EXHIBIT B

License Amendment Request - Dated August 30, 1984

Docket No. 50-263 License No. DPR-22

Clarification of Radiation Monitor Requirements

Exhibit B consists of revised pages for the Monticello Nuclear Generating Plant Technical Specifications as listed below:

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3.0 LIMITING CONDITIONS FOR OPERATION	4.0 SURVEILLANCE REQUIREMENTS
E. Reactor Building Ventilation Isolation and Standby Gas Treatment System Initiation Whenever secondary containment integrity is required as specified in 3.7.C, the Limiting Conditions for Operation for the instrumentation listed in Table 3.2.4 shall be met.	

Table 3.2.4
Instrumentation That Initiates Reactor Building Ventilation Isolation
And Standby Gas Treatment System Initiation

Function	Trip Settings	Total No. of Instrument Channels Per Trip System	Min. No. of Operable or Operating Instrument Channels Per Trip System	Required Conditions*
1. Low Reactor Water Level	≥10'6" above the top of the active fuel	2	2 (1, 2)	A. or B.
2. High Drywell Pressure	≤2 psig	2	2 (1, 2, 3)	A. or B.
3. Reactor Building Plenum Radiation Monitors	≤100 mR/hr	1	1 (4)	A. or B.
4. Refueling Floor Radiation Monitors	≤100 mR/hr	1	1 (4)	A. or B.
5. Reactor Building Vent Wide Range Gas Monitors	calculated per 3.8.B	1	1 (4)	A. or B.

Notes:

(1) There shall be two operable or tripped trip systems for each function with two instrument channels per trip system and there shall be one operable or tripped trip system for each function with one instrument channel per trip system.

(2) Upon discovery that minimum requirements for the number of operable or operating trip systems or instrument channels are not satisfied action shall be initiated to:

(a) Satisfy the requirements by placing appropriate channels or systems in the tripped condition, or
(b) Place the plant under the specified required conditions using normal operating procedures.

(3) May be bypassed when necessary only by closing the manual containment isolation valves during purging for containment inerting or de-inerting. Verification of the bypass condition shall be noted in the control room log. Also need not be operable when primary containment integrity is not required.

(4) One of the two monitors may be bypassed for maintenance and/or testing.

*Required Conditions when minimum conditions for operation are not satisfied.

A. The reactor building ventilation system isolated and the standby gas treatment system operating.

B. Establish conditions where secondary containment is not required.

Table 4.2.1 - Continued
Minimum Test and Calibration Frequency For Core Cooling
Rod Block and Isolation Instrumentation

Instrument Channel	Test (3)	Calibration (3)	Sensor Check (3)
3. Steam Line Low Pressure	Note 1	Once/3 months	None
4. Steam Line High Radiation	Once/week (5)	Note 6	Once/shift
HPCI ISOLATION			
1. Steam Line High Flow	Once/month	Once/3 months	None
2. Steam Line High Temperature	Once/month	Once/3 months	None
RCIC ISOLATION			
1. Steam Line High Flow	Once/month	Once/3 months	None
2. Steam Line High Temperature	Note 1	Once/3 months	None
REACTOR BUILDING VENTILATION			
1. Radiation Monitors (Plenum)	Once/month	Once/3 months	Once/day
2. Radiation Monitors (Refueling Floor)	Note 1	Once/3 months	(4)
3. Wide Range Gas Monitors	-	See Table 4.8.2	-
RECIRCULATION PUMP TRIP			
1. Reactor High Pressure	Note 1	Once/Operating Cycle-Transmitter Once/3 Months-Trip Unit	Once/Day
2. Reactor Low Low Water Level (Note 7)	Once/month	Once/Operating Cycle-Transmitter Once/3 Months-Trip Unit	Once/shift
SHUTDOWN COOLING SUPPLY ISOLATION			
1. Reactor Pressure Interlock	Note 1	Once/3 Months	None

Bases Continued:

3.2 For effective emergency core cooling for the small pipe break the HPCI or Automatic Pressure Relief system must function since for these breaks, reactor pressure does not decrease rapidly enough to allow either core spray or LPCI to operate in time. The arrangement of the tripping contacts is such as to provide this function when necessary and minimize spurious operation. The trip settings given in the specification are adequate to assure the above criteria is met. Reference Section 6.2.4 and 6.2.6 FSAR. The specification preserves the effectiveness of the system during periods of maintenance, testing, or calibration, and also minimizes the risk of inadvertent operation; i.e., only one instrument channel out of service.

Six radiation monitors (two reactor building vent plenum, two reactor building vent wide range gas and two refueling floor) are provided which initiate isolation of the reactor building and operation of the standby gas treatment system following a refueling accident. The monitors measure radioactivity in the reactor building ventilation exhaust and on the refueling floor. One upscale trip signal or two downscale/inoperable trip signals, from a pair of monitors performing the same function, will cause the desired action. Trip settings of 100 mR/hr for the reactor building vent plenum monitors and the refueling floor monitors are based upon initiating normal ventilation isolation and standby gas treatment system operation so that none of the activity released during the refueling accident leaves the reactor building via the normal ventilation stack but that all the activity is processed by the standby gas treatment system. The reactor building vent wide range gas monitors trip settings will 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 10CFR Part 20.

The recirculation pump trip description and performance analysis is discussed in Topical Report NEDO-25016, September 1976, "Evaluation of Anticipated Transients Without Scram for the Monticello Nuclear Generating Plant". (See September 15, 1976 letter from Mr L O Mayer, NSP, to Mr D L Ziemann, USNRC.) The pump trip is provided to minimize reactor pressure in the highly unlikely event of a plant transient coincident with the failure of all control rods to scram. The rapid flow reduction

Table 3.2.7
Trip Functions And Deviations

	Trip Function	Deviation
Reactor Building Ventilation Isolation and Standby Gas Treatment System Initiation Specification 3.2.E.2 and Table 3.2.4	Reactor Building Vent Plenum Monitors	+5 mR/hr
	Refueling Floor Radiation Monitors	+5 mR/hr
	Low Low Reactor Water Level	-6 inches
	High Drywell Pressure	+1 psi
Primary Containment Isolation Functions Table 3.2.1	Low Low Water Level	-3 inches
	High Flow in Main Steam Line	+2 %
	High Temp. in Main Steam Line Tunnel	+10°F
	Low Pressure in Main Steam Line	-10 psi
	High Drywell Pressure	+1 psi
	Low Reactor Water Level	-6 inches
	HPCI High Steam Flow	+7,500 lb/hr
	HPCI Steam Line Area High Temp.	+2°F
	RCIC High Steam Flow	+2250 lb/hr
	RCIC Steam Line Area High Temp	+2°F
	Shutdown Cooling Supply ISO	+7 psi

3.0 LIMITING CONDITIONS FOR OPERATION	4.0 SURVEILLANCE REQUIREMENTS

3.8 RADIOACTIVE EFFLUENTS

Applicability:

Applies at all times to the liquid and gaseous radioactive effluents from the plant and the solidification and packaging for shipment of solid radioactive waste.

Objective:

To implement the requirements of 10CFR20, 10CFR71, 10CFR50 Section 50.36a, Appendix A and Appendix I to 10CFR50, 40CFR141, and 40CFR190 pertaining to radioactive effluents.

Specification:

A. Liquid Effluents

1. Concentration

a. The concentration of liquid radioactive material released from the site (Figure 3.8.1) shall be limited to the concentrations specified in 10 CFR Part 20, Appendix B, Table II, Column 2, for radionuclides other than dissolved or entrained noble gases. For dissolved or entrained noble gases, the concentration shall be limited to 2×10^{-4} uci/ml total activity.

b. When the concentration of radioactive material in liquid released from the site exceeds the limits in (a) above, immediately restore concentration within acceptable limits.

4.8. RADIOACTIVE EFFLUENTS

Applicability:

Applies to the sampling monitoring, and recording of liquid and gaseous radioactive effluents, verification of solidification, and verification of equipment operability.

Objective:

To implement the requirments of 10CFR20, 10CFR71, 10CFR50 Section 50.36a, Appendix A and Appendix I to 10CFR50, 40CFR141, and 40CFR190 pertaining to radioactive effluents.

Specification:

A. Liquid Effluents

1. Concentration

a. Surveillance of Liquid effluent monitoring instrumentation shall be performed as required by Table 4.8.1.

3.0 LIMITING CONDITIONS FOR OPERATION	4.0 SURVEILLANCE REQUIREMENTS
c. Radioactive material in liquid effluent released from the site shall be continuously monitored in accordance with Table 3.8.1.	b. Radioactive liquid wastes shall be sampled and analyzed according to the sampling and analysis program of Table 4.8.3.
d. The liquid effluent monitors having provisions for automatic alarming, as listed in Table 3.8.1, shall be used to limit the concentration of radioactive material released at any time from the site to the values given in 3.8.A.1.a. Setpoints shall be determined in accordance with the methods in the Off-site Dose Calculation Manual (ODCM).	c. The results of radioactive analysis shall be used in accordance with the methods of the ODCM to assure that the concentrations at the point of release are maintained within the limits of Specification 3.8.A.1.a.

3.0 LIMITING CONDITIONS FOR OPERATION	4.0 SURVEILLANCE REQUIREMENTS
B. Gaseous Effluents	B. Gaseous Effluents
1. Dose Rate	1. Dose Rate
a. The dose rate at any time due to radioactive materials released in gaseous effluents from the site (Figure 3.8.2) shall be limited to the following:	a. Surveillance of gaseous effluent monitoring instruments shall be performed as required by Table 4.8.2.
1. For noble gases to $\leq$500 mrem/year to the total body and $\leq$3000 mrem/year to the skin, and	b. The release rate of I-131, tritium and radioactive particulates with half-lives greater than eight days shall be determined by obtaining representative samples and performing analyses in accordance with the sampling and analysis program specified in Table 4.8.4. Following each analysis the dose rate due to I-131, tritium, and radioactive particulates with half-lives greater than eight days shall be determined to be less than the limit in Specification 3.8.B.1.a.2 in accordance with the ODCM.
2. For I-131, tritium, and radioactive particulates, with half-lives greater than eight days to $\leq$1500 mrem/year to any organ.	
b. With the dose rate(s) exceeding the limits in (a) above, immediately decrease the release rate within acceptable limits.	
c. Radioactive material in gaseous effluents released from the site shall be continuously monitored in accordance with Table 3.8.2.	
d. The noble gas effluent monitors having provisions for the automatic termination of gaseous releases, as listed in Table 3.8.2 shall be used to limit offsite dose rates to the values established in Specification 3.8.B.1.a.1. Setpoints shall be determined in accordance with the ODCM.	

3.0 LIMITING CONDITIONS FOR OPERATION	4.0 SURVEILLANCE REQUIREMENTS
5. Main Condenser Offgas Activity	5. Main Condenser Offgas Activity
a. The gross gamma radioactivity release rate measured at the steam jet air ejector shall be limited to $\leq 2.6 \times 10^5$ uci/sec following a 30-minute decay.	The gross gamma radioactivity of noble gases from the main condenser air ejector shall be determined to be within the limit specified in 3.8.B.5.a at the following times by performing an isotopic analysis of a representative sample of gases:
b. When the limit in (a) above is exceeded, restore the gross gamma radioactivity release rate to within the limit within 72 hours or be in at least hot shutdown within the next 12 hours.	1. Once every month. 2. Within 24 hours follwoing an increase in the continuous monitor reading of 50% after factoring out increases due to power level.
c. The activity of radioactive material in gaseous form removed from the main condenser shall be continuously monitored by the steam jet air ejector monitors in accordance with Table 3.8.2.	
d. The steam jet air ejector monitors shall be set to automatically terminate offgas flow within 30 minutes at the limit established in Specification 3.8.B.5.a.	
6. Containment Venting and Purging	6. Containment Venting and Purging
a. Except for inerting operations following startup and deinerting prior to shutdown, containment venting and purging above cold shutdown shall be via the 2-inch bypass flow path using the Standby Gas Treatment System.	a. Except for inerting operations following startup and deinerting prior to shutdown, the containment shall be determined to be aligned for venting or purging through the Standby Gas Treatment System within 4 hours prior to start of and at least once per 12 hours during venting or purging of the containment above cold shutdown.
b. Containment inerting following startup and deinerting prior to shutdown shall be via the Reactor Building plenum and vent.	b. Prior to containment venting or purging, the sampling and analysis requirements of Table 4.8.4 shall be met.

TABLE 3.8.1 - RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION
(Page 1 of 2)

Instrument	Minimum Channels Operable	Applicability	Action if Minimum Channels not Operable
Liquid Radwaste Effluent Line Gross Radioactivity Monitor*	1	During release of liquid radwaste	Liquid radwaste releases may continue for up to 14 days provided that prior to initiating a release: a. At least two independent samples are analyzed in accordance with Specification 4.8.1.d b. At least two technically qualified members of the Facility Staff independently verify the release rate calculations and discharge line valving; Otherwise, suspend release of radioactive effluents via this pathway.
Liquid Radwaste Effluent Line Flow Instrument	1	During release of liquid radwase	Liquid radwaste releases via this pathway may continue for up to 30 days provided the flow rate is estimated at least once every four hours during actual releases. Pump curves may be used to estimate flow.
Discharge Canal Flow Measurement Open Cycle Mode Closed/Helper Cycle Mode	 1 1	 During release of liquid radwaste	Effluent releases via this pathway may continue for up to 30 days provided the flow rate is estimated at least once every four hours during actual releases. Pump curves may be used to estimate flow.
Discharge Canal Gross Radioactivity Monitor*	1	At all times	Effluent releases may continue for up to 30 days provided that at least once every 8 hours a grab sample shall be collected and analyzed for gross beta and gamma radioactivity at an LLD of 10^{-7} uCi/ml.
Service Water Discharge Pipe Gross Radioactivity Monitor*	1	At all times	Service water discharge may continue for up to 30 days provided that at least once every 8 hours a grab sample is collected and analyzed for gross beta and gamma radioactivity at an LLD of 10^{-7} uCi/ml.

TABLE 3.8.2 - RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION
(Page 1 of 2)

Instrument	Minimum Channels Operable	Applicability	Action if Minimum Channels not Operable
Main Condenser Air Ejector Noble Gas Activity Monitor	2	During air ejector operation	From and after the date that one of the two steam jet air ejector off-gas radiation monitors is made or found to be inoperable, continued reactor power operation is permissible provided the inoperable radiation monitor instrument channel is tripped. Upon loss of both steam jet air ejector off-gas radiation monitors, be in Hot Standby within six hours.
Main Condenser Offgas Treatment System Hydrogen Monitors	2#	During air ejector operation	Operation may continue for up to 14 days with one Operable channel per operating recombiner train. With all channels inoperable, be in Hot Standby within six hours.
Plant Stack			
Wide Range Noble Gas Activity Monitors*	1	At all times	Releases via this pathway may continue for up to 30 days provided grab samples are taken and analyzed at least once every 8 hours.
Iodine Sampler Cartridge	1	At all times	Releases via this pathway may continue for up to 30 days provided within 8 hours samples are continuously collected with auxiliary sampling equipment as required by Table 4.8.4.
Particulate Sampler Filter	1	At all times	Releases via this pathway may continue for up to 30 days provided within 8 hours samples are continuously collected with auxiliary sampling equipment as required by Table 4.8.4.
Stack Flow Monitor	1	At all times	Releases via the pathway may continue for up to 30 days provided the flow rate is estimated at least once every 4 hours.
Sample Flow Instrument	1	At all times	Releases via the pathway may continue for up to 30 days provided the flow rate is estimated at least once every 4 hours.

TABLE 3.8.2 - RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION
(Page 2 of 2)

Instrument	Minimum Channels Operable	Applicability	Action if Minimum Channels not Operable
Reactor Building Vent (includes Turbine Building & Radwaste Building releases)			
Wide Range Noble Gas Activity Monitor**	1	At all times	Releases via this pathway may continue for up to 30 days provided grab samples are taken and analyzed at least once every 8 hours.
Iodine Sampler Cartridge	1	At all times	Releases via the pathway may continue for up to 30 days provided within 8 hours samples are continuously collected with auxiliary sampling equipment as required by Table 4.8.4.
Particulate Sampler Cartridge	1	At all times	Releases via the pathway may continue for up to 30 days provided within 8 hours samples are continuously collected with auxiliary sampling equipment as required by Table 4.8.4.
Duct Flow Monitors	1	At all times	Releases via this pathway may continue for up to 30 days provided the flow rate is estimated at least once every 4 hours.
Sample Flow Instruments	1	At all times	Releases via this pathway may continue for up to 30 days provided the flow rate is estimated at least once every 4 hours.

Notes:

- Indicates number of channels required per operating recombiner train.

* - Provides automatic termination of offgas treatment system releases.

** - Provides automatic isolation of reactor building releases.

TABLE 4.8.1 - RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

Instrument	Sensor Check Frequency	Source Check Frequency	Functional Test Frequency	Calibration Frequency
Liquid Radwaste Effluent Line Gross Radioactivity Monitor	Daily during release	Immediately Prior to Each Release	Within 3 months prior to making a release	Within 12 months prior to making a release.*
Liquid Radwaste Effluent Line Flow Instrument	Daily during release	-	Within 3 months prior to making a release	Within 12 months prior to making a release.
Instruments used in Determination of Discharge Canal Flow	Daily during release	-	Within 3 months prior to making a release	Within 18 months prior to making a release.
Service Water Discharge Pipe Gross Radioactivity Monitor	Daily	Monthly	Quarterly	Each Operating Cycle*
Discharge Canal Gross Radioactivity Monitor	Daily	Monthly	Quarterly	Each Operating Cycle**
Turbine Building Normal Drain Sump Monitor	Daily	Monthly	Quarterly	Each Operating Cycle
Level Monitors for Temporary Outdoor Tanks Holding Radioactive Liquid	Daily when in use	-	Quarterly when in use	Each Operating Cycle when in use

* - The initial Instrument Calibration shall be performed using one or more of the reference standards certified by the National Bureau of Standards (NBS) or using sources traceable to NBS standards. These standards shall permit calibrating the system over its intended range of energy and measurement range. For subsequent calibration sources that have been related to the initial calibration shall be used.

** - An initial Instrument Calibration was performed using a liquid reference standard over the systems intended range of energy and measurement range. Solid calibration sources traceable to NBS Standards currently being applied for instrument calibrations were related to the initial calibration. If, in the future, the canal radioactivity monitor is replaced, the following conditions shall apply:

a. Detector response and system efficiency shall be equal to or better than the present system.

b. Footnote (1) shall apply.

TABLE 4.8.2 - RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION
SURVEILLANCE REQUIREMENTS
(Page 1 of 2)

Instrument	Sensor Check Frequency	Source Check Frequency	Functional Test Frequency	Calibration Frequency
Main Condenser Air Ejector Noble Gas Activity Monitors	Daily during air ejector operation		Quarterly	Once each Operating Cycle
Main Condenser Offgas Treatment System Hydrogen Monitors	Daily during air ejector operation	-	Monthly	Quarterly #
Plant Stack Wide Range Noble Gas Activity Monitors	Daily	Monthly	Quarterly	Once each Operating Cycle*
Plant Stack Iodine and Particulate Samplers	Weekly	-	-	-
Plant Stack Flow Monitor	Daily	-	-	Once each Operating Cycle
Plant Stack Sample Flow Instruments	Daily	-	-	Once each Operating Cycle

TABLE 4.8.2 - RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION
SURVEILLANCE REQUIREMENTS
(Page 2 of 2)

Instrument	Sensor Check Frequency	Source Check Frequency	Functional Test Frequency	Calibration Frequency
Reactor Building Vent Wide Range Noble Gas Activity Monitors	Daily	Monthly	Quarterly	Once each Operating Cycle*
Reactor Building Vent Iodine and Particulate Samplers	Weekly	-	-	-
Reactor Building Vent Duct Flow Monitors	Daily	-	-	Once each Operating Cycle
Reactor Building Vent Sample Flow Instruments	Daily	-	-	Once each Operating Cycle

* - The initial Instrument Calibration shall be performed using one or more of the reference standards certified by the National Bureau of Standards (NBS) or using sources traceable to NBS standards. These standards shall permit calibrating the system over its intended range of energy and measurement range. For subsequent calibration sources that have been related to the initial calibration shall be used.

\# - The Calibration shall include the use of standard gas samples containing a nominal four volume percent hydrogen.

Specification 3.8.B.4.c is provided to ensure that the concentration of potentially explosive gas mixtures contained in the waste gas treatment system is maintained below the flammability limits of hydrogen and oxygen. Automatic control features are included in the system to prevent the hydrogen and oxygen concentrations from reaching these flammability limits. Maintaining the concentration of hydrogen below the flammability limit provides assurance that the releases of radioactive materials will be controlled in conformance with the requirements of General Design Criterion 60 of Appendix A to 10 CFR Part 50.

Specification 3.8.B.4.e is provided to limit the radioactivity which can be stored in one decay tank. Restricting the quantity of radioactivity contained in each gas storage tank provides assurance that in the event of an uncontrolled release of the tanks contents, the resulting total body exposure to an individual at the site restricted area boundary will not exceed 20 mrem. A flow restrictor in the discharge line of the decay tanks prevents a tank from being discharged at an uncontrolled rate. In addition, interlocks prevent the contents of a tank from being released with less than 12 hours of holdup.

Specification 3.8.B.5 establishes a maximum activity at the steam jet air ejector. Restricting the gross radioactivity rate of noble gases from the main condenser provides reasonable assurance that the total body exposure to an individual at the restricted area boundary will not exceed the limits of 10 CFR Part 20 in the event this effluent is inadvertently discharged directly to the environment with minimal treatment. This specification implements the requirements of General Design Criteria 60 and 64 of Appendix A to 10 CFR Part 50.

Specification 3.8.B.6 requires the containment to be purged and vented through the standby gas treatment system except during inerting and deinerting operations. This provides for iodine and particulate removal from the containment atmosphere. During outages when the containment is opened for maintenance, the containment ventilation exhaust is directed to the monitored reactor building vent. Use of the 2-inch flow path prevents damage to the standby gas treatment system in the event of a loss of coolant accident during purging or venting. Use of the reactor building plenum and vent flow path for inerting and deinerting operations permits the reactor building vent wide range gas monitors to automatically terminate releases in the event that release rate limits are exceeded.

C. Solid Radioactive Waste

Specification 3.8.C.1 provides assurance that the solid radwaste system will be used whenever solid radwastes require processing and packaging prior to being shipped offsite. This specification implements the requirements of 10 CFR Part 50.36a and General Design Criteria 60 of Appendix A to 10 CFR Part 50.