

Notice of Availability Supplement to NRC-2009-0487
NRC Staff Guidance for License Amendment Requests to Implement a
TSTF-493 Option B Setpoint Control Program

Introduction

In accordance with the U.S. Nuclear Regulatory Commission (NRC) staff's May 11, 2010 Notice of Availability of the TSTF-493 Instrument Setpoint Control Program guidance (75 FR 26294, available at www.regulations.gov, ID: NRC-2009-0487) licensees may elect to submit a license amendment request for NRC staff evaluation which contains a description of their proposed Setpoint Control Program that meets Option B of TSTF-493, Revision 4 "Clarify Application of Setpoint Methodology For LSSS Functions." Using TSTF-493 Option B, licensees may relocate the Allowable Values (AVs) and Nominal Trip Setpoints (NTSPs) of instrument channels implementing certain limiting safety system setting (LSSS) safety functions from Technical Specifications Section 3.3, "Instrumentation," to the Final Safety Analysis Report (FSAR) or another document (e.g. Technical Requirements Manual) incorporated into the facility FSAR by reference, and add an Administrative Control Technical Specification into Section 5 of the Technical Specifications, entitled "Setpoint Control Program."

The Setpoint Control Program establishes the technical specification requirements for ensuring that setpoints for automatic protective devices are initially within and remain within the assumptions of the applicable safety analyses. The program provides a means for processing changes to instrumentation setpoints, and identifies setpoint methodologies to ensure instrumentation will function as required. The program ensures that testing of automatic protective devices related to variables having significant safety functions as delineated by 10 CFR 50.36(c)(1)(ii)(A) verifies that instrumentation will function as required. Specifically, the Setpoint Control Program establishes the following programmatic requirements:

- a. The program lists the Functions in the following specifications to which it applies (Note: The following is a typical list of functions for a BWR-6 reactor design, as identified in a letter from the TSTF Owners Group to the NRC dated April 23, 2010, (ML101160026) containing a marked version of the BWR-6 Standardized Technical Specifications. Other marked Standardized Technical Specifications in that letter have different affected Functions, as appropriate):
 1. LCO 3.3.1.1, "Reactor Protection System (RPS) Instrumentation;"
 2. LCO 3.3.1.2, "Source Range Monitor (SRM) Instrumentation;"
 3. LCO 3.3.2.1, "Control Rod Block Instrumentation;"
 4. LCO 3.3.2.2, "Feedwater and Main Turbine High Water Level Trip Instrumentation;"
 5. LCO 3.3.4.1, "End of Cycle Recirculation Pump Trip (EOC-RPT) Instrumentation;"
 6. LCO 3.3.4.2, " Anticipated Transient Without Scram Recirculation Pump Trip (ATWS-RPT) Instrumentation;"
 7. LCO 3.3.5.1, "Emergency Core Cooling System (ECCS) Instrumentation;"
 8. LCO 3.3.5.2, "Reactor Core Isolation Cooling (RCIC) System Instrumentation;"

9. LCO 3.3.6.1, "Primary Containment Isolation Instrumentation;"
 10. LCO 3.3.6.2, "Secondary Containment Isolation Instrumentation;"
 11. LCO 3.3.6.3, "Low-Low Set (LLS) Instrumentation;"
 12. LCO 3.3.7.1, "[Main Control Room Environmental Control (MCREC)] System Instrumentation;"
 13. LCO 3.3.8.1, "Loss of Power (LOP) Instrumentation;"
 14. LCO 3.3.8.2, "Reactor Protection System (RPS) Electric Power Monitoring."
- b. The program lists the setpoint methodology and requires the Limiting Trip Setpoint (LTSP), Nominal Trip Setpoint (NTSP), Allowable Value (AV), As-Found Tolerance (AFT), and As-Left Tolerance (ALT) (as applicable) of the Functions described in Paragraph a. are calculated using the Setpoint methodology submitted by the licensee and approved by the NRC. In addition, the program contains the value of the LTSP, NTSP, AV, AFT, and ALT (as applicable) for each Function described in paragraph a. and identifies the setpoint methodology used to calculate these values.
- c. The program establishes methods to ensure that Functions described in Paragraph a. will function as required by verifying the as-left and as-found settings are consistent with those established by the setpoint methodology.
- d. The program identifies the Functions described in Paragraph a. that are automatic protective devices related to variables having significant safety functions as delineated by 10 CFR 50.36(c)(1)(ii)(A). The LTSP of these Functions are Limiting Safety System Settings. These Functions are to be demonstrated to be functioning as required by applying the following requirements during CHANNEL CALIBRATIONS, trip unit calibrations and CHANNEL FUNCTIONAL TESTS that verify the [LTSP or NTSP].
1. The as-found value of the instrument channel trip setting is compared with the previous as-left value or the specified [LTSP or NTSP].
 2. If the as-found value of the instrument channel trip setting differs from the previous as-left value or the specified [LTSP or NTSP] by more than the pre-defined test acceptance criteria band (i.e., the specified AFT), then the instrument channel is evaluated before declaring the SR met and returning the instrument channel to service. This condition is entered in the plant corrective action program.
 3. If the as-found value of the instrument channel trip setting is less conservative than the specified AV, then the SR is not met and the instrument channel is immediately declared inoperable.
 4. The instrument channel setpoint is reset to a value that is within the as-left tolerance around the [LTSP or NTSP] at the completion of the surveillance test; otherwise, the channel is inoperable (setpoints may be more conservative than the [LTSP or NTSP] provided that the as-found and as-left tolerances apply to the actual setpoint used to confirm channel performance).
- e. Changes to the program are to be made in accordance with the requirements of 10 CFR 50.59. Revisions or supplements to the program are provided upon issuance to the NRC.

The licensee proposed Setpoint Control Program must meet the requirements of 10 CFR 50.36, "Technical Specifications," and address the NRC staff Regulatory Positions described within the guidance of Regulatory Guide 1.105, "Setpoints for Safety-Related Instrumentation," the clarification of this guidance described within 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," and the guidance described below within this TSTF-493 Notice of Availability Supplement. The NRC staff will evaluate proposed Option B programs using its Standard Review Plan, branch technical positions, regulatory guidance, and other staff review guidance consistent with the licensing basis of the facility to make a determination of reasonable assurance that the licensee proposed setpoint control program, as documented in the license amendment request, ensures adequate protection of the health and safety of workers and the public, and adequately protects the environment.

Once a proposed Setpoint Control Program is approved for use by the NRC staff, licensees would be permitted to relocate the AVs and Nominal Trip Setpoints (NTSPs) or Limiting Trip Setpoints (LTSPs) of instrument channels performing certain LSSS safety functions from the Technical Specification Section 3.0 tables to the FSAR or Technical Requirements Manual (TRM) and to make subsequent changes to the nominal technical specification setpoint (NTSP) and allowable value (AV) settings in accordance with the requirements of 10 CFR 50.59. The specific scope of instrument channel settings for this program is contained in Attachment 2 of the "Model Application for Adoption of TSTF Traveler TSTF-493, Revision 4, "Clarify Application of Setpoint Methodology for LSSS Functions, Option B, Addition of a Setpoint Control Program," which reflects the scope of safety functions agreed upon in correspondence between the Technical Specifications Task Force Owners Groups and the NRC staff, dated April 23, 2010. This letter listed the specific safety functions within certain Technical Specification Section 3.0 tables deemed to be significant safety functions initiated by safety related instrument channels, including some Limiting Safety System Settings as described in 10 CFR 50.36(c)(1)(ii)(a) as well as other safety related instrument channel functions which initiate plant safety actions in response to design basis events. Provided that all elements of the NRC staff's positions regarding the establishment and maintenance of safety related instrument channel settings as described in the NRC regulations and guidance, and as further elaborated herein, are adequately described in the licensee's 10 CFR 50.90 submittal and supporting documentation describing its proposed setpoint control program, the NRC staff would find such setpoint control programs to be adequate to ensure that proposed changes to safety related instrument channel settings will continue to meet the NRC regulations and NRC staff's guidance and thus provide reasonable assurance that the licensee's program will continue to protect the health and safety of the public, and the environment.

The setpoint control program requires licensees to make available for subsequent NRC staff inspection all documentation associated with establishing, maintaining, and/or modifying these settings under the 10 CFR 50.59 process using the NRC staff-approved setpoint control program. Such documentation includes the bases for these changes, such as information depicting the sources of raw data and the analyses of the data used for establishing conclusions reached in completing revisions to setpoint calculation documents, and bases for any technical (i.e., non-editorial) changes made within any of the plant or corporate engineering and maintenance procedures directly used and documented within the approved setpoint control

program. NRC staff inspection may be performed via evaluation of annual FSAR updates or as a part of scheduled system-based inspections or other topical inspections.

Subsequent changes proposed under a 10 CFR 50.59 process to the established safety related settings which do not strictly adhere to the requirements of 10 CFR 50.59 or to the elements within the NRC staff-approved TSTF-493, Revision 4 Option B Setpoint Control Program as elaborated herein would not be permitted. Such proposed changes would need to be submitted for NRC staff evaluation under 10 CFR 50.90. Similarly, the requirements of 10 CFR 50.59(d) pertaining to the maintenance of records and periodic reporting of a summary of any safety related setpoint changes made under the NRC-approved setpoint control program will apply.

Substantive proposed changes (other than minor editorial comments) to the licensee's proposed Setpoint Methodology and the TSTF-493 Option B Setpoint control program described herein must be submitted to the NRC staff under the 10 CFR 50.90 process for approval prior to implementation of the changes.

The primary purpose for requiring the licensee to include all the information described herein within its submittal is to provide NRC staff reviewers with sufficient information to allow them to evaluate how the licensee proposed program will meet the NRC regulations and staff guidance, particularly with respect to the scope of instrument functions associated with TSTF-493. A secondary reason is to provide a baseline reference for future NRC inspection personnel to help inform future inspection processes. Since the requirements of 10 CFR 50.59(d) pertaining to the maintenance of records, and periodic reporting of a summary of changes made will apply to changes made under the setpoint control program, this level of detail will help the NRC inspectors ensure that licensees are appropriately performing changes to these settings, once they are made under the 10 CFR 50.59 evaluation process.

TSTF-493 Option B Submittal Contents

For the NRC staff to perform its evaluation of a licensee-proposed TSTF-493 Option B setpoint control program, the staff requires the following two descriptions to be part of Attachment 3 of the licensee's submittal addressing "Model Application for Adoption of TSTF Traveler TSTF-493, Revision 4, "Clarify Application of Setpoint Methodology for LSSS Functions, Option B, Addition of a Setpoint Control Program":

1. Sufficiently Detailed Setpoint Calculation Methodology Description: Licensees must submit their proposed setpoint calculation methodology to the NRC staff for approval. The licensee must demonstrate to the NRC staff how the methodology for determining the initial settings and magnitude of any changes to setpoints proposed under a 10 CFR 50.59 process affecting the specific list of instrument channel functions (as agreed upon in the NRC letter of March 9, 2009 approving the list of functions identified in the TSTF Owners Group February 23, 2009 letter) meets the NRC regulations and staff guidance for determining AV, LTSP, NTSP, ALT, and AFT, as set forth in the NRC staff's Notice of Availability letter of May 4, 2010, its regulations and regulatory guidance documents, and as described in further detail below. (Note: For some plants the Limiting Safety System Setting term is described as a "Field Trip Setpoint" and the term NTSP is not used. For such plants, the use of allowances for AFT and ALT are applied to this term instead of to a NTSP term.) The proposed setpoint calculation methodology must clarify how the

licensee applies the use of such terms for its licensed facility to ensure consistency and to facilitate future inspection by the NRC staff.

2. Sufficiently Detailed Setpoint Control Program Description: The license amendment request to adopt TSTF-493, Revision 4 Option B must include documentation that fully describes the Section 5.0 Technical Specification Administrative Controls Setpoint Control Program. The submittal must demonstrate to the NRC staff how the licensee will ensure that future changes to these settings will continue to adhere to the elements of the NRC staff-approved setpoint control program. The Setpoint control program must also ensure that subsequent changes to instrument settings will be controlled under 10 CFR 50.59. More detailed guidance on the content of the setpoint control program is provided below.

In accordance with the Administrative Controls TS, Section 5.0 substantive proposed changes (other than minor editorial comments) to the Setpoint control program described herein must be submitted to the NRC staff for review under 10 CFR 50.90 for approval prior to implementation of the changes.

Detailed Guidance for the Content of License Amendment Request Submittals for TSTF-493 Option B Setpoint Control Programs

To be considered for NRC review, the licensee's 10CFR50.90 submittal proposing a TSTF-493 Option B Setpoint control program must contain detailed descriptions of two processes:

1. Detailed Setpoint Methodology Description, and
2. Detailed Setpoint Control Program Description

These process descriptions are discussed below.

1. Detailed Setpoint Methodology Description

- a. Establishing LTSPs and NTSPs Similar to the requirements for TSTF-493 Option A for licensees proposing changes to the existing technical specification values, for any instrument channels within the scope of the proposed TSTF 493, Revision 4 Option B Setpoint Control Program, licensees must describe their proposed methodology for establishing adequate margins between limiting/nominal trip setpoints and analytical limits that are reflective of NRC staff guidance provided in Regulatory Guide 1.105, "Setpoints for Safety-Related Instrumentation." Random error terms: Specifically, the methodology must describe how the licensee will ensure that individual error term estimates for random instrument channel uncertainty and future changes to settings, will be based on the use of appropriate statistical analyses. The licensee must demonstrate that the bounds of each error term estimate are established at a 95% probability/95% confidence level, the mean of the uncertainty for the entire population lies within the bounds of the error estimate for the sample taken, and that an appropriate sample size was used to establish this error estimate. Bias error terms: Additionally, the methodology must describe how the magnitude of the uncertainty terms representing non-conservative bias associated with instrument channel performance are identified and quantified using appropriate analyses or bounding estimates, with suitable justification for establishing the bounds of bias estimates that have been based on only a limited sample size. If the bias has been identified as "conservative" bias, the methodology must identify whether the magnitude of the bias has been used to offset any "non-conservative biases" identified or whether its effect will be ignored. The methodology must provide justification for the approach used. Categorization basis: The licensee must describe how instrument channel performance is modeled, which uncertainty terms are considered random independent, random dependent, uni-directional bias, or bi-directional bias terms, and the basis for categorizing terms in this manner. Methodology consistent with actual plant calibration and functional testing practices: The methodology must describe how the instrument channel performance modeling supporting the analysis of instrument channel uncertainty performance addresses actual plant calibration and/or functional testing practices, and historical surveillance performance. The submittal description must also demonstrate how the proposed methodology addresses each NRC Staff Position in applicable regulatory guidance.

- b. Establishing AVs, ALTs, and AFTs Licensees must describe their proposed methodology and bases for establishing conservatively small, but practically-applied acceptance tolerance bands for “as-found” tolerances (AFTs), specifying the allowed channel performance deviation between successive surveillances. The licensee must also describe their methodology for “as-left” tolerances (ALTs), supporting the determination of calibration setting acceptance criteria that are used to assure a tight control on allowed setpoint deviations. These discussions must document the licensee’s basis for establishing a permissible (allowable) channel deviation between successive surveillances. This information is used to enable the performance of an assessment of channel operability. Licensees must provide the bases for calculating/establishing AFTs and ALTs, taking into account the guidance of “NRC Regulatory Issue Summary 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” (RIS 2006-17). If the guidance of RIS 2006-17 is not followed explicitly, licensees shall provide a technically sound justification for an alternative approach that takes into account the concepts of RIS 2006-17.

To document the licensee’s TSTF-493 Option B setpoint methodology program, the licensee may provide the NRC staff with copies of pertinent corporate and/or plant engineering procedures that describe in detail the instrument setpoint calculation methodology. To evaluate this material and make its “reasonable assurance of adequate protection” determination, the NRC staff must understand exactly how and under what conditions these procedures are to be used. Therefore, procedures which describe the licensee’s overall setpoint control program shall be included in the LAR. The Setpoint Control Program must state the specific scope of instrument channels to which these procedures apply, and clearly describe how the use of these procedures relates to the requirements of 10 CFR 50.36 and regulatory guidance criteria. Otherwise, the NRC staff’s “reasonable assurance” determination will need to be based on what it determines to be the least restrictive licensee program requirements implied in the documents as written. The documentation provided to the NRC staff for its evaluation must contain the following elements:

- a. a description of the basis and fully-executed (licensee-approved) setpoint methodology, corporate and plant procedures which implement this methodology, referenced NRC-approved NSSS vendor topical reports (if applicable) which may be applicable to the licensee’s facility and/or corporate calculation methodology procedure, and analytical results;
- b. a description of the sources of controlled engineering information allowed by such procedures for use in establishing the setpoints and as-left and as-found tolerances for the instrument channels;
- c. copies of applicable supporting analyses; and
- d. a description of any provisions within the program for use of operating history, where available, for the instrument channel setpoint determination program and the instrument maintenance and calibration program. This description must include a discussion of the way the operating history will be organized, analyzed,

and processed to support engineering conclusions regarding instrument channel performance.

Note: if the licensee's proposed program references any NSSS vendor topical report that has not been previously reviewed by the NRC staff, a copy of the report(s) must be included with the submittal.

For the specific scope of instrument channels covered under the TSTF-493 program, the following information on the licensee/applicant's setpoint program must be included in the submittal for the staff's evaluation:

- Identification of facility instrument channels and associated setpoints performing safety functions considered to be limiting safety system settings relevant to compliance with technical specification limiting conditions for operation. This list of in-scope instrument channels must be in compliance with the list agreed upon by the Tech Spec Task Force and the NRC staff in correspondence prepared in conjunction with the establishment of TSTF-493, Revision 4 (ML101160026).
- Identification of any within-scope safety functions that are not safety-limit-related LSSS and the basis for this determination.
- Identification of setpoints that trigger procedural actions important to safety.
- Description of the setpoint methodology and procedures used in determining setpoints, including information sources, scope, assumptions, interface reviews, and statistical methods.
- Definitions of the licensee's terminology used to describe limits, allowances, and tolerances, and environmental or other effects used to support setpoint calculations.
- Technical specifications and basis for all LSSSs. Surveillance Requirements for the channels whose NTSPs and AVs are being moved to the FSAR or TRM must still be depicted within the Technical Specification tables.
- Bases for acceptable as-found band, acceptable as-left band and determination of instrument operability based on acceptable as-found band and acceptable as-left band.
- Bases for establishment of the surveillance and calibration intervals assumed in the calculations of setpoint. Information describing the establishment of surveillance and calibration intervals must be compatible with any NRC-approved surveillance interval programs for the facility (e.g., other TSTF initiatives.)
- Bases for assumptions regarding instrument uncertainties and a discussion of the method used to determine uncertainty values.
- Description of the provisions for calibration and control of measuring and test equipment used for calibration of the instrument.

- Description of the program and methodology used to monitor and manage instrument uncertainties, including the basis for drift uncertainties.

A documented design basis for safety system setpoints must be available for Staff review. Documentation must conform to the guidance of Regulatory Guide 1.105, latest revision.

The description of the instrument channel in accordance with ISA-S67.04-1994, Part I, must include, as a minimum:

- Description of the functional and performance criteria for the initiation and execution of the safety functions for each setpoint value.
- Instrument specifications, including range, accuracy, repeatability, hysteresis, dynamic response, environmental qualification, calibration reference, and calibration intervals for each instrument type.
- Instrument loop diagrams (one typical for each function) showing all hardware elements of the instrument loop(s), indicating which portions of the loop are tested during each type of functional test, calibration test, or response-time test (if applicable) as reflected in the values used in the setpoint calculation. All elements of the loop must be tested within their appropriate required calibration intervals.
- Instrument and tubing layout drawings and installation details showing locations and elevations of instruments and tubing relative to a reference datum, as well as the points where each instrument interfaces with the monitored process.
- For digital instrumentation, the configuration database for the instrumentation functions, and identification of digital elements (hardware and software) where error could be introduced into the measurement, such as, errors that could result from analog-to-digital or digital-to-analog conversion or from numerical methods used in the software (e.g., curve fitting).

The description of assumptions in accordance with ISA-S67.04-1994, Part I, must include assumptions regarding the environmental allowances (temperature, pressure, humidity, radiation, vibration, seismic, EMI/RFI, and electrical power variations) associated with the location for each portion of the instrument channel.

Statistical Guidelines for Instrument Uncertainty

In the review of uncertainties in determining a trip setpoint and the allowable value and as-found and as-left tolerances, the NRC staff typically requires that individual instrument channel uncertainty terms be estimated using a 95/95 tolerance interval as an acceptable criterion. This means that the bounds of each of the channel random uncertainty terms must be estimated based on the use of statistical methods in which samples of the population of uncertainties are used to estimate the mean and standard deviation of the entire population of such uncertainties. The bounds used to ascertain

the limits of the uncertainty must be so determined as to envelope 95% of the sample population at a 95% confidence level. The size of the data pool for the sample must be shown to be statistically appropriate for use at the 95% confidence interval.

Basis for Instrument Calibration Intervals

The applicant/licensee must evaluate the effects of extended calibration intervals on instrument uncertainties, equipment qualification, and vendor maintenance provisions to assure that an extended surveillance interval does not result in exceeding the assumptions stated in the safety analysis. Generic Letter 91-04, Enclosure 2, "Guidance for Addressing the Effect of Increased Surveillance Intervals on Instrument Drift and Safety Analysis Assumptions," provides acceptable guidance for justifying extended calibration intervals through the use of data analysis, monitoring, and assessment. This approach has been used for plants to accommodate a 24-month fuel cycle change. For changes to surveillance test intervals for reasons other than a 24-month fuel cycle, acceptable submittals have followed the risk informed approach and followed the guidance of Regulatory Guides 1.174, 1.177, and 1.200.

Setpoint Methodology Review

The setpoint methodology and assumptions must describe how the setpoint calculation is independently reviewed to confirm that an acceptable analysis method is used and the analysis parameters and assumptions are consistent with the safety analysis, system design basis, technical specifications, plant design, and maintenance (including calibration and functional testing) practices. The following factors must be emphasized in the licensee's independent review:

- Relationships between the safety limit, analytical limit, limiting trip setpoint, the allowable value, the setpoint, the acceptable as-found band, the acceptable as-left band, (and the setting tolerance, if a smaller tolerance than the acceptable as-left band is used to maintain the setting within the acceptable as-left band.)
- The independent reviewer must confirm that the setpoint as-found and as-left tolerances are consistent with the specific design of the instrument channel, any assumptions made regarding instrument channel performance as it relates to required technical specification actions, and actual plant maintenance and testing practices. Additional information related to setpoint technical specifications is provided in RIS 2006-17.
- Basis for selection of the trip setpoint.
- Uncertainty terms that are addressed.
- Method used to combine uncertainty terms.
- Justification for use of statistical combination methods rather than algebraic combination.
- Relationship between instrument and process measurement units.

- Methodology and assumptions used for propagating uncertainties present at the input of modules within the instrument channel to the module output for non-linear modules
- Data used to select the trip setpoint, including the source of the data.
- Assumptions used to select the trip setpoint (e.g., ambient temperature limits for equipment calibration and operation, potential for harsh accident environment).
- Instrument installation details and bias values that could affect the setpoint.
- Correction factors used to determine the setpoint (e.g., pressure compensation to account for elevation difference between the trip measurement point and the sensor physical location).
- Instrument test, calibration or vendor data, as-found and as-left; each instrument must be demonstrated to have random drift by empirical and field data.

Evaluation results must be reflected appropriately in the uncertainty terms, including the setpoint methodology. The design, installation, calibration procedures, and calibration activities for specific channels may be inspected to gain further confidence that setpoint calculations are consistent with plant equipment and calibration procedures. NRC Inspection Manual, Procedure 93807, "Systems Based Instrumentation and Control Inspection," provides guidance for such inspections.

2. Detailed Setpoint Control Program Description

In accordance with Administrative Control TS 5.5.X.b, the licensee must also provide the staff with a description of its proposed plant setpoint control program that adopts the two sub-parts of the instrument setpoint methodology described above for establishing and maintaining setpoints. The program methodology must incorporate these subparts into a configuration control process that provides the licensee staff with the ability to assess safety related instrument channel operability based on a continually maintained plant configuration and library of engineering analyses supporting the determination of safety related setpoints. The submittal must contain copies of the proposed Technical Specification changes and the proposed appearance of the Technical Specification pages after the changes are approved.

The description in the licensee's TSTF-493 Option B program submittal must address and clearly describe how the licensee will ensure that the following aspects of instrument channel setpoint control will be continually maintained:

- Setpoints (NTSPs and LTSPs, where applicable) that are based on analytical limits or other limits derived from current versions of plant safety analyses, or that are demonstrated to be conservative with respect to the current versions. There are occasions when such safety analyses are updated to accomplish related plant activities. The licensee TSTF 493 Option B setpoint control program must clearly describe how the program ensures that official plant records establishing instrument safety settings reflect the appropriate source and revision of updated safety analyses from which analytical limits are derived.
- Instrument channel total loop uncertainty calculations that take into account the differences in channel performance under operating conditions versus those present under plant testing and maintenance conditions, including the loop configuration used during the performance of calibration and functional test procedures. On occasion, changes are made to plant calibration, functional test, or other periodic test procedures. Licensee setpoint control programs must ensure that official plant records establishing instrument safety settings reflect the appropriate source and revision of current calibration and functional test procedures. They must also reflect currently approved maintenance practices and the associated measurement and test equipment for performing such procedures.
- Instrument channel total loop uncertainty calculations that are based on appropriate vendor range, accuracy, and performance data pertinent to the currently-installed instruments. On occasion, installed instruments are found to be inoperable or no longer maintainable. Due to obsolescence, the replacement component may be of a different manufacturer or model number. The safety related instrument settings must be based on current information. Licensee setpoint control programs must ensure that the official plant records establishing instrument safety settings reflect the appropriate source and revision of manufacturer performance data for the currently-installed equipment.

- Instrument setpoints are based on appropriate and correct scaling information pertinent to the current installation. On occasion, plant configurations change due to equipment replacement or other reasons. (example: Steam generators are upgraded with newer models.) The information used to scale the instruments performing safety related functions must be kept current.
- Carefully controlled procedures implementing the calculation methodology for safety related settings. Typically, the maintenance of these procedures is covered under a licensee configuration control process. This may be accomplished by making reference to the existing plant configuration control process and governing procedures and programs.
- The corrective action program steps applied to a finding, during the performance of a calibration or functional test procedure, that address and clearly document why an instrument channel may be performing outside its anticipated “normal performance” as-found tolerance band. The corrective actions may include re-evaluating the as-found tolerance band through formal engineering analyses, implementing the use of more accurate measurement and test equipment, increasing the required surveillance frequency, or replacing the equipment with new or better performing equipment. In addition to a description of how the licensee implements each of these activities, the setpoint control program must describe how the resulting action will include configuration control for all setpoint calculations, plant configuration documentation, calibration and functional test procedure information, and surveillance frequency control program.

The maintenance of the setpoint control program is a continuous configuration management process that must keep up with plant licensing basis and physical configuration.

Technical Specification Administrative Control Program –Section 5.0 of the Plant Technical Specifications

The licensee submittal for approval of a TSTF-493 Option B Setpoint control program must contain a proposed Technical Specification entry describing its Setpoint control program. This description must, as noted above, describe not only the process for establishment and maintenance of instrument channel settings under the scope of TSTF-493 Option B, but also the program which maintains configuration control over all related plant configuration documentation, calibration and surveillance test procedures, corrective action programs, and surveillance frequency control program.

The licensee submittal must state exactly where the details of this program will be documented (e.g., FSAR, Technical Requirements Manual, etc.). The submittal must also contain the actual proposed wording to be used for entry of this information into the FSAR or Technical Requirements Manual.

Once the licensee has implemented the NRC-approved Setpoint Control Program, (SCP) the licensee shall provide a letter to the NRC Project Manager notifying the NRC staff of the occurrence of any changes made under this SCP to the LTSP, NTSP, AV, ALT, or AFT associated with the functions covered within the scope of the licensee’s

SCP. Such a letter shall be received by the NRC Project Manager within 60 days following the implementation of any such change. The letter shall specify the date of implementation of the new setting, the specific safety function affected, the Technical Specification Table previously applicable, the specific term (i.e., NTSP, LTSP, AV, ALT, or AFT) impacted by the change, the old value, and the new value. This letter shall be kept on the docket for use in identifying future NRC staff inspection activities.

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