

EXHIBIT B

Monticello Nuclear Generating Plant

License Amendment Request - Dated March 31, 1986

Proposed Changes to the Technical Specifications
Appendix A of Operating License DPR-22

Exhibit B consists of revised pages of Appendix A Technical Specifications as listed below:

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3.0 LIMITING CONDITIONS FOR OPERATION

C. Hose Stations

1. Whenever equipment, protected by hose stations in the following areas is required to be operable, the hose station(s) protecting equipment required to be operable in those areas shall be operable:
 - a. Diesel generator rooms
 - b. Safety related areas of the turbine building
 - c. Safety related areas of the screen-house
 - d. Reactor building
 - e. Reactor building addition
 - f. Safety related areas of the Administration building

4.0 SURVEILLANCE REQUIREMENTS

C. Hose Stations

- k. Each valve (manual, power operated, or automatic) in the flow path that is not electrically supervised, locked, sealed or otherwise secured in position, shall be verified to be in its correct position every month.
 2. When it is determined that one of the pumps required by Specification 3.13.B.1.a is inoperable, the remaining operable pumps shall be run daily for at least 15 minutes (motor driven pumps) or 20 minutes (diesel driven pump) until specification 3.13.B.1.a can be met.
1. The hose stations specified in 3.13.C.1 shall be demonstrated operable as follows:
 - a. Each month a visual inspection shall be conducted to assure all equipment is available.
 - b. Every 18 months the hose shall be removed for inspection and re-racking and all gaskets in the couplings shall be inspected and replaced if necessary.
 - c. Every 3 years each hose station valve shall be partially opened to verify valve operability and no flow blockage.
 - d. Every 3 years each hose shall be hydrostatically tested at a pressure at least 50 psig greater than the maximum pressure available at any hose station.

3.0 LIMITING CONDITIONS FOR OPERATION

2. If Specification 3.13.C.1 cannot be met, within one hour hoses supplied from operable hose stations shall be made available for routing to each area with an inoperable hose station. Restore the inoperable hose station(s) to Operable status within 14 days or submit a 30-day written report outlining the cause of the inoperability and the plans and schedule for restoring the system to Operable status.

D. Yard Hydrant Hose Houses

1. Whenever equipment in the following buildings is required to be operable, the yard hydrant hose houses in the main yard loop adjacent to those buildings shall be operable:
 - a. Diesel Generator Building
 - b. Turbine Building
 - c. Screenhouse
 - d. Reactor Building
 - e. Reactor Building Addition
 - f. Administration Building
2. If Specification 3.13.D.1 cannot be met, within one hour have sufficient additional lengths of 2-1/2 inch diameter hose located adjacent operable yard hydrant hose house(s) to provide service to the unprotected area(s). Restore the yard hydrant hose house(s) to Operable status within 14 days or submit a 30-day written report outlining the cause of the inoperability and the plans and schedule for restoring the system to Operable status.

4.0 SURVEILLANCE REQUIREMENTS

D. Yard Hydrant Hose Houses

1. The yard hydrant hose houses listed in Specification 3.13.D.1 shall be demonstrated operable as follows:
 - a. Each month a visual inspection shall be conducted of the yard hydrant hose houses to assure all required equipment is available.
 - b. Every six months (in the spring and fall) visually inspect each yard fire hydrant and verify that the hydrant barrel is dry and that the hydrant is not damaged.
 - c. Every year conduct a hose hydrostatic test at a pressure at least 50 psig greater than the maximum pressure available at any yard hydrant hose house and conduct an inspection of all gaskets in the couplings. All degraded gaskets shall be replaced.

3.0 LIMITING CONDITIONS FOR OPERATION

E. Sprinkler Systems

1. The following spray or sprinkler systems shall be operable whenever equipment in the protected area(s) is required to be operable:
 - a. Diesel Generator and Day Tank Rooms
 - b. Lube Oil Drum Storage
 - c. Lube Oil Storage Tank Sprinkler
 - d. Hydrogen Seal Oil Unit Sprinkler
 - e. Lube Oil Piping System Sprinkler
 - f. Lube Oil Reservoir
 - g. Recirc MG Set Sprinklers
 - h. Intake Structure
 - i. Feedwater Pump Hatch Sprinkler Curtain
2. If Specification 3.13.E.1 cannot be met, within one hour establish a continuous fire watch with backup fire suppression equipment for the unprotected area(s). Restore the system to operable status within 14 days or submit a 30-day written report outlining the cause of the inoperability and the plans and schedule for restoring the system to operable status.

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4.0 SURVEILLANCE REQUIREMENTS

E. Sprinkler Systems

1. Each of the spray or sprinkler systems listed in specification 3.13.E.1 shall be demonstrated operable as follows:
 - a. Each valve (manual, power operated, or automatic) in the flow path that is not electrically supervised, locked, sealed or otherwise secured in position, shall be verified to be in its correct position every month.
 - b. Cycle each testable valve in the flow path through at least one complete cycle of full travel once each year.
 - c. Perform a system functional test every 18 months which includes, where applicable, simulated automatic actuation of the system and verification that the automatic valves in the flow path actuate to their correct positions on a test signal.
 - d. At least once per 5 years by performing an air flow test through each open head sprinkler header and verifying each open head sprinkler is unobstructed.
 - e. At least once per 18 months by a visual examination of system piping and sprinkler heads. An air flow test shall be performed upon evidence of obstruction of any open head sprinkler.

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3.0 LIMITING CONDITIONS FOR OPERATION

F. Halon Systems

- *1. The cable spreading room Halon system shall be operable with the storage tanks having at least 95% of full charge weight and 90% of full charge pressure.
- *2. If specification 3.13.F.1 cannot be met, within one hour establish a continuous fire watch with backup fire suppression equipment in the cable spreading room. Restore the system to operable status within 14 days or submit a 30-day written report outlining the cause of the inoperability and the plans and schedule for restoring the system

G. Penetration Fire Barriers

- 1. All penetration fire barriers in fire area boundaries shall be operable whenever safe shutdown equipment in that fire area is required to be operable.
- 2. If Specification 3.13.G.1 cannot be met, a continuous fire watch shall be established on at least one side of the affected penetration(s) within one hour or verify the operability of fire detectors on at least one side of the non-functional fire barrier and establish an hourly fire watch patrol. Restore the inoperable penetration fire barriers to Operable status within 14 days or submit a 30-day written report outlining the cause of the inoperability and the plans and schedule for restoring the barriers to Operable status.

4.0 SURVEILLANCE REQUIREMENTS

F. Halon Systems

- *1. The cable spreading room Halon system shall be demonstrated operable as follows:
 - a. Each valve (manual, power operated, or automatic) in the flow path that is not electrically supervised, locked, sealed or otherwise secured in position, shall be verified to be in its correct position every month.
 - b. Verify Halon storage tank weight and pressure every six months.
 - c. Perform a system functional test every 18 months which includes verifying the system, including associated ventilation dampers, actuates manually and automatically, upon receipt of a test signal.
 - d. Perform an air flow test every 3 years through headers and nozzles to assure no blockage.
 - e. Visually examine headers and nozzles every 18 months. An air flow test shall be performed upon evidence of obstruction of any Halon system nozzle.

G. Penetration Fire Barriers

- 1. A visual inspection of penetration fire barriers in fire area boundaries protecting safe shutdown equipment shall be conducted every 18 months.
- 2. Following repair or maintenance of a penetration fire barrier a visual inspection of the seal shall be conducted.

3.0 LIMITING CONDITIONS FOR OPERATION

H. Alternate Shutdown System

1. The system controls on the ASDS panel shall be operable whenever that systems controls are required to be operable from the control room.
2. If Specification 3.13.H.1 can not be met, a continuous fire watch shall be established in the cable spreading room and back-panel area of the control room or verify the operability of fire detectors in these areas and establish an hourly fire watch patrol.
3. The alternate shutdown system panel master transfer switch shall be locked in the normal position except when in use, being tested or being maintained.

4.0 SURVEILLANCE REQUIREMENTS

H. Alternate Shutdown System

1. Switches on the alternate shutdown system panel shall be functionally tested once per operating cycle.
2. The alternate shutdown system panel master transfer switch shall be verified to alarm in the control room when unlocked once per operating cycle.

TABLE 3.13.1
SAFETY RELATED FIRE DETECTION INSTRUMENTS

<u>Fire Zone</u>	<u>Location</u>	<u>Minimum Heat</u>	<u>Instrument Flame</u>	<u>Operable Smoke</u>
1A	"B" RHR Room			3
1B	"A" RHR Room			3
1C	RCIC Room			3
1E	HPCI Room			2
1F	Reactor Building-Torus Compartment			11
2A	Reactor Bldg 935' elev - TIP Drive Area			1
2B	Reactor Bldg 935' elev - CRD HCU Area East			10
2C	Reactor Bldg 935' elev - CRD HCU Area West			11
2E	Reactor Bldg 935' - LPCI Injection Valve Area			1
3B	Reactor Bldg 962' elev - SBLC Area			2
3C	Reactor Bldg 962' elev - South			5
3D	Reactor Bldg 962' elev - RBCCW Pump Area			4
4A	Reactor Bldg 985' elev - South			4
4B	Reactor Bldg 985' elev - RBCCW 11x Area			5
4D	SBGT System Room			2
5A	Reactor Bldg 1001' elev - South			7
5B	Reactor Bldg 1001' elev - North			3
5C	Reactor Bldg - Fuel Pool Cooling Pump Area			1
6	Reactor Building 1027' elev			5
7A	Battery Room			1
7B	Battery Room			1
7C	Battery Room			1
8	Cable Spreading Room			7

TABLE 3.13.1
SAFETY RELATED FIRE DETECTION INSTRUMENTS

<u>Fire Zone</u>	<u>Location</u>	<u>Minimum Heat</u>	<u>Instrument Flame</u>	<u>Operable Smoke</u>
12A	Turbine Bldg - 911' - 4.16 KV Switchgear			3
13C	Turbine Bldg - 911' elev - MCC 133 Area			1
14A	Turbine Bldg - 931' - 4.16 KV Switchgear			2
15A	#12 DG Room & Day Tank Room		3	
15B	#11 DG Room & Day Tank Room		3	
16	Turbine Bldg 931' elev - Cable Corridor			3
17	Turbine Bldg 941' elev - Cable Corridor			3
19A	Turbine Bldg 931' elev - Water Treatment Area			5
19B	Turbine Bldg 931' elev - MCC 142-143 Area			1
19C	Turbine Bldg 931' elev - FW Pipe Chase			1
20	Heating Boiler Room	1		
23A	Intake Structure Pump Room			3
31A	1st Floor - Reactor Building Addition - Division I			3
31B	1st Floor - Reactor Building Addition - Division II			15
32A	2nd Floor - Reactor Building Addition - Division I			6
32B	2nd Floor - Reactor Building Addition - Division II			4
33	3rd Floor - Reactor Building Addition			5

3.13 BASES:

Elements of the fire detection and protection system are required to be operable to protect safety related structures, systems, and components whenever those structures, systems, or components are required to be operable. Fire detection and protection systems will normally be maintained operable at all times except for periods of maintenance and testing.

Fire detection instrumentation is installed throughout the plant to protect safety related structures, systems, and components. The detectors in each area initiate a local alarm and an alarm in the control room. All circuits are supervised and the installation meets the requirements of NFPA-72D. The Specifications require all detectors to be operable in those zones having only one detector (battery rooms). In other plant areas, Table 3.13.1 permits one detector in each zone to be inoperable. If more detectors are inoperable, a patrolling fire watch is established in the affected area until the required number of detectors are restored to operable status. The loss of one detector does not significantly degrade the ability to detect fires in areas of the plant having multiple detectors.

The fire suppression water system is supplied by three identical vertical centrifugal pumps rated at 1500 gpm at 100 psig each. Two of these pumps are motor driven and one is diesel driven. One of the motor driven pumps normally supplies the needs of the screen wash system and is designated the screen wash/fire pump. Transfer from screen wash duty to fire duty occurs automatically. All pumps are started automatically by instrumentation sensing header pressure. Any two pumps are capable of supplying all fire fighting water requirements in safety related areas of the plant. If a pump is inoperable, it must be repaired within seven days or a report is submitted to the Commission. If two pumps are inoperable, or if other circumstances interrupt the supply of water to any safety related area, a backup source of water must be provided within 24 hours and the Commission notified.

Automatic sprinkler systems are installed in both diesel-generator rooms and both day tank rooms. Other sprinkler and deluge systems are installed in turbine lube oil piping and storage areas and other non-safety related portions of the plant. An automatic Halon suppression system is installed in the cable spreading room. Inoperability of any of the automatic suppression systems in safety related areas of the plant requires the stationing of a continuous fire watch in the area equipped with backup manual fire suppression equipment. Hose stations and yard hydrant hose houses are provided in all safety related areas of the plant and surrounding all principal plant buildings. These stations are supplied from the fire suppression water system. If the water supply to these areas is interrupted, a hose supplied from an operable source is made available to protect the area having the inoperable station.

Piping and electrical penetrations are provided with seals where required by the fire severity. If a seal is made or found to be inoperable for any reason and equipment protected by that fire barrier is required to be operable, the penetration area is continuously attended until an effective fire seal is restored or the detection system on one side of the barrier is determined to be operable and an hourly fire patrol is established. Seals have been qualified for the maximum fire severity present on either side of the barrier.

3.13 BASES:

The alternate shutdown system panel is provided to assure the capability of achieving cold shutdown, external to the control room, in the unlikely event the control room becomes uninhabitable or safe-shutdown equipment in the control room or cable spreading room is damaged by fire. Control of those systems on the alternate shutdown system panel is taken when the locking master transfer switch is moved from the normal to the transfer position and each system's individual transfer switch is put in the transfer mode. When control is established at the alternate shutdown system panel no control of those systems is available from the control room and all automatic initiation signals have been disabled. The master transfer switch shall remain in the locked position at all times when not in use, being tested or being maintained. If the master transfer switch is moved to the transfer position there is an alarm in the control room.

4.13 BASES:

Fire detectors are tested in accordance with the manufacturer's recommendations. All tests and inspections are performed by the plant staff. Every six months each detector is functionally tested. Combustion generated smoke is not used in these tests. Alarm circuits are functionally checked every six months. In addition, all circuitry is automatically supervised for open wiring and ground faults.

Fire pumps are tested each month to verify operability. Test starting of the screen wash/fire pump is not required since it is normally in service. Each fire pump is manually started and operated for at least 15 minutes with pump flow directed through the recirculation test line. Every 18 months the operability of the automatic actuation logic for the fire pumps and the screen wash/fire pump is verified and the performance of each pump is verified to meet system requirements. The specified flush and valve checks provide assurance that the piping system is capable of supplying fire suppression water to all safety related areas. When one of the fire pumps is inoperable, the operable pumps are run daily to verify operability until all pumps are once again available.

A system flow test is specified every three years. This test verifies the hydraulic performance of the fire suppression fire water header system. The testing will be performed using Section II, Chapter 5 of the Fire Protection Handbook, 14th Edition, as a procedural guide. This test is generally performed in conjunction with a visit from insurance company inspectors.

Hose stations and yard hydrant hose houses are inspected monthly to verify that all required equipment is in place. Gaskets in hose couplings are inspected periodically and the hose is pressure tested. Pressure testing of outdoor hose is conducted more frequently than indoor hose because of the less favorable storage conditions. Operability of hose station isolation valves is verified every three years by partially opening each valve to verify flow. All of these tests provide a high degree of assurance that each hose station and yard hydrant hose house will perform satisfactorily after periods of standby service.

Simulated automatic action tests are conducted each 18 months to confirm the operability of the sprinkler and Halon systems. These tests consist of verification that all valves, dampers (Halon system only), alarms, and flow paths are functional.

Plant fire barrier walls are provided with seals for pipes and cables where necessary. Where such seals are installed, they must be maintained intact to perform their function. Visual inspection of each installed seal is required every 18 months and after seal repair. A visual inspection following repair of a seal is sufficient to assure that seal integrity will be within acceptable limits.

4.13 BASES:

Once per operating cycle the master transfer switch is moved to the transfer mode and it is verified that an alarm in the control room is received, notifying operators that control has been transferred. In addition, once per cycle, each switch is functionally tested to assure that the alternate shutdown system panel is operable and can control those systems contained to perform their design function. A frequency of more than once per operating cycle could adversely impact safety as control is taken from the normal positions in the control room and the automatic initiation signals are disabled.

6.0 Organization

- A. The Plant Manager has the overall full-time onsite responsibility for safety operation of the facility. During periods when the Plant Manager is unavailable, he may delegate this responsibility to other qualified supervisory personnel.
- B. The Northern States Power corporate organizational structure relating to the operation of the plant is shown in Figure 6.1.1.
- C. The minimum functional organization for operation of the plant shall be as shown in Figure 6.1.2 and:
 - 1. Each on duty shift shall be composed of at least the minimum shift crew composition shown in Table 6.1.1.
 - 2. At least one licensed operator shall be in the control room when fuel is in the reactor.
 - 3. At least two licensed operators shall be present in the control room during cold startup, scheduled reactor shutdown, and during recovery from reactor trips.
 - 4. An individual qualified in radiation protection procedures shall be on site when fuel is in the reactor.
 - 5. All alterations of the reactor core shall be directly supervised by a licensed Senior Reactor Operator or Senior Reactor Operator Limited to Fuel Handling who has no other concurrent responsibilities during this operation.
 - 6. A fire brigade of at least five members shall be maintained on site at all times.* The fire brigade shall not include the three members of the shift organization required for safe shutdown of the reactor from outside the control room.
- D. Each member of the unit staff shall meet or exceed the minimum qualifications of ANSI N18.1-1971 comparable positions, except for (1) the Superintendent Radiation Protection who shall meet or exceed the qualifications of Regulatory Guide 1.8, September 1975, and (2) the Shift Technical Advisor who shall have a bachelor's degree or equivalent in a scientific or engineering discipline with specific training in plant design, and response and analysis of the plant for transients and accidents. The training program shall be under the direction of a designated member of Northern States Power management.

*Fire Brigade composition may be less than the minimum requirements for a period of time not to exceed 2 hours in order to accommodate unexpected absence of Fire Brigade members provided immediate action is taken to restore the Fire Brigade to within the minimum requirements.