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November 19, 1984
5211-84-2282

Office of Nuclear Reactor Regulation
Attn: J. F. Stolz, Chief
Operating Reactor Branch No. 4
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Dear Mr. Stolz:

Three Mile Island Nuclear Station, Unit 1 (TMI-1)
Operating License No. DPR-50
Docket No. 50-289
Condenser Off-Gas Monitor

This letter is to inform you of GPU Nuclear Corporation's plans to comply with the ASLB-ordered conditions on monitoring of condenser off-gas for noble gas activity. The Board has offered two acceptable alternatives, stating:

A duplicate RM-A5 system or suitable equivalent of comparable sensitivity and response time for monitoring radioactive gas in the secondary system shall be installed. The Technical Specifications shall be modified to permit plant operation for a maximum of 28 days with one of these duplicate systems inoperable, and to require plant shutdown if both of these systems are inoperable. As an alternative to the installation of a duplicate system, we direct that the RM-A5 system must be operable at all times during plant operation.

GPUN plans to provide a back-up system to RM-A5Lo. An existing portable monitor, RM-A13, is being installed. The monitor will draw a sample from the same point on the vacuum pump discharge as the current RM-A5Lo monitor, with differential pressure maintaining the sample flow rate. RM-A13 has a gas channel of comparable response time and sensitivity to RM-A5Lo, a sensitivity of at least 0.001 GPM (0.07 GPH) during power operation and 0.003 GPM (0.2 GPH) during plant cooldown. In the short term, it will not be possible to provide indication or recording

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capabilities for this monitor in the control room. In the event RM-A5Lo is declared inoperable, an individual will be assigned to continuously monitor the local indication for RM-A13 in the turbine building, and to communicate the readings to the control room. Under such conditions, the response time of the operator to changing leak rate is comparable to that for a monitor with indication and alarm in the control room. Thus GPUN has concluded that this is a suitable equivalent system which may be used for up to 28 days in the event RM-A5Lo is inoperable.

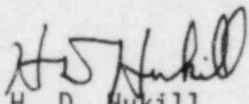
GPUN is continuing to evaluate alternatives to RM-A13 for the long term. Any replacement/improvement will be installed under the provisions of 10 CFR 50.59.

The Board has ordered that as part of the T.S. 4.19 change package, the Technical Specification also be changed to address this license condition. GPUN has reviewed the Technical Specifications, and believes that T.S. 3.21.2 is the appropriate specification to be changed. We prepared a draft for our use in evaluating the various technical alternatives considered in complying with the Board order. This draft is attached for your information.

The associated surveillance specification, Technical Specification 4.21.2, does not appear to require any changes, provided that the definition of a suitable equivalent system is considered in applying the surveillance requirements to this instrumentation. For such a system, surveillance testing will be designed to verify capability to be placed in service when required. Where appropriate, local signals or indication will be used as an alternative to control room indication.

GPUN feels that the modifications planned for the facility comply with both the Board order and the Board's intent. We hope this information is useful to you in preparing the license amendment package for issuance.

Sincerely,


H. D. Hukill
Director, TMI-1

MJG:dls
cc: H. Silver

RADIOACTIVE GASEOUS PROCESS AND EFFLUENT MONITORING INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.21.2 The radioactive gaseous process and effluent monitoring instrumentation channels shown in Table 3.21-2 shall be OPERABLE with their Alarm/Trip setpoints set to ensure that the limits of Specification 3.22.2.1 are not exceeded. The Alarm/Trip setpoints of these channels shall be determined in accordance with the ODCM.

APPLICABILITY: As shown in Table 3.21-2

ACTION:

- a. With a radioactive gaseous process or effluent monitoring instrumentation channel alarm trip setpoint less conservative than required by the above, immediately suspend the release of radioactive effluents monitored by affected channel or declare the channel inoperable.
- b. With less than the minimum number of radioactive gaseous process or effluent monitoring instrumentation channels operable, take the ACTION shown in Table 3.21-2.

BASES

The radioactive gaseous effluent instrumentation is provided to monitor and control, as applicable, the releases of radioactive materials in gaseous effluents during actual or potential releases. The alarm/trip setpoints for these instruments shall be calculated in accordance with NRC approved methods in the ODCM to ensure that the alarm/trip will occur prior to exceeding the limits of 10 CFR Part 20.

The low range condenser offgas noble gas activity monitors also provide data for determination of steam generator primary to secondary leakage rate. Channel operability requirements are based on an ASLB Order dated November 1, 1984.

TABLE 3.21-2

RADIOACTIVE GASEOUS PROCESS AND EFFLUENT MONITORING INSTRUMENTATION

<u>INSTRUMENT</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABILITY</u>	<u>ACTION</u>
1. Waste Gas Holdup System			
a. Noble Gas Activity Monitor (RM-A7)	1	***	25
b. Effluent System Flow Rate Measuring Device (FT-46)	1	***	26
2. Waste Gas Holdup System Explosive Gas Monitoring System			
a. Hydrogen Monitor	1	* *	30
b. Oxygen Monitor	1	* *	30

TABLE 3.21-2 (Continued)

RADIOACTIVE GASEOUS PROCESS AND EFFLUENT MONITORING INSTRUMENTATION

<u>INSTRUMENT</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABILITY</u>	<u>ACTION</u>
3. Containment Purge Monitoring System			
a. Noble Gas Activity Monitor (RM-A9)	1	*	27
b. Iodine Sampler (RM-A9)	1	*	31
c. Particulate Sampler (RM-A9)	1	*	31
d. Effluent System Flow Rate Measuring Device (FR-148)	1	*	26
e. Sampler Flow Rate Monitor	1	*	26

TABLE 3.21-2 (Continued)

RADIOACTIVE GASEOUS PROCESS AND EFFLUENT MONITORING INSTRUMENTATION

<u>INSTRUMENT</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABILITY</u>	<u>ACTION</u>
4. Condenser Vent System			
a. Low Range Noble Gas Activity Monitor (RM-A5)	2(1)	*	32

Note 1: An operable channel may be defined for purposes of this specification only as a suitable equivalent monitoring system capable of being placed in service within one hour. A suitable equivalent system shall include instrumentation with comparable sensitivity and response time to the RM-A5Lo monitoring channel. When the equivalent monitoring system is in service, indication will be continuously available to the operator, either through indication and alarm in the control room or through communication with a designated individual continuously observing local indication.

TABLE 3.21-2 (Continued)

RADIOACTIVE GASEOUS PROCESS AND EFFLUENT MONITORING INSTRUMENTATION

<u>INSTRUMENT</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABILITY</u>	<u>ACTION</u>
5. Auxiliary and Fuel Handling Building Ventilation System			
a. Noble Gas Activity Monitor (RM-A8) or (RM-A4 and RM-A6)	1	*	27
b. Iodine Sampler (RM-A8) or (RM-A4 and RM-A6)	1	*	31
c. Particulate Sampler (RM-A8) or (RM-A4 and RM-A6)	1	*	31
d. Effluent System Flow	1	*	26
e. Sampler Flow Rate Monitor	1	*	26

TABLE 3.21-2
(Continued)

TABLE NOTATION

- d. Prior to degas operations, a grab sample shall be taken and analyzed. If the hydrogen concentration is greater than 1%, nitrogen shall be added to reduce the hydrogen concentrations to less than 1%. During the degas operation, a grab sample shall be taken and analyzed every 4 hours. Following the initial makeup tank discharge, take and analyze a grab sample for hydrogen, if the hydrogen concentration is greater than 1.0%, nitrogen shall be added to reduce the hydrogen concentration to less than 1.0%.

+ If the hydrogen monitor is operational, hydrogen monitor results may be used rather than grab sample analysis for hydrogen. Alternately, if the oxygen monitor is operational, oxygen monitor results may be used rather than grab sample analysis for oxygen.

2. If the channel is not OPERABLE within seven days, a telephone call will be made by the Vice President of TMI-1 (or his designate) to the Director of Region-I Office of Inspection and Enforcement (or his designate) describing the reasons for the delay and the corrective actions being taken. A written report documenting reasons for the delay and corrective actions taken will be forwarded within 48 hours of the telephone notification.

ACTION 31: With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue for up to 28 days, provided, that within 4 hours after the channel has been declared inoperable, samples are continuously collected with auxiliary sampling equipment.

ACTION 32: With the number of channels OPERABLE less than required by the minimum channels OPERABLE requirements, effluent releases via this pathway may continue for up to 28 days, provided that one OPERABLE channel remains in service or is placed in service within one hour. Otherwise, the provisions of 3.0.1 apply.