR  
NORMAL POWER GENERATION

| <u>Equipment<br/>Identification<br/>Number</u> | <u>Division</u> | <u>Flow (GPM)</u> |
|--|-----------------|-------------------|
| <u>Reactor Building (Cont'd)</u>               |                 |                   |
| 2HVR*UC415A                                    | I               | 20                |
| 2HVR*UC415B                                    | II              | 0                 |
| 2RHS*E1A                                       | I               | 0                 |
| 2RHS*E1B                                       | II              | 0                 |
| 2RHS*P1A                                       | I               | 0                 |
| 2RHS*P1B                                       | II              | 0                 |
| 2RHS*P1C                                       | II              | 0                 |
| 2SFC*E1A                                       | I               | 0                 |
| 2SFC*E1B                                       | I               | 0                 |
| 2HCS*RBNR1A                                    | I               | 0                 |
| 2HCS*RBNR1B                                    | II              | 0                 |
| <u>Control Building</u>                        |                 |                   |
| 2HVK*CHL1A                                     | I               | 340               |
| 2HVK*CHL1B                                     | II              | 0                 |
| 2HVC*UC101A                                    | I               | 29                |
| 2HVC*UC101B                                    | II              | 29                |
| 2HVC*UC102                                     | II              | 19                |



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Table 9.2-2

SERVICE WATER FLOW REQUIREMENTS FOR  
NORMAL POWER GENERATION

| <u>Equipment<br/>Identification<br/>Number</u> | <u>Division</u> | <u>Flow (GPM)</u> |
|--|-----------------|-------------------|
| <u>Control Building (Cont'd)</u>               |                 |                   |
| 2HVC*UC103A                                    | I               | 11                |
| 2HVC*UC103B                                    | II              | 11                |
| 2HVC*104                                       | I               | 29                |
| 2HVC*105                                       | II              | 13                |
| 2HVC*106                                       | I               | 52                |
| 2HVC*107                                       | II              | 52                |
| 2HVC*108A                                      | I               | 50                |
| 2HVC*108B                                      | II              | 50                |

Diesel Generator Building

|           |     |   |
|-----------|-----|---|
| 2EGS*EG1  | I   | 0 |
| 2EGS*EG2  | III | 0 |
| 2EGS*EG3  | II  | 0 |
| 2HVP*UC1A | I   | 0 |
| 2HVP*UC1B | II  | 0 |
| 2HVP*UC2  | III | 0 |



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Table 9.2-2

SERVICE WATER FLOW REQUIREMENTS FOR  
NORMAL POWER GENERATION

| <u>Equipment<br/>Identification<br/>Number</u> | <u>Division</u> | <u>Flow (GPM)</u> |
|--|-----------------|-------------------|
| <u>Screenwell Building</u>                     |                 |                   |
| 2HVY*UC2A                                      | I               | 85                |
| 2HVY*UC2B                                      | II              | 85                |
| 2HVY*UC2C                                      | I               | 0                 |
| 2HVY*UC2D                                      | II              | 0                 |
| Total Essential Flow                           |                 | 1,597             |

Non-Essential Component Flows

Reactor Building

|              |   |       |
|--------------|---|-------|
| 2CCP-E1A (1) | - | 5,834 |
| 2CCP-E1B (1) | - | 5,834 |
| 2CCP-E1C (1) | - | 0     |
| 2HVR-CLC2    | - | 400   |

Turbine Building

|              |   |       |
|--------------|---|-------|
| 2CCS-E1A (1) | - | 8,760 |
| 2CCS-E1B (1) | - | 8,760 |
| 2CCS-E1C (1) | - | 0     |
| 2ARC-E1A (2) | - | 300   |
| 2ARC-E1B (2) | - | 0     |





Nine Mile Point Unit 2 FSAR

Table 9.2-2

SERVICE WATER FLOW REQUIREMENTS FOR  
NORMAL POWER GENERATION

| <u>Equipment<br/>Identification<br/>Number</u> | <u>Division</u> | <u>Flow (GPM)</u> |
|--|-----------------|-------------------|
| <u>Turbine Building (Cont'd)</u>               |                 |                   |
| 2ARC-E2A (2)                                   | -               | 1,900             |
| 2ARC-E2B (2)                                   | -               | 0                 |
| 2HVT-UC201A                                    | -               | 58                |
| 2HVT-UC201B                                    | -               | 58                |
| 2HVT-UC202A                                    | -               | 58                |
| 2HVT-UC202B                                    | -               | 58                |
| 2HVT-UC203A                                    | -               | 58                |
| 2HVT-UC203B                                    | -               | 58                |
| 2HVT-UC204                                     | -               | 32                |
| 2HVT-UC205                                     | -               | 32                |
| 2HVT-UC206A                                    | -               | 64                |
| 2HVT-UC206B                                    | -               | 64                |
| 2HVT-UC206C                                    | -               | 64                |
| 2HVT-UC206D                                    | -               | 64                |
| 2HVT-UC206E                                    | -               | 64                |
| 2HVT-UC206F                                    | -               | 64                |
| 2HVT-UC207A                                    | -               | 58                |
| 2HVT-UC207B                                    | -               | 58                |
| 2HVT-UC208A                                    | -               | 53                |
| 2HVT-UC208B                                    | -               | 53                |



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Table 9.2-2

SERVICE WATER FLOW REQUIREMENTS FOR  
NORMAL POWER GENERATION

| <u>Equipment<br/>Identification<br/>Number</u> | <u>Division</u> | <u>Flow (GPM)</u> |
|--|-----------------|-------------------|
| <u>Turbine Building (Cont'd)</u>               |                 |                   |
| 2HVT-UC209A                                    | -               | 49                |
| 2HVT-UC209B                                    | -               | 49                |
| 2HVT-UC210A                                    | -               | 49                |
| 2HVT-UC210B                                    | -               | 49                |
| 2HVT-UC211                                     | -               | 32                |
| 2HVT-UC212A                                    | -               | 53                |
| 2HVT-UC212B                                    | -               | 53                |
| 2HVT-UC213A                                    | -               | 53                |
| 2HVT-UC213B                                    | -               | 53                |
| 2HVT-UC214A                                    | -               | 53                |
| 2HVT-UC214B                                    | -               | 53                |
| 2HVT-UC215A                                    | -               | 53                |
| 2HVT-UC215B                                    | -               | 53                |
| 2HVT-UC216A                                    | -               | 65                |
| 2HVT-UC216B                                    | -               | 65                |
| 2HVT-UC216C                                    | -               | 65                |
| 2HVT-UC216D                                    | -               | 65                |
| 2HVT-UC216E                                    | -               | 65                |
| 2HVT-UC217A                                    | -               | 43                |



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Table 9.2-2

SERVICE WATER FLOW REQUIREMENTS FOR  
NORMAL POWER GENERATION

| <u>Equipment<br/>Identification<br/>Number</u> | <u>Division</u> | <u>Flow (GPM)</u> |
|--|-----------------|-------------------|
| <u>Turbine Building (Cont'd)</u>               |                 |                   |
| 2HVT-UC217B                                    | -               | 43                |
| 2HVT-UC218A                                    | -               | 65                |
| 2HVT-UC218B                                    | -               | 65                |
| 2HVT-UC218C                                    | -               | 65                |
| 2HVT-UC218D                                    | -               | 65                |
| 2HVT-UC218E                                    | -               | 65                |
| 2HVT-UC219                                     | -               | 32                |
| 2HVT-UC220                                     | -               | 25                |
| 2HVT-UC221A                                    | -               | 53                |
| 2HVT-UC221B                                    | -               | 53                |
| 2HVT-UC222A                                    | -               | 47                |
| 2HVT-UC222B                                    | -               | 47                |
| 2HVT-UC222C                                    | -               | 47                |
| 2HVT-UC222D                                    | -               | 49                |
| 2HVT-UC222E                                    | -               | 49                |
| 2HVT-UC222F                                    | -               | 49                |
| 2HVT-UC223A                                    | -               | 53                |
| 2HVT-UC223B                                    | -               | 53                |
| 2HVT-UC224                                     | -               | 42                |



Table 9.2-2

SERVICE WATER FLOW REQUIREMENTS FOR  
NORMAL POWER GENERATION

| <u>Equipment<br/>Identification<br/>Number</u> | <u>Division</u> | <u>Flow (GPM)</u> |
|--|-----------------|-------------------|
| <u>Turbine Building (Cont'd)</u>               |                 |                   |
| 2HVT-UC225                                     | -               | 42                |
| 2HVT-UC226                                     | -               | 53                |
| TOTAL NON ESSENTIAL FLOW                       | -               | 34,888            |
| ESSENTIAL & NON ESSENTIAL<br>TOTAL             | -               | 36,485            |

NOTES:

- (1) Only two of three components in operation.  
 (2) Only one of two components in operation.

KEY:

HVR = Reactor building unit coolers  
 RHS = Residual heat removal heat exchangers and pumps  
 SFC = Spent fuel pool cooling heat exchangers  
 HCS = DBA hydrogen recombiners  
 HVK = Control building chilled water chillers  
 HVC = Control building unit coolers  
 EGS = Diesel generator coolers  
 HVP = Diesel generator control room unit coolers  
 HVY = Service water pump room unit coolers  
 CCP = Reactor building component cooling water heat exchangers  
 CCS = Turbine building component cooling water heat exchangers  
 ARC = Vacuum pump seal water coolers and steam jet air ejector  
       precoolers  
 HVT = Turbine building unit coolers





Nine Mile Point Unit 2 FSAR

TABLE 9.2-3

DESIGN DATA OF COMPONENTS SUPPLIED WITH  
REACTOR BUILDING CLOSED LOOP COOLING WATER

| <u>Description</u>  | <u>Quantity</u> | <u>Mode of Operation</u>         | <u>Total Flow Requirements (gpm)</u> | <u>Total Heat Transferred at 95°F SWS Inlet Temperature (10<sup>6</sup> Btu/hr)</u> | <u>23</u> |
|---|-----------------|----------------------------------|--------------------------------------|---|-----------|
| Spent fuel pool heat exchangers   | 2               | Normal/accident <sup>(1,2)</sup> | 2,410                                | 15.0  |           |
| RWCU nonregenerative heat exchanger   | 1               | Normal                           | 1,410                                | 38.56   |           |
| RWCU pump bearings, coolers, pedestals, and seal jackets                                  | 2               | Normal                           | 110                                  | 0.82  |           |
| Reactor building equipment drain coolers  | 2               | Normal                           | 210                                  | 1.08  |           |
| Drywell equipment drain cooler  | 1               | Normal                           | 105                                  | 1.08  |           |
| Drywell unit space coolers  | 9               | Normal                           | 1,295                                | 6.3   |           |
| Reactor recirculation motor winding coolers, motor bearing coolers, and pump seal coolers | 2               | Normal/accident <sup>(2)</sup>   | 750                                  | 4.73  |           |
| Instrument air compressor intercoolers, aftercoolers, and jackets                         | 3               | Normal                           | 90                                   | 1.3   |           |
| ADS air compressor  | 1               | Shutdown                         | 10                                   | 0.01  | Delete    |



## Nine Mile Point Unit 2 FSAR

The automatic depressurization system is safety-related, and all pressure-retaining components of the system are designed, constructed, and inspected in accordance with the applicable requirements of ASME Section III, Division 1, Subsection ND for Class 3 components, and Subsection NC for Class 2 components. Not included in this safety-related classification are the nitrogen gas storage tanks, equipment, and components located in the yard outside the reactor building.

Piping segments that penetrate the primary containment and serve as a containment boundary are designed to Safety Class 2, Category I requirements.

The loss of nitrogen gas for instrumentation and controls causes gas-operated valves to fail to appropriate safe positions. In the event that the nitrogen gas supply from the nitrogen gas storage tanks is lost, a 5-day supply is available to the accumulators from ADS nitrogen receiver tanks 2IAS\*TK4(Z-) and 2IAS\*TK5(Z-). In addition, there are provisions for recharging the ADS nitrogen receiver tanks through its individual supply lines located in a missile-protected area outside the standby gas treatment building from special emergency tube trailer supply connections. These special, emergency recharging lines are part of the GSN system and are classified Seismic Category I, Safety Class 3.

### Power Generation Bases approx 175

The automatic depressurization system requires clean, dry, oilfree nitrogen gas at (172) psig to be supplied to the selected group of seven main steam safety relief valves and their respective accumulators located inside the reactor primary containment. This designated group of ADS safety relief valves and accumulators is divided into two subgroups with three or four valves and accumulators in each subgroup. Each subgroup is supplied with nitrogen gas from one of two separate ADS receiver tanks. Each ADS receiver tank is supplied with nitrogen gas at 365 psig from a bank of six horizontal, high-pressure nitrogen gas storage tanks located outside the reactor building. Nitrogen gas supplied for instrumentation and controls meets or exceeds the equivalent air quality requirements established for safety-related control air systems (SRCAS) by ANSI MC11.1-1975 (approved January 15, 1976) (ISA-S7.3), Quality Standard for Instrument Air.

All piping, valves, and fittings associated with the automatic depressurization system are of stainless steel materials. Also, the system will be given a complete



injecting the borated solution if it receives an initiation signal. For integrated system testing during reactor shutdown, the SLC system is designed so that the pumps and all automatic valves of both loops can be tested for system performance. The system will function as if for an ATWS event except that the process fluid is demineralized water from the system test tank.

Operational testing of the SLC system is performed in at least two parts to avoid inadvertently injecting boron into the reactor. With the valves to the reactor and from the storage tank closed and the valves to and from the test tank opened, demineralized water in the test tank can be recirculated by locally starting either pump.<sup>\*</sup> This test can be accomplished with the reactor operating without affecting the operability of the other pump. During a refueling or maintenance outage, the injection portion of the system can be functionally tested by valving the suction line to the test tank and actuating the system from the main control room. System operation is indicated in the main control room.

\* utilizing keylock ~~test~~ switches in the main control room.

After functional tests, the injection valve shear plugs and explosive charges are replaced and all the valves returned to their normal positions as indicated in Figure 9.3-17.

After closing a local locked-open valve to the reactor, leakage through outboard isolation valves or the injection valves can be detected by opening valves at a test connection in the line between the containment isolation valves. Position indicator lights in the main control room indicate that the local valve is closed for tests or open and ready for operation. Leakage from the reactor through the inboard isolation valve can be detected by opening the same test connection in the line between the isolation valves when the reactor is pressurized.

The test tank contains demineralized water for approximately 3 min of single pump operation. Demineralized water from the make-up water system is available for refilling or flushing the system.

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Should the boron solution ever be injected into the reactor, either intentionally or inadvertently, the operator verifies that the normal reactivity controls are adequate to keep the reactor subcritical, and then removes the boron from the reactor coolant system by initially flushing for gross dilution followed by operating the reactor water cleanup system. There is practically no effect on reactor operations when the boron concentration has been reduced



energizing, or automatically trips, a heater when the associated supply air flow is low.

24 | The relay room smoke removal damper is controlled manually. Interlocks prevent opening, or automatically trip closed, the damper when either relay room air conditioning unit fan is running.

The computer room supply air fans are controlled manually and locally. Interlocks prevent starting (or automatically trip) a fan when Smoke is detected in the computer room, the Halon system discharge is initiated, or both computer room air conditioning units are stopped. The computer room air conditioning units stop automatically when the Halon system discharge is initiated.

The computer room smoke removal dampers are controlled manually. Interlocks prevent opening, or automatically trip closed, the dampers when the Halon system discharge is initiated.

The remote shutdown room air conditioning units are controlled locally. Each unit is controlled automatically by the associated remote shutdown room space temperature. Interlocks prevent starting, or automatically trip, a unit when the associated control building chilled water circulation pump is not running. The units can also be controlled manually.

#### Monitoring

Indicators are provided for each relay room air conditioning return air temperature.

Alarms are provided for:

1. Relay room ventilation system trouble.
2. Relay room ventilation system inoperable.
3. Relay room air conditioning units auto start and auto trip/fail to start.
4. Computer room ventilation system trouble.
5. Remote shutdown room ventilation system inoperable.





## Nine Mile Point Unit 2 FSAR

fans can also be controlled manually. The associated inlet and outlet dampers open or close automatically when the associated fan is running or not running, respectively. The dampers can also be controlled manually.

### 9.4.4.5.3 Monitoring

CRT Indication 1.5

Separate normal and post-accident indicators are provided for:

1. Main stack gaseous radiation, low range.
2. Main stack gaseous radiation, high range. e
- 2 (3) Main stack particulate radiation, low range. e
- 3 (4) Main stack exhaust flow rate, low range.
5. Main stack exhaust flow rate, high range.

Separate normal and post-accident records are provided for:

1. Main stack gaseous radiation, low range.
2. Main stack gaseous radiation, high range.
3. Main stack particulate radiation, low range.
4. Main stack exhaust flows, low range.
5. Main stack exhaust flow, high range.
6. Main stack exhaust flow rate.

Alarms are provided for:

1. Turbine building ventilation system trouble.
2. Turbine building ventilation elevator machine rooms smoke detected.
3. Turbine building ventilation supply air smoke detected.
4. Turbine building area radiation monitor activated.
5. Process airborne radiation monitor activated.
6. Effluent gaseous radiation monitor activated. e

→ Main Stack

Activated

9.4-44

→ Radiation Monitor



7. Effluent particulate radiation monitor activated.

9.4.5 Service Building Heating and Ventilating System

The service building heating and ventilating system, shown schematically in Figure 9.4-2, serves the following areas:

1. Service room, foam room, and entrance corridor.
2. Access passageway.
3. Service water valve pit.

23

Design data of principal equipment utilized in the system are listed in Table 9.4-6.

9.4.5.1 Design Bases

The design bases for the system are:

1. To provide an environment that ensures habitability of the areas served, consistent with personnel comfort and optimum performance of equipment, within the temperature limits shown in Table 9.4-1.
2. The system is designed to nonnuclear safety standards and is not required for safe shutdown of the plant.

9.4.5.2 System Description

The service room and foam room of the service building are each ventilated by one 100-percent capacity exhaust roof ventilator and one wall-mounted outdoor air intake louver. The system is a basic once-through design. Outdoor air is induced through the intake louver and exhausted by the roof ventilator to maintain the space temperature. Each louver is equipped with an air-operated damper interlocked with its associated roof ventilator. An individual space thermostat starts each fan and opens its associated damper if the temperature exceeds the thermostat set point.

The access passageway area is ventilated by one 100-percent capacity supply roof ventilator and one 100-percent capacity exhaust roof ventilator. The supply roof ventilator draws air from outdoors and discharges through ductwork to the ventilated area. Air from this area is exhausted, via ductwork, by the exhaust roof ventilator.

23

23



## Nine Mile Point Unit 2 FSAR

the combustion air exhaust system piping. Failure of any of this system can only affect the associated diesel generator. The moderate energy piping systems in the diesel generator building, not associated with the diesel generators, are service air, fire protection, and floor drain piping. Failure of any of these systems cannot jeopardize the safety function of the diesel generator jacket water system. The Division I and II diesel generators are designed and built to operate continuously during a discharge of the fire protection system. The Division III diesel generator is retrofitted with the capability of operating continuously during a discharge of the fire protection system. The moderate energy piping systems associated with the diesel generators themselves are the fuel oil system, starting air system, service water system, and combustion air intake system piping. Failure of the piping of any of these systems will affect the performance of the associated diesel generator alone.

20 | The Division III diesel generator is equipped with a high-capacity turbocharger which is designed to withstand the rigors of light-load operation. This turbocharger is capable of 3,000 cumulative hr of operation at less than 20 percent load before overhaul is required.

20 | Each standby diesel generator is limited in running at rated speed at no load to prevent fouling the fuel injections. Operation at this condition may last up to 4 hr for Division III and 6 hr for Divisions I and II. After this period they will be loaded according to manufacturer's recommendation (for Division III as specified in Chapter 16, and for Divisions I and II greater than 75 percent for 30 min).

The failure modes and effects analysis (FMEA) evaluation of the diesel generator is provided in the Nine Mile Point Unit 2 FSAR FMEA Report.

### 9.5.6 Diesel Generator Starting System

Each standby diesel generator has two independent redundant compressed air starting systems, either of which has adequate capacity to assure quick, reliable, automatic starting of the diesel generator following a loss of offsite power.

#### 9.5.6.1 Design Bases

The standby diesel generator starting system is designed to meet the following safety design bases:



Nine Mile Point Unit 2 FSAR

1. Each standby diesel generator has independent, redundant air starting systems either of which is capable of starting the engine.
2. The starting air receiver <sup>have s</sup> (in each of the redundant) starting systems has sufficient capacity to start the engine within 10 sec. Each air starting system can crank a cold diesel generator five times without recharging the receiver tanks. Each compressor can recharge the air receiver from minimum operating pressure to the maximum operating pressure in less than 30 min. for Division III and 50 min. for Divisions I and II. The motors for the motor-driven compressors are powered from emergency buses to increase the reliability of the system.
3. The starting air system for each diesel separator contains a desiccant type air dryer to ensure clean, dry air to the air receiver tank. They have a design dew point of -40°F. The dryers contain prefilter and after filters to remove oil, waste, dirt, pipe scales, and desiccant dust from the air stream.

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#### 9.5.6.5 Safety Evaluation

Each standby diesel generator has a starting system that is independent of and separate from the starting systems of the other standby diesel generators. All components of the starting system of each standby diesel generator are located in the same section of the diesel generator building as their associated diesel generators. Therefore, any failure in one diesel generator starting system will not jeopardize the safety function of any other diesel generator. Each standby diesel generator starting system consists of two independent and redundant starting air systems, each having its own air compressor, air dryer, air receiver, air supply lines, valves, and devices to crank the engine, which increases the reliability of each starting system.

The starting <sup>have</sup> air receiver<sup>s</sup> ~~of each of the redundant starting systems~~ <sup>has</sup> sufficient capacity to start the engine within 10 sec. Each air starting system can crank a cold diesel generator five times without recharging the receiver tanks. Each compressor can recharge the air receiver from minimum operating pressure to the maximum operating pressure in less than 30 min for Division III and 50 min for Divisions I and II. The motors for the motor-driven compressors are powered from emergency buses to increase the reliability of the system. The air dryers, with a design dew point of -40°F, are adequate to ensure that air to the air receivers is maintained at a dew point at least 10°F below the lowest expected ambient room temperature.

An alarm is provided in the main control room and in each standby diesel generator control room for low air receiver pressure.

The starting systems are adequately protected against accumulation of moisture, dirt, or rust. All the air receivers have bottom drains that are opened periodically to remove any moisture or oil carryover from the compressor. The system piping is installed at an elevation lower than the engine inlet and is provided with a drip leg for removal of any water that may be present in the lines. Division I and II diesel generator starting systems have, in addition, air dryers, moisture separators and line filters to ensure clean, dry air to the air distributors. This system also has a blowdown line from the starting air headers connected to the engine turbocharger air discharge. The purpose of this line is to continuously purge the piping to prevent any condensation of moisture in the air start piping. The Division III diesel generator starting system has an



THREE DOORS, R289-9, SW261-9, SW261-10 ARE U.L. FIRE RATED DOORS. HOWEVER, DUE TO OTHER DESIGN CONSIDERATIONS THE INSTALLATION DOES NOT MEET U.L. STANDARDS. FIGURES 9A.3-21 AND 9A.3-22 SHOW  
Nine Mile Point Unit 2 FSAR  
INSTALLATION DETAILS FOR THESE DOORS.

#### 9A.3.5.1.3 Penetration Openings for Ventilation Systems

Openings through fire barriers for ventilation systems are protected by UL-labeled fire dampers with a rating equivalent to that required of the barrier. Flexible air duct coupling in ventilation and filter system is non-combustible.

#### 9A.3.5.1.4 Door Openings

With the exception of special doors such as pressure-tight, watertight, radiation shielded, tornado, and railroad access, the doors installed in the fire-rated assemblies are UL-labeled fire doors. Table 9A.3-16 lists pressure-tight, watertight, radiation shielded, tornado, and railroad access doors to be installed in fire barriers and the corresponding fire loading on either side of each door. Figures 9A.3-14 through 9A.3-17 show typical sections and details and demonstrate by engineering analysis that the door panels and hardware, when subjected to heat (up to 2000°F) for 3 hr on one side, will be free to expand in all directions and maintain the doors in the closed position. No significant deformation or warping of door panels which could allow fire propagation is expected. Table 9A.3-17 provides a comparison between UL-labeled Class A rated fire doors and Unit 2 nonlabeled doors. Fire door position will be monitored and verified to be maintained in accordance with BTP CMEB 9.5-1 Section C.5.a(5). Installation of fire doors is in accordance with NFPA-80 and applicable UL requirements.

#### 9A.3.5.1.5 Personnel Access and Escape Routes

Two means of egress are provided from each fire area.

Stairways required for egress are enclosed and ventilated to minimize smoke infiltration and to provide a safe means of egress in the event of a fire. Exit routes are clearly marked. The enclosures are designed for a 2-hr fire rating and equipped with UL-listed, self-closing Class B fire doors. Elevator enclosures and chutes are similarly designed.

#### 9A.3.5.1.6 Sharing of Cable Spreading Rooms

Unit 2 does not share a cable spreading room with Unit 1.

Expansion  
THERMAL EXPANSION GAPS HAVE BEEN PROVIDED AT THE PERIPHERY OF EACH DOOR.

SHIELDING, OVERSIZE EQUIPMENT,

OF EACH DOOR TYPE

THESE DOORS ARE CAPABLE OF MAINTAINING THE REQUIRED FIRE BARRIER FOR THE GIVEN



sprinkler heads operating and 300 gpm hose stream discharge, the buildup would be contained by the curbs provided at the doorways.

1, The maximum firefighting water flow for the diesel generator building exceeds the maximum firefighting water flow (and subsequent buildup due to compartment size) for all other safety-related areas.

Based on an evaluation of this water flow and the results of the analysis described in Section 3C.5, Compartment Flooding as a Result of Breaks or Cracks, firefighting water flow and subsequent buildup will be removed by floor drains and not cause the loss of redundant trains of equipment required for safe shutdown for all other safety-related areas.

In areas containing combustible liquid storage and piping, traps are provided in the floor drains and curbs. Dikes are provided and sized to contain the largest spill, in addition to the expected firefighting water flow, for a duration of 10 minutes.

Floor drains in areas protected by total flooding gaseous suppression systems incorporate a liquid seal or the suppression system is sized to include agent loss through the drains

*are not provided with the floor and equipment drains.*

#### 9A.3.5.2 Safe Shutdown Capability

##### 9A.3.5.2.1 Safe Shutdown Fire Protection Features

Fire protection features, including separation, rated barriers, and suppression and detection systems, are provided for structures, systems, and components important to safe shutdown. Refer to Section 9A.3.6 for details on fire suppression and detection equipment.

Appendix 9B describes the methodology used to assemble, analyze, and document the ability of Unit 2 to conduct a safe shutdown following a fire.

##### 9A.3.5.3 Alternative or Dedicated Shutdown Capability

To be determined later; refer to Appendix 9B.



Nine Mile-Point Unit 2 FSAR

TABLE 9A.3-16

AVERAGE FIRE LOADING ON EITHER  
SIDE OF NON-UL LABELED DOORS

| <u>Door No.</u> | <u>Average Fire Loading<br/>On Either Side of Door</u> |
|-----------------|--|
| SA175-3         | 0 min/7 min  |
| SA175-4         | 7 min/21 min   |
| NA175-2         | 18 min/22 min  |
| R175-4          | 1 min/10 min   |
| R175-5          | 1 min/10 min   |
| R175-7          | 1 min/2 min  |
| T277-20         | 11 min/11 min  |
| T277-21         | 11 min/11 min  |
| T277-22         | 11 min/11 min  |
| ET214-2         | 0 min/1.5 hr*  |
| ET237-1         | 0 min/0 min  |
| SW261-14        | 33 min/27 min  |
| DG272-4         | 0 min/10.3 hr*   |
| C288-1          | 1 min/0 min  |
| C306-1          | 1 min/0 min  |
| C261-1          | 2.2 hr*/1.6 hr   |
| R240-7          | 56 min/6.5 min   |
| AB261-3         | 24 min/1.3 hr  |
| NA240-1         | 0 min/0 min  |
| NA240-2         | 0 min/0 min  |
| R240-3          | 55 min*/1.1 hr   |
| SA240-1         | 55 min*/0 min  |
| RR261-2         | 1 hr*/0 min  |
| C239-1          | 0 min/0 min  |
| SW280-1         | 27 min/11 min  |
| R240-2          | 0 min/51 min*  |
| RR261-4         | 0 min*/45 MIN*   |
| RW265-5         | 9 min/1.2 HR.*   |
| R289-2          | 30 MIN./56 MIN.*                                       |
| R289-3          | 30 MIN./56 MIN.*                                       |
| SW261-9         | 33 MIN./1.7 HR *                                       |

\*Automatic suppression provided on this side of door.





TABLE 9.A.3-16  
\* FOOTNOTES

DOORS R289-2 AND R289-3 (OVERSIZED EQUIPMENT) ARE U.L. LABELED CLASS "B" FIRE RATED DOORS. FOR SAFETY REASONS THESE DOORS MUST BE EQUIPPED WITH PANIC HARDWARE. FIRE EXIT HARDWARE HAS BEEN INSTALLED ON DOORS R289-2 AND R289-3, HOWEVER NO DOORS OF THIS HEIGHT HAVE BEEN TESTED WITH FIRE EXIT HARDWARE.

DOOR RW 265-5 (OVERSIZED EQUIPMENT) HAS BEEN CERTIFIED BY THE MANUFACTURER TO BE CONSTRUCTED IN ACCORDANCE WITH U.L. LABELED FIRE DOORS. HOWEVER, THIS SIZE DOOR HAS NOT BEEN U.L. FIRE TESTED.

Door SW 261-9 (oversized rolling steel door) has been certified by the manufacturer to be of the same construction as a U.L. labeled Rolling Steel Door.

Doors R289-2 and R289-3 are required to have fire exit hardware installed for personal safety. Due to height limitations for installation of fire exit hardware, these doors cannot be classified as UL rated assemblies. The doors were purchased as UL rated Class B fire doors, and the hardware was purchased as 3 hr. rated.



Nine Mile Point Unit 2 PSAP

TABLE 9A.3-17

COMPARISON BETWEEN UL-LABELED CLASS A DOORS AND UNIT 2 NONLABELED SPECIAL PURPOSE DOORS

(Reactor Bldg.)

| 28                    | UL-Labeled 3-Hr Door<br>RGP. No. R3658<br>(Class A Hollow Metal)  | Special Purpose Doors (Watertight<br>and Radiation Shielded)  | Special Purpose Doors<br>(Tornado and Pressure Resistant)   | Special Purpose Door<br>(Railroad Access)  |
|-----------------------|---|---|---|--|
| Construction          | Composite construction - 1 3/4" thick<br>16 gauge cover sheets with 1 5/8" thick<br>mineral wool insulation and 20<br>gauge Reinforcing STEEL (6" O.C.) | 1 1/4" solid steel plate  | Composite construction -<br>1 7/8" thick 2-3/16" cover<br>sheets of A36 with 1 1/2"<br>thick fiberglass insulation<br>and 1 1/2" x 9/16 x 3/16"<br>bar channels all around the<br>periphery of the doors                          | Composite construction -<br>6 1/4" thick, 11 gauge cover<br>sheets with 6" thick fiberglass<br>insulation and C6 x 8.2 A36 steel<br>channels in the skeleton and<br>around the periphery of the<br>door. |
| Lock bolts            | Mortised lock or latch sets with<br>one single point spring-actuated<br>bolt, (5/8" x 1"), notched for nylon<br>inserts (5/8" or 3/4" throw)            | Six 1 1/4" square CP1018 steel<br>bolts with a 2 1/2" throw; two at<br>each jamb and one each at head and<br>sill. Bolt housings of<br>3"x4 3/4"x2" A36 steel stock | Two 1" lock bolts, ASTM A1219<br>UNSG1215 steel - min. tensile<br>76 ksi, 1" throw. Latch<br>strike made of super oilite<br>at operating temperature of<br>up to 200°F. Bushings on<br>the lock are bronze in<br>excess of 50 ksi | Two 1 1/2" diameter locking<br>pins, AISI CP1018 steel, with<br>four 1/2" diameter ASTM A490<br>hex bolts on mounting brackets,<br>one each at head and sill.  |
| Hinges                | 1 1/2 or 2 pairs of 4 1/2"x4 1/2"x0.180"<br>ball bearing butt hinges - with 1/4"<br>or 5/16" pins with bolts  | 2 hinges with 1" diameter<br>pin and thrust bearing, welded<br>to structural steel angle frame  | Two heavy duty hinge assemblies,<br>welded to the door frame<br>and secured to the doors  | Six hinges with 2" diameter steel<br>pin and thrust bearing welded to<br>the structural steel angle frame.   |
| Frame                 | 14 gauge pressed steel frame with<br>adjustable anchors   | A36 steel angles for sill, head,<br>and jambs welded together and<br>stiffened with gusset plates,<br>as required.  | A36 steel channels three<br>sides with bar stops weld<br>to the channels to prevent<br>flame propagation.   | A36 steel angles and plates for jambs<br>welded to the embedded plates in the wall   |
| Field<br>Installation | Pressed steel frame anchored to wall<br>with 14 gauge adjustable jamb anchors<br>at 24 in O.C.  | A-36 steel angle frame<br>continuously fillet welded to<br>existing embedded frame.   | Channel frame intermittent<br>welded to the existing<br>embedded frame.   | A36 steel frame intermittent fillet<br>welded to existing embedded frame.  |



# CALCULATION SHEET

AS01061

JOHN A. HEDGECOCK ENGINEERING CORPORATION

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SUBJECT/TITLE

QA CATEGORY/CODE CLASS

## NINE MILE POINT UNIT 2 FSAR TABLE 9A, 3-17

COMPARISON BETWEEN UL-LABELED CLASS A DOORS AND UNIT 2 NONLABELED SPECIAL PURPOSE DOORS

|                    | SPECIAL PURPOSE DOORS<br>(RADIATION SHIELDING)  | SPECIAL PURPOSE DOORS *<br>(OVERSIZED EQUIPMENT) | SPECIAL PURPOSE DOORS<br>(PRESSURE TIGHT)  |
|--------------------|---|--|--|
| DOOR CONSTRUCTION  | 4" SOLID STEEL PLATE  | SAME   | COMPOSITE CONSTRUCTION<br>3 1/4" THICK WITH 1/8" THICK<br>COVER SHEET, OVER 3"<br>X 1 3/8" X 3/16" CHANNELS<br>3" THICK MINERAL WOOL<br>INSULATION |
| LOCK BOLTS         | TWO 1 1/4" DIAMETER CF1018<br>STEEL LOCKING ANS AT LATCH<br>JAMBS. LOCK BOLT KEEPER<br>OF 8"x4" x 1/2" A-36 STEEL ANGLE | SAME   | TWO 1 1/4" SQUARE CR1018 STEEL<br>LOCKING PINS   |
| HINGES             | TWO HINGES WITH 1 1/2" DIAMETER<br>PIN AND THRUST BEARING<br>WELDED TO STRUCTURAL STEEL<br>ANGLE FRAME                  | SAME   | TWO HINGES WITH 1 1/2"<br>DIAMETER CR1144 STEEL<br>PINS WELDED TO STRUCTURAL<br>STEEL ANGLE FRAME  |
| FRAME              | ANGLE 6"x4"x 1/2" FOR SILL,<br>HEAD AND JAMBS BOLTED AND<br>STITCH WELDED TO EMBEDDED<br>ANGLES                         | SAME   | ANGLE 8"x8"x 1/2" FOR HEAD<br>AND JAMBS WITH C 2"x1"x 3/16"<br>CHANNEL DOOR STOPS  |
| FIELD INSTALLATION | A-36 STEEL ANGLE FRAME<br>FLUSH BOLTED TO EMBEDDED<br>ANGLE AND STICH WELDED<br>TO EMBEDDED ANGLE                       | SAME   | ANGLE FRAME ANCHORED<br>TO CONCRETE WITH 1/2"<br>DIAMETER EXPANSION<br>ANCHORS   |



# CALCULATION SHEET

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J.O./W.O./CALCULATION NO.

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QA CATEGORY/CODE CLASS

NINE MILE POINT UNIT 2 FSAR

TABLE 9A.3-17

COMPARISON BETWEEN UL-LABELED CLASS A DOORS AND UNIT 2 NONLABELED SPECIAL PURPOSE DOORS

## SPECIAL PURPOSE DOORS (HIGH PRESSURE)

DOOR CONSTRUCTION

3/8" A-36 STEEL PLATE  
WITH 5/16" THICK ANGLE  
AND ST 2.5x5 STRUCTURAL  
TEE EXTERNAL STIFFENERS

LATCH BOLTS

TEN 7/8" DIAMETER LOCK  
BOLTS LOCATED ON BOTH  
SIDES OF THE DOOR

HINGES

TWO HINGES WITH 3/4"  
DIAMETER HINGE PIN. HWGE  
IS WELDED TO THE DOOR

FRAME

5"x3"x3/8" ANGLE  
WELDED TO EMBEDDED  
ANGLE

FIELD INSTALLATION

A-36 STEEL ANGLE  
CONTINUOUSLY WELDED  
THE EMBEDDED FRAME

## SPECIAL PURPOSE DOOR (TURBINE BUILDING RAIL ROAD ACCESS)

COMPOSITE CONSTRUCTION 16 GAUGE  
STEEL FACE SHEETS OVER 16  
GAUGE INTERNAL STIFFENERS AND  
14 GAUGE 2" DEEP CHANNEL AROUND  
THE DOOR PERIMETER, 1.5" THICK  
FIBERGLASS INSULATION

ELECTRICALLY OPERATED  
WITH MECHANICAL LOCK

GALVANIZED HINGES CONNECT  
EACH VERTICALLY SLIDING  
DOOR SECTION

5"x3"x3/4" ANGLE BOLTED  
TO EMBEDDED PLATE AND  
CHANNEL WELDED TO STRUCTAL  
STEEL COLUMN

ANGLE BOLTED TO  
EMBEDDED PLATE AND  
CHANNEL, ROLLER TRACK  
BOLTED TO ANGLE





LCN No \_\_\_\_\_  
 P. \_\_\_\_\_ of \_\_\_\_\_

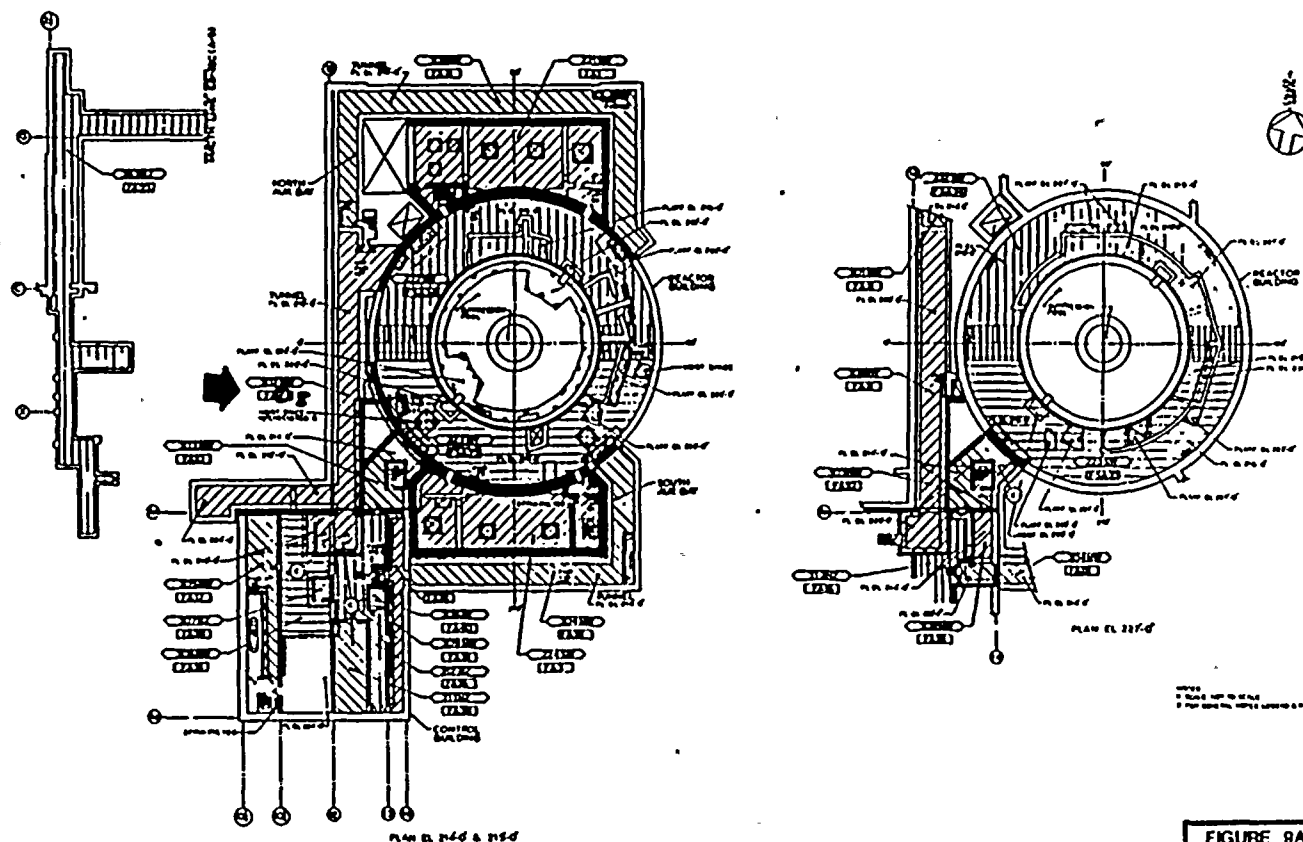


FIGURE 9A.3-3  
 FIRE PROTECTION ARRANGEMENT  
 UNIT NO.2 STATION BUILDINGS  
 PLAN EL 214'-0" & 215'-0"  
 NIAGARA MOHAWK POWER CORPORATION  
 NINE MILE POINT-UNIT 2  
 FINAL SAFETY ANALYSIS REPORT

AMENDMENT 25

MAY 1986



**DELETE  
ENTIRELY**

**CALCULATION OF THE EXPANSION OF WATERTIGHT DOORS DUE TO  
FIRE EXPOSURE**

**DOOR NUMBERS: SA 175-3; SA 175-4; NA 175-2; R 175-4; R 175-5; R 175-7  
AND C 239-1**

**OVERALL DOOR  
DIMENSIONS**

**34-5/8" X 85"**

**\*38" X 87-7/8"**

**TOTAL DOOR/FRAME GAP**

**HORIZONTAL**

**0.875**

**0.875**

**VERTICAL**

**1.250**

**1.250**

**THE FOLLOWING CALCULATIONS VERIFY THAT THERE WOULD BE NO  
INTERFERENCE (CONTACT FORCE) BETWEEN THE DOOR AND FRAME  
DURING A FIRE WHERE A TEMPERATURE RISE OF 1930°F (2000°F — 70°F  
= 1930°F) IS EXPERIENCED BY THE DOOR.**

**THE METHOD OF CALCULATING EXPANSION IS BASED ON THE LARGEST  
SIZE OF THE DOOR TIMES THE TEMPERATURE RISE TIMES THE  
COEFFICIENT OF STEEL EXPANSION (0.0000065)**

**WIDTH OF DOOR = 38" — TOTAL CLEARANCE = 0.875"  
(CLEARANCE ON ONE SIDE OF DOOR)**

**EXPANSION IN WIDTH =  $38 \times 1930 \times 0.0000065 = 0.48$   
NOTE: 0.48" IS LESS THAN 0.875"**

**HEIGHT OF DOOR = 87.875" — TOTAL CLEARANCE = 1.250"  
(CLEARANCE ON TOP AND BOTTOM  
OF DOOR)**

**EXPANSION IN HEIGHT =  $87.875 \times 1930 \times 0.0000065 = 1.1$ "  
NOTE: 1.1" IS LESS THAN 1.250"**

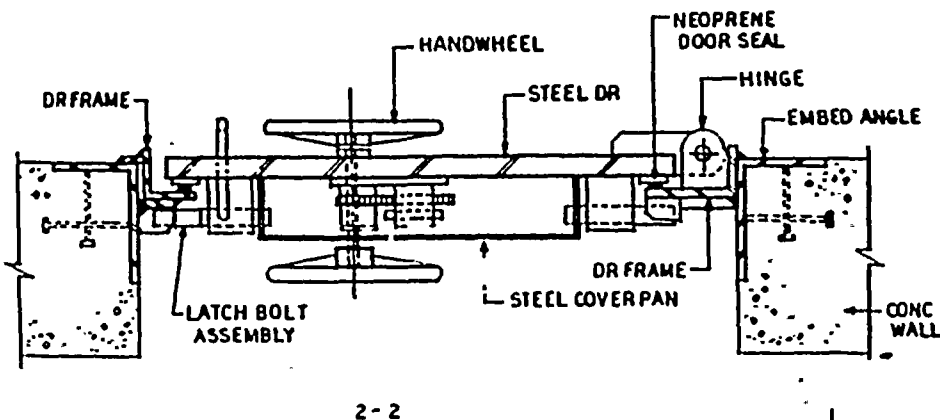
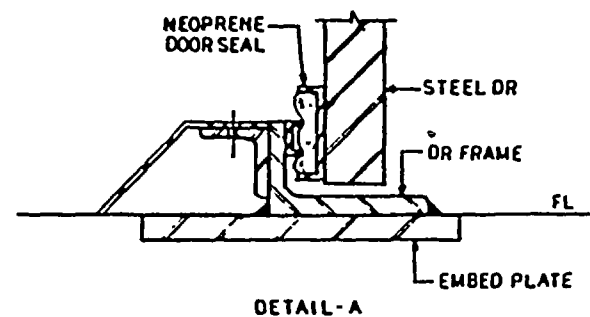
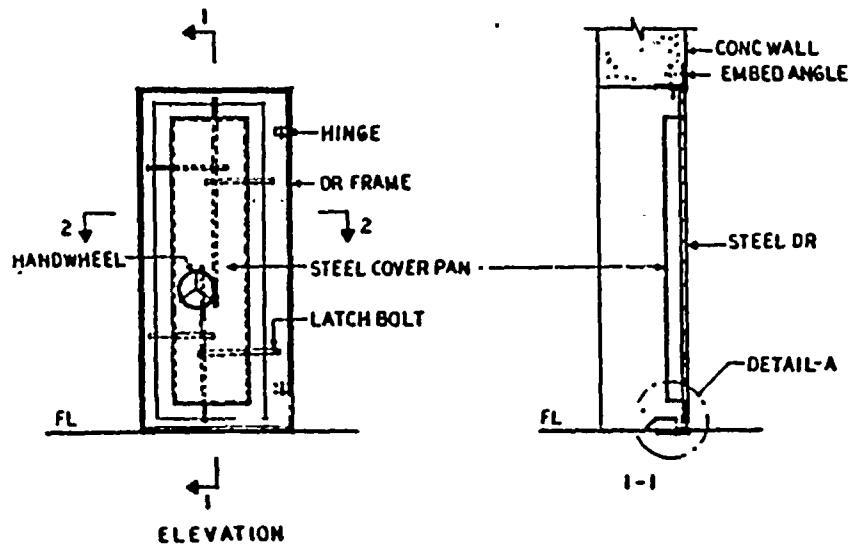
**\*DOOR C-239-1 ONLY**

**FIGURE 9A.3-14**

**WATERTIGHT DOORS  
PAGE 2 OF 2**

**NIAGARA MOHAWK POWER CORPORATION  
NINE MILE POINT-UNIT 2  
FINAL SAFETY ANALYSIS REPORT**





SECTIONS & DETAILS

SA175-3, R175-4, R175-5,  
R175-7, C239-1

FIGURE 9A 3-14

WATERTIGHT DOORS  
PAGE 1 OF 2

NIAGARA MOHAWK POWER CORPORATION  
NINE MILE POINT-UNIT 2  
FINAL SAFETY ANALYSIS REPORT



**DELETE  
ENTIRELY**

**CALCULATION OF THE EXPANSION OF RADIATION SHIELDING DOORS DUE  
TO FIRE EXPOSURE**

**DOOR NUMBERS: T277-20, T277-21, T277-22**

**THE ABOVE LISTED RADIATION SHIELDING DOORS ARE ARRANGED SUCH  
THAT THE DOOR PANELS OVERLAP THE DOOR OPENINGS IN ALL  
DIRECTIONS. THIS ARRANGEMENT ALLOWS DOORS TO EXPAND FREELY IN  
ALL DIRECTIONS WHEN SUBJECTED TO HEAT ON ONE SIDE. THEREFORE,  
NO SIGNIFICANT DEFORMATION OR WARPING OF DOORS CAN BE  
EXPECTED.**

**FIGURE 9A.3-15**

**RADIATION SHIELD DOORS  
PAGE 2 OF 2**

**NIAGARA MOHAWK POWER CORPORATION  
NINE MILE POINT-UNIT 2  
FINAL SAFETY ANALYSIS REPORT**





# CALCULATION OF THE EXPANSION OF 3 PSI TORNADO DOORS DUE TO FIRE EXPOSURE

DOOR NUMBERS: ET214-2, ET237-1, SW261-14, DG272-4  
C288-1, C306-1, C261-1, R240-7\*, AB 261-3,  
NA240-1, R240-2, R240-3, SA240-1, SW280-1\*\*

(\*NOTE: DOOR NO. R240-7 IS A PRESSURE TIGHT DOOR WHICH HAS  
EXPANSION CHARACTERISTICS SIMILAR TO THAT OF THE TORNADO  
DOORS DESCRIBED HEREIN)

| DOOR<br>DESCRIPTION                      | OVERALL DOOR<br>DIMENSIONS | TOTAL DOOR/FRAME GAP |               |       |
|--|----------------------------|----------------------|---------------|-------|
|  |                            | HORI-<br>ZONTAL      | VER-<br>TICAL | DIAG. |
| TORNADO & PRESSURE-<br>TIGHT SINGLE LEAF | 35-3/4"X83-1/4"            | .50                  | 1.13          | 1.24  |
| UTILITY,<br>SINGLE LEAF                  | 35-3/8"X59-7/16"           | .50                  | 1.13          | 1.24  |
| TORNADO,<br>DOUBLE LEAF                  | 71-1/2"X83-1/4"            | .88                  | 1.13          | 1.24  |

THE FOLLOWING CALCULATIONS VERIFY THAT THERE WOULD BE NO  
APPRECIABLE INTERFERENCE (CONTACT FORCE) BETWEEN THE DOOR  
AND FRAME DURING A FIRE WHERE A TEMPERATURE RISE OF 1930°F  
(2000 °F — 70°F = 1930°F) IS EXPERIENCED BY THE DOOR.

THE METHOD OF CALCULATING EXPANSION IS BASED ON THE SIZE OF THE  
DOOR TIMES THE TEMPERATURE RISE TIMES THE COEFFICIENT OF STEEL  
EXPANSION (0.0000065)

HORIZONTAL EXPANSION (TORNADO/PRESSURE TIGHT, SINGLE LEAF AND  
UTILITY, SINGLE LEAF)

$$35.75\text{-IN.} \times 1930^{\circ}\text{F} \times 6.50 \times 10^{-6}\text{ }^{\circ}\text{F}^{-1} = .44\text{-IN.}$$

HORIZONTAL EXPANSION (TORNADO, DOUBLE LEAF)

$$71.5\text{-IN.} \times 1930^{\circ}\text{F} \times 6.50 \times 10^{-6}\text{ }^{\circ}\text{F}^{-1} = .87\text{-IN.}$$

VERTICAL EXPANSION (TORNADO, DOUBLE LEAF)

$$83.25\text{-IN.} \times 1930^{\circ}\text{F} \times 6.50 \times 10^{-6}\text{ }^{\circ}\text{F}^{-1} = 1.02\text{-IN.}$$

VERTICAL EXPANSION (UTILITY, SINGLE LEAF)

$$59.44\text{-IN.} \times 1930^{\circ}\text{F} \times 6.50 \times 10^{-6}\text{ }^{\circ}\text{F}^{-1} = .73\text{-IN.}$$

DIAGONAL EXPANSION (TORNADO/PRESSURE TIGHT, SINGLE & DOUBLE  
LEAF, UTILITY, SINGLE LEAF)

$$90.6\text{-IN.} \times 1930^{\circ}\text{F} \times 6.50 \times 10^{-6}\text{ }^{\circ}\text{F}^{-1} = 1.11\text{-IN.}$$

\*\* DOOR NO. SW280-1 HAS HORIZONTAL AND VERTICAL DOOR/FRAME  
GAP OF .32 AND .63 WHICH IS SUFFICIENT TO PERMIT EXPANSION  
FOR FIRE INVOLVING THE PRESENT FIRE LOAD.

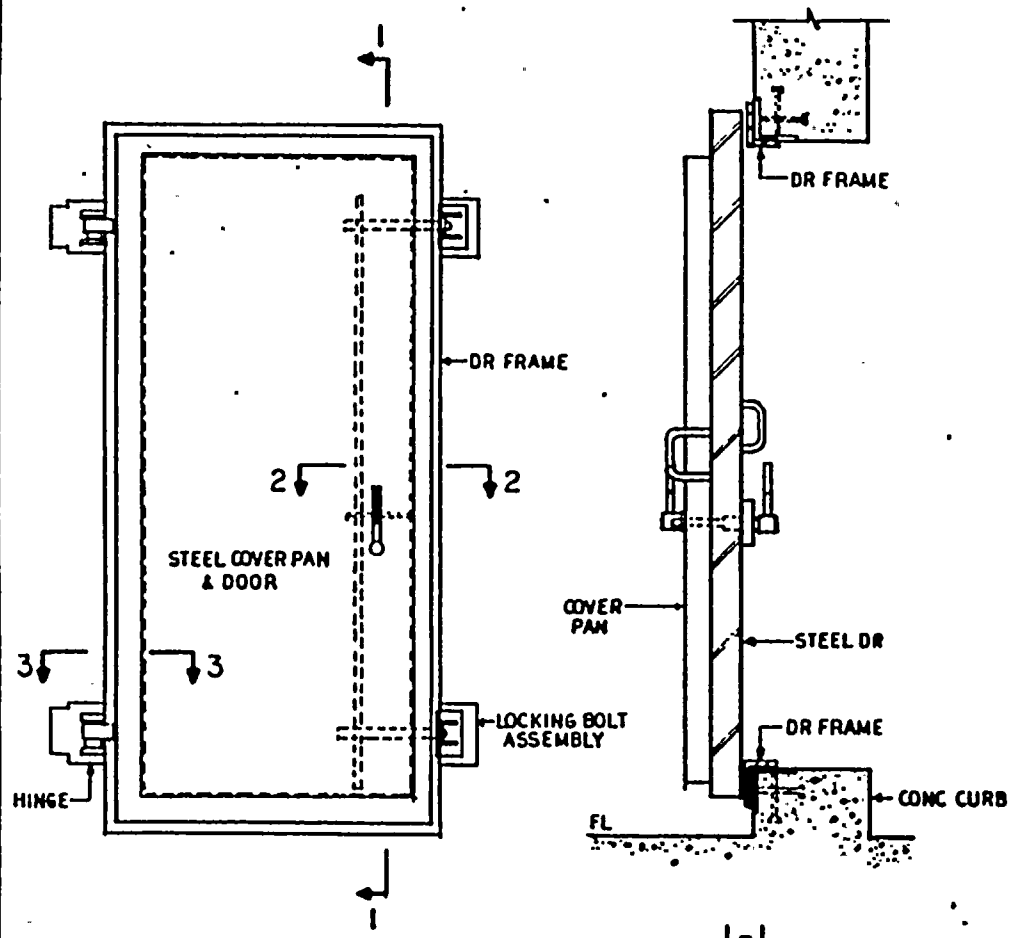
DELETE  
ENTIRELY

FIGURE 9A.3-16

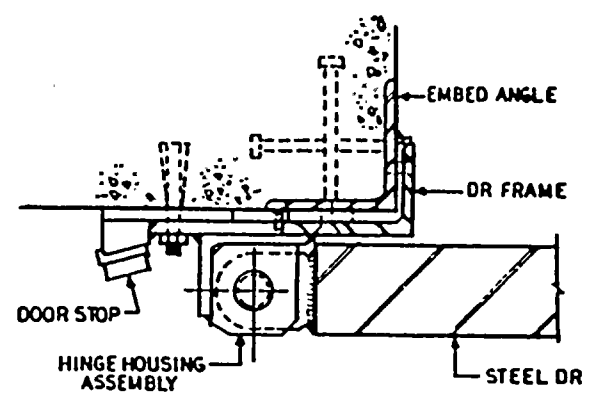
TORNADO AND PRESSURE TIGHT DOORS  
PAGE 2 OF 2

NIAGARA MOHAWK POWER CORPORATION  
NINE MILE POINT-UNIT 2  
FINAL SAFETY ANALYSIS REPORT





ELEVATION



3-3

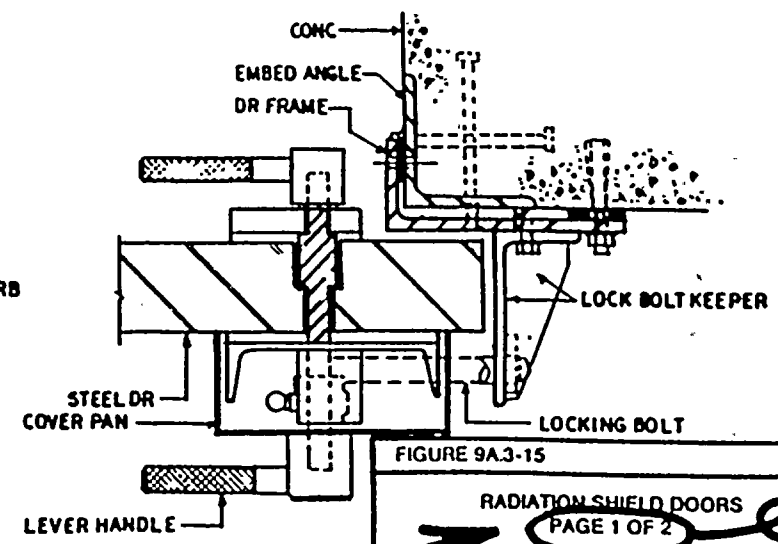


FIGURE 9A3-15

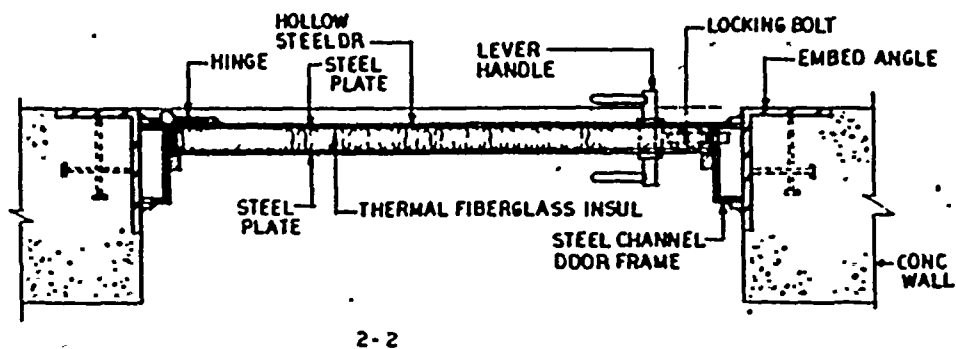
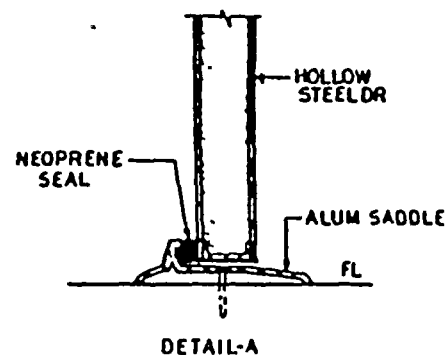
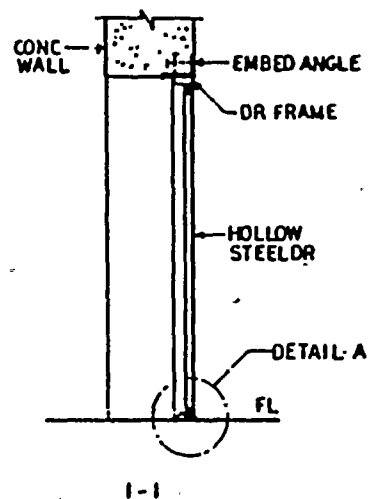
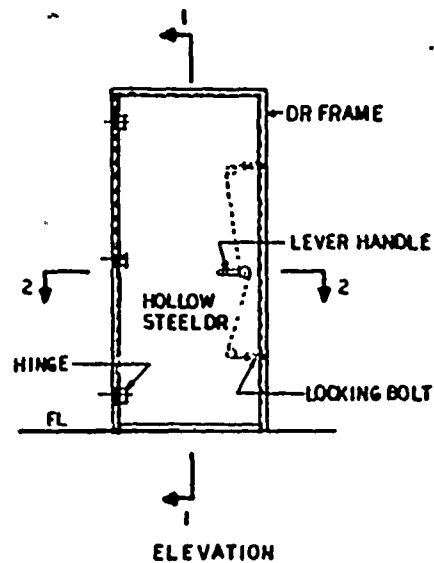
RADIATION SHIELD DOORS  
PAGE 1 OF 2

TYPICAL SECTIONS & DETAILS

T277-20, T277-21, T277-22

NIAGARA MOHAWK POWER CORPORATION  
NINE MILE POINT-UNIT 2  
FINAL SAFETY ANALYSIS REPORT





TYPICAL SECTIONS & DETAILS

ET219-2, ET237-1, SW261-14  
DG272-9, AB261-3, SW280-1  
C261-1, C288-1, C306-1

FIGURE 9A3-18

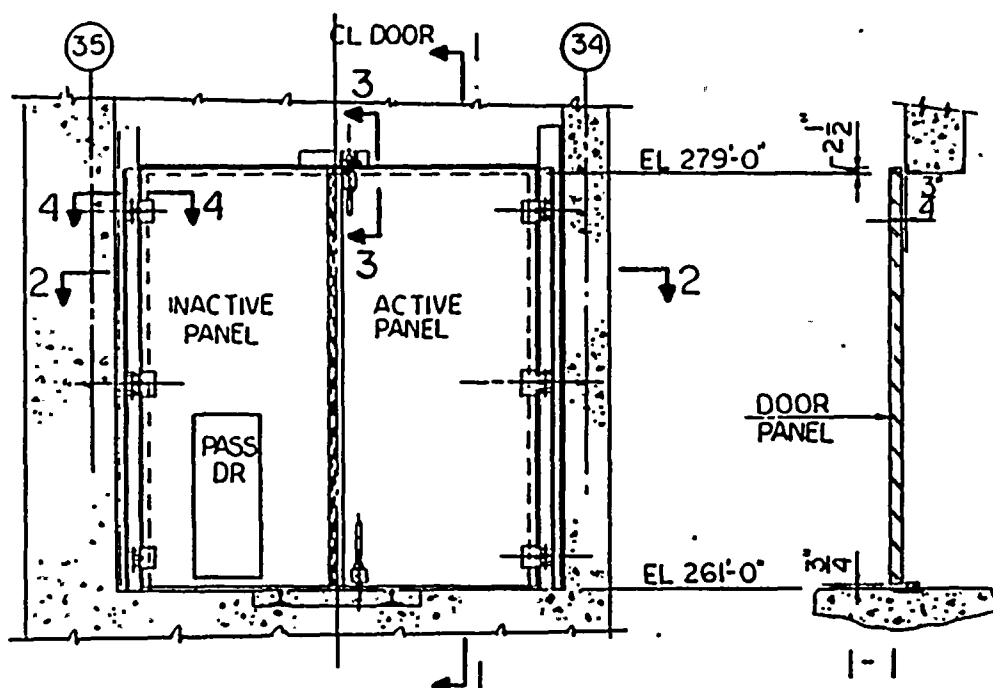
TORNADO AND PRESSURE-TIGHT DOORS  
PAGE 1 OF 2

NIAGARA MOHAWK POWER CORPORATION  
NINE MILE POINT-UNIT 2  
FINAL SAFETY ANALYSIS REPORT

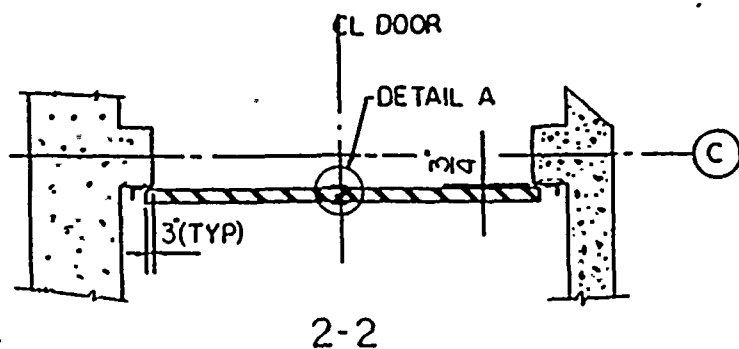
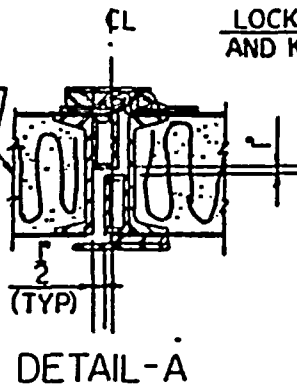
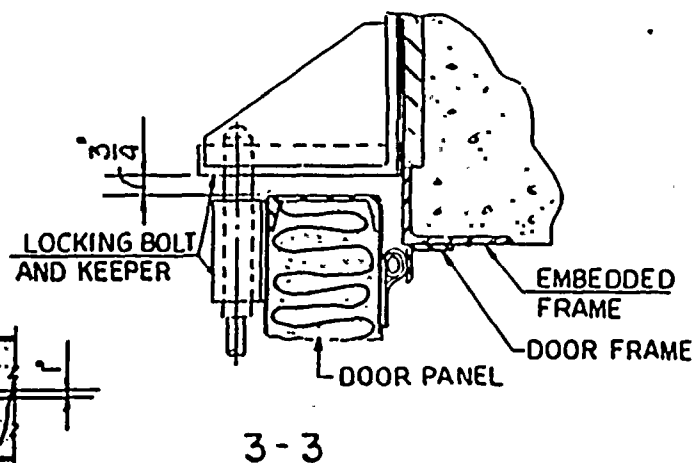
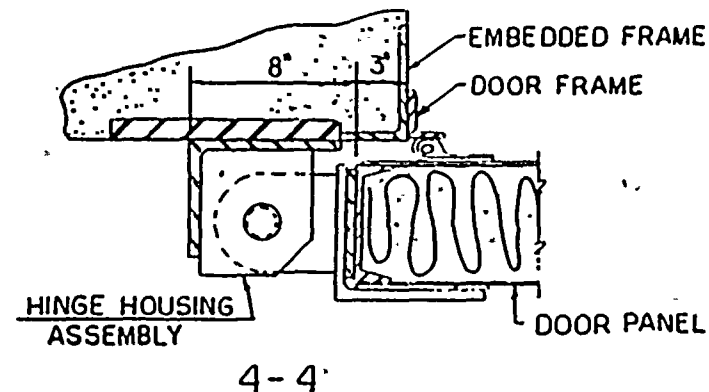
AMENDMENT 21

SEPTEMBER 1984





ELEVATION  
DOOR (RR 261-2)



REACTION BLDG

RR261-2

FIGURE 9A.3-17

RAILROAD ACCESS DOOR  
PAGE 1 OF 2

NIAGARA MOHAWK POWER CORPORATION  
NINE MILE POINT-UNIT 2  
FINAL SAFETY ANALYSIS REPORT





**DELETE  
ENTIRELY**

**CALCULATION OF THE EXPANSION OF RAILROAD ACCESS DOOR RR 261-2  
DUE TO FIRE EXPOSURE.**

**THE ABOVE MENTIONED RAILROAD ACCESS DOOR IS ARRANGED SUCH  
THAT THE DOOR PANELS OVERLAP THE DOOR OPENING. THIS ARRANGE-  
MENT ALLOWS DOOR TO EXPAND IN ALL DIRECTIONS WHEN SUBJECTED  
TO HEAT ON ONE SIDE, HOWEVER THE FREE MOVEMENT WILL BE LOCALLY  
RESTRAINED AT HINGE AND LATCH LOCATIONS, BUT CAUSING NO  
SIGNIFICANT DEFORMATION OR WARPING OF DOOR WHICH COULD  
ALLOW FIRE PROPAGATION.**

**FIGURE 9A.3-17**

**RAILROAD ACCESS DOOR  
PAGE 2 OF 2**

**NIAGARA MOHAWK POWER CORPORATION  
NINE MILE POINT-UNIT 2  
FINAL SAFETY ANALYSIS REPORT**



TABLE 9B.6-1

## FIRE AREA/FIRE SUBAREA/FIRE ZONE IDENTIFICATION

| <u>Fire Area/Fire Subarea</u> | <u>Fire Zone</u> | <u>Description</u>  | 11 |
|-------------------------------|------------------|---|----|
| North Aux Bldg/FA1            | 201SW            | LPCS Room, North Auxiliary Bay, El 175 Ft                 |    |
|                               | 202SW            | RHS Pump Room A, North Auxiliary Bay, El 175 Ft           |    |
|                               | 203SW            | RHS Heat Exchanger Room A, North Auxiliary Bay, El 175 Ft |    |
| ADD:                          | 211SW            | → (ADD EACH DESCRIPTION) FROM PAGE 2                      |    |
|                               | 221SW            |   |    |
|                               | 231SW            |   |    |
| Reactor Bldg/FA2              | 204SW            |   | 11 |
|                               |                  | Pump Room, El 175 Ft                                      |    |
| South Aux Bldg/FA3            | 207SW            | RHS Pump Room B, South Auxiliary Bay, El 175 Ft           | 11 |
|                               | 208SW            | RHS Pump Room C, South Auxiliary Bay, El 175 Ft           |    |
|                               | 206SW            | RHS Heat Exchanger Room B, South Auxiliary Bay, El 175 Ft |    |
| ADD:                          | 214SW            | → (ADD EACH DESCRIPTION) FROM PAGE 2                      |    |
|                               | 224SW            |   |    |
|                               | 239SW            |   |    |
| Reactor Bldg/FA4              | 205NZ            |   | 11 |
|                               |                  | Room, El 175 Ft   |    |
| FA7                           | 302NW            | Electrical Tunnel, 35°                                    |    |
| FA8                           | 301NW            | Electrical Tunnel, 140°                                   |    |
| FA18 → FA9                    | 304NW            | Electrical Tunnel, 230°                                   |    |
| Control Bldg/FA21             | 327NW            | Control Building, HPCS Cable Routing Area, El 244 Ft      | 11 |
|                               | 342XL            | Control Building, HPCS Switchgear Room, El 261 Ft         |    |
| Diesel Gen Bldg/FA28          | 402SW            | Division I, Diesel Generator Room                         | 11 |
|                               |                  | Division I, Diesel Generator Control Room                 |    |

{ FOR SOURCE DOCUMENTS FOR CHANGES  
SEE DWG. EB-22A, B, C, D, E, F, G SEE  
ATTACHED LIST FOR REV. NO'S }



Nine Mile Point Unit 2 FSAR

TABLE 9B.6-1 (Cont)

| <u>Fire Area/Fire Subarea</u> | <u>Fire Zone</u> | <u>Description</u>   |
|-------------------------------|------------------|--|
| FA29                          | 403SW            | Division II, Diesel Generator Room<br>Division II, Diesel Generator Control Room             |
| FA30                          | 404SW            | Division III, HPCS Diesel Generator Room<br>Division III, HPCS Diesel Generator Control Room |
| Control Bldg/FA75             | 339NZ            | Control Building, Division III, Battery Room, El 261 Ft                                      |
| North Auxiliary Bay/FA5       | 211SW            | North Auxiliary Bay, El 198 Ft   |
| FA11                          | 231SW            | North Auxiliary Bay Electrical Room, El 240 Ft   |
| FA37                          | 221SW            | Auxiliary Bay, North Access Area B, El 215 Ft  |
| South Auxiliary Bay/FA6       | 214SW            | South Auxiliary Bay, El 198 Ft   |
| FA12                          | 239SW            | South Auxiliary Bay, Electrical Room, El 240 Ft  |
| FA41                          | 224SW            | Auxiliary Bay, South Access Area B, El 215 Ft  |
| Control Building/FA16         | 306NW            | Control Building General Area, El 214 Ft   |
|                               | 312NW            | Control Building General Area, East, El 214 Ft   |
|                               | 321NW            | Control Building Cable Chase, West, El 237 Ft  |

MOVE TO  
PAGE 1, ADD  
UNDER FA1

MOVE TO  
PAGE 1, ADD  
UNDER FA3



Nine Mile Point Unit 2 FSAR

TABLE 9B.6-1 (Cont)

| <u>Fire Area/Fire Subarea</u> | <u>Fire Zone</u> | <u>Description</u>  |                            |
|-------------------------------|------------------|---|----------------------------|
|                               | 332NW            | Control Building Cable Chase, West, El 261 Ft                   |                            |
|                               | 352NW            | Control Building Cable Chase, West, El 288 Ft                   |                            |
|                               | 371NW            | Control Building Cable Chase, West, El 306 Ft                   |                            |
| FA17                          | 305NW            | Control Building Cable Chase, West, El 214 Ft                   | 23                         |
|                               | 322NW            | Control Building, Division I Cable Routing Area, El 237 Ft      |                            |
| ADD:                          | 325NW            | Control Building, Division I Standby Switchgear Room, El 261 Ft | ADD DESCRIPTION FROM PG. 4 |
|                               | 333XL            | Control Building Corridor, El 261 Ft                            |                            |
|                               | 331NW            | Control Building Corridor, El 261 Ft                            |                            |
|                               | 334NZ            | Control Building, Division I Battery Room, El 261 Ft            |                            |
| FA18                          | 304NW            | ELECTRICAL TUNNEL, 230°   |                            |
| FA18                          | 309NW            | Control Building Cable Chase, East, El 214 Ft                   |                            |
|                               | 324NW            | Control Building Cable Chase, East, El 237 Ft                   |                            |
|                               | 337NW            | Control Building Cable Chase, East, El 261 Ft                   |                            |
|                               | 359NW            | Control Building Cable Chase, East, El 288 Ft                   |                            |
|                               | 377NW            | Control Building Cable Chase, East, El 306 Ft                   |                            |
| FA19                          | 323NW            | Control Building, Division II Cable Routing Area, El 237 Ft     |                            |
| ADD:                          | 326NW            | (ADD DESCRIPTION ALSO) SEE PG. 4 FOR December 1985 WORDING      |                            |





Nine Mile Point Unit 2 FSAR

TABLE 9B.6-1 (Cont)

| <u>Fire Area/Fire Subarea</u> | <u>Fire Zone</u> | <u>Description</u>   |
|-------------------------------|------------------|--|
|                               | 336XL            | Control Building,<br>Division II, Standby<br>Switchgear<br>Room, El 261 Ft |
|                               | 335NZ            | Control Building,<br>Division II<br>Battery Room,<br>El 261 Ft             |
| FA43                          | 338NZ            | Control Building<br>Remote Shutdown<br>Room, East                          |
| FA44                          | 343NZ            | Control Building<br>Remote Shutdown<br>Room, West                          |
| FA17<br>FA22                  | 325NW            | Control Building,<br>Division I, Cable<br><br>Routing Area,<br>El 244 Ft   |
| FA22                          | 340NZ            | Control Building,<br>Division I, HVAC Room,<br>El 261 Ft                   |
| FA23<br>FA19                  | 326NW            | Control Building,<br>Division II, Cable<br>Routing Area,<br>El 244 Ft      |
| FA23                          | 341NZ            | Control Building,<br>Division II, HVAC<br>Room, El 261 Ft                  |
| FA24                          | 356NZ            | Control Building,<br>PGCC Relay Room,<br>El 288 Ft                         |
| FA25                          | 360NZ            | Control Building,<br>Division I, HVAC Room,<br>El 288 Ft                   |
| FA26                          | 373NZ            | Control Building,<br>Main Plant Control                                    |

MOVE TO Pg. 3  
UNDER FA17

MOVE TO Pg. 3  
UNDER FA19



Nine Mile Point Unit 2 FSAR

TABLE 9B.6-1 (Cont)

| <u>Fire Area/Fire Subarea</u>    | <u>Fire Zone</u>         | <u>Description</u>  |
|----------------------------------|--------------------------|---|
|                                  |                          | Room, El 306 Ft   |
| FA27                             | 378NZ                    | Control Building,<br>Division II, HVAC Room,<br>El 306 Ft                                   |
| FA76                             | 380NZ                    | Control Building<br>Corridor/Instrument<br>Shop, El 306 Ft                                  |
| Tunnels/FA34 50                  | 256NZ                    | Main Steam Tunnel   |
| FA48                             | 236NZ                    | Electrical Tunnel Vent<br>Room, El 237 Ft, Div. I   |
| FA55<br>Cstet                    | 361NZ,<br>363NZ<br>237NZ | Pipe Tunnel<br>PIPE TUNNEL, EL 244 FT<br>Electrical Tunnel Vent<br>Room, El 237 ft, Div: II |
|                                  | 362NZ                    | Radwaste Tunnel   |
| Service Water Pump Area/<br>FA60 | 807NZ                    | Service Water<br>Pump Room B  |
| FA61                             | 806NZ                    | Service Water<br>Pump Room A  |
| Intake Area/FA71                 | 802NZ,<br>803NZ          | Intake Area<br>SCREEN WELL BUILDING   |
| Reactor Building/FSA34           | 212SW                    | Reactor Building<br>General Area,<br>North, El 175 Ft                                       |
|                                  | 222SW                    | Reactor Building<br>General Area,<br>North, El 215 Ft                                       |
|                                  | 232SW                    | Reactor Building<br>General Area,<br>North, El 240 Ft                                       |
|                                  | 243SW                    | Reactor Building<br>General Area,<br>North, El 261 Ft                                       |



Nine Mile Point Unit 2 FSAR

TABLE 9B.6-1 (Cont)

| <u>Fire Area/Fire Subarea</u> | <u>Fire Zone</u> | <u>Description</u>   |
|-------------------------------|------------------|--|
|                               | 252SW            | Reactor Building<br>General Area,<br>North, El 288 Ft        |
|                               | 261NZ ← SW       | Reactor Building<br>General Area,<br>North, El 306 Ft        |
|                               | 271SW            | Reactor Building<br>General Area,<br>Northwest, El 328 Ft    |
|                               | 273SW            | Reactor Building<br>General Area,<br>Northeast, El 328 Ft    |
|                               | 281NZ            | Reactor Building<br>General Area                             |
| FSA35                         | 213SW            | Reactor Building<br>General Area,<br>South, El 175 Ft        |
|                               | 223SW            | Reactor Building<br>General Area,<br>South, El 215 Ft        |
|                               | 238SW            | Reactor Building<br>General Area,<br>South, El 240 Ft        |
|                               | 245SW            | Reactor Building<br>General Area,<br>South, El 261 Ft        |
|                               | 255SW            | Reactor Building<br>General Area,<br>South, El 288 Ft        |
|                               | 262NZ ← SW       | Reactor Building<br>General Area,<br>South, El 306 Ft        |
|                               | 274SW            | Reactor Building<br>General Area,<br>Southeast, El 328 Ft    |
| FA87                          | 287SW            | Reactor Building,<br>Division I, SFC<br>Pump Room, El 288 Ft |



Nine Mile Point Unit 2 FSAR

TABLE 9B.6-3 (Cont)

| <u>Drawing No.</u> | <u>Building/<br/>Elevation</u>                        | <u>Fire Zone<br/>I.D. Numbers</u> | <u>Remarks</u> |
|--------------------|---|-----------------------------------|----------------|
|                    | Control Bldg<br>Cable Chase<br>East El 288'-6"        | 359NW                             |                |
|                    | Control Bldg<br>Div 1 HVAC<br>Rm El 288'-6"           | 360NZ                             |                |
|                    | Turbine Bldg<br>Cols 8-12<br>El 277'-6"               | 731SW                             |                |
|                    | Screenwell<br>Bldg El 261'-0"                         | 803NZ                             |                |
| Figure 9A.3-7      | Reactor Bldg<br>General Area<br>El 306'-6"            | 261NZ ← SW                        |                |
|                    | Reactor Bldg<br>General Area<br>El 306'-6"            | 262NZ ← SW                        |                |
|                    | Control Bldg<br>Cable Chase<br>West El 306'-0"        | 371NW                             |                |
|                    | Control Bldg<br>Main Plant Control<br>Room El 306'-0" | 373NZ                             |                |
|                    | Control Bldg<br>Cable Chase<br>East El 306'-0"        | 377NW                             |                |
|                    | Control Bldg<br>Div 2 HVAC<br>Rm El 306'-0"           | 378NZ                             |                |
|                    | Control Bldg<br>Instrument Shop<br>El 306'-0"         | 380NZ                             |                |





Nine Mile Point Unit 2 FSAR

TABLE 9B.8-1

LIST OF SAFE SHUTDOWN EQUIPMENT  
BY FIRE AREA/FIRE ZONE

| <u>Fire Area</u>                                     | <u>Fire Zone</u> | <u>Required Equipment</u> | <u>Train</u> | <u>Remarks</u> |
|--|------------------|---------------------------|--------------|----------------|
| FA1<br>Aux. Bay<br>North<br>El 175, 198<br>215 & 240 | 201SW            | 2CSL*FE107                | 3            |                |
|  |                  | 2CSL*P1                   | 3            |                |
|  |                  | 2CSL*P2                   | 3            |                |
|  |                  | 2HVR*TIS22A               | 1,3          |                |
|  |                  | 2HVR*TIS22B               | 1,3          |                |
|  |                  | 2HVR*UC402A               | 1,3          |                |
|  |                  | 2HVR*UC402B               | 1,3          |                |
|  |                  | 2CCP*AOV37A               | 1,3          |                |
|  |                  | 2CCP*AOV38A               | 1,3          |                |
|  |                  | 2CCP*SOV37A               | 1,3          |                |
|  | 202SW            | 2CCP*SOV38A               | 1,3          |                |
|  |                  | 2HVR*TIS23A               | 1,3          |                |
|  |                  | 2HVR*TIS23D               | 1,3          |                |
|  |                  | 2HVR*UC401A               | 1,3          |                |
|  |                  | 2HVR*UC401D               | 1,3          |                |
|  |                  | 2RHS*FE14A                | 1,3          |                |
|  |                  | 2RHS*MOV2A                | 1,3          |                |
|  |                  | 2RHS*P1A                  | 1,3          |                |
|  |                  | 2RHS*V1                   | 1,3          |                |
|  |                  | 2RHS*V39                  | 1,3          |                |
|  | 203SW            | 2RHS*V9                   | 1,3          |                |
|  |                  | 2SWP*AOV20A               | 1,3          |                |
|  |                  | 2SWP*AOV22A               | 1,3          |                |
|  |                  | 2SWP*SOV20A               | 1,3          |                |
|  |                  | 2SWP*SOV22A               | 1,3          |                |
|  |                  | 2*JB0921                  | 1,3          |                |
|  |                  | 2HVR*TIS116               | 1,3          |                |
|  |                  | 2RHS*CE11A                | 1,3          |                |
|  |                  | 2RHS*MOV12A               | 1,3          |                |
|  |                  | 2RHS*MOV32A               | 1,3          |                |
|  |                  | 2RHS*MOV37A               | 1,3          |                |
|  |                  | 2RHS*MOV8A                | 1,3          |                |
|  |                  | 2RHS*SOV17A               | 1,3          |                |
|  |                  | 2RHS*TE13A                | 1,3          |                |
|  |                  | 2RH*V13                   | 1,3          |                |
|  |                  | 2RHS*V23                  | 1,3          |                |
|  |                  | 2RHS*V24                  | 1,3          |                |
|  |                  | 2RHS*V27                  | 1,3          |                |
|  |                  | 2RHS*V270                 | 1,3          |                |
|  |                  | 2RHS*V271                 | 1,3          |                |

ADD "S"

Amendment 11

1 of 75

June 1984

ADD :  
UNDER FA1 → 211 SW (ADD ALL INFO FROM PG. 20)  
ALSO 221 SW (ADD ALL INFO FROM PG. 22)  
231 SW (ADD ALL INFO FROM PG. 21)



Nine Mile Point Unit 2 FSAR

TABLE 9B.8-1 (Cont)

| <u>Fire Area</u>                                    | <u>Fire Zone</u> | <u>Required Equipment</u> | <u>Train</u> | <u>Remarks</u> |
|---|------------------|---------------------------|--------------|----------------|
| FA3<br>Aux. Bay<br>South<br>El 175, 198<br>215, 240 | 206SW            | 2*JB0356                  | 2,4          |                |
|   |                  | 2*JB0922                  | 2,4          |                |
|   |                  | 2HVR*TIS115               | 2,4          |                |
|   |                  | 2RHS*CE11B                | 2,4          |                |
|   |                  | 2RHS*LT28B                | 2,4          |                |
|   |                  | 2RHS*MOV12B               | 2,4          |                |
|   |                  | 2RHS*MOV32B               | 2,4          |                |
|   |                  | 2RHS*MOV37B               | 2,4          |                |
|   |                  | 2RHS*SOV17B               | 2,4          |                |
|   |                  | 2RHS*V14                  | 2,4          |                |
|   |                  | 2RHS*V25                  | 2,4          |                |
|   |                  | 2RHS*V26                  | 2,4          |                |
|   |                  | 2RHS*V272                 | 2,4          |                |
|   |                  | 2RHS*V273                 | 2,4          |                |
|   |                  | 2RHS*V31                  | 2,4          |                |
|   |                  | 2RHS*V32                  | 2,4          |                |
|   |                  | 2RHS*V33                  | 2,4          |                |
|   |                  | 2RHS*V34                  | 2,4          |                |
|   |                  | 2SWP*MOV33B               | 2,4          |                |
|   |                  | 2SWP*MOV90B               | 2,4          |                |
|   |                  | 2SWP*RE23B                | 2,4          |                |
|   |                  | 2SWP*TE12B                | 2,4          |                |
|   | 207SW            | 2*JB0184                  | 2,4          |                |
|   |                  | 2*JB0209                  | 2,4          |                |
|   |                  | 2*JB0210                  | 2,4          |                |
|   |                  | 2CCP*AOV37B               | 2,4          |                |
|   |                  | 2CCP*AOV38B               | 2,4          |                |
|   |                  | 2CCP*SOV37B               | 2,4          |                |
|   |                  | 2CCP*SOV38B               | 2,4          |                |
|   |                  | 2HVR*TIS23C               | 2,4          |                |
|   |                  | 2HVR*TIS23F               | 2,4          |                |
|   |                  | 2HVR*UC401C               | 2,4          |                |
|   |                  | 2HVR*UC401F               | 2,4          |                |
|   |                  | 2RHS*MOV149               | 2,4          |                |
|   |                  | 2RHS*MOV4B                | 2,4          |                |
|   |                  | 2RHS*MOV8B                | 2,4          |                |
|   |                  | 2RHS*P1B                  | 2,4          |                |
|   |                  | 2RHS*TE13B                | 2,4          |                |
|   |                  | 2RHS*V11                  | 2,4          |                |
|   |                  | 2RHS*V2                   | 2,4          |                |
|   |                  | 2RHS*V42                  | 2,4          |                |
|   |                  | 2RHS*V5                   | 2,4          |                |
|   |                  | 2RHS*V8                   | 2,4          |                |
|   |                  | 2RHS*V89                  | 2,4          |                |
|   |                  | 2RHS-V91                  | 2,4          |                |



Nine Mile Point Unit 2 FSAR

TABLE 9B.8-1 (Cont)

| <u>Fire Area</u> | <u>Fire Zone</u> | <u>Required Equipment</u> | <u>Train</u> | <u>Remarks</u> |
|------------------|------------------|---------------------------|--------------|----------------|
|                  |                  | 2SWP*AOV20B               | 2,4          |                |
|                  |                  | 2SWP*AOV22B               | 2,4          |                |
|                  |                  | 2SWP*SOV20B               | 2,4          |                |
|                  |                  | 2SWP*SOV22B               | 2,4          |                |
|                  | 208SW            | 2HVR*TIS23B               | 2,4          |                |
|                  |                  | 2HVR*TIS23E               | 2,4          |                |
|                  |                  | 2HVR*UC401B               | 2,4          |                |
|                  |                  | 2HVR*UC401E               | 2,4          |                |
|                  |                  | 2RHS*MOV4C                | 2,4          |                |
|                  |                  | 2RHS*P1C                  | 4            |                |
|                  |                  | 2RHS*V3                   | 2,4          |                |
|                  |                  | 2RHS*V6                   | 2,4          |                |
|                  |                  | CABLES                    | 2,4          |                |
|                  |                  | 2RHS*FE14B                | 2,4          |                |
|                  |                  | 2RHS*FE14C                | 2,4          |                |

ADD:  
UNDET  
FA3

214 SW (ADD ALL INFO FROM PG. 23)  
224 SW. (ADD ALL INFO FROM PG. 25)  
239 SW (ADD ALL INFO FROM PG. 24)



Nine Mile Point Unit 2 FSAR

TABLE 9B.8-1 (Cont)

| <u>Fire Area</u>                    | <u>Fire Zone</u> | <u>Required Equipment</u> | <u>Train</u> | <u>Remarks</u> |
|-------------------------------------|------------------|---------------------------|--------------|----------------|
| FA7 — FA8<br>Elec.<br>Tunnel<br>35° | 302NW            | CABLES                    | 1,3          |                |

ADD ALL OF THIS TO PG. 8 OF THIS TABLE  
UNDER FA8





Nine Mile Point Unit 2 FSAR

TABLE 9B.8-1 (Cont)

| <u>Fire Area</u>                     | <u>Fire Zone</u> | <u>Required Equipment</u> | <u>Train</u> | <u>Remarks</u> |
|--------------------------------------|------------------|---------------------------|--------------|----------------|
| FA8<br>Elec.<br>Tunnel<br>140° & 35° | 301NW            | 2CMS*AIT6A                | 1,3          |                |
|                                      |                  | 2CMS*AIT71A               | 1,3          |                |
|                                      |                  | 2CMS*AIY6A                | 1,3          |                |
|                                      |                  | 2CMS*AIY71A               | 1,3          |                |
|                                      |                  | 2CMS*AT6A                 | 1,3          |                |
|                                      |                  | 2CMS*AT71A                | 1,3          |                |
|                                      |                  | 2CMS*PNL73A               | 1,3          |                |
|                                      |                  | CABLES                    | 1,3          |                |
|                                      | 302NW            | CABLES                    | 1,3          |                |



Nine Mile Point Unit 2 FSAR

TABLE 9B.8-1 (Cont)

| <u>Fire Area</u>                      | <u>Fire Zone</u> | <u>Required Equipment</u>  | <u>Train</u>   | <u>Remarks</u> |
|---------------------------------------|------------------|--|--|----------------|
| FA9 → FA18<br>Elec.<br>Tunnel<br>230° | 304NW            | 2CMS*AIT6B<br>2CMS*AIT71B<br>2CMS*AIY6B<br>2CMS*AIY71B<br>2CMS*AT6B<br>2CMS*AT71B<br>2CMS*PNL73B<br>CABLES | 2,4<br>2,4<br>2,4<br>2,4<br>2,4<br>2,4<br>2,4<br>2,4 |                |

ADD ALL OF THIS TO PG. 29 OF THIS  
TABLE UNDER FA18



Nine Mile Point Unit 2 FSAR

TABLE 9B.8-1 (Cont)

| <u>Fire Area</u> | <u>Fire Zone</u> | <u>Required Equipment</u> | <u>Train</u> | <u>Remarks</u> |
|------------------|------------------|---------------------------|--------------|----------------|
| (EAS) FA1        | 211SW            | 2HVR*UC405                | 1,3          |                |
| Aux. Bay         |                  | 2RHS*MOV26A               | 1,3          |                |
| North            |                  | 2RHS*MOV27A               | 1,3          |                |
| E1 198'          |                  | 2RHS*MOV9A                | 1,3          |                |
|                  |                  | 2RHS*SV34A                | 1,3          |                |
|                  |                  | 2RHS*SV62A                | 1,3          |                |
|                  |                  | 2RHS*TE10A                | 1,3          |                |
|                  |                  | 2RHS*V183                 | 1,3          |                |
|                  |                  | 2RHS*V196                 | 1,3          |                |
|                  |                  | 2SWP*PT140A               | 1,3          |                |
|                  |                  | 2SWP*RE23A                | 1,3          |                |
|                  |                  | CABLES                    | 1,3          |                |

ADD ALL OF THIS TO PG. 1 OF THIS TABLE  
UNDER FA1



Nine Mile Point Unit 2 FSAR

TABLE 9B.8-1 (Cont)

| <u>Fire Area</u>                                | <u>Fire Zone</u> | <u>Required Equipment</u>  | <u>Train</u>   | <u>Remarks</u> |
|---|------------------|--|--|----------------|
| <u>FA11</u> FA1<br>Aux. Bay<br>North<br>El 240' | 231SW            | 2CMS*AE6A<br>2CMS*AE71A<br>2CMS*AI26A<br>2CMS*AI271A<br>2CMS*E/I6A<br>2CMS*E/I71A<br>2CMS*PNL66A<br>2CMS*SOV64A<br>2CMS*SOV65A<br>2DMS*MCCA1<br>2EHS*MCC102<br>2EJA*PNL100A<br>2EJA*XD100A<br>2EJS*PNL101A<br>2EJS*PNL103A<br>2EJS*PNL104A<br>2HVR*TIS19A<br>2HVR*TIS19B<br>2HVR*UC408A<br>2HVR*UC408B<br>2ICS*MOV129<br>2SCV*PNL101A<br>2SCV*XD101A<br>CABLES | 1,3<br>1,3<br>1,3<br>1,3<br>1,3<br>1,3<br>1,3<br>1,3<br>1,3<br>1,3<br>1,3<br>1,3<br>1,3<br>1,3<br>1,3<br>1,3<br>1,3<br>1,3<br>1,3<br>1,3<br>1<br>1,3<br>1,3<br>1,3 |                |

ADD ALL OF THIS TO PG. 1 OF THIS TABLE.  
UNDER FA1





Nine Mile Point Unit 2 ESAR

TABLE 9B.8-1 (Cont)

| <u>Fire Area</u> | <u>Fire Zone</u> | <u>Required Equipment</u> | <u>Train</u> | <u>Remarks</u> |
|------------------|------------------|---------------------------|--------------|----------------|
| (FA37) FA1       | 221SW            | 2*JB0020                  | 1,3          |                |
| Aux. Bay         |                  | 2*JB0022                  | 1,3          |                |
| North            |                  | 2*JB0024                  | 1,3          |                |
| E1 215'          |                  | 2*JB0060                  | 1,3          |                |
|                  |                  | 2*JB0085                  | 1,3          |                |
|                  |                  | 2*JB0355                  | 1,3          |                |
|                  |                  | 2SWP*MOV19A               | 1,3          |                |
|                  |                  | CABLES                    | 1,3          |                |

ADD ALL OF THIS TO Pg. 1 OF THIS TABLE  
UNDER FA1



Nine Mile Point Unit 2 FSAR

TABLE 9B.8-1 (Cont)

| <u>Fire Area</u>                        | <u>Fire Zone</u> | <u>Required Equipment</u>   | <u>Train</u>  | <u>Remarks</u> |
|---|------------------|---|---|----------------|
| FA6 FA3<br>Aux. Bay<br>South<br>El 198' | 214SW            | 2*JB0021<br>2*JB0023<br>2HVR*UC406<br>2RHS*MOV26B<br>2RHS*MOV27B<br>2RHS*MOV9B<br>2RHS*SV34B<br>2RHS*SV62B<br>2RHS*TE10B<br>2RHS*V189<br>CABLES | 2,4<br>2,4<br>2,4<br>2,4<br>2,4<br>2,4<br>2,4<br>2,4<br>2,4<br>2,4<br>2,4 |                |

ADD ALL OF THIS TO PG. 5 OF THIS TABLE  
UNDER FA3



Nine Mile Point Unit 2 FSAR

TABLE 9B.8-1 (Cont)

| <u>Fire Area</u>                         | <u>Fire Zone</u> | <u>Required Equipment</u> | <u>Train</u> | <u>Remarks</u> |
|--|------------------|---------------------------|--------------|----------------|
| FA12 FA3<br>Aux. Bay<br>South<br>El 240' | 239SW            | 2CMS*AE6B                 | 2,4          |                |
|  |                  | 2CMS*AE71B                | 2,4          |                |
|  |                  | 2CMS*AI26B                | 2,4          |                |
|  |                  | 2CMS*AI271B               | 2,4          |                |
|  |                  | 2CMS*E/I6B                | 2,4          |                |
|  |                  | 2CMS*E/I71B               | 2,4          |                |
|  |                  | 2CMS*PNL66B               | 2,4          |                |
|  |                  | 2CMS*SOV64B               | 2,4          |                |
|  |                  | 2CMS*SOV65B               | 2,4          |                |
|  |                  | 2DMS*MCCB1                | 2,4          |                |
|  |                  | 2EHS*MCC302               | 2,4          |                |
|  |                  | 2EJA*PNL300B              | 2,4          |                |
|  |                  | 2EJA*XD300B               | 2,4          |                |
|  |                  | 2EJS*PNL302B              | 2,4          |                |
|  |                  | 2EJS*PNL303B              | 2,4          |                |
|  |                  | 2EJS*PNL304B              | 2,4          |                |
|  |                  | 2HVR*TIS16A               | 2,4          |                |
|  |                  | 2HVR*TIS16B               | 2,4          |                |
|  |                  | 2HVR*UC409A               | 2,4          |                |
|  |                  | 2HVR*UC409B               | 2,4          |                |
|  |                  | 2SCV*PNL301B              | 2,4          |                |
|  |                  | 2SCV*XD301B               | 2,4          |                |
|  |                  | CABLES                    | 2,4          |                |

ADD ALL OF THIS TO Pg. 5 OF THIS TABLE  
UNDER FA3



Nine Mile Point Unit 2 FSAR

TABLE 9B.8-1 (Cont)

| <u>Fire Area</u>                                    | <u>Fire Zone</u> | <u>Required Equipment</u> | <u>Train</u> | <u>Remarks</u> |
|---|------------------|---------------------------|--------------|----------------|
| FA4I <sup>FA3</sup><br>Aux. Bay<br>South<br>El 215' | 224SW            | 2*JB0013<br>CABLES        | 2,4<br>2,4   |                |

ADD ALL OF THIS TO PG. 5 OF THIS TABLE  
UNDER FA3





Nine Mile Point Unit 2 FSAR

TABLE 9B.8-1 (Cont)

| <u>Fire Area</u>                                | <u>Fire Zone</u> | <u>Required Equipment</u> | <u>Train</u> | <u>Remarks</u> |
|---|------------------|---------------------------|--------------|----------------|
| FA16<br>Control<br>Bldg.<br>Cable Chase<br>West | 306NW            | CABLES                    | 1,3          | 23             |
|   | 321NW            | 2*JB5016                  | 1,3          |                |
|   |                  | 2*JB5081                  | 1,3          | 23             |
|   |                  | 2*JB5147                  | 1,3          |                |
|   |                  | 2*JB8014                  | 1,3          |                |
|   |                  | 2*JB8015                  | 1,3          |                |
|   | 332NW            | 2*JB0207                  | 1,3          |                |
|   |                  | 2*JB0208                  | 1,3          |                |
|   |                  | 2*JB5118                  | 1,3          |                |
|   |                  | 2HVC*AOD169               | 1,3          |                |
|   |                  | 2HVC*SOV169               | 1,3          |                |
|   | 352NW            | 2*JB5047                  | 1,3          | 23             |
|   |                  | 2BYS*PNL201A              | 1,3          |                |
|   |                  | 2BYS*PNL202A              | 1,3          |                |
|   |                  | 2SCM*PNL101A              | 1,3          |                |
|   |                  | 2SCM*PNL102A              | 1,3          |                |
|   |                  | 2SCM*PNL103A              | 1,3          |                |
|   |                  | 2SCM*PNL104A              | 1,3          |                |
|   |                  | 2SCM*PNL105A              | 1,3          |                |
|   |                  | 2SCM*XD101A               | 1,3          |                |
|   |                  | 2SCM*XD102A               | 1,3          |                |
|   |                  | 2SCM*XD103A               | 1,3          |                |
|   |                  | 2SCM*XD104A               | 1,3          |                |
|   |                  | 2SCM*XD105A               | 1,3          |                |
|   |                  | 2VBS*PNL101A              | 1,3          |                |
|   | 371NW            | 2VBS*PNLA103              | 1,3          |                |
|   |                  | CABLES                    | 1,3          |                |
|   | 312NW            | NONE                      | -            |                |

PUT IN NUM.  
ORDER

7



Nine Mile Point Unit 2 FSAR

TABLE 9B.8-1 (Cont)

| <u>Fire Area</u>         | <u>Fire Zone</u> | <u>Required Equipment</u> | <u>Train</u> | <u>Remarks</u> |
|--------------------------|------------------|---------------------------|--------------|----------------|
| FA17<br>Control<br>Bldg. | 305NW            | CABLES                    | 1,3          | 23             |
|                          | 322NW            | 2*JB5004                  | 1,3          |                |
|                          |                  | 2*JB5014                  | 1,3          |                |
|                          |                  | 2*JB5018                  | 1,3          |                |
|                          |                  | 2*JB5039                  | 1,3          |                |
|                          |                  | 2*JB5043                  | 1,3          |                |
|                          |                  | 2*JB5092                  | 1,3          |                |
|                          |                  | 2*JB5093                  | 1,3          |                |
|                          |                  | 2*JB5119                  | 1,3          |                |
|                          |                  | 2*JB5128                  | 1,3          |                |
|                          |                  | 2*JB5150                  | 1,3          |                |
|                          |                  | 2*JB5160                  | 1,3          |                |
|                          |                  | 2*JB8028                  | 1,3          |                |
|                          |                  | 2*JB8080                  | 1,3          |                |
|                          |                  | 2*JB8082                  | 1,3          |                |
|                          |                  | 2*JB8084                  | 1,3          |                |
|                          |                  | 2*JB8091                  | 1,3          |                |
|                          |                  | 2HVC*AOD170               | 1,3          |                |
|                          |                  | 2HVC*AOD213               | 1,3          |                |
|                          |                  | 2HVC*FS172                | 1,3          |                |
|                          |                  | 2HVC*SOV170               | 1,3          |                |
|                          |                  | 2HVC*SOV213               | 1,3          |                |
|                          |                  | 2HVC*TE174                | 1,3          |                |
|                          |                  | 2HVC*UC106                | 1,3          |                |
|                          |                  | 2SWP*AOV573               | 1,3          |                |
|                          |                  | 2SWP*SOV573               | 1,3          |                |
|                          | 325NW            | 2SCM*PNL200P              | 1,2          | 2*JB5049 1,3   |
|                          | 331NW            | 2SCV*PNL200P              | 1,2          |                |
|                          | 333XL            | 2BYS*CHGR2A1              | 1,3          |                |
|                          |                  | 2BYS*CHGR2A2              | 1,3          |                |
|                          |                  | 2BYS*SWG002A              | 1,3          |                |
|                          |                  | 2EHS*MCC103               | 1,3          |                |
|                          |                  | 2EJA*PNL101A              | 1,3          |                |
|                          |                  | 2EJA*XD101A               | 1,3          |                |
|                          |                  | 2EJS*PNL100A              | 1,3          |                |
|                          |                  | 2EJS*US1                  | 1,3          |                |
|                          |                  | 2EJS*X1A                  | 1,3          |                |
|                          |                  | 2EJS*X1B                  | 1,3          |                |
|                          |                  | 2ENS*SWG101               | 1,3          |                |
|                          |                  | 2HVC*TE38A                | 1,3          |                |
|                          |                  | 2LAC*PNL100A              | 1,3          |                |
|                          |                  | 2LAC*XLE01                | 1,3          |                |
|                          |                  | 2LAC*XLE04                | 1,3          |                |
|                          |                  | 2LAC*XLE06                | 1,3          |                |
|                          |                  | 2VBA*UPS2A                | 1,3          |                |

ADD :



Nine Mile Point Unit 2 FSAR

TABLE 9B.8-1 (Cont)

| <u>Fire Area</u>                                 | <u>Fire Zone</u> | <u>Required Equipment</u> | <u>Train</u> | <u>Remarks</u> |
|--|------------------|---------------------------|--------------|----------------|
| FA18<br>Control<br>Bldg.,<br>Elec<br>TUNNEL 230° | 304NW            | ...                       | 2,4          |                |
|  | 309NW            | NONE                      | -            |                |
|  | 324NW            | 2*JB5148                  | 2,4          |                |
|  |                  | 2*JB5149                  | 2,4          |                |
|  | 337NW            | 2*JB5123                  | 2,4          |                |
|  |                  | 2HVC*AOD177               | 2,4          |                |
|  |                  | 2HVC*SOV177               | 2,4          |                |
|  | 359NW            | 2BYS*PNL201B              | 2,4          |                |
|  |                  | 2BYS*PNL202B              | 2,4          |                |
|  |                  | 2SCM*PNL301B              | 2,4          |                |
|  |                  | 2SCM*PNL302B              | 2,4          |                |
|  |                  | 2SCM*PNL303B              | 2,4          |                |
|  |                  | 2SCM*PNL304B              | 2,4          |                |
|  |                  | 2SCM*PNL305B              | 2,4          |                |
|  |                  | 2SCM*XD301B               | 2,4          |                |
|  |                  | 2SCM*XD302B               | 2,4          |                |
|  |                  | 2SCM*XD303B               | 2,4          |                |
|  |                  | 2SCM*XD304B               | 2,4          |                |
|  |                  | 2SCM*XD305B               | 2,4          |                |
|  | 377NW            | 2VBS*PNL301B              | 2,4          |                |
|  |                  | 2VBS*PNLB103              | 2,4          |                |
|  |                  | CABLES                    | 2,4          |                |

ADD ALL INFO FROM PG. 9 OF THIS  
TABLE UNDER FA18



Nine Mile Point Unit 2 FSAR

TABLE 9B.8-1 (Cont)

| <u>Fire Area</u>         | <u>Fire Zone</u> | <u>Required Equipment</u> | <u>Train</u> | <u>Remarks</u> |
|--------------------------|------------------|---------------------------|--------------|----------------|
| FA19<br>Control<br>Bldg. | 323NW            | 2*JB5015                  | 2,4          |                |
|                          |                  | 2*JB5019                  | 2,4          |                |
|                          |                  | 2*JB5026                  | 2,4          |                |
|                          |                  | 2*JB5040                  | 2,4          |                |
|                          |                  | 2*JB5044                  | 2,4          |                |
|                          |                  | 2*JB5050                  | 2,4          |                |
|                          |                  | 2*JB5082                  | 2,4          |                |
|                          |                  | 2*JB5094                  | 2,4          |                |
|                          |                  | 2*JB5105                  | 2,4          |                |
|                          |                  | 2*JB5124                  | 2,4          |                |
|                          |                  | 2*JB5138                  | 2,4          |                |
|                          |                  | 2*JB5163                  | 2,4          |                |
|                          |                  | 2*JB8075                  | 2,4          |                |
|                          |                  | 2*JB8077                  | 2,4          |                |
|                          |                  | 2*JB8079                  | 2,4          |                |
|                          |                  | 2*JB8081                  | 2,4          |                |
|                          |                  | 2*JB8083                  | 2,4          |                |
|                          |                  | 2*JB8085                  | 2,4          |                |
|                          |                  | 2*JB8092                  | 2,4          |                |
|                          |                  | 2HVC*AOD178               | 2,4          |                |
|                          |                  | 2HVC*AOD179               | 2,4          |                |
|                          |                  | 2HVC*AOD214               | 2,4          |                |
|                          |                  | 2HVC*AOD215               | 2,4          |                |
|                          |                  | 2HVC*FS196                | 2,4          |                |
|                          |                  | 2HVC*SOV178               | 2,4          |                |
|                          |                  | 2HVC*SOV179               | 2,4          |                |
|                          |                  | 2HVC*SOV214               | 2,4          |                |
|                          |                  | 2HVC*SOV215               | 2,4          |                |
|                          |                  | 2HVC*TE198                | 2,4          |                |
|                          |                  | 2HVC*UC107                | 2,4          |                |
|                          |                  | 2SWP*AOV574               | 2,4          |                |
|                          |                  | 2SWP*SOV574               | 2,4          |                |
|                          | 335NZ            | 2*JB5021                  | 2,4          |                |
|                          |                  | 2*JB5155                  | 2,4          |                |
|                          |                  | 2BYS*BAT2B                | 2,4          |                |
|                          | 336XL            | 2HVS*UC101B               | 2,4          |                |
|                          |                  | 2HVC*UC108B               | 2,4          |                |
|                          |                  | 2SWP*AOV154B              | 2,4          |                |
|                          |                  | 2SWP*AOV78B               | 2,4          |                |
|                          |                  | 2SWP*SOV154B              | 2,4          |                |
|                          |                  | 2SWP*SOV78B               | 2,4          |                |
|                          |                  | 2BYS*CHGR2B1              | 2,4          |                |
|                          |                  | 2BYS*CHGR2B2              | 2,4          |                |
|                          |                  | 2BYS*SWG002B              | 2,4          |                |
|                          |                  | 2EHS*MCC303               | 2,4          |                |

ADD:

326NW

ADD ALL INFO  
FROM Pg. 35





Nine Mile Point Unit 2 FSAR

TABLE 9B.8-1 (Cont)

| <u>Fire Area</u>         | <u>Fire Zone</u> | <u>Required Equipment</u> | <u>Train</u> | <u>Remarks</u> |
|--------------------------|------------------|---------------------------|--------------|----------------|
| FA22<br>Control<br>Bldg. | 325NW            | 2*JB5049                  | 1,3          |                |
|                          | 340NZ            | 2*JB5069                  | 1,3          |                |
|                          |                  | 2*JB5116                  | 1,3          |                |
|                          |                  | 2*JB5117                  | 2,4          | NOTE 3         |
|                          |                  | 2EJS*PNL102A              | 1,3          |                |
|                          |                  | 2HVC*AOD54A               | 1,3          |                |
|                          |                  | 2HVC*AOD54B               | 2,4          | NOTE 3         |
|                          |                  | 2HVC*FS56A                | 1,3          |                |
|                          |                  | 2HVC*FS56B                | 2,4          | NOTE 3         |
|                          |                  | 2HVC*FS56C                | 2,4          | NOTE 3         |
|                          |                  | 2HVC*FS56D                | 1,3          |                |
|                          |                  | 2HVC*SOV54A               | 1,3          |                |
|                          |                  | 2HVC*SOV54B               | 2,4          | NOTE 3         |
|                          |                  | 2HVC*TIS29A               | 1,3          |                |
|                          |                  | 2HVC*UC103A               | 1,3          |                |
|                          |                  | 2HVK*CHL1A                | 1,3          |                |
|                          |                  | 2HVK*FE15A                | 1,3          |                |
|                          |                  | 2HVK*FT15A                | 1,3          |                |
|                          |                  | 2HVK*LS16A                | 1,3          |                |
|                          |                  | 2HVK*LS41A                | 1,3          |                |
|                          |                  | 2HVK*P1A                  | 1,3          |                |
|                          |                  | 2HVK*RV14A                | 1,3          |                |
|                          |                  | 2HVK*TC18A                | 1,3          |                |
|                          |                  | 2SWP*FT29A                | 1,3          |                |
|                          |                  | 2SWP*MOV67A               | 1,3          |                |
|                          |                  | 2SWP*PT79A                | 1,3          |                |
|                          |                  | 2SWP*P2A                  | 1,3          |                |
|                          |                  | 2SWP*TE35A                | 1,3          |                |
|                          |                  | 2SWP*TE91A                | 1,3          |                |
|                          |                  | 2SWP*TV35A                | 1,3          |                |
|                          |                  | CABLES                    | 1,3          |                |
|                          |                  | CABLES                    | 2,4          | NOTE 3         |



Nine Mile Point Unit 2 FSAR

TABLE 9B.8-1 (Cont)

| <u>Fire Area</u>         | <u>Fire Zone</u> | <u>Required Equipment</u> | <u>Train</u> | <u>Remarks</u>                            |
|--------------------------|------------------|---------------------------|--------------|---|
| FA23<br>Control<br>Bldg. | 326NW            | 2*JB5017                  | 2,4          | ← MOVE TO<br>PG. 30, ADD<br>UNDER<br>FA19 |
|                          |                  | 2*JB8016                  | 2,4          |   |
|                          |                  | 2*JB8017                  | 2,4          |   |
|                          |                  | 2*JB8029                  | 2,4          |   |
|                          | 341NZ            | 2*JB5070                  | 2,4          |   |
|                          |                  | 2EJS*PNL301B              | 2,4          |   |
|                          |                  | 2HVC*TIS29B               | 2,4          |   |
|                          |                  | 2HVC*UC103B               | 2,4          |   |
|                          |                  | 2HVK*CHL1B                | 2,4          |   |
|                          |                  | 2HVK*FE15B                | 2,4          |   |
|                          |                  | 2HVK*FT15B                | 2,4          |   |
|                          |                  | 2HVK*LS16B                | 2,4          |   |
|                          |                  | 2HVK*P1B                  | 2,4          |   |
|                          |                  | 2HVK*TC18B                | 2,4          |   |
|                          |                  | 2SWP*FT29B                | 2,4          |   |
|                          |                  | 2SWP*MOV67B               | 2,4          |   |
|                          |                  | 2SWP*PT79B                | 2,4          |   |
|                          |                  | 2SWP*P2B                  | 2,4          |   |
|                          |                  | 2SWP*TE35B                | 2,4          |   |
|                          |                  | 2SWP*TE91B                | 2,4          |   |
|                          |                  | 2SWP*TV35B                | 2,4          |   |
|                          |                  | CABLES                    | 2,4          |   |



# Nine Mile Point Unit 2 FSAR

TABLE 9B.8-1 (Cont)

| <u>Fire Area</u>                       | <u>Fire Zone</u> | <u>Required Equipment</u>                            | <u>Train</u>                             | <u>Remarks</u>                           |
|--|------------------|--|--|--|
| FA34 ← 50<br>Main<br>Steam<br>Tunnel ✓ | 256NZ            | 2MSS*HYV7A<br>2MSS*HYV7B<br>2MSS*HYV7C<br>2MSS*HYV7D | 1,2,3,4<br>1,2,3,4<br>1,2,3,4<br>1,2,3,4 | NOTE 14<br>NOTE 14<br>NOTE 14<br>NOTE 14 |



Nine Mile Point Unit 2 FSAR

TABLE 9B.8-1 (Cont)

| <u>Fire Area</u>                                       | <u>Fire Zone</u>                | <u>Required Equipment</u>   | <u>Train</u>   | <u>Remarks</u> |
|--|---------------------------------|---|--|----------------|
| FA48<br>Elec.<br>Tunnel<br>Vent Room, Div I<br>El 237' | <del>236NZ</del><br><u>NONE</u> | NONE  | —  |                |
| FA55<br>Elec Tunnel<br>Vent Room,<br>Div II<br>El 237' | 237NZ                           | 2*JB0359<br>2*JB0578<br>2*JB5125<br>2HVC*AOD192<br>2HVC*AOD193<br>2HVC*FS161<br>2HVC*SOV192<br>2HVC*SOV193<br>2HVC*TE165<br>2HVC*UC105<br>2SWP*AOV571<br>2SWP*SOV571    | 2,4<br>2,4<br>2,4<br>2,4<br>2,4<br>2,4<br>2,4<br>2,4<br>2,4<br>2,4<br>2,4<br>2,4 |                |
|  | 361NZ                           | 2*JB8148<br>2*JB8149<br>2SWP*FT523<br>2SWP*FT533<br>2SWP*MOV47B<br>2SWP*MOV92B<br>2SWP*MOV93B<br>2SWP*PT142B<br>2SWP*PT54B<br>2SWP*PV54B<br>2SWP*RE146B<br>2SWP*RUW146B | 1,3<br>2,4<br>2,4<br>2,4<br>2,4<br>2,4<br>2,4<br>2,4<br>2,4<br>2,4<br>2,4<br>2,4 | NOTE 10        |
|  | 362NZ                           | 2CSH*LT3A<br>2CSH*LT3B<br>CABLES  | 1,2<br>1,2<br>2,4  |                |
|  | 362NZ                           | CABLES  | 1,3  | NOTE 12        |





Nine Mile Point Unit 2 FSAR

TABLE 9B.8-1 (Cont)

| <u>Fire Area</u> | <u>Fire Zone</u> | <u>Required Equipment</u> | <u>Train</u> | <u>Remarks</u> |
|------------------|------------------|---------------------------|--------------|----------------|
|                  |                  | 2ISC*LT9A                 | 1,3          |                |
|                  |                  | 2ISC*LT9C                 | 1,3          |                |
|                  |                  | 2ISC*PT15D                | 1,3          |                |
|                  |                  | 2ISC*PT17A                | 1,3          |                |
|                  |                  | 2ISC*PT17C                | 1,3          |                |
|                  |                  | 2ISC*PT2A                 | 1,3          |                |
|                  |                  | 2ISC*PT2B                 | 1,3          |                |
|                  |                  | 2ISC*PT4C                 | 1,3          |                |
|                  |                  | 2ISC*PT4D                 | 1,3          |                |
|                  |                  | 2ISC*PT5A                 | 1,3          |                |
|                  |                  | 2ISC*PT5D                 | 1,3          |                |
|                  |                  | 2ISC*PT6A                 | 1,3          |                |
|                  |                  | 2RHS*PDT24A               | 1,3          |                |
|                  |                  | 2RSS*LT114                | 1,3          |                |
|                  |                  | 2RSS*PT102                | 1,3          |                |
|                  | 252SW            | 2*JB0064                  | 1,3          |                |
|                  |                  | 2*JB0067                  | 1,3          |                |
|                  |                  | 2*JB0121                  | 1,3          |                |
|                  |                  | 2*JB0122                  | 1,3          |                |
|                  |                  | 2*JB0123                  | 1,3          |                |
|                  |                  | 2*JB0340                  | 1,3          |                |
|                  |                  | 2*JB0346                  | 1,3          |                |
|                  |                  | 2*JB0814                  | 1,3          |                |
|                  |                  | 2CSL*MOV104               | 3            |                |
|                  |                  | 2HVR*AOD1A                | 1,3          |                |
|                  |                  | 2HVR*AOD204               | 1,3          |                |
|                  |                  | 2HVR*AOD34A               | 1,3          |                |
|                  |                  | 2HVR*AOD6A                | 1,3          |                |
|                  |                  | 2HVR*AOD9A                | 1,3          |                |
|                  |                  | 2HVR*SOV1A                | 1,3          |                |
|                  |                  | 2HVR*SOV204               | 1,3          |                |
|                  |                  | 2HVR*SOV34A               | 1,3          |                |
|                  |                  | 2HVR*SOV6A                | 1,3          |                |
|                  |                  | 2HVR*SOV9A                | 1,3          |                |
|                  |                  | 2HVR*TIS31A               | 1,3          |                |
|                  |                  | 2HVR*UC413A               | 1,3          |                |
|                  |                  | 2ICS*AOV156               | 1            |                |
|                  |                  | 2ICS-LT221                | 1            |                |
|                  |                  | 2RHS*MOV24A               | 1,3          |                |
|                  |                  | 2RHS*V143                 | 2,4          | NOTE 6         |
|                  |                  | 2RHS*V70                  | 1,3          |                |
|                  |                  | 2SWP*AOV97A               | 1,3          |                |
|                  |                  | 2SWP*SOV97A               | 1,3          |                |
|                  |                  | 2HVR*UC413B               | 2,4          | NOTE 15        |
|                  | 261N2            | 2*JB0600                  | 1,3          |                |
|                  |                  | 2SFC*V227A                | 1,3          |                |

TYPING CHANGE ONLY  
ISC

SW



Nine Mile Point Unit 2 FSAR

TABLE 9B.8-1 (Cont)

| <u>Fire Area</u>                     | <u>Fire Zone</u> | <u>Required Equipment</u> | <u>Train</u> | <u>Remarks</u> |
|--------------------------------------|------------------|---------------------------|--------------|----------------|
|                                      | 271SW            | 2SFC*V227B                | 2,4          | NOTE 6         |
|                                      |                  | 2*JB0019                  | 1,3          |                |
|                                      |                  | 2*JB0027                  | 1,3          |                |
|                                      |                  | 2*JB0448                  | 1,3          |                |
|                                      |                  | 2*JB0450                  | 1,3          |                |
|                                      |                  | 2SFC*AOV19A               | 1,3          |                |
|                                      |                  | 2SFC*AOV33A               | 1,3          |                |
|                                      |                  | 2SFC*HV35A                | 1,3          |                |
|                                      |                  | 2SFC*HV54A                | 1,3          |                |
|                                      |                  | 2SFC*LS33A                | 1,3          |                |
|                                      |                  | 2SFC*LS33C                | 1,3          |                |
|                                      |                  | 2SFC*LS34A                | 1,3          |                |
|                                      |                  | 2SFC*LT32A                | 1,3          |                |
|                                      |                  | 2SFC*SOV19A               | 1,3          |                |
|                                      |                  | 2SFC*SOV33A               | 1,3          |                |
|                                      |                  | 2SFC*SOV35A               | 1,3          |                |
|                                      |                  | 2SFC*SOV54A               | 1,3          |                |
|                                      |                  | 2SFC*TE31A                | 1,3          |                |
|                                      |                  | 2SFC*V100B                | 1,3          |                |
|                                      |                  | 2SFC*V101B                | 1,3          |                |
|                                      |                  | 2SFC*V102B                | 1,3          |                |
|                                      |                  | 2SFC*V260A                | 1,3          |                |
|                                      | 273SW            | 2SFC-LT2A                 | 1,3          |                |
|                                      |                  | 2SFC*LT32B                | 2,4          | NOTE 1         |
|                                      |                  | 2SFC*V100A                | 1,3          |                |
|                                      |                  | 2SFC*V101A                | 1,3          |                |
|                                      |                  | 2SFC*V102A                | 2,4          | NOTE 6         |
|                                      |                  | 2SFC*V104B                | 1,3          |                |
|                                      |                  | 2SFC*V105B                | 1,3          |                |
|                                      |                  | 2SFC*V107                 | 2,4          | NOTE 6         |
|                                      |                  | 2SFC*V148A                | 1,3          |                |
|                                      |                  | 2SFC*V260B                | 2,4          | NOTE 6         |
|                                      |                  | 2SFC*V9                   | 1,3          |                |
|                                      | 281NZ            | 2HVR*AOD10A               | 1,3          |                |
|                                      |                  | 2HVR*SOV10A               | 1,3          |                |
|                                      |                  | CABLES                    | 1,3          |                |
| FA87<br>SFC Pump<br>Room A<br>DIV. 1 | 287SW<br>FA087*  | 2SFC*P1A                  | 1,3          |                |
|                                      |                  | 2SFC*FE58A                | 1,3          |                |
|                                      |                  | 2SFC*FT58A                | 1,3          |                |
|                                      |                  | 2SFC*PI60A                | 1,3          |                |
|                                      |                  | 2SFC*RA10A                | 1,3          |                |
|                                      |                  | CABLES                    | 1,3          |                |

Amendment 23

67 of 75

December 1985

\*This zone number is used for editorial purposes only

ADD



Nine Mile Point Unit 2 FSAR

TABLE 9B.8-1 (Cont)

| <u>Fire Area</u> | <u>Fire Zone</u> | <u>Required Equipment</u> | <u>Train</u> | <u>Remarks</u> |
|------------------|------------------|---------------------------|--------------|----------------|
|                  | SW<br>262N2      | 2SFC-PI60B                | 2,4          |                |
|                  | 274SW            | 2SFC*V7                   | 2,4          |                |
|                  |                  | 2SFC*V229                 | 2,4          |                |
|                  |                  | CABLES                    | 2,4          |                |

11



Nine Mile Point Unit 2 FSAR

TABLE 9B.8-1 (Cont)

LEGEND OF NOTES (Cont)

NOTE 9

This equipment is failsafe design; therefore, safe shutdown capability exists.

NOTE 10

The junction box feeds failsafe design equipment; therefore, safe shutdown capability exists.

NOTE 11

The equipment is not required for safe shutdown in case of a fire in this fire area. It is required only during operation from the remote shutdown room. Therefore, safe shutdown capability exists.

NOTE 12

In case of a fire in this fire subarea, this equipment will be operated manually through proper administrative procedure.

NOTE 13

In case of a fire in this area, pool cooling will be initiated through proper administrative procedure.

NOTE 14

In case of loss of these outboard isolation valves, inboard isolation valves are available to close the main steam lines.

NOTE 15

The unmitigated fire load in fire zone 252 SW is less than 1 minute. A concrete barrier is provided between 2HVR\*UC413A and 2HVR\*UC413B. The wall is 2-ft thick, extends 1.25 ft above the top, 8 ft beyond the end of each unit cooler which contains the fan motor, and 1 ft beyond the opposite end.

The unit coolers are noncombustible except for motor insulation which is contained within the steel fan casing. The only credible fire (involving motor insulation) would be contained within the casing and would not involve both unit coolers.





Nine Mile Point Unit 2 FSAR

TABLE 9B.8-2

RESULTS OF FIRE PROTECTION ANALYSIS FOR  
SAFE SHUTDOWN CAPABILITY  
IN ACCORDANCE WITH 10CFR50 APPENDIX R

BALANCE OF PLANT AREAS

23

Fire Area FA1, Auxiliary Bay North, El 175 <sup>2</sup>FE, 198, 215, 240 Ft

Fire Zones in This Fire Area

|       |                         |
|-------|-------------------------|
| 201SW | LPCS room               |
| 202SW | RHS room                |
| 203SW | RHS heat exchanger room |

ADD

Proposed Modifications

The following equipment/cables are being modified in accordance with methods outlined in Section 9B.6 to bring this fire area into compliance with Section III.G.2 of Appendix R:

NONE

Conclusions

In case of a fire in this fire area, safe shutdown capability exists through safe shutdown trains 2 and 4.

211 SW

221 SW

231 SW

North Auxiliary Bay EL 198 Ft

Auxiliary Bay, North Access Area B, EL 215 Ft

North Auxiliary Bay, Electrical Room, EL 240 Ft



Nine Mile Point Unit 2 FSAR

TABLE 9B.8-2 (Cont)

Fire Area FA3, Auxiliary Bay South, El 175, <sup>2</sup>198, 215, 240 FT

Fire Zones in This Fire Area

|       |                         |
|-------|-------------------------|
| 206SW | RHS heat exchanger room |
| 207SW | RHS pump room B         |
| 208SW | RHS pump room C         |

ADD

Proposed Modifications

The following equipment/cables are being modified in accordance with methods outlined in Section 9B.6 to bring this fire area into compliance with Section III.G.2 of Appendix R:

NONE

Conclusions

In case of a fire in this fire area, safe shutdown capability exists through safe shutdown trains 1 and 3.

{ 214SW South Auxiliary Bay, El 198 Ft  
224SW Auxiliary Bay, South Access Area B, El 215 Ft  
239SW South Auxiliary Bay, Electrical Room, El 240 Ft



Nine Mile Point Unit 2 FSAR

TABLE 9B.8-2 (Cont)

Fire Area FA7 <sup>FA8</sup> Electrical Tunnel

Fire Zones in This Fire Area

302NW

Electrical tunnel, 35°

Proposed Modifications

The following equipment/cables are being modified in accordance with methods outlined in Section 9B.6 to bring this fire area into compliance with Section III.G.2 of Appendix R:

NONE

Conclusions

In case of a fire in this fire area, safe shutdown capability exists through safe shutdown trains 2 and 4.



Nine Mile Point Unit 2 FSAR

TABLE 9B.8-2 (Cont)

Fire Area FAS, Electrical Tunnel

Fire Zones in This Fire Area

301NW

Electrical tunnel, 140°

302NW

ELECTRICAL TUNNEL, 35°

Proposed Modifications

The following equipment/cables are being modified in accordance with methods outlined in Section 9B.6 to bring this fire area into compliance with Section III.G.2 of Appendix R:

NONE

Conclusions

In case of a fire in this fire area, safe shutdown capability exists through safe shutdown trains 2 and 4.





TABLE 9B.8-2 (Cont)

Fire Area FA9 Electrical Tunnel

Fire Zones in This Fire Area

304NW

Electrical tunnel, 230°

Proposed Modifications

The following equipment/cables are being modified in accordance with methods outlined in Section 9B.6 to bring this fire area into compliance with Section III.G.2 of Appendix R:

NONE

Conclusions

In case of a fire in this fire area, safe shutdown capability exists through safe shutdown trains 1 and 3.

COMBINE THIS PG  
WITH PG. 21  
UNDER FA18



Nine Mile Point Unit 2 FSAR

TABLE 9B.8-2 (Cont)

Fire Area FA5, Auxiliary Bay North, El 198 Ft

Fire Zones in This Fire Area

211SW

Access area

Proposed Modifications

The following equipment/cables are being modified in accordance with methods outlined in Section 9B.6 to bring this fire area into compliance with Section III.G.2 of Appendix R:

NONE

Conclusions

In case of a fire in this fire area, safe shutdown capability exists through safe shutdown trains 2 and 4.



Nine Mile Point Unit 2 FSAR

TABLE 9B.8-2 (Cont)

Fire Area FA11, Auxiliary Bay North, El 215 Ft

Fire Zones in This Fire Area

231SW

Electrical room

Proposed Modifications

The following equipment/cables are being modified in accordance with methods outlined in Section 9B.6 to bring this fire area into compliance with Section III.G.2 of Appendix R:

NONE

Conclusions

In case of a fire in this fire area, safe shutdown capability exists through safe shutdown trains 2 and 4.

11



TABLE 9B.8-2 (Cont)

Fire Area FA37, Auxiliary Bay North, El 215 Ft

Fire Zones in This Fire Area

221SW

Access area

Proposed Modifications

The following equipment/cables are being modified in accordance with methods outlined in Section 9B.6 to bring this fire area into compliance with Section III.G.2 of Appendix R:

NONE

Conclusions

In case of a fire in this fire area, safe shutdown capability exists through safe shutdown trains 2 and 4.

11





Nine Mile Point Unit 2 FSAR

TABLE 9B.8-2 (Cont)

Fire Area FA6, Auxiliary Bay South, El 198 Ft

Fire Zones in This Fire Area

214SW

General area, el 198 ft

Proposed Modifications

The following equipment/cables are being modified in accordance with methods outlined in Section 9B.6 to bring this fire area into compliance with Section III.G.2 of Appendix R:

11

NONE

Conclusions

In case of a fire in this fire area, safe shutdown capability exists through safe shutdown trains 1 and 3.



Nine Mile Point Unit 2 FSAR

TABLE 9B.8-2 (Cont)

Fire Area FA12, Auxiliary Bay South, El 240 Ft

Fire Zones in This Fire Area

239SW

Electrical room

Proposed Modifications

The following equipment/cables are being modified in accordance with methods outlined in Section 9B.6 to bring this fire area into compliance with Section III.G.2 of Appendix R:

NONE

Conclusions

In case of a fire in this fire area, safe shutdown capability exists through safe shutdown trains 1 and 3.

11



TABLE 9B.8-2 (Cont)

Fire Area FA41, Auxiliary Bay South, El 215 Ft

Fire Zones in This Fire Area

224SW

Access area

Proposed Modifications

The following equipment/cables are being modified in accordance with methods outlined in Section 9B.6 to bring this fire area into compliance with Section III.G.2 of Appendix R:

NONE

Conclusions

In case of a fire in this fire area, safe shutdown capability exists through safe shutdown trains 1 and 3.



Nine Mile Point Unit 2 FSAR

TABLE 9B.8-2 (Cont)

Fire Area FA16, Control Building

Fire Zones in This Fire Area

|       |                                   |
|-------|-----------------------------------|
| 306NZ | Cable chase west, el 214 ft       |
| 312NW | Control building vault, el 214 ft |
| 321NW | Cable chase west, el 237 ft       |
| 332NW | Cable chase west, el 261 ft       |
| 352NW | Cable chase west, el 288 ft       |
| 371NW | Cable chase west, el 306 ft       |

23

Proposed Modifications

The following equipment/cables are being modified in accordance with methods outlined in Section 9B.6 to bring this fire area into compliance with Section III.G.2 of Appendix R:

NONE

Conclusions

In case of a fire in this fire area, safe shutdown capability exists through safe shutdown trains 2 and 4.





Nine Mile Point Unit 2 FSAR

TABLE 9B.8-2 (Cont)

Fire Area FA17, Control Building

Fire Zones in This Fire Area

|       |  |    |
|-------|--|----|
| 305NW | General area, el 214 ft                  | 23 |
| 322NW | Division I cable routing area, el 237 ft |    |
| 331NW | Corridor, el 261 ft                      |    |
| 333XL | Division I switchgear room, el 261 ft    |    |
| 334NZ | Division I battery room, el 261 ft       |    |

Proposed Modifications

325NW DIVISION I CABLE ROUTING AREA, el 244 ft

The following cables are being modified in accordance with methods outlined in Section 9B.6 to bring this fire area into compliance with Section III.G.2 of Appendix R:

NONE

23

Conclusion

In case of a fire in this fire area, safe shutdown capability exists through safe shutdown train 4.

23



Nine Mile Point Unit 2 FSAR

TABLE 9B.8-2 (Cont)

Fire Area FA18, Control Building

Fire Zones in This Fire Area

|              |                               |
|--------------|-------------------------------|
| <u>304NW</u> | <u>ELECTRICAL TUNNEL</u> 230° |
| 309NW        | Cable chase east, el 214 ft   |
| 324NW        | Cable chase east, el 237 ft   |
| 337NW        | Cable chase east, el 261 ft   |
| 359NW        | Cable chase east, el 288 ft   |
| 377NW        | Cable chase east, el 306 ft   |

Proposed Modifications

The following equipment/cables are being modified in accordance with methods outlined in Section 9B.6 to bring this fire area into compliance with Section III.G.2 of Appendix R:

NONE

Conclusions

In case of a fire in this fire area, safe shutdown capability exists through safe shutdown trains 1 and 3.

23




Nine Mile Point Unit 2 FSAR

TABLE 9B.8-2 (Cont)

Fire Area FA19, Control Building

Fire Zones in This Fire Area

ADD  323NW Division II cable routing area, el 237 ft  
335NZ Division II battery room, el 261 ft  
336XL Division II switchgear room, el 261 ft  
326NW DIVISION II CABLE ROUTING AREA, el 244 ft  
Proposed Modifications

The following equipment/cables are being modified in accordance with methods outlined in Section 9B.6 to bring this fire area into compliance with Section III.G.2 of Appendix R:

NONE

Conclusions

In case of a fire in this fire area, safe shutdown capability exists through safe shutdown train 3.



Nine Mile Point Unit 2 FSAR

TABLE 9B.8-2 (Cont)

Fire Area FA22, Control Building

Fire Zones in This Fire Area

325NW Division I cable routing area, el 244 ft  
340NZ Division I HVAC room, el 261 ft

Proposed Modifications

The following equipment/cables are being modified in accordance with methods outlined in Section 9B.6 to bring this fire area into compliance with Section III.G.2 of Appendix R:

NONE

Conclusions

In case of a fire in this fire area, safe shutdown capability exists through safe shutdown trains 2 and 4.

11





Nine Mile Point Unit 2 FSAR

TABLE 9B.8-2 (Cont)

Fire Area FA23, Control Building

Fire Zones in This Fire Area

|       |   |
|-------|---|
| 326NW | Division II cable routing area, el 244 ft |
| 341NZ | Division II HVAC room, el 261 ft          |

Proposed Modifications

The following equipment/cables are being modified in accordance with methods outlined in Section 9B.6 to bring this fire area into compliance with Section III.G.2 of Appendix R:

NONE

Conclusion

In case of a fire in this fire area, safe shutdown capability exists through safe shutdown trains 1 and 3.



Nine Mile Point Unit 2 FSAR

TABLE 9B.8-2 (Cont)

Fire Area FA24, Control Building, El 288 Ft  
See Section 9B.8.2 *P&CC RELAY ROOM*

23



Nine Mile Point Unit 2 ESAR

TABLE 9B.8-2 (Cont)

Fire Area <sup>50</sup>FA34 Main Steam Tunnel ✓

Fire Zones in This Fire Area

256NZ Main steam tunnel

Proposed Modifications

The following equipment/cables are being modified in accordance with methods outlined in Section 9B.6 to bring this fire area into compliance with Section III.G.2 of Appendix R:

NONE

Conclusion

In case of a fire in this fire area, safe shutdown capability exists through safe shutdown trains 1, 2, 3, and 4.



Nine Mile Point Unit 2 FSAR

TABLE 9B.8-2 (Cont)

Fire Subarea FSA34, Reactor Building, North Half

Fire Zones in This Fire Subarea

|                      |                         |
|----------------------|-------------------------|
| 212SW                | General area, el 175 ft |
| 222SW                | General area, el 215 ft |
| 232SW                | General area, el 240 ft |
| 243SW                | General area, el 261 ft |
| 252SW                | General area, el 288 ft |
| 261 <del>NZ</del> SW | General area, el 306 ft |
| 271SW                | General area, el 328 ft |
| 273SW                | General area, el 328 ft |
| 281NZ                | General area, el 328 ft |

11

Proposed Modifications

The following equipment/cables are being modified in accordance with methods outlined in Section 9B.6 to bring this fire subarea into compliance with Section III.G.2 of Appendix R:

NONE

Conclusions

In case of a fire in this fire area, safe shutdown capability exists through safe shutdown trains 2 and 4.





Nine Mile Point Unit 2 FSAR

TABLE 9B.8-2 (Cont)

Fire Subarea FSA35, Reactor Building, South Half

Fire Zones in This Fire Subarea

|                      |                         |
|----------------------|-------------------------|
| 213SW                | General area, el 175 ft |
| 223SW                | General area, el 215 ft |
| 238SW                | General area, el 240 ft |
| 245SW                | General area, el 261 ft |
| 255SW                | General area, el 288 ft |
| 262 <del>N2</del> SW | General area, el 306 ft |
| 274SW                | General area, el 328 ft |

Proposed Modifications

The following equipment/cables are being modified in accordance with methods outlined in Section 9B.6 to bring this fire subarea into compliance with Section III.G.2 of Appendix R:

NONE

23

Conclusions

In case of a fire in this fire area, safe shutdown capability exists through safe shutdown train 3 after modifications have been completed.



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heaters and in the feeds to the auxiliary steam system. These valves are swing check valves with external counterweighted lever arms and air cylinders and have a closing time of 0.1 sec. The air cylinders use air pressure to maintain a spring in compression. Upon release of the air pressure the spring provides enough force at the start of the stroke to overcome sticking and to place the swing disc in the flow stream. The spring will not close the valve against flow, but will provide sufficient motion to confirm operability. The air cylinder/spring does not prevent the disc from closing on reverse flow. Additionally, the extraction steam system is designed so that the total unrestrained energy in the piping and equipment volume is less than the turbine manufacturer's maximum value limit. Nonreturn valves are not supplied in the extraction lines to the fifth point feedwater heaters since the steam is prevented from expanding through any turbine stages by the combined intermediate valves. Nonreturn valves are not needed on the extraction lines to the second and first point heaters, since they contain insufficient stored energy to produce an unacceptable overspeed event.

27 |

The main stop valves, control valves, and combined intermediate valves are tested in accordance with the Technical Specifications. The extraction valves are tested for movement weekly. Internal inspection and maintenance will be performed in accordance with the five refueling cycle turbine and valve maintenance and inspection program. One of each type main steam valve will be disassembled and inspected at approximately 3 1/3-yr intervals.

The generator is a direct coupled, three-phase, 60-Hz, 25-kV, 1,800-rpm synchronous generator with a hydrogen-cooled rotor and a water-cooled stator. The generator is rated at 1,348,400 kVa, 0.90 power factor (p.f.), with a short circuit ratio of 0.58 and a maximum hydrogen pressure of 75 psig.

The exciter system is the Alterrex type. The alternator-exciter is a three-phase, 1,800-rpm, 60-Hz, air-cooled machine rated at 3,385 kW, 555 V with a response ratio of 0.5.

The turbine utilizes an EHC system consisting of conventional governing devices (two initial pressure regulators, speed governor, startup control devices), emergency devices for turbine and plant protection (overspeed governor, backup overspeed, master trip, low vacuum trips, motoring protection, thrust bearing wear



c. Distillate conductivity.

Overall system tests for the waste collector subsystem, the floor drain collector subsystem, and the regenerant waste subsystem establish the overall decontamination factor for the entire subsystem.

11.2.2.9 Summary

Over 225,000 gal of bulk storage capacity is available to collect and store the average liquid radwaste influent volumes of approximately 41,100 gpd. with an in-process inventory of approximately 5,000 gal. Storage facilities are also available to receive treated liquid. The treated liquid bulk storage capacity is 100,000 gal which allows sufficient time for sampling and disposal of approximately 2,040 gpd to the environs and recycling, 39,060 gpd to the condensate storage tank.

41,000

approximately 39,000

11.2.3 Radioactive Release and Doses

Table 11.2-5 is a tabulation of the expected annual liquid releases and conforms with the method and parameters given in NUREG-0016, Revision 1. The design base release from the liquid effluent stream in Ci/yr per nuclide is given in Table 11.2-6 and corresponds to operation with design failed fuel conditions as discussed in Section 11.1. The release is based on effluent discharge to the environs only through the waste collector subsystem, as liquid from all other subsystems eventually recycles to the waste collector tanks.

Tritium release from liquid pathways is anticipated at 52 Ci/yr.

11.2.3.1 Release Points

All process liquid releases from Unit 2 are fed into the service water system discharge bay that is directed to Lake Ontario. Figure 11.5-8 (Sheet 2) shows all systems that feed the discharge bay. Figure 11.2-1 shows the release point of each system to the discharge line. Figure 9.2-11 shows the physical location of the discharge into the lake.

21

11.2.3.2 Dilution Factors

The only dilution factor used in evaluating the release of radioactive liquid effluents is that provided by the cooling tower blowdown.

Treated radioactive effluents are diluted in the discharge bay with a blowdown flow of 13,400 gpm (2.67 x 10<sup>13</sup> cc/yr).

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control switches, and a system mimic display mounted on the face of the control panel. The panel will alarm and control all necessary components so the operator will have complete knowledge of system status. The system has been designed to operate completely unattended during normal operation. The control panel has alarm provisions for the following system parameters:

1. System inlet temperature.
2. System inlet pressure.
3. Preheater outlet temperature (low).
4. Preheater outlet temperature (high).
5. Catalytic recombiner outlet temperature.
6. Condenser outlet temperature.
7. Condenser outlet hydrogen concentration.
8. Condenser high level.
9. Condenser low level.
10. Freezeout dryer inlet hydrogen concentration.
11. Freezeout dryer outlet temperature.
12. Charcoal adsorber tanks - inlet moisture.
13. HEPA filter differential pressure.
14. Vacuum pump suction pressure.
15. Vacuum pump auto start.
16. Vacuum pump shutdown. *motor overload*
17. Auto switchover to standby train.
- 17 ~~18~~: System outlet flow.
- 18 ~~19~~: Pretreatment high radiation.

The off-gas control panel is located in the off-gas area in the turbine building. The control room has a trouble alarm which alarms on all the items noted in Section 11.3. In





TABLE 11.4-4

## SOLID WASTE MANAGEMENT SYSTEM MAJOR EQUIPMENT LIST

| <u>Component</u>                       | <u>Parameter</u>          |    |
|--|---------------------------|----|
| Waste sludge tank 2WSS-TK8             |                           | 25 |
| Number                                 | 1                         |    |
| Capacity, gal                          | 1,355                     | 25 |
| Material of construction               | Type 316L stainless steel |    |
| Asphalt storage tank 2WSS-TK2          |                           | 25 |
| Number                                 | 1                         |    |
| Capacity, gal                          | 10,800                    |    |
| Material of construction               | Carbon steel              |    |
| Extruder/evaporator 2WSS-EV25          |                           | 25 |
| Number                                 | 1                         |    |
| Capacity, gpm                          | Varies ( $\approx 1.0$ )  | 25 |
| Material of construction               | Mfg standard              |    |
| Asphalt metering pump 2WSS-P5A&B       |                           | 25 |
| Number                                 | 2                         |    |
| Capacity, gpm                          | 0.1-0.6                   |    |
| Material of construction               | Cast iron                 | 25 |
| Asphalt recirc pump 2WSS-P3A&B         |                           | 25 |
| Number                                 | 2                         |    |
| Capacity, gpm                          | 20                        | 25 |
| Material of construction               | Cast iron                 |    |
| Waste sludge transfer pump 2WSS-P11    |                           | 25 |
| Number                                 | 1                         |    |
| Capacity, gpm                          | 50                        |    |
| Material of construction               | Type 316 stainless steel  |    |
| Waste sludge metering pump 2WSS-P12A&B |                           | 25 |
| Number                                 | 2                         |    |
| Capacity, gpm                          | 0.2-0.9                   |    |
| Material of construction               | Type 316 stainless steel  |    |
| Decant pump 2WSS-P10                   |                           | 25 |
| Number                                 | 1                         |    |
| Capacity, gpm                          | 20 (40)                   | 25 |
| Material of construction               | Type 316 stainless steel  |    |



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TABLE 14.2-63  
FIRE PROTECTION CO<sub>2</sub>  
System 45

Test Objectives

1. To demonstrate the operation of the fire protection CO<sub>2</sub> system and components.
2. To ensure the system is properly designed and constructed.

Safety Precaution

Follow NMPC safety rules and proper procedures during testing.

Prerequisites

1. All applicable preliminary tests are completed and the system turned over to NMPC.
2. All applicable power sources to supply electric power to motors, control circuits, and instrumentation.
3. Valve lineups are completed.
4. The fire computer, fire detection, and ventilation systems are available to support testing.

Test Procedure

1. The CO<sub>2</sub> storage tanks are filled.
2. The CO<sub>2</sub> hose reels are verified for proper operation.
3. The CO<sub>2</sub> hazard valves are puff tested, with the CO<sub>2</sub> zone piping isolated and its bypass open, from the local fire panel, main fire panel, and associated detection zones in both manual and automatic modes of operation. Concentration tests are performed on total flooding systems as defined (unless otherwise noted), in section 9.5.1.2.9 are in accordance with NFPA 12-1985: Carbon dioxide systems.
4. The generator hydrogen and CO<sub>2</sub> subsystems are tested for CO<sub>2</sub> flow.



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TABLE 14.2-63 (Cont)

- 22 | 5. Alarms and annunciators are verified for proper response in conjunction with the various tests performed.

Acceptance Criteria

- 22 | 1. Total flooding systems automatically actuate on a signal from associated detectors, as described in Section 9.5.1.2.9.

2. Ventilation dampers associated with total flooding systems close on initiation of gas flow, as described in Section 9A.3.5.6.7.

3. CO<sub>2</sub> concentrations for total flooding systems are in accordance with NFPA Codes - Volume 1, Code 12: Carbon Dioxide Systems. *(as defined, (unless otherwise noted), in Section 9.5.1.2.9)*

- 22 | 4. Ventilation equipment associated with total flooding systems shut down on a fire signal, as described in Section 9A.3.5.6.7.



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TABLE 14.2-77 (Cont)

Acceptance Criteria

- 22 | 1. The SGTS starts automatically on any of the three signals described in Section 6.5.1.2.1.
- 22 | 2. The standby train of the SGTS starts automatically, as described in Section 6.5.1.5.
- 22 | 3. Each standby gas treatment system train can maintain reactor building pressure equal to or below -0.25 in. wg, as described in Section 6.2.3.1.
- 22 | 4. The secondary containment drawdown time to -0.25 in. wg is less than 90 sec. at a maximum of (3,600) cfm (see Technical Specification Section 3/4.6.5).

*or equal to*

120





TABLE 14.2-129 (Cont)

Acceptance Criteria

1. Systems required to operate during LOCA and/or loss of offsite power conditions operate within time and load requirements of their design, in accordance with Section 8.3.
  2. In the event one diesel generator becomes unavailable, the remaining two diesels will be capable of feeding the loads necessary for safe plant shutdown in accordance with Section 8.3.
  3. The failure of any one electrical division does not affect the operation of the others or their LOCA/containment isolation functions.
  4. The diesel generators can start and assume their LOCA/containment isolation and/or loss of power loads in the specified times and sequence while maintaining voltage and frequency within specified limits, from both cold (normal standby) and hot (operating) temperatures.
  5. On a <sup>speed</sup> loss of the largest single load the <sup>increase in the</sup> diesel generator does not ~~overspeed or~~ exceed 75 percent of the ~~overspeed setting, whichever is less.~~ | 26
  6. The design emergency loads can start and run properly under minimum and maximum ac voltage conditions.
  7. The temperatures on the larger power transformers does not exceed the transformer's maximum rated temperature while carrying maximum available load.
  8. Voltage drops from load centers to MCCs and MCCs to motor loads shall be within design requirements.
  9. The ECCS loads can be started, accelerated, and run while being supplied from normal offsite or standby ac power systems.
- difference between the nominal <sup>the</sup> speed and <sup>the overspeed</sup> trip set point or 15% of nominal, whichever is less.



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TABLE 14.2-225 (Cont)

1. F percent NBR at P psia.
2.  $[F \text{ percent} + A(P-P \text{ rated})]$  percent NBR at P rated psia.

The maximum flow, F, the pressure, P, and the slope of the flow variation with pressure, A, can be obtained from the plant parameters specified in Section 15.1.2.3.2.

Level 2:

The maximum valve position must be greater than the calculated position required to supply:

1. With rated complement of pumps - 115.5 percent NBR at 1,071 psia.
2. One feedwater pump tripped condition - 68 percent NBR at 1,021 psia.

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page



Mine Mile Point Unit 2 PSAR

TABLE 421.36-1

CONFORMANCE TO REGULATORY GUIDE 1.97

| SWEC/<br>GE-MED I.D.#    | Parameter<br>Description                 | Reg. Guide 1.97, Rev. 3 |                | Location                   | Sensor<br>Instr. Range              | Qualification  |                | QA<br>Class | Power<br>Supply | Display<br>Location | Notes   |
|--------------------------|--|-------------------------|----------------|----------------------------|-------------------------------------|----------------|----------------|-------------|-----------------|---------------------|---------|
|                          |  | Variable                | Classification |                            |                                     | Seismic        | Environmental  |             |                 |                     |         |
| B13-D193                 | Power Eng<br>Flux Level                  | B1a.                    | 1              | Core                       | 0.5-125% pwr                        | Yes            | Yes            | II          | Non-1E          | P603                | 1       |
|                          | Average Pwr Eng<br>Flux Lvl              | B1b.                    | 1              | N/A                        | 0-125% pwr                          | No             | No             | II          | Non-1E          | P603                | 2       |
| C51-M002A-H              | Inter-<br>mediate<br>Eng Flux<br>Level   | B1c.                    | 1              | Core                       | 4.0x10 <sup>-3</sup> -<br>12.6% Pwr | Yes            | Yes            | II          | Non-1E          | P603                | - 26    |
| C51-M001A-D              | Source Eng<br>Flux Level                 | B1d.                    | 1              | Core                       | 0.1-1x10 <sup>6</sup>               | <del>Yes</del> | <del>Yes</del> | II          | Non-1E          | P603                | -       |
|                          | Control Rod B2<br>Position               | B2                      | 3              | Core                       | Withdrawn<br>or<br>Scram            | Yes            | Yes            | II          | Non-1E          | P603                | -       |
|                          | Rx Coolant<br>Boron Conc                 | B3                      | 3              | Unit 1<br>H.P. Lab.        | 50-2,000<br>ppm                     | N/A            | N/A            | II          | Non-1E          | -                   | 4 26    |
| 2ISC*LT13A/<br>B22-M044A | Reactor Vsl<br>Level - A<br>(Fuel Zone)  | B4a.                    | 1              | Rx Bldg<br>(Sec<br>Contmt) | 230.64-<br>430.69"                  | Yes            | Yes            | I           | Div. 1          | P601                | S,41 26 |
| 2ISC*LT13B/<br>B22-M044B | Reactor Vsl<br>Level - B<br>(Fuel Zone)  | B4b.                    | 1              | Rx Bldg<br>(Sec<br>Contmt) | 230.69-<br>430.69"                  | Yes            | Yes            | I           | Div. 2          | P601                | S,41 26 |
| 2ISC*LT9A/<br>B22-M094A  | Reactor Vsl<br>Level - A<br>(Wide Range) | B4a                     | 1              | Rx Bldg<br>(Sec<br>Contmt) | 375.70-<br>585.70                   | Yes            | Yes            | I           | Div. 1          | P601                | S,41    |
| 2ISC*LT9B/<br>B22-M094B  | Reactor Vsl<br>Level - B<br>(Wide Range) | B4b                     | 1              | Rx Bldg<br>(Sec<br>Contmt) | 375.70-<br>585.70                   | Yes            | Yes            | I           | Div. 2          | P601                | S,41 26 |
| N/A<br>N/A               | Core<br>Temperature                      | B5                      | 1              | -                          | -                                   | -              | -              | -           | -               | -                   | 6       |



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TABLE 421.36-1 (Cont)

| SWEC/<br>GE-NED I.D.#                | Parameter<br>Description                         | Reg. Guide 1.97, Rev. 3 |                | Location                   | Sensor<br>Instr. Range | Qualification |               | QA<br>Class | Power<br>Supply | Display<br>Location | Notes             |
|--------------------------------------|--|-------------------------|----------------|----------------------------|------------------------|---------------|---------------|-------------|-----------------|---------------------|-------------------|
|                                      |  | Variable                | Classification |                            |                        | Seismic       | Environmental |             |                 |                     |                   |
| 2CMS*PT2A                            | Drywell<br>Pressure-A                            | B7a.                    | 1              | Rx Bldg<br>(Sec<br>Contmt) | 0-150<br>psig          | Yes           | Yes           | I           | Div. 1          | P601                | -                 |
| 2CMS*PT2B                            | Drywell<br>Pressure-B                            | B7b.                    | 1              | Rx Bldg<br>(Sec<br>Contmt) | 0-150<br>psig          | Yes           | Yes           | I           | Div. 2          | P898                | -   <sup>26</sup> |
| 2CMS*PT7A                            | Suppression<br>Chamber<br>Pressure-A             | B7c.                    | 1              | Rx Bldg<br>(Sec<br>Contmt) | 0-150<br>psig          | Yes           | Yes           | I           | Div. 1          | P601                | -                 |
| 2CMS*PT7B                            | Suppression<br>Chamber<br>Pressure-B             | B7d.                    | 1              | Rx Bldg<br>(Sec<br>Contmt) | 0-150<br>psig          | Yes           | Yes           | I           | Div. 2          | P898                | -   <sup>26</sup> |
| See Note 7                           | Drywell<br>Sump Level                            | B8                      | 1              | -                          | -                      | -             | -             | -           | -               | -                   | 7                 |
| 2CMS*PT1A                            | Primary<br>Containment<br>Pressure-A             | B9a.                    | 1              | Rx Bldg<br>(Sec<br>Contmt) | -5 to +5<br>psig       | Yes           | Yes           | I           | Div. 1          | P601                | 8                 |
| 2CMS*PT1B                            | Primary<br>Containment<br>Pressure-B             | B9b.                    | 1              | Rx Bldg<br>(Sec<br>Contmt) | -5 to +5<br>psig       | Yes           | Yes           | I           | Div. 2          | P601/<br>P898       | 8                 |
| H <sub>2</sub><br>2AAS*CV134,<br>135 | Primary<br>Containment<br>Vlv Isolation -<br>AAS | B10a1                   | 1              | N/A                        | N/A                    | Yes           | Yes           | I           | Div. 1          | P851                | -                 |
| H <sub>2</sub><br>2AAS*CV136,<br>137 | Primary<br>Containment<br>Vlv Isolation -<br>AAS | B10a1                   | 1              | N/A                        | N/A                    | Yes           | Yes           | I           | Div. 1          | P851                | -                 |
| 2CCP*MOV17A,<br>B;124, 265,<br>15A,B | Primary<br>Containment<br>Vlv Isolation -<br>CCP | B10b1                   | 1              | N/A                        | N/A                    | Yes           | Yes           | I           | Div. 1          | P602/<br>P873       | 37                |





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TABLE 421.36-1 (Cont)

| SWEC/<br>GE-MED I.D.#  | Parameter<br>Description                         | Reg. Guide 1.97, Rev. 3 |                | Sensor   |              | Qualification |               | QA<br>Class | Power<br>Supply | Display<br>Location | Notes |
|--|--|-------------------------|----------------|----------|--------------|---------------|---------------|-------------|-----------------|---------------------|-------|
|  |  | Variable                | Classification | Location | Instr. Range | Seismic       | Environmental |             |                 |                     |       |
| 2CCP*MOV16A,<br>B; 94A, B;<br>122, 273   | Primary<br>Containment<br>Vlv Isolation -<br>CCP | B10b2                   | 1              | N/A      | N/A          | Yes           | Yes           | I           | Div. 2          | P602/<br>P873       | 37    |
| 2CMS*SOV24A,<br>C; 26A, C; 32A;<br>33A; 34A; 35A;<br>60A, B; 61A, B                        | Primary<br>Containment<br>Isolation -<br>CMS     | B10c1                   | 1              | N/A      | N/A          | Yes           | Yes           | I           | Div. 1          | P873                | -     |
| 2CMS*SOV26B,<br>D; 26B, D; 32B;<br>33B; 34B; 35B;<br>61A, B; 63A, B                        | Primary<br>Containment<br>Isolation -<br>CMS     | B10c2                   | 1              | N/A      | N/A          | Yes           | Yes           | I           | Div. 2          | P875                | -     |
| 2CPS*AOV104,<br>105, 110, 111<br>*SOV119, 120  | Primary<br>Containment<br>Isolation -<br>CPS     | B10d1                   | 1              | N/A      | N/A          | Yes           | Yes           | I           | Div. 1          | P873                | -     |
| 2CPS* <sup>AOV</sup> <del>106</del> 106,<br>107, 108, 109<br>*SOV121, 122,<br>*SOV132, 133 | Primary<br>Containment<br>Isolation -<br>CPS     | B10d2                   | 1              | N/A      | N/A          | Yes           | Yes           | I           | Div. 2          | P875                | -     |
| 2CSH*AOV108<br>*MOV105, 107<br>111, 118<br>F005<br>-F012, F004,<br>F023, F015              | Primary<br>Containment<br>Isolation -<br>CSH     | B10e                    | 1              | N/A      | N/A          | Yes           | Yes           | I           | Div. 3          | P601                | -     |
| 2CSL*AOV101<br>*MOV104, 112<br>E21-F006<br>-F005, <sup>F074</sup> <del>F007</del>          | Primary<br>Containment<br>Isolation -<br>CSL     | B10f                    | 1              | N/A      | N/A          | Yes           | Yes           | I           | Div. 1          | P601                | -     |
| 2DER*MOV120,<br>131  | Primary<br>Containment<br>Isolation -<br>DER     | B10g1                   | 1              | N/A      | N/A          | Yes           | Yes           | I           | Div. 1          | P873                | -     |



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TABLE 421.36-1 (Cont)

| SWEC/<br>GE-NED I.D.#                | Parameter<br>Description                     | Reg. Guide 1.97, Rev. 3<br>Parameter |                | Location | Sensor |       | Qualification |               | QA<br>Class | Power<br>Supply | Display<br>Location | Notes |
|--------------------------------------|--|--------------------------------------|----------------|----------|--------|-------|---------------|---------------|-------------|-----------------|---------------------|-------|
|                                      |  | Variable                             | Classification |          | Instr. | Range | Seismic       | Environmental |             |                 |                     |       |
| 2DER*MOV119,<br>130                  | Primary<br>Containment<br>Isolation -<br>DER | B10g2.                               | 1              | N/A      | N/A    |       | Yes           | Yes           | I           | Div. 2          | P873                | -     |
| 2DPR*MOV120,<br>139                  | Primary<br>Containment<br>Isolation -<br>DPR | B10h1                                | 1              | N/A      | N/A    |       | Yes           | Yes           | I           | Div. 1          | P873                | -     |
| 2DPR*MOV121,<br>140                  | Primary<br>Containment<br>Isolation -<br>DPR | B10k1                                | 1              | N/A      | N/A    |       | Yes           | Yes           | I           | Div. 2          | P873                | -     |
| 2PPH*SOV218,<br>220                  | Primary<br>Containment<br>Isolation -<br>PPH | B10j1                                | 1              | N/A      | N/A    |       | Yes           | Yes           | I           | Div. 1          | P849                | 36    |
| 2PPH*SOV219,<br>221                  | Primary<br>Containment<br>Isolation -<br>PPH | B10j2                                | 1              | N/A      | N/A    |       | Yes           | Yes           | I           | Div. 2          | P849                | 36    |
| 2FWS*MOV21A,<br>B<br>222-P065A,B     | Primary<br>Containment<br>Isolation -<br>FWS | B10k1                                | 1              | N/A      | N/A    |       | Yes           | Yes           | I           | Div. 1          | P603                | -     |
| B → 2FWS*MOV23A,<br>B<br>222-P032A,B | Primary<br>Containment<br>Isolation -<br>FWS | B10k2.                               | 1              | N/A      | N/A    |       | Yes           | No            | II          | Non-1E          | P603                | 9     |
| B → 2GSN*SOV166                      | PRIMARY CONT ISOL-GSN                        |                                      | 1              | N/A      | N/A    |       | YES           | YES           | I           | DIV 1           | P603                | -     |
| 2HCS*MOV1A,<br>2A,3A,4A,<br>5A,6A    | Primary<br>Containment<br>Isolation -<br>HCS | B10L1                                | 1              | N/A      | N/A    |       | Yes           | Yes           | I           | Div. 1          | P873                | -     |
| 2HCS*MOV1B,<br>2B,3B,4B,<br>5B,6B    | Primary<br>Containment<br>Isolation -<br>HCS | B10L2                                | 1              | N/A      | N/A    |       | Yes           | Yes           | I           | Div. 2          | P875                | -     |



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TABLE 421.36-1 (Cont)

| SWEC/<br>GE-NED I.D.#  | Parameter<br>Description                     | Reg. Guide 1.97, Rev. 3 |                | Location | Sensor |       | Qualification |               | QA<br>Class | Power<br>Supply | Display<br>Location | Notes |
|--|--|-------------------------|----------------|----------|--------|-------|---------------|---------------|-------------|-----------------|---------------------|-------|
|  |  | Variable                | Classification |          | Instr. | Range | Seismic       | Environmental |             |                 |                     |       |
| 2IAS*SOV 164,<br>166, 167, 168   | Primary<br>Containment<br>Isolation -<br>IAS | B10m1                   | 1              | N/A      | N/A    |       | Yes           | Yes           | I           | Div. 1          | P601/<br>P851       | 38    |
| 2IAS*SOV 165,<br>180, 184, 185   | Primary<br>Containment<br>Isolation -<br>IAS | B10m2                   | 1              | N/A      | N/A    |       | Yes           | Yes           | I           | Div. 2          | P601/<br>P851       | 38    |
| ICS)<br>208*SOV 121,<br>122, 126, 136<br>143, 164<br>*AOV 156, 157<br>E51-P064, P068,<br>P013, P031, P019,<br>P080, E51-P065, P066 | Primary<br>Containment<br>Isolation -<br>ICS | B10n1                   | 1              | N/A      | N/A    |       | Yes           | Yes           | I           | Div. 1          | P601                | -     |
| 2ICS*SOV 128,<br>148, 170<br>E51-P063,<br>P086, P076   | Primary<br>Containment<br>Isolation -<br>ICS | B10n2                   | 1              | N/A      | N/A    |       | Yes           | Yes           | I           | Div. 2          | P601                | -     |
| 2LMS*SOV 153,<br>157   | Primary<br>Containment<br>Isolation -<br>LMS | B10p1                   | 1              | N/A      | N/A    |       | Yes           | Yes           | I           | Div. 1          | P873                | -     |
| 2LMS*SOV 152,<br>156   | Primary<br>Containment<br>Isolation -<br>LMS | B10p2                   | 1              | N/A      | N/A    |       | Yes           | Yes           | I           | Div. 2          | P875                | -     |
| 2HSS*SOV 112,<br>B22-P077, N/A<br>P019   | Primary<br>Containment<br>Isolation -<br>HSS | B10q1                   | 1              | N/A      | N/A    |       | Yes           | Yes           | I           | Div. 1          | P602                | - 42  |
| 2HSS*HYV 7A,<br>B, C, D<br>B22-P028A, B,<br>C, D   | Primary<br>Containment<br>Isolation -<br>HSS | B10q2                   | 1              | N/A      | N/A    |       | Yes           | Yes           | I           | RPS<br>Div. 1   | P602                | -     |



Nine Mile Point Unit 2 PSAR

TABLE 421.36-1 (Cont)

| SVEC/<br>GE-NED I.D.#   | Parameter<br>Description                              | Reg. Guide 1.97, Rev. 3 |                | Location | Sensor |       | Qualification        |               | OA<br>Class | Power<br>Supply | Display<br>Location | Notes |
|---|---|-------------------------|----------------|----------|--------|-------|----------------------|---------------|-------------|-----------------|---------------------|-------|
|   |   | Variable                | Classification |          | Instr. | Range | Seismic              | Environmental |             |                 |                     |       |
| 2HSS*MOV111<br>B22-P016   | Primary<br>Containment<br>Isolation -<br>MSS          | B10q3                   | 1              | N/A      | N/A    |       | Yes                  | Yes           | I           | Div. 2          | P602                | -     |
| 2HSS*HYV6A,<br>B,C,D<br>B22-P022A,B,<br>C,D   | Primary<br>Containment<br>Isolation -<br>MSS          | B10q4                   | 1              | N/A      | N/A    |       | Yes                  | Yes           | I           | RPS<br>Div 2    | P602                | -     |
| C51-J004A,B,<br>C,D,E   | Primary<br>Containment<br>Isolation -<br>MSS          | B10r                    | 1              | N/A      | N/A    |       | <del>YES</del><br>NO | No            | II          | Non-1E          | P607                | 10    |
| 2RCS*SOV65A,<br>B:66A,B:67A,<br>B:68A,B<br>2RCS*SOV66A<br>B35-P020  | Primary<br>Containment<br>Isolation -<br>RCS<br>105   | B10s1                   | 1              | N/A      | N/A    |       | Yes                  | Yes           | I           | Div. 1          | P602                | -     |
| 2RCS*SOV79A,<br>B:80A,B:81A,<br>B:82A,B<br>2RCS*SOV79A<br>B35-P019  | Primary<br>Containment<br>Isolation -<br>RCS<br>104   | B10s2                   | 1              | N/A      | N/A    |       | Yes                  | Yes           | I           | Div. 2          | P602                | -     |
| 2RHS*MOV1A,<br>15A,16A,24A,<br>25A,26A,27A,<br>30A,33A,34A<br>40A,67A,104,<br>113; *MOV16A,39A<br>B12-P004A,P016A,P041A,<br>P042A,P017A,P074A, <del>P077A</del><br>P105A,P027A,P050A,P053A<br>P099A,P023,P008 | Primary<br>Containment<br>Isolation -<br>RHS<br>F073A | B10t1                   | 1              | N/A      | N/A    |       | Yes                  | Yes           | I           | Div. 1          | P601                | -     |





**Nine Mile Point Unit 2 PSAR**

**TABLE 421.36-1 (Cont)**

| Reg. Guide 1.97, Rev. 3   |  |                       |                |          |                  |       |  |     |             |                 |                     |       |
|---|--|-----------------------|----------------|----------|------------------|-------|--|-----|-------------|-----------------|---------------------|-------|
| SWEC/<br>GE-NED I.D.#   | Parameter<br>Description                     | Parameter<br>Variable | Classification | Location | Sensor<br>Instr. | Range | Qualification<br>Seismic Environmental |     | QA<br>Class | Power<br>Supply | Display<br>Location | Notes |
| 24B,C<br>2RHS*MOV1B;<br>1C; 15B; <del>16B</del><br><del>21B</del> ; 25B;<br>26B; 27B; 30B; RHS <del>67B</del><br>33B; <del>40B</del> ; 40B; <del>112</del> ; *A0V16B,C; *A0V39B<br>E12-F004B,C; F016B;<br>F0418C; F042B,C; F017B; F074B;<br>F073B; F105B; <del>F077B</del> ; F050B;<br><del>F055B</del> ; F099B; F009 <del>F027B</del><br>F0533 | Primary<br>Containment<br>Isolation -<br>SAS | B10t2                 | 1              | N/A      | N/A              |       | Yes                                    | Yes | I           | Div. 2          | P601                | -     |
| 25AS*CV160,<br>161  | Primary<br>Containment<br>Isolation -<br>SAS | B10u1                 |                | N/A      | N/A              |       | Yes                                    | Yes | I           | Div. 1          | P851                | -     |
| 25AS*CV162,<br>163  | Primary<br>Containment<br>Isolation -<br>SAS | B10u2                 | 1              | N/A      | N/A              |       | Yes                                    | Yes | I           | Div. 1          | P851                | -     |
| 2SLS*MOV5A<br>C41-F006A   | Primary<br>Containment<br>Isolation -<br>SLS | B10v1                 | 1              | N/A      | N/A              |       | Yes                                    | Yes | I           | Div. 1          | P601                | -     |
| 2SLS*MOV5B<br>C41-F006A   | Primary<br>Containment<br>Isolation -<br>SLS | B10v2                 | 1              | N/A      | N/A              |       | Yes                                    | Yes | I           | Div. 2          | P601                | -     |
| 2WCS*MOV112,<br>200 <del>de</del><br>G33-F004,<br>P040  | Primary<br>Containment<br>Isolation -<br>WCS | B10w1                 | 1              | N/A      | N/A              |       | Yes                                    | Yes | I           | Div. 1          | P602                | -     |
| 2WCS*MOV102<br>G33-F001   | Primary<br>Containment<br>Isolation -<br>WCS | B10w2                 | 1              | N/A      | N/A              |       | Yes                                    | Yes | I           | Div. 2          | P602                | -     |



Wine Mile Point Unit 2 PSAR

TABLE 421.36-1 (Cont)

| SWEC/<br>GE-MED I.D.#           | Reg. Guide 1.97, Rev. 3                                   |                                      | Sensor   |              | Qualification |               | QA<br>Class | Power<br>Supply      | Display<br>Location | Notes      |
|---------------------------------|---|--------------------------------------|--|--------------|---------------|---------------|-------------|----------------------|---------------------|------------|
|                                 | Parameter<br>Description                                  | Parameter<br>Variable Classification | Location   | Instr. Range | Seismic       | Environmental |             |                      |                     |            |
| 2RMS-CAB170                     | Containment C13<br>Effluent<br>Radioactivity              | 3                                    | Main Stack Isotopic<br>Enclosure 100-1000<br>uci/cc      | -6 set       | No            | Yes           | II          | Non-1E P882          | 39                  |            |
| 2RMS-CAB180                     | Effluent C14<br>Radioactivity                             | 2                                    | Turb Bldg Isotopic<br>Turb Oper 100-1000<br>Floor uci/cc | -6 set       | No            | Yes           | II          | Non-1E P882<br>(UPS) | 39                  |            |
| W<br>2RMS-PT1A,B<br>C33-N001A,B | Main Feedwater<br>Flow -A,B                               | 3                                    | Turb Bldg Turb Bldg<br>0-8.5<br>lbs/hr<br>(each)         | -4           | No            | No            | II          | Non-1E P603          |                     |            |
| 2CMS-LT8A,B                     | Condensate D2<br>Storage Tk<br>Level - A, B               | 3                                    | Cond Stor 0-500<br>TK1A,TK1B K gal<br>(each)             |              | No            | No            | II          | Non-1E P851          | -                   |            |
| 2RMS*PT64A<br>E12-N091A         | Suppression D3a<br>Chamber<br>Spray<br>Header<br>Flow - A | 2                                    | Rx Bldg<br>(Sec<br>Contnt)                               | 0-450 gpm    | Yes           | Yes           | I           | Div. 1 P601          | -                   |            |
| 2RMS*PT64B<br>E12-N091B         | Suppression D3b<br>Chamber<br>Spray<br>Header<br>Flow - B | 2                                    | Rx Bldg<br>(Sec<br>Contnt)                               | 0-450 gpm    | Yes           | Yes           | I           | Div. 2 P601          | -                   |            |
| See Note 18                     | Drywell D4<br>Pressure                                    | 2                                    | -  | -            | -             | -             | -           | -                    | -                   | 18,41   26 |
| See Note 19                     | Suppression D5<br>Water Level<br>(Weir Well)              | 2                                    | -  | -            | -             | -             | -           | -                    | -                   | 19         |
| 2CMS*TE67A,<br>68A,69A,70A      | Suppression D6a<br>Pool Water<br>Temp-A                   | 2                                    | Suppression 50-<br>Pool 250°F                            |              | Yes           | Yes           | I           | Div. 1 P601          | 20,41   26          |            |
| 2CMS*TE67B,<br>68B,69B,70B      | Suppression D6b<br>Pool Water<br>Temp-B                   | 2                                    | Suppression 50-<br>Pool 250°F                            |              | Yes           | Yes           | I           | Div. 2 P601/<br>P598 | 20,41   26          |            |



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TABLE 421.36-1 (Cont)

| SWEC/<br>GE-NED I.D.#           | Parameter<br>Description   | Reg. Guide 1.97, Rev. 3 |                | Location   | Sensor<br>Instr. Range | Qualification |               | OA<br>Class | Power<br>Supply | Display<br>Location | Notes       |
|---------------------------------|--|-------------------------|----------------|--|------------------------|---------------|---------------|-------------|-----------------|---------------------|-------------|
|                                 |  | Variable                | Classification |  |                        | Seismic       | Environmental |             |                 |                     |             |
| 2CHS*TE101<br>thru<br>& inc 109 | Drywell<br>Atmos<br>Temp - A                                     | D7a                     | 2              | Drywell  | 0-400°F                | Yes           | Yes           | I           | Div. 1          | P873                | 20, 41   26 |
| 2CHS*TE116<br>thru<br>& inc 124 | Drywell<br>Atmos<br>Temp - B                                     | D7b                     | 2              | Drywell  | 0-400°F                | Yes           | Yes           | I           | Div. 2          | P875                | 20, 41   26 |
| 2RHS*PT63A<br>E12-NO92A         | Drywell<br>Spray<br>Header<br>Flow - A                           | D8a                     | 2              | Rx Bldg<br>(Sec<br>Contnt)                       | 0-7,950<br>gpa         | Yes           | Yes           | I           | Div. 1          | P601                | -           |
| 2RHS*PT63B<br>E12-NO92B         | Drywell<br>Spray<br>Header<br>Flow - B                           | D8b                     | 2              | Rx Bldg<br>(Sec<br>Contnt)                       | 0-7,950<br>gpa         | Yes           | Yes           | I           | Div. 2          | P601                | -           |
| See Note 19                     | Main Steam<br>Line   | D9                      | 2              | -  | -                      | -             | -             | -           | -               | -                   | 19          |
| See Note 19                     | Isolation Valve<br>Leakage Control<br>System Press               |                         |                |  |                        |               |               |             |                 |                     |             |
| 2SVV*2T220<br>237               | Primary<br>Safety<br>Relief<br>Valve<br>Position                 | D10a                    | 2              | Acoustic<br>Sensor on<br>Tail Pipe<br>(18 total) | -                      | Yes           | Yes           | I           | Div. 1          | *SVV-<br>PNL 140    | -           |
| 2IAS*PT181                      | Primary<br>Safety<br>Relief<br>Valve<br>ADS Header<br>Pressure-A | D10b                    | 2              | Rx Bldg<br>(Sec<br>Contnt)                       | 0-250<br>psig          | Yes           | Yes           | I           | Div. 1          | P601                | -           |
| 2IAS*PT230,<br>231,232          | Primary<br>Safety<br>Relief<br>Valve -<br>ADS Tank<br>Pressure   | D10c                    | 2              | Rx Bldg<br>(Sec<br>Contnt)                       | 0-200 psig             | Yes           | Yes           | I           | Div. 1          | P601                | -           |



Nine Mile Point Unit 2 PSAR

TABLE 421.36-1 (Cont)

Peg. Guide 1.97, Rev. 3

| SWEC/<br>GE-NED I.D.#          | Parameter<br>Description                                 | Parameter |                | Location                   | Sensor          |       | Qualification |               | QA<br>Class | Power<br>Supply | Display<br>Location | Notes  |
|--------------------------------|--|-----------|----------------|----------------------------|-----------------|-------|---------------|---------------|-------------|-----------------|---------------------|--------|
|                                |  | Variable  | Classification |                            | Instr.          | Range | Seismic       | Environmental |             |                 |                     |        |
| C-2<br>2SLS*PT113<br>C41-N007  | SLCS Flow  | D17       | 2              | Rx Bldg<br>(Sec<br>Contmt) | 0-86 gpm        |       | Yes           | Yes           | I           | Div. 1          | P601                | -      |
| 2SLS*LT103<br>C41-N001         | SLCS<br>Storage<br>Tank<br>Level                         | D18       | 2              | Rx Bldg<br>(Sec<br>Contmt) | 0-10,000<br>Gal |       | Yes           | Yes           | I           | Div. 1          | P601                | 40     |
| See Note 22<br>See Note 22     | RHR System<br>Flow                                       | D19       | 2              | -                          | -               | -     | -             | -             | -           | -               | -                   | 22     |
| 2RHS*TE13A<br>E12-N027A        | RHR Heat<br>Exchanger<br>Outlet<br>Temp - A              | D20a      | 2              | Rx Bldg<br>(Sec<br>Contmt) | 0-600°F         |       | NO<br>(YES)   | NO<br>(YES)   | II (I)      | Non-1E          | P601                | -   26 |
| 2RHS*TE13B<br>E12-N027B        | RHR Heat<br>Exchanger<br>Outlet<br>Temp - B              | D20b      | 2              | Rx Bldg<br>(Sec<br>Contmt) | 0-600°F         |       | NO<br>(YES)   | NO<br>(YES)   | II (I)      | Non-1E          | P601                | -   26 |
| 2SWP*TE31A                     | Cooling<br>Water Temp<br>to ESP System<br>Components - A | D21a      | 2              | Screen-<br>well Bldg       | 35-130°F        |       | Yes           | Yes           | I           | Div. 1          | P601                | 20     |
| 2SWP*TE31B                     | Cooling<br>Water Temp<br>to ESP System<br>Components - B | D21b      | 2              | Screen-<br>well Bldg       | 35-130°F        |       | Yes           | Yes           | I           | Div. 2          | P601                | 20     |
| 2SWP*PT13A<br>E12-N007A        | Cooling<br>Water Flow<br>to ESP System<br>Components - A | D22a      | 2              | Rx Bldg<br>(Sec<br>Contmt) | 0-10,000<br>gpm |       | Yes           | Yes           | I           | Div. 1          | P601                | 23     |
| B-2<br>2SWP*PT13B<br>E12-N007B | Cooling<br>Water Flow<br>to ESP System<br>Components - B | D22b      | 2              | Rx Bldg<br>(Sec<br>Contmt) | 0-10,000<br>gpm |       | Yes           | Yes           | I           | Div. 2          | P601                | 23     |





Mine Mile Point Unit 2 PSAR

TABLE 421.36-1 (Cont)

| SWEC/<br>GE-NED I.D.#           | Reg. Guide 1.97, Rev. 3   |                       | Variable | Classification | Sensor                 |                    | Qualification |               | QA<br>Class | Power<br>Supply | Display<br>Location    | Notes |
|---------------------------------|---|-----------------------|----------|----------------|------------------------|--------------------|---------------|---------------|-------------|-----------------|------------------------|-------|
|                                 | Parameter<br>Description  | Parameter<br>Variable |          |                | Location               | Instr. Range       | Seismic       | Environmental |             |                 |                        |       |
| 2SWP*PT76A                      | Cooling Water Flow to ESP System Components - Div. 1 <del>DSL</del> <b>FT 76B</b> | D22c                  | 2        |                | Diesel Gen. Bldg       | 0-860 gpm          | Yes           | Yes           | I           | Div. 1          | P852                   | 24    |
| 2SWP* <del>PT76A</del>          | Cooling Water Flow to ESP System Components - Div. 2 DSL                          | D22d                  | 2        |                | Diesel Gen. Bldg       | 0-860 gpm          | Yes           | Yes           | I           | Div. 2          | P852                   | 24    |
| 2SWP*PT535                      | Cooling Water Flow to ESP System Components - Div. 3 DSL                          | D22e                  | 2        |                | Diesel Gen. Bldg       | 0-650 gpm          | Yes           | Yes           | I           | Div. 2          | P852                   | 24    |
| 2LWS-2A, B, C; 26A, B; 276; 280 | High Radio-activity Liquid Tank Level   | D23                   | 3        |                | Radwaste Bldg          | 0-100%             | No            | No            | II          | Non-IE          | LWCS Computer Graphics | -     |
| 2HVR*AOD1A, 6A, 9A, 10A         | Emergency Ventilation Damper Position   | D24a                  | 2        |                | Rx Bldg (Sec Contnt)   | N/A                | Yes           | Yes           | I           | Div. 1          | P870                   | -     |
| 2HVR*AOD1B, 6B, 9B, 10B         | Emergency Ventilation Damper Position   | D24b                  | 2        |                | Rx Bldg (Sec Contnt)   | N/A                | Yes           | Yes           | I           | Div. 2          | P871                   | -     |
| N/R                             | Status of Stdby Pwr Sources - Battery Voltage - 1                                 | D25a                  | 2        |                | 2BYS* SWG002A          | 0-150 vdc          | Yes           | Yes           | I           | Div. 1          | P852                   | -     |
| 2BYS*E/E1A                      | Status of Stdy Pwr Sources - Battery Current - 1                                  | D25b                  | 2        |                | 2BYS* SWG000A <b>2</b> | -2000 to 3000 amps | Yes           | Yes           | I           | Div. 1          | P852                   | -     |



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TABLE 421.36-1 (Cont)

| SWEC/<br>GE-NED I.D.#   | Parameter<br>Description                                       | Reg. Guide 1.97, Rev. 3 |                | Sensor                           |                           | Qualification |               | QA<br>Class | Power<br>Supply | Display<br>Location | Notes |
|-------------------------|--|-------------------------|----------------|----------------------------------|---------------------------|---------------|---------------|-------------|-----------------|---------------------|-------|
|                         |  | Variable                | Classification | Location                         | Instr. Range              | Seismic       | Environmental |             |                 |                     |       |
| N/R                     | Status of<br>Stdbby Pwr<br>Sources -<br>Battery<br>Voltage - 2 | D25c                    | 2              | 2BYS*<br>SWG0002B<br>2           | 0-150 vdc                 | Yes           | Yes           | I           | Div. 2          | P852                | -     |
| 2BYS*E/E10 <sup>B</sup> | Status of<br>Stdbby Pwr<br>Sources -<br>Battery<br>Current - 2 | D25d                    | 2              | 2BYS*<br>SWG002B                 | -2000 to<br>+2000<br>amps | Yes           | Yes           | I           | Div. 2          | P852                | -     |
| N/R                     | Status of<br>Stdbby Pwr<br>Sources -<br>Battery<br>Voltage - 3 | D25e                    | 2              | 2CES*IPNL 414<br>2BYS*<br>PNL007 | 0-150 vdc                 | Yes           | Yes           | I           | Div. 3          | P852                | -     |
| 2BYS*E/E101             | Status of<br>Stdbby Pwr<br>Sources -<br>Battery<br>Current - 3 | D25f                    | 2              | 2CES*IPNL 414<br>2BYS*<br>PNL007 | -100 to<br>+100 amps      | Yes           | Yes           | I           | Div. 3          | P852                | -     |
| N/R                     | Status of<br>Stdbby Pwr<br>Sources -<br>UPS<br>Voltage - A     | D25g                    | 2              | VBA*<br>2BYS*<br>UPS2A           | 0 to 120<br>vac           | Yes           | Yes           | I           | Div. 1          | PP52                | -     |
| N/R                     | Status of<br>Stdbby Pwr<br>Sources -<br>UPS<br>Current - A     | D25h                    | 2              | VBA*<br>2BYS*<br>UPS2A           | 0 to 250<br>amps          | Yes           | Yes           | I           | Div. 1          | N/A                 | -     |
| N/R                     | Status of<br>Stdbby Pwr<br>Sources -<br>UPS<br>Voltage - B     | D25j                    | 2              | VBA*<br>2BYS*<br>UPS2B           | 0 to 120<br>vac           | Yes           | Yes           | I           | Div. 2          | P852                | -     |
| N/R                     | Status of<br>Stdbby Pwr  | D25k                    | 2              | VBA*<br>2BYS*<br>UPS2B<br>2      | 0 to 250<br>amps          | Yes           | Yes           | I           | Div. 2          | N/A                 | -     |



Nine Mile Point Unit 2 PSAR

TABLE 421.36-1 (Cont)

| SWEC/<br>GE-MED-I.D.# | Reg. Guide 1.97, Rev. 3                                     |          | Parameter      |                 | Sensor   |       | Qualification |               | QA<br>Class | Power<br>Supply | Display<br>Location | Notes |
|-----------------------|---|----------|----------------|-----------------|--|-------|---------------|---------------|-------------|-----------------|---------------------|-------|
|                       | Description   | Variable | Classification | Location        | Instr.   | Range | Seismic       | Environmental |             |                 |                     |       |
|                       | Sources -<br>UPS<br>Current - B                             |          |                |                 |  |       |               |               |             |                 |                     |       |
| N/R                   | Status of<br>Stdby Pwr<br>Sources -<br>600V Swgr<br>Voltage | D25l     | 2              | 2EJS*<br>US1    | 0 to 750<br>vac  | Yes   | Yes           |               | I           | Div. 1          | 2EJS*US1            | 25    |
| N/R                   | Status of<br>Stdby Pwr<br>Sources -<br>600V Swgr<br>Current | D25m     | 2              | 2EJS*<br>X1A,B  | 0 to 3,000<br>amps   | Yes   | Yes           |               | I           | Div. 1          | N/A                 | 26    |
| N/R                   | Status of<br>Stdby Pwr<br>Sources -<br>600V Swgr<br>Voltage | D25n     | 2              | 2EJS*<br>US3    | 0 to 750<br>vac  | Yes   | Yes           |               | I           | Div. 2          | 2EJS*US3            | 25    |
| N/R                   | Status of<br>Stdby Pwr<br>Sources -<br>600V Swgr<br>Current | D25p     | 2              | 2EJS*<br>X3A,B  | 0 to 3,000<br>amps   | Yes   | Yes           |               | I           | Div. 2          | N/A                 | 26    |
| N/R                   | Status of<br>Stdby Pwr<br>Sources -<br>4 kV Swgr<br>Voltage | D25q     | 2              | 2ENS*<br>SWG101 | 0 to 4.16<br>kv  | Yes   | Yes           |               | I           | Div. 1          | 9852                | 25    |
| N/R                   | Status of<br>Stdby Pwr<br>Sources - 4 kV<br>Swgr Current    | D25r     | 2              | 2ENS*<br>SWG101 | 0-1000<br>amp<br>Diesel<br>feed or<br>1,500 amp<br>normal and<br>alt feeds | Yes   | Yes           |               | I           | Div. 1          | 9852                | 27    |



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TABLE 421.36-1 (Cont)

| SWEC/<br>GE-NED I.D.# | Parameter<br>Description                                    | Reg. Guide 1.97, Rev. 3 |                | Sensor                |  | Qualification |               | QA<br>Class | Power<br>Supply | Display<br>Location | Notes      |
|-----------------------|---|-------------------------|----------------|-----------------------|--|---------------|---------------|-------------|-----------------|---------------------|------------|
|                       |   | Variable                | Classification | Location              | Instr. Range   | Seismic       | Environmental |             |                 |                     |            |
| N/R                   | Status of<br>Stdby Pwr<br>Sources - 4 kV<br>Svgr Voltage    | D25s                    | 2              | (SVGR)<br>2ENS*SWG103 | 0 to 4.16<br>kv  | Yes           | Yes           | I           | Div. 2          | PA52                | 25         |
| N/R                   | Status of<br>Stdby Pwr<br>Sources -<br>4 kV Svgr<br>Current | D25t                    | 2              | (SVGR)<br>2ENS*SWG103 | 0-1,000 amp<br>Diesel Feed<br>0-1,500 amp<br>normal & alt<br>feeds | Yes           | Yes           | I           | Div. 2          | PA52                | 27         |
| N/R                   | Status of<br>Stdby Pwr<br>Sources - 4 kV<br>Svgr Voltage    | D25u                    | 2              | (SVGR)<br>2ENS*SWG102 | 0 to 4.16<br>kv  | Yes           | Yes           | I           | Div. 3          | PA52                | 25,40   24 |
| N/R                   | Status of<br>Stdby Pwr<br>Sources - 4kV<br>Svgr Current     | D25v                    | 2              | (SVGR)<br>2ENS*SWG102 | 0-600 amp<br>Diesel Feed<br>0-1,500 amp<br>normal & alt<br>feeds   | Yes           | Yes           | I           | Div. 3          | PA52                | 27,40   24 |
| See Note 28           | Status of<br>Stdby Pwr<br>Sources -<br>Air for ADS          | D25w                    | 2              | -                     | -  | -             | -             | -           | -               | -                   | 28         |
| 2RMS*RE1A,C           | Primary<br>Containment<br>Area Radia-<br>tion High Rng      | E1a                     | 1              | Drywell               | 1-10 <sup>7</sup><br>R/hr  | Yes           | Yes           | I           | Div. 1          | PA80                | -          |
| 2RMS*RE1B,D           | Primary<br>Containment<br>Area Radiation<br>High Rng        | E1b                     | 1              | Drywell               | 1-10 <sup>7</sup><br>R/hr  | Yes           | Yes           | I           | Div. 2          | PA80                | -          |
| See Note 29           | Secondary<br>Containment<br>Area Radia-<br>tion             | E2                      | 2              | -                     | -  | -             | -             | -           | -               | -                   | 29         |
| See Note 30           | Vital Area<br>Radiation                                     | E3                      | 3              | See<br>Note 30        | See<br>Note 30   | NO            | NO            | II          | Non-IE          | Radn<br>Computer    | 30,31      |





Nine Mile Point Unit 2 PSAR

TABLE 421.36-1 (Cont)

6. Parameter not measured or monitored in accordance with BWR Owners Group's position that BWR core thermocouples are ineffective in a BWR core because of thermodynamic considerations (position based upon Regulatory Guide 1.97, Rev. 2).
7. Drywell sumps are monitored via suppression pool level instruments (parameters C7a and b) after an accident.
8. Upper range of instrument covered by variable B.7.b.
9. Testable check valve, outboard of containment.
10. Traversing incore probe (5 assemblies). *The identification numbers for the neutron monitoring system primary containment isolation valves are 2NMS\*SOV1A, B, C, D for the TIP Ball Valve and 2NMS\*VEX1A, B, C and D for the TIP Shear Valve.*
11. Parameter same as parameters B6a and b.
12. Parameter same as parameters E1a and b.
13. Unit 2 has a Mark II containment. During a LOCA the suppression pool serves as a sump because the outside (of containment) holding tanks are isolated.
14. Bottom of ECCS suction line is 192'. Suppression pool M.W.L. is 200'.
15. Parameter same as parameters B7a and b.
16. Parameter same as parameters B6a and b.
17. Parameter same as parameters B7a, b, and B9a, b. Overlapping of ranges is required to meet the regulatory guide.
18. Parameter same as parameters B9a and b.
19. Parameter not applicable to Unit 2.
20. Instrument range meets intent of the regulatory guide.
21. Unit 2 utilizes HPCS in lieu of HPCI.
22. Parameter same as parameters D16a and b.
23. Services RHR heat exchangers.
24. Services emergency diesel generator sets. Note that flow is measured from diesel vs to diesel.
25. Bus voltage is measured.
26. Parameter consists of two signals: normal and alternate feeder current (individual inputs).
27. Parameter consists of three signals: normal, alternate, and diesel feeder current (individual inputs).



TABLE 421.36-1 (cont)

42. PROVISIONS HAVE BEEN MADE IN THE CONTROL ROOM TO SECURE CLOSED THE MAIN STEAM DRAIN LINE VALVES 2M53\*SOV97A, B, C, D. POWER SUPPLY FUSES FOR THESE VALVES ARE REMOVED DURING NORMAL PLANT OPERATION EXCEPT DURING STARTUP AND SHUTDOWN OR DURING PERIODS OF OPERATION WITH ASSOCIATED MAIN STEAM LINE IN-BOARD ISOLATION VALVE (2M53\*HYV6A, B, C, OR D) CLOSED. THE MAIN STEAM DRAIN LINE VALVES 2M53\*SOV97A, B, C, D ARE NOT PRIMARY CONTAINMENT ISOLATION VALVES.



## Nine Mile Point Unit 2 FSAR

### QUESTION F421.39 (7.6)

Section 7.6.1.2 of the FSAR discusses the interlocks on the LPCI and LPCS that are provided to prevent overpressurization of these low pressure systems that interface with the reactor coolant system. The FSAR states that the LPCI and LPCS discharge valves are prevented from opening until differential pressure across the valves is low enough to prevent system overpressurizations. It is the staff's concern that for a small break event the LPCI/LPCS pumps will quickly develop a discharge head sufficient to satisfy the permissive even though the reactor vessel pressure can still be at normal operating pressure. A single failure of the downstream check valve could then conceivably result in a LOCA outside containment.

It is the NRC staff's position that redundant protection against overpressurization of the low pressure ECCS systems be provided in accordance with the provisions of Branch Technical Position ICSB 3. This may be satisfied at Nine Mile Point - Unit 2 by modifying the current design such that the motor operated valves that interface between the low pressure ECC systems and the reactor coolant system are interlocked to prevent opening unless the reactor vessel pressure is lower than the design pressure of the systems involved.

### RESPONSE

The existing differential pressure transmitter will be utilized. The high-pressure top connection of this transmitter will be changed to a "T" off an existing reactor vessel pressure transmitter, and the permissive setpoint will be as specified in the Technical Specifications (88 psid for LPCS and 130 psid for LPCI). This change is shown on revised Figures 5.4-13 (LPCI) and 6.3-7 (LPCS), and is described in revised Sections 7.3.1.1.1.3 and 7.3.1.1.1.4. This will ensure that the injection valve would not receive a permissive signal to open when the reactor pressure is above design pressure of the low pressure ECCS piping.

directly senses reactor vessel pressure



TABLE 430.50-1 (Cont)

A discussion of each segment follows.

Diesel Engine and DSA Skid

The engine-mounted piping and components of the fuel oil, engine cooling water (except heat exchangers which are designed to ASME Section III, Class 3), starting air, and lubricating oil systems are seismically qualified to Category I requirements as part of the diesel engine skid. These systems, furnished with the engine, are the standard systems developed by the engine manufacturer in accordance with DEMA standards and have a long history of service and reliability. These systems, piping, and components are designed, fabricated, inspected, installed, and tested in accordance with the requirements of ANSI B31.1.

To meet the intent of ASME Section III requirements for the engine and DSA skids, the pressure test will be performed using ASME Section III, Class 3, hydrostatic parameters. The skids are qualified to seismic Category I requirements. Piping over 4 in, (6-in lines between the cooling water heat exchanger, expansion tank, and engine block) will be liquid penetrant examined prior to preoperational testing. Furthermore, the expansion tank will be hydrostatically tested at 1.5 times its design pressure. ~~ASME Section III, Class 3~~

Diesel Oil Storage and Day Tanks Supplied by the Fabricator

These components are ASME Section III, Class 3.

Piping and Components Connecting Skids

The fuel oil piping up to the diesel engine skid and the cooling water system piping and components up to the diesel engine heat exchanger are designed, fabricated, inspected, installed, and tested in accordance with ASME Section III, Class 3 requirements.

The piping connecting the diesel fuel oil storage and day tanks is designed to ASME Section III, Class 3. The piping connecting the DSA skid to the engine skid is designed to ANSI B31.1 and is designated seismic Category I. Hydrostatic testing of 1.5 times design pressure will be accomplished during onsite testing of the auxiliary systems.

Essential components of the air starting system are designed to ASME Section III. The system is classified Safety

