

May 25, 2006
5928-06-20449

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Three Mile Island Nuclear Station, Unit 1
Facility Operating License No. DPR-50
NRC Docket No. 50-289

Subject: Request to Revise Condenser Vent System Low Range Noble Gas Monitor Operability Requirement

- References:**
1. USNRC Atomic Safety and Licensing Board Order LBP-84-47, NRC Docket No. 50-289-OLA (ASLBP Docket No. 83-491-04-OLA), "Steam Generator Repair," dated October 31, 1984 (cited as 20 NRC 1405 (1984))
 2. TMI Unit 1 letter to NRC (H. D. Hukill to J. F. Stolz), Condenser Off-Gas Monitor, dated November 19, 1984
 3. TMI Unit 1 Technical Specification Amendment No. 103, Steam Generator Tube Repairs and Return To Operation, dated December 21, 1984
 4. PWR Primary-to-Secondary Leak Guidelines – Revision 3, EPRI, Palo Alto, CA: 2004, EPRI Document No. 1008219
 5. NRC "Notice of Opportunity to Comment on Model Safety Evaluation on Technical Specification Improvement to Modify Requirements Regarding The Addition of LCO 3.4.[17] on Steam Generator Tube Integrity Using the Consolidated Line Item Improvement Process," (Federal Register notice 70 FR 10298, dated March 2, 2005)
 6. U.S.N.R.C. Letter, "Three Mile Island Nuclear Station, Unit 1 – Steam Generator Tube Kinetic Expansion Inspection and Repair Criteria (TAC MC7001)," P. S. Tam to C. M. Crane, November 8, 2005.
 7. TMI Unit 1 Technical Specification Amendment No. 197, dated October 2, 1995

This letter is an AmerGen Energy Company, LLC (AmerGen) request for NRC approval of a proposed commitment revision regarding the operability requirement for the Condenser Vent System Low Range Noble Gas Monitors specified in the existing TMI Unit 1 Offsite Dose Calculation Manual (ODCM). The current ODCM operability requirement applicable to the Condenser Vent System Low Range Noble Gas Monitors fulfills a regulatory commitment in accordance with the NRC Atomic Safety and Licensing Board Order LBP-84-47, dated

A009
A001

October 31, 1984 (Reference 1), which authorized the return to service of the TMI Unit 1 steam generators with the kinetic expansion repair technique. In accordance with the AmerGen commitment management program, which implements the commitment change guidance specified in NEI 99-04, Rev. 0, "Guidelines for Managing NRC Commitment Changes," dated July 1999, the proposed commitment change modifies the method of compliance specifically defined in the Order (Reference 1), and therefore requires NRC prior approval.

The Condenser Vent System Low Range Noble Gas Activity Monitors provide data for determination of steam generator primary-to-secondary leakage rate. The existing TMI Unit 1 ODCM requires a minimum of two (2) Low Range Noble Gas Activity Monitors (RM-A5Lo and a suitable equivalent) to be operable when condenser vacuum is established, and allows continued operation with one (1) monitor for up to 28 days. TMI Unit 1 currently utilizes monitors RM-A5Lo and RM-A15. After 28 days, or if one operable monitor does not remain in service or is not placed in service within 1 hour, plant shutdown is required in accordance with TMI Unit 1 Technical Specification 3.0.1. The proposed commitment revision modifies the minimum channels required to be operable from two (2) channels to one (1) channel, and will allow continued plant operation for up to 14 days with both Condenser Vent System Low Range Noble Gas Activity Monitors inoperable, provided sampling and analysis actions are implemented. This proposed commitment change will eliminate outdated requirements, provide a primary-to-secondary leakrate monitoring regimen consistent with PWR industry standards and EPRI Guidelines as implemented by NEI 97-06, as well as prevent unnecessary plant transients if both monitors are temporarily out of service. Additionally, the proposed compensatory actions are consistent with other operating plant requirements for steam generator primary-to-secondary leakage monitoring.

Background and Requirements of NRC ASLB Order LBP-84-47

The current TMI Unit 1 Operating License Condition 2.c.(8), "Repaired Steam Generators," requires a plant shutdown if primary-to-secondary leak rate exceeds 0.1 gpm above baseline leakage. This license condition supported TMI Unit 1 restart with the kinetic expansion repairs on the OTSG tubes. The NRC Atomic Safety and Licensing Board (ASLB) Initial Decision, dated October 31, 1984, Section II.A, regarding proceedings related to the TMI-1 kinetic expansion repairs to the OTSG tubes and the ability to detect a primary-to-secondary leak rate of 0.1 gpm, as specified in the TMI-1 License Condition 2.c.(8), directed that redundancy be supplied in the form of a duplicate RM-A5 system or suitable equivalent of comparable sensitivity and response time. The ASLB further directed that the Technical Specifications (TS) 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, the ASLB directed that the RM-A5 system must be operable at all times during plant operation.

The resulting NRC ASLB Order LBP-84-47 (Reference 1) authorized the USNRC Director of Nuclear Reactor Regulation to issue to TMI Unit 1 an operating license amendment that revised the Technical Specifications to recognize steam generator tube repair techniques other than plugging, specifically the kinetic expansion tube repair technique. This authorization was subject to conditions imposed by the Board in the Order, which specified: "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.”

TMI Unit 1 letter to the NRC (Reference 2), dated November 19, 1984, clarified that TMI Unit 1 planned to provide a backup to RM-A5Lo using an existing portable monitor, RM-A13 having comparable sensitivity and response time to RM-A-5, and thus meeting the Order requirement of a suitable equivalent system which may be used for up to 28 days in the event that RM-A5Lo is inoperable. This letter further identified that TMI Unit 1 TS 3.21.2 would be changed to address the Board Order to implement the TS 28-day allowed outage time for RM-A5 and the plant shutdown action statement if both systems are inoperable.

The NRC issued TMI Unit 1 TS Amendment No. 103, dated December 21, 1984 (Reference 3), which permitted the return of the steam generators to operation in response to TMI Unit 1 amendment request of May 9, 1983, and in accordance with the ASLB Order LBP-84-47, dated October 31, 1984 (Reference 1). The NRC amendment specifically states that the revised TS included in this amendment incorporate the conditions imposed by the Board (identified above), and that the revised TS included in the amendment conformed with the condition imposed by the Board. The amendment also accepted the proposed alternative suitable equivalent system (portable monitor RM-A13) to RM-A5Lo, described above. The TS 3.21.2 requirement specified an allowed radiation monitor outage time of 28 days and specified a plant shutdown action statement in accordance with TS 3.0.1. TS 3.21.2 Bases specifically identified that the RM-A5 and suitable equivalent monitors provide data for determination of steam generator primary-to-secondary leakage rate, and that the channel operability requirements were based on ASLB Order dated October 31, 1984. The use of portable monitor RM-A13 was subsequently changed to permanently installed monitor RM-A-15, which continues to meet the suitable equivalent criteria to this day.

These TS 3.21.2 requirements were subsequently relocated to the ODCM in TMI Unit 1 TS Amendment No. 197, dated October 2, 1995 (Reference 7), which administratively relocated the TS Radiological Effluent Monitoring requirements to the ODCM in accordance with the guidance contained in NRC Generic Letter 89-01 and NUREG-1430. The operability requirements and action statements applicable to RM-A5 and suitable equivalent monitors, as currently specified in the TMI-1 ODCM, Table 2.1-2 and associated Bases, remained unchanged from the requirements added to the TMI Unit 1 TS 3.21.2 in Amendment No. 103 in accordance with Reference 1, described above.

Proposed Alternative

Markups of the revised TMI Unit 1 ODCM text are provided in Attachment 1 to illustrate implementation of the proposed commitment revision regarding the operability requirement for the Condenser Vent System Low Range Noble Gas Monitors. The following is a summary of the proposed ODCM text.

- ODCM Page 23, Bases – Revised to add reference to the NRC SER approving the proposed revisions to the channel operability requirements originally based on ASLB Order No. LBP-84-47.

- ODCM Page 25, Table 2.1-2 – Revises Minimum Channels Operable requirement from two (2) channels to one (1) channel.
- ODCM Page 29, Table 2.1-2, Action 32 – Revises the Action Statement to allow continued plant operation for up to 14 days with both Condenser Vent System Low Range Noble Gas Activity Monitors inoperable, provided grab samples are taken and analyzed in accordance with the proposed specified minimum frequency requirements of Table 1 of Action 32 in order to quantify primary-to-secondary leakrate. After 14 days, if one operable channel is not returned to service, within 1 hour the provisions of Technical Specification 3.0.1 apply, which would require that the plant be in hot standby within the next 6 hours, hot shutdown within the following 6 hours, and cold shutdown within the subsequent 24 hours. Action 32 is also revised to state that any inoperable channel(s) should be restored to operability as rapidly as practical.

Reason for Change Request

This proposed commitment change will eliminate outdated requirements, provide a primary-to-secondary leakrate monitoring regimen consistent with PWR industry standards and EPRI Guidelines as implemented by NEI 97-06, as well as prevent unnecessary plant transients if both monitors are temporarily out of service. Additionally, the proposed compensatory actions are consistent with other operating plant requirements for steam generator primary-to-secondary leakage monitoring.

Justification of Proposed Change

In accordance with ASLB Order LBP-84-47 (Reference 1), the TMI Unit 1 Offsite Dose Calculation Manual (ODCM), Table 2.1-2, "Radioactive Gaseous Process and Effluent Monitoring Instrumentation," Item 4.a, currently requires a minimum of two operable channels on the Condenser Vent System Low Range Noble Gas Activity Monitor. If one channel becomes inoperable, the ODCM allows 28 days for the inoperable channel to be restored. However, if no operable channels are in service, after one hour the provisions of Technical Specification 3.0.1 apply. TMI Unit 1 Technical Specification 3.0.1 states that in the event a Limiting Condition for Operation (LCO) is not met, within one hour action shall be initiated to place the unit in at least HOT STANDBY within the next 6 hours, and at least HOT SHUTDOWN within the following 6 hours, and at least COLD SHUTDOWN within the subsequent 24 hours. In summary, if both Condenser Vent System Low Range Noble Gas Activity Monitors are inoperable, the plant must begin to shut down within 1 hour.

The primary purpose of the TMI Unit 1 Condenser Vent System Low Range Noble Gas Activity Monitors (RM-A-5 and RM-A-15) is to detect radioactive gases in the secondary system. The amount of gas detected by the monitors is used to evaluate the plant's steam generator tube leakage (i.e., to detect primary-to-secondary leakage and to quantify the primary-to-secondary leakrate).

TMI Unit 1 plans to continue to use the two low range channels (RM-A5 and RM-A15) in accordance with the ODCM, and to revise the minimum channels operable requirement from two (2) channels to one (1) channel. The proposed action statement also specifies that inoperable Condenser Vent System Low Range Noble Gas Activity Monitor channels should be restored to operability as soon as practical. TMI Unit 1 also proposes to modify the commitment

implementation to require that if no operable Condenser Vent System Low Range Noble Gas Activity Monitor channel is in service, the plant may remain in service for up to 14 days if the specified sampling and analysis actions are implemented. The intent of this commitment change is to eliminate outdated requirements, provide a primary-to-secondary leakrate monitoring regimen consistent with PWR industry standards and EPRI Guidelines as implemented by NEI 97-06, as well as prevent unnecessary plant transients if both radiation monitors RM-A5 and RM-A15 are temporarily out of service. Additionally, the proposed compensatory actions are consistent with other operating plant requirements for steam generator primary-to-secondary leakage monitoring. It is expected that the revised commitment requirements will be infrequently used, as the operating history of the RM-A-5 and -15 monitors since the 1980's has shown that the probability of their simultaneous failure is low. Additionally, the sample lines to RM-A5 and RM-A15 have been modified to eliminate single point vulnerabilities that resulted in both detectors being declared inoperable on March 10, 2006.

TMI Unit 1 proposes to implement the proposed commitment change by modifying the ODCM so that a sampling regimen consistent with the EPRI *PWR Primary to Secondary Leak Guidelines* (Reference 4) is implemented if no Condenser Vent System Low Range Noble Gas Activity monitor is available. The current revision of the EPRI Guidelines provides the suggested sampling regimen in Section 3.2.2, entitled "No Available Continuous Radiation Monitor." The following is a summary of the proposed TMI Unit 1 ODCM text consistent with the above EPRI Guidelines:

Entry Requirement: There are no operable channels on the Condenser Vent System Low Range Noble Gas Activity Monitor.

Required Actions:

1. If there is no operable channel of the Condenser Vent System Low Range Noble Gas Activity Monitor for a period of 14 days, within one hour action shall be initiated to place the unit in at least HOT STANDBY within the next 6 hours, and at least HOT SHUTDOWN within the following 6 hours, and at least COLD SHUTDOWN within the subsequent 24 hours.
2. If the primary-to-secondary leakrate was unstable* or was indicating an increasing trend at the initial time when there was no operable channel of the Condenser Vent System Low Range Noble Gas Activity Monitor, analyze grab samples of the reactor coolant system and Condenser OffGas once every 4 hours to provide an indication of primary-to-secondary leakage, and subsequent sample frequency shall be in accordance with Table 1 based on the last sample result. Otherwise, analyze grab samples of the reactor coolant system and Condenser OffGas to provide an indication of primary-to-secondary leakage at the minimum frequency indicated in Table 1, below:

Table 1
 Minimum Frequency of Grab Samples When
 No Condenser Vent System Low Range Noble Gas Activity Monitor is Operable

Existing Total Primary-to-Secondary Leak Rate (based on last monitor reading or sample result)	Frequency of Grab Samples
0 to < 5 GPD	Once per 24 hours
5 to < 30 GPD	Once per 12 hours
30 to < 75 GPD	Once per 4 hours
75 GPD or greater	Place the unit in at least HOT STANDBY within the next 6 hours, and at least HOT SHUTDOWN within the following 6 hours, and at least COLD SHUTDOWN within the subsequent 24 hours.

*unstable is defined as > 10% increase during a 1 hour period, as stated in the EPRI Guidelines.

3. Return a channel of the Condenser Vent System Low Range Noble Gas Activity Monitor to operability as rapidly as practical.

As described above, the proposed TMI Unit 1 sampling regimen is as prescribed in the most recent revision of the EPRI *PWR Primary to Secondary Leak Guidelines*. These guidelines are industry standards and are based on considerable operating experience at Pressurized Water Reactors (PWRs) to ensure that the likelihood of propagation of steam generator tube flaws to tube rupture is minimized. The Guidelines are used by numerous plants and have been cited in the NRC's recent model safety evaluation for the Technical Specification improvements under TSTF-449, Rev. 4 for steam generator tube integrity (Reference 5). The EPRI Guidelines' discussion of the use of grab sampling when no radiation monitors are available for on-line quantification of primary-to-secondary leakage is also discussed in the *NRC Inspection Manual* for "Steam Generator Tube Primary-to-Secondary Leakage." The proposed sampling and analysis actions will be performed using existing plant equipment and procedures. No plant modifications are needed to implement the specified actions.

The TMI Unit 1 steam generator upper tubesheet expansions were repaired by a kinetic expansion process in the 1980's. At the time of these ASLB hearings, the PWR industry had limited operating experience with steam generator tube expansion repairs. At the time the repairs were "a new, large-scale application of the kinetic expansion process" and there was "no directly relevant experience" in the PWR industry (Reference 1, Page 1416). The additional radiation monitor channel, and the requirement for plant shutdown after one hour in the event that no radiation monitor is available to monitor the plant's Condenser Vent, were additional conservative measures with which to assess the success of the kinetic expansion repairs.

Since the early 1980's the PWR industry has obtained considerable experience with tube expansion repairs, including several different types of expansion repair methods. In addition, the TMI Unit 1 kinetic expansions have proven to be successful, leak-tight, and flaw-tolerant repairs. The plant has operated approximately 17 Effective Full Power Years (EFPY) since the kinetic expansions were installed. Since 1997, the maximum primary-to-secondary leakage experienced through the TMI Unit 1 steam generator tubes, including their kinetic expansion joints, has typically been less than 1 gallon per day (GPD).

In addition to the fact that the kinetic expansions were an effective repair, a significant number of kinetic expansion inspections have been performed to monitor their condition. Each (i.e., 100%) of the plant's inservice kinetic expansions was examined with rotating coil eddy current probes during the plant's last outage in the fall of 2005. These examinations were conducted in accordance with the requirements of AmerGen ECR #02-01121, which was approved by the NRC in Reference 6. More than 60,000 examinations of the plant's kinetic expansions have been performed over the last four refueling outages. These examinations and the analyses of the examination results have determined that significant active degradation in the kinetic expansions' required lengths is not occurring. In addition, the kinetic expansions are relatively flaw-tolerant since: (1) the expansion area is captured within the steam generator upper tubesheets, and (2) the expansions are not subjected to bending loads or potential loose part impact.

If the RM-A-5 and -15 radiation monitors are out of service, the proposed sampling regimen will allow evaluation of low levels of primary-to-secondary leakage. Other methods are available to monitor the plant for sizeable primary-to-secondary leaks, including MakeUp Tank level changes, Main Steam Line Radiation Monitors RM-G-26 and -27, Reactor Coolant System Pressurizer level changes, and Condenser Exhaust Hi-Range Radiation Monitor RM-A-5Hi.

There is no estimated risk increase under the plant's risk model associated with the loss of RM-A-5 and RM-A-15 operability, as these monitors are not included as part of any assumptions made in the PRA model regarding Steam Generator Tube Rupture (SGTR) or RCS Leak Rate detection. Steam generator tube ruptures are considered to be the full offset rupture of one tube. For leaks of this size it is assumed that RM-G26 and RM-G27 as well as RCS Pressure and OTSG Level and Feed Rates provide the necessary SGTR detection needed to satisfy the assumptions made by the PRA model. It should be noted that RM-G26 and RM-G27 are capable of some detection of OTSG Tube leakage smaller than what is assumed during a full offset rupture. In addition, particularly small break sizes or leaks that are within the makeup capacity of the normal charging system and would therefore not result in an automatic reactor trip, are not included in the initiating event categories of the plant's risk models. For such small leaks, the plant would be manually shutdown in a controlled fashion, and cooled down and depressurized for repairs, regardless of the leak/break location in the steam generator tubes.

The proposed commitment change provides a limit on the maximum length of time (i.e., 14 days) during which the plant can remain at power without an operable Condenser Vent System Low Range Noble Gas Activity monitor channel. The probability of a significant primary-to-secondary leak event occurring during this short duration is low. TMI Unit 1 has not had a significant primary-to-secondary leak event due to leakage from a kinetic expansion.

Conclusion

The proposed commitment change makes no physical changes to the TMI-1 plant and does not alter the TMI Unit 1 Technical Specification or License Condition maximum allowed primary-to-secondary leak rates at which the plant is required to be shutdown. The intent of the proposed commitment change is to eliminate outdated requirements, provide a primary-to-secondary leakrate monitoring regimen consistent with PWR industry standards and EPRI Guidelines as implemented by NEI 97-06, as well as prevent unnecessary plant transients if both monitors RM-A5 and RM-A15 are temporarily out of service. Additionally, the proposed compensatory actions are consistent with other operating plant requirements for steam generator primary-to-secondary leakage monitoring, and following the methodology of the EPRI PWR Guidelines is an acceptable, alternate method of monitoring the plant's primary-to-secondary leakage. The probability of both RM-A-5 and -15 channels becoming inoperable is low. The probability of a primary-to-secondary leak event occurring while both RM-A-5 and -15 channels are inoperable is also low. Thus, nuclear safety and plant operations are not adversely affected by the proposed commitment change.

We request approval of the proposed commitment change by August 31, 2006, to allow timely update of the affected ODCM requirements.

This submittal requests approval of a revision to an existing regulatory commitment, and no new regulatory commitments are established by this submittal. If you have any questions or require additional information, please contact David J. Distel at (610) 765-5517.

Respectfully,

gort


Pamela B. Cowan
Director – Licensing and Regulatory Affairs
AmerGen Energy Company, LLC

Attachment: 1) TMI Unit 1 ODCM Proposed Markup Revisions

cc: S. J. Collins, Administrator, USNRC Region I
D. M. Kern, USNRC Senior Resident Inspector, TMI Unit 1
F. E. Saba, USNRC Project Manager, TMI Unit 1
D. Allard, Director, Bureau of Radiation Protection – PA Department of Environmental Resources
Chairman, Board of County Commissioners of Dauphin County
Chairman, Board of Supervisors of Londonderry Township
File No. 06025

Attachment 1

**TMI Unit 1 ODCM
Proposed Markup Revisions**

Revised ODCM Pages

23
25
29

	TMI - Unit 1 Radiological Controls Procedure	Number 6610-PLN-4200.01
Offsite Dose Calculation Manual (ODCM)	Revision No. 24	

2.1.2 Radioactive Gaseous Process and Effluent Monitoring Instrumentation

CONTROL:

The radioactive gaseous process and effluent monitoring instrumentation channels shown in Table 2.1-2 shall be OPERABLE with their alarm/trip setpoints set to ensure that the limits of Control 2.2.2.1 are not exceeded. The alarm/trip setpoints of these channels shall be determined in accordance with the OFFSITE DOSE CALCULATION MANUAL (ODCM).

APPLICABILITY: As shown in Table 2.1-2.

ACTION:

- a. With a radioactive gaseous process or effluent monitoring instrumentation channel alarm/trip setpoint less conservative than required by the above control, immediately suspend the release of radioactive effluent monitored by the 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 2.1-2. Exert best efforts to return the instrumentation to OPERABLE status within 30 days and, if unsuccessful, explain in the next Annual Effluent Release Report why the inoperability was not corrected in a timely manner.

BASES

The radioactive gaseous effluent instrumentation is provided to monitor and control, as applicable, the releases of radioactive materials in gaseous effluent 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 provide reasonable assurance that the annual releases are within the limits specified in 10 CFR 20.1301.

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 No. LBP-84-47 dated October 31, 1984, and as cited in 20 NRC 1405 (1984), *as revised by NRC SER dated _____.*

Table 2.1-2 (Cont'd)

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		##	32
a. Low Range Noble Gas Activity Monitor (RM-A5Lo and Suitable Equivalent)			

NOTE (1): For one of the channels, an operable channel may be defined for purposes of this control and 3.1.2.1 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.

	TMI - Unit 1 Radiological Controls Procedure	Number 6610-PLN-4200.01
Title	Offsite Dose Calculation Manual (ODCM)	Revision No. 24

Table 2.1-2

2. If the inoperable gas channel(s) is not restored to service within 14 days, a special report shall be submitted to the Regional Administrator of the NRC Region I Office and a copy to the Director, Office of Inspection and Enforcement within 30 days of declaring the channel(s) inoperable. The report shall describe (a) the cause of the monitor inoperability, (b) action being taken to restore the instrument to service, and (c) action to be taken to prevent recurrence.

ACTION 31 With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue provided that within four 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 requirement, effluent releases via this pathway may continue for up to ¹⁴ 14 days, provided that ~~one~~ ¹⁴ ~~OPERABLE channel remains in service or is placed in service within 1 hour. After 14 days, if~~ ~~one OPERABLE channel does not remain in service or is not placed in service within 1 hour,~~ the provisions of Technical Specification 3.0.1 apply, as if this Control were a Tech Spec Limiting Condition for Operation. ^{returned to}

ACTION 33 With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, either restore the inoperable channel to OPERABLE status within 7 days, or prepare and submit a special report within 30 days outlining the action(s) taken, the cause of the inoperability, and plans and schedule for restoring the system to OPERABLE status.

Condenser Vent System Low Range Noble Gas Activity Monitor inoperable channels should be restored to operability as rapidly as practical.

*grab samples are taken and analyzed.
INSERT FROM NEXT PAGE*

INSERT TO TMI Unit 1 ODCM PAGE 29

If the primary-to-secondary leakrate was unstable* or was indicating an increasing trend at the initial time when there was no operable channel of the Condenser Vent System Low Range Noble Gas Activity Monitor, analyze grab samples of the reactor coolant system and Condenser OffGas once every 4 hours to provide an indication of primary-to-secondary leakage, and subsequent sample frequency shall be in accordance with Table 1 based on the last sample result. Otherwise, analyze grab samples of the reactor coolant system and Condenser OffGas to provide an indication of primary-to-secondary leakage at the minimum frequency indicated in Table 1, below:

Table 1
Minimum Frequency of Grab Samples When
No Condenser Vent System Low Range Noble Gas Activity Monitor is Operable

Existing Total Primary-to-Secondary Leak Rate (based on last monitor reading or sample result)	Frequency of Grab Samples
0 to < 5 GPD	Once per 24 hours
5 to < 30 GPD	Once per 12 hours
30 to < 75 GPD	Once per 4 hours
75 GPD or greater	Place the unit in at least HOT STANDBY within the next 6 hours, and at least HOT SHUTDOWN within the following 6 hours, and at least COLD SHUTDOWN within the subsequent 24 hours.

*unstable is defined as > 10% increase during a 1 hour period, as stated in the EPRI Guidelines.