



## U.S. NUCLEAR REGULATORY COMMISSION STANDARD REVIEW PLAN

### 16.0 TECHNICAL SPECIFICATIONS

#### REVIEW RESPONSIBILITIES

**Primary -** Organization responsible for the review of technical specifications

**Secondary -** None

#### I. AREAS OF REVIEW

10 CFR 50.36 requires that each operating license issued by the Commission contain technical specifications (TS) that set forth the limits, operating conditions, and other requirements imposed upon facility operation for the protection of public health and safety. As part of the regulatory standardization effort, the staff has prepared standard technical specifications (STS) for each of the light-water reactor nuclear steam supply systems (NSSSs) and associated balance-of-plant equipment systems. These STS are subject to revision, and the latest versions are available from the NRC website at <http://www.nrc.gov>.

The initial implementation of the STS program was made on the D. C. Cook operating license issued in October 1974. All subsequent operating licenses issued under 10 CFR-Part 50 utilized the appropriate STS as the basis for issuance of Appendix A of licenses, "Technical Specifications." A completely rewritten and significantly improved STS set (NUREG 1430 through NUREG 1434) was developed under the NRC Technical Specifications Improvement Program and issued in September 1992, completely replacing the previous STS. Crystal River Unit 3 was the first to implement these STS in October 1993. Numerous STS changes have been made since 1992 by a joint NRC-industry STS change process designed to ensure incorporation of a change into the STS only after industry (represented by the owners group

**Draft Revision 32 - ~~March~~ July 20079**

#### USNRC STANDARD REVIEW PLAN

This Standard Review Plan, NUREG-0800, has been prepared to establish criteria that the U.S. Nuclear Regulatory Commission staff responsible for the review of applications to construct and operate nuclear power plants intends to use in evaluating whether an applicant/licensee meets the NRC's regulations. The Standard Review Plan is not a substitute for the NRC's regulations, and compliance with it is not required. However, an applicant is required to identify differences between the design features, analytical techniques, and procedural measures proposed for its facility and the SRP acceptance criteria and evaluate how the proposed alternatives to the SRP acceptance criteria provide an acceptable method of complying with the NRC regulations.

The standard review plan sections are numbered in accordance with corresponding sections in Regulatory Guide 1.70, "Standard Format and Content of Safety Analysis Reports for Nuclear Power Plants (LWR Edition)." Not all sections of Regulatory Guide 1.70 have a corresponding review plan section. The SRP sections applicable to a combined license application for a new light-water reactor (LWR) are based on Regulatory Guide 1.206, "Combined License Applications for Nuclear Power Plants (LWR Edition)."

These documents are made available to the public as part of the NRC's policy to inform the nuclear industry and the general public of regulatory procedures and policies. Individual sections of NUREG-0800 will be revised periodically, as appropriate, to accommodate comments and to reflect new information and experience. Comments may be submitted electronically by email to [NRR\\_SRP@nrc.gov](mailto:NRR_SRP@nrc.gov).

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Technical Specifications Task Force (TSTF)) and NRC staff agree to the change (Note that the staff also may incorporate a change without industry concurrence when warranted). Since 1993, a majority of plants currently operating have elected to convert existing TS to improved TS (ITS) based on the applicable STS. A plant may not have incorporated in ~~its~~ the ITS some or all of the STS changes approved after submission of the ITS application. A plant with ITS also may deviate from the improved STS because in ~~its~~ the ITS conversion it chose to retain an existing TS provision in place of the corresponding improved STS provision. In accordance with 10 CFR 50.36(d)(2)(iii), a licensee is not required to ~~propose to~~ modify technical specifications that are included in any license issued before August 18, 1995. For these licensees, adoption of ITS and subsequent STS changes is voluntary. Consequently, plants with TS based on the previous STS and plants with custom TS may partially adopt STS provisions without adopting the improved STS format. Copies of travelers for NRC-approved changes to the STS may be obtained from the NRC website at <http://www.nrc.gov>.

An applicant for a construction permit (CP) under 10 CFR 50 is required by 10 CFR 50.34(a)(5) to include in the preliminary safety analysis report (PSAR) "an identification and justification for the selection of those variables, conditions, or other items which are determined as the result of preliminary safety analysis and evaluation to be probable subjects of technical specifications for the facility, with special attention given to those items which may significantly influence the final design." The CP applicant may also propose TS in Section 16 of the PSAR; such TS should be based on the current STS and any approved STS changes not yet incorporated, or the certified generic TS if referencing a certified plant design.

An applicant for an operating license (OL) under 10 CFR 50 is required by 10 CFR 50.34(b)(6)(vi) to include in the final safety analysis report (FSAR) "proposed technical specifications prepared in accordance with the requirements of 10 CFR 50.36." The OL applicant should propose TS based on the current STS and any approved STS changes not yet incorporated, or the certified generic TS if referencing a certified plant design.

10 CFR 52.47(a)(11) and 52.79(a)(30) provides that a design certification (DC) applicant and a combined license (COL) applicant are to propose TS prepared in accordance with 10 CFR 50.36 and 50.36a. COL applicants that reference a certified plant design should propose TS based on the TS approved during the ~~design certification (DC)~~ review. The certified generic TS serve as the standard TS for the certified NSSS design. The applicant may propose ~~deviations~~ ~~departures~~ from the certified generic TS prior to issuance of the COL by requesting an exemption from the associated 10 CFR Part 52 appendix in accordance with 10 CFR 52.7. A holder of a COL may propose changes to the TS in accordance with 10 CFR 52.98 and 10 CFR 50.90 in order to adopt approved changes to the STS when such changes apply. Certified generic TS are not included in the STS change process. ~~Therefore~~, such amendment requests are anticipated to occur for each plant licensed under 10 CFR Part 52.

COL applicants that do not reference a certified plant design should propose TS based on applicable parts of the current STS and certified generic TS, and the design of the proposed NSSS ~~design~~, including the ~~design's~~ accident analyses and the plant's probabilistic risk analysis (PRA). The applicant should review the four 10 CFR 50.36(d)(2)(ii) criteria against the ~~plant's~~ accident analyses, the ~~plant's~~ PRA, and the plant's design to ensure the proposed TS contain limiting conditions for operation (LCOs) for all structures, systems, and components (SSCs) and parameters as required by 10 CFR 50.36(c)(2)(ii) ~~the rule~~, and present the results of this review in its COL application.

An applicant for a COL under 10 CFR 52 should propose TS in Section 16 of the FSAR (plant-specific DCD). The proposed TS should be based on the current STS and any approved STS changes not yet incorporated, or the certified generic TS if referencing a certified plant design.

To support issuance of an OL under 10 CFR 50.57 or a COL under 10 CFR 52.97, the staff must approve the final version of TS, which were originally proposed in the PSAR, FSAR, or generic DCD and subsequently completed as part of the OL or COL application. The approved TS reflect the final refinements in design, test results, and expected method of operation, and are issued with the OL or COL in Appendix A to the license. Compliance with the Appendix A TS is a condition of the license.

The specific areas of review are ~~as the~~ following:

1. ~~An applicant should use the current STS, any approved STS changes not yet incorporated, or the certified generic TS if referencing a certified plant design in proposed Appendix A Technical Specifications items for preliminary safety analysis report (PSAR) Section 16.0 or the plant-specific design certification document (DCD) as appropriate. The proposed TS Appendix A Technical Specifications items are reviewed for whether content and format are consistent with the applicable reference TS (either the current STS, the certified generic TS, or both). Give sSpecial attention is given to TS provisions specifications deviating that depart from the reference TS to determine whether proposed differences are justified by uniqueness in plant design or other considerations.~~

The licensing project manager and the assigned reviewers compare the proposed TS to the reference TS for whether the application states adequate technical justification for each departure from the reference TS. In addition, reviewers verify whether the final numerical values, graphs, and other data are correct; i.e., in conformance with the FSAR.

At the PSAR and DC application stage, numerical values, graphs, and other data are not as complete as necessary for plant operation because of the preliminary nature of the plant design or because determination of specific numerical values is pending future decisions by the OL or COL applicant on selection and procurement of hardware after issuance of the CP or the DC rule. The review of information provided in this area is limited to whether the values reasonably agree with the expected operational capability of the plant, as stated in the PSAR or the generic DCD. At the OL or COL application stage, site-specific information (usually denoted by brackets) in the reference TS must be replaced with the final operational information, which must be in conformance with the FSAR (also referred to as the plant-specific DCD in COL applications).

Each STS NUREG is maintained current and updated by the TSTF traveler process as described on the NRC website at <http://www.nrc.gov> to reflect the following:

- Changes in classes of plants or modifications of NSSSs or balance-of-plant equipment systems.
- Revised regulatory requirements.
- Experience obtained by the staff in reviewing proposed TS changes from licensees.

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- Operational experience obtained from licensees and reviewers responsible for assessment of events at operating plants, development of generic communications, and the operating plant oversight process (inspection program).

~~In particular, this portion of the review determines the acceptability of proposed specification items that describe features affecting the type, capacity, number, or performance of surveillance activities of systems and parameters for which LCOs must be specified, including systems designated by the applicant as nonsafety related as well as safety related.~~

~~At the PSAR or COL application stage, numerical values, graphs, and other data (denoted by brackets in STS Section 16.0 and the generic DCD) are not as complete as necessary for plant operation because of the preliminary nature of the plant design or because determination of specific numerical values is pending future decisions by the licensee on selection and procurement of hardware after issuance of the construction permit or the COL. The review of information provided in this area is limited to whether the values reasonably agree with the expected operational capability of the plant, as stated in the PSAR or the plant-specific DCD. At the final safety analysis report (FSAR) or fuel load authorization stage, bracketed information in the proposed plant-specific TS must be replaced with the final operational information, which must be consistent with the FSAR or plant-specific DCD.~~

~~The licensing project manager and the assigned reviewers compare the proposed TS to the reference TS for whether the application states adequate technical justification for each difference. In addition, reviewers verify whether the final numerical values, graphs, and other data are correct.~~

~~Applicants should use the reference TS as the basis for preparation of proposed Appendix A TS for FSAR Section 16.0. The Appendix A TS in support of an operating license under 10 CFR 50.57 or in support of an authorization to load fuel under 10 CFR 52.103 is the final version of TS originally identified in the PSAR or plant-specific DCD and reflect the final refinements in design, test results, and expected method of operation.~~

~~Each STS NUREG is maintained current and updated by the TSTF traveler process as described on the NRC website at <http://www.nrc.gov> to reflect the following:~~

- ~~• A. Changes in classes of plants or modifications of NSSSs or balance of plant equipment systems.~~
- ~~• B. Revised regulatory requirements.~~
- ~~• C. Experience obtained by the staff in reviewing proposed TS changes from licensees.~~
- ~~• D. Operational experience obtained from licensees and reviewers responsible for assessment of events at operating plants, development of generic communications, and the operating plant oversight process (inspection program).~~

Applicants for COLs wishing to adopt STS changes into the proposed plant-specific TS are responsible for fully describing and justifying in the COL application the consequent

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~~deviations-departures~~ from the certified generic TS for the referenced certified design because certified generic TS are not included in the TSTF traveler process.

2. For an Applications that uses risk-informed decision making for TS, the review will verify that the application ~~should~~ addresses information needs identified in SRP Section 16.1, "Risk-Informed Decision Making:- Technical Specifications."
3. ~~COL Action Items and Certification Requirements and Restrictions.~~ For a DC application, the review will ~~also~~ address the appropriateness of COL items (also referred to as COL license information or action items) and design certification requirements and restrictions (e.g., interface requirements and site parameters).
4. For a COL application, the review will verify that the plant-specific TS are complete. For COL applications referencing a certified plant design the review will verify that the COL applicant has provided site-specific information to resolve COL items included in the referenced generic DCD. Regardless of whether the COL application references a certified plant design, the plant-specific TS issued with the COL must be complete and cannot contain COL items or unresolved site-specific information. Additionally, for COL applications referencing a certified plant design, the COL applicant must address requirements and restrictions (e.g., interface requirements and site parameters) included in the referenced DC.

COL applicants referencing a certified plant design shall propose plant-specific TS containing all site-specific information that is necessary to ensure plant operation within its design basis. The COL applicant shall confirm all preliminary information and provide all missing information that is denoted in the generic TS by bracketed values, reviewer's notes, or any other placeholder. The plant-specific TS issued with the COL will be complete and will contain no COL items for the COL holder to resolve (i.e., completing the plant-specific TS). The COL will contain no license condition on completing the plant-specific TS.

COL applicants shall resolve all generic TS COL items before COL issuance. The COL applicant may propose to resolve each such item using one of the following three options, listed in order of preference:

- (1) Provide a plant-specific value.
- (2) Provide a value that bounds the plant-specific value, but by which the plant may be safely operated (i.e., a useable bounding value).
- (3) Establish a plant-specific TS Section 5.5 or 5.6 administrative controls program or report.

Such an administrative controls TS as described in option (3) shall require (a) use of an NRC-reviewed and -approved methodology for determining the plant-specific value, (b) establishment of an associated document, outside the plant-specific TS, in which the relocated plant-specific value shall be recorded and maintained, and (c) any other information or restrictions the NRC staff deems necessary and appropriate to satisfy 10 CFR 50.36. For example, some COL applicants have proposed an administrative controls technical specification for a setpoint control program to satisfy 10 CFR 50.36 (c)(1)(ii)(A) in lieu of specifying explicit values for the limiting safety settings in the plant-specific TS.

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Options (2) and (3) should allow an applicant to provide the necessary information without relying on information that is impractical to obtain before the time of COL issuance (i.e., information such as design detail, equipment selection, as-built system configuration, and system test results).

~~For a COL application referencing a DC, a COL applicant must address COL action items (referred to as COL license information in certain DCs) included in the referenced DC. Additionally, a COL applicant must address requirements and restrictions (e.g., interface requirements and site parameters) included in the referenced DC.~~

### Review Interfaces

Other SRP sections interface with this section as follows:

1. The TS branch reviewer, with concurrence from applicable technical reviewers, determines the acceptability of plant-specific TS proposed in applications for ~~construction permits~~CPs and ~~operating licenses~~OLs under 10 CFR Part 50 or COLs under 10 CFR Part 52. In particular, the TS branch reviewer and licensing project manager coordinate secondary reviews by technical reviewers, utilizing the current work planning process as follows:
  - A. The technical reviewers determine, as necessary, the validity of plant-specific features, methods, and numerical values proposed by applicants.
  - B. The licensing project manager integrates the TS review effort into the appropriate licensing process and advises the TS branch reviewer of any TS-related matters found deficient during the licensing process.
  - C. The secondary reviewers- report the results of their evaluations as indicated in subsection III of this SRP section.

Usually, TS reviews ~~is are~~ done on a TS section basis by ~~the cognizant~~ TS branch reviewers and technical reviewers from ~~for each section and the applicable technical reviewers~~ responsible technical branches. Technical branches have TS sections within their areas of technical review responsibility as listed ~~Each technical reviewer has TS sections within its area of technical review responsibility as listed~~ in the following table. (Note that in coordinating this review, the licensing project manager should use this table as guidance for preparing technical review assignments using the organizational structure in place at the time of the review.)

TS Section	Technical Areas
1.0 Use and Application	TS, instrumentation and control, core physics, pressure and temperature limits, accident analysis
2.0 Safety Limits (SLs)	TS, pressure and temperature limits, accident analysis, core physics
3.0 LCO Applicability	TS

TS Section	Technical Areas
3.0 Surveillance Requirement (SR) Applicability	TS
3.1 Reactivity Control Systems	TS, core physics, reactor core design, accident analysis
3.2 Power Distribution Limits	TS, core physics, reactor core design, accident analysis
3.3 Instrumentation	TS, instrumentation and control (analog and digital)
3.4 Reactor Coolant System (RCS)	TS, RCS design, mechanical, materials, chemical, RCS over-pressure protection, accident analysis
3.5 Emergency Core Cooling Systems	TS, mechanical, accident analysis
3.6 Containment Systems	TS, mechanical, chemical, accident analysis
3.7 Plant Systems	TS, mechanical, accident analysis, air filtration, heating, ventilation, hydrology (UHS) and air conditioning
3.8 Electrical Power Systems	TS, electrical, mechanical, chemical
3.9 Refueling Operations	TS, accident analysis, instrumentation, reactivity controls
3.10 Special Operations (BWR plants only)	TS, core physics, mechanical, instrumentation and control
4.0 Design Features	TS, fuel design, fuel storage
5.0 Administrative Controls	All technical areas to include but not be limited to TS, reactor core design, mechanical, electrical, quality assurance, radiological controls, core physics, accident analysis, instrumentation, ventilation filter testing, chemical, structural, health physics, accident radiological consequence analysis, human factors, pressure and temperature limits

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TS Section	Technical Areas
<del>1.0 Use and Application</del>	<del>TS, instrumentation and control, core physics, pressure temperature limits, accident analysis</del>
<del>2.0 Safety Limits (SLs)</del>	<del>TS, pressure temperature limits, accident analysis, core physics</del>
<del>3.0 LCO Applicability</del>	<del>TS</del>

TS Section	Technical Areas
<del>3.0 Surveillance Requirement (SR) Applicability</del>	<del>TS</del>
<del>3.1 Reactivity Control Systems</del>	<del>TS, core physics, reactor core design, accident analysis</del>
<del>3.2 Power Distribution Limits</del>	<del>TS, core physics, reactor core design, accident analysis</del>
<del>3.3 Instrumentation</del>	<del>TS, instrumentation and control</del>
<del>3.4 Reactor Coolant System (RCS)</del>	<del>TS, RCS design, mechanical, materials, chemical, RCS over pressure protection, accident analysis</del>
<del>3.5 Emergency Core Cooling Systems</del>	<del>TS, mechanical, accident analysis</del>
<del>3.6 Containment Systems</del>	<del>TS, mechanical, chemical, accident analysis</del>
<del>3.7 Plant Systems</del>	<del>TS, mechanical, accident analysis, air filtration, heating, ventilation, hydrology (UHS) and air conditioning</del>
<del>3.8 Electrical Power Systems</del>	<del>TS, electrical, mechanical, chemical</del>
<del>3.9 Refueling Operations</del>	<del>TS, accident analysis, instrumentation, reactivity controls</del>
<del>3.10 Special Tests (BWR plants only)</del>	<del>TS, core physics, mechanical, instrumentation and control</del>
<del>4.0 Design Features</del>	<del>TS, fuel design, fuel storage</del>
<del>5.0 Administrative Controls</del>	<del>All technical areas to include but not be limited to TS, reactor core design, mechanical, electrical, quality assurance, radiological controls, core physics, accident analysis, instrumentation, ventilation filter testing, chemical, structural, health physics, accident radiological consequence analysis, human factors</del>

2. SRP Section 16.1 provides guidance for reviewing the application of risk-informed decision making to TS.

The specific acceptance criteria and review procedures are contained in the referenced SRP sections.

## II. ACCEPTANCE CRITERIA

### Requirements

Acceptance criteria are based on meeting the relevant requirements of the following Commission regulations:

10 CFR 50.34(b)(6)(vi), 10 CFR 50.36, 10 CFR 50.36a, 10 CFR 52.47(a)(11), and 10 CFR 52.79(a)(30) require that applications include proposed TS.

## SRP Acceptance Criteria

Specific SRP acceptance criteria acceptable to meet the relevant requirements of the NRC's regulations identified above are as follows for the review described in this SRP section. The SRP is not a substitute for the NRC's regulations, and compliance with it is not required. However, an applicant is required to identify differences between the design features, analytical techniques, and procedural measures proposed for its facility and the SRP acceptance criteria and evaluate how the proposed alternatives to the SRP acceptance criteria provide acceptable methods of compliance with the NRC regulations.

The proposed plant-specific TS satisfy 10 CFR 50.34, 10 CFR 50.36, and 10 CFR 50.36a and are therefore acceptable if consistent with the regulatory guidance of the following STS documents and present plant-specific values for parameters at the indicated level of detail:

- NUREG-1430, STS, Babcock and Wilcox Plants
- NUREG-1431, STS, Westinghouse Plants
- NUREG-1432, STS, Combustion Engineering Plants
- NUREG-1433, STS, General Electric Plants, BWR/4
- NUREG-1434, STS, General Electric Plants, BWR/6

In TS change requests for facilities with TS based on previous STS, licensees should comply with comparable provisions in these STS NUREGs to the extent possible or justify deviations from the STS. Acceptable justifications for deviation would include retention of existing TS requirements, nonadoption of STS requirements not represented in existing TS (e.g., an LCO in STS but not in existing TS), editorial preference, facility design, and a technically justified alternative presentation equivalent to the STS intent. In some cases, comparison to the previous STS may help evaluate the proposed changes by clarifying the TS intent. The previous STS NUREGs are as follows:

- NUREG-0103, STS, Babcock and Wilcox Plants
- NUREG-0452, STS, Westinghouse Plants
- NUREG-0212, STS, Combustion Engineering Plants
- NUREG-0123, STS, General Electric Plants

For applicants referencing a certified design, the certified generic TS of the referenced design provide the guidelines for the evaluation of proposed plant-specific TS.

## Technical Rationale

The technical rationale for application of these acceptance criteria to the areas of review addressed by this SRP section is discussed in the following paragraphs:

1. 10 CFR 50.34 requires applicants at the ~~construction permit~~CP stage to justify the selection of those variables, conditions, or other items identified through preliminary safety analysis as probable subjects for plant-specific TS. Special attention should be given to items that could influence the final design significantly. At the ~~operating license~~OL stage, compliance with 10 CFR 50.34 requires applicants to propose TS in accordance with 10 CFR 50.36.  
  
10 CFR 50.34 requirements provide assurance that items requiring special attention at the ~~construction permit~~CP stage are identified sufficiently early to preclude the need for any significant design change to support the facility's final TS. To meet 10 CFR 50.34

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requirements at the ~~operating license~~OL stage requires that the applicant propose TS in accordance with 10 CFR 50.36 and 10 CFR 50.36a. The safety benefit of such a process is addressed in subsection II.2 of this SRP section.

10 CFR 52.47(a)(11) requires DC applications ~~license~~ to include TS prepared in accordance with 10 CFR 50.36 and 10 CFR 50.36a.

10 CFR 52.79(b) requires COL applications ~~license~~ to include TS prepared in accordance with 10 CFR 50.36 and 10 CFR 50.36a.

2. 10 CFR 50.36 requires proposed TS to include the following:

- A. 10 CFR 50.36~~(dc)~~(1)(i)(A) Safety Limits. Safety limits apply to important process variables necessary for an appropriate level of protection for the integrity of certain physical barriers that guard against the uncontrolled release of radioactive material.
- B. 10 CFR 50.36~~(dc)~~(1)(ii)(A) Limiting Safety System Settings. Limiting safety system settings are for automatic protective devices affecting variables with significant safety functions.
- C. 10 CFR 50.36~~(dc)~~(2) LCOs. LCOs are the lowest functional capability or performance levels of equipment required for safe operation of the facility. When a LCO of a nuclear reactor is not met, the licensee must shut down the reactor or follow any remedial action permitted by the TS until the condition can be met. A TS LCO of a nuclear reactor must be established for each item meeting one or more of the following 10 CFR 50.36~~(dc)~~(2)(ii) criteria:
  - (i) Criterion 1. Installed instrumentation ~~that is~~ used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary.
  - (ii) Criterion 2. A process variable, design feature, or operating restriction that is an initial condition of a design-basis accident or transient analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.
  - (iii) Criterion 3. An SSC ~~that is~~ part of the primary success path ~~and which~~ function~~sing~~ or actuates~~ing~~ to mitigate a design-basis accident or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.
  - (iv) Criterion 4. An SSC which operating experience or PRA has shown to ~~be~~ ~~significant~~be significant to public health and safety.
- D. 10 CFR 50.36~~(dc)~~(3) Surveillance Requirements (SRs). SRs ~~are requirements relating to test, calibration, or inspection to assure that the necessary quality of maintain the necessary~~ systems and components ~~quality is maintained, that facility operation will be to operate the facility operation~~ within safety limits, and ~~that the to meet~~ LCOs will be met.

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- E. 10 CFR 50.36(d)(4) Design Features. Design features affect aspects of the facility (e.g., construction materials and geometric arrangements) not covered in the categories described above that, if altered or modified, would have significant effects on safety.
- F. 10 CFR 50.36(d)(5) Administrative Controls. Administrative controls are provisions for organization and management, procedures, record-keeping, review and audit, and reporting necessary ~~for to assure~~ safe operation of the facility.

10 CFR 50.36 requirements provide assurance that essential safety-related items or issues of facility design and operation (i.e., those derived from analyses and evaluations included in the safety analysis report) are identified.

3. 10 CFR 50.36a requires each licensee of a nuclear power reactor to include TS that require (A) operating procedures for the control of effluents and (B) annual reports of the quantity of principal radionuclides released to unrestricted areas in both gaseous and liquid effluents. The STS contain model TS for radiological effluents in Section 5.5, "Programs and Manuals," and Section 5.6, "Reporting Requirements."

### III. REVIEW PROCEDURES

The reviewer will select material from the procedures described below, as may be appropriate for a particular case.

These review procedures are based on the identified SRP acceptance criteria. For deviations from these acceptance criteria, the staff should review the applicant's evaluation of how the proposed alternatives provide an acceptable method of complying with the relevant NRC requirements identified in Subsection II.

1. ~~TS-r~~Review of TS, whether at the CP or OL application stage for 10 CFR Part 50 applications, or at the DC or COL application stage for 10 CFR Part 52 applications, is done item by item for comparability with the applicability, format, and specific content of the reference TS. All differences between the reference TS and its bases and the proposed TS and its ~~b~~-Bases are reviewed for their acceptability based on the specific plant design and other considerations.

For ~~10 CFR Part 50 license~~ OL applications, ~~at the FSAR stage of the review~~ the numerical values, graphs, tables, and other data proposed ~~for each in the plant-specific TS should be as~~ must be complete and consistent with the FSAR and the level of detail ~~as specified~~ in the STS or reference TS. This information is reviewed for compliance with material presented in applicable FSAR ~~portions~~ sections as summarized in the supporting basis for each specification. The OL plant-specific TS bases should also refer to FSAR sections that support and provide clarifying details for each specification. In addition, the OL application should justify any departures from the STS or reference TS.

For ~~10 CFR Part 52~~ COL applications, the numerical values, graphs, tables, and other data proposed in the plant-specific TS must be complete and consistent with the FSAR and the level of detail in the generic TS or reference TS. This information is reviewed for compliance with material presented in applicable FSAR sections as summarized in the supporting basis for each specification. ~~each specification should be as complete as possible and should include the relevant numerical values, graphs, tables, and other data.~~ The FSAR/COL plant-specific TS bases ~~application also~~ should also refer to FSAR

sections that support and provide clarifying details for each specification. In addition, the FSAR/COL application ~~should must~~ justify any ~~deviations departures~~ from the ~~approved~~ referenced certified plant design generic TS ~~for certified plant designs as they relate to selected NSSS vendors.~~

The proposed ~~plant-specific~~ TS bases should justify the specified variables, conditions, or other limitations as those required by 10 CFR 50.36 to be LCO subjects. There should be special attention on areas influenced by the design to minimize subsequent facility modifications or license changes to harmonize the as-built plant and the final TS. ~~In particular, review of TS bases should confirm the design suitability of features and specifications that affect the type, capacity, and number of safety-related systems as well as the surveillance performance capability of safety-related systems.~~

The reviewer consults with specialists in the technical review organizations as necessary to determine the acceptability of proposed plant-specific values.

At the completion of the review a proof-and-review copy of the TS is issued. Each technical reviewer ascertains the acceptability of TS within the reviewer's area of responsibility and advises the TS staff by memorandum of its findings.

2. Additional Review Considerations. Experience reviewing TS changes, developing and revising STS, and developing TS for DCs suggest attention to the following items: (Note that this list is not exhaustive.)

- A. When reviewing a difference between the proposed TS provision and the reference TS provision, verify that the applicant's written technical or administrative reasoning in support of the difference is logical, complete, and clearly written.

Administrative differences like a preference in terminology should be globally consistent in the TS. Editorial differences are usually acceptable in the TS bases provided the intent of the reference TS bases is maintained; however, editorial differences in the phrasing of TS LCO, applicability, action, and surveillance requirements are discouraged and must be given careful consideration to ensure the alternative phrasing is equivalent to the reference TS phrasing and consistency with the format and usage rules embodied in the STS. STS format is important, in some cases conveys meaning, and reflects the incorporation of human factor insights into the STS.

Technical differences must have sound technical justifications. If a justification for a difference refers to a topical report, verify that the conditions for reliance on it are met. Similarly, if a justification refers to an STS generic change traveler, verify whether the traveler is approved by the NRC, all conditions for adopting the traveler are met (as stated in the traveler documentation and the staff safety evaluation if prepared), and any differences between the proposed TS and the traveler also are adequately justified.

- B. The TS bases are not parts of the operating license or COL; however, the reference TS bases have a wealth of information on safety limit or LCO purposes and action and surveillance requirements. Particularly important is the bases description of how the system or parameter addressed by the LCO ~~satisfies~~ ~~40satisfies~~ 10 CFR 50.36(d)(2)(ii). Regardless of any technical differences with

the reference TS bases, the TS review should verify whether the plant-specific TS bases are consistent with the FSAR plant-specific accident analysis and system description. In addition, the TS bases should describe the basis for each TS requirement accurately.

- C. A working understanding of TS application and usage rules and formatting conventions, specified in reference TS Section 1.2, "Logical Connectors," TS Section 1.3, "Completion Time," and TS Section 1.4, "Frequency," and the general LCO and SR specifications specified in TS Section 3.0 is necessary for reviewing TS proposed in operating license or COL applications or in license amendment requests to revise plant-specific TS.
- D. Whenever the technical justification for a proposed difference from the reference TS relies on risk analysis, consult SRP Section 16.1.

- 3. For review of a DC application, the reviewer should follow the above procedures to verify that the design, including requirements and restrictions (e.g., interface requirements and site parameters), set forth in the ~~final safety analysis report (FSAR)~~ generic DCD meets the acceptance criteria. ~~DCs have referred to the FSAR as the design control document (DCD).~~ The reviewer should also consider the appropriateness of identified COL ~~action~~ items. The reviewer may identify additional COL ~~action~~ items; however, to ensure these COL ~~action~~ items are addressed ~~during in~~ a COL application, they should be added to the ~~DC-FSAR~~ generic DCD.

- 4. For review of a COL application, the scope of the review is dependent on whether the COL applicant references a DC, an early site permit (ESP) or other NRC approvals (e.g., manufacturing license, site suitability report or topical report).

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#### IV. EVALUATION FINDINGS

The reviewer verifies that the applicant has provided sufficient information and that the review and calculations (if applicable) support conclusions of the following type to be included in the staff's safety evaluation report (SER). The reviewer also states the bases for those conclusions.

- 1. PSAR Review (CP stage). The applicant's TS submission has been reviewed by the staff. As required by 10 CFR 50.34, the applicant justifies the selection of those variables, conditions, or other items determined from the preliminary safety analysis and evaluation to be probable TS subjects for the facility with special attention to items which may influence the final design significantly.

Proposed TS items in PSAR Section 16-0 have been reviewed with the objective of identifying those that would require special attention at the construction permit stage to preclude any necessity for significant change in design to support the final TS. The proposed TS items are similar to those developed by the staff as STS for plants of similar design. Any items which require special attention at this stage of our review have not been identified.

On this basis, the staff concludes that 10 CFR 50.34 requirements have been met and that the proposed TS items are acceptable.

- 2. FSAR Review (OL stage). The staff concludes that the proposed TS, as amended, satisfy 10 CFR 50.34, 10 CFR 50.36 and 10 CFR 50.36a requirements. This conclusion

is based on the finding that they comply with guidance developed by the staff for plants designed by the (NSSS vendor) as in NUREG-(number) with appropriate modifications for plant-specific considerations.

3. ~~FSAR/DC Review and COL Review Not Referencing a DC.~~ The staff concludes that the proposed TS satisfy 10 CFR 50.34, 10 CFR 50.36, and 10 CFR 50.36a requirements.
4. ~~FSAR/COL Review Referencing a DC.~~ The staff concludes that the proposed TS satisfy 10 CFR 50.34, 10 CFR 50.36, and 10 CFR 50.36a requirements. This conclusion is based upon the finding that the proposed TS comply with the certified generic TS for the [AP1000] [ABWR] [ESBWR] [EPR] [APWR] [certified design acronym]] as in the DCD and 10 CFR Part 52, Appendix [C], with appropriate modifications for plant-specific and other technical considerations. ~~The staff also concludes that the plant-specific TS are complete and contain no COL items.~~

~~For COL reviews, as applicable, the following license condition for technical specifications is incorporated into the license:~~

~~The applicant described the technical specifications and TS Bases and its implementation in conformance with the [reference TS] and 10 CFR 50.34, 50.36, and 50.36a. Final operational values of bracketed parameters, limits, and surveillance acceptance criteria, and final wording of bracketed text shall be incorporated into the TS and TS Bases prior to the initial loading of fuel into the reactor pressure vessel."~~

For DC ~~application generic TS reviews~~ and COL ~~application plant-specific TS reviews~~, the findings will also summarize the staff's evaluation of requirements and restrictions (e.g., interface requirements and site parameters) ~~and COL action items~~ relevant to this SRP section.

## V. IMPLEMENTATION

The staff will use this SRP section in performing safety evaluations of DC applications and license applications submitted by applicants pursuant to 10 CFR Part 50 or 10 CFR Part 52. Except when the applicant proposes an acceptable alternative method for complying with specified portions of the Commission's regulations, the staff will use the method described herein to evaluate conformance with Commission regulations.

The provisions of this SRP section apply to reviews of applications submitted six months or more after the date of issuance of this SRP section, unless superseded by a later revision.

## VI. REFERENCES

1. 10 CFR 50.34, "Contents of Applications."
2. 10 CFR 50.36, "Technical Specifications."
3. 10 CFR 50.36a, "Technical specifications on effluents from nuclear power reactors."
4. NUREG-0103, "Standard Technical Specifications for Babcock and Wilcox Pressurized Water Reactors."

5. NUREG-0123, "Standard Technical Specifications for General Electric Boiling Water Reactors."
6. NUREG-0212, "Standard Technical Specifications for Combustion Engineering Pressurized Water Reactors."
7. NUREG-0452, "Standard Technical Specifications for Westinghouse Pressurized Water Reactors."
8. NUREG-1430, "Standard Technical Specifications, Babcock and Wilcox Plants."
9. NUREG-1431, "Standard Technical Specifications, Westinghouse Plants."
10. NUREG-1432, "Standard Technical Specifications, Combustion Engineering Plants."
11. NUREG-1433, "Standard Technical Specifications, General Electric Plants, BWR/4."
12. NUREG-1434, "Standard Technical Specifications, General Electric Plants, BWR/6."
13. NRC Inspection Manual Chapter IMC-2504, "Construction Inspection Program - Non-ITAAC Inspections," issued April 25, 2006.
14. Letter, Thomas E. Murley to Walter S. Wilgus, dated May 9, 1988, "NRC Staff Review of Nuclear Steam Supply Vendors Owners Groups' Application of The Commission's Interim Policy Statement Criteria to Standard Technical Specifications."
15. SECY-08-0142, dated September 25, 2008, "Change in Staff Position Concerning Information in Plant-Specific Technical Specifications That Combined License Applicants Must Provide to Support Issuance of Combined Licenses."

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PAPERWORK REDUCTION ACT STATEMENT

The information collections contained in the Standard Review Plan are covered by the requirements of 10 CFR Part 50 and 10 CFR Part 52, and were approved by the Office of Management and Budget, approval number 3150-0011 and 3150-0151.

**PUBLIC PROTECTION NOTIFICATION**

The NRC may not conduct or sponsor, and a person is not required to respond to, a request for information or an information collection requirement unless the requesting document displays a currently valid OMB control number.

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