

EXHIBIT B

License Amendment Request Dated March 28, 1990

Docket No. 50-263

License No. DPR-22

Exhibit B consists of marked up pages from the Monticello Technical Specifications showing the proposed changes listed Below:

Page:

Page 59, Table 3.2.4

Page 62, Table 4.2.1, continued

Page 68, Section 3.2 Bases, continued

Page 198-1, Table 3.8.2, Page 2 of 2

Page 198y, Sections 3.8 and 4.8 Bases, continued

9004100120 900328
PDR ADOCK 05000263
P PDC

12

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 (Notes 1, 2)	Required Conditions*
1. Low Reactor Water Level (Note 3)	$\geq 10'6"$ above the top of the active fuel	2	2	A. or B.
2. High Drywell Pressure (Note 3)	≤ 2 psig	2	2	A. or B.
3. Reactor Building Plenum Radiation Monitors	≤ 100 mR/hr	1	1 (Note 4)	A. or B.
4. Refueling Floor Radiation Monitors	≤ 100 mR/hr	1	1 (Note 4)	A. or B.
5. Reactor Building Vent Wide Range Gas Monitors	calculated per 3.8.B	1	1 (Note 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) 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	Once/month	Once/3 months	None
4. Steam Line High Radiation	Once/week (Note 5)	Note 6	Once/shift
<u>CONTAINMENT ISOLATION (GROUPS 2 & 3)</u>			
1. Reactor Low Water Level (Note 10)	-	-	-
2. Drywell High Pressure (Note 10)	-	-	-
<u>HPCI (GROUP 4) ISOLATION</u>			
1. Steam Line High Flow	Once/month	Once/3 months	None
2. Steam Line High Temperature	Once/month	Once/3 months	None
<u>RCIC (GROUP 5) ISOLATION</u>			
1. Steam Line High Flow	Once/month	Once/3 months	None
2. Steam Line High Temperature	Once/month	Once/3 months	None
<u>REACTOR BUILDING VENTILATION</u>			
1. Radiation Monitors (Plenum)	Once/month	Once/3 months	Once/day
2. Radiation Monitors (Refueling Floor)	Once/month	Once/3 months	Note 4
3. Wide Range Gas Monitors	X	See Table 4.8.2	X
<u>RECIRCULATION PUMP TRIP AND ALTERNATE ROD INJECTION</u>			
1. Reactor High Pressure	Once/month (Note 5)	Once/Operating Cycle- Transmitter Once/3 Months-Trip Unit	Once/Day
2. Reactor Low Low Water Level	Once/month (Note 5)	Once/Operating Cycle- Transmitter Once/3 Months-Trip Unit	Once/shift
<u>SHUTDOWN COOLING SUPPLY ISOLATION</u>			
1. Reactor Pressure Interlock	Once/month	Once/3 Months	None

Bases Continued:

- 3.2 The RBM bypass time delay is set low enough to assure minimum rod movement while upscale trips are bypassed.

The IRM rod block function provides local as well as gross core protection. The scaling arrangement is such that trip setting is less than a factor of 10 above the indicated level. Analysis of the worst case accident results in rod block action before MCPR approaches the Safety Limit (T.S.2.1.A).

A downscale indication of an APRM or IRM is an indication the instrument has failed or the instrument is not sensitive enough. In either case the instrument will not respond to changes in control rod motion and thus control rod motion is prevented. The downscale rod blocks assure that there will be proper overlap between the neutron monitoring systems and thus, that adequate coverage is provided for all ranges of reactor operation. The downscale trips are set at 3/125 of full scale.

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.

^{Four}~~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 3.8.2 - 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 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 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.

Control room indication and annunciation prior to exceeding 10 CFR Part 20 release rate limits

3.8 and 4.8 Bases: (continued)

Specification 3.8.B.4.c is provided to ensure that the concentration of potentially explosive gas mixtures contained in the compressed storage subsystem 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. the control room operators to monitor the activity level of the resulting effluent by use of the reactor building vent wide range gas monitors. In the event that the reactor building release rate exceeds the reactor building vent wide range gas monitor alarm settings, the wide range gas monitors will alarm in the control room alerting the operators to take actions to limit the release of gaseous radioactive effluents.~~

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.

The alarm settings for the reactor building vent wide range gas monitors will be calculated in accordance with NRC approved methods in the ODCM to ensure that alarms will alert control room operators prior to the limits of 10 CFR Part 20.105(w) being exceeded.

3.8/4.8 BASES

198y
REV 98 12/1/86

EXHIBIT C

License Amendment Request Dated March 28, 1990

Docket No. 50-263

License No. DPR-22

Exhibit C consists of revised pages for the Monticello Technical Specifications including the proposed changes.

Page:

Page 59, Table 3.2.4

Page 62, Table 4.2.1, continued

Page 68, Section 3.2 Bases, continued

Page 198-1, Table 3.8.2, Page 2 of 2

Page 198y, Sections 3.8 and 4.8 Bases, continued

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 (Notes 1, 2)	Required Conditions*
1. Low Reactor Water Level (Note 3)	$\geq 10'6"$ above the top of the active fuel	2	2	A. or B.
2. High Drywell Pressure (Note 3)	≤ 2 psig	2	2	A. or B.
3. Reactor Building Plenum Radiation Monitors	≤ 100 mR/hr	1	1 (Note 4)	A. or B.
4. Refueling Floor Radiation Monitors	≤ 100 mR/hr	1	1 (Note 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) 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	Once/month	Once/3 months	None
4. Steam Line High Radiation	Once/week (Note 5)	Note 6	Once/shift
<u>CONTAINMENT ISOLATION (GROUPS 2 & 3)</u>			
1. Reactor Low Water Level (Note 10)	-	-	-
2. Drywell High Pressure (Note 10)	-	-	-
<u>HPCI (GROUP 4) ISOLATION</u>			
1. Steam Line High Flow	Once/month	Once/3 months	None
2. Steam Line High Temperature	Once/month	Once/3 months	None
<u>RCIC (GROUP 5) ISOLATION</u>			
1. Steam Line High Flow	Once/month	Once/3 months	None
2. Steam Line High Temperature	Once/month	Once/3 months	None
<u>REACTOR BUILDING VENTILATION</u>			
1. Radiation Monitors (Plenum)	Once/month	Once/3 months	Once/day
2. Radiation Monitors (Refueling Floor)	Once/month	Once/3 months	Note 4
<u>RECIRCULATION PUMP TRIP AND ALTERNATE ROD INJECTION</u>			
1. Reactor High Pressure	Once/month (Note 5)	Once/Operating Cycle- Transmitter Once/3 Months-Trip Unit	Once/Day
2. Reactor Low Low Water Level	Once/month (Note 5)	Once/Operating Cycle- Transmitter Once/3 Months-Trip Unit	Once/shift
<u>SHUTDOWN COOLING SUPPLY ISOLATION</u>			
1. Reactor Pressure Interlock	Once/month	Once/3 Months	None

Bases Continued:

- 3.2 The RBM bypass time delay is set low enough to assure minimum rod movement while upscale trips are bypassed.

The IRM rod block function provides local as well as gross core protection. The scaling arrangement is such that trip setting is less than a factor of 10 above the indicated level. Analysis of the worst case accident results in rod block action before MCPR approaches the Safety Limit (T.S.2.1.A).

A downscale indication of an APRM or IRM is an indication the instrument has failed or the instrument is not sensitive enough. In either case the instrument will not respond to changes in control rod motion and thus control rod motion is prevented. The downscale rod blocks assure that there will be proper overlap between the neutron monitoring systems and thus, that adequate coverage is provided for all ranges of reactor operation. The downscale trips are set at 3/125 of full scale.

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.

Four radiation monitors (two reactor building vent plenum 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 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 3.8.2 - 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 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 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 control room indication prior to exceeding 10CFR Part 20 release limits.

3.8 and 4.8 Bases: (continued)

Specification 3.8.B.4.c is provided to ensure that the concentration of potentially explosive gas mixtures contained in the compressed storage subsystem 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 control room operators to monitor the activity level of the resulting effluent by use of the Reactor Building Vent Wide Range Gas Monitors. In the event that the reactor building release rate exceeds the Reactor Building Vent Wide Range Gas Monitor alarm settings, the monitors will alarm in the control room alerting the operators to take actions to limit the release of gaseous radioactive effluents. The alarm settings for the reactor building vent wide range gas monitors are calculated in accordance with the NRC approved methods in the ODCM to ensure that alarms will alert control room operators prior to the limits of 10CFR Part 20.105(a) being 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.