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ENCLOSURES: ACKNOWLEDGED

Application for Amdt to Operating License requesting that Table 3.2.7 and Sections 3.3.3, 4.3.3, 3.3.4 and 4.3.4 of the Tech-Specs be amended to comply with Appendix J ....notarized 10-24-75 ....and Attachment A consisting of Proposed Change to Tech-- Specs .... Attach B - Safety Evaluation

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October 28, 1975

File Cy.

Mr. Ben C. Rusche
Director
Office of Nuclear Reactor
Regulation
U.S. Nuclear Regulatory
Commission
Washington, D.C. 20555

Re: Niagara Mohawk Power Corporation
Nine Mile Point Nuclear Station Unit No. 1
Docket No. 50-220

Dear Mr. Rusche:

Transmitted herewith are three (3) signed originals and nineteen (19) copies of a document entitled "Application for Amendment to Operating License." This Application seeks to change Table 3.2.7 and amend Sections 3.3.3, 4.3.3, 3.3.4, 4.3.4 to bring the specifications into conformance with Appendix J to 10 C.F.R. Part 50 of the Commission's regulations. Forty (40) copies of the proposed changes and safety evaluation are also enclosed.

A Certificate of Service showing service of these documents upon the persons listed therein is also enclosed.

Very truly yours,

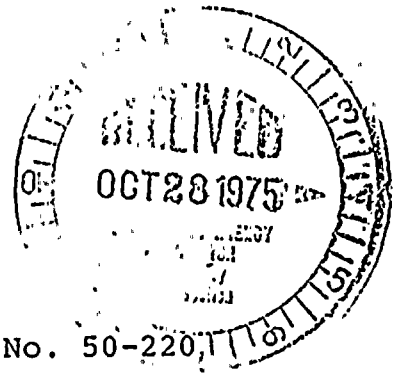
LeBoeuf, Lamb, Leiby & MacRae

LeBoeuf, Lamb, Leiby & MacRae
Attorneys for Niagara Mohawk
Power Corporation

12849

BEFORE THE UNITED STATES

NUCLEAR REGULATORY COMMISSION



In the Matter of)
)
NIAGARA MOHAWK POWER CORPORATION) Docket No. 50-220
(Nine Mile Point Nuclear Station)
Unit No. 1))

CERTIFICATE OF SERVICE

I hereby certify that I have served a document entitled "Application for Amendment to Operating License" by mailing a copy thereof first class, postage prepaid, to the following persons this 28th day of October, 1975.

Mr. Robert P. Jones
Supervisor
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Oswego, New York 13126

Miss Juanita Kersey
Librarian
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Albany, New York 12210

Hope M. Babcock

LeBoeuf, Lamb, Leiby & MacRae
Attorneys for Applicant

UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

In the Matter of	)	
	)	
NIAGARA MOHAWK POWER CORPORATION	)	Docket No. 50-220
(Nine Mile Point Nuclear Station	)	
Unit No. 1)	)	

APPLICATION FOR AMENDMENT

TO

OPERATING LICENSE

Pursuant to Section 50.90 of the regulations of the Nuclear Regulatory Commission, Niagara Mohawk Power Corporation, holder of Facility Operating License No. DPR-63, hereby requests that Table 3.2.7 and Sections 3.3.3, 4.3.3, 3.3.4 and 4.3.4 of the Technical Specifications set forth in Appendix A to that License be amended to comply with Appendix J of Title 10 of the Code of Federal Regulations, Part 50. This proposed change has been approved by Site Operations Review Committee and Safety Review and Audit Board.

The proposed Technical Specification change is set forth in Attachment A to this application. A safety evaluation, which demonstrates that the proposed change does not involve a significant hazards consideration,

is set forth in Attachment B. The proposed change would not authorize any change in the types or any increase in the amounts of effluents or any change in the authorized power level of the facility.

WHEREFORE, Applicant respectfully requests that Appendix A to Facility Operating License No. DPR-63 be amended in the form attached hereto as Attachment A.

NIAGARA MOHAWK POWER CORPORATION

By _____
Gerald K. Rhode
Vice President-Engineering

Subscribed and sworn to before
me on this 24th day of October, 1975.

Patricia A. Connor (Patricia C. Noll)
Notary Public

PATRICIA A. CONNOR
Notary Public in the State of New York
Qualified in Onondaga Co. No. 4600264
My Commission Expires March 30, 1977

ATTACHMENT A

Niagara Mohawk Power Corporation

License No. DPR-63

Docket No. 50-220

Proposed Change to Technical Specifications

Table 3.2.7

REACTOR COOLANT SYSTEM ISOLATION VALVES

Line or System (b)	No. of Valves (Each Line)	Location Relative to Primary Containment	Normal Position	Motive Power	Maximum Oper. Time (Sec)	Action on Initiating Signal	Initiating Signal (All Valves Have Remote Manual Backup)
Main Steam	1	Inside	Open	A.I.P.O.*	10	Close	Reactor water level low-low, or main steam line high radiation, or main steam line high flow, or low condenser vacuum, or high temperature in the pipe tunnel
(Two Lines)	1	Outside	Open	A.I.P.O.	10	Close	
Main Steam Warm-up (Two Lines)	1	Outside	Closed	A.I.P.O.	8	Close	
Main Steam-Emergency Cooling Vents (Two Lines)	2	Outside	Open	A.I.P.O.	5	Close	-
Feedwater	1	Outside (a)	Open	R.M.P.O.*	60	-	-
(Two Lines)	1	Outside (a)	-	Self Act. Ck.	--	-	-
Emergency Cooling							
Steam Leaving Reactor	1	Outside (a)	Open	A.I.P.O.	38	Close	High radiation in shell vents, or high system flow
(Two Lines)	1	Outside (a)	Open	A.I.P.O.	38	Close	
Condenser Return to Reactor	1	Inside (a)	-	Self Act. Ck.	--	-	
(Two Lines)	1	Outside (a)	Closed	A.I.P.O.	60	Close	
Reactor Cleanup							
Water Leaving Reactor	1	Inside (a)	Open	A.I.P.O.	18	Close	Reactor water level low-low, or high area temperature, liquid poison initiation or high system pressure, or low system flow, or high system temperature
(One Line)	1	Outside (a)	Open	A.I.P.O.	18	Close	
Water Return to Reactor	1	Inside (a)	Open	A.I.P.O.	18	Close	
(One Line)	1	Outside (a)	-	Self Act. Ck.	--	-	
Shutdown Cooling							
Water Leaving Reactor	1	Inside (a)	Closed	A.I.P.O.	40	Close	Reactor water level low-low, or high area temperature
(One Line)	1	Outside	Closed	A.I.P.O.	40	Close	
Water Return to Reactor	1	Inside (a)	Closed	A.I.P.O.	40	Close	
(One Line)	1	Outside (a)	-	Self Act. Ck.	--	-	

LIMITING CONDITION FOR OPERATION

Table 3.2.7 (Continued)

REACTOR COOLANT SYSTEM ISOLATION VALVES

Line or System (b)	No. of Valves (Each Line)	Location Relative to Primary Containment	Normal Position	Motive Power	Maximum Oper. Time (Sec)	Action on Initiating Signal	Initiating Signal (All Valves Have Remote Manual Backup)
Reactor Head Spray	1	Inside (a)	-	Self Act. Ck.	--	-	-
(One Line)	1	Outside (a)	Closed	R.M.P.O.	30	-	-
Liquid Poison	1	Inside (a)	-	Self Act. Ck.	--	-	-
(One Line)	1	Outside (a)	-	Self Act. Ck.	--	-	-
Control Rod Drive Hydraulic	1	Inside (a)	-	Self Act. Ck.	--	-	-
(One Line)	1	Outside (a)	-	Self Act. Ck.	--	-	-

*A.I.P.O. - Automatically Initiated Power Operated

*R.M.P.O. - Remote Manual Power Operated

NOTES: (a) These valves are classified as non-testable for containment leakage.

(b) Penetrations for control rod drive, containment ventilation, TIP system and spares are non-testable for containment leakage.

LIMITING CONDITION FOR OPERATION

SURVEILLANCE REQUIREMENT

d. Frequency

Three integrated leak rate tests shall be performed at approximately equal intervals during each 10-year service period with the third test in each ten-year interval corresponding with the ten-year scheduled in-service inspection shutdown.

e. Local Leak Rate Tests

(1) Primary containment testable penetrations and isolation valves (see Tables 3.2.7 & 3.3.4) shall be tested at a pressure of 35 psig each major refueling outage except bolted double-gasketed seals shall be tested whenever the seal is closed after being opened, and at least at each refueling outage.

(2) Personnel air lock door seals shall be tested once within 24 hours after opening when the reactor is in a power operating condition, at a pressure of 10 psig and the leak rate extrapolated to 35 psig. Air lock seals shall also be leak rate tested at a pressure of 35 psig at the beginning of each operating cycle. An additional 35 psig leak rate test shall be performed near the middle of the operating cycle should a shutdown requiring de-inerting arise. If the above shutdown does not occur or is not anticipated, the air lock seals will be

The maximum allowable test leak rate as specified in 4.3.3.b is 1.5%/day at a pressure of 35 psig. This value for the test condition was derived from the maximum allowable accident leak rate of about 1.9%/day when corrected for the effects of containment environment under accident and test conditions. In the accident case, the containment atmosphere initially would be composed of steam and hot air depleted of oxygen whereas under test conditions the test medium would be air or nitrogen at ambient conditions. Considering the differences in mixture composition and temperatures, the appropriate correction factor applied was 0.8 and determined from the guide on containment testing.(3)

Although the dose calculations suggest that the allowable test leak rate could be allowed to increase to about 3.0%/day before the guideline thyroid dose limit given in 10CFR100 would be exceeded, establishing the limit at 1.5%/day provides an adequate margin of safety to assure the health and safety of the general public. It is further considered that the allowable leak rate should not deviate significantly from the containment design value to take advantage of the design leak-tightness capability of the structure over its service lifetime. Additional margin to maintain the containment in the "as built" condition is achieved by establishing the allowable operational leak rate. The operational limit is derived by multiplying the allowable test leak rate by 0.75 thereby providing a 25% margin to allow for leakage deterioration which may occur during the period between leak rate tests.

The primary containment leak rate test frequency is based on maintaining adequate assurance that the leak rate remains within the specification. The leak rate test frequency is based on the NRC guide for developing leak rate testing and surveillance of reactor containment vessels.(4)

Valves listed in Tables 3.2.7 and 3.3.4 are not containment isolation valves if they do not perform a containment isolation function. Those valves in systems that are required to operate during a loss-of-coolant accident such as feedwater (for HPCI), core spray, containment spray, emergency condensers, liquid poison, and CRD hydraulic are not containment isolation valves. Other valves which are non-testable for different reasons are also noted on the Tables.

With the exception of the control-rod-drive, containment ventilation, TIP system, and spare penetrations through containment vessel walls, all other penetrations are equipped with leak test connections. Testing will be accomplished by pressurizing the double-sealed penetrations. Double expansion bellows for high-temperature penetrations will be tested for leaks together with the remainder of the penetration. Leak detection will then be accomplished by rate measuring techniques.

The penetration and air purge piping leakage test frequency, along with the containment leak rate tests, is adequate to allow detection of leakage trends. Whenever a double-gasketed penetration (primary containment head equipment hatches and the suppression chamber access hatch) is broken and remade, the space between the gaskets is pressurized to determine that the seals are performing properly. The test pressure of 35 psig is consistent with the accident analyses and the maximum preoperational leak rate test pressure. It is expected that the majority of the leakage from valves, penetrations and seals would be into the reactor building. However, it is possible that leakage into other parts of the facility could occur. Such leakage paths that may affect significantly the consequences of accidents are to be minimized. If the leakage rates of the double-gasketed seal penetrations, testable penetration isolation valves, containment air purge inlets and outlets and the vacuum relief valves are at the maximum specified, they will total 90 percent of the allowed leak rate.(2) Hence, 10 percent margin is left for leakage through walls and untested components.

Monitoring the nitrogen makeup requirements of the inerting system provides a method of observing leak rate trends and would detect gross leaks in a very short time. This equipment must be periodically removed from service for test and maintenance, but this out-of-service time will be kept to a practical minimum.

(1) Appendix E, FSAR

(2) Volume 1, Section VI, FSAR

(3) TID-20583, Leakage Characteristics of Steel Containment Vessels and the Analysis of Leakage Rate Determinations.

(4) 10CFR50 Appendix J, "Reactor Containment Leakage Testing for Water Cooled Power Reactors".

LIMITING CONDITION FOR OPERATION

3.3.4 PRIMARY CONTAINMENT ISOLATION VALVES

Applicability:

Applies to the operating status of the system of isolation valves on fluid lines penetrating the primary containment.

Objective:

To assure that potential leakage paths from the primary containment in the event of a loss-of-coolant accident are minimized.

Specification:

a. Whenever the reactor coolant system temperature is greater than 215F, all containment isolation valves on fluid lines penetrating the primary containment shall be operable except as specified in 3.3.4b below.

b. In the event any isloation valve becomes inoperable the system shall be considered operable provided at least one valve in each line having an inoperable valve is in the mode corresponding to the isolated condition.

SURVEILLANCE REQUIREMENT

4.3.4 PRIMARY CONTAINMENT ISOLATION VALVES

Applicability:

Applies to the periodic testing requirements of the primary containment isolation valve system.

Objective:

To assure the operability of the primary containment isolation valves to limit potential leakage paths from the containment in the event of a loss-of-coolant accident.

Specification:

The primary containment isolation valves surveillance shall be performed as indicated (see Table 3.3.4)

a. At least once per operating cycle the operable isolation valves that are power operated and automatically initiated shall be tested for automatic initiation and closure times.

b. At least once per quarter all normally open power operated isolation valves shall be fully closed and reopened.

LIMITING CONDITION FOR OPERATION

Table 3.3.4

PRIMARY CONTAINMENT ISOLATION VALVES

ON FLUID LINES PENETRATING THE CONTAINMENT

Line or System (d)	No. of Valves (Each Line)	Location Relative to Primary Containment	Normal Position	Motive Power	Maximum Oper. Time (Sec)	Action on Initiating Signal	Initiating Signal (All Valves Have Remote Manual Backup)
Drywell Vent & Purge							
N_2 Connection	1	Outside(a)	Closed	Air/D.C. Sol.	60	Close	Reactor water level low-low or drywell high pressure
(One Line)	1	Outside(a)	Closed	A.C. Motor	60	Close	
Air Connection	1	Outside(a)	Closed	Air/D.C. Sol.	60	Close	
(One Line)	1	Outside(a)	Closed	A.C. Motor	60	Close	
Suppression Chamber Vent & Purge							
N_2 Connection	1	Outside(a)	Closed	Air/D.C. Sol.	60	Close	Reactor water level low-low or drywell high pressure
(One Line)	1	Outside(a)	Closed	A.C. Motor	60	Close	
Air Connection	1	Outside(a)	Closed	Air/D.C. Sol.	60	Close	
(One Line)	1	Outside(a)	Closed	A.C. Motor	60	Close	
Drywell N_2 Makeup (One Line)	2	Outside(b)	Closed	Air/D.C. Sol.	60	Close	Reactor water level low-low or drywell high pressure
Drywell N_2 Supply (TIP Purge) (One Line)	2	Outside	-	Self Act. Ck.	-	-	
Suppression Chamber N_2 Makeup (One Line)	2	Outside(b)	Closed	Air/D.C. Sol.	60	Close	Reactor water level low-low or drywell high pressure
Drywell Equipment Drain Line (One Line)	1	Inside (c)	Open	A.C. Motor	60	Close	Reactor water level low-low or drywell high pressure
	1	Outside(c)	Open	Air/D.C. Sol.	60	Close	
Floor Drain Line (One Line)	1	Inside (c)	Open	A.C. Motor	60	Close	
	1	Outside(c)	Open	Air/D.C. Sol.	60	Close	
Suppression Chamber Water Makeup (One Line)	1	Outside(b)	Closed	Air/D.C. Sol.	60	-	-
	1	Outside	-	Self Act. Ck.	--	-	
Vacuum Relief Atmosphere to Pressure Suppression System (Three Lines)	1	Outside	Closed	Air/D.C. Sol.	5	Open	Negative pressure relative to atmosphere
	1	Outside	-	Self Act. Ck.	--	-	-
Reactor Cleanup System Relief Valve Discharge (One Line to Suppression Chamber)	2	Outside(c)	-	Self Act. Ck.	--	-	-

Table 3.3.4 (Continued)

PRIMARY CONTAINMENT ISOLATION VALVES
ON FLUID LINES PENETRATING THE CONTAINMENT

Line or System (d)	No. of Valves (Each Line)	Location Relative to Primary Containment	Normal Position	Motive Power	Maximum Oper. Time (Sec)	Action on Initiating Signal	Initiating Signal (All Valves Have Remote Manual Backup)
O_2 Sampling							
Drywell Supply (Three Lines)	2	Outside	Open	D.C. Sol.	60	Close	Reactor water level low-low or high drywell pressure
Drywell Return (One Line)	2	Outside	--	Self Act. Ck.	-	-	
Suppression Chamber Supply (One Line)	2	Outside	Open	D.C. Sol.	60	Close	
Suppression Chamber Return (One Line)	2	Outside	--	Self Act. Ck.	-	-	-
Airborne Activity Monitor (Two Lines)	2	Outside (c)	Open	Air/D.C. Sol.	60		
Emergency Cooling							
Steam Line Drain to Main Steam (e) (Two Lines)	2	Outside	Open	Air/D.C. Sol.	5	Close	-

Table 3.3.4 Continued

PRIMARY CONTAINMENT ISOLATION VALVES
ON FLUID LINES PENETRATING THE CONTAINMENT

Line or System (d)	No. of Valves (Each Line)	Location Relative to Primary Containment	Normal Position	Motive Power	Maximum Oper. Time (Sec)	Action on Initiating Signal	Initiating Signal (All Valves Have Remote Manual Backup)
Core Spray							
Pump Suction (Four Lines from Suppression Chamber)	1	Outside (c)	Open	AC Motor	90	-	Remote manual
Pump Discharge (Two Test Lines to Suppression Chamber)	1	Outside (c)	Closed	AC Motor	90	Close	Reactor water level low-low
Recir. Pump Cooling Water Supply							
Supply Line	1	Outside (c)	Open	Self Act. Ck.	--	-	-
Return Line	1	Outside (c)	Open	DC Motor	30	-	Remote manual
Drywell Cooler Water Supply							
Supply Line	1	Outside (c)	Open	Self Act. Ck.	--	-	-
Return Line	1	Outside (c)	Open	DC Motor	30	-	Remote manual
Containment Spray							
Drywell & Suppression Chamber Common Supply (Four Lines)	1	Outside (c)	Open	Air/DC Sol.	60	Open	Reactor level low-low and high drywell pressure
Drywell Branch (Four Lines)	1	Outside (c)	-	Self Act. Ck.	--	-	-
Suppression Chamber Branch (One Branch for Each System)	2*	Outside (c)	-	Self Act. Ck.	--	-	-
Pump Suction From Suppression Chamber (Four Lines)	1	Outside (c)	Open	AC Motor	70	-	Remote manual

*One valve in each separate line and one valve in each common line.

NOTES:
(a) These valves may be open for containment fill with nitrogen.
(b) These valves will periodically be opened for sampling or nitrogen makeup.
(c) These valves are classified as non-testable for containment leakage.
(d) Penetrations for control rod drive, containment ventilation, TIP system, and spares are non-testable for containment leakage. Containment ventilation includes Drywell Vent and Purge, Suppression Chamber Vent and Purge, Drywell N_2 Makeup, Suppression Chamber N_2 Makeup and Vacuum Relief.
(e) These valves will be made testable by the end of the 1977 refueling outage.

ATTACHMENT B

Niagara Mohawk Power Corporation

License No. DPR-63

Docket No. 50-220

Safety Evaluation

During the licensing review for conversion from a provisional operating license to a full-term operating license, Technical Specifications (a,b,c) were developed and accepted to comply with the intent of Appendix J of Title 10 of the Code of Federal Regulations, Part 50 to the extent that design of this facility would permit. This subject was also addressed in later correspondence between Niagara Mohawk and the Nuclear Regulatory Commission(d). Subsequent investigations have revealed that modifications to these previous submittals are required.

Accordingly, these Technical Specification changes are now proposed:

(a) to include some valves which serve an isolation function but were not previously tested,

(b) to specify which primary system valves have local testing capability for containment leakage, and

(c) to clarify testing capability of containment penetrations.

The proposed changes to the Technical Specifications, presented in Attachment A, were developed to comply with the intent of the Commission's regulations (Appendix J), again, to the extent that design of this facility will permit. Valves and penetrations which have been classified as non-testable (locally) will be tested during the Type A integrated leak rate tests as specified in Appendix J, Section III.A.1(d).

Penetrations will be tested for leakage in accordance with the requirements for Type B tests, with the exception of a few which have been classified as non-testable. Non-testable penetrations include control rod drive, containment ventilation, TIP system, and spares.

No provisions exist to test the control rod drive penetrations. As described in the FSAR(e), each control rod drive pipe (262 in all) is welded to a sleeve which in turn is welded to the drywell liner. Similarly, containment ventilation lines are welded directly to the penetration sleeves. Thus, there is no chamber between the line and penetration sleeve which makes testing impossible. The TIP system indexer cables are fed through a solid flange on the inside of the penetration sleeve, and must be free to move. There is no provision for testing these since the penetration sleeve outside the drywell is open ended. Also, no provision exists for the testing of spare penetrations since these penetration sleeves are welded shut from the inside.

Valves which are relied upon to perform a containment isolation function will be tested for leakage in accordance with the requirements for Type C tests, with the exception of those which have been classified as non-testable. Justification for each non-testable classification in Tables 3.2.7 and 3.3.4 follows:

Table 3.2.7

a. Feedwater

These valves are part of the High Pressure Coolant Injection system. This system must be available during a Loss-of-Coolant accident. Therefore, the valves are not relied upon to perform a containment isolation function. Also, since the Feedwater System is sealed with water, leakage is an unlikely possibility.

b. Emergency Cooling

The Emergency Cooling System is designed to be available during a postulated Loss-of-Coolant Accident. Therefore, the accident analyses assume that the valves are open and do not perform a containment isolation function. Containment isolation valves have been provided (see Table 3.3.4) for branch piping systems to the Emergency Cooling System.

c. Reactor Cleanup and Shutdown Cooling

The only locally testable valve in these systems is the outside valve for the line carrying shutdown cooling water from the reactor. These are closed systems where leakage outside the system is an unlikely possibility. The inside valves on both systems cannot be isolated from the reactor for air or nitrogen tests. A water test is not feasible since the reactor would have to be pressurized and the test connection is inside the containment. The outside valves on the water return lines of both systems consist of check valves which were not designed to meet the stringent leakage criteria of Appendix J. The power operated outside valve on the cleanup line leaving the reactor is located in an area of high radiation even during shutdown. Local testing of this valve would result in high employee radiation doses.

d. Liquid Posion and Control Rod Drive Hydraulic

These systems are designed to be operable during a Loss-of-Coolant Accident. Therefore, these valves are not relied upon to perform a containment isolation function. In addition, these are closed systems where leakage is an unlikely possibility.

e. Reactor Head Spray

This system is a branch of the Control Rod Drive Hydraulic System and may be used during a Loss-of-Coolant Accident. Therefore, these valves are not relied upon to perform a containment isolation function.

Table 3.3.4

a. Drywell Equipment Drain Line and Floor Drain Line

Testing these valves would require drainage of the systems and pressurization of the containment.

b. Reactor Cleanup System Relief Valve Discharge

Testing these valves would require the lowering of the suppression pool water level by about 3.5 feet which is impractical.

c. Airborne Activity Monitor

The Airborne Activity Monitor would operate continuously during a Loss-of-Coolant Accident. Since these valves would be open, they are not relied upon to perform a containment isolation function.

d. Core Spray and Containment Spray

These systems will be required to operate during a Loss-of-Coolant Accident. Since these valves would be open, they are not relied upon to perform a containment isolation function.

e. Recirculation Pump and Drywell Cooler Water Supplies

These systems do not open to the free space of the containment or reactor vessel under normal or accident conditions. Therefore, the valves on these systems do not perform a containment isolation function.

f. Emergency Cooling

There are presently no test connections on the steam line drain valves. Test connections will be provided by the next major refueling outage to permit these valves to be tested. This outage is currently planned for Spring, 1977.

Limiting Condition for Operation 3.3.4 was changed to indicate that the applicability is for the operating status of isolation valves on all fluid lines penetrating the primary containment. This change results in a clarification of the status of primary system valves.

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Notes:

(a) "Technical Supplement To Petition For Conversion From Provisional Operating License To Full-Term Operating License", pgs. III-29 to 31.

(b) Amendment No. 1 to (a) above, pgs. 5-6.

(c) Operating License, DPR-63, Appendix A

Notes:

(d) Letter dated August 7, 1975 from Karl R. Goller (DRL) to G. K. Rhode. Letter dated September 12, 1975 from G. K. Rhode to Karl R. Goller (DRL).

(e) FSAR, Volume I, pg. VI-8 to 14.