

1 *General Directions: This Model SE provides the format and content to be used when preparing*  
2 *the plant specific SE of an LAR to adopt TSTF 563, Revision 0. The **bolded** bracketed*  
3 *information shows text that should be filled in for the specific amendment; individual licensees*  
4 *would furnish site-specific nomenclature or values for these bracketed items. The italicized*  
5 *wording provides guidance on what should be included in each section and should not be*  
6 *included in the SE.*

7  
8 **DRAFT MODEL SAFETY EVALUATION**  
9 **BY THE OFFICE OF NUCLEAR REACTOR REGULATION**  
10 **TECHNICAL SPECIFICATIONS TASK FORCE TRAVELER**  
11 **TSTF-563, REVISION 0**

12 **“REVISE INSTRUMENT TESTING DEFINITIONS TO INCORPORATE THE SURVEILLANCE**  
13 **FREQUENCY CONTROL PROGRAM”**  
14 **USING THE CONSOLIDATED LINE ITEM IMPROVEMENT PROCESS**  
15 **(CAC NO. MF9955, EPID L-2017-PMP-0006)**

16  
17  
18 **1.0 INTRODUCTION**

19  
20 By application dated [enter date] (Agencywide Documents Access and Management System  
21 (ADAMS) Accession No. [MLXXXXXXXXXX]), [as supplemented by letter(s) dated [enter  
22 date(s)]], [name of licensee] (the licensee) submitted a license amendment request (LAR) for  
23 [name of facility (abbreviated name), applicable units].

24  
25 The amendment would revise the current instrumentation testing definitions of Channel  
26 Calibration[[ and Channel Functional Test] OR [, Channel Operational Test (COT), and Trip  
27 Actuation Device Operational Test (TADOT)]] to permit determination of the appropriate  
28 frequency to perform the Surveillance Requirement (SR) based on the devices being tested in  
29 each step. The proposed changes are based on Technical Specifications Task Force (TSTF)  
30 Traveler TSTF-563, Revision 0, “Revise Instrument Testing Definitions to Incorporate the  
31 Surveillance Frequency Control Program,” dated May 10, 2017 (ADAMS Accession  
32 No. ML17130A819). The U.S. Nuclear Regulatory Commission (NRC or the Commission)  
33 issued a final safety evaluation (SE) approving TSTF-563, Revision 0, on [enter date] (ADAMS  
34 Accession No. [MLXXXXXXXXXX]).

35  
36 {NOTE: TSTF-563 is only applicable to plants that have already adopted TSTF-425 or have an  
37 approved SFCP that uses NEI 04-10.}

38  
39 An SFCP was incorporated into the [PLANT] TS in a license amendment dated [enter date]  
40 (ADAMS Accession No. [MLXXXXXXXXXX]).

41  
42 [[The licensee has proposed variations from the TS changes described in TSTF-563. The  
43 variations are described in Section 2.2.1 of this SE and evaluated in Section 3.1.] OR [The  
44 licensee is not proposing any variations from the TS changes described in TSTF-563 or  
45 the applicable parts of the NRC staff’s SE of TSTF-563.]]

1 **[The supplemental letters dated [enter date(s)], provided additional information that**  
2 **clarified the application, did not expand the scope of the application as originally**  
3 **noticed, and did not change the NRC staff’s original proposed no significant hazards**  
4 **consideration determination as published in the *Federal Register* on [enter date] (cite FR**  
5 **reference).]**  
6

7 **2.0 REGULATORY EVALUATION**  
8

9 **2.1 DESCRIPTION OF SURVEILLANCE FREQUENCY CONTROL PROGRAM AND**  
10 **INSTRUMENT TESTING**  
11

12 The technical specifications (TSs) require the surveillances for instrumentation channels to be  
13 performed within the specified frequency, using any series of sequential, overlapping, or total  
14 channel steps. TSTF-425, Revision 3, “Relocate Surveillance Frequencies to Licensee  
15 Control – RITSTF [Risk-Informed TSTF] Initiative 5b,” revised the TSs to relocate all periodic  
16 surveillance frequencies to licensee control. Changes to the relocated surveillance frequencies  
17 are made in accordance with the TS program referred to as the Surveillance Frequency Control  
18 Program (SFCP). The SFCP allows a new surveillance frequency to be determined for the  
19 channel, but that frequency must consider all components in the channel and applies to the  
20 entire channel.  
21

22 A typical instrument channel consists of many different components, such as sensors, rack  
23 modules, and indicators. These components have different short-term and long-term  
24 performance (drift) characteristics, resulting in the potential for different calibration frequency  
25 requirements. Under the current TSs, the most limiting component calibration frequency for the  
26 channel must be chosen when a revised frequency is considered under the SFCP. As a result,  
27 all components that makeup a channel must be calibrated at a frequency equal to the channel  
28 component with the shortest (i.e., most frequent) surveillance frequency.  
29

30 Some channel components, such as pressure transmitters, are very stable with respect to drift  
31 and could support a substantially longer calibration frequency than the other components in the  
32 channel. Currently, the SRs in many plants are performed in steps (e.g., a pressure sensor or  
33 transmitter is calibrated during a refueling outage and the rack signal conditioning modules are  
34 calibrated while operating at power). The proposed change extends this concept to permit the  
35 surveillance frequency of each step to be determined under the SFCP based on the  
36 component(s) surveilled in the step instead of all components in the channel. This will allow  
37 each component to be tested at the appropriate frequency based on the component’s long-term  
38 performance characteristics.  
39

40 Allowing an appropriate surveillance frequency for performing a channel calibration on each  
41 component or group of components could reduce radiation dose associated with in-place  
42 calibration of sensors, reduce wear on equipment, reduce unnecessary burden on plant staff,  
43 and reduce opportunities for calibration errors.  
44

45 **2.2 PROPOSED CHANGES TO THE TECHNICAL SPECIFICATIONS**  
46

47 Currently, the Channel Calibration[[ **and Channel Functional Test**] **OR** [, **COT, and TADOT**]]  
48 may be performed by any series of sequential, overlapping or total channel steps. The  
49 proposed changes to the TSs would revise the definitions of Channel Calibration[[ **and Channel**  
50 **Functional Test**] **OR** [, **COT, and TADOT**]] to indicate that the step must be performed within

1 the most limiting frequency for the components included in that step by adding the words “, and  
2 each step must be performed within the Frequency in the Surveillance Frequency Control  
3 Program for the devices included in the step” at the end of the last sentence of each definition.  
4

5 The following paragraph denotes the changes to the Channel Calibration definition. Changes  
6 are shown in italics:  
7

8 *{NOTE: For B&W, CE, and GE plant designs use this paragraph.}*  
9

10 **[A CHANNEL CALIBRATION shall be the adjustment, as necessary, of the**  
11 **channel output such that it responds within the necessary range and**  
12 **accuracy to known values of the parameter that the channel monitors. The**  
13 **CHANNEL CALIBRATION shall encompass all devices in the channel**  
14 **required for channel OPERABILITY and the CHANNEL FUNCTIONAL TEST.**  
15 **Calibration of instrument channels with resistance temperature detector**  
16 **(RTD) or thermocouple sensors may consist of an inplace qualitative**  
17 **assessment of sensor behavior and normal calibration of the remaining**  
18 **adjustable devices in the channel. The CHANNEL CALIBRATION may be**  
19 **performed by means of any series of sequential, overlapping, or total**  
20 **channel steps, and each step must be performed within the Frequency in**  
21 **the Surveillance Frequency Control Program for the devices included in the**  
22 **step.]**  
23

24 *{NOTE: For Westinghouse plant designs use this paragraph.}*  
25

26 **[A CHANNEL CALIBRATION shall be the adjustment, as necessary, of the**  
27 **channel output such that it responds within the necessary range and**  
28 **accuracy to known values of the parameter that the channel monitors. The**  
29 **CHANNEL CALIBRATION shall encompass all devices in the channel**  
30 **required for channel OPERABILITY. Calibration of instrument channels**  
31 **with resistance temperature detector (RTD) or thermocouple sensors may**  
32 **consist of an inplace qualitative assessment of sensor behavior and**  
33 **normal calibration of the remaining adjustable devices in the channel. The**  
34 **CHANNEL CALIBRATION may be performed by means of any series of**  
35 **sequential, overlapping, or total channel steps, and each step must be**  
36 **performed within the Frequency in the Surveillance Frequency Control**  
37 **Program for the devices included in the step.]**  
38

39 *{NOTE: For B&W, CE, and GE plant designs use this paragraph.}*  
40

41 **[The following paragraph denotes the changes to the Channel Functional Test definition.**  
42 **Changes are shown in italics:**  
43

44 **...The CHANNEL FUNCTIONAL TEST may be performed by means of any**  
45 **series of sequential, overlapping, or total [channel] steps, and each step**  
46 **must be performed within the Frequency in the Surveillance Frequency**  
47 **Control Program for the devices included in the step.]**  
48

49 *{NOTE: For Westinghouse plant designs use this paragraph.}*  
50

1 [The following paragraphs denote the changes to the COT and TADOT definitions.  
2 Changes are shown in italics:

3  
4 **A COT shall be the injection of a simulated or actual signal into the channel  
5 as close to the sensor as practicable to verify OPERABILITY of all devices  
6 in the channel required for channel OPERABILITY. The COT shall include  
7 adjustments, as necessary, of the required alarm, interlock, and trip  
8 setpoints required for channel OPERABILITY such that the setpoints are  
9 within the necessary range and accuracy. The COT may be performed by  
10 means of any series of sequential, overlapping, or total channel steps, *and*  
11 *each step must be performed within the Frequency in the Surveillance*  
12 *Frequency Control Program for the devices included in the step.***

13  
14 **A TADOT shall consist of operating the trip actuating device and verifying  
15 the OPERABILITY of all devices in the channel required for trip actuating  
16 device OPERABILITY. The TADOT shall include adjustment, as necessary,  
17 of the trip actuating device so that it actuates at the required setpoint  
18 within the necessary accuracy. The TADOT may be performed by means of  
19 any series of sequential, overlapping, or total channel steps, *and each step*  
20 *must be performed within the Frequency in the Surveillance Frequency*  
21 *Control Program for the devices included in the step.]***

22  
23 The various instrumentation functions in the TSs require surveillances to verify the correct  
24 functioning of the instrument channel. The proposed change extends the definition of  
25 instrumentation channel components to permit the surveillance frequency of each step to be  
26 determined under the SFCP based on the component(s) surveilled in the step instead of all  
27 components in the channel. This will allow each component to be tested at the appropriate  
28 frequency based on the component's long-term performance characteristics.

29  
30 The proposed changes in the definition for instrument testing would allow the licensee to control  
31 the frequency of associated components being tested in each step. The SR for the overall  
32 instrumentation channel remains unchanged. The proposed change has no effect on the  
33 design, fabrication, use, or methods of testing the instrumentation channels and will not affect  
34 the ability of the instrumentation to perform the functions assumed in the safety analysis.

35  
36 These instrumentation testing definitions state that, "[t]he [test type] may be performed by  
37 means of any series of sequential, overlapping, or total channel steps." The surveillance  
38 frequency of these subsets would be established based on the characteristics of the  
39 components in the step rather than the most limiting component characteristics in the entire  
40 channel. Each of these steps are evaluated in accordance with the SFCP.

#### 41 42 2.2.1 Variations from TSTF-563

43  
44 *{NOTE: Technical reviewers and/or project manager are to assess the adequacy of any*  
45 *variations from the approved traveler and document their acceptability. Choose the applicable*  
46 *paragraphs based on information provided in the LAR.}*

47  
48 **[The licensee is proposing the following variations from the TS changes described in**  
49 **TSTF-563 or the applicable parts of the NRC staff's SE of TSTF-563. [Describe the**

1 variations and why TSTF-563 is still applicable.] These variations do not affect the  
2 applicability of TSTF-563 or the NRC staff's SE to the proposed LAR.]

3  
4 [The [PLANT] TSs utilize different [numbering][and][titles] than the Standard Technical  
5 Specifications on which TSTF-563 was based. Specifically, [describe differences  
6 between the plant-specific TS numbering and/or titles and the TSTF-563 numbering  
7 and/or titles.] These differences are editorial and do not affect the applicability of  
8 TSTF-563 to the proposed LAR.]

9  
10 [The [PLANT] design is different than the model plant assumed in the Standard Technical  
11 Specifications, but the TSTF-563 justification and the NRC staff's SE are still applicable.  
12 [Describe differences and why TSTF-563 is still applicable.]]

### 13 14 2.3 APPLICABLE REGULATORY REQUIREMENTS AND GUIDANCE

15  
16 Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.36(a)(1) requires each  
17 applicant for a license authorizing operation of a utilization facility to include in the application  
18 proposed TSs.

19  
20 The regulation at 10 CFR 50.36(b) requires:

21  
22 Each license authorizing operation of a ...utilization facility ...will include  
23 technical specifications. The technical specifications will be derived from the  
24 analyses and evaluation included in the safety analysis report, and amendments  
25 thereto, submitted pursuant to [10 CFR] 50.34 ["Contents of applications;  
26 technical information"]. The Commission may include such additional technical  
27 specifications as the Commission finds appropriate.

28  
29 The categories of items required to be in the TSs are provided in 10 CFR 50.36(c). One such  
30 category is SRs, which are defined in 10 CFR 50.36(c)(3) as "requirements relating to test,  
31 calibration, or inspection to assure that the necessary quality of systems and components is  
32 maintained, that facility operation will be within safety limits, and that the limiting conditions for  
33 operation will be met."

34  
35 The regulation at 10 CFR 50.36(c)(5) requires TSs to include administrative controls, which "are  
36 the provisions relating to organization and management, procedures, recordkeeping, review and  
37 audit, and reporting necessary to assure operation of the facility in a safe manner."

38  
39 Traveler TSTF-425 revised and relocated most periodic surveillance frequencies to licensee  
40 control. Changes to the relocated surveillance frequencies are made in accordance with the  
41 SFCP. The SFCP requires that changes to the relocated frequencies be made in accordance  
42 with NRC staff approved topical report NEI 04-10.

43  
44 Topical report NEI 04-10 describes an evaluation process and a multi-disciplinary plant  
45 decisionmaking panel that considers the detailed evaluation of proposed surveillance frequency  
46 revisions. The evaluations are based on operating experience, test history, manufacturers'  
47 recommendations, codes and standards, and other deterministic factors, in conjunction with risk  
48 insights. The evaluation considers all components being tested by the SR. Process elements  
49 are included for determining the cumulative risk impact of the changes, updating the licensee's

1 probabilistic risk assessment (PRA) models, and for imposing corrective actions, if necessary,  
2 following implementation of a revised frequency.

3  
4 The NRC staff's guidance for the review of TSs is in Chapter 16.0, "Technical Specifications," of  
5 NUREG-0800, Revision 3, "Standard Review Plan for the Review of Safety Analysis Reports for  
6 Nuclear Power Plants: LWR [Light-Water Reactor] Edition" (SRP), March 2010 (ADAMS  
7 Accession No. ML100351425). As described therein, as part of the regulatory standardization  
8 effort, the NRC staff has prepared STS for each of the LWR nuclear designs. Accordingly, the  
9 NRC staff's review includes consideration of whether the proposed changes are consistent with  
10 the applicable reference STS (i.e., the current STS), as modified by NRC-approved Travelers.  
11 In addition, the guidance states that comparing the change to previous STS can help clarify the  
12 TS intent.

13  
14 Regulatory Guide (RG) 1.174, Revision 2, "An Approach for Using Probabilistic Risk  
15 Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis"  
16 (ADAMS Accession No. ML100910006), describes an acceptable risk-informed approach for  
17 assessing the nature and impact of proposed permanent licensing basis changes by  
18 considering engineering issues and applying risk insights. This regulatory guide also provides  
19 risk acceptance guidelines for evaluating the results of such evaluations.

20  
21 RG 1.177, Revision 1, "An Approach for Plant-Specific, Risk-Informed Decisionmaking:  
22 Technical Specifications" (ADAMS Accession No. ML100910008), describes an acceptable  
23 risk-informed approach specifically for assessing proposed TS changes.

24  
25 RG 1.200, "An Approach for Determining the Technical Adequacy of Probabilistic Risk  
26 Assessment Results for Risk-Informed Activities" (ADAMS Accession No. ML090410014),  
27 describes an acceptable approach for determining the technical adequacy of PRAs.

28  
29 The NRC staff's guidance for evaluating the technical basis for proposed risk-informed  
30 changes is provided in SRP, Chapter 19, Section 19.2, "Review of Risk Information Used to  
31 Support Permanent Plant-Specific Changes to the Licensing Basis: General Guidance"  
32 (ADAMS Accession No. ML071700658). The NRC staff's guidance on evaluating PRA  
33 technical adequacy is provided in SRP, Chapter 19, Section 19.1, Revision 3, "Determining the  
34 Technical Adequacy of Probabilistic Risk Assessment for Risk-Informed License Amendment  
35 Requests After Initial Fuel Load" (ADAMS Accession No. ML12193A107). More specific  
36 guidance related to risk-informed TS changes is provided in SRP, Chapter 16, Section 16.1,  
37 Revision 1, "Risk-Informed Decision Making: Technical Specifications" (ADAMS Accession  
38 No. ML070380228), which includes changes to surveillance test intervals (STIs) (i.e.,  
39 surveillance frequencies) as part of risk-informed decisionmaking. Section 19.2 of the SRP  
40 references the same criteria as RG 1.177, Revision 1, and RG 1.174, Revision 2, and states  
41 that a risk-informed application should be evaluated to ensure that the proposed changes meet  
42 the following key principles:

- 43
- 44 • The proposed change meets the current regulations, unless it explicitly relates to a  
45 requested exemption or rule change.
  - 46
  - 47 • The proposed change is consistent with the defense-in-depth philosophy.
  - 48
  - 49 • The proposed change maintains sufficient safety margins.
  - 50

- 1 • When proposed changes result in an increase in risk associated with core damage  
2 frequency or large early release frequency, the increase(s) should be small and  
3 consistent with the intent of the Commission's Safety Goal Policy Statement.  
4
- 5 • The impact of the proposed change should be monitored using performance  
6 measurement strategies.  
7

8 *{NOTE: Choose applicable STS}*

9 **[U.S. Nuclear Regulatory Commission, "Standard Technical Specifications, Babcock and  
10 Wilcox Plants," NUREG-1430, Volume 1, "Specifications," and Volume 2, "Bases,"  
11 Revision 4.0, dated April 2012 (ADAMS Accession Nos. ML12100A177 and ML12100A178,  
12 respectively).**

13  
14 **U.S. Nuclear Regulatory Commission, "Standard Technical Specifications, Westinghouse  
15 Plants," NUREG-1431, Volume 1, "Specifications," and Volume 2, "Bases," Revision 4.0,  
16 dated April 2012 (ADAMS Accession Nos. ML12100A222 and ML12100A228, respectively).**

17  
18 **U.S. Nuclear Regulatory Commission, "Standard Technical Specifications, Combustion  
19 Engineering Plants," NUREG-1432, Volume 1, "Specifications," and Volume 2, "Bases,"  
20 Revision 4.0, dated April 2012 (ADAMS Accession Nos. ML12102A165 and ML12102A169,  
21 respectively).**

22  
23 **U.S. Nuclear Regulatory Commission, "Standard Technical Specifications, General  
24 Electric BWR/4 Plants" NUREG-1433, Volume 1, "Specifications," and Volume 2, "Bases,"  
25 Revision 4.0, dated April 2012 (ADAMS Accession Nos. ML12104A192 and ML12104A193,  
26 respectively).**

27  
28 **U.S. Nuclear Regulatory Commission, "Standard Technical Specifications, General  
29 Electric BWR/6 Plants" NUREG-1434, Volume 1, "Specifications," and Volume 2, "Bases,"  
30 Revision 4.0, dated April 2012 (ADAMS Accession Nos. ML12104A195 and ML12104A196,  
31 respectively).]**

### 32 33 **3.0 TECHNICAL EVALUATION**

34  
35 Revising the frequency of a Channel Calibration[**and Channel Functional Test**] OR [, COT,  
36 **and TADOT**]] instrument channel under the SFCP requires assurance that component  
37 performance characteristics, such as drift between each test, will not result in undetected  
38 instrument errors that exceed the assumptions of the safety analysis and supporting instrument  
39 loop uncertainty calculations. These requirements are consistent with the methodology  
40 described in NEI 04-10, which the SFCP requires to be followed. The SFCP does not permit  
41 changes to the TS Allowable Values or Nominal Trip Setpoints; but allows only the surveillance  
42 frequency to be changed when determined permissible by NEI 04-10. Therefore, prior to  
43 extending the test intervals for an instrument channel component or components associated  
44 with a given calibration step, the component performance characteristics must be evaluated to  
45 verify the Allowable Value or Nominal Trip Setpoint will still be valid and to establish a firm  
46 technical basis supporting the extension. In addition, each change must be reviewed by the  
47 licensee to ensure the applicable uncertainty allowances are conservative (bounding) (e.g.,  
48 sensor drift, rack drift, indicator drift). Documentation to support the changes shall be retained  
49 per the guidance in NEI 04-10.  
50

1 Five key safety principles that must be evaluated before changing any surveillance frequency  
2 are identified in Section 3.0 of NEI 04-10. Principle 3 requires confirmation of the maintenance  
3 of safety margins, which, in this case, includes performance of deterministic evaluations to  
4 verify preservation of instrumentation trip setpoint and indication safety margins.

5  
6 The evaluation methodology specified in NEI 04-10 also requires consideration of common  
7 cause failure effects and monitoring of the instrument channel component performance  
8 following the frequency change to ensure channel performance is consistent with the analysis to  
9 support an extended frequency.

10  
11 The method of evaluating a proposed surveillance frequency change is not dependent on the  
12 number of components in the channel. Each step needs to be evaluated to determine the  
13 acceptable surveillance frequency for that step. The proposed change to permit changing the  
14 surveillance frequency of channel component(s) does not affect the test method or evaluation  
15 method. The requirement to perform a Channel Calibration, Channel Functional Test, COT, or  
16 TADOT on the entire channel is not changed.

17  
18 For example, an evaluation in accordance with NEI 04-10 may determine that a field sensor  
19 (e.g., a transmitter) should be calibrated every 48 months, the rack modules should be  
20 calibrated every 30 months, and the indicators should be calibrated every 24 months. Under  
21 the current TS requirements, all devices in the channel must be calibrated every 24 months.  
22 However, under the proposed change, sensors, rack modules, and indicators would be  
23 calibrated at the appropriate frequency for the tested devices. As required by the Channel  
24 Calibration definition, the test would still encompass all devices in the channel required for  
25 channel operability.

26  
27 The NEI 04-10 methodology is used to evaluate surveillance frequency changes to determine if  
28 such SR extensions could be applied. Process elements are used to determine the cumulative  
29 risk impact of changes, updating the PRA, and imposition of corrective actions, if needed,  
30 following implementation. Several steps are required by NEI 04-10, Step 7, to be evaluated  
31 prior to determining the acceptability of changes. These steps include history of surveillance  
32 tests, industry and plant specific history, impact on defense-in-depth, vendor recommendations,  
33 required test frequencies for the applicable codes and standards, ensuring that plant licensing  
34 basis would not be invalidated and other factors. The NRC staff finds these measures  
35 acceptable in determining the SR extensions.

36  
37 In addition, Step 16 of Section 4.0 of NEI 04-10 requires an Independent Decisionmaking Panel  
38 (IDP) to review the cumulative impact of all STI changes over a period of time. This is also  
39 required by RGs 1.174 and 1.177. The IDP is comprised of the site Maintenance Rule Expert  
40 Panel, Surveillance Test Coordinator, and Subject Matter Expert who is a cognizant system  
41 manager or component engineer. Based on the above information, the NRC staff finds that the  
42 setpoint changes will be tracked in an acceptable manner.

43  
44 Licensees with an SFCP may currently revise the surveillance frequency of instrumentation  
45 channels. The testing of these channels may be performed by means of any series, sequential,  
46 overlapping, or total channel steps. However, all required components in the instrumentation  
47 channel must be tested in order for the entire channel to be considered Operable.

48  
49 The NRC staff notes that industry practice is to perform instrument channel surveillances, such  
50 as Channel Calibrations and Channel Functional Tests, using separate procedures based on



1 the location of the components. Each of these procedures may be considered a “step.” The  
2 results of all these procedures are used to satisfy the SR using the existing allowance to  
3 perform it “by means of any series of sequential, overlapping, or total channel steps.” The  
4 proposed changes would allow for determining an acceptable surveillance frequency for each  
5 step.  
6

7 The NRC staff notes that the NEI 04-10 methodology includes the determination of whether the  
8 structure, system, and components (SSCs) affected by a proposed change to a surveillance  
9 frequency are modeled in the PRA. Where the SSC is directly or implicitly modeled, a  
10 quantitative evaluation of the risk impact may be carried out. The methodology adjusts the  
11 failure probability of the impacted SSCs based on the proposed change to the surveillance  
12 frequency. Where the SSC is not modeled in the PRA, bounding analyses are performed to  
13 characterize the impact of the proposed change to the surveillance frequency. Potential  
14 impacts on the risk analyses due to screening criteria and truncation levels are addressed by  
15 the requirements for PRA technical adequacy, consistent with the guidance contained in  
16 RG 1.200, and by sensitivity studies identified in NEI 04-10. The licensee is not proposing to  
17 change the methodology, or the acceptance criteria for extending STIs, and licensees will need  
18 to changes in the frequency for performing each of the steps in the instrumentation surveillance  
19 test per the methodology in NEI 04-10.  
20

21 Therefore, the NRC staff concludes that the proposed change determine an acceptable test  
22 frequency for individual steps within instrumentation channel surveillance tests is acceptable  
23 because any extended STIs will be developed within the established constraints of the  
24 SFCP and NEI 04-10.  
25

26 The regulatory requirements in 10 CFR 50.36 are not specific regarding the frequency of  
27 performing surveillance tests. The proposed change only affects the frequency of performance  
28 and does not affect the surveillance testing method or acceptance criteria. Therefore, the  
29 proposed change is consistent with the surveillance testing requirements of 10 CFR 50.36.  
30

### 31 PRA Acceptability 32

33 The guidance in RG 1.200 states that the quality of a licensee’s PRA should be commensurate  
34 with the safety significance of the proposed TS change and the role the PRA plays in justifying  
35 the change. That is, the greater the change in risk or the greater the uncertainty in that risk as a  
36 result of the requested TS change, or both, the more rigor that should go into ensuring the  
37 quality of the PRA.  
38

39 The NRC staff will have performed an assessment of the PRA models used to support the  
40 approved SFCP that uses NEI 04-10, using the guidance of RG 1.200 to assure that the PRA  
41 models are capable of determining the change in risk due to changes to surveillance  
42 frequencies of SSCs, using plant-specific data and models. Capability Category II of the NRC-  
43 endorsed PRA standard is the target capability level for supporting requirements for the internal  
44 events PRA for this application. Any identified deficiencies to those requirements are assessed  
45 further to determine any impacts to proposed decreases to surveillance frequencies, including  
46 the use of sensitivity studies where appropriate, in accordance with NEI 04-10.  
47

48 The SFCP permits revising of the surveillance frequency for instrumentation channels. The  
49 NRC staff evaluated whether NEI 04-10 can be applied to subsets in an instrument channel  
50 when the SFCP currently specifies a surveillance interval that is applied to the entire channel.

1 The NRC staff notes that the current channel surveillance may be performed by means of any  
2 series of sequential, overlapping, or total channel steps. In practice, this means that a channel  
3 is divided into subsets and each subset is tested separately. Therefore, the current instrument  
4 channel testing is already composed of a sequence of individual tests.

5  
6 The instrument function may be modeled in the PRA differently depending on the site and the  
7 function (e.g., channel may be modeled individually, subsets may be modeled, or the channel  
8 function may be modeled as a single entity). There are different steps through the evaluation  
9 methodology in NEI 04-10 that could be used based on the different PRA modeling approaches.  
10 The appropriate modeling of these different approaches is included in the NRC staff's review of  
11 the PRA modeling during the review of the application to implement an SFCP that uses  
12 NEI 04-10.

13  
14 The licensee is using a PRA that was used to support their application that implemented an  
15 SFCP that uses NEI 04-10. The amendment will change the capability of the licensee to  
16 change the surveillance frequency of an entire channel to now change the frequency of each  
17 subset of the channel. The NRC staff finds that changes to the surveillance frequency caused  
18 by defining and using individual, testable component subsets can be appropriately evaluated  
19 with the current SFCP and the current PRAs. The NRC staff finds that the risk-informed  
20 methodology review and the PRA acceptability review that was performed during the review of  
21 the licensee's application to implement an SFCP that uses NEI 04-10 is adequate.

22  
23 The NRC staff determined that the proposed changes to the TS meet the standards for TS in  
24 10 CFR 50.36(b). The regulations at 10 CFR 50.36 require that TSs include items in specified  
25 categories, including SRs. The proposed changes modify the definitions applicable to  
26 instrumentation channel components but do not alter the technical approach that was approved  
27 by the NRC in NEI 04-10, and the TSs, as revised, continue to specify the appropriate SRs for  
28 tests and inspections to ensure the necessary quality of affected SSCs is maintained.

29  
30 Additionally, the changes to the TS were reviewed and found to be technically clear and  
31 consistent with customary terminology and format in accordance with SRP Chapter 16.0. The  
32 NRC staff reviewed the proposed changes against the regulations and concludes that the  
33 changes continue to meet the requirements of Sections 50.36(b), 50.36(c)(3), and 50.36(c)(5),  
34 of 10 CFR, for the reasons discussed above, and thus provide reasonable assurance that  
35 adoption of these TSs will have the requisite requirements and controls to operate safely.  
36 Therefore, the NRC staff concludes that the proposed TS changes are acceptable.

### 37 38 **[3.1 VARIATIONS FROM TSTF-563**

39  
40 **The licensee described variations from TSTF-563 in Section 2.2 of the LAR. The licensee**  
41 **provided justification for the proposed variations and exceptions. The staff reviewed the**  
42 **justifications and concluded the variations are [not] acceptable because....**

43  
44 **The [PLANT] TSs utilize different [numbering][and][titles] than the Standard Technical**  
45 **Specifications on which TSTF-563 was based. The NRC staff agrees these differences**  
46 **are editorial and do not affect the applicability of TSTF-563 to the proposed LAR.]**

### 47 48 **4.0 STATE CONSULTATION**

49  
50 *{This section is to be prepared by the plant project manager.}*

1  
2 In accordance with the Commission's regulations, the **[Name of State]** State official was notified  
3 of the proposed issuance of the amendment(s) on **[date]**. The State official had **[no]**  
4 comments. **[If comments were provided, they should be addressed here.]**

5  
6 **5.0 ENVIRONMENTAL CONSIDERATION**

7  
8 *{This section is to be prepared by the plant project manager in accordance with current*  
9 *procedures.}*

10  
11 **6.0 CONCLUSION**

12  
13 *{This section is to be prepared by the plant project manager.}*

14  
15 The Commission has concluded, based on the considerations discussed above, that: (1) there  
16 is reasonable assurance that the health and safety of the public will not be endangered by  
17 operation in the proposed manner, (2) there is reasonable assurance that such activities will be  
18 conducted in compliance with the Commission's regulations, and (3) the issuance of the  
19 amendment(s) will not be inimical to the common defense and security or to the health and  
20 safety of the public.

21  
22 **7.0 REFERENCES**

23  
24 *{Optional section to be prepared by the PM and primary reviewers. If document is publicly*  
25 *available, the ADAMS Accession No. should be listed.}*

26  
27 *{NOTE: These are the principal contributors for the model SE of the traveler. Replace these*  
28 *names with those who prepared the plant-specific SE.}*

29  
30 Principal Contributors: M. Chernoff, NRR/DSS  
31 G. Singh, NRR/DE  
32 J. Evans, NRR/DRA

33  
34 Date: September 20, 2018