

# REGULATOR INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 8412110131 DUC DATE: 84/12/07 NOTARIZED: YES DOCKET #  
 FACILITY: 50-410 Nine Mile Point Nuclear Station, Unit 2, Niagara Moho 05000410  
 AUTH. NAME: MANGAN, C.V. AUTHOR AFFILIATION: Niagara Mohawk Power Corp.  
 RECIP. NAME: SCHWENCER, A. RECIPIENT AFFILIATION: Licensing Branch 2

SUBJECT: Forwards info discussed during 841114 meeting re containment isolation to close out NRC question. Info will be incorporated in FSAR Amend 17.W/16 oversize tables. Aperture cards available in PDR.

DISTRIBUTION CODE: B001D COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 14  
 TITLE: Licensing Submittal: PSAR/FSAR Amdts & Related Correspondence

## NOTES:

	RECIPIENT ID CODE/NAME	COPIES LTTR ENCL		RECIPIENT ID CODE/NAME	COPIES LTTR ENCL
	NRR/DL/ADL	1 0		NRR LB2 BC	1 0
	NRR LB2 LA	1 0		HAUGHEY, M 01	1 1
INTERNAL:	ACRS 41	6 6		ADM/LFMB	1 0
	ELD/HDS3	1 0		IE FILE	1 1
	IE/DEPER/EPB 36	1 1		IE/DEPER/IRB 35	1 1
	IE/DQASIP/QAB21	1 1		NRR ROE, M.L	1 1
	NRR/DE/AEAB	1 0		NRR/DE/CEB 11	1 1
	NRR/DE/EHEB	1 1		NRR/DE/EQB 13	2 2
	NRR/DE/GB 28	2 2		NRR/DE/MEB 18	1 1
	NRR/DE/MTEB 17	1 1		NRR/DE/SAB 24	1 1
	NRR/DE/SGEB 25	1 1		NRR/DHFS/HFEB40	1 1
	NRR/DHFS/LQB 32	1 1		NRR/DHFS/PSRB	1 1
	NRR/DL/SSPB	1 0		NRR/DSI/AEB 26	1 1
	NRR/DSI/ASB	1 1		NRR/DSI/CPB 10	1 1
	NRR/DSI/CSB 09	1 1		NRR/DSI/ICSB 16	1 1
	NRR/DSI/METB 12	1 1		NRR/DSI/PSB 19	1 1
	NRR/DSI/RAB 22	1 1		NRR/DSI/RSB 23	1 1
	REG FILE 04	1 1		RGN1	3 3
	RM/DDAMI/MIB	1 0			
EXTERNAL:	BNL (AMDTs ONLY)	1 1		DMB/DSS (AMDTs)	1 1
	FEMA-REP DIV 39	1 1		LPDR 03	1 1
	NRC PDR 02	1 1		NSIC 05	1 1
	NTIS	1 1		PNL GRUEL, R	1 1



December 7, 1984  
(NMP2L 0283)

Mr. A. Schwencer, Chief  
Licensing Branch No. 2  
Division of Licensing  
Office of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555

Dear Mr. Schwencer:

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

Enclosed for your use is information regarding Containment Isolation for Nine Mile Point Unit 2 which was discussed with the Nuclear Regulatory Commission staff during a meeting on November 14, 1984. The information is provided to close out this staff question.

The enclosed information will be included in Final Safety Analysis Report Amendment 17.

Very truly yours,

*C. V. Mangan*

C. V. Mangan  
Vice President  
Nuclear Engineering & Licensing

NLR:ja  
Enclosure  
xc: R. A. Gramm, NRC Resident Inspector  
Project File (2)

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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 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 7 day of December, 1984.

Janis M. Macro  
Notary Public in and for  
Onondaga County, New York

My Commission expires:

JANIS M. MACRO

Notary Public in the State of New York  
Qualified in Onondaga County No. 4784555  
Commission Expires March 30, 1985.



Nine Mile Point Unit 2 FSAR

TABLE 6.2-56 (Cont)

KEY TO ISOLATION SIGNALS:

A = Low reactor vessel water level 3	
B = Low reactor vessel water level 2	
C = High main steam line radiation	
D = High main steam line flow	
E = High main steam line tunnel area ambient temperature	
F = High drywell pressure	
H = Steam supply pressure low	15
J = High reactor water cleanup system equipment area differential or ambient temperatures, or turbine building high space temperature, or reactor water cleanup high differential flow	15
K = Reactor core isolation cooling high pipe routing or equipment area ambient or differential temperatures, low steam supply pressure. High steam line differential pressure, high turbine exhaust diaphragm pressure	
L = High reactor vessel pressure	
M = High residual heat removal system equipment area differential or ambient temperatures	15
P = Low main steam line turbine inlet pressure	
R = Low main condenser vacuum	
S = Standby liquid control system actuated	
T = High main steam line tunnel differential temperature	15
W = High reactor water cleanup system nonregenerative heat exchanger outlet temperature	
X = Low reactor vessel water level 1	15
Y = Standby gas treatment exhaust radiation high	15
LC = Locked closed	
RM = Remote manual switch from control room	



Nine Mile Point Unit 2 FSAR

TABLE 6.2-56 (Cont)

LMC = Local manual control, locked closed, position indication in control room

NOTES:

- (1) Type C testing is discussed on Figure 6.2-70 which shows the isolation valve arrangement. Further discussion on Type A and C testing is also provided in Section 6.2.6.
- (2) Provisions have been made in the control room to secure closed the main steam drain line valves 2MSS#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 (2MSS#HYV6A,B,C, or D) closed.
- (3) Normal status position of valve (open or closed) is the position during normal power operation of the reactor (see Normal Position column).
- (4) Primary containment and reactor vessel isolation signals are indicated by letters. Isolation signals generated by the individual system process control signals or for remote manual closure based on information available to the operator are discussed in the referenced notes in the Isolation Signal column.
- (5) The specified closure rates are as required for containment isolation or system operation, whichever is less. Reported times are in seconds.
- (6) The standard minimum closing rate is 12 in/min of nominal valve diameter for gate valves and 4 in/min of valve stem travel for globe valves. For example, a 12-in gate valve will close in 1 min.
- (7) Ac motor-operated valves required for isolation functions are powered from the ac standby power buses. Dc-operated isolation valves are powered from safety related station batteries.
- (8) A main steam isolation valve requires that two spring latches be released to close the valve. One spring latch released will not close the valve, thus precluding a spurious actuation. The valves are designed to fully close within 3 to 5 sec.



Nine Mile Point Unit 2 FSAR

TABLE 6.2-56 (Cont)

- (9) All isolation valves are Category I.
- (10) All motor-operated isolation valves remain in the as-is position upon failure of valve power (FAI = Fail as is). All air-operated valves close on motive air failure in the safe position.
- (11) Testable check valves are designed for remote opening with zero differential pressure across the valve seat. The valves will close on reverse flow even though the test switches may be positioned for open. The valves open when pump pressure exceeds reactor pressure even though the test switch may be positioned for close.
- (12) The Hydrogen Recombiner System will be included in Type A Testing with the isolation valves in their operating position, eg. valve open. In addition, Type C Testing of the primary containment isolation valves will be performed.
- (13) These valves are the ECCS and drywell spray suction and discharge isolation valves. ECCS operation is essential during the LOCA period; therefore, there are no automatic isolation signals. A high level alarm in the appropriate reactor building sump indicates excessive ECCS leakage into the secondary containment.
- (14) Suppression pool spray valves have interlocks that allow them to be manually reopened after automatic closure. This setup permits suppression pool spray, for high drywell pressure conditions. When automatic signals are not present, these valves may be opened for test or operating convenience.
- (15) Due to redundancy within the ECCS, some subsystems may be secured during the long-term cooling period. In addition, RHR Loops A and B have several discharge paths (LPCI, drywell spray, suppression chamber spray, suppression pool cooling) which the operator may select during the 30-day post-LOCA period.
- (16) The RCIC steam exhaust valve, 2ICS\*MOV122, is normally open at all times. Should a leak occur, it would be detected and alarmed by the RCIC room high temperature leak detection system.
- (17) Criterion 55 concerns lines of the reactor coolant pressure boundary (RCPB) that penetrate the primary reactor containment. The CRD insert and withdraw lines are not part of the RCPB. The classification of the





## Nine Mile Point Unit 2 ESAR

TABLE 6.2-56 (Cont)

insert and withdraw lines is Quality Group B, and therefore they are designed in accordance with ASME Section III, Safety Class 2. The basis to which the CRD lines are designed is commensurate with the safety importance of isolating these lines. Since these lines are vital to the scram function, their operability is of utmost concern.

In the design of this system, it has been accepted practice to omit automatic valves for isolation purposes as this introduces a possible failure mechanism. As a means of providing positive actuation, manual shutoff valves are used. In the event of a break on these lines, the manual valves may be closed to ensure isolation. In addition, a ball check valve located in the insert line inside the CRD is designed to automatically seal this line in the event of a break.

- (18) The operator's indication that remote-manual closure of the TIP shear valves is required is failure of the TIP ball valves to close.
- (19) Since the traversing incore probe (TIP) system lines do not communicate freely with the containment atmosphere or the reactor coolant, General Design Criteria 55 and 56 are not directly applicable to this specific class of lines. The basis to which these lines are designed is more closely described by Criterion 57, which states in effect that isolation capability of a system should be commensurate with the safety importance of that isolation. Furthermore, even though the failure of the TIP system lines presents no safety consideration, the TIP system has redundant isolation capabilities. A SPECIFIC EXEMPTION WILL BE FORWARDED FOR THE TIP SYSTEM UNDER SEPARATE COVER.

The safety features were reviewed by the NRC for BWR/4 (Duane Arnold), BWR/5 (Nine Mile Point Unit 2) and BWR/6 (GESTAR II), and it was concluded that the design of the containment isolation system meets the objectives and intent of the general design criteria.

Isolation is accomplished by a seismically qualified solenoid-operated ball valve that is normally closed. To ensure isolation capability, an explosive shear valve is installed in each line. Upon receipt of a signal (manually initiated by the operator), this explosive valve will shear the TIP cable and seal the guide tube.



Nine Mile Point Unit 2 FSAR

TABLE 6.2-56 (Cont)

When the TIP system cable is inserted, the ball valve of the selected tube opens automatically so that the probe and cable can advance. A maximum of five valves can be opened at any one time to conduct calibration, and any one guide tube is used, at most, a few hours per year.

If closure of the line is required during calibration, a signal causes a cable to be retracted and the ball valve to close automatically after completion of cable withdrawal. If a TIP cable fails to withdraw or a ball valve fails to close, the explosive shear valve is actuated. The ball valve position is indicated in the control room.

The Unit 2 TIP system design specifications require that the maximum leakage rate of the ball and shear valves be in accordance with the Manufacturer's Standardization Society (hydrostatic testing of valves).

The TIP isolation valve and the shear valve both have a leak integrity requirement of  $10^{-3}$  atm cc/sec for air-water combination and water alone. This leakage rate represents less than  $10^{-3}$  cc/sec of fluid at the following conditions:

Air-water combinations: 0-125 psig and 300°F

Water: 1,250 psig and <450°F

As stated above, the penetration is automatically closed following use. During normal operation the penetration will be open approximately 8 hr/month to obtain TIP information. If a failure occurred, such as inability to withdraw the TIP cable, the shear valve could be closed to isolate the penetrations. Installation requirements are that the guide tube/penetration flange/ball and shear valve composite assembly not leak at a rate greater than  $10^{-4}$  atm cc/sec at 125 psig. Further leak testing of the shear valves is not recommended since destructive testing would be required.

The periodic surveillance testing of the shear valves will be performed per NMP2 Technical Specification Requirements identified in Section 3/4.6.3 paragraph 4.6.3.5.



Nine Mile Point Unit 2 FSAR

TABLE 6.2-56 (Cont)

(20) Removable spool piece that is removed during normal operation; it is installed when the plant is down and fire protection is needed inside the primary containment.

(21) Air-operated valves 104 and 106 are manually operated before personnel entry into the primary containment. Line length is given for the most remote valve.

(22) System isolation valves are normally closed. The system is placed in operation only if the hydrogen monitors detect hydrogen buildup after a LOCA. The operator has flow indication, in the main control room, of gas leaving and entering the containment. Should these flows vary significantly from one another, it would be detected in the main control room and the process loop in service could be shut down.

(23) This line consists of the following inputs from these valves:

2RHS\*SV34A and 2RHS\*SV62A - steam condensing line safety valves.

2RHS\*RV56A - RHR heat exchanger shell side relief valve.

2RHS\*MOV26A and 2RHS\*MOV27A - RHR heat exchanger vent line isolation valves.

2RHS\*V20 and 2RHS\*V19 - vacuum breaker line.

2RHS\*RVV35A and 2RHS\*RVV36A - vacuum breakers.

The valve is open only during steam condensing mode. Valve position is indicated in the main control room to provide the operator confirmation of valve status.



Nine Mile Point Unit 2 FSAR

TABLE 6.2-56 (Cont)

(24) This line consists of the following inputs from these valves:

2RHS\*SV34B and 2RHS\*SV62B - steam condensing line safety valves.

2RHS\*RV56B - RHR heat exchanger shell side relief valve.

2RHS\*MOV26B and 2RHS\*MOV27B - RHR heat exchanger vent line isolation valves

2RHS\*V117 and 2HS\*V118 - vacuum breaker line

2RHS\*RVV35B and 2RHS\*RVV36B - vacuum breakers

The valve is open only during steam condensing mode. Valve position is indicated in the main control room to provide the operator confirmation of valve status.

(25)

(26) Penetrations Z-99A,B,C,D, and Z-100A,B,C,D contain lines for the hydraulic control of the reactor recirculation flow control valve. These lines contain hydraulic fluid used to position the reactor recirculation flow control valve.



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Nine Mile Point Unit 2 FSAR

TABLE 6.2-56 (Cont)

Integrity of the system is, essentially, constantly monitored since the system is under a constant operating pressure of 1,800 psig. Any leakage through this system would be noticed because operation would be erratic and because of indications provided on the Hydraulic Control Unit. In addition, in order to perform Type C tests on these lines, the system would have to be disabled and drained of hydraulic fluid. This is considered to be detrimental to the proper operation of the system since possible damage could occur in establishing the test condition or restoring the system to normal. These lines and associated isolation valves should therefore be considered to be exempt from containment testing. A specific exemption will be forwarded under separate cover.

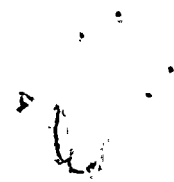
- (27) Instrument lines that penetrate primary containment conform to Regulatory Guide 1.11. The lines that connect to the reactor pressure boundary include a restricting orifice inside containment, are Category I, and terminate in instruments that are Category I. The instrument lines also include manual isolation valves and excess flow check valves. These penetrations will not be Type C tested since the integrity of the lines is continuously demonstrated during plant operations where subject to reactor operating pressure. In addition, all lines are subject to the Type A test pressure on a regular interval. Leaktight integrity is also verified with completion of functional and calibration surveillance activities as well as by visual observations during operator tours.
- (28) Signal B or F cause automatic withdrawal of tip probe. When probe is withdrawn, the solenoid-operated ball valve automatically closes by mechanical action.
- (29) This path does not constitute a bypass leakage path, because a closed piping system outside the primary containment provides a leakage boundary. The piping/components outside the primary containment qualify as a closed system for the following reasons:
  - a. The system leakage boundary leak path does not directly communicate with the environment following a loss-of-coolant accident.
  - b. The system leakage boundary piping/components are designed in accordance with Quality Group B standards as defined by Regulatory Guide 1.26.



Nine Mile Point Unit 2 FSAR

TABLE 6.2-56 (Cont)

- c. The system leakage boundary is designed to meet Seismic Category I design requirements.
  - d. The system leakage boundary is designed to at least the primary containment pressure and temperature design conditions.
  - e. The system leakage boundary is designed for protection against pipe whip, missiles, and jet forces in a manner similar to that for engineered safety features.
  - f. The system leakage boundary is tested for leakage, unless system integrity is demonstrated to be maintained during normal plant operations.
- (30) This line/path is excluded from further consideration as a potential bypass leakage path, because a water or nitrogen seal is provided to prevent leakage from bypassing the secondary containment. There is sufficient fluid available to maintain the seal for at least 30 days following a loss-of-coolant accident (see Section 6.2.3.2.3 for seal details).
- (31) This line/path is excluded from further consideration as a potential bypass leakage path because (per Branch Technical Position CSB 6-3, Section A) leakage from the primary containment cannot circumvent the secondary containment boundary and escape directly to the environment; that is, leakage cannot bypass the leakage collection and filtration systems of the secondary containment. Filtration of leakage is assured, because either the piping terminates in the secondary containment or leakage is directly routed to the filtration systems.
- (32) In addition to a swing check valve inside containment and a positive acting check valve outside containment, similar to an Atwood-Morrill boiler feed check valve as described in Catalog 63, Section I, a third valve with high leak-tight integrity will be provided in each line outside containment. The spring-loaded piston operator of the positive acting check valve will be held open by air pressure during normal operation. Fail-open solenoid valves will be used to release air pressure to permit the check valve piston operator to close. The positive acting check valve and the high leak-tight



Nine Mile Point Unit 2 FSAR

TABLE 6.2-56 (Cont)

integrity isolation valve will be remote manually operated from the control room, using signals which indicate loss of feedwater flow.

The classification of the feedwater lines from the reactor vessel to and including the third isolation valve will be Code Group A; beyond the third valve, Code Group D.

- (33) Bypass leakage through these penetrations is via the post-accident sample system branch connections. Leakage volumes are accounted for as post-accident sampling system bypass leakage.
- (34) Due to the metal bellows arrangement on tip drywell penetration flanges they will be included in Type A Testing rather than Type B Testing.
- (35) For ILLRT test connections containing a single valve and threaded pipe cap, the threaded pipe cap will be verified in place and tight every 31 days.



## Nine Mile Point Unit 2 FSAR

connection the line is Class D. In a postulated failure of this line, the flow rate through the broken line has been calculated to be substantially less than that permitted for a broken instrument line.

Continued recirculation pump seal purge is required whenever reactor coolant temperature is above 200°F and the pump is not isolated. Three check valves in series, two outside the primary containment, are used to provide containment isolation while permitting seal purge, if available. This design will prevent seal damage during containment isolation events. Therefore, automatic isolation valves are not desirable.

The seal purge lines are continually pressurized (and therefore leak tested) above reactor pressure. Thus, any leakage from these lines would be detected either through the floor drain system monitors or by routine surveillance by plant operators. In addition, the seal purge pressure is continually monitored by pressure transmitters with control room indication. Therefore, the integrity of these lines is continuously verified.

Effluent Lines Effluent lines that form part of the RCPB and penetrate primary containment are equipped with at least two isolation valves, one inside the drywell and the other outside, located as close to the primary containment as practical. Table 6.2-56 also contains those effluent lines that compose the RCPB and penetrate the primary containment.

1. Main Steam, Main Steam Drain Lines, and RHR Shutdown Cooling Lines The main steam lines extend from the RPV to the main turbine and condenser system, and penetrate the primary containment. The main steam drain lines also penetrate the containment. The RHR steam supply line/RCIC turbine steam line connect to the main steam line inside the drywell and penetrate the primary containment. Isolation is provided by automatically actuated block valves inside the primary containment for the RHR steam supply line/RCIC turbine steam line. The RHR shutdown cooling effluent line has automatically actuated block valves for isolation.
2. Recirculation System Sample Lines A sample line from the recirculation system penetrates the drywell. The sample line is 3/4 inch in diameter and is designed to ASME Section III, Safety Class 2. Two solenoid-operated valves which fail closed are provided, one inside and one outside located as close to the primary containment as practical.



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Conclusion on Criterion 55 In order to assure protection against the consequences of accidents involving the release of radioactive material, pipes forming the RCPB have been shown to provide adequate isolation capabilities on a case-by-case basis. In all cases, a minimum of two barriers were shown to protect against the release of radioactive materials.

In addition to meeting the isolation requirements stated in Criterion 55, the pressure-retaining components that compose the RCPB are designed to minimize the probability or consequences of an accidental pipe rupture. The quality requirements for these components ensure that they are



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Nine Mile Point Unit 2 FSAR

TABLE 6.2-56

CONTAINMENT ISOLATION PROVISIONS FOR  
FLUID LINES

CONTAINER ISOLATION PROVISIONS FOR FLUID LINES																								
Pene- tration No.	System Designation	GDC or Reg. Guide	ESF System	Fluid	Size (in)	FSAR Arrange- ment Figure(1)	Location of valve Inside/ Outside Primary Contain- ment	Length of Pipe - Con- tainment to Outside Isolation Valve	Type Test (1)	Potential Bypass Leakage Path	Valve(9)										Notes			
											Number		Type	Oper- ator	Actuator Mode		Position			Isola- tion Signal (4)		Closure Time (5,6)	Power Source (7)	
											SWEC	GE			Primary	Secondary	Normal (3)	Shutdown	Post- Accident					Power Failure(10)
Z-1A	Main steam Line A	55	No	Steam	26	6.2-70 Sh. 1	Inside Outside	5'-2"	C C	Yes	2HSS*HYV6A 2HSS*HYV7A	B22-F022A B22-F028A	Ball Ball	HYV HYV	Hydraulic to open; spring to close	N/A	Open	Closed	Closed	Closed	X,C,D, E,P,T, R,RM	3 to 5 sec	N/A	8
	Main steam Line A drain line						2" 3/4"				Outside OUTSIDE	36'-0" 13'-10"	C	2HSS*MOV208 2MSS*SOV97A	B22-F067A	Globe GLOBE	MOV SOV	Elec. ELEC.	Manual N/A	Closed CLOSED	Closed CLOSED	Closed CLOSED	FAI CLOSED	X,C,D, E,P, T,R,RM RM(2)
Z-1B	Main steam Line B	55	No	Steam	26	6.2-70 Sh. 1	Inside Outside	5'-2"	C C	Yes	2HSS*HYV6B 2HSS*HYV7B	B22-F022B B22-F028B	Ball Ball	HYV HYV	Hydraulic to open; spring to close	N/A	Open	Closed	Closed	Closed	X,C,D, E,P,R, T,RM	3 to 5 sec	N/A N/A	8
	Main steam Line B drain line						2" 3/4"				Outside OUTSIDE	36'-0" 15'-6"	C	2HSS*MOV208 2MSS*SOV97B	B22-F067B	Globe GLOBE	MOV SOV	Elec. ELEC.	Manual N/A	Closed CLOSED	Closed CLOSED	Closed CLOSED	FAI CLOSED	X,C,D,E P,R,T,RM RM(2)
Z-1C	Main steam Line C	55	No	Steam	26	6.2-70 Sh. 1	Inside Outside	5'-2"	C C	Yes	2HSS*HYV6C 2HSS*HYV7C	B22-F022C B22-F028C	Ball Ball	HYV HYV	Hydraulic to open; spring to close	N/A	Open	Closed	Closed	Closed	X,C,D, E,P,T, R,RM	3 to 5 sec	N/A	8
	Main steam Line C drain line						2" 3/4"				Outside OUTSIDE	36'-0" 15'-5"	C	2HSS*MOV208 2MSS*SOV97C	B22-F067C	Globe GLOBE	MOV SOV	Elec. ELEC.	Manual N/A	Closed CLOSED	Closed CLOSED	Closed CLOSED	FAI CLOSED	X,C,D,E P,R,T,RM RM(2)
Z-1D	Main steam Line D	55	No	Steam	26	6.2-70 Sh. 1	Inside Outside	5'-2"	C C	Yes	2HSS*HYV6D 2HSS*HYV7D	B22-F022D B22-F028D	Ball Ball	HYV HYV	Hydraulic to open; spring to close	N/A	Open	Closed	Closed	Closed	X,C,D, E,P,T, R,RM	3 to 5 sec	N/A	8
	Main steam Line D drain line						2" 3/4"				Outside OUTSIDE	36'-0" 13'-1"	C	2HSS*MOV208 2MSS*SOV97D	B22-F067D	Globe GLOBE	MOV SOV	Elec. ELEC.	Manual N/A	Closed CLOSED	Closed CLOSED	Closed CLOSED	FAI CLOSED	X,C,D,E, P,T,R,RM RM(2)
Z-2	Main steam drain line	55	No	Steam	6	6.2-70 Sh. 2	Inside Outside	1'-0"	C C	Yes	2HSS*MOV111 2HSS*MOV112	B22-F016 B22-F019	Globe Globe	MOV MOV	Elec. Elec.	Manual Manual	Closed	Closed	Closed	FAI	X,C,D E,P,T, P,RM X,C,D, E,P,T,R,RM	38 sec	Div II Div I	

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Nine Mile Point Unit 2 FSAR

TABLE 6.2-56 (Cont)

TABLE 6.2-56 (Cont)																									
Pene- tration No.	System Designation	GDC or Reg. Guide	ESP System	Fluid	Size (in)	FSAR Arrange- ment Figure(1)	Location of valve Inside/ Outside/ Primary Contain- ment	Length of Pipe - Con- tainment to Outside Isolation Valve	Type Test (1)	Potential Bypass Leakage Path	Number		Type	Oper- ator	Actuator Mode		Valve(9)				Isola- tion Signal (4)	Closure Time (5,6)	Power Source (7)	Notes	
											SWEC	GE			Primary	Secondary	Normal (3)	Position		Power Failure(10)					
																		Shutdown	Post- Accident						
Z-4A	Feedwater line A to RPV	55	No	Water	24	6.2-70 Sh. 3	Outside	2'-1"	C	Yes(30)	2FWS*AOV23A	B22-F032A	Swing Check	AOV	Process	Spring (test only)	Open	Closed	Closed	N/A	Reverse flow	The time it takes	N/A	11,32	
							Inside		C		2FWS*V12A	B22-F010A	Swing Check	N/A	Process	N/A	Open	Closed	Closed	N/A	Reverse flow	for one valve volume to pass through the valve			
Z-4B	Feedwater line B to RPV	55	No	Water	24	6.2-70 Sh. 3	Outside	16'-4"	C		2FWS*MOV21A	B22-F065A	Gate	MOV	Elec.	Manual	Open	Closed	Closed	FAI	RM	N/A	Div I		
							Outside	57'-8"	C		2WCS*MOV200	G33-F040	Globe	MOV	Elec.	Manual	Open	Open	Closed	FAI	RM	N/A	Div I		
							Inside		C	Yes(30)	2FWS*V12B	B22-F010B	Swing Check	N/A	Process	N/A	Open	Closed	Closed	N/A	Reverse flow	The time it takes	N/A	11,32	
							Outside	2'-1"	C		2FWS*AOV23B	B22-F032B	Swing Check	AOV	Process	Spring (test only)	Open	Closed	Closed	N/A	Reverse flow	for one valve volume to pass through the valve			
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	Tricen- tric butter- fly	MOV	Elec.	Manual	Open	Closed	Open	FAI	RM	45	Div I	13,35	
							Outside	16'-4"	C		2FWS*MOV21B	B22-F065B	Gate	MOV	Elec.	Manual	Open	Closed	Closed	FAI	RM	N/A	Div II		
							Outside	65'-8"	C		2WCS*MOV200	G33-F040	Globe	MOV	Elec.	Manual	Open	Open	Closed	FAI	RM	N/A	Div I		
							Outside	20'-9"	C	No(29)	2RHS*MOV1B	E12-F004B	Tricen- tric butter- fly	MOV	Elec.	Manual	Open	Closed	Open	FAI	RM	45	Div II		13,35
Z-5B	RHS Pump B suction from suppression pool	56	Yes	Water	24	6.2-70 Sh. 4	Outside	9'-9"	C	No(29)	2RHS*MOV1C	E12-F004C	Tricen- tric butter- fly	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'-1	C	No(29)	2RHS*MOV30B	E12-F201B	Tricen- tric butter- fly	MOV	Elec.	Manual	Open	Closed	Open	FAI	RM	85	Div I		15,35
Z-6A	RHS test line Loop B to sup- pression pool	56	Yes	Water	18	6.2-70 Sh. 6	Outside																		
Amendment 15      2 of 24      November 1981																									

Amendment 15 2 of 24 November 1981

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Nine Mile Point Unit 2 PSAR

TABLE 6.2-56 (Cont)

TABLE 6.2-56 (Cont)																								
Pene- tration No.	System Designation	GDC or Reg. Guide	ESF System	Fluid	Size (in)	FSAR Arrange- ment Figure(1)	Location of valve Inside/ Outside Primary Contain- ment	Length of Pipe - Contain- ment to Outside Isolation Valve	Type Test (1)	Potential Bypass Leakage Path	Valve(9)										Isola- tion Signal (4)	Closure Time (5,6)	Power Source (7)	Notes
											Number		Type	Oper- ator	Actuator Mode		Position							
											SWEC	GE			Primary	Secondary	Normal (3)	Shutdown	Post- Accident	Power Failure(10)				
Z-6B	RHS test line Loop A to sup- pression pool	56	Yes	Water	18	6.2-70 Sh. 6	Outside	9'-3"	C	No(29)	2RHS*MOV30A	E12-F201A	Tricen- tric butter- fly	MOV	Elec.	Manual	Open	Closed	Open	FAI	RM	85	Div II	15,35
Z-7A	RHS containment spray Loop A to suppression pool	56	Yes	Water	4	6.2-70 Sh. 7	Outside	18'-3"	C	No(29)	2RHS*MOV33A	E12-F027B	Globe	MOV	Elec.	Manual	Closed	Closed	Open	FAI	B,F,RM	15	Div I	14,15, 35
Z-7B	RHS containment spray Loop B to suppression pool	56	Yes	Water	4	6.2-70 Sh. 7	Outside	4'-6"	C	No(29)	2RHS*MOV33B	E12-F027B	Globe	MOV	Elec.	Manual	Closed	Closed	Open	FAI	B,F,RM	15	Div II	14,15, 35
Z-8A	RHS containment spray Loop A to drywell	56	Yes	Water	16	6.2-70 Sh. 8	Outside	2'-0" 11'-2"	C	No(29)	2RHS*MOV25A 2RHS*MOV15A	E12-F017A E12-F016A	Gate Gate	MOV MOV	Elec. Elec.	Manual Manual	Closed Closed	Closed Closed	Open Open	FAI FAI	RM RM	87 87	Div I Div I	13,15, 35
Z-8B	RHS containment spray Loop B to drywell	56	Yes	Water	16	6.2-70 Sh. 8	Outside	2'-0" 9'-6"	C	No(29)	2RHS*MOV25B 2RHS*MOV15B	E12-F017B E12-F016B	Gate Gate	MOV MOV	Elec. Elec.	Manual Manual	Closed Closed	Closed Closed	Open Open	FAI FAI	RM RM	87 87	Div II Div II	13,15, 35
Z-9A	RHS/LPCI Loop A to RPV	55	Yes	Water	12	6.2-70 Sh. 9	Outside Inside	7'-0"	C	No(29)	2RHS*MOV24A 2RHS*AOV16A	E12-F042A E12-F041A	Gate Check	MOV AOV	Elec. Process	Manual Air (Test only)	Closed Closed	Closed Closed	Open Open	FAI Closed flow	RM Reverse	19 N/A	Div I Div I	11,13, 15
Z-9B	PHS/LPCI Loop B to RPV	55	Yes	Water	12	6.2-70 Sh. 9	Outside Inside	6'-6"	C	No(29)	2RHS*MOV24B 2RHS*AOV16B	E12-F042B E12-F041B	Gate Check	MOV AOV	Elec. Process	Manual Air (Test only)	Closed Closed	Closed Closed	Open Open	FAI Closed	RM Reverse flow	19 N/A	Div II Div II	11,13, 15
Z-9C	RHS/LPCI Loop C to RPV	55	Yes	Water	12	6.2-70 Sh. 9	Outside Inside	6'-6"	C	No(29)	2RHS*MOV24C 2RHS*AOV16C	E12-F042C E12-F041C	Gate Check	MOV AOV	Elec. Process	Manual Air (Test only)	Closed Closed	Closed Closed	Open Open	FAI Closed	RM Reverse flow	19 N/A	Div II Div II	11,13, 15

Amendment 15      3 of 24      November 1984

8412110131-03

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Nine Mile Point Unit 2 FSAR

TABLE 6.2-56 (Cont)

Valve(9)

Pene- tration No.	System Designation	GDC or Reg. Guide	ESP System	Fluid	Size (in)	FSAR Arrange- ment Figure(1)	Location of valve Inside/ Outside/ Primary Contain- ment	Length of Pipe - Con- tainment to Outside Isolation Valve	Type Test (1)	Potential Bypass Leakage Path	Number		Oper- ator	Type	Actuator	Mode	Position			Power Failure (10)	Isola- tion Signal (4)	Closure Time (5,6)	Power Source (7)	Notes
											SWEC	GE					Normal (3)	Shutdown	Post- Accident					
Z-10A	RHS shutdown return Loop A to reactor recirc Loop A	55	No	Water	12	6.2-70 Sh. 13	Outside	6'-0"	C	No(29)	2RHS*MOV40A	E12-F053A	Globe	MOV	Elec.	Manual	Closed	Open	Closed	FAI	A,L,M, RM Reverse flow	25 N/A	Div I	11
							Inside		C		2RHS*AOV39A	E12-F050A	Check	AOV	Process	Air (Test only)	Closed	Open	Closed	Closed				
							Inside		C		2RHS*MOV67A	E12-F099A	Globe	MOV	Elec.	Manual	Closed	Closed	Closed	FAI				
Z-10B	RHS shutdown cooling re- turn line inboard valve by- pass line	55	No	Water	2	6.2-70 Sh. 13	Outside	6'-0"	C	No(29)	2RHS*MOV40B	E12-F053B	Globe	MOV	Elec.	Manual	Closed	Open	Closed	FAI	A,L,M, 25 RM Reverse flow	N/A	Div II	11
							Inside		C		2RHS*AOV39B	E12-F050B	Check	AOV	Process	Air (Test only)	Closed	Open	Closed	Closed				
							Inside		C		2RHS*MOV67B	E12-F099B	Globe	MOV	Elec.	Manual	Closed	Closed	Closed	FAI				
Z-11	RHS shutdown supply from reactor recirc	55	No	Water	20	6.2-70 Sh. 14	Outside	6'-0"	C	No(29)	2RHS*MOV113	E12-F008	Gate	MOV	Elec.	Manual	Closed	Open	Closed	FAI	A,L,M, 27 RM A,L,M, 27 RM	N/A	Div I	
							Inside		C		2RHS*MOV112	E12-F009	Gate	MOV	Elec.	Manual	Closed	Open	Closed	FAI				
							Inside		C		2RHS*RV152	-	Relief	N/A	Auto	N/A	Closed	Closed	Closed	Closed				
Z-12	CSH suction from sup- pression pool	56	Yes	Water	20	6.2-70 Sh. 5	Outside	2'-2'	C	Yes(30)	2CSH*MOV118	E22-F015	Gate	MOV	Elec.	Manual	Closed	Closed	Open	FAI	RM	18	Div III	13,35
Z-13	CSH test return to suppression	56	Yes	Water	12	6.2-70 Sh. 15	Outside	50'-0"	C	No(29)	2CSH*MOV111	E22-F023	Globe	MOV	Elec.	Manual	Closed	Closed	Closed	FAI	B,F,RM	60	Div III	35
							Outside	45'-6"	C		2CSH*MOV105	E22-F012	Gate	MOV	Elec.	Manual	Closed	Closed	Closed	FAI	RM	5	Div III	35
	HPCS min flow bypass		Yes	Water	4																			

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TABLE 6.2-56 (Cont)

TABLE 6.2-56 (Cont)																										
Pene- tration No.	System Designation	GDC or Reg. Guide	ESP System	Fluid	Size (in)	FSAR Arrange- ment Figure(1)	Location of valve Inside/ Outside/ Primary Contain- ment	Length of Pipe - Con- tainment to Outside Isolation Valve	Type Test (1)	Potential Bypass Leakage Path	Valve(9)										Isola- tion Signal (4)	Closure Time (5,6)	Power Source (7)	Notes		
											Number				Type	Oper- ator	Actuator Mode		Position						Power Failure (10)	
											SWEC	GE	Type	Oper- ator			Primary	Secondary	Normal (3)	Shutdown						Post- Accident
Z-14	CSH to RPV	55	Yes	Water	12	6.2-70 Sh. 9	Inside		C	No(29)	2CSH*AOV108	E22-F005	Check	AOV	Process	Air (Test only)	Closed	Closed	Open	Closed	Reverse flow	N/A	Div III	11,13		
							Outside	2'-0"	C		2CSH*MOV107	E22-F004	Gate	MOV	Elec.	Manual	Closed	Closed	Open	FAI	RM	12	Div III			
Z-15	CSL suction from suppres- sion pool	56	Yes	Water	20	6.2-70 Sh. 4	Outside	1'-8"	C	No(29)	2CSL*MOV112	E21-F001	Butter- fly	MOV	Elec.	Manual	Open	Open	Open	FAI	RM	90	Div I	13,35		
Z-16	CSL to RPV	55	Yes	Water	12	6.2-70 Sh. 10	Inside		C	No(29)	2CSL*AOV101	E21-F006	Check	AOV	Process	Air (Test only)	Closed	Closed	Open	Closed	Reverse flow	N/A	Div I	11,13		
							Outside	1'-0"	C		2CSL*MOV104	E21-F005	Gate	MOV	Elec.	Manual	Closed	Closed	Open	FAI	RM	16	Div I			
Z-17	ICS suction from suppres- sion pool	56	Yes	Water	6	6.2-70 Sh. 5	Outside	0'-9"	C	Yes(30)	2ICS*MOV136	E51-F031	Gate	MOV	Elec.	Manual	Closed	Closed	Open	FAI	RM	19	125VDC	35		
Z-18	ICS minimum flow to sup- pression pool	56	Yes	Water	2	6.2-70 Sh. 11	Outside	0'-6"	C	No(29)	2ICS*MOV143	E51-F019	Globe	MOV	Elec.	Manual	Closed	Closed	Closed	FAI	RM	5	125VDC	35		
Z-19	ICS turbine exhaust to suppression pool	56	Yes	Steam	12	6.2-70 Sh. 12	Outside	1'-6"	C	No(29)	2ICS*MOV122	E51-F068	Gate	MOV	Elec.	Manual	Open	Open	Open	FAI	RM	85	125VDC	16,35		
Z-20	Spare		No		3/4				A																	

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Nine Mile Point Unit 2 PSAR

TABLE 6.2-56 (Cont)

TABLE 6.2-56 (Cont)																								
Pene- tration No.	System Designation	GDC or Reg. Guide	ESF System	Fluid	Size (in)	PSAR Arrange- ment Figure(1)	Location of valve Inside/ Outside Primary Contain- ment	Length of Pipe - Con- tainment to Outside Isolation Valve	Type Test (1)	Potential Bypass Leakage Path	Number		Type	Oper- ator	Actuator Mode		Valve(9)				Isola- tion Signal (4)	Closure Time (5,6)	Power Source (7)	Notes
											SWEC	GE			Primary	Secondary	Position			Power (10) Failure				
																	Normal (3)	Shutdown	Post- Accident					
Z-21A	Steam to ICS turbine and RHS heat exchangers	55	Yes	Steam	10	6.2-70 Sh. 16	Outside	0'-9"	C	No(29)	2ICS*MOV121	E51-F064	Gate	MOV	Elec.	Manual	Open	Closed	Open	FAI	M,K,RM	14	Div I	
	Inside							C	2ICS*MOV128		E51-F063	Gate	MOV	Elec.	Manual	Open	Closed	Open	FAI	M,K,RM	14	Div II		
	ICS turbine steam supply bypass to inboard isolation valve						Inside		C		2ICS*MOV170	E51-F076	Globe	MOV	Elec.	Manual	Closed	Closed	Closed	FAI	M,K,RM	5	Div II	
Z-21B	Spare		No		4				A															
Z-22	ICS to RPV	55	Yes	Water	6	6.2-70 Sh. 17	Outside	0'-6"	C	No(29)	2ICS*AOV156	E51-F065	Check	AOV	Process	Air (Test only)	Closed	Open	Open	Closed	Rev. flow	N/A	125VDC	
	Inside							C	2ICS*AOV157		E51-F066	Check	AOV	Process	Air (Test only)	Closed	Open	Open	Closed	Rev. flow	N/A	125VDC		
	RHR reactor head spray						Water	6	6.2-70 Sh. 17		Outside	4'-3"	C	2ICS*MOV126	E12-F013	Gate	MOV	Elec.	Manual	Closed	Closed	Open	FAI	RM
							Outside	29'-5"	C		2RHS*MOV104	E12-F023	Globe	MOV	Elec.	Manual	Closed	Open	Closed	FAI	A,L, M, RM	32	Div I	
Z-23	WCS supply from RCS & RPV	55	No	Water	8	6.2-70 Sh. 18	Inside		C	Yes(30)	2WCS*MOV102	633-F001	Globe	MOV	Elec.	Manual	Open	Open	Closed	FAI	B,J,S,RM	13	Div II	
							Outside	1'-3"	C		2WCS*MOV112	633-F004	Globe	MOV	Elec.	Manual	Open	Open	Closed	FAI	B,J,S,W, RM	12	Div I	
Z-24	Spare		No		3				A															
Z-25	RDS lines to RPV 53 Insert 53 Withdrawal		Yes	Water	1 3/4	N/A	Outside	125'-0"		No(29)							See Note 17							
							Outside	125'-0"																
Z-26	RDS lines to RPV 39 Insert 39 Withdrawal		Yes	Water	1 3/4	N/A	Outside	125'-0"		No(29)							See Note 17							
							Outside	125'-0"																
Z-27	RDS lines to RPV 54 Insert 54 Withdrawal		Yes	Water	1 3/4	N/A	Outside	125'-0"		No(29)							See Note 17							
							Outside	125'-0"																

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Amendment 156 of 24 November 1984

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Nine Mile Point Unit 2 FSAR

TABLE 6.2-56 (Cont)

Pene- tration No.	System Designation	GDC or Reg. Guide	ESP System	Fluid	Size (in)	FSAR Arrange- ment Figure(1)	Location of valve/ Inside/ Outside Primary Contain- ment	Length of Pipe - Con- tainment to Outside Isolation Valve	Type Test (1)	Potential Bypass Leakage Path					Valve(9)				Isola- tion Signal (4)	Closure Time (5,6)	Power Source (7)	Notes																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
											Number		Type	Oper- ator	Actuator Mode		Position						Power Failure (10)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
											SWEC	GE			Primary	Secondary	Normal (3)	Shutdown						Post- Accident																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
Z-28	RDS lines to RPV 39 Insert 39 With- drawal		Yes	Water	1 3/4	N/A	Outside Outside	125'-0" 125'-0"		No(29)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															

Amendment 15 7 of 24 November 1984

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Nine Mile Point Unit 2 PSAR

TABLE 6.2-56 (Cont)

Penetration No.	System Designation	GDC or Reg. Guide	ESF System	Fluid	Size (in)	FSAR Arrangement Figure(1)	Location of Valve Inside/Outside Primary Containment	Length of Pipe - Containment to Isolation Valve	Type Test (1)	Potential Bypass Leakage Path(2)	Valve(3)										Isolation Signal (4)	Closure Time (5,6)	Power Source (7)	Notes
											Number		Type	Operator	Actuator Mode		Position			Power Failure(10)				
											SWEC	GE			Primary	Secondary	Normal (3)	Shutdown	Post-Accident					
Z-33B	CCP to RCS Pump B	56	No	Water	4	6.2-70 Sh. 20	Inside Outside INSIDE	7'-0"	C C N/A	No(31)	2CCP*MOV94B 2CCP*MOV17B 2CCP*RV170	- - -	Gate Gate RELIEF	MOV MOV N/A	Elec. Elec. AUTO	Manual Manual N/A	Open Open CLOSED	Open Open CLOSED	Closed Closed CLOSED	FAI FAI N/A	B,F,RM B,F,RM N/A	20 20 N/A	Div II Div I N/A	
Z-34A	CCP return from RCS Pump A	56	No	Water	4	6.2-70 Sh. 21	Inside Outside	7'-0"	C C	No(31)	2CCP*MOV16A 2CCP*MOV15A	- -	Gate Gate	MOV MOV	Elec. Elec.	Manual Manual	Open Open	Open Open	Closed Closed	FAI FAI	B,F,RM B,F,RM	20 20	Div II Div I	
Z-34B	CCP return from RCS Pump B	56	No	Water	4	6.2-70 Sh. 21	Inside Outside INSIDE	7'-0"	C C N/A	No(31)	2CCP*MOV16B 2CCP*MOV15B 2CCP*RV171	- - -	Gate Gate RELIEF	MOV MOV N/A	Elec. Elec. AUTO	Manual Manual N/A	Open Open CLOSED	Open Open CLOSED	Closed Closed CLOSED	FAI FAI N/A	B,F,RM B,F,RM N/A	20 20 N/A	Div II Div I N/A	
Z-35	Spare				4				A															
Z-36	Service air to drywell	56	No	Air	2	6.2-70 Sh. 22	Outside Inside	0'-7"	C	No(31)	2SAS*HCV161 2SAS*HCV163	- -	Globe Globe	Manual Manual	Manual Manual	N/A N/A	Closed Closed	Open Open	Closed Closed	N/A N/A	LHC,LC LHC,LC	N/A N/A	Div I Div II	
Z-37	Breathing air to drywell	56	No	Air	2	6.2-70 Sh. 22	Outside Inside	0'-7"	C C	No(31)	2AAS*HCV134 2AAS*HCV136	- -	Globe Globe	Manual Manual	Manual Manual	N/A N/A	Closed Closed	Open Open	Closed Closed	N/A N/A	LHC,LC LHC,LC	N/A N/A	Div I Div II	
Z-38A	RDS to recirc pump A seal	55	No	Water	3/4	6.2-70 Sh. 23	Inside Outside Outside	0'-0" 33'-0"	C C	No(29)	2RCS*V60A B35-F013A 2RCS*V90A B35-F009A 2RCS*V59A B35-F017A	Check Check Check	N/A N/A N/A	Process Process Process	N/A N/A N/A	Open Open Open	Closed Closed Closed	Closed Closed Closed	N/A N/A N/A	Reverse flow Reverse flow Reverse flow	N/A N/A N/A	N/A		
Z-38B	RDS to recirc Pump A seal	55	No	Water	3/4	6.2-70 Sh. 23	Inside Outside Outside	0'-0" 31'-0"	C C	No(29)	2RCS*V60B B35-F013B 2RCS*V90B B35-F009B 2RCS*V59B B35-F017B	Check Check Check	N/A N/A N/A	Process Process Process	N/A N/A N/A	Open Open Open	Closed Closed Closed	Closed Closed Closed	N/A N/A N/A	Reverse flow Reverse flow Reverse flow	N/A N/A N/A	N/A		
Z-39	Drywell floor drain tank vent line	56	No	Air	6	6.2-70 Sh. 24	Inside Outside	1'-6"	C C	Yes(30)	2DFR*MOV121 2DFR*MOV120	- -	Gate Gate	MOV MOV	Elec. Elec.	Manual Manual	Open Open	Closed Closed	Closed Closed	FAI FAI	B,F,RM B,F,RM	28 28	Div II Div I	
Z-40	Equipment drains from drywell	56	No	Water	4	6.2-70 Sh. 24	Inside Outside	4'-2"	C C	Yes(30)	2DER*MOV119 2DER*MOV120	- -	Gate Gate	MOV MOV	Elec. Elec.	Manual Manual	Open Open	Closed Closed	Closed Closed	FAI FAI	B,F,RM B,F,RM	22 22	Div II Div I	

8412110131-08



Nine Mile Point Unit 2 FSAR

TABLE 6.2-56 (Cont)

Pene- tration No.	System Designation	GDC or Reg. Guide	ESF System	Fluid	Size (in)	FSAR Arrange- ment Figure(1)	Location of valve Inside/ Outside Primary Contain- ment	Length of Pipe - Contain- ment to Outside Isolation Valve	Type Test (1)	Potential Bypass Leakage Path	Valve(9)												Isola- tion Signal (4)	Closure Time (5,6)	Power Source (7)	Notes
											Number		Type	Oper- ator	Actuator Mode		Position				Power Failure(10)					
											SWEC	GE			Primary	Secondary	Normal (3)	Shutdown	Post- Accident							
Z-41	Reactor coolant recirc to sample cooler	55	No	Water	3/4	6.2-70 Sh. 25	Inside Outside	0'-0"	C C	No(31)	2RCS*SOV104 2RCS*SOV105	B35-F019 B35-F020	Globe Globe	SOV SOV	Elec. Elec.	N/A N/A	Closed Closed	Closed Closed	Closed Closed	Closed Closed	B,C,RM B,C,RM	N/A N/A	Div II Div I			
Z-42A	Fire protection for reactor recirc pump	56	No	Water	2	6.2-70 Sh. 26	Inside Outside	3'-0"	C C	No(31)	2FPW*SOV219 2FPW*SOV218	- -	Globe Globe	SOV SOV	Elec. Elec.	N/A N/A	Closed Closed	Closed Closed	Closed Closed	Closed Closed	B,F,RM B,F,RM	N/A N/A	Div II Div I			
Z-42B	Fire protection water for reac- tor recirc pump	56	No	Water	2	6.2-70 Sh. 26	Inside Outside	3'-0"	C C	No(31)	2FPW*SOV221 2FPW*SOV220	- -	Globe Globe	SOV SOV	Elec. Elec.	N/A N/A	Closed Closed	Closed Closed	Closed Closed	Closed Closed	B,F,RM B,F,RM	N/A N/A	Div II Div I			
Z-43	Drywell floor drains	56	No	Water	6	6.2-70 Sh. 27	Inside Outside	20'-10"	C C	Yes(30)	2DFR*MOV140 2DFR*MOV139	- -	Gate Gate	MOV MOV	Elec. Elec.	Manual Manual	Open Open	Closed Closed	Closed Closed	FAI FAI	B,F,RM B,F,RM	13 13	Div II Div I			
Z-44A	Capped spare				3				A																	
Z-44B	Capped spare				3				A																	
Z-44C	Capped spare				3				A																	
Z-44D	Capped spare				3				A																	
Z-44E	Service air to drywell	56	No	Air	2	6.2-70 Sh. 22	Outside Inside	0'-5"	C C	No(31)	2SAS*HCV160 2SAS*HCV162	- -	Globe Globe	Manual Manual	Manual Manual	N/A N/A	Closed Closed	Open Open	Closed Closed	N/A N/A	LMC,LC LMC,LC	N/A N/A	Div I Div II			
Z-44F	Breathing air to drywell	56	No	Air	2	6.2-70 Sh. 22	Outside Inside	0'-5"	C C	No(31)	2AAS*HCV135 2AAS*HCV137	- -	Globe Globe	Manual Manual	Manual Manual	N/A N/A	Closed Closed	Open Open	Closed Closed	N/A N/A	LMC,LC LMC,LC	N/A N/A	Div I Div II			
Z-45	Equipment drain tank (2DER-TK1) vent to drywell	56	No	Air	2	6.2-70 Sh. 27	Inside Outside	0'-0"	C C	Yes(30)	2DER*MOV130 2DER*MOV131	- -	Globe Globe	MOV MOV	Elec. Elec.	Manual Manual	Open Open	Closed Closed	Closed Closed	FAI FAI	B,F,RM B,F,RM	9 9	Div II Div I			
Z-46A	CCP supply to drywell space cooler	56	No	Water	8	6.2-70 Sh. 28	Inside Outside	7'-0"	C C	No(31)	2CCP*MOV273 2CCP*MOV265	- -	Gate Gate	MOV MOV	Elec. Elec.	Manual Manual	Open Open	Open Open	Closed Closed	FAI FAI	B,F,RM B,F,RM	36 38	Div II Div I			

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Nine Mile Point Unit 2 FSAR

TABLE 6.2-56 (Cont)

TABLE 6.2-36 (cont)																									
Pene- tration No.	System Designation	GDC or Reg. Guide	ESF System	Fluid	Size (in)	FSAR Arrange- ment Figure(1)	Location of valve Inside/ Outside Primary Contain- ment	Length of Pipe - Con- tainment to Outside Isolation Valve	Type Test (1)	Potential Bypass Leakage Path	Valve(9)											Notes			
											Number		Type	Oper- ator	Actuator Mode		Normal (3)	Position		Post- Accident	Power Failure(10)		Isola- tion Signal (4)	Closure Time (5,6)	Power Source (7)
											SWEC	GE			Primary	Secondary		Shutdown							
Z-46B	Capped spare				4				A																
Z-46C	Fire protection water for con- tainment hose reel standpipe						See Note 20			No(31)															
Z-46D	Capped spare				4				A																
Z-47	CCP return from drywell space cooler	57	No(31)	Water	8	6.2-70 Sh. 28	Inside Outside	7'-3"	C C	No(31)	2CCP*MOV122 2CCP*MOV124	- -	Gate Gate	MOV MOV	Elec. Elec.	Manual Manual	Open Open	Open Open	Closed Closed	FAI FAI	B,F,RM B,F,RM	38 36	Div II Div I		
Z-48	Purge exhaust from drywell	56	No	Air	14	6.2-70 Sh. 29	Inside Outside	- 7'-4"	C C	No(31)	2CPS*AOV108 2CPS*AOV110	- -	Butter- fly Butter- fly	AOV AOV	Pneu- matic Pneu- matic	Manual Manual	Closed Closed	Closed Closed	Closed Closed	Closed Closed	B,F,Y,RM B,F,Y,RM	5 5	Div II Div I		
Z-49	Purge inlet to drywell	56	No	Air/N <sub>2</sub>	14	6.2-70 Sh. 29	Inside Outside	- 4'-0"	C C	No(31)	2CPS*AOV106 2CPS*AOV104	- -	Butter- fly Butter- fly	AOV AOV	Pneu- matic Pneu- matic	Manual Manual	Closed Closed	Closed Closed	Closed Closed	Closed Closed	B,F,Y,RM B,F,Y,RM	5 5	Div II Div I		
Z-50	Purge inlet to wetwell	56	No	Air/N <sub>2</sub>	12	6.2-70 Sh. 29	Inside Outside	- 4'-3"	C C	No(31)	2CPS*AOV107 2CPS*AOV105	- -	Butter- fly Butter- fly	AOV AOV	Pneu- matic Pneu- matic	Manual Manual	Closed Closed	Closed Closed	Closed Closed	Closed Closed	B,F,Y,RM B,F,Y,RM	5 5	Div II Div I		
Z-51	Purge exhaust from wetwell	56	No	Air	12	6.2-70 Sh. 29	Inside Outside	- 6'-6"	C C	No(31)	2CPS*AOV109 2CPS*AOV111	- -	Butter- fly Butter- fly	AOV AOV	Pneu- matic Pneu- matic	Manual Manual	Closed Closed	Closed Closed	Closed Closed	Closed Closed	B,F,Y,RM B,F,Y,RM	5 5	Div II Div I		
Z-52A	Capped spare				1				A																
Z-52B	Capped spare				1				A																
Z-53A	Instrument air to ADS valve accumulators	56	No	N <sub>2</sub>	1 1/2	6.2-70 Sh. 30	Outside Inside	1'-0"	C C	Yes(30)	2IAS*SOV164 2IAS*V448		Globe Check	SOV N/A	Elec. Process	N/A N/A	Open Open	Open Open	Open Open	Closed N/A	B,F,RM Reverse flow	N/A N/A	Div I N/A		

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Nine Mile Point Unit 2 PSAR

TABLE 6.2-56 (Cont)

Pene- tration No.	System Designation	GDC or Reg. Guide	ESP System	Fluid	Size (in)	FSAR Arrange- ment Figure(1)	Location of valve Inside/ Outside/ Primary Contain- ment	Length of Pipe - Con- tainment to Outside Isolation Valve	Type Test (1)	Potential Bypass Leakage Path	Valve(9)										Isola- tion Signal (4)	Closure Time (5,6)	Power Source (7)	Notes
												Number	GE	Type	Oper- ator	Actuator Mode		Position		Post- Accident	Power Failure(10)			
												SWEC				Primary	Secondary	Normal (3)	Shutdown					
Z-53B	Instrument air to ADS valve accumulators	56	No	N <sub>2</sub>	1 1/2	6.2-70 Sh. 30	Outside Inside	1'-0"	C C	Yes(30)	2IAS*SOV165 2IAS*V449	- -	Globe Check	SOV N/A	Elec. Process	N/A N/A	Open Open	Open Open	OPEN OPEN	Closed N/A	B,F,RM Reverse flow	N/A N/A	Div II N/A	
Z-53C	Instrument air to MSRVS accumulator tank	56	No	N <sub>2</sub>	1 1/2	6.2-70 Sh. 30	Outside Inside	1'-0"	C C	Yes(30)	2IAS*SOV166 2IAS*SOV184	- -	Globe Globe	SOV SOV	Elec. Elec.	N/A N/A	Open Open	Open Open	Closed Closed	Closed Closed	B,F,RM B,F,RM	N/A N/A	Div I Div II	
Z-54A	Capped spare				3				A															
Z-55A	Hydrogen recombiner 1A supply to wetwell	56	Yes	Air	3	6.2-70 Sh. 31	Inside Outside	2'-0"	A,C A,C	No(31)	2HCS*MOV4A 2HCS*MOV1A	- -	Globe Globe	MOV MOV	Elec. Elec.	Manual Manual	Closed Closed	Closed Closed	Open Open	FAI FAI	B,F,RM B,F,RM	19 19	Div I Div I	12, 22
Z-55B	Hydrogen recombiner 1B supply to wetwell	56	Yes	Air	3	6.2-70 Sh. 31	Inside Outside	2'-0"	A,C A,C	No(31)	2HCS*MOV4B 2HCS*MOV1B	- -	Globe Globe	MOV MOV	Elec. Elec.	Manual Manual	Closed Closed	Closed Closed	Open Open	FAI FAI	B,F,RM B,F,RM	19 19	Div II Div II	12, 22
Z-56A	Hydrogen recombiner 1A return from drywell	56	Yes	Air	3	6.2-70 Sh. 31	Inside Outside	2'-0"	A,C A,C	No(31)	2HCS*MOV6A 2HCS*MOV3A	- -	Globe Globe	MOV MOV	Elec. Elec.	Manual Manual	Closed Closed	Closed Closed	Open Open	FAI FAI	B,F,RM B,F,RM	19 19	Div I Div I	12, 22
Z-56B	Hydrogen recombiner 1B return from drywell	56	Yes	Air	3	6.2-70 Sh. 31	Inside Outside	2'-0"	A,C A,C	No(31)	2HCS*MOV6B 2HCS*MOV3B	- -	Globe Globe	MOV MOV	Elec. Elec.	Manual Manual	Closed Closed	Closed Closed	Open Open	FAI FAI	B,F,RM B,F,RM	19 19	Div II Div II	12, 22
Z-57A	Hydrogen recombiner 1A return from wetwell	56	Yes	Air	3	6.2-70 Sh. 31	Inside Outside	2'-0"	A,C A,C	No(31)	2HCS*MOV5A 2HCS*MOV2A	- -	Globe Globe	MOV MOV	Elec. Elec.	Manual Manual	Closed Closed	Closed Closed	Open Open	FAI FAI	B,F,RM B,F,RM	19 19	Div I Div I	12, 22
Z-57B	Hydrogen recombiner 1B return from wetwell	56	Yes	Air	3	6.2-70 Sh. 31	Inside Outside	2'-0"	A,C A,C	No(31)	2HCS*MOV5B 2HCS*MOV2B	- -	Globe Globe	MOV MOV	Elec. Elec.	Manual Manual	Closed Closed	Closed Closed	Open Open	FAI FAI	B,F,RM B,F,RM	19 19	Div II Div II	12, 22
Z-58	Containment purge to drywell	56	No	Air	2	6.2-70 Sh. 29	Inside Outside	3'-4"	C C	No(31)	2CPS*SOV122 2CPS*SOV120	- -	Globe Globe	SOV SOV	Elec. Elec.	N/A N/A	Closed Closed	Closed Closed	Closed Closed	Closed Closed	B,F,Y RM B,F,Y RM	N/A N/A	Div II Div I	

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Nine Mile Point Unit 2 FSAR

TABLE 6.2-56 (Cont)

Pene- tration No.	System Designation	GDC or Reg. Guide	ESF System	Fluid	Size (in)	PSAR Arrange- ment Figure(1)	Location of valve Inside/ Outside Primary Contain- ment	Length of Pipe - Con- tainment to Outside Isolation Valve	Type Test (1)	Potential Bypass Leakage Path	Valve(9)										Isola- tion Signal (4)	Closure Time (5,6)	Power Source (7)	Notes
											Number		Type	Oper- ator	Actuator Mode		Position			Power Failure(10)				
											SWEC	GE			Primary	Secondary	Normal (3)	Shutdown	Post- Accident					
Z-59	Containment purge to wet- well	56	No	Air	2	6.2-70 Sh. 29	Inside		C	No(31)	2CPS*SOV121	-	Globe	SOV	Elec.	N/A	Closed	Closed	Closed	Closed	B,F,Y, RM	N/A	Div II	
							Outside	14'-6"	C		2CPS*SOV119	-	Globe	SOV	Elec.	N/A	Closed	Closed	Closed	Closed	B,F,Y, RM	N/A	Div I	
Z-60A	CMS from dry- well	56	No	Air	3/4	6.2-70 Sh. 32	Inside		C	No(31)	2CHS*SOV61A	-	Globe	SOV	Elec.	N/A	Open	Closed	Closed	Closed	B,F,RM	N/A	Div II	
							Outside	1'-2"	C		2CHS*SOV60A	-	Globe	SOV	Elec.	N/A	Open	Closed	Closed	Closed	B,F,RM	N/A	Div I	
Z-60B	CMS from dry- well	56	Yes	Air	3/4	6.2-70 Sh. 32	Inside		C	Yes(33)	2CHS*SOV24A	-	Globe	SOV	Elec.	N/A	Open	Closed	Open	Closed	B,F,RM	N/A	Div I	
							Outside	1'-2"	C		2CHS*SOV24C	-	Globe	SOV	Elec.	N/A	Open	Closed	Open	Closed	B,F,RM	N/A	Div I	
Z-60C	CMS to dry- well	56	No	Air	3/4	6.2-70 Sh. 32	Inside		C	No(31)	2CHS*SOV63A	-	Globe	SOV	Elec.	N/A	Open	Closed	Closed	Closed	B,F,RM	N/A	Div II	
							Outside	0'-3"	C		2CHS*SOV62A	-	Globe	SOV	Elec.	N/A	Open	Closed	Closed	Closed	B,F,RM	N/A	Div I	
Z-60D	CMS to dry- well	56	Yes	Air	3/4	6.2-70 Sh. 32	Inside		C	Yes(33)	2CHS*SOV33A	-	Globe	SOV	Elec.	N/A	Open	Closed	Open	Closed	B,F,RM	N/A	Div I	
							Outside	0'-4"	C		2CHS*SOV32A	-	Globe	SOV	Elec.	N/A	Open	Closed	Open	Closed	B,F,RM	N/A	Div I	
Z-60E	CMS from dry- well	56	No	Air	3/4	6.2-70 Sh. 32	Inside		C	No(31)	2CHS*SOV61R	-	Globe	SOV	Elec.	N/A	Open	Closed	Closed	Closed	B,F,RM	N/A	Div II	
							Outside	0'-7"	C		2CHS*SOV60B	-	Globe	SOV	Elec.	N/A	Open	Closed	Closed	Closed	B,F,RM	N/A	Div I	
Z-60F	CMS from dry- well	56	Yes	Air	3/4	6.2-70 Sh. 32	Inside		C	Yes(33)	2CHS*SOV24B	-	Globe	SOV	Elec.	N/A	Open	Closed	Open	Closed	B,F,RM	N/A	Div II	
							Outside	0'-7"	C		2CHS*SOV24D	-	Globe	SOV	Elec.	N/A	Open	Closed	Open	Closed	B,F,RM	N/A	Div II	
Z-60G	CMS to drywell	56	No	Air	3/4	6.2-70 Sh. 32	Inside		C	No(31)	2CHS*SOV63B	-	Globe	SOV	Elec.	N/A	Open	Closed	Closed	Closed	B,F,RM	N/A	Div II	
							Outside	0'-7"	C		2CHS*SOV62B	-	Globe	SOV	Elec.	N/A	Open	Closed	Closed	Closed	B,F,RM	N/A	Div I	
Z-60H	CMS to drywell	56	Yes	Air	3/4	6.2-70 Sh. 32	Inside		C	Yes(33)	2CHS*SOV33B	-	Globe	SOV	Elec.	N/A	Open	Closed	Open	Closed	B,F,RM	N/A	Div II	
							Outside	1'-0"	C		2CHS*SOV32B	-	Globe	SOV	Elec.	N/A	Open	Closed	Open	Closed	B,F,RM	N/A	Div II	
Z-61A	Capped spare				3/4				A															
Z-61B	CMS from wet- well	56	Yes	Air	3/4	6.2-70 Sh. 32	Inside		C	No(31)	2CHS*SOV26A	-	Globe	SOV	Elec.	N/A	Open	Closed	Open	Closed	B,F,RM	N/A	Div I	
							Outside	15'-0"	C		2CHS*SOV26C	-	Globe	SOV	Elec.	N/A	Open	Closed	Open	Closed	B,F,RM	N/A	Div I	
Z-61C	CMS to wetwell	56	Yes	Air	3/4	6.2-70 Sh. 32	Inside		C	No(31)	2CHS*SOV34A	-	Globe	SOV	Elec.	N/A	Open	Closed	Open	Closed	B,F,RM	N/A	Div I	
							Outside	18'-3"	C		2CHS*SOV35A	-	Globe	SOV	Elec.	N/A	Open	Closed	Open	Closed	B,F,RM	N/A	Div I	
Z-61D	Capped spare				3/4				A															
Z-61E	CMS from wet- well	56	Yes	Air	3/4	6.2-70 Sh. 32	Inside		C	No(31)	2CHS*SOV26B	-	Globe	SOV	Elec.	N/A	Open	Closed	Open	Closed	B,F,RM	N/A	Div II	
							Outside	0'-4"	C		2CHS*SOV26D	-	Globe	SOV	Elec.	N/A	Open	Closed	Open	Closed	B,F,RM	N/A	Div II	

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TABLE 6.2-56 (Cont)

Pene- tration No.	System Designation	GDC or Reg. Guide	ESF System	Fluid	Size (in)	FSAR Arrange- ment Figure(1)	Location of valve Inside/ Outside Primary Contain- ment	Length of Pipe - Con- tainment to Outside Isolation Valve	Type Test (1)	Potential Bypass Leakage Path							Valve(9)				Isola- tion Signal (4)	Closure Time (5,6)	Power Source (7)	Notes
											Number		Type	Oper- ator	Actuator Mode		Position		Power Failure					
											SWEC	GE			Primary	Secondary	Normal (3)	Shutdown		Post- Accident				
Z-61F	CMS to wetwell	56	Yes	Air	3/4	6.2-70 Sh. 32	Inside Outside	0'-4"	C C	No(31)	2CMS*SOV34B 2CMS*SOV35B	- -	Globe Globe	SOV SOV	Elec. Elec.	N/A N/A	Open Open	Closed Closed	Open Open	Closed Closed	B,F,RM B,F,RM	N/A N/A	Div II Div II	
Z-67	Spare				10				A															
Z-68	Capped spare				10				A															
Z-69	Spare				6																			
Z-70	Capped spare				6				A															
Z-71	Spare				3				A															
Z-72	Capped spare				14				A															
Z-73	RHS relief valve dis- charge to suppression pool	56	No	Water	6	6.2-70 Sh. 33	Outside	48'-6"	A	No(29)	2RHS*RV108 2RHS*RV20C	E12-F036 E12-F025C	RV	N/A	N/A	N/A	N/A	N/A	N/A	N/A	None	N/A	N/A	
Z-74	Capped spare				6				A															
Z-75	Capped spare				3				A															
Z-76	Capped spare				3				A															
Z-77	Capped spare				1 1/2				A															
Z-78	Capped spare				1 1/2				A															
Z-79	Capped spare				1 1/2				A															
Z-80	Spent fuel pool cooling	56	No	Water	1 1/2	6.2-70 Sh. 40	Outside Inside	1'-6"	C C	No(31)	2SFC*V203 2SFC*V204	- -	Globe Globe	Manual Manual	Manual Manual	N/A N/A	Closed Closed	Closed Closed	Closed Closed	N/A N/A	LC LC	N/A N/A	N/A N/A	
Z-81	Capped spare				1 1/2				A															
Z-82	Capped spare				1				A															

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Nine Mile Point Unit 2 PSAR

TABLE 6.2-56 (Cont)

Penetration No.	System Designation	GDC or Reg. Guide	ESF 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	Actuator Mode		Valve(2)				Isolation Signal (4)	Closure Time (5,6)	Power Source (7)	Notes
											SWEC	GE			Primary	Secondary	Normal (3)	Shutdown	Post-Accident	Power Failure(10)				
Z-83	Capped spare				1				A															
Z-85	Capped spare				1				A															
Z-86	Capped spare				1				A															
Z-87	Capped spare				1				A															
Z-88A	RHS safety valve discharge to suppression pool	56	Yes	Steam	12	6.2-70 Sh. 34	Outside	116'-2"	A	No(29)														
Z-88B	RHR safety valve discharge to suppression pool	56	Yes	Steam	12	6.2-70 Sh. 34	Outside	106'-3"	A	No(29)														
Z-89A	LMS from drywell	56	No	Air	3/4	6.2-70 Sh. 35	Inside Outside	0'-2"	C C	No(31)	2LMS*SOV152 2LMS*SOV153	- -	Globe Globe	SOV SOV	Elec. Elec.	N/A N/A	Closed Closed	Closed Closed	Closed Closed	Closed Closed	B,F,RM B,F,RM	N/A N/A	Div II Div I	
Z-89B	Capped spare				3/4				A															
Z-89C	LMS from wetwell	56	No	Air	3/4	6.2-70 Sh. 35	Inside Outside	0'-2"	C C	No(31)	2LMS*SOV156 2LMS*SOV157	- -	Globe Globe	SOV SOV	Elec. Elec.	N/A N/A	Closed Closed	Closed Closed	Closed Closed	Closed Closed	B,F,RM B,F,RM	N/A N/A	Div II Div I	
Z-89D	Capped spare				3/4				A															
Z-90	ICS vacuum breaker		Yes	Air	1 1/2	6.2-70 Sh. 36	Outside	23'-10" 29'-11"	C C	No(29)	2ICS*MOV148 2ICS*MOV164	E51-F086 E51-F080	Globe Globe	MOV MOV	Elec. Elec.	Manual Manual	Open Open	Closed Closed	Open Open	FAI FAI	FANDH,RM FANDH,RM	9 9	Div II Div I	35
Z-91A	Instrument air to drywell	56	No	N <sub>2</sub>	1 1/2	6.2-70 Sh. 37	Outside Inside	1'-0"	C C	Yes(30)	2IAS*SOV167 2IAS*SOV185	- -	Globe Globe	SOV SOV	Elec. Elec.	N/A N/A	Open Open	Open Open	Closed Closed	Closed Closed	B,F,RM B,F,RM	N/A N/A	Div I Div II	
Z-91B	Instrument air to drywell	56	No	N <sub>2</sub>	1 1/2	6.2-70 Sh. 37	Outside Inside	1'-0"	C C	Yes(30)	2IAS*SOV168 2IAS*SOV180	- -	Globe Globe	SOV SOV	Elec. Elec.	N/A N/A	Open Open	Open Open	Closed Closed	Closed Closed	B,F,RM B,F,RM	N/A N/A	Div I Div II	
Z-91C	Capped spare				1 1/2				A															
Z-91D	Capped spare				1 1/2				A															

Amendment 15 14 of 24 November 1984

8412110131-14

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TABLE 6.2-56 (Cont)

Pene- tration No.	System Designation	GDC or Reg. Guide	ESF System	Fluid	Size (in)	PSAR Arrange- ment Figure(1)	Location of valve Inside/ Outside Primary Contain- ment	Length of Pipe - Con- tainment to Outside Isolation Valve	Type Test (1)	Potential Bypass Leakage Path	Number		Type	Oper- ator	Actuator Mode		Valve(2)				Isola- tion Signal (4)	Closure Time (5,6)	Power Source (7)	Notes
											SWEC	GE			Primary	Secondary	Normal (3)	Shutdown	Post- Accident	Power Failure				
Z-92	Spare				1				A															
Z-96	Spare				1				A															
Z-98A	RHR relief valve discharge to suppression pool	56	Yes	Water	3	6.2-70 Sh. 38	Outside	207'-6"	A	No(29)	2CSL*RV123 2CSL*RV105 2RHS*RV61A 2RHS*RV110 2RHS*RV139 2RHS*RV20A	E21-F031 E21-F018 E12-F088A E12-F005 E12-F030 E12-F025A	Relief Valves	N/A	N/A	N/A	N/A	N/A	N/A	N/A	None	N/A	N/A	
Z-98B	RHR relief valve discharge to suppression pool	56	Yes	Water	3	6.2-70 Sh. 38	Outside	89'-8"	A	No(29)	2CSH*RV114 2CSH*RV113 2RHS*RV61B 2RHS*RV61C 2RHS*RV20B	E22-F035 E22-F014 E12-F088B E12-F088C E12-F025B	Relief Valves	N/A	N/A	N/A	N/A	N/A	N/A	N/A	None	N/A	N/A	
Z-99A	Hydraulic unit from recirc flow control valve HYV 17A (drain line)	56	No	Hy- draulic	3/4	6.2-70 Sh. 39	Outside Inside	0'-0"	N/A	No(31)	2RCS*SOV68A 2RCS*SOV82A	-	Globe Globe	SOV SOV	Elec. Elec.	N/A N/A	Open Open	Closed Closed	Closed Closed	Closed Closed	B,F,RM B,F,RM	N/A N/A	Div I Div II	26
Z-99B	Hydraulic unit to recirc flow control valve HYV 17A (open line)	56	No	Hy- draulic	1	6.2-70 Sh. 39	Outside Inside	0'-0"	N/A	No(31)	2RCS*SOV67A 2RCS*SOV81A	-	Globe Globe	SOV SOV	Elec. Elec.	N/A N/A	Open Open	Closed Closed	Closed Closed	Closed Closed	B,F,RM B,F,RM	N/A N/A	Div I Div II	26
Z-99C	Hydraulic unit to recirc flow control valve HYV 17A (pilot line)	56	No	Hy- draulic	1	6.2-70 Sh. 39	Outside Inside	0'-0"	N/A	No(31)	2RCS*SOV66A 2RCS*SOV80A	-	Globe Globe	SOV SOV	Elec. Elec.	N/A N/A	Open Open	Closed Closed	Closed Closed	Closed Closed	B,F,RM B,F,RM	N/A N/A	Div I Div II	26

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Nine Mile Point Unit 2 FSAR

TABLE 6.2-56 (Cont)

Pene- tration No.	System Designation	GDC or Reg. Guide	ESP System	Fluid	Size (in)	FSAR Arrange- ment Figure(1)	Location of valve Inside/ Outside Primary Contain- ment	Length of Pipe - Con- tainment to Outside Isolation Valve	Type Test (1)	Potential Bypass Leakage Path	Valve(9)						Isola- tion Signal (4)	Closure Time (5, 6)	Power Source (7)	Notes				
											Number		Type	Oper- ator	Actuator Mode						Position			
											SWEC	GE			Primary	Secondary					Normal (3)	Shutdown	Post- Accident	Power Failure
Z-99D	Hydraulic unit to recirc flow control valve HYV 17A (closed line)	56	No	Hy- draulic	1	6.2-70 Sh. 39	Outside Inside	0'-0"	N/A	No(31)	2RCS*SOV65A 2RCS*SOV79A	-	Globe Globe	SOV SOV	Elec. Elec.	N/A N/A	Open Open	Closed Closed	Closed Closed	Closed Closed	B,F,RM B,F,RM	N/A N/A	Div I Div II	26
Z-100A	Hydraulic unit from recirc flow control valve HYV 17B (drain line)	56	No	Hy- draulic	3/4	6.2-70 Sh. 39	Outside Inside	0'-0"	N/A	No(31)	2RCS*SOV68B 2RCS*SOV82B	-	Globe Globe	SOV SOV	Elec. Elec.	N/A N/A	Open Open	Closed Closed	Closed Closed	Closed Closed	B,F,RM B,F,RM	N/A N/A	Div I Div II	26
Z-100B	Hydraulic unit to recirc flow control valve HYV 17B (open line)	56	No	Hy- draulic	1	6.2-70 Sh. 39	Outside Inside	0'-0"	N/A	No(31)	2RCS*SOV67B 2RCS*SOV81B	-	Globe Globe	SOV SOV	Elec. Elec.	N/A N/A	Open Open	Closed Closed	Closed Closed	Closed Closed	B,F,RM B,F,RM	N/A N/A	Div I Div II	26
Z-100C	Hydraulic unit to recirc flow control valve HYV 17B (pilot) line)	56	No	Hy- draulic	1	6.2-70 Sh. 39	Outside Inside	0'-0"	N/A	No(31)	2RCS*SOV66B 2RCS*SOV80B	-	Globe Globe	SOV SOV	Elec. Elec.	N/A N/A	Open Open	Closed Closed	Closed Closed	Closed Closed	B,F,RM B,F,RM	N/A N/A	Div I Div II	26
Z-100D	Hydraulic unit to recirc flow control valve HYV 17B (closed line)	56	No	Hy- draulic	1	6.2-70 Sh. 39	Outside Inside	0'-0"	N/A	No(31)	2RCS*SOV65B 2RCS*SOV79B	-	Globe Globe	SOV SOV	Elec. Elec.	N/A N/A	Open Open	Closed Closed	Closed Closed	Closed Closed	B,F,RM B,F,RM	N/A N/A	Div I Div II	26
	All instrument lines from reactor vessel	R.G. 1.11	No	Air/ Water	3/4	6.2-70 Sh. 41	Outside	<10'-0"	A	No(31)	EF check valves	-	EFV	N/A	Auto	N/A	Open	Open	Open	Open	Excess flow	N/A	N/A	27
	All instrument lines penetra- ting primary containment	R.G. 1.11	No	Air/ Water	3/4	6.2-70 Sh. 41	Outside	<10'-0"	A	No(31)	EFV	-	EFV	N/A	Auto	N/A	Open	Open	Open	Open	Excess flow	N/A	N/A	27

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