Dominion Nuclear Connecticut, Inc.
Millstone Power Station
Rope Ferry Road
Waterford, CT 06385

Dominion

July 15, 2004

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555

Serial No.	04-343
NSS&L/DF	R0
Docket No.	50-336
License No.	DPR-65

DOMINION NUCLEAR CONNECTICUT, INC.
MILLSTONE POWER STATION UNIT 2
CONTROL ROOM ISOLATION RADIATION MONITORING INSTRUMENTATION

Pursuant to 10 CFR 50.90, Dominion Nuclear Connecticut, Inc. (DNC) hereby requests to amend Operating License DPR-65 for Millstone Power Station Unit 2 (MPS2) to address the resolution of a non-conservative Technical Specification.

Two radiation detectors monitor the air intakes to the MPS2 control room. These redundant monitors are credited in the accident analyses for closing control room ventilation dampers to prevent operators from receiving radiation doses in excess of regulatory limits. During NRC staff review of proposed changes to related radiation monitoring Technical Specifications (TS) for license amendment No. 282, it was noted that the TS required only one operable channel of control room isolation radiation monitoring instrumentation. Once the issue was identified, the Technical Requirements Manual was revised to require two operable channels to compensate for this non-conservatism. The proposed change will modify the TS to require two operable channels per the original design.

The proposed amendment does not involve a significant impact on public health and safety and does not involve a Significant Hazards Consideration pursuant to the provisions of 10 CFR 50.92 (see Significant Hazards Consideration in Attachment 1).

The Site Operations Review Committee and the Management Safety Review Committee have reviewed and concurred with the determinations.

DNC has no specific schedule request for NRC staff approval of the proposed change and will rely on the administrative controls currently in the Technical Requirements Manual until issuance of the proposed amendment.

In accordance with 10CFR50.91(b), a copy of this license amendment request is being provided to the State of Connecticut.

If you should have any questions regarding this submittal, please contact Mr. Paul R. Willoughby at (804) 273-3572.

Very truly yours,

Leslie N. Hartz
Vice President – Nuclear Engineering

Attachments:

1. Evaluation of Proposed License Amendment
2. Marked-Up Pages
3. Re-typed Pages

Commitments made in this letter: None

cc: U.S. Nuclear Regulatory Commission
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COMMONWEALTH OF VIRGINIA)
)
COUNTY OF HENRICO)

The foregoing document was acknowledged before me, in and for the County and Commonwealth aforesaid, today by Leslie N. Hartz, who is Vice President – Nuclear Engineering, of Dominion Nuclear Connecticut, Inc. She has affirmed before me that she is duly authorized to execute and file the foregoing document in behalf of that Company, and that the statements in the document are true to the best of her knowledge and belief.

Acknowledged before me this 15TH day of July, 2004.

My Commission Expires: 3/31/08.

Maggie McClure
Notary Public

SEAL

ATTACHMENT 1

LICENSE AMENDMENT REQUEST
CONTROL ROOM ISOLATION RADIATION MONITORING INSTRUMENTATION

EVALUATION OF PROPOSED LICENSE AMENDMENT

MILLSTONE POWER STATION, UNIT 2
DOMINION NUCLEAR CONNECTICUT, INC

Evaluation of Proposed License Amendment

1.0 DESCRIPTION

Pursuant to 10 CFR 50.90, Dominion Nuclear Connecticut, Inc. (DNC) hereby requests to amend Operating License DPR-65 for Millstone Power Station Unit 2 (MPS2). Specifically this amendment will modify Table 3.3-6 associated with Technical Specification (TS) 3.3.3.1 to require two operable channels of control room isolation radiation monitoring instrumentation.

This change is being requested to update the MPS2 TS to agree with the original design of the redundant radiation monitoring instrumentation channels. In order to meet the single failure criterion, two channels of instrumentation are required. Each channel is powered from a separate vital bus and provides a signal to close the dampers installed in the control room ventilation supply ducting. This automatic function is credited in the accident analysis. The control room isolation signal also aligns the control room air conditioning system to the recirculation mode of operation which includes starting the associated filter fan and aligning the control room air flow through the charcoal filter banks.

DNC has no specific schedule request for NRC staff approval of the proposed change and will rely on the administrative controls currently in the Technical Requirements Manual until issuance of the proposed amendment.

2.0 PROPOSED CHANGE

Change 1

The proposed amendment will modify Table 3.3-6 on page 3/4 3-25 to change the MINIMUM CHANNELS OPERABLE requirement from "1" to "2" for the control room isolation area monitor instrument 1.b.

Change 2

The proposed amendment will modify ACTION 16 in Table 3.3-6 (TABLE NOTATION) on page 3/4 3-26 as follows to reflect new actions for inoperable channels:

<u>Current</u>

ACTION 16 – With the number of OPERABLE channels less than required by the MINIMUM CHANNELS OPERABLE requirement, within one hour initiate and maintain operation of the control room emergency ventilation system in the recirculation mode of operation.

Proposed

ACTION 16 – 1. With the number of OPERABLE channels one less than required by the MINIMUM CHANNELS OPERABLE requirement, restore the inoperable channel to OPERABLE status within 7 days or initiate and maintain operation of the control room emergency ventilation system in the recirculation mode of operation.

2. With the number of OPERABLE channels two less than required by the MINIMUM CHANNELS OPERABLE requirement, within one hour initiate and maintain operation of the control room emergency ventilation system in the recirculation mode of operation.

3.0 BACKGROUND

3.1 Control Room Isolation Radiation Monitoring System Description

The control room inlet duct radiation monitors are part of the airborne radioactivity system described in MPS2 FSAR section 7.5.6.3.2.1.9. These radiation monitors (identification Nos. RM-9799A and RM-9799B) are installed on the inlet ducting of the control room outside air supply. A high radiation or instrument failure alarm from either radiation monitor isolates normal control room ventilation by closing dampers in the control room ventilation ducting and aligning the control room air conditioning system to the recirculation mode of operation. When in the recirculation mode, the control room air is circulated through charcoal filter banks and returned to the control room. This control room filtration system is described in MPS2 FSAR section 9.9.10. The air-operated dampers are in series in the ventilation ducting and are designed to fail to their closed position on loss of air. The MPS2 TS addresses the control room emergency ventilation system in TS 3/4.7.6 (surveillance requirement 4.7.6.1.e.2).

The design of the radiation monitoring system for actuation of control room isolation consists of redundant channels, both designed to the same specifications and qualification, and each supplied from independent vital ac power supplies. This system is designed such that a single failure of one instrumentation channel does not prevent isolation of the control room. Either instrumentation channel by itself is adequate to perform the isolation function.

3.2 Reason for Proposed Amendment

To meet the single failure criterion of the current design as discussed above, both channels of radiation monitoring instrumentation for control room isolation function are required to be operable. Currently the TS contain provisions for only one radiation monitoring instrumentation channel. Requirements to maintain both channels operable and to perform testing on both channels exist in the TRM. The proposed amendment adds the second channel of radiation monitoring instrumentation to the TS consistent with the design and in agreement with the accident analyses. When the amendment is approved, the current administrative controls in the TRM will be deleted. In a letter dated July 1, 2003, "Regulatory Commitment Related to License Basis Document Change Request 2-1-01 (TAC No. MB50008)," DNC committed to add the second channel to the TS.

4.0 TECHNICAL ANALYSIS

4.1 Details of the Proposed Amendment

Change 1

The proposed amendment will modify Table 3.3-6 on page 3/4 3-25 to change the MINIMUM CHANNELS OPERABLE requirement from "1" to "2" for the control room isolation area monitor instrument 1.b. All of the associated surveillance requirements will be applicable for both channels and no changes to surveillance frequencies are being proposed. This change is more restrictive than the current TS and the additional restriction on plant operation will enhance safety by ensuring that a single failure in one radiation monitoring instrumentation channel will not prevent the control room isolation function from actuating on high radiation at the control room air supply intake. This isolation function is credited in the accident analyses for the Fuel Handling Accident and Steam Generator Tube Rupture accident for closing the control room dampers in the supply ventilation ductwork.

The isolation function specific to closure of the dampers in the supply ducting is necessary to maintain the doses received by the control room operators within regulatory limits consistent with 10 CFR 50 Appendix A, General Design Criterion 19. The proposed change will require the second channel to meet the same ACTION requirements (3.3.3.1.a, 3.3.3.1.b) as for the existing channel with no change in associated modes, alarm setpoint, or measurement range criteria as specified in Table 3.3-6.

Change 2

The proposed amendment will modify ACTION 16 in Table 3.3-6 (TABLE NOTATION) on page 3/4 3-26 to reflect new actions as a result of adding a required second channel. ACTION 16 will be replaced with ACTION 16.1 and 16.2. Currently, when the minimum operable channels requirement is not met (e.g., zero operable channels since only one channel is currently required) the action is to initiate and maintain operation of the control room emergency ventilation system (CREVS) within one hour. This action is maintained by proposed ACTION 16.2 although the wording ("two less than required") is slightly different to reflect the increase in the number of channels required for operability. The proposed compensating action for no operable radiation monitoring channels available continues to be placing the CREVS into recirculation mode which serves to complete the safety function intended to be performed by the radiation monitoring channel (control room isolation signal).

In conjunction with the proposed increase in the number of radiation monitoring channels required to be operable, a new action is being proposed to address the condition in which one channel is operable and therefore capable of automatically initiating the control room air conditioning system into the recirculation mode on high radiation detected in the control room inlet air supply. For this condition, ACTION 16.1 proposes that the inoperable channel be restored to operable status within 7 days. After 7 days, it is proposed that the control room air conditioning system be placed into the recirculation mode of operation. The allowed outage time of 7 days is consistent with the current allowed outage time when only one train of the control room emergency ventilation system is operable (TS 3.7.6.1, ACTION a. and d.). Justification for the 7 day allowed outage time is based on the low probability of a design basis accident occurring during this interval and the ability of the remaining channel to provide the required function of isolating the normal control room ventilation.

4.2 Summary

In accordance with the MPS2 design of the radiation monitoring system for the control room isolation function, two channels are required to be operable so that a failure in one train will not prevent control room isolation in the event a high level of radiation is detected in the control room air intake. Both channels are designed to the same specifications and qualifications and are redundant, independent loops. Currently either train is used to fulfill the TS requirement of having one operable channel. The proposed changes will impose the same requirements for two channels and require both channels be operable. The actions proposed for one and two channels inoperable are consistent with the accident analysis and supported by plant operating experience.

5.0 REGULATORY ANALYSIS

5.1 No Significant Hazards Consideration

The proposed amendment modifies the Millstone Unit No. 2 Technical Specifications to add a requirement for a second channel of control room radiation monitoring instrumentation for the control room isolation function. The control room radiation monitoring system was originally designed with two redundant and independent channels consisting of two radiation detectors and associated circuitry. Upon a radiation detector alarm condition, a signal is provided to close dampers in the control room ventilation supply and exhaust ducting and to initiate recirculation of the control room air through a filtered system. Historically, only one channel has been required by the Technical Specifications although plant procedures have addressed both trains. Adding the second channel to the Technical Specifications places an additional restriction on plant operation to ensure the single failure criterion for the control room isolation function is maintained. It should be noted that no plant modifications are associated with the proposed changes to the Technical Specifications.

Dominion Nuclear Connecticut, Inc. (DNC) has evaluated whether or not a Significant Hazards Consideration (SHC) is involved with the proposed changes by addressing the three standards set forth in 10 CFR 50.92(c) as discussed below.

Criterion 1:

Does the proposed amendment involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No.

The radiation detectors at the control room outside air intake are designed to detect radiation during or after an accident and to provide an alarm signal at a designed setpoint consistent with the accident analyses and the Technical Specifications. The proposed change does not in any way alter the setpoint value for the radiation monitors, nor does it affect the method for control room air filtration during the emergency mode of operation. The proposed change to requirements to maintain two operable channels versus the current requirement to maintain one operable channel adds a level of detection capability and greater assurance that the safety function for control room isolation is met. This proposed change does not affect the input or assumptions for any accidents previously evaluated nor does it affect initiation of an accident. Based on this discussion, the proposed amendment does not increase the probability or consequence of an accident previously evaluated.

Criterion 2:

Does the proposed amendment create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No.

The radiation monitoring system for control room isolation is a mitigating system designed to prevent radioactive releases associated with design basis accidents from entering the control room. The radiation monitoring channels are designed to send a signal to isolate the control room when high radiation levels are detected to limit the radiological dose to the control room operators in the event of an accident. The proposed amendment does not involve any change that would impact the setpoint value and therefore change the radiation level at which control room isolation is assumed to occur. The existing channel testing and specifications are not modified by the proposed change. The proposed amendment does not introduce failure modes, accident initiators, or malfunctions that would cause a new or different kind of accident. No plant modifications are associated with the change. Therefore, the proposed amendment does not create the possibility of a new or different kind of accident from any accident previously evaluated.

Criterion 3:

Does the proposed amendment involve a significant reduction in a margin of safety?

Response: No.

One channel of radiation monitoring for control room isolation is sufficient to perform the required safety function of closing dampers and initiating the emergency ventilation system to filter the control room air. The proposed change to add requirements to the Technical Specifications for a redundant radiation monitoring channel should increase the reliability of the system to perform its intended function. The proposed change adds appropriate compensatory actions for conditions when both channels are not available. Therefore, based on the above, the proposed amendment does not involve a significant reduction in a margin of safety.

In summary, DNC concludes that the proposed amendment does not represent a significant hazards consideration under the standards set forth in 10 CFR 50.92(c).

5.2 Applicable Regulatory Requirements/Criteria

Title 10 of the Code of Federal Regulations (CFR) Section 50, Appendix A, General Design Criterion 19 (GDC 19) states in part:

> "A control room shall be provided from which actions can be taken to operate the nuclear power unit safely under normal conditions and to maintain it in a safe condition under accident conditions, including loss-of-coolant accidents. Adequate radiation protection shall be provided to permit access and occupancy of the control room under accident conditions without personnel receiving radiation exposures in excess of 5 rem whole body, or its equivalent to any part of the body for the duration of the accident."

The control room inlet duct radiation monitors are credited in the accident analyses as discussed earlier for closure of the control room isolation dampers upon receipt of a high radiation signal in order to maintain doses within the limits of GDC 19. The current Technical Specifications do not require two channels as per the original design, which required the radiation monitoring system to meet the single failure criterion. The proposed change would increase the required operable channels of control room isolation radiation monitoring instrumentation from one to two per the original design.

The current actions and surveillances associated with the control room isolation channel will be applicable to both channels based on the proposed amendment.

In conclusion, based on the considerations discussed above, (1) there is reasonable assurance the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

6.0 ENVIRONMENTAL CONSIDERATION

DNC has determined that the proposed amendment would not change requirements with respect to use of a facility component located within the restricted area, as defined by 10 CFR 20, but would change an inspection or surveillance requirement. DNC has evaluated the proposed change and has determined that the change does not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluent that may be released off site, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed amendment meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed amendment.

ATTACHMENT 2

LICENSE AMENDMENT REQUEST
CONTROL ROOM ISOLATION RADIATION
MONITORING INSTRUMENTATION

MARKED-UP PAGES

MILLSTONE POWER STATION, UNIT 2
DOMINION NUCLEAR CONNECTICUT, INC

No change to this page - For Information only

INSTRUMENTATION

3/4.3.3 MONITORING INSTRUMENTATION

RADIATION MONITORING

LIMITING CONDITION FOR OPERATION

3.3.3.1 The radiation monitoring instrumentation channels shown in Table 3.3-6 shall be OPERABLE with their alarm/trip setpoints within the specified limits.

APPLICABILITY: As shown in Table 3.3-6.

ACTION:

a. With a radiation monitoring channel alarm/trip setpoint exceeding the value shown in Table 3.3-6, adjust the setpoint to within the limit within 2 hours or declare the channel inoperable.

b. With one or more radiation monitoring channels inoperable, take the ACTION shown in Table 3.3-6. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.3.1.1 Each radiation monitoring instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION and CHANNEL FUNCTIONAL TEST operations during the modes and at the frequencies shown in Table 4.3-3.

4.3.3.1.2 The trip value shall be such that the containment purge effluent shall not result in calculated concentrations of radioactivity offsite in excess of 10 CFR Part 20, Appendix B, Table II. For the purposes of calculating this trip value, a x/Q = 5.8×10^{-6} sec/m^3 shall be used when the system is aligned to purge through the building vent and a x/Q = 7.5×10^{-8} sec/m^3 shall be used when the system is aligned to purge through the Unit 1 stack, the gaseous and particulate (Half Lives greater than 8 days) radioactivity shall be assumed to be Xe-133 and Cs-137, respectively. However, the setpoints shall be no greater than 5×10^5 cpm.

4.3.3.1.3 Verify the response time of the control room isolation channel at least once per 18 months.

TABLE 3.3-6

RADIATION MONITORING INSTRUMENTATION

INSTRUMENT		MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ALARM/TRIP SETPOINT	MEASUREMENT RANGE	ACTION
1.	AREA MONITORS					
a.	Spent Fuel Storage and Ventilation System Isolation	2	*	100 mR/hr	$10^{-1} - 10^{+4}$ mR/hr	13
b.	Control Room Isolation	~~1~~ 2	ALL MODES	2 mR/hr	$10^{-1} - 10^{4}$ mR/hr	16
c.	Containment High Range	1	1,2,3,&4	100 R/hr	$10^{0} - 10^{8}$ R/hr	17
2.	PROCESS MONITORS					
a.	Containment Atmosphere-Particulate	1	ALL MODES**	the value determined in accordance with specification 4.3.3.1.2	$10 - 10^{+6}$ cpm	14
b.	Containment Atmosphere-Gaseous	1	ALL MODES**	the value determined in accordance with Specification 4.3.3.1.2	$10 - 10^{+6}$ cpm	14
c.	Noble Gas Effluent Monitor (high range) (Unit 2 stack)	1	1,2,3,&4	2×10^{-1} uci/cc	$10^{-3} - 10^{5}$ uci/cc	17

* With fuel in storage building.

** These radiation monitors are not required to be operable during Type "A" Integrated Leak Rate testing.

TABLE 3.3-6 (Continued)

TABLE NOTATION

(a) DELETED

ACTION 13 - With the number of area monitors OPERABLE less than required by the MINIMUM CHANNELS OPERABLE requirement, perform area surveys of the monitored area with portable monitoring instrumentation at least once per 24 hours.

ACTION 14 - With the number of process monitors OPERABLE less than required by the MINIMUM CHANNELS OPERABLE requirement either (a) obtain and analyze grab samples of the monitored parameter at least once per 24 hours, or (b) use a Constant Air Monitor to monitor the parameter.

ACTION 15 - DELETED

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ACTION 16 - (2) With ~~the~~ number of OPERABLE channels two less than required by the MINIMUM CHANNELS OPERABLE requirement, within 1 hour initiate and maintain operation of the control room emergency ventilation system in the recirculation mode of operation.

ACTION 17 - With the number of OPERABLE channels less than required by the MINIMUM CHANNELS OPERABLE requirements, initiate the preplanned alternate method of monitoring the appropriate parameter(s), within 72 hours, and:

1) either restore the inoperable channel(s) to OPERABLE status within 7 days of the discovery or

2) prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within 14 days following discovery outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to OPERABLE status.

Copy A for page 3/4 3-26

1) With the number of OPERABLE channels one less than required by the MINIMUM CHANNELS OPERABLE requirement, restore the inoperable channel to OPERABLE status within 7 days or initiate and maintain operation of the control room emergency ventilation system in the recirculation mode of operation.

TABLE 4.3-3

RADIATION MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

INSTRUMENT			CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES IN WHICH SURVEILLANCE REQUIRED
1.	AREA MONITORS					
	a.	Spent Fuel Storage Ventilation System Isolation	S	R	M	*
	b.	Control Room Isolation	S	R	M	ALL MODES
	c.	Containment High Range	S	R**	M	1, 2, 3, & 4
2.	PROCESS MONITORS					
	a.	Containment Atmosphere-Particulate	S	R	M	ALL MODES
	b.	Containment Atmosphere-Gaseous	S	R	M	ALL MODES
	c.	Noble Gas Effluent Monitor (high range) (Unit 2 Stack)	S	R	M	1, 2, 3, & 4

* With fuel in storage building

** Calibration of the sensor with a radioactive source need only be performed on the lowest range. Higher ranges may be calibrated electronically.

No Change - For Information Only

ATTACHMENT 3

LICENSE AMENDMENT REQUEST RELATED CONTROL ROOM ISOLATION RADIATION MONITORING INSTRUMENTATION

RE-TYPED PAGES

MILLSTONE POWER STATION, UNIT 2
DOMINION NUCLEAR CONNECTICUT, INC

3/4.3.3 MONITORING INSTRUMENTATION

RADIATION MONITORING

LIMITING CONDITION FOR OPERATION

3.3.3.1 The radiation monitoring instrumentation channels shown in Table 3.3-6 shall be OPERABLE with their alarm/trip setpoints within the specified limits.

APPLICABILITY: As shown in Table 3.3-6.

ACTION:

a. With a radiation monitoring channel alarm/trip setpoint exceeding the value shown in Table 3.3-6, adjust the setpoint to within the limit within 2 hours or declare the channel inoperable.

b. With one or more radiation monitoring channels inoperable, take the ACTION shown in Table 3.3-6. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.3.1.1 Each radiation monitoring instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION and CHANNEL FUNCTIONAL TEST operations during the modes and at the frequencies shown in Table 4.3-3.

4.3.3.1.2 The trip value shall be such that the containment purge effluent shall not result in calculated concentrations of radioactivity offsite in excess of 10 CFR Part 20, Appendix B, Table II. For the purposes of calculating this trip value, a $x/Q = 5.8 \times 10^{-6}$ sec/m^3 shall be used when the system is aligned to purge through the building vent and a $x/Q = 7.5 \times 10^{-8}$ sec/m^3 shall be used when the system is aligned to purge through the Unit 1 stack, the gaseous and particulate (Half Lives greater than 8 days) radioactivity shall be assumed to be Xe-133 and Cs-137, respectively. However, the setpoints shall be no greater than 5×10^5 cpm.

4.3.3.1.3 Verify the response time of the control room isolation channel at least once per 18 months.

TABLE 3.3-6

RADIATION MONITORING INSTRUMENTATION

INSTRUMENT			MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ALARM/TRIP SETPOINT	MEASUREMENT RANGE	ACTION
1.	AREA MONITORS						
	a.	Spent Fuel Storage and Ventilation System Isolation	2	*	100 mR/hr	10^{-1} - 10^{+4} mR/hr	13
	b.	Control Room Isolation	2	ALL MODES	2 mR/hr	10^{-1} - 10^{4} mR/hr	16
	c.	Containment High Range	1	1,2,3,&4	100 R/hr	10^{0} - 10^{8} R/hr	17
2.	PROCESS MONITORS						
	a.	Containment Atmosphere-Particulate	1	ALL MODES**	the value determined in accordance with specification 4.3.3.1.2	10 - 10^{+6} cpm	14
	b.	Containment Atmosphere-Gaseous	1	ALL MODES**	the value determined in accordance with Specification 4.3.3.1.2	10 - 10^{+6} cpm	14
	c.	Noble Gas Effluent Monitor (high range) (Unit 2 stack)	1	1,2,3,&4	2 x 10^{-1} uci/cc	10^{-3} - 10^{5} uci/cc	17

* With fuel in storage building.

** These radiation monitors are not required to be operable during Type "A" Integrated Leak Rate testing.

TABLE 3.3-6 (Continued)

TABLE NOTATION

(a) DELETED

ACTION 13 - With the number of area monitors OPERABLE less than required by the MINIMUM CHANNELS OPERABLE requirement, perform area surveys of the monitored area with portable monitoring instrumentation at least once per 24 hours.

ACTION 14 - With the number of process monitors OPERABLE less than required by the MINIMUM CHANNELS OPERABLE requirement either (a) obtain and analyze grab samples of the monitored parameter at least once per 24 hours, or (b) use a Constant Air Monitor to monitor the parameter.

ACTION 15 - DELETED

ACTION 16 -

1. With the number of OPERABLE channels one less than required by the MINIMUM CHANNELS OPERABLE requirement, restore the inoperable channel to OPERABLE status within 7 days or initiate and maintain operation of the control room emergency ventilation system in the recirculation mode of operation.

2. With the number of OPERABLE channels two less than required by the MINIMUM CHANNELS OPERABLE requirement, within 1 hour initiate and maintain operation of the control room emergency ventilation system in the recirculation mode of operation.

ACTION 17 - With the number of OPERABLE channels less than required by the MINIMUM CHANNELS OPERABLE requirements, initiate the preplanned alternate method of monitoring the appropriate parameter(s), within 72 hours, and:

1. either restore the inoperable channel(s) to OPERABLE status within 7 days of the discovery or

2. prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within 14 days following discovery outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to OPERABLE status.

TABLE 4.3-3

RADIATION MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

INSTRUMENT			CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES IN WHICH SURVEILLANCE REQUIRED
1.	AREA MONITORS					
	a.	Spent Fuel Storage Ventilation System Isolation	S	R	M	*
	b.	Control Room Isolation	S	R	M	ALL MODES
	c.	Containment High Range	S	R**	M	1, 2, 3, & 4
2.	PROCESS MONITORS					
	a.	Containment Atmosphere-Particulate	S	R	M	ALL MODES
	b.	Containment Atmosphere-Gaseous	S	R	M	ALL MODES
	c.	Noble Gas Effluent Monitor (high range) (Unit 2 Stack)	S	R	M	1, 2, 3, & 4

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* With fuel in storage building

** Calibration of the sensor with a radioactive source need only be performed on the lowest range. Higher ranges may be calibrated electronically.

3/4.3.3 MONITORING INSTRUMENTATION

3/4.3.3.1 RADIATION MONITORING INSTRUMENTATION

The OPERABILITY of the radiation monitoring channels ensures that 1) the radiation levels are continually measured in the areas served by the individual channels and 2) the alarm or automatic action is initiated when the radiation level trip setpoint is exceeded.

The analysis for a Steam Generator Tube Rupture Event and for a Millstone Unit No. 3 Loss of Coolant Accident credits the control room ventilation inlet duct radiation monitors with closure of the Unit 2 control room isolation dampers. In the event of a single failure in either channel (1 per train), the control room isolation dampers automatically close. The response time test for the control room isolation dampers includes signal generation time and damper closure. The response time for the control isolation dampers is maintained within the applicable facility surveillance procedure.

The spent fuel storage area monitors provide a signal to direct the ventilation exhaust from the spent fuel storage area through a filter train when the dose rate exceeds the setpoint. The filter train is provided to reduce the particulate and iodine radioactivity released to the atmosphere. However, neither the analysis of a fuel handling accident or the analysis of a spent fuel cask drop accident in the spent fuel storage area credit automatic diversion of the spent fuel storage area ventilation exhaust through an enclosure building filtration train for accident mitigation.

The spent fuel storage area radiation monitors will detect an increase in radiation levels due to a lowering of spent fuel pool water level. This will provide additional indication to the plant operators of an unexpected decrease in spent fuel pool water level.

The containment airborne radiation monitors (gaseous and particulate) provide early indication of leakage from the Reactor Coolant System as specified in Technical Specification 3.4.6.1. In addition, these radiation monitors will initiate automatic closure of the containment purge valves upon detection of high airborne radioactivity levels inside containment. The requirements for the automatic closure of the containment purge valves is addressed by Technical Specification 3.3.4

The maximum allowable trip value for these monitors corresponds to calculated concentrations at the site boundary which would not exceed the concentrations listed in 10 CFR Part 20, Appendix B, Table II. Exposure for a year to the concentrations in 10 CFR Part 20, Appendix B. Table corresponds to a total body dose to an individual of 500 mrem which is well below the guidelines of 10 CFR Part 100 for an individual at any point on the exclusion area boundary for two hours.

Determination of the monitor's trip value in counts per minute, which is the actual instrument response, involves several factors including: 1) the atmospheric dispersion (x/Q), 2) isotopic composition of the sample, 3) sample flow rate, 4) sample collection efficiency, 5) counting efficiency, and 6) the background radiation level at the detector. The x/Q of 5.8×10^{-6} sec/m^3 is the highest annual average x/Q estimated for the site boundary (0.48 miles in the NE sector) for vent releases from the containment and 7.5×10^{-8} sec/m^3 is the highest annual average x/Q estimated for an off-site location (3 miles in the NNE sector) for releases from the Unit I stack. This calculation also assumes that the isotopic composition is xenon-133 for gaseous radioactivity and cesium-137 for particulate radioactivity (Half Lives greater than 8 days). The upper limit of 5×10^5 cpm is approximately 90 percent of full instrument scale.

3/4.3.3.2 - DELETED

3/4.3.3.3 - DELETED

3/4.3.3.4 - DELETED

3/4.3.3.5 REMOTE SHUTDOWN INSTRUMENTATION

The OPERABILITY of the remote shutdown instrumentation ensures that sufficient capability is available to permit shutdown and maintenance of HOT SHUTDOWN of the facility from locations outside of the control room. This capability is required in the event control room habitability is lost and is consistent with General Design Criteria 19 of 10 CFR 50.