March 21, 2007

Mr. Dennis L. Koehl
Site Vice President
Point Beach Nuclear Plant
Nuclear Management Company, LLC
6610 Nuclear Road
Two Rivers, WI 54241-9516

SUBJECT: POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2 - ISSUANCE OF AMENDMENTS RE: LOSS OF POWER DIESEL GENERATOR START INSTRUMENTATION (TAC NOS. MD0936 AND MD0937)

Dear Mr. Koehl:

The Commission has issued the enclosed Amendment No. 225 to Renewed Facility Operating License No. DPR-24 and Amendment No. 231 to Renewed Facility Operating License No. DPR-27 for the Point Beach Nuclear Plant, Units 1 and 2, respectively. The amendments consist of changes to the Technical Specifications (TSs) in response to your application dated March 23, 2006, as supplemented on December 19, 2006.

These amendments revise TS 3.3.4, "Loss of Power (LOP) Diesel Generator (DG) Start and Load Sequence Instrumentation," and surveillance requirement 3.3.4.3.b, to modify the TS title and correct nonconservatisms in the allowable values for the degraded voltage time delay.

A copy of our related safety evaluation is also enclosed. The Notice of Issuance will be included in the Commission's biweekly *Federal Register* notice.

Sincerely,

/RA/

Patrick D. Milano, Senior Project Manager
Plant Licensing Branch III-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-266 and 50-301

Enclosures:
1. Amendment No. 225 to DPR-24
2. Amendment No. 231 to DPR-27
3. Safety Evaluation

cc w/encls: See next page

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Package Accession Number: ML070600580
Amendment Accession Number: ML070600608
TS Accession Number: ML070810646

OFFICE	LPL3-1/PM	LPL3-1/LA	DE/EICB/BC	DE/EEEB/BC	OGC	NRR/LPL3-1/BC
NAME	PMilano:***ca***	THarris	AHowe	GWilson	TCampbell	LRaghavan
DATE	03/19/07	03/20/07	02/22/07	02/13/207	03/19/07	03/21/07

OFFICIAL RECORD COPY

DATED: March 21, 2007

AMENDMENT NOS. 225 AND 231 TO RENEWED FACILITY OPERATING LICENSE NOS. DPR-24 AND DPR-27 FOR POINT BEACH NUCLEAR PLANT, UNIT 1 AND 2

PUBLIC	
LPL3-1 R/F	
L. Raghavan	RidsNrrDorlLpl3-1
T. Harris	RidsNrrLATHarris
P. Milano	RidsNrrPMPMilano
T. Boyce	RidsNrrDirsItsb
A. Howe	RidsNrrDeEicb
G. Wilson	RidsNrrDeEeeb
S. Mazumdar	
O. Chopra	
G. Hill (4)	
OGC	RidsOgcRp
ACRS	RidsAcrsAcnwMailCenter
RidsNrrDorlDpr	
P. Louden, R-III	RidsRgn3MailCenter

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NUCLEAR MANAGEMENT COMPANY, LLC

DOCKET NO. 50-266

POINT BEACH NUCLEAR PLANT, UNIT 1

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 225
License No. DPR-24

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Nuclear Management Company, LLC (the licensee), dated March 23, 2006, as supplemented on December 19, 2006, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 3.B of Renewed Facility Operating License No. DPR-24 is hereby amended to read as follows:

   B. Technical Specifications

   The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 225, are hereby incorporated in the renewed operating license. NMC shall operate the facility in accordance with Technical Specifications.

3. This license amendment is effective as of the date of issuance and shall be implemented within 45 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

L. Raghavan, Chief
Plant Licensing Branch III-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical Specifications
and Facility Operating License

Date of issuance: March 21, 2007

NUCLEAR MANAGEMENT COMPANY, LLC

DOCKET NO. 50-301

POINT BEACH NUCLEAR PLANT, UNIT 2

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 231
License No. DPR-27

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Nuclear Management Company, LLC (the licensee), dated March 23, 2006, as supplemented on December 19, 2006, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 3.B of Renewed Facility Operating License No. DPR-27 is hereby amended to read as follows:

   B. Technical Specifications

   The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 231, are hereby incorporated in the renewed operating license. NMC shall operate the facility in accordance with Technical Specifications.

3. This license amendment is effective as of the date of issuance and shall be implemented within 45 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

L. Raghavan, Chief
Plant Licensing Branch III-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical Specifications
and Facility Operating License

Date of issuance: March 21, 2007

ATTACHMENT TO LICENSE AMENDMENT NO. 225

TO RENEWED FACILITY OPERATING LICENSE NO. DPR-24

AND LICENSE AMENDMENT NO. 231

TO RENEWED FACILITY OPERATING LICENSE NO. DPR-27

DOCKET NOS. 50-266 AND 50-301

Replace the following pages of the Facility Operating Licenses and Appendix A Technical Specifications with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

REMOVE	INSERT
Unit 1 License Page 3	Unit 1 License Page 3
Unit 2 License Page 3	Unit 2 License Page 3
3.3.4-1	3.3.4-1
3.3.4-2	3.3.4-2
3.3.4-3	3.3.4-3

D. Pursuant to the Act and 10 CFR Parts 30, 40 and 70, NMC to receive, possess and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and

E. Pursuant to the Act and 10 CFR Parts 30 and 70, NMC to possess such byproduct and special nuclear materials as may be produced by the operation of the facility, but not to separate such materials retained within the fuel cladding.

4. This renewed operating license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations: 10 CFR Part 20, Section 30.34 of 10 CFR Part 30, Section 40.41 of 10 CFR Part 40, Sections 50.54 and 50.59 of 10 CFR Part 50, and Section 70.32 of 10 CFR Part 70; and is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified below:

A. Maximum Power Levels

NMC is authorized to operate the facility at reactor core power levels not in excess of 1540 megawatts thermal.

B. Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 225, are hereby incorporated in the renewed operating license. NMC shall operate the facility in accordance with Technical Specifications.

C. Spent Fuel Pool Modification

The licensee[2] is authorized to modify the spent fuel storage pool to increase its storage capacity from 351 to 1502 assemblies as described in licensee's application dated March 21, 1978, as supplemented and amended. In the event that the on-site verification check for poison material in the poison assemblies discloses any missing boron plates, the NRC shall be notified and an on-site test on every poison assembly shall be performed.

C. Pursuant to the Act and 10 CFR Parts 30, 40 and 70, NMC to receive, possess and

[2] Reference to the licensee in License Conditions 4.C, 4.E and 4.H refers to Wisconsin Electric Power Company and is maintained for historical purposes.

use at any time any byproduct, source, and special nuclear material as sealed neutron sources for reactor startup, sealed source for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;

D. Pursuant to the Act and 10 CFR Parts 30, 40 and 70, NMC to receive, possess and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and

E. Pursuant to the Act and 10 CFR Parts 30 and 70, NMC to possess such byproduct and special nuclear materials as may be produced by the operation of the facility, but not to separate such materials retained within the fuel cladding.

4. This renewed operating license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations: 10 CFR Part 20, Section 30.34 of 10 CFR Part 30, Section 40.41 of 10 CFR Part 40, Sections 50.54 and 50.59 of 10 CFR Part 50, and Section 70.32 of 10 CFR Part 70; and is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified below:

A. Maximum Power Levels

NMC is authorized to operate the facility at reactor core power levels not in excess of 1540 megawatts thermal.

B. Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 231, are hereby incorporated in the renewed operating license. NMC shall operate the facility in accordance with Technical Specifications.

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[2] Reference to the licensee in License Conditions 4.C and 4.E refers to Wisconsin Electric Power Company and is maintained for historical purposes.

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 225 TO RENEWED FACILITY

OPERATING LICENSE NO. DPR-24

AND AMENDMENT NO. 231 TO RENEWED FACILITY

OPERATING LICENSE NO. DPR-27

NUCLEAR MANAGEMENT COMPANY, LLC

POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2

DOCKET NOS. 50-266 AND 50-301

1.0 INTRODUCTION

By application to the U.S. Nuclear Regulatory Commission (NRC, Commission) dated March 23, 2006, as supplemented by letter dated December 19, 2006 (Agencywide Documents Access and Management System (ADAMS) Accession Nos. ML060900452 and ML063530446, respectively), the Nuclear Management Company, LLC (the licensee), requested changes to the Technical Specifications (TSs) for Point Beach Nuclear Plant, Units 1 and 2 (PBNP). The proposed amendments would revise TS 3.3.4, "Loss of Power (LOP) Diesel Generator (DG) Start and Load Sequence Instrumentation," to modify the TS title and TS surveillance requirement (SR) 3.3.4.3.b to correct nonconservatisms in the allowable values (AVs) for the degraded voltage time delay.

The December 19, 2006, supplement, provided additional information that clarified the application, did not expand the scope of the application as originally noticed, and did not change the staff's original proposed no significant hazards consideration determination as published in the *Federal Register* on April 25, 2006 (71 FR 23958).

2.0 REGULATORY EVALUATION

2.1 Background Description

The emergency DGs provide a source of emergency power when offsite power is either unavailable or is insufficiently stable to allow safe unit operation. If a loss of voltage or a degraded voltage condition occurs on the associated safeguards bus for a DG, an undervoltage protection circuit will generate an LOP start signal for the DG.

There are two LOP start signals, one for each train. Three undervoltage relays with inverse time characteristics are provided on each 4160 Class 1E instrument bus for detecting a sustained degraded voltage condition or a loss of bus voltage. The relays are combined in a

two-out-of-three logic to generate an LOP signal if the voltage is below 75 percent of the required bus voltage for a short time or below 90 percent for a long time.

2.2 Regulatory Background

The NRC staff used the following regulatory bases and guidance documents in its evaluation of the proposed amendment:

- General Design Criterion (GDC) 13, "Instrumentation and Control," of Appendix A, "General Design Criteria for Nuclear Power Plants," to Part 50 of Title 10 of the *Code of Federal Regulations* (10 CFR) requires that instrumentation be provided to monitor variables and systems over their anticipated ranges for normal operation, for anticipted operational occurrences, and for accident conditions and that appropriate controls be provided to maintain these variables and systems within prescribed operating ranges.

- GDC 17, "Electric Power Systems," requires that nuclear power plants have an onsite electric power system and an offsite electric power system to permit the functioning of structures, systems, and components important to safety. The safety function of each system (assuming the other system is not functioning) is to provide sufficient capacity and capability to assure that (1) specified acceptable fuel design limits and design conditions of the reactor coolant boundary are not exceeded as a result of anticipated operational occurrences and (2) the core is cooled and containment integrity and other vital functions are maintained in the event of postulated accidents. The onsite electric power supplies (including the batteries) and the onsite electric distribution system, are required to have sufficient independence, redundancy, and testability to perform their safety functions assuming a single failure.

- GDC 20, "Protection System Functions," in part requires that the protection system be designed to initiate automatically the operation of appropriate systems to ensure that specified acceptable fuel design limits are not exceeded as a result of anticipated operational occurrences.

- Section 50.36, "Technical Specifications," of 10 CFR Part 50 in part states, "Each applicant for a license authorizing operation of a production or utilization facility shall include in his application proposed technical specifications in accordance with the requirements of this section." Specifically, Section 50.36(c)(1)(ii)(A) states, "Where a limiting safety system setting is specified for a variable on which a safety limit has been placed, the setting must be so chosen that automatic protective action will correct the abnormal situation before a safety limit is exceeded." Furthermore, Section 50.36(c)(3) states, "Surveillance requirements are requirements relating to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the limiting conditions of operation will be met."

- NRC Regulatory Issue Summary (RIS) 2006-17, "NRC Staff Position on the Requirements of 10 CFR 50.36, "Technical Specifications," Regarding Limiting Safety System Settings During Periodic Testing and Calibration of Instrument Channels" addresses the NRC's requirements on limiting safety system settings (LSSSs) assessed during periodic testing and calibration of instrumentation. This RIS discusses issues

that could occur during testing of LSSSs and which, therefore, may have adverse effect on equipment operability.

- Regulatory Guide (RG) 1.105, Revision 3, "Setpoints for Safety-Related Instrumentations," describes a method acceptable to the NRC staff for complying with the NRC's regulations for ensuring that setpoints for safety-related instrumentation are initially within and remain within the TS limits. The RG endorses Part I of ISA-S67.04-1994, "Setpoints for Nuclear Safety Instrumentation," subject to the NRC staff clarifications.

- NRC Letter from Patrick L. Hiland to Nuclear Energy Institute Setpoint Methods Task Force, "Technical Specification for Addressing Issues Related to Setpoint Allowable Values, "dated September 7, 2005 (see ADAMS No. ML052500004).

- NUREG-1431, "Standard Technical Specifications Westinghouse Plants," Revision. 3.

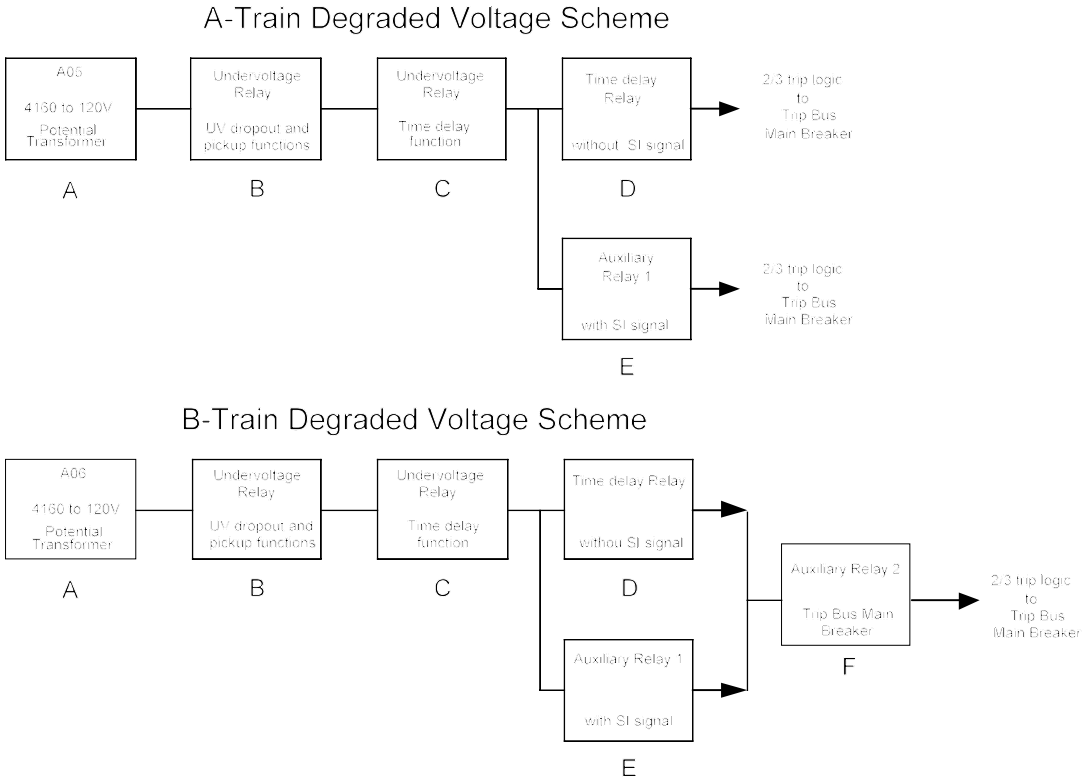
3.0 TECHNICAL EVALUATION

3.1 EDG Start Instrumentation

At Point Beach, the normal power source for the four 4.16 kV safeguards buses is offsite power. The onsite standby emergency power is provided by 4 DGs, with 2 DGs for each safeguard train. Each DG is capable of supplying one safeguard train for one or both units. The DGs provide emergency alternating current (AC) power when offsite power is either unavailable or not sufficiently stable to support safe unit operation. Each DG will automatically start on a loss of voltage signal from its associated 4.16 kV bus. All four DGs will also automatically start on a safety injection (SI) signal from either unit.

Degraded voltage protection on each 4.16 kV safeguards bus is provided by three degraded voltage channels, each with a degraded voltage relay with voltage and time delay settings; and a bus time delay, with a separate time delay setting. Each degraded voltage channel is configured as shown in Figure 1.

Figure 1: Degraded Voltage Protection Loop Block Diagram:



Blocks A, B, C, and E provide degraded voltage protection coincident with an SI signal. Blocks A, B, C, and D provide degraded voltage protection without an SI signal present. When the safeguards bus voltage remains below 95 percent of the nominal voltage, the degraded voltage relay B drops out and starts the time delay relay C. After timeout of the relay C, auxiliary relay E will be energized with SI signal present and time delay relay D will be energized without SI signal present.

The degraded voltage AVs specify limits for the voltage and time delay settings verified during channel surveillance testing and provide operability limits for the As-Found values settings measured during channel calibration prior to relay adjustments. During channel calibration the actual settings are kept within the Acceptable As-Left settings which is more conservative than the AVs.

3.2 Proposed TS Changes

3.2.1 TS 3.3.4 Title change

The current TS 3.3.4 title reads, “Loss of Power (LOP) Diesel Generator (DG) Start and Load Sequence Instrumentation.” The licensee proposed to change the TS 3.3.4 title and limiting condition for operation (LCO) 3.3.4 to remove the phrase “and Load Sequence.” This change is administrative in nature because it better represents the function of TS 3.3.4 and LCO 3.3.4 in

that this TS does not address the DG load sequence. This change is also consistent with NUREG-1431, Section 3.3.5. Based on its review of this information, the NRC staff finds the proposed TS 3.3.4 title change acceptable.

3.2.2 TS SR 3.3.4.3.b Degraded Voltage Time Delay Allowable Values

TS SR 3.3.4.3.b addresses the requirements channel calibration, which is performed every 18 months, and the 4.16 kV degraded voltage AV. The licensee proposed to change the phrase "with SI signal present" to "degraded voltage relay" and the phrase "without SI signal" to "bus time delay relay." The licensee stated that the purpose of the proposed terminology change is to reduce ambiguity in the conduct of the SRs. The NRC staff finds the proposed changes to be administrative in nature and acceptable.

The licensee also proposed to change the AV for degraded voltage time delay with SI signal present from "< 6.47 seconds" to "< 5.68 seconds" and the AV for degraded voltage time delay without SI signal present from "< 54 seconds" to "< 39.14 seconds." The licensee stated that this reduction in AV results from both its recent reanalysis of PBNP Calculation 2004-0002, "AC Electrical System Analysis," Revisions 0 and 1, and the reassignment of the second AV to the bus time delay relay. The current TS time delay AV represents the combined time of both time delay relays. The licensee stated that the present AVs for these settings were found to be non-conservative and could have resulted in certain safety-related motors tripping on overcurrent during a degraded voltage event. The revised TS AVs will ensure that the safety-related components will have adequate voltage, which is necessary to maintain continuous operation and starting capability during worst-case plant loading conditions and to protect operating loads from damage or tripping on overcurrent during degraded voltage conditions. The licensee has instituted administrative controls on these TS SR values, pending NRC approval of the proposed TS change.

In a letter dated November 27, 2006 (ADAMS No. ML063200086), the NRC staff requested additional information concerning the methodology for establishing the revised AVs for degraded voltage time delay relays. In its response dated December 19, 2006, the licensee provided the necessary information regarding the methodology used to change the degraded voltage time delay relay settings including applicable pages of PBNP Calculation 2004-0002.

In calculating the setpoints, the licensee used 6 seconds as the maximum safety limit (SL) and 4.6 seconds as the minimum analytical limit (AL) with SI signal present and 48 seconds as the maximum SL and 27.85 seconds as the minimum AL without SI signal present.

The licensee selected the maximum time delay of 6 seconds (maximum SL) for the degraded voltage relay setpoint calculations to ensure that all safety-related equipment supplied by the 4.16 kV and 480 V safeguard buses is protected from tripping on overcurrent, while connected to offsite power under a degraded voltage condition, and to ensure that the DGs are ready to load within 15 seconds of the event. To support this 15-second DG start time, the PBNP Final Safety Analysis Report Chapter 14 Accident Analysis requires a maximum time delay of 9.3 seconds for degraded voltage relay. This maximum SL of 6 seconds, with a revised calculated AV of 5.53 seconds, is less than the current AV of 6.47 seconds. The NRC staff finds that the maximum time delay of 6 seconds, with SI signal present, is acceptable; this change will eliminate undesired tripping of the safety-related loads, while providing enough time for the DGs to start in less than 15 seconds.

The licensee selected a minimum allowable time delay of 4.6 seconds (minimum AL) to ensure that the time delay is long enough to ride through the starting of safety related loads in a loss-of-coolant accident without prematurely separating from the preferred offsite power source. The NRC staff finds that the minimum allowable time delay of 4.6 seconds, with SI signal present, will ensure starting of the loads in time and is, therefore, acceptable.

The licensee selected a maximum SL, without an SI signal, of 48 seconds to ensure that all running safety-related equipment supplied by the 4.16 kV and 480 V safeguard buses is protected from tripping on overcurrent while connected to offsite power under degraded voltage conditions during normal plant operation. This maximum time limit of 48 seconds, with the revised calculated AV of 39.14 seconds (this revised value represents bus time delay relay, rather than representing a combined time delay relays from the two relays in series), is less than current AV of 54 seconds (this value currently represents the sum of the two time delay relays, one from the degraded voltage relay and the other from the bus time delay relay). The NRC staff finds that the maximum time delay of 48 seconds, without SI signal present, will eliminate undesired tripping of the safety-related loads and is, therefore, acceptable.

The licensee's analysis indicates that a minimum SL, without an SI signal, of 33 seconds is required to ensure the time delay is long enough to prevent the unnecessary separation from the preferred source during a voltage transient for the largest motor during normal plant operation. Subtracting the minimum calculated time delay of 5.15 seconds for the bus degraded voltage relay (Block C relay of Figure 1), the minimum AL is calculated as 27.85 seconds. The NRC staff finds that the minimum allowable analytical time delay of 27.85 seconds, without SI signal present, will ensure starting of the loads in time and is, therefore, acceptable.

In Enclosure 2 to its December 19, 2006, letter, the licensee explained the methodology, assumptions, and input parameters used in calculating the AVs (the licensee calls it As-found (Max) in Enclosure 1 and as AV in Enclosure 2), Nominal Trip Setpoints (the licensee calls it Actual Trip Setpoint (ATSP) in Enclosure 2), and Acceptable As-Left Setpoints or As-Left Setpoint (the licensee calls it as As-left (Max) and As-left (Min) in Enclosure 1, and Nominal Trip Setpoint (NTSP) and Minimum Actual Trip Setpoint (MATSP), respectively, in Enclosure 2).

The licensee provided all the assumptions and input parameters used in calculating the relay time delay setting accuracy, drift, measurement and test equipment (M&TE) error, power supply effect, temperature effect, humidity effect, radiation effect, and seismic or vibration effect.

The licensee stated that its calculation methodology is comparable to Method 3 in the Instrument Society of America recommended practice RP67.04.02-2000.

The licensee performed statistical analysis on the As-Found/As-Left plant calibration data for Block C and Block D relays from 1996 and 2004. The data set was tested for normalcy by determining skewness and kurtis. The standard deviation was calculated using an Excel STDV function. The standard deviation was multiplied by a factor based on the sample size in order to determine a 95 percent confidence level drift value including M&TE uncertainty and device accuracy. The 95/95 drift value was calculated to be $\pm$ 0.92 percent of the setting for Block C and $\pm$ 2.75 percent of the setting for Block D relays.

Maximum and minimum ALs were calculated from SLs by deducting the operating time of the Block E and F relays. The nominal trip setpoints for the Block C and D relays were calculated by deducting the maximum time delay total loop error from the maximum AL.

The TS AV was calculated by adding total measurement error to the nominal trip setpoints and the setpoint tolerance was calculated by accounting for the relay and M&TE errors.

The NRC staff reviewed the assumptions or determinations of these parameters and the calculation methodologies and found them acceptable. Reproduced below are the important setpoint values documented in Calculations 2004-0002 and 2004-0002-001:

Bus degraded voltage relay (Block C relay)

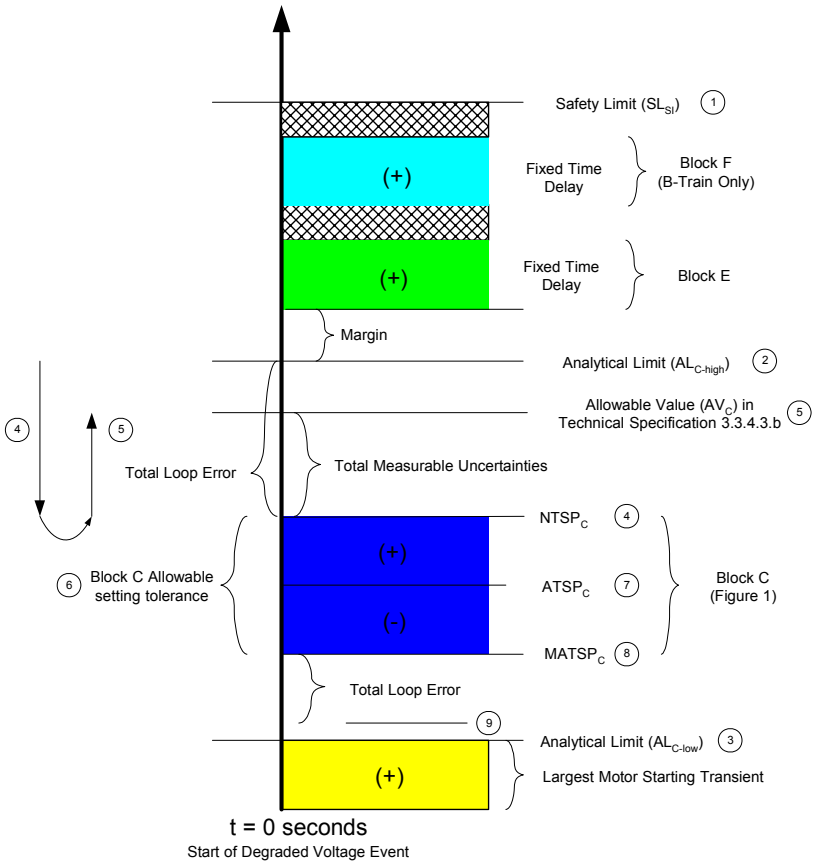
AV (As-Found Max):	5.68 seconds	As-Left (Max):	5.63 seconds
AV (As-Found Min):	5.38 seconds	As-Left (Min):	5.43 seconds

Bus delay relay (Block D relay):

AV (As-Found Max):	39.14 seconds	As-Left (Max):	38.09 seconds
AV (As-Found Min):	34.90 seconds	As-Left (Min):	35.89 seconds

Reproduced below are the licensee's graphs on Degraded Voltage Time Delays.

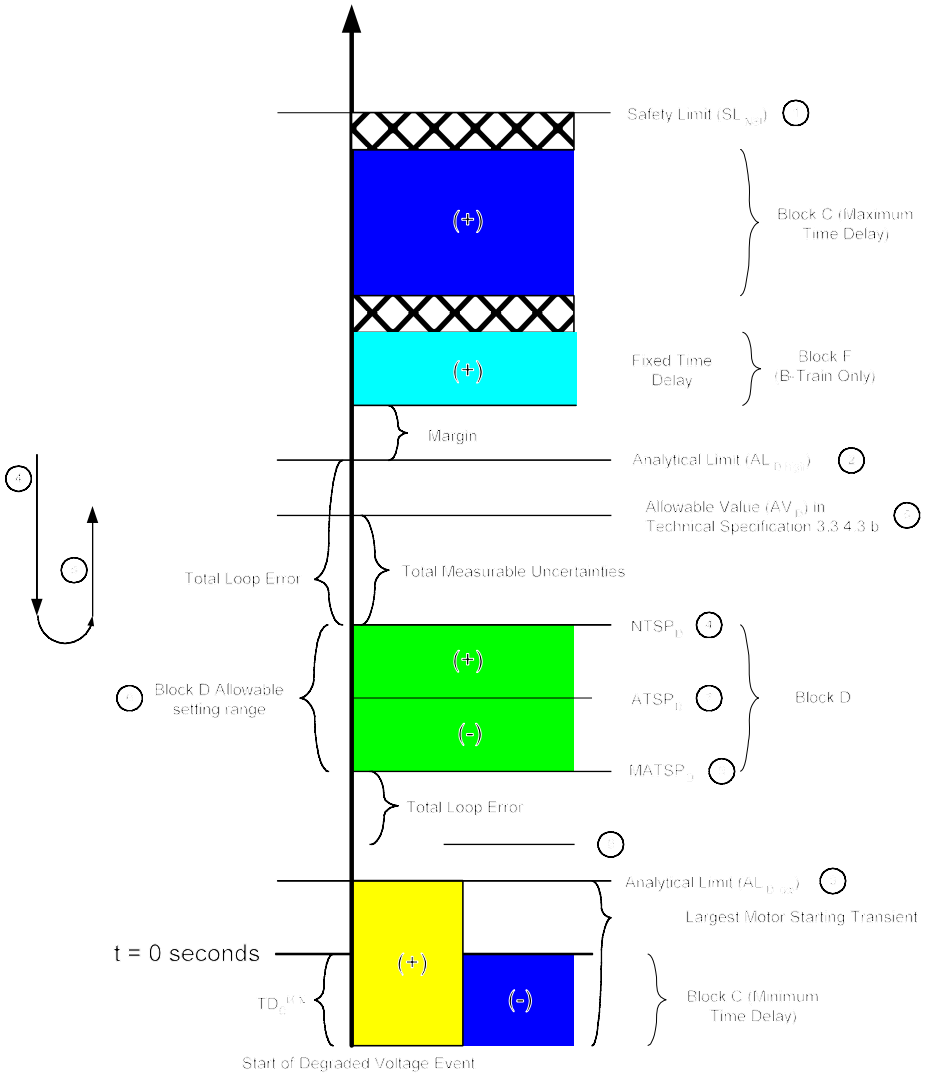
Figure 3: Degraded Voltage Time Delay with a Safety Injection Signal



The licensee's Calculation 2004-002, Revision 0, lists the following parameters for the above Degraded Voltage Time Delay with a Safety Injection Signal:

Maximum Safety Limit:	6 seconds	Analytical Limit High:	5.92 seconds
Allowable Value:	5.68 seconds	NTSP:	5.63 seconds
ATSP:	5.53 seconds	MATSP:	5.43 seconds
Minimum Safety Limit:	4.6 seconds		

Figure 4: Degraded Voltage Time Delay without a Safety Injection Signal



The licensee's Calculation 2004-002, Revision 0, lists the following parameters for the above Degraded Voltage Time Delay without a Safety Injection Signal:

Maximum Safety Limit:	48 seconds	Analytical Limit High:	42.05 seconds
Allowable Value:	39.14 seconds	NTSP:	38.09 seconds
ATSP:	36.99 seconds	MATSP:	35.89 seconds
Minimum Safety Limit:	27.85 seconds		

The licensee uses surveillance procedures 1 RMP 9056-1, 1 RMP 9056-2, 2 RMP 9056-1, and 2 RMP 9056-2 to calibrate the bus degraded voltage relay and bus time delay relay, and the AV and As-Left numbers are specified in the these procedures. However, the licensee stated that the current procedures require the AS-Left setting to be placed within the Acceptable As-Left/As-Found tolerance range and a corrective action to be initiated if the As-Found setting is outside the range. Presently, the As-Left and As-Found setting tolerances for relay time delays are a single range equal to the As-Left tolerance, rather than separate ranges with an As-Found tolerance larger than As-Left tolerance. The licensee committed to revise these procedures to include an explicit statement that these relays will be calibrated within the As-Left range if an As-Found setting is outside the As-Left range. The licensee stated that these revisions will be consistent with the guidance provided in the NRC RIS 2006-17, dated August 17, 2006.

The licensee specifically stated that the RMP procedure will be revised as follows:

(1) A separate As-Found tolerance range will be added to the relay calibration data sheets; the upper limit of this As-Found range will be the AV for the relay time delay setting;

(2) The procedure will include a requirement to recalibrate the relay within the As-Left range if the As-Found value is outside the As-Left range but still within the As-Found range;

(3) The procedure will require declaring the relay inoperable if the As-Found value is outside the As-Found tolerance range.

(4) The procedure will require an evaluation of the relay operability prior to returning the relay to an operable status if the As-Found value is outside the As-Found tolerance range (i.e., inoperable) and can be recalibrated within the Acceptable As-Left tolerance range. The evaluation of operability will ensure the relay is functioning as designed by verifying the relay calibration history is within a 95/95 confidence level consistent with the calculation setpoint methodology.

The licensee, also, stated that this revision will be implemented prior to the next calibration of the degraded voltage relays.

In addition to the 18-month surveillance, a Trip Actuating Device Operational Test (TADOT) is performed every 31 days on the combined trip time of the degraded voltage time without an SI signal present. The TADOT ensures the relays are operating as expected and the total time delay is within the degraded voltage analysis tolerance. The TADOT is performed by Procedures 1&2 RMP 9071-1 and 1&2 RMP 9071-2.

The NRC staff concludes, based on the licensee's calculations and plant procedures, that the relay calibration tests performed for TS SR 3.3.4.3 and the relay functional tests performed for TS SR 3.3.4.2 ensure that the associated instrument channels are capable of performing their specified safety functions within the limits imposed by the degraded voltage analysis. The NRC staff finds that the licensee's commitments will be adequately controlled under its commitment management system.

The licensee stated that the existing degraded voltage function enables the isolation of the 4.16 kV safeguard buses from degraded offsite power source in the event of degraded offsite voltage and switching to the DGs. The degraded voltage trip functions are not designed to correct any anticipated combination of transient conditions or to protect any safety limit related to reactor core or reactor coolant system pressure safety limit specified in TS Section 2.0. The NRC staff agrees that the degraded voltage relays provide bus protection during a degraded voltage condition and, therefore, these relays are not related to any plant safety limit. There is no need, therefore, to add the two TS Notes mentioned in the NRC letter dated September 7, 2005 (ADAMS No. ML052500004).

The NRC staff finds that the licensee's methodology used to calculate the changes in the degraded voltage time delay settings complies with the requirements and/or guidelines of 10 CFR 50.36, GDC 13, GDC17, GDC 20, RIS 2006-17 and RG 1.105, and, is therefore, acceptable. The staff further concludes that reducing the time delays from the current values for the degraded voltage function will not prematurely disconnect the safety-related buses from the offsite power system. This change is consistent with the requirements of GDC 17 and is therefore acceptable.

3.3 Summary

The NRC staff concludes that the licensee's methodology for calculating the total loop uncertainty, the total measurable uncertainty (the portion of the loop that is measured during surveillance calibration), the setting tolerance and the Nominal Trip Setpoint are acceptable. The staff also finds that the licensee will implement acceptable plant procedures to calibrate the channels within Acceptable As-Left values during surveillance tests and investigate if the As-Found values are outside the Acceptable As-Found values. The staff further concludes that the proposed AV of the degraded voltage time delay relays will ensure that: (1) the safety-related components will have adequate voltage to maintain continuous operation and starting capability during worst-case plant loading conditions, and to protect operating loads from damage or tripping on overcurrent during degraded voltage condition, and (2) it will not prematurely disconnect the safety-related buses from the offsite power system. Based on these considerations, the staff finds the proposed TS changes acceptable.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Wisconsin State official was notified of the proposed issuance of the amendments. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

These amendments change a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and change a surveillance requirement. The staff has determined that the amendments involve no significant increase in the amounts and no significant change in the types of any effluent that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously published a proposed finding that these amendments involve no significant hazards consideration and there has been no public comment on such finding (71 FR 23958). Accordingly, these amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b),

no environmental impact statement or environmental assessment need be prepared in connection with the issuance of these amendments.

6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that (1) there is reasonable assurance that 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 amendments will not be inimical to the common defense and security or to the health and safety of the public.

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