

PROPOSED CHANGE RTS-293 TO THE DUANE ARNOLD ENERGY CENTER
TECHNICAL SPECIFICATIONS

The holders of license DPR-49 for the Duane Arnold Energy Center propose to amend Appendix A (Technical Specifications) to said license by deleting certain current pages and replacing them with the attached, new pages. The List of Affected Pages is given below.

LIST OF AFFECTED PAGES

iv
1.0 - 1
1.0 - 6
6.13 - 1 (new page)

SUMMARY OF CHANGES:

The following list of proposed changes is in the order that the changes appear in the Technical Specifications (TS).

<u>Page</u>	<u>Description of Changes</u>
iv	Modify the Table of Contents to add new specification 6.13 for the Instrument Setpoint Control Program
1.0 - 1	Add a cross-reference to the Definition of Limiting Safety System Setting (LSSS) to the Instrument Setpoint Control Program in Section 6.13
1.0 - 6	Add a sentence to the Definition of Instrument Calibration that specifies that the As-found and As-left tolerances used to determine instrument/channel OPERABILITY are determined by the Instrument Setpoint Control Program in Section 6.13. Also, clarifications are made in the existing wording, which currently only refers to "setpoints," to specify when the allowable and nominal setpoints are being referenced.
6.13 - 1	Add a new section to the Technical Specification - Section 6.13 for the Instrument Setpoint Control Program. The program defines the requirements for establishing the instrument setpoints used in plant surveillance procedures for instrument/channel calibrations.

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1.0 DEFINITIONS

The succeeding frequently used terms are explicitly defined so that a uniform interpretation of the specifications may be achieved.

1. SAFETY LIMIT

The safety limits are limits below which the reasonable maintenance of the cladding and primary systems are assured. Exceeding such a limit requires unit shutdown and review by the Nuclear Regulatory Commission before resumption of unit operation. Operation beyond such a limit may not in itself result in serious consequences but it indicates an operational deficiency subject to regulatory review.

2. LIMITING SAFETY SYSTEM SETTING (LSSS)

The limiting safety system settings are settings on instrumentation which initiate the automatic protective action at a level such that the safety limits will not be exceeded. These settings take into consideration the instrumentation tolerances and the instruments are required to be periodically calibrated as specified in these Technical Specifications. The limiting safety system setting plus the tolerance of the instrument as given in the system design control document gives the limiting trip point for operation. This additional margin has been established so that with proper operation of the instrumentation the safety limits will never be exceeded. The inequality sign which may be given merely signifies the preferred direction of operational trip setting.

[Insert (A) here]

3. LIMITING CONDITIONS FOR OPERATION (LCO)

The limiting conditions specify the minimum acceptable levels of system performance necessary to assure safe startup and operation of the facility. When these conditions are met, the plant can be operated safely and abnormal situations can be safely controlled.

When a system, subsystem, train, component or device is determined to be inoperable solely because its emergency power source is inoperable, or solely because its normal power source is inoperable, it may be considered OPERABLE for the purpose of satisfying the requirements of its applicable Limiting Condition for Operation, provided: (1) its corresponding normal or emergency power source is OPERABLE; and (2) all of its redundant system(s), subsystem(s), train(s), component(s) and devices(s) are OPERABLE, or likewise satisfy the requirements of this specification.

4. DELETED

- a. Instrument Calibration or Channel Calibration - An Instrument Calibration means the verification or adjustment of an instrument signal output so that it corresponds, within acceptable range and accuracy, to a known value(s) of the parameter which the instrument monitors. The acceptable range and accuracy of an instrument and its setpoint are given in the system design control document and its setpoint is used in the Technical Specifications. Instrument calibration may be performed by any series of sequential, overlapping, or total channel steps such that the entire instrument is calibrated. Instrument calibration includes the Instrument or Channel Functional Test, as appropriate.
- b. Channel - A channel is an arrangement of a sensor and associated components used to evaluate plant variables and produce discrete outputs used in logic. A channel terminates and loses its identity where individual channel outputs are combined in logic.
- c. Instrument or Channel Functional Test - An Instrument or Channel Functional Test for
- (1) Analog channels means the injection of a simulated signal into the channel as close to the sensor as practicable to verify the proper response, alarm, and/or initiating action.
 - (2) Bistable channels means the injection of a simulated signal into the sensor to verify the proper response, alarm and/or initiating action.
- d. Instrument or Channel Check - An instrument or channel check is a qualitative determination of acceptable operability by observation of instrument behavior during operation. This determination shall include, where possible, comparison of the instrument or channel with another independent instrument measuring the same variable.
- e. Logic System Functional Test - A Logic System Functional Test shall be a test of all logic components, i.e., relays and contacts, of a logic circuit that perform a safety function, from sensor through and including the actuated device, to verify OPERABILITY. The Logic System Functional Test may be performed by any series of sequential, overlapping or total system steps such that the entire logic system is tested.
- f. Trip System - A trip system means an arrangement of instrument channel trip signals and auxiliary equipment required to initiate action to accomplish a protective trip function. A trip system may require one or more instrument channel trip signals related to one or more plant parameters in order to initiate trip system action. Initiation of protective action may require the tripping of a single trip system or the coincident tripping of two trip systems.
- g. Protection Action - An action initiated by the protection system when a limit is reached. A protective action can be at a channel or system level.

allowable

nominal

6.12 Primary Containment Leakage Rate Testing Program

A program shall be established to implement the leakage rate testing of the primary containment as required by 10 CFR 50.54 (c) and 10 CFR 50, Appendix J, Option B, as modified by approved exemptions. This program shall be in accordance with the guidelines contained in Regulatory Guide 1.163, "Performance-Based Containment Leak-Test Program," dated September 1995.

The peak calculated containment internal pressure for the design basis loss of coolant accident, P_s , is 43 psig.

The maximum allowable primary containment leakage rate, L_s , at P_s shall be 2.0% of primary containment air weight per day.

Leakage Rate acceptance criteria are:

- a. Primary Containment leakage rate acceptance criterion is $\leq 1.0 L_s$. During the first startup following testing in accordance with this program, the leakage rate acceptance criteria are: $\leq 0.60 L_s$ for the Type B and Type C tests; and $\leq 0.75 L_s$ for the Type A tests;
- b. The air lock testing acceptance criterion is overall air lock leakage rate $\leq 0.05 L_s$ when tested at $\geq P_s$.

The 25% extension, per definition # 26 for Surveillance Frequency, does not apply to the test frequencies specified in the Primary Containment Leakage Rate Testing Program.

[Insert C as new page 6.13-1]

INSERTS FOR TS PAGES FOR RTS-293

[Insert A]

, which is determined in accordance with the Instrument Setpoint Control Program specified in Section 6.13 of these Technical Specifications.

[Insert B]

The required As-found tolerances and As-left settings used to determine instrument/channel OPERABILITY shall be in conformance with the DAEC Instrument Setpoint Control Program specified in Section 6.13 of these Technical Specifications.

[Insert C]

6.13 Instrument Setpoint Control Program

A program shall be established in accordance with 10 CFR 50, Appendix B requirements for determining and controlling the instrument setpoints used during the performance of Instrument/Channel Calibrations specified in these Technical Specifications. This program shall:

- a. Be based upon an NRC-approved methodology that conforms to the guidelines contained in Regulatory Guide 1.105, Rev. 2.
- b. Establish the required As-found tolerances to be used in the Instrument/Channel Calibration procedures for determining OPERABILITY of the instrument/channel, using the setpoint methodology described above.
- c. Establish the required As-left settings to be used in the Instrument/Channel Calibration procedures, which shall be the more-conservative value of either: 1) the As-left Tolerance determined by the setpoint methodology described above; or, 2) the preferred direction of Limiting Safety System Setting, as defined in these Technical Specifications.

Changes to the limiting trip point for operation, as defined in these Technical Specifications and the As-found and As-left Tolerances, specified in the plant calibration procedures, can be made provided criteria a., b., and c. above are satisfied.

SAFETY ASSESSMENT

By letter dated May 09, 1997, IES Utilities Inc. submitted a request for revision of the Technical Specifications (TS) for the Duane Arnold Energy Center (DAEC). The proposed Amendment revises the definitions of Limiting Safety System Setting (LSSS) and Instrument/Channel Calibration to reference a new program being added to the TS (Section 6.13) for the control of instrument setpoints. This new program description is being added to include within the TS, the plant's existing programmatic controls for the establishment and control of the instrument setpoints used in plant procedures that implement TS surveillance requirements for instrument/channel calibrations; no actual changes in the way plant equipment is operated or tested is being proposed.

The DAEC Instrument Setpoint Control Program has been the subject of recent communications with the Staff (Ref. IES letter NG-97-0395, dated February 25, 1997, and NRC Meeting on March 20, 1997).

Assessment:

The DAEC TS contain the definition of Limiting Safety System Setting (LSSS). TS Definition 1.0.2 states:

The limiting safety system settings are settings on instrumentation which initiate the automatic protective action at a level such that the safety limits will not be exceeded. These settings take into consideration the instrumentation tolerances and the instruments are required to be periodically calibrated as specified in these Technical Specifications. The limiting safety system setting plus the tolerance of the instrument as given in the system design control document gives the limiting trip point for operation. This additional margin has been established so that with proper operation of the instrumentation the safety limits will never be exceeded. The inequality sign which may be given merely signifies the preferred direction of operational trip setting.

The LSSS, defined above, (also referred to in the TS as the Trip Level Setting), is analogous to, and is often referred to in the industry as, the Nominal Trip Setpoint (NTSP). Definition 1.0.2 above also defines the Limiting Trip Point for Operation (LTPO), which is analogous to the Allowable Value (AV), as used in the industry. At the DAEC, the LTPO{AV} is contained in the system design control documents and the LSSS{NTSP} is contained in the TS. It is the LTPO{AV} that defines instrument/channel OPERABILITY.

The LTPO{AV} and the LSSS{NTSP} have been established by the DAEC Instrument Setpoint Control Program which is based on the General Electric (GE) Instrument Setpoint

Methodology; NEDC-31336, "General Electric Instrumentation Setpoint Methodology." The NRC approval of NEDC-31336 is documented in a Revision to the Safety Evaluation Report transmitted by letter from B. Boger (NRC) to R. Pinelli (BWROG) dated November 6, 1995. The GE Instrumentation Setpoint Methodology conforms to the guidelines contained in Regulatory Guide 1.105, Rev. 2.

The setpoint calculations use the uncertainties associated with the DAEC instrumentation and actual DAEC physical data and operating practices to ensure the validity of the resulting LTPO{AV} and LSSS{NTSP}. The methodology used to derive the LTPO{AV} and LSSS{NTSP} is based on combining the uncertainties of the associated channels. The resulting LTPO{AV} and LSSS{NTSP} have been established from each design or safety analysis limit by accounting for instrument accuracy, calibration and drift uncertainties, as well as process measurement accuracy and primary element accuracy using the GE Instrument Setpoint Methodology. The use of this methodology for establishing LTPO{AV} and LSSS{NTSP} ensures design or safety analysis limits are not exceeded in the event of transients or accidents and ensures that adequate margin exists between the normal plant operating conditions and actual instrument setpoints to preclude spurious plant/equipment trips.

Because the proposed Instrument Setpoint Control Program to be added to the TS is: 1) based upon a Staff approved methodology, which conforms to established guidelines (RG 1.105); 2) establishes the criteria under which the LTPO, "as-found" and "as-left" tolerances in the plant surveillance procedures are determined and revised consistent with the plant's design basis and accident analysis assumptions; and, 3) the LSSS will continue to be controlled within the TS, we find the proposed changes to be acceptable.

ENVIRONMENTAL CONSIDERATION

10 CFR Part 51.22(c)(9) identifies certain licensing and regulatory actions which are eligible for categorical exclusion from the requirement to perform an environmental assessment. A proposed amendment to an operating license for a facility requires no environmental assessment if operation of the facility in accordance with the proposed amendment would not: (1) involve a significant hazards consideration; (2) result in a significant change in the types or significant increase in the amounts of any effluents that may be released offsite; and, (3) result in an increase in individual or cumulative occupational radiation exposure. IES Utilities Inc. has reviewed this request and determined that the proposed amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR Part 51.22(c)(9). Pursuant to 10 CFR Part 51.22(b), no environmental impact statement or environmental assessment needs to be prepared in connection with the issuance of the amendment. The basis for this determination follows:

Basis

The change meets the eligibility criteria for categorical exclusion set forth in 10 CFR Part 51.22(c)(9) for the following reasons:

1. As demonstrated in Attachment 1 to this letter, the proposed Amendment does not involve a significant hazards consideration.
2. The proposed Amendment revises the definitions of Limiting Safety System Setting (LSSS) and Instrument/Channel Calibration to reference a new program being added to the TS (Section 6.13) for the control of instrument setpoints. This new program description is being added to include within the TS, the plant's existing programmatic controls for the establishment and control of the instrument setpoints used in plant procedures that implement TS surveillance requirements for instrument/channel calibrations; no actual changes in the way plant equipment is operated or tested is being proposed. Consequently, there will be no increase in either the types or amounts of effluents that may be released offsite as a result of this proposed change.
3. The proposed Amendment revises the definitions of Limiting Safety System Setting (LSSS) and Instrument/Channel Calibration to reference a new program being added to the TS (Section 6.13) for the control of instrument setpoints. This new program description is being added to include within the TS, the plant's existing programmatic controls for the establishment and control of the instrument setpoints used in plant procedures that implement TS surveillance requirements for instrument/channel calibrations; no actual changes in the way plant equipment is operated or tested is being proposed. Consequently, there will be no increase in either individual or cumulative occupational exposure as a result of this proposed change.