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SCHWENCER,A. Licensing Branch 2

SUBJECT: Forwards revised response to J Lane request re SER Open Item 184 concerning installation of QA Category I debris screens to protect isolation valves.Info will be included in next FSAR amend.

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Add: J. Lane

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NIAGARA MOHAWK

NIAGARA MOHAWK POWER CORPORATION/300 ERIE BOULEVARD WEST, SYRACUSE, N.Y. 13202/TELEPHONE (315) 474-1511

October 25, 1984
(NMP2L 0214)

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

Attached is the revised response requested by J. Lane on the installation of QA Category I debris screens to protect isolation valves. This is Safety Evaluation Report open item 184.

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

Very truly yours,

T. E. Lempges
Vice President
Nuclear Generation

TEL/DS:ja
Attachment
xc: R. Gramm, NRC Resident Inspector
Project File (2)

B001 Add: J. Lane Ltr 1 Encl 1
1/1

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

T. E. Lempges, 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.

Thomas E. Lempges

Subscribed and sworn to before me, a Notary Public in and for the State of New York and County of Onondaga, this 25 day of October, 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
My Commission Expires March 30, 1985

QUESTION F480.24

Indicate what mechanisms are available to control drywell and wetwell pressure perturbations during normal operation.

Would this system be open to the SGTS in the event of a LOCA? If so, show that the SGTS is capable of withstanding the LOCA pressure and the system filters are capable of radionuclide exposure and will still perform its intended function post-LOCA.

RESPONSE

See revised Section 9.4.2.2.2.

QUESTION F480.38 (6.2.4)

The FSAR does not specifically identify the extent of drywell-suppression chamber purging that may be necessary during normal plant operations. Discuss the manner in which Nine Mile Point 2 conforms to the requirements of Branch Technical Position CSB 6-4. Indicate how small pressure perturbations will be accommodated in the containment.

RESPONSE

See revised Sections 6.2.4.2, 6.2.5.2.4, and 9.4.2.2.2.

accident. Once placed in operation, the system continues to operate until it is manually shut down when an adequate margin below the hydrogen or oxygen concentration design limit is reached.

The operation of the system can be tested from the control room. The test consists of energizing the blower and heaters and observing system operation to see if components are performing properly. Flow and pressure measurement devices are periodically calibrated.

Cooling water required for operation of the system is taken from the service water system. The cooling water is used to cool the water vapor and the residual gases leaving the recombiner prior to returning them to the primary containment.

During normal operation the recombiner system will be maintained in an inerted condition with nitrogen, ready for immediate startup.

6.2.5.2.3 Primary Containment Nitrogen Inerting System

Oxygen control within primary containment during normal plant operation is achieved by means of the nitrogen inerting system. During normal plant operation, oxygen concentration is maintained at or below 4 volume percent using this system.

The system is designed to supply nitrogen to the primary containment for initial inerting and for makeup during normal operation.

6.2.5.2.4 Primary Containment Purge

Primary containment purge capability is provided in accordance with Regulatory Guide 1.7 and as an aid in cleanup following an accident. This function is fulfilled by the combined operation of the primary containment purge system (CPS) and the SGTS.

During normal plant operation, the CPS also functions, in conjunction with the nitrogen inerting system (GSN) and the SGTS, to maintain primary containment pressure at 0.5 to 1.0 psig and oxygen concentration at or below 4 volume percent. This is accomplished by injecting the required quantity of nitrogen into the primary containment through the CPS and/or extracting the required volume of gas through the CPS exhaust. The exhaust flow is routed through piping to the SGTS, where it passes through the SGTS filters and a

radiation monitor before being released from the plant stack to the environment. All CPS primary containment isolation valves are automatically closed when a high radiation level is detected in the exhaust flow. The primary containment purge system P&ID

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DBE. The system is designed to nonnuclear safety standards and is not required for safe shutdown of the plant.

9.4.2.1.2 Primary Containment Purge

Power Generation Design Basis

1. Provide sufficient purging capability for the primary containment to permit entry of personnel within 16 hr of a reactor cold shutdown.

2. Provide the piping interconnection between the nitrogen inerting system (GSN) and the drywell and suppression chamber to permit inerting of the primary containment and for maintaining the primary containment at positive pressure with nitrogen during normal operation so that any leakage can be monitored.

3. Provide a backup system to the redundant hydrogen recombiners for the dilution of hydrogen following a loss-of-coolant accident (LOCA). The hydrogen recombiners are described in Section 6.2.5.

Safety Design Basis

Provide seismically qualified piping and valves to protect adjacent safety-related equipment in the event of a DBE. The system is designed to nonnuclear safety standards and is not required for safe shutdown of the plant.

9.4.2.1.3 All Other Reactor Building Areas

Power Generation Design Basis

1. Provide an environment that ensures habitability of the areas served and optimum performance of equipment, within the temperature limits shown in Table 9.4-1.

2. For normal plant operation, provide a once-through ventilation system, utilizing outdoor air with controlled discharge of exhaust air to the atmosphere.

3. Exhaust more air from the reactor building than is being supplied, thereby maintaining the area at a negative pressure to inhibit the exfiltration of airborne contaminants.

4. Provide the capability to clean up the reactor pressure vessel (RPV) head during the refueling operation with the help of the reactor head evacuation filter assembly.

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9.4.2.2.2 Primary Containment Purge

The primary containment purge system is shown schematically on Figure 9.4-8.

The system is comprised of purge and pressurization subsystems as follows:

Purge Subsystem

The purge subsystem consists of one 100-percent capacity centrifugal fan, piping, valves, controls, and accessories. Piping penetrations through the primary containment (penetrations Z-48, Z-49, Z-50, and Z-51 as listed in Table 6.2-56) are each protected with redundant safety-related normally closed, fail closed isolation valves. Valves inside the primary containment are nitrogen operated; valves outside are air operated. To protect the isolation valves, the open end of each 2-in, 12-in and 14-in purge subsystem line within the drywell is provided with a QA Category I debris screen.

The purge subsystem is utilized to inert the primary containment atmosphere with nitrogen prior to ascension to full power. Nitrogen is supplied from the GSN through manually-controlled valves to the drywell and suppression chamber utilizing, respectively, 14-in and 12-in CPS supply lines. The GSN system is described in Sections 6.2.5.2.3 and 9.3.1.5.

The purge subsystem also is utilized to purge the primary containment of nitrogen prior to personnel reentry, beginning not more than 24 hr before descending to 15 percent of full power. During purging, makeup air is fan-supplied from the reactor building ventilation system and delivered to the drywell and suppression chamber through the 14-in and 12-in CPS supply lines. Purge exhaust is drawn by the SGTS (Section 6.5.1) from the drywell and suppression chamber, respectively, through 14-in and 12-in CPS exhaust lines for monitored release through the main stack. During ascension to full power or normal operation, the purge subsystem and SGTS can be operated to control primary containment pressure excursions that may occur or to vent the primary containment, as necessary, if nitrogen is added during normal operation to offset losses; or, to maintain the oxygen concentration limit (see the pressurization subsystem). All isolation valves are automatically initiated to close (and fail closed) on a LOCA signal.

A connection to the purge subsystem is included for attachment of a portable air compressor which is required for performance of the integrated leak rate test.

Pressurization Subsystem

The pressurization subsystem consists of 2-in piping, valves, controls, and accessories. Piping penetrations through the primary containment (penetrations Z-58 and Z-59 as listed in Table 6.2-56) are each protected with redundant safety-related normally closed, fail closed solenoid isolation valves.

During normal operation, the pressurization subsystem is utilized manually to add nitrogen to the primary containment to either maintain primary containment pressure within the range of 0.5 to 1.0 psig or the oxygen concentration limit at 4 volume percent or less.

9.4.2.2.3 All Other Reactor Building Areas

The HVAC subsystem is shown schematically on Figure 9.4-8.

The system has the following modes of operation:

1. Normal operation.

2. Emergency operation.

Normal Operation

The supply ventilation air handling unit assembly consists of an air intake, prefilter, filter, heating coil, cooling coil, dampers, controls, and supply fans. Three 50-percent capacity vaneaxial fans are provided; two operate normally while one is in standby.

The prefilter and filter are of the extended surface disposable type. The glycol heating coil preheats the supply air to the required discharge air temperature. Glycol is supplied to the heating coil from the plant glycol heating system (Section 9.4.11). The cooling coil maintains the required discharge air temperature. Cooling water is supplied to the cooling coil from the service water system (Section 9.2.1).

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