



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

May 15, 2009

Mr. Richard L. Anderson
Vice President
Duane Arnold Energy Center
3277 DAEC Road
Palo, IA 52324-9785

SUBJECT: DUANE ARNOLD ENERGY CENTER - ISSUANCE OF AMENDMENT
PERTAINING TO REVISION OF THE 4160 VOLT BUS UNDERVOLTAGE
(DEGRADED VOLTAGE) MAXIMUM ALLOWED VALUE (TAC NO. MD8950)

Dear Mr. Anderson:

The U.S. Nuclear Regulatory Commission has issued the enclosed Amendment No. 273 to Facility Operating License No. DPR-49 for the Duane Arnold Energy Center (DAEC). This amendment consists of a change to the Technical Specifications (TS) in response to your application dated May 30, 2008 (Agencywide Documents Access and Management System (ADAMS) accession No. ML081630205), as supplemented by letters dated July 17, 2008 (ADAMS accession No. ML082050395) attaching a setpoint calculation (ADAMS accession No. ML082050396), September 10, 2008 (ADAMS accession No. ML082600523), and February 27, 2009 (ADAMS accession No. ML090620585).

The amendment revises the upper limit of the allowable value of Function 2.a, "4.16-kV Emergency Bus Undervoltage (Degraded Voltage)," in Technical Specifications Table 3.3.8.1-1, "Loss of Power Instrumentation."

A copy of the Safety Evaluation is also enclosed. A Notice of Issuance will be included in the Commission's next biweekly *Federal Register* notice.

Sincerely,

A handwritten signature in cursive script that reads "Karl Feintuch".

Karl Feintuch, Project Manager
Plant Licensing Branch III-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-331

Enclosures:

1. Amendment No. 273 to
License No. DPR-49
2. Safety Evaluation

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

FPL ENERGY DUANE ARNOLD, LLC

DOCKET NO. 50-331

DUANE ARNOLD ENERGY CENTER

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 273
License No. DPR-49

1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by FPL Energy Duane Arnold, LLC dated May 30, 2008, as supplemented by letters dated July 17, 2008, September 10, 2008, and February 27, 2009, 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 2.C.(2) of Facility Operating License No. DPR-49 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 273, are hereby incorporated in the license. FPL Energy Duane Arnold, LLC, shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance and shall be implemented within 30 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

A handwritten signature in black ink, appearing to read "Peter S. James", is written over the typed name and title.

Lois M. James, Chief
Plant Licensing Branch III-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment: Changes to the Facility Operating License
and Technical Specifications

Date of Issuance: May 15, 2009

ATTACHMENT TO LICENSE AMENDMENT NO. 273

FACILITY OPERATING LICENSE NO. DPR-49

DOCKET NO. 50-331

Replace the following page of Renewed Facility Operating License DPR-49 with the attached revised page. The revised page is identified by amendment number and contains a marginal line indicating the area of change.

REMOVE

INSERT

3

3

Replace the following page of Appendix A, Technical Specifications, with the attached revised page. The revised page is identified by amendment number and contains a marginal line indicating the area of change.

REMOVE

INSERT

3.3-75

3.3-75

- 2.B.(2) FPL Energy Duane Arnold, LLC, pursuant to the Act and 10 CFR Part 70, to receive, possess and use at any time special nuclear material as reactor fuel, in accordance with the limitations for storage and amounts required for reactor operation, as described in the Updated Final Safety Analysis Report, as supplemented and amended as of June 1992 and as supplemented by letters dated March 26, 1993, and November 17, 2000.
 - 2.B.(3) FPL Energy Duane Arnold, LLC, pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess and use at any time any byproduct, source and special nuclear material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;
 - 2.B.(4) FPL Energy Duane Arnold, LLC, pursuant to the Act and 10 CFR Parts 30, 40 and 70, 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 radioactive apparatus components;
 - 2.B.(5) FPL Energy Duane Arnold, LLC, pursuant to the Act and 10 CFR Parts 30 and 70, to possess, but not to separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.
- C. This license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations in 10 CFR Chapter I; Part 20, Section 30.34 of Part 30, Section 40.41 of Part 40, Sections 50.54 and 50.59 of Part 50, and Section 70.32 of Part 70; 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 or incorporated below:

Maximum Power Level

- 2.C.(1) FPL Energy Duane Arnold, LLC is authorized to operate the Duane Arnold Energy Center at steady state reactor core power levels not in excess of 1912 megawatts (thermal).

- (2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 273, are hereby incorporated in the license. FPL Energy Duane Arnold, LLC shall operate the facility in accordance with the Technical Specifications.

Table 3.3.8.1-1 (page 1 of 1)
Loss of Power Instrumentation

FUNCTION	REQUIRED CHANNELS PER BUS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. 4.16 kV Emergency Bus Undervoltage (Loss of Voltage)			
a. Bus Undervoltage	1	SR 3.3.8.1.2 SR 3.3.8.1.4 SR 3.3.8.1.5	≥ 595 V and ≤ 2275 V
2. 4.16 kV Emergency Bus Undervoltage (Degraded Voltage)			
a. Bus Undervoltage	4	SR 3.3.8.1.1 SR 3.3.8.1.3 SR 3.3.8.1.5	≥ 3780 V and ≤ 3822 V
b. Time Delay	4	SR 3.3.8.1.1 SR 3.3.8.1.3 SR 3.3.8.1.5	≥ 7.92 seconds and ≤ 8.5 seconds
3. 4.16 kV Emergency Transformer Supply Undervoltage	2	SR 3.3.8.1.2 SR 3.3.8.1.3 SR 3.3.8.1.5	≥ 2450 V



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 273 TO FACILITY OPERATING LICENSE NO. DPR-49

FPL ENERGY DUANE ARNOLD, LLC

DUANE ARNOLD ENERGY CENTER

DOCKET NO. 50-331

1.0 INTRODUCTION

By application dated May 30, 2008 (Agencywide Documents Access and Management System (ADAMS) accession No. ML081630205), FPL Energy Duane Arnold, LLC (the licensee) requested a change to the Technical Specifications (TS) for the Duane Arnold Energy Center (DAEC). The proposed change revises the TS maximum allowable value for the 4160 volt (V) Emergency Bus Undervoltage (i.e., Degraded Voltage) relays. The licensee provided supplemental information in its letters dated July 17, 2008 (ADAMS accession No. ML082050395) supported with an attached setpoint calculation (ADAMS accession No. ML082050396), September 10, 2008 (ADAMS accession No. ML082600523), and February 27, 2009 (ADAMS accession No. ML090620585).

The additional information provided in the supplemental letters dated July 17, 2008, September 10, 2008, and February 27, 2009, clarified the application, did not expand the scope of the application as originally noticed, and did not change the staff's original no significant hazards consideration determination as published in the *Federal Register* on October 21, 2008 (73 FR 62565)

In the application, the licensee stated that the existing TS Table 3.3.8.1-1 requires an allowable voltage range of ≥ 3780 V and ≤ 3899 V relating to the dropout setting of 4160 V Emergency Bus Undervoltage (Degraded Voltage) relays. The revised system and setpoint calculations support a change of the maximum allowable voltage value from 3899 V to 3822 V (reduction in the voltage dropout setting band). The revised maximum (upper) allowable value of 3822 V would help in reducing the unnecessary transfers of the 4160 V emergency buses from offsite power to the onsite emergency diesel generators (EDGs). The current TS maximum allowable value is above that needed to ensure operability of the offsite sources.

During an analysis of the setpoint calculations for the plant's alternate-preferred offsite power source on November 30, 2007, the licensee discovered that the standby transformer was not capable of providing adequate voltage at the 4160 V emergency buses under loss-of-coolant accident (LOCA) conditions. As a result, Licensee Event Report No. 2007-010-00 was issued on January 29, 2008, ADAMS Accession No. ML080310367, and the licensee determined that the current TS maximum allowable value constituted an inadequate TS value as per

Administrative Letter 98-10, "Dispositioning of Technical Specifications That Are Insufficient to Assure Plant Safety." Furthermore, the licensee initiated the necessary administrative control to comply with Administrative Letter 98-10. To resolve the issue, the licensee modified the standby transformer and recalculated the setpoint calculation for the 4160 V emergency bus undervoltage relays. This action reduced the maximum allowable voltage to 3822 V from the current value of 3899 V. The licensee found that there was no need to change the minimum allowable voltage and the time delay allowable value.

The Nuclear Regulatory Commission (NRC) staff observed that citations of Table 3.3.8.1 and Table 3.3.8.1-1 in application documents both refer to the content of TS page 3.3-75, which contains Table 3.3.8.1-1 within TS Section 3.3.8.1, as shown. There is an apparent discrepancy, but there is no ambiguity. The discrepancy does not have any negative impact on the NRC staff's technical conclusion.

2.0 REGULATORY EVALUATION

The staff used the following NRC requirements and guidance documents to review the license amendment request (LAR):

- 2.1 Part 50 of Title 10 of the *Code of Federal Regulations* (10 CFR) includes that the TSs shall be included by applicants for a license authorizing operation of a production or utilization facility.
- 2.2 10 CFR 50.36(c) requires that TSs include items in five specific categories related to station operation. These categories are (1) safety limits, limiting safety system settings, and limiting control settings; (2) limiting conditions for operations (LCOs); (3) surveillance requirements (SRs); (4) design features; and (5) administrative controls.

Category 1, 2, and 3 all apply to the proposed change to the TS discussed in this safety evaluation.

10 CFR 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."

10 CFR 50.36 (c)(2)(ii)(D) Criterion 4 states that a TS LCO must be established for "[a] structure, system, or component which operating experience or probabilistic risk assessment has shown to be significant to public health and safety."

10 CFR 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."

- 2.3 General Design Criterion (GDC) 13, "Instrumentation and Control," of Appendix A, "General Design Criteria for Nuclear Power Plants," to 10 CFR Part 50 requires that

instrumentation be provided to monitor variables and systems and that controls be provided to maintain these variables and systems within prescribed operating ranges.

- 2.4 GDC 20, "Protection System Functions," of Appendix A to 10 CFR Part 50 requires that the protection system be designed to initiate the operation of appropriate systems to ensure that specified acceptable fuel design limits are not exceeded.
- 2.5 Regulatory Guide (RG) 1.105, "Setpoints for Safety-Related Instrumentation," Revision 3, describes a method that the NRC staff finds acceptable for use in complying with the NRC's regulations for ensuring that setpoints for safety-related instrumentation are initially within, and will remain within, the TS limits. RG 1.105 endorses Part I of Instrument Society of America (ISA)-S67.04-1994, "Setpoints for Nuclear Safety Instrumentation," which is subject to NRC staff clarifications.
- 2.6 In Regulatory Issue Summary (RIS) 2006-17, "NRC Staff Position on the Requirements of 10 CFR 50.36, 'Technical Positions,' regarding Limiting Safety System Settings during Periodic Testing and Calibration of Instrument Channels," dated August 24, 2006, (ADAMS Accession No. ML051810077) the NRC addresses requirements on limiting safety system settings that are assessed during the periodic testing and calibration of instrumentation. RIS 2006-17 discusses issues that could occur during the testing of limiting safety system settings and that, therefore, may have an adverse effect on equipment operability.
- 2.7 The letter from Patrick L. Hiland (NRC) to the Nuclear Energy Institute's Setpoint Methods Task Force, "Technical Specification for Addressing Issues Related to Setpoint Allowable Values," dated September 7, 2005, (ADAMS Accession No. ML052500004), addresses the footnotes that should be added to surveillance requirements related to setpoint verification surveillance for instrument functions on which a safety limit has been placed and addresses the information that should be included to ensure operability of the instruments following surveillance tests related to instrument setpoints.
- 2.8 NUREG-1433, Vol. 1, Rev. 3.0, Standard Technical Specification, General Electric Plants (BWR/4) - NRC encourages licensees to upgrade their technical specifications to be consistent with the improved Standard Technical Specifications.

3.0 TECHNICAL EVALUATION

3.1 Electrical Engineering Evaluation

Background

According to the DAEC TS Bases – 3.3.8.1, each 4.16 kV emergency bus has its own independent loss of power (LOP) instrumentation and associated trip logic. Each bus is monitored at two different voltage levels, which are considered as two different undervoltage functions - Loss of Voltage and Degraded Voltage. A third LOP function (4.16 kV Emergency Transformer Supply Undervoltage) monitors the voltages of the secondary windings of both the Startup and Standby Transformers. Each of these functions provides inputs to various required actions such as bus transfers, load sheds, or EDG starts.

The updated final safety analysis report (UFSAR) of DAEC, Section 8.3.1.1.5, states that the voltage sensors in the essential switchgear monitor the essential bus voltages. Separate voltage sensors monitor the Startup and Standby transformer voltages. Upon low voltage from the Startup transformer (normal source of power), the safety-related loads are transferred to the Standby transformer (alternate preferred source of power). Upon low voltage from both the Startup transformer and the Standby transformer or a low essential bus voltage, the EDGs are started. Upon a loss of essential bus voltage, the large motors on the bus are load shed. Table 8.3-1 in the UFSAR provides the EDG loading sequence upon a LOCA plus loss-of-offsite power.

The degraded voltage bus protection is provided for the essential 4.16 kV buses. When a degraded voltage condition is experienced on a bus for approximately 8.5 seconds, the degraded voltage relays cause the essential 4160 V incoming breakers to trip and start the associated bus EDG. The EDG ensures adequate voltage is supplied to the safety-related loads.

Electrical Engineering Evaluation of TS Change

In the LAR, the licensee stated that during a review of calculations associated with the alternate preferred source of power, it was identified that the standby transformer was not capable of providing adequate voltage to the 4160 V emergency buses since the voltage at these buses may fall well below the degraded voltage setpoint under certain accident conditions. As a result, the alternate preferred offsite power source was declared inoperable at 13:39 hours on November 30, 2007. To resolve this issue, modification was made to the standby transformer tap setting, which resulted in a reduction in the maximum (upper) allowable value for the 4160 V degraded voltage relays. At the same time, the setpoint calculation was revised to reflect current calibration accuracies by reducing uncertainties, thereby allowing the maximum allowable voltage level to be closer to the actual setpoint voltage limit. The existing requirement, as specified in TS Table 3.3.8.1-1, requires a maximum allowable voltage ≤ 3899 V for the 4160 V Emergency Bus Undervoltage relays. The revised system and setpoint calculations support a maximum allowable voltage of ≤ 3822 V, which would help in reducing the unnecessary transfers of the 4160 V emergency buses from offsite power to the onsite EDGs.

In response to NRC staff request dated January 12, 2009, (ADAMS accession No. ML090090416), in which the licensee was asked to confirm the conditions of the worst-case scenario for voltage to the 4160 V emergency buses, the licensee in its letter dated February 27, 2009, stated that the DAEC electrical design bases calculations for offsite power sources are comprised of three analytical scenarios, described as follows:

Scenario 1 – LOCA with 4 kV Emergency Buses Powered From the Standby Transformer; Initial Condition - Mode 1:

In this scenario, the minimum steady state 4 kV emergency bus voltage during LOCA is calculated as 96.88% which is above the required degraded voltage reset value of 94.64%. The reset value of 94.64% is calculated as follows: According to the calculation supplied in the licensee's letter dated July 17, 2008, the relays have a reset deadband of plus three percent of the trip setting. Maximum allowable trip setting value in the proposed amendment is 3822 V

which is equal to 91.88% @ 4160 V. Therefore, maximum reset value is calculated = $1.03 \times$ maximum allowable trip setting ($1.03 \times 91.88\%$) = 94.64%.

Scenario 2 – LOCA with 4 kV Emergency Buses Powered From the Startup Transformer; Initial Condition - Startup:

This scenario simulates a LOCA during plant startup or shutdown with both essential and non-essential loads being supplied by the Startup transformer. In this scenario, the degraded voltage relay is actuated upon start of the Core Spray Pumps. However, the 4 kV emergency bus voltage recovers to 94.73% in less than 5 seconds, resetting the degraded voltage relay. The 4 kV emergency bus voltage does not drop below the maximum relay drop out again during the scenario. Therefore, the 4 kV emergency buses remain connected to the offsite power through this scenario. This is the most limiting scenario.

Scenario 3 – LOCA with 4 kV Emergency Buses Powered From the Startup Transformer; Initial Condition – Mode 1:

This scenario concluded that the minimum steady state 4 kV emergency bus voltage during LOCA is 92.88%. This minimum steady state voltage is reached after all safety-related loads are sequenced onto the 4 kV emergency buses and all balance of plant loads are block transferred from the Unit Auxiliary transformer to the Startup transformer at approximately one minute coincident with the reverse power trip of the main generator. The degraded voltage relay setpoint is never reached. Therefore, the available margin is determined as the minimum steady state emergency bus voltage of 92.88% minus the worst case degraded voltage relay trip value of 91.88% providing a 1.0% margin.

NUREG-1433, Vol. 1, Section 3.3.8.1, LOP Instrumentation, specifies that the emergency bus undervoltage (degraded voltage) function to have an allowable value within a specified range. The NRC staff reviewed the documents provided by the licensee in its letters dated May 30, 2008, July 17, 2008, and February 27, 2009, to support the maximum (upper) allowable value relating to the trip setting of the degraded relays. Based on the review of the documents, the NRC staff agrees that the revised maximum allowable value of 3822 V (91.88%) as proposed in TS Table 3.3.8.1-1 of the licensee amendment request is justified. The revised maximum allowable value of 3822 V will prevent improper transfers of the 4160 V emergency buses from offsite power to the onsite EDGs when the offsite power is satisfying voltage operability requirements. The minimum allowable voltage value and the time delay setting of the 4160 V degraded voltage relays remain unchanged.

3.2 Instrumentation and Control Evaluation

By the letter dated May 30, 2008, the licensee stated, "The maximum allowable voltage for the 4160 volt Emergency Bus Undervoltage relays does not constitute a Limiting Safety System Setting, (LSSS) therefore, [Technical Specification Task Force] TSTF-493 is not applicable." In response to that letter, the NRC staff requested additional information, by letter dated July 11, 2008, to justify this statement. In response to the NRC staff request for additional information (RAI), July 11, 2008 (ADAMS accession No. ML081910106) by letter dated July 17, 2008, the licensee stated, "the 4160 volt Emergency Bus Undervoltage (Degraded Voltage) relay maximum AV does not provide any safety significant function relied upon for safe reactor shutdown or to mitigate the consequences of a design-basis accident."

Thus, the licensee concludes, the 4160 volt Emergency Bus Undervoltage (Degraded Voltage) relay maximum allowable value is not an LSSS as defined in 10 CFR 50.36(d)(ii)(A). By letter dated September 10, 2008, the licensee stated, "During subsequent discussions with the Staff, it has been determined that portions of References 1 and 3 are not germane to the proposed Technical Specification change. Therefore, this letter respectfully requests the Staff disregard, in Reference 1, all discussion of draft TSTF-493 as it relates to the 4160 Volt Emergency Bus Undervoltage (Degraded Voltage) Maximum Allowable Value. FPL Energy Duane Arnold also requests the Staff disregard, in Reference 3, all discussion of 10 CFR 50.36 as it relates to the 4160 Volt Emergency Bus Undervoltage (Degraded Voltage) Maximum Allowable Value." In this September 10, 2008, letter, Reference 1 is the letter dated May 30, 2008, and Reference 3 is the letter dated July 17, 2008. Therefore, the staff concludes from the September 10, 2008, letter that the licensee is withdrawing the statement that the 4160 volt Emergency Bus Undervoltage (Degraded Voltage) relay maximum allowable value is not an LSSS and the NRC staff finds this withdrawal acceptable.

RIS 2006-17 provides licensees with guidance on how to comply with 10 CFR 50.36 requirements for LARs that involve changes to the TS setpoint allowable value for functions related to plant safety limits (SLs). In response to the NRC staff's RAI dated July 11, 2008 (ADAMS accession No. ML081910106), by letter dated July 17, 2008, the licensee stated that the proposed TS change for a maximum allowable value of 4.16-kilovolt (kV) emergency bus undervoltage relay is not SL-related because this setpoint is not used in any design-basis accidents and transients in the plant updated final safety analysis report. TS 2.1.1.1, 2.1.1.2, and 2.1.1.3 address the plant's SLs. The NRC staff's review of these TS indicates that the proposed TS change is not SL-related. The NRC staff also finds that the proposed TS change does not trigger any engineered safety feature actuation systems or the reactor protection system; therefore, it is not SL-related, and the footnotes specified in the NRC's letter dated September 7, 2005, from Patrick L. Hiland (NRC) to the Nuclear Energy Institute's Setpoint Methods Task Force need not be added to the proposed TS change.

The licensee used the General Electric Co. (GE) setpoint methodology in GE Report No. NEDC-31336, "GE Proprietary Information, GE Instrument Setpoint Methodology." The NRC approved this methodology in an SE report dated November 6, 1995. The licensee calculated the upper allowable value (UAV) of 3822 V from an upper analytical limit (UAL) of 3972 V and the lower allowable value (LAV) of 3780 V from a lower analytical limit (LAL) of 3740 V.

By letter dated July 17, 2008, the licensee provided Calculation (CAL)-E95-006, "4.16 kV Essential Bus Degraded Voltage Setpoint Calculation," Revision 4. The licensee calculated the UAV from the UAL using the square root of the sum of the squares of independent tolerances and algebraic sum of the dependent tolerances. The licensee also provided calculations of the nominal trip setpoint (NTSP), acceptable as-left values, and acceptable as-found values. The licensee determined the acceptable as-left tolerance of ± 0.2 percent or 7 V around an NTSP of 3797.5 V. The licensee calculated the upper acceptable as-found value as 3822 V and used it as the UAV and calculated the lower limit of the acceptable as-found value as 3780 V and used it as the LAV. Thus, the licensee calculated the UAV as 0.645 percent above the NTSP and calculated the LAV as 0.46 percent below the NTSP. The NRC staff finds that the acceptable as-left and acceptable as-found tolerances are reasonably low and that they comply with the NRC guidance provided in RG 1.105.

By letter dated July 17, 2008, the licensee provided the salient features of the plant calibration procedures. These procedures require that if the 4160 V emergency bus undervoltage relay as-found value is found to be outside the allowable voltage range of ≥ 3780 V (LAV) and ≤ 3822 V (UAV), then, the control room supervisor should be informed. The supervisor will determine whether TS operability and reportability criteria are met and will initiate corrective actions (e.g., recalibration, repair, or replacement). Such a finding would also prompt entry into Limiting Condition for Operation (LCO) 3.3.8.1, Condition B, for one or more Function 2, 4.16kV Emergency Bus Undervoltage (Degraded voltage), channels inoperable. Unplanned LCO entries are also entered into a corrective action program. Furthermore, if during the calibration, the trip setting cannot be established within the acceptable as-left voltage range of ≥ 3790.5 V and ≤ 3804.5 V, the procedure requires that the control room supervisor be notified.

The supervisor will then take the appropriate actions regarding TS operability, NRC reportability, corrective actions, and LCO entry. The NRC staff finds that these plant procedures comply with the NRC guidance provided in RIS 2006-17 and in the letter from Patrick L. Hiland (NRC) to the Nuclear Energy Institute's Setpoint Methods Task Force, dated September 7, 2005, and therefore, is acceptable.

Based on the above evaluation, the NRC staff finds that the proposed TS change complies with 10 CFR 50.36, GDC 13, and GDC 20 and, therefore, is acceptable.

4.0 STATE CONSULTATION

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

5.0 ENVIRONMENTAL CONSIDERATIONS

This amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 or changes a surveillance requirement. The NRC staff has determined that the amendment involves 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 issued a proposed finding that the amendment involves no significant hazards consideration and there has been no public comment on such finding (73 FR 62565) dated October 21, 2008. Accordingly, the amendment meets 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 the amendment.

6.0 CONCLUSION

6.1 Electrical Engineering Conclusion

The NRC staff has reviewed the licensee's proposed change to maximum allowable value of degraded voltage from existing 3899 V to 3822 V in TS Table 3.3.8.1-1. Based on its review as discussed above, the NRC staff considers the proposed change to be acceptable. The change will not impact the ability to meet the requirements of 10 CFR 50.36(c).

6.2 Instrumentation and Control Conclusion

The NRC staff finds that the proposed TS change does not trigger any engineered safety feature actuation systems or the reactor protection system, and, therefore, it is not SL-related, and the footnotes specified in the NRC letter dated September 7, 2005, need not be added to the proposed TS change. Furthermore, the methodology for calculating the setpoints conforms to RG 1.105, RIS 2006-17, and the NRC letter dated September 7, 2005. In addition, the licensee's calibration procedures for the proposed TS change conform to the NRC letter dated September 7, 2005. In conclusion, the NRC staff finds the proposed TS change listed in Section 1.0 acceptable.

6.3 General 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 amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: V. Goel, NRR
S. Mazumdar, NRR

Date: May 15, 2009

May 15, 2009

Mr. Richard L. Anderson
Vice President
Duane Arnold Energy Center
3277 DAEC Road
Palo, IA 52324-9785

**SUBJECT: DUANE ARNOLD ENERGY CENTER - ISSUANCE OF AMENDMENT
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The amendment revises the upper limit of the allowable value of Function 2.a, "4.16-kV Emergency Bus Undervoltage (Degraded Voltage)," in Technical Specifications Table 3.3.8.1-1, "Loss of Power Instrumentation."

A copy of the Safety Evaluation is also enclosed. A Notice of Issuance will be included in the Commission's next biweekly *Federal Register* notice.

Sincerely,
/RA/
Karl Feintuch, Project Manager
Plant Licensing Branch III-1
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Docket No. 50-331

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***SE transmitted by memo**

OFFICE	NRR/LPL3-1/ PM	NRR/LPL3-1/ LA	NRR/DE/ EICB/BC	NRR/DE/ EEEEB/BC	OGC	NRR/LPL3-1/ BC
NAME	KFeintuch	BTully	WKemper*	GWilson*	MSpencer	PTam for LJames
DATE	5/15/09	5/15/09	12/17/08	03/18/09	5/15/09	5/15/09

OFFICIAL RECORD COPY