Exhibit B

License Amendment Request Dated July 27, 1984

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

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

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* Changes requested in an earlier License Amendment Request dated April 3, 1984 are reflected on this page.

Table 3.2.6

Instrumentation for Safeguards Bus Degraded Voltage and Loss of Voltage Protection

Function	Trip Setting	Minimum No. of Operable or Operating Trip Systems (1)	Total No. of Instrument Channels Per Trip System	Minimum No. of Operable or Operating Channels Per Trip System (1)	Required Conditions*
1. Degraded Voltage Protection (3)	3915 volts 10 sec delay	1/bus	3	3	A
2. Loss of Voltage Protection (2)	2625 volts 0 sec delay	2/bus	2	2	A

NOTE:

1. 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 the appropriate channels or systems in the tripped condition, or

   b. Place the plant under the specified required conditions using normal operating procedures.

2. One out of two twice logic.

3. Two out of three logic.

* Required conditions when minimum conditions for operation are not satisfied:

A. Cold shutdown within 24 hours.

Bases Continued:

increases core voiding, a negative reactivity feedback. High pressure sensors initiate the pump trip in the event of an isolation transient. Low level sensors initiate the trip on loss of feedwater (and the resulting MSIV closure). The recirculation pump trip is only required at high reactor power levels, where the safety/relief valves have insufficient capacity to relieve the steam which continues to be generated after reactor isolation in this unlikely postulated event, requiring the trip to be operable only when in the RUN mode is therefore conservative.

Voltage sensing relays are provided on the safeguards bus to transfer the bus to an alternate source when a loss of voltage condition or a degraded voltage condition is sensed. On loss of voltage this transfer occurs immediately. The transfer on degraded voltage has a time delay to prevent transfer during the starting of large loads. The degraded voltage setpoint corresponds to the minimum acceptable safeguards bus voltage for starting and running loads during a loss of coolant accident. An allowance for relay tolerance is included.

Although the operator will set the set points within the trip settings specifed in Tables 3.2.1 through 3.2.6, the actual values of the various set points can differ appreciably from the value the operator is attempting to set. The deviations could be caused by inherent instrument error, drift of the set point, ect. Therefore, these deviations have been accounted for in the various transient analyses and the actual trip settings may vary by the following amounts.

	Trip Function	Deviation
Instrumentation That Initiates Emergency Core Cooling Systems Table 3.2.2	Low-Low Reactor Water Level	-3 Inches
	Reactor Low Pressure (Pump Start) Permissive	-10 psi
	High Drywell Pressure	+1 psi
	Low Reactor Pressure (Valve Permissive)	-10 psi
Instrumentation That Initiates Rod Block Table 3.2.3	IRM Downscale	-2/125 of Scale
	IRM Upscale	+2/125 of Scale
	APRM Downscale	-2/125 of Scale
	APRM Upscale	See Basis 2.3
	RBM Downscale	-2/125 of Scale
	RBM Upscale	Same as APRM Upscale
	Scram Discharge Volume-High Level	+ 1 gallon
Instrumentation That Initiates Recirculation Pump Trip	High Reactor Pressure	+ 12 psi
	Low Reactor Water Level	-3 Inches
Instrumentation for Safeguards Bus Protection	Degraded Voltage	-18 volts (trip) +60 volts (reset) ± 1 sec (time delay)
	Loss of Voltage	±175 volts (trip) + 1 sec (time delay)

A violation of this specification is assumed to occur only when a device is knowingly set outside of the limiting trip settings, or, when a sufficient number of devices have been affected by any means such that the automatic function is incapable of operating within the allowable deviation while in a reactor mode in which the specified function must be operable or when actions specified are not initiated as specified.

Attachment to License Amendment Request dated July 27, 1984

Load Study Model Verification Test Report

1. Purpose

Item (7) of NRC Region III Confirmatory Action Letter dated August 31, 1983 required that confirmatory tests be conducted during the 1984 refueling outage to demonstrate that, with an initial voltage equal to the minimum operating limit, all safety-related loads can be started and operated without activating the degraded voltage protection relays and thereby depending on the onsite Emergency Diesel Generators, and without exceeding any specifications on the safety-related equipment.

Item (9) of this Confirmatory Action Letter required the submittal of a re-analysis of the adequacy of the Monticello station distribution system. This analysis was submitted on December 30, 1983. Acceptable ranges of offsite voltages, both minimum and maximum, were established in this analysis.

The purpose of this report is to describe the confirmatory testing that was performed to demonstrate the validity of the December 30, 1983 analysis and the operating ranges for offsite voltages that were determined.

This report satisfies the intent of item (7) of the August 31, 1984 letter as well as the commitment made in the December 30, 1983 report to complete load study model verification testing. Additional measurements will be taken during the ECCS actuation test scheduled for the end of the current refueling and maintenance outage.

2. Method

Paragraph B.4 of Branch Technical Position PSB-1, July, 1981. describes a model validation technique acceptable to the NRC. The guidance provided by this paragraph was used to evaluate the acceptability of the load study model for Monticello. The suggested validation method involves comparing model predictions to an actual test case. To this end, special test procedure #8838 was prepared to collect the data required for model validation. By analysis, the bus 15 string is the most heavily loaded so the test data was recorded from this string. A non-1E motor (#12 cooling tower pump) and a 1E motor (#11 core spray pump) were started while the voltages and currents on the bus 15 string were monitored. For validation of the analysis to the 120 VAC instrument bus, Y10 was switched to the feed from MCC 133. Bus 15 loading during the test was approximately 48% of the calculated 100% coincident demand; LC 103 loading was approximately 83%. Auxiliary power was being supplied by the 1R transformer during the test, the most restrictive source indicated by the analysis. Test #8838 was conducted on January 27, 1984 without incident. Two unexpected items of minor significance are that the 115 KV line source voltage changed from 119.7 KV to 119.3 KV before #11 core spray pump was started, and the LC 103 voltage recorder had an error approximately 5 volts high. This error was confirmed by voltage measurements taken on April 13, 1984.

The above test conditions were input to the load study model. Initial conditions were established with a 1R transformer source voltage of 119.7 KV, and bus loading equal to the measured values of test #8838. Where MCC loading data was not measure, the loading value was based on a ratio to the loads calculated for 100% power. The sequence of events during test #8838 were duplicated on the model which provided bus voltage predictions for the following cases:

1) Initial conditions, steady-state.
2) Transient voltages during start of #12 cooling tower pump.
3) Steady-state conditions following start of #12 cooling tower pump.
4) 115 KV line voltage decreased to 119.3 KV.
5) Transient voltage during #11 core spray pump start.
6) Steady-state conditions following #11 core spray pump start.

3. Results

A comparison of test results to predicted results are shown in Tables 1 and 2. The largest error between measured bus voltages and predicted bus voltages is approximately 1.9%. In general, the model predictions are the more conservative and do not alter any conclusions reached in our December 30, 1983 analysis. This correlation is well within the 3% acceptance criterion recommended in PSB-1, and it is therefore concluded that the load flow model for Monticello is valid. This model will be used to analyze the impact of future load additions. Major changes to the plant electrical distribution will require changes to the model which should be re-validated by a similar testing method as outlined in this report.

TABLE 1

Comparison To Model For Initial and Final Conditions

Bus #	Initial Conditions Test	Initial Conditions Model	Initial Conditions % du	Final Conditions Test	Final Conditions Model	Final Conditions % du
115 KV	119.7 KV	119.7 KV	0	119.3 KV	119.3 KV	0
11	4080	4068	0.3	4050	4049	0.02
12	4070	4069	0.03	4040	4049	0.22
13	4200	4230	0.72	4190	4180	0.24
14	4190	4231	0.99	4180	4180	0.0
15	4220	4230	0.24	4210	4179	0.75
16	4220	4230	0.24	4210	4180	0.72
LC 101	485	488	0.63	484	482	0.42
102	484	482	0.42	481	477	0.83
103	476	471	1.04	470	465	1.04
104	484	482	0.63	482	476	1.25
MCC 133A	468	466	0.42	463	460	0.63
*Y10	112.5	113.5	0.83	111.0	112.0	0.83

TABLE 2

Comparison To Model For Specific 1E Buses

Cases Modeled		Bus 15 Volts	LC 103 Volts	MCC 133A Volts	Y10 Instr. AC Volts*
Initial Conditions 119.7 KV Source Steady State	Test	4220	476	468	112.5
	Model	4230	471	466	113.5
	% dv	0.72	1.04	0.42	0.83
#12 Cooling Tower Pump-Start	Test	3898	435.3	428.6	102.7
	Model	3951	438	432	105
	% dv	1.27	0.52	0.71	1.92
#12 Cooling Tower Pump Running	Test	4252.5	475.1	467.0	112.1
	Model	4201	468	463	112.7
	% dv	1.24	1.48	0.83	0.50
#12 Cooling Tower Pump Running, 119.3 KV Source	Test	4239.4	472.3	464.1	111.4
	Model	4189	466	461	112.2
	% dv	1.21	1.31	0.65	0.67
#11 Core Spray Pump Start	Test	4095.0	455.5	499.0	107.6
	Model	4092	455	449	109.2
	% dv	0.07	0.1	0.0	1.33
#11 Core Spray Pump Running	Test	4226.2	470.4	462.9	111.0
	Model	4179	465	460	112.0
	% dv	1.13	1.13	0.60	0.83

*Instru AC volts are not an output of the model; however they are calculated based on known transformer losses and tap settings.