

Charles R. Pierce
Regulatory Affairs Director

Southern Nuclear
Operating Company, Inc.
40 Inverness Center Parkway
Post Office Box 1295
Birmingham, AL 35201

Tel 205.992.7872
Fax 205.992.7601



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NL-13-1540

U. S. Nuclear Regulatory Commission
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Washington, D. C. 20555-0001

Vogtle Electric Generating Plant
Response to Request for Additional Information on Plant Vogtle License
Amendment Request to Revise Technical Specifications to Implement NEI 06-09,
Revision 0, "Risk-Informed Technical Specifications Initiative 4b, Risk-Managed
Technical Specifications (RMTS) Guidelines"

- References:
1. Southern Nuclear Operating Company Letter, NL-12-1344, dated September 13, 2012, "*License Amendment Request to Implement NEI-06-09, Revision 0, "Risk Informed Technical Specifications Initiative 4b, Risk-Managed Technical Specifications (RMTS) Guidelines"*".
 2. NEI 06-09-A, "*Risk Informed Technical Specifications Initiative 4b, Risk-Managed Technical Specifications (RMTS) Guidelines*", November, 2006.
 3. NRC Letter dated May 16, 2013, "*Vogtle Electric Generating Plant, Units 1 and 2 (VEGP) Request for Additional Information (TAC Nos. ME9555 and ME9556)*".

Ladies and Gentlemen:

By Reference 1, Southern Nuclear Operating Company (SNC) submitted a license amendment request for the Plant Vogtle Technical Specifications (TS) to permit the use of the Risk Managed Technical Specifications per Reference 2.

By Reference 3, NRC requested additional information to facilitate their review.

The Enclosure to this letter contains SNC's response to the NRC questions, which are provided before each SNC response.

Furthermore, SNC proposes to revise the TS mark-up submitted as part of the Reference 1 letter. These changes identify several TS Conditions as loss of functions, which would prohibit intentional entry into a Risk-Informed Completion Time. Also, two LCOs are being removed from the RICT program.

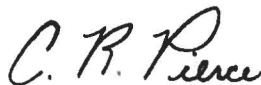
Upon staff agreement with the proposed changes, SNC will promptly provide the updated package to NRC.

This letter contains no NRC commitments.

If you have any questions, please contact Ken McElroy at (205) 992-7369.

Mr. C. R. Pierce states he is Regulatory Affairs Director of Southern Nuclear Operating Company, is authorized to execute this oath on behalf of Southern Nuclear Operating Company and, to the best of his knowledge and belief, the facts set forth in this letter are true.

Respectfully submitted,



Mr. C. R. Pierce
Regulatory Affairs Director

CRP/OCV/

Sworn to and subscribed before me this 2nd day of August, 2013.


Notary Public

My commission expires: 11/30/15

CRP/OCV/<>

Enclosure: Response to NRC Questions

cc: Southern Nuclear Operating Company
Mr. S. E. Kuczynski, Chairman, President & CEO
Mr. D. G. Bost, Executive Vice President & Chief Nuclear Officer
Mr. T. E. Tynan, Vice President – Vogtle
Mr. B. L. Ivey, Vice President – Regulatory Affairs
Mr. B. J. Adams, Vice President – Fleet Operations
RType: CVC7000

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Mr. V. M. McCree, Regional Administrator
Mr. R. E. Martin, NRR Senior Project Manager - Vogtle
Mr. L. M. Cain, Senior Resident Inspector – Vogtle

**Vogtle Electric Generating Plant
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Revision 0, “Risk-Informed Technical Specifications Initiative 4b, Risk
Managed Technical Specifications (RMTS) Guidelines”.**

Enclosure

Response to NRC Questions

NRC question #1

The "Notes" to the list of individual limiting condition for operation (LCO) required actions (RAs) modified in the proposed amendment (list begins on page A1-6, Notes on page A 1-11) identify deviations from TSTF-505, Revision 1, *Provide Risk-Informed Extended Completion Times -RITSTF Initiative 4b* (TSTF-505). Almost one half of the 57 proposed changes are augmented with Notes 1, 2, and 4, which identify substantive differences between the proposed RA and (presumably) an RA that would have been consistent with TSTF-505. The license amendment request (LAR) states that justification for the differences is provided in Enclosure 1 (primarily Table E1.1). However, the justifications provided in the enclosure are simply statements with little discussions specifying why the guidance in the Nuclear Regulatory Commission (NRC) staff's endorsed guidance need not be applied. Please clarify the following issue related to the identified deviations.

- A. Note 1 states that the "RA is consistent with the intent of the standard." Please identify the discussions in the endorsed guidance that identify the "intent" mentioned, describe the procedural and technical aspects that illustrate how that intent is reflected in the endorsed guidance, and explain how your proposal satisfies each of these procedural and technical aspects even though it differs from the endorsed guidance.

For example, the risk managed technical specifications (RMTS) cannot be voluntarily entered on a total loss of specified safety function for the affected Technical Specification (TS) system. Contrary to this, the following conditions would allow voluntary entry for a loss-of-safety function and the proposed required actions would allow the option to calculate a risk informed completion time (RICT).

- TS 3.4.11: Pressurizer Power Operated Relief Valves, Condition F: More than one block valve inoperable.

- B. Note 2 refers to "plant specific conditions" that justify differences. For each of these proposed RAs, please describe the electrical or mechanical or other physical characteristics at your plant that differ from the generic plant characteristics, how the endorsed guidance would have reflected the generic plant characteristics, and how the differing characteristics at your plant justify the different treatment between the endorsed guidance and your proposal.

For example, the RMTS cannot be voluntarily entered on a total loss of specified safety function for the affected TS system. Contrary to this, the following conditions would allow voluntary entry for a loss-of-safety function and the proposed required actions would allow the option to calculate a RICT.

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- TS 3.7.2: Main Steam Isolation Valves (MSIVs)" Condition A and B, one or more steam lines with one/two MSIV systems inoperable in MODE 1.
- C. Note 4 refers to RAs that are "outside the scope of TSTF-505." Examples of some of your proposed RAs that differ from the endorsed guidance are provided below. Please provide the new information that has become available which demonstrates that these RAs should be included in your RMTS program.

For example, only TS LCOs governing system, structures, and components which can be assessed using the configuration risk management program (CRMP) and underlying PRA models may be subject to the RMTS. Contrary to this, the following system, structures, and components are listed as being included in the CRMP.

- TS 3.7.13: Piping Penetration Area Filtration and Exhaust System (PPAFES).
- TS 3.7.14: Engineered Safety Features Room Cooler and Safety Related Chiller System.

In another example, the RMTS cannot be voluntarily entered on a total loss of specified safety function for the affected system. Contrary to this, the following conditions will allow voluntary entry yet are included in the CRMP.

- TS 3.7.2: Main Steam Isolation Valves (MSIVs)" Condition D and E, One or more steam lines with one/two MSIVs inoperable in MODE 2 or 3.
- TS 3.7.3: Main Feedwater Isolation Valves, Conditions A.1, B.1, C.1 and D.1. Also, TSTF-505 excludes application of a RICT to these conditions because they do not specify a restoration action.

In another example, the RMTS does not address variable parameter limits and setpoints. Contrary to this, the LAR applies RMTS to variables not within limits and/or required actions that require restoration of limits or set points.

- TS 3.5.5: Seal Injection Flow.
- TS 3.7.1: Main Steam Safety Valves.
- TS 3.7.6: Condensate Storage Tank -Unit 1 and Unit 2.
- TS 3.8.3: Diesel Fuel Oil, Lube Oil, Starting Air, and Ventilation.

SNC Response:

Many of the items identified as differences in the Vogtle Technical Specifications (TS) License Amendment Request (LAR) to implement the Risk Managed Technical Specifications are identified as such because of differences between the NUREG-1431, Standard Technical Specifications (STS) that were marked-up for TSTF-505, Revision 1, and the Vogtle specific TS that were marked-up for the Vogtle specific change. Therefore, the majority of these identified “differences” are not substantive changes from the endorsed guidance; they arise because of the differences in the way the Conditions and Required Actions (RA) are worded and formatted between the STS and the Vogtle specific TS.

Also, the reference to “plant specific conditions” as a Note 2 difference in the September LAR is referring to plant specific TS Conditions, as well as plant specific system differences that may exist between Plant Vogtle and the systems and components assumed in the STS. In other words, the differing TS Conditions may or may not be due to plant specific equipment differences.

Further explanation of each difference cited in the SNC September submittal is provided below.

Note #1 Differences:

A Note 1 difference was described as follows in the September submittal:

“This RA differs from the Standard Technical Specifications, on which TSTF-505 is based. Completing this RA is consistent with the intent of the standard. Therefore, this difference is considered administrative”.

A brief discussion of each Note 1 difference is presented below, including a side-by-side comparison of Vogtle specific TS and the TSTF-505, Revision 1 Conditions, RAs, and Completion Times (CTs).

The CTs in **bold** have a proposed RICT applied.

1) LCO 3.4.11, Required Action F.2 and F.3:

Vogtle: LCO 3.4.11 Each PORV and associated block valve shall be OPERABLE.

STS: LCO 3.4.11 Each PORV and associated block valve shall be OPERABLE.

Vogtle TS			TSTF-505, Revision 1		
Condition	RA	CT	Condition	RA	CT
F: More than one block valve inoperable	F.1: Place associated PORVs in manual control	1 hour	F: Two [or three] block valves inoperable	F.1: Restore one block valve to OPERABLE status [if three block valves are inoperable]	2 hours
	<u>AND</u>				
	F.2: Restore One Block Valve to OPERABLE status	2 hours			
	<u>AND</u>				
	F.3: Restore remaining block valve to OPERABLE status	72 hours			

SNC proposes RICTs for RAs F.2 and F.3. As seen above, the RA statements F.2 and F.3 in the Vogtle TS are worded and presented differently than RA statement F.1 in the STS. However, in both TSTF-505 and the Vogtle specific TS, a RICT is applied to the Condition of having multiple block valves inoperable; consequently, the intent is the same. This is why the difference is identified as “Administrative”.

The NRC Question also suggested that the “more than one block valve inoperable” Condition represents a loss of function. It does not. The safety function of the block valves is to stop leakage through a stuck open PORV. The two PORVs are in parallel with each other, and the block valves are in series with its respective PORV. Consequently, having two block valves inoperable does not represent a loss of the safety function consistent with the definition of loss of function in the TS Safety Function Determination Program (SFDP) and in the TS Bases, since the OPERABLE PORVs provide a redundant means of leakage prevention.

2) LCO 3.7.4, Atmospheric Relief Valves, Required Action B.1:

Vogtle: LCO 3.7.4 Three ARV lines shall be OPERABLE.

STS: LCO 3.7.4 [Three] ADV lines shall be OPERABLE.

Vogtle TS			TSTF-505, Revision 1		
Condition	RA	CT	Condition	RA	CT
B: Two or more required ARV lines inoperable	B.1: Restore at least two ARV lines to OPERABLE status	24 hours	B: Two or more required ADV lines inoperable	B.1: Restore all but one ADV line to OPERABLE status	24 hours

This was listed as a difference in the Vogtle LAR due to the different wording between the Required Actions, including the difference in designating the valves as “relief” valves in the Vogtle TS and as “dump” valves in the STS. The differences notwithstanding, the TSTF-505 mark-up provides a RICT allowance to a 24 hour front stop for restoring multiple ADVs to OPERABLE status, as does the Vogtle mark-up. Consequently, the intent is the same, and the change is administrative.

3) LCO 3.7.9, “Ultimate Heat Sink”, Required Action B.1:

Vogtle: LCO 3.7.9 The UHS shall be OPERABLE. With ambient wet-bulb temperature > 63°F, four fans and four spray cells per train shall be OPERABLE. With ambient wet-bulb temperature ≤ 63°F, three fans and four spray cells per train shall be OPERABLE.

STS: LCO 3.7.9 The UHS shall be OPERABLE.

Vogtle TS			TSTF-505, Revision 1		
Condition	RA	CT	Condition	RA	CT
B: One NSCW cooling tower with one or more required fans and/or spray cells inoperable	B.1: Restore fan(s) and spray cell(s) to OPERABLE status	72 hours	A: One or more cooling towers with one cooling tower fan inoperable	A.1: Restore cooling tower fan(s) to OPERABLE status	7 days

Again, this was listed as a difference in the Vogtle LAR due to the different wording in the Required Action. The Vogtle specific Condition refers to the “NSCW” (Nuclear Service Cooling Water) cooling towers and the “fans” and “spray cells” for those cooling towers; the RA does likewise. The STS Condition and RA only refer to cooling towers and fans and does not mention the spray cells. Also, the STS Condition is “One or more cooling towers with one cooling tower fan inoperable”, while the Vogtle specific TS refers to *one* cooling tower with one or more fans and/or spray cells inoperable. The intent of the guidance is maintained because the STS applied a RICT to the Condition of cooling towers inoperable as did the Vogtle specific mark-up.

NOTE #2 Differences:

A Note #2 difference was described as follows in the September submittal:

“This RA is associated with a Condition that differs from the Technical Specifications, on which TSTF-505 was based. It is a Plant Specific Condition”.

A brief discussion of each Note 2 is presented below.

1) LCO 3.5.4, “Refueling Water Storage Tank (RWST)”, Required Action B.1:

Vogtle: LCO 3.5.4 The RWST shall be OPERABLE.

STS: LCO 3.5.4 The RWST shall be OPERABLE.

Vogtle TS			TSTF-505, Revision 1		
Condition	RA	CT	Condition	RA	CT
B: One or more sludge pump mixing isolation valves inoperable	B.1: Restore the valve(s) to OPERABLE status	24 hours	N/A	N/A	N/A

This is a Note 2 difference because the Condition B in the Vogtle TS does not exist in the STS. It is a plant specific TS Condition.

The contents of the Vogtle RWST are protected from freezing by a sludge mixing system which includes an electric circulation heater. The heater and the mixing pump connected to the tank are not safety grade or seismically qualified, so an isolation capability is therefore provided to prevent a loss of RWST water volume. When closed, the sludge pump mixing isolation valves isolate the safety related portion of the line (connecting to the RWST) from its non-safety related, non seismically qualified portion of the line.

Such a system is not included in the STS. A RICT was applied to this specification in the Vogtle LAR, which is consistent with the type of Condition, RA, and CT to which RICTs are applied in TSTF-505, Revision 1.

The sludge mixing system is modeled in the PRA. Applying a RICT to the sludge pump mixing isolation valve is therefore within the guidelines of NEI 06-09 and TSTF-505, Revision 1.

2) LCO 3.7.2, “Main Steam Isolation Valves”, Required Actions A.1:

Vogtle: LCO 3.7.2 Two MSIV systems per steam line shall be OPERABLE.

STS: LCO 3.7.2 [Four] MSIVs shall be OPERABLE.

Vogtle TS			TSTF-505, Revision 1		
Condition	RA	CT	Condition	RA	CT
A: One or more steam lines with one MSIV system inoperable in MODE 1	A.1: Restore MSIV to OPERABLE status	72 hours	N/A	N/A	N/A

Two MSIVs are located on each Vogtle steam line; the STS assumes only one per steam line, as stated in the STS Bases. Consequently, there is no corresponding Vogtle Condition A in the STS. Therefore, this is a plant specific TS Condition difference as well as a plant specific equipment difference. Nevertheless, applying a RICT to Vogtle TS Condition A is within the guidelines of TSTF-505 in that the RA is a restorative action.

3) LCO 3.7.2, “Main Steam Isolation Valves”, Required Action B.1:

Vogtle: LCO 3.7.2 Two MSIV systems per steam line shall be OPERABLE.

STS: LCO 3.7.2 [Four] MSIVs shall be OPERABLE.

Vogtle TS			TSTF-505, Revision 1		
Condition	RA	CT	Condition	RA	CT
B: One or more steam lines with two MSIV systems inoperable in MODE 1	B.1: Restore one MSIV system to OPERABLE status in affected steam line	4 hours	A: One MSIV inoperable in MODE 1	A.1: Restore MSIV to OPERABLE status	8 hours
			C: Two or more MSIVs inoperable in MODE 1	C.1: Restore MSIVs to OPERABLE status	1 hour

The difference between the Condition statements (similar to the previous Required Action A.1) resulted in this being categorized as a Note 2 difference. The Vogtle Condition B is analogous to both the STS Condition A and Condition C, since both the Vogtle Condition and the STS Conditions represent a loss of function. Also, STS Condition C is given as a loss of function in the TSTF-505 mark-up. However, the corresponding Condition in the current Vogtle specific TS is not identified as a loss of

function and was thus not translated as a loss of function in the 4b LAR. (The current STS Condition A is also similar to Vogtle Condition B in that it represents a loss of function, but is not identified as such in the current STS, that is, it does not require entry into LCO 3.0.3).

SNC intends to revise the submitted TS pages and list Condition B as a loss of function by adding a NOTE which prohibits voluntary entry into the RICT. The original 4 hour Front Stop will be retained.

4) LCO 3.7.5, “Auxiliary Feedwater System”, Required Action A.1:

Vogtle: LCO 3.7.5 Three AFW trains shall be OPERABLE.

STS: LCO 3.7.5 [Three] AFW trains shall be OPERABLE.

Vogtle TS			TSTF-505, Revision 1		
Condition	RA	CT	Condition	RA	CT
A: One steam supply to turbine driven AFW pump inoperable	A.1: Restore steam supply to OPERABLE status	7 days	A: One steam supply to turbine driven AFW pump inoperable <u>OR</u> One turbine driven AFW pump inoperable in MODE 3 following refueling.	A.1: Restore affected equipment to OPERABLE status	7 days

This is listed as a Note 2 difference because the TS Condition statements are worded differently. The second part of the TSTF Condition (“OR One turbine driven AFW pump inoperable in MODE 3 following refueling”), does not appear in the Vogtle specifications. In both cases, however, (TSTF-505 and the Vogtle specific mark-up) a RICT is applied to the Condition of having the steam supply to the turbine driven AFW out of service; therefore, this difference does not deviate from the intent of the TSTF.

5) LCO 3.7.6, “Condensate Storage Tank (CST)”, Required Action A.1:

Vogtle UNIT 1: LCO 3.7.6 One CST shall be OPERABLE with a safety-related volume \geq 340,000 gallons.

Vogtle UNIT 2: LCO 3.7.6 Two CSTs shall be OPERABLE with:
 a. A combined safety-related volume of \geq 378,000 gallons; and
 b. The CST aligned to supply the auxiliary feedwater pumps shall have a safety-related volume \geq 340,000 gallons.

STS: LCO 3.7.6 The CST shall be OPERABLE

Vogtle TS (Unit 1 CST)			TSTF-505, Revision 1		
Condition	RA	CT	Condition	RA	CT
A: CST volume not within limit	A.1:Align Auxiliary Feedwater pumps to OPERABLE CST	2 hours	A: CST inoperable	A.1: Verify by administrative means OPERABILITY of backup water supply <u>AND</u> A.2 Restore CST to OPERABLE status.	4 hours <u>AND</u> Once per 12 hours thereafter 7 days

Vogtle TS (Unit 2 CST)			TSTF-505, Revision 1		
Condition	RA	CT	Condition	RA	CT
A: CST volume(s) not within limit(s).	A.1:Restore volume(s) to within limit(s)	2 hours	A: CST inoperable	A.1: Verify by administrative means OPERABILITY of backup water supply <u>AND</u> A.2 Restore CST to OPERABLE status.	4 hours <u>AND</u> Once per 12 hours thereafter 7 days

This is listed as a Note 2 difference in the Vogtle LAR because of a difference in the TS Conditions between the Vogtle specific TS and the STS. Vogtle has two CSTs per unit, whereas the STS assume one CST per unit.

The additional volume for the Unit 2 CST is required due to the lack of a bypass line and associated valve bonnet depressurization line for an RHR suction isolation valve. This requires additional time prior to placing RHR Train 'A' in service. The additional time is necessary to ensure the space between suction isolation valves depressurizes sufficiently to allow the suction isolation valves to be opened.

The Unit 1 and Unit 2 LCOs are restorative functions, and are therefore included in the scope of the Vogtle RMTS. Unit 1 is a restorative function in that the Auxiliary Feedwater pumps are re-aligned to an OPERABLE CST. Unit 2 is a restorative function in that returning the volume to within limits returns the CST to OPERABLE status.

The CST volume limits can be included in the scope of the RMTS using the CST itself, which is modeled in the Vogtle PRA, as a surrogate system per the allowance of Section 2.0 of the TSTF-505 justification, "Proposed Change", scope item # 9.

Additionally, a NOTE will be added identifying both the Unit 1 and 2 LCOs as a loss of function. The Note will prohibit voluntary entry.

6) LCO 3.8.1, "AC Sources – Operating", Required Action C.1

Vogtle: LCO 3.8.1 The following AC electrical sources shall be OPERABLE:

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- a. Two qualified circuits between the offsite transmission network and the onsite Class 1E AC Electrical Power Distribution System; and
- b. Two diesel generators (DGs) capable of supplying the onsite Class 1E power distribution subsystem(s).

Automatic load sequencers for Train A and Train B ESF buses shall be OPERABLE.

STS: LCO 3.8.1 The following AC electrical sources shall be OPERABLE:

- a. Two qualified circuits between the offsite transmission network and the onsite Class 1E AC Electrical Power Distribution System,
- b. Two diesel generators (DGs) capable of supplying the onsite Class 1E power distribution subsystem(s), and
- [c. Automatic load sequencers for Train A and Train B.]

Vogtle TS			TSTF-505, Revision 1		
Condition	RA	CT	Condition	RA	CT
C. Required Actions B.2, B.5.1, or B.5.2 and associated Completion Times not met	C.1 Restore DG to OPERABLE status	72 hours	N/A	N/A	N/A

Actions B.2, B.5.1, and B.5.2 refer to the availability of AC sources such as a Start-Up Auxiliary Transformer and a Combustion-Turbine Generator to enable using the 14 day CT on the diesel generator. There is no corresponding Condition in the STS since there is no extended Diesel Generator CT in the STS.

This is listed as a Note 2 difference because Condition C is a plant specific TS Condition. This is the result of a previous Vogtle specific TS change to adopt an extended Risk-Informed Completion Time for the Diesel Generators. Consequently, the 14-day CT is not found in the STS.

Applying a RICT to this Required Action is acceptable since it is a restorative action and the DGs are included in the Vogtle PRA Model.

7) LCO 3.8.4, “DC Sources – Operating”, Required Action A.1 and B.2

Vogtle: LCO 3.8.4 Four class 1E 125 V DC electrical power sources shall be OPERABLE.

STS: LCO 3.8.4 The Train A and Train B DC electrical power subsystems shall be OPERABLE.

Vogtle TS			TSTF-505, Revision 1		
Condition	RA	CT	Condition	RA	CT
A: One DC electrical power source inoperable due to inoperable battery A or B.	A.1: Restore DC electrical power source to OPERABLE status.	24 hours	B: One [or two] battery[y][ies] on one train] inoperable.	B.1: Restore batter[y][ies] to OPERABLE status.	2 hours
B: One DC electrical power source inoperable due to inoperable battery C or D.	B.1: Verify SAT availability <u>AND</u> B.2 Restore DC electrical power source to OPERABLE status	1 hour <u>AND</u> Once per 12 hours thereafter 24 hours			

Although Conditions A and B in the Vogtle mark-up are similar to STS Condition B, they are worded differently, most likely due to the differences between the Vogtle DC system and the DC system assumed in the STS. Therefore this is identified as a Note 2 difference in that it is a plant specific TS Condition.

There are four separate DC systems at Plant Vogtle. Systems A and C are supported by train A electrical distribution, and systems B and D are supported by train B electrical distribution. Each system has a 59 cell, 125 VDC battery and two redundant battery chargers. On the other hand, the STS assumes two DC trains, each with one system consisting of two 125 VDC batteries in series (to obtain the 250 VDC source), and two redundant battery chargers. There is no such Condition (two inoperable batteries) in the Vogtle TS since each system is supplied by only one 125 VDC battery. If Vogtle DC system batteries A and B (Condition A), or C and D (Condition B) were to become

inoperable, this would result in one inoperable power source in each train and entry into LCO 3.0.3 would be required.

Additionally, the Vogtle TS presents the Condition as electrical sources being inoperable due to an inoperable battery. The STS just refers to inoperable batteries.

These system and TS Condition differences notwithstanding, the intent of TSTF-505 is to apply a RICT to the situation of an inoperable battery or batteries; therefore a RICT was applied to the case of one Vogtle DC source being inoperable due to one battery being inoperable.

Furthermore, applying a RICT to this Required Action is acceptable since it is a restorative action and the DC sources are included in the Vogtle PRA model.

NOTE #3 Differences

A Note 3 difference was described as follows in the September submittal:

“This RA differs from the Standard Technical Specifications numbering format, on which TSTF-505 was based. This difference is administrative”.

A brief discussion of each Note #3 difference and, a side-by-side comparison of VEGP specific TS and STS formats is presented below.

1) LCO 3.5.4, “Refueling Water Storage Tank (RWST), Required Action D.1:

Vogtle: LCO 3.5.4 The RWST shall be OPERABLE.

STS: LCO 3.5.4 The RWST shall be OPERABLE.

Vogtle TS			TSTF-505, Revision 1		
Condition	RA	CT	Condition	RA	CT
D: RWST inoperable for reasons other than Condition A or B.	D.1:Restore RWST to OPERABLE status	1 hour	B: RWST inoperable for reasons other than Condition A.	B.1: Restore RWST to OPERABLE status	1 hour

Vogtle Condition A is entered when the RWST boron concentration is not within limits, or when the RWST borated water temperature limits are exceeded. Vogtle Condition B is entered when one or more sludge mixing isolation valves are inoperable.

The STS Condition A is entered when the RWST boron concentration is not within limits, or when the borated water temperature limits are exceeded.

The corresponding Condition and Required Action in the STS are the same except that the numbering is different. Additionally, the sludge pump mixing pump isolation valves do not appear in the STS, which is why Condition B is not mentioned in the TSTF.

However, application of a RICT in the Vogtle specification is acceptable since the TSTF provides a RICT to an inoperable RWST; therefore, the intent is the same.

2) LCO 3.6.6, “Containment Spray and Cooling Systems”, Required Action B.1:

Vogtle: LCO 3.6.6 Two containment spray trains and two containment cooling trains shall be OPERABLE.

STS: LCO 3.6.6A Two containment spray trains and [two] containment cooling trains shall be OPERABLE.

Vogtle TS			TSTF-505, Revision 1		
Condition	RA	CT	Condition	RA	CT
B: One containment cooling train inoperable	B.1: Restore containment cooling train to OPERABLE status	72 hours	C: One [required] containment cooling train inoperable	C.1: Restore [required] containment cooling train to OPERABLE status	7 days

Note 3 is applicable in this case due to the difference in numbering between the respective Conditions. For Vogtle, it’s Condition B, and for the STS, it’s Condition C.

TSTF-505 applies a RICT to the Condition of having one containment cooling train out of service, as does the Vogtle specific mark-up. The intent is therefore the same and the difference is administrative.

3) LCO 3.8.1, “AC Sources Operating”, Required Action D.2

Vogtle: LCO 3.8.1 The following AC electrical sources shall be OPERABLE:
 a. Two qualified circuits between the offsite transmission network and the onsite Class 1E AC Electrical Power Distribution System; and
 b. Two diesel generators (DGs) capable of supplying the onsite Class 1E power distribution subsystem(s).

Automatic load sequencers for Train A and Train B ESF buses shall be OPERABLE.

STS: LCO 3.8.1 The following AC electrical sources shall be OPERABLE:
 a. Two qualified circuits between the offsite transmission network and the onsite Class 1E AC Electrical Power Distribution System,

- b. Two diesel generators (DGs) capable of supplying the onsite Class 1E power distribution subsystem(s), and
- [c. Automatic load sequencers for Train A and Train B.]

Vogtle TS			TSTF-505, Revision 1		
Condition	RA	CT	Condition	RA	CT
D: Two required offsite circuits inoperable	D.1: Declare required feature(s) inoperable when its redundant feature(s) is inoperable. <u>AND</u> D.2: Restore one required offsite circuit to OPERABLE status	12 hours from discovery of Condition D concurrent with inoperability of redundant required features 24 hours	C: Two [required] offsite circuits inoperable	C.1: Declare required feature(s) inoperable when its redundant feature(s) is inoperable. <u>AND</u> C.2: Restore one [required] offsite circuit to OPERABLE status	12 hours from discovery of Condition C concurrent with inoperability of redundant required features 24 hours

Due to the numbering difference in the Condition and Required Actions, (the Vogtle TS is Condition D and the STS is Condition C) this is listed as a Note 3 difference, otherwise, everything else is the same. TSTF-505 applies a RICT to this Condition, as does the Vogtle specific change. Therefore, the intent is the same and the difference is administrative.

4) LCO 3.8.1, “AC Sources – Operating”, Required Actions E.1 and E.2

Vogtle TS			TSTF-505, Revision 1		
Condition	RA	CT	Condition	RA	CT
E: One required offsite circuit inoperable	E.1: Restore required offsite circuit to OPERABLE status.	12 hours	D: One [required] offsite circuit inoperable	D.1: Restore [required] offsite circuit to OPERABLE status.	12 hours
<u>AND</u>			<u>AND</u>		
One DG inoperable	<u>OR</u> E.2: Restore DG to OPERABLE status	12 hours	One [required] DG inoperable	<u>OR</u> D.2: Restore [required] DG to OPERABLE status	12 hours

Due to the numbering difference in the Condition and Required Actions, (the Vogtle TS is Condition E and the STS is Condition D) this is listed as a Note 3 difference, otherwise everything else is the same.

5) LCO 3.8.1, “AC Sources – Operating”, Required Action F.1

Vogtle TS			TSTF-505, Revision 1		
Condition	RA	CT	Condition	RA	CT
F: Two DGs inoperable.	F.1: Restore one DG to OPERABLE status.	2 hours	E: Two [required] DGs inoperable.	E.1: Restore one [required] DG to OPERABLE status.	2 hours

The corresponding Condition and Required Action in the STS are the same as in the Vogtle TS except that they (the STS Conditions and Actions) are numbered as Condition E and Required Action E.1. Therefore, this difference is due solely to the numbering, otherwise, everything else in the same. TSTF-505 applies a RICT to this Condition as does the Vogtle specific mark-up. Consequently, the intent is the same and the difference is administrative.

Also, this Condition will be identified as a loss of function by adding a Note preventing voluntary entry.

6) LCO 3.8.1, “AC Sources – Operating”, Required Action G.1

Vogtle TS			TSTF-505, Revision 1		
Condition	RA	CT	Condition	RA	CT
G: One automatic load sequencer inoperable.	G.1: Restore automatic load sequencer to OPERABLE status.	12 hours	F: One [required] [automatic load sequencer] inoperable.	F.1: Restore [required] [automatic load sequencer] to OPERABLE status.	12 hours

The corresponding Condition and Required Action in the STS is the same as the Vogtle TS except that they (the STS Conditions and Actions) are Condition F and Required Action F.1. Therefore, this difference is due solely to the numbering, everything else is the same. TSTF-505 applies a RICT to this Condition as does the Vogtle specific mark-up. Consequently the intent is the same and the change is administrative.

Note #4 Differences

A Note 4 difference was described as follows in the September submittal:

“This RA is outside the scope of TSTF-505. See Enclosure 1 for the justification provided to include this RA in the scope of the VEGP RICT program”.

1) LCO 3.5.5, “Seal Injection Flow”, Required Action A.1

This specification represents a variable parameter limit, and the corresponding STS LCO is not included in TSTF-505. Therefore, it was identified in the SNC LAR as a Note #4 difference, outside the scope of the TSTF. However, its inclusion into the Vogtle RMTS is justified in the TSTF-505 justification document, Section 2.0, “Proposed Change”, Scope item #9. That section states:

“The Traveler will not modify Required Actions in Conditions in which variables are not within limit unless a modeled system could be used as a surrogate in calculating a RICT.”

Therefore, although this LCO was not included in the TSTF, the TSTF guidance does provide an allowance to include these type of variable limit LCOs; consequently, SNC is including this LCO into their RMTS per this allowance.

In this case, the surrogate system is the Reactor Coolant Pump Seal Injection Valve. As stated in Enclosure 1 of the LAR, by removing this valve from service, the condition can be modeled in the SNC Configuration Risk Management Program (CRMP) Tools.

2) LCO 3.7.1, “Main Steam Safety Valves (MSSVs)”, Required Action A.1 and A.2

This specification does not have a restoration time and thus was not included in TSTF-505. Accordingly, SNC will remove this LCO from the proposed Vogtle RMTS.

3) LCO 3.7.2, “Main Steam Isolation Valves (MSIVs)”, Required Action D.1 and E.1:

A RICT was not included in TSTF-505 for the case of one MSIV inoperable in Modes 2 and 3 presumably because the RA is not a restore Condition. However, the TSTF-505 guidance states in Section 2.0 “Proposed Change”, Scope item #17:

“... the Traveler will only modify Required Actions that specify that a system be restored to Operable status, that require an instrument channel to be placed in trip, or that require isolating an inoperable isolation valve”.

RA D.1 (one MSIV system inoperable in one or more steam lines), as well as RA E.1 (Two MSIV systems inoperable in one or more steam lines), requires isolating an inoperable isolation valve, consequently, SNC is including Conditions D and E into the RMTS per this allowance.

However, recognizing that Condition E, with two MSIVs in one line inoperable, is a loss of function, the Vogtle TS mark-up will be revised to add a Note prohibiting voluntary entry into the RICT. The 4 hour Front Stop will be retained.

4) LCO 3.7.3, “Main Feedwater Isolation Valves (MFIVs)”, Required Action A.1, B.1, C.1, and D.1

Vogtle TS	
Condition	RA
A: One or more MFIVs inoperable	A.1: Close or isolate MFIV.
B. One or more MFRVs inoperable	B.1 Close or isolate MFRV
C. One or more MFRV or MFIV bypass valves inoperable.	C.1 Close or isolate bypass valve D.1 Isolate feedwater line.
D. Both isolation systems inoperable in one or more feedwater lines	

SNC is applying RICTs to all the listed Conditions. None of these were included in TSTF-505 because they are not restore actions. However, these four Required Actions provide for closing an inoperable isolation valve. Therefore, per the allowance of TSTF-505 Scope item #17 quoted in the previous section, SNC is including these Actions in the scope of the Vogtle RMTS.

Also, Condition D represents a loss of function in that isolation capability is lost for that particular line if both isolation valves are inoperable. Therefore, SNC will add a Note preventing voluntary use of a RICT for Condition D. The 8 hour front stop will be retained.

5) LCO 3.7.13, “Piping Penetration Area Filtration and Exhaust System (PPAFES)”, Required Action A.1 and B.1.

A further assessment by SNC has concluded that this system does not affect the CDF or the LERF and a quantitative calculation of RICT cannot be performed. Consequently, SNC Vogtle will remove LCO 3.7.13 from the scope of the RMTS.

6) LCO 3.7.14, “Engineered Safety Features (ESF) Room Cooler and Safety Related Chiller System”, Required Action A.1.

There is no corresponding LCO in the STS, and it was not added to the scope of TSTF-505. Therefore, this is a Vogtle specific TS Condition. This LCO specifies a restoration action and would therefore typically be the kind of LCO included in the RMTS. Room cooling is considered an important support system for SSCs modeled in the PRA. As such, the system is included in the Vogtle PRA, but is not included in the PRA logic model for the following reasons:

Heat up analyses were performed for the rooms that house PRA modeled equipment during the 24 hour mission time, assuming a loss of cooling. The results indicated that the room temperature remained below 150 degree F in all rooms except five. Compensatory action to open doors to the five rooms was required to maintain room temperature below 150 degrees F during the 24 hour mission time. As a result, the heat-up analyses concluded it was not necessary to include room cooling in the PRA model either as an initiating event or a mitigating system. Additionally, it was judged that the human error probability for failing to open the doors is extremely small and has a negligible impact on the core damage frequency and large early release frequency.

VEGP procedures provide guidance on taking the compensatory action of opening doors following loss of room cooling in the five rooms per Unit identified by the PRA.

NEI 06-09, Section 11, provides guidance on including SSCs in the RMTS scope based on the following,

“If the function(s) affected by the condition causing a component to be inoperable is not modeled in the PRA, and the function has been evaluated and documented in the RMTS program as having no risk impact, then the RICT may be calculated assuming availability of the inoperable component and its associated system, subsystem or train.....”

An evaluation of the system’s unavailability can be performed within EOOS and is therefore included in the scope of the Vogtle RMTS per the above referenced allowance of NEI 06-09.

7) LCO 3.8.3, “Diesel Lube Oil, Starting Air, and Ventilation”, Required Action A.1

Condition A in the Vogtle specific LAR reads:

One or more DGs with fuel level < 68,000 gallons and > 52,000 gallons in storage tank.

This condition is a variable parameter limit and is not included in TSTF-505. The TSTF-505 mark-up for this particular specification also states that the final Action for this Condition is to declare the DG inoperable and a RICT is available for that Condition (LCO 3.8.1) Presumably, the drafters of TSTF-505 felt that a RICT for this LCO was unnecessary since one would be available in the LCO for the Diesel Generators.

Nothing, however, prohibits applying the RMTS to this LCO. Again, a variable parameter limit may be included in the RMTS so long as a modeled system can be used as a surrogate in calculating a RICT (TSTF-505, Scope Item #9). In this case, the surrogate system is the storage tank and, in applying a RICT, the tank is assumed to be unavailable.

8) LCO 3.8.3, “Diesel Lube Oil, Starting Air, and Ventilation”, Required Action F.1

Condition F in the Vogtle specific LAR reads:

“One or more DGs with one ventilation supply fan inoperable per DG”.

Required Action F.1 reads:

“Restore ventilation supply fan to OPERABLE status”.

There is no such Condition in the STS, and it was not added to the scope of TSTF-505. That notwithstanding, there is nothing that would prevent this Condition from being included in the RMTS. Its Required Action is a restorative action, and the fans are included in the PRA model ; it is therefore included in the Vogtle specific RICT program.

Note #5 Differences

A Note #5 difference was described in the LAR as follows:

“This RA differs from the Standard Technical Specifications numbering format because the associated Condition has RAs that are plant specific. The difference in numbering is considered administrative because the modified RA is consistent with the RA modified by TSTF-505.”

LCO 3.8.1, “AC Sources – Operating”, Required Action B.6

Vogtle: LCO 3.8.1 The following AC electrical sources shall be OPERABLE:
 a. Two qualified circuits between the offsite transmission network and the onsite Class 1E AC Electrical Power Distribution System; and
 b. Two diesel generators (DGs) capable of supplying the onsite Class 1E power distribution subsystem(s).

Automatic load sequencers for Train A and Train B ESF buses shall be OPERABLE.

STS: LCO 3.8.1 The following AC electrical sources shall be OPERABLE:
 a. Two qualified circuits between the offsite transmission network and the onsite Class 1E AC Electrical Power Distribution System,
 b. Two diesel generators (DGs) capable of supplying the onsite Class 1E power distribution subsystem(s), and
 [c. Automatic load sequencers for Train A and Train B.]

Vogtle TS			TSTF-505, Revision 1		
Condition	RA	CT	Condition	RA	CT
B: One DG inoperable.	B.6 Restore DG to OPERABLE status.	14 days from discovery of failure to meet LCO	B: One [required] DG inoperable.	B.4 Restore [required] DG to OPERABLE status.	72 hours

There are several plant specific ACTIONS associated with Condition B listed in the Vogtle TS prior to RA B.6. To enable use of the existing 14 Day Completion Time, many of the initial Condition B Actions focus on ensuring the availability of alternate AC sources such as a Diesel Generator from a near-by Combustion Turbine Plant. These Actions are not found in the STS.

Required Action B.6 requires restoring the DG to OPERABLE status within 14 days. The corresponding RA in the STS is numbered as B.4 and does not have the 14-day extended Completion Time; it requires returning the DG to OPERABLE in 72 hours.

However, the NEI Guidelines and the TSTF allow applying a RICT to this Condition. The DG is modeled in the Vogtle PRA and the Action is restorative; therefore it is included in the Vogtle specific RICT program.

Additional information related to NRC Question #1, Loss of Function

SNC performed a review of the September 13 submittal, specifically the TS mark-up, to search for additional TS Conditions that may represent a loss of function, beyond those Conditions that were already identified as loss of functions in the SNC September submittal. Eight additional Conditions were found.

Consequently, SNC intends to modify the September 13, 2012 TS proposed revision to include the below listed Conditions as “loss of function” Conditions. For these Conditions, a NOTE will be added indicating that voluntary entry is prohibited. The existing Front Stops for each of the corresponding Completion Times will remain as they are now per the current licensing basis.

Loss of function is defined based on the guidance in the Vogtle TS Safety Function Determination Program (SFDP) and the Vogtle TS Bases. A brief justification is included for each proposed loss of function.

1) LCO 3.4.10, “Pressurizer Safety Valves”, Condition A.1

The Condition reads:

“One pressurizer safety valve inoperable”.

This Condition has a 15 minute Front Stop.

All accident and safety analyses in the FSAR requiring safety valve actuation assumes operation of all three pressurizer safety valves. According to the TS Bases, “An inoperable safety valve coincident with an overpressure event could challenge the integrity of the pressure boundary”.

2) LCO 3.4.11, “Pressurizer Power Operated Relief Valves”, Condition E

The Condition reads:

“Two PORVs inoperable and not capable of being manually cycled”.

This Condition has a one hour front stop.

There are a total of two PORVs. Therefore, losing both constitutes a loss of function for the overpressure function of the PORVs (1 of 2 PORVs required).

3) LCO 3.7.2, “Main Steam Isolation Valves”, Conditions B and E

Conditions B and E are entered with both MSIVs in one line inoperable. Condition B is entered in MODE 1, and Condition E in MODEs 2 or 3.

With both MSIVs in one steam line inoperable, isolation capability is lost in that line, therefore, these Conditions (B and E) represent loss of functions.

4) LCO 3.7.3, “Main Feedwater Isolation Valves (MFIVs)”, and Main Feedwater Regulation Valves (MFRVs) and Associated Bypass Valves, Condition D

Condition D is entered when both the MFIV and the MFRV (which serves as a secondary isolation valve) are inoperable, preventing the safety function of isolating the Main Feedwater Line.

5) LCO 3.8.1, “AC Sources – Operating”, Condition F

Condition F is entered when two DGs are inoperable. According to the TS Bases: “... with an assumed loss of offsite electrical power, insufficient standby AC sources are available to power the minimum required ESF functions”. Therefore, this Condition represents a loss of function.

6) LCO 3.7.6, Condensate Storage Tank (CST) – Condition A, Units 1 and 2

Unit 1 requires one CST to be OPERABLE with its volume within limits. If the one required CST becomes inoperable, the AFW pumps will not have their normal supply available, consequently, this condition represents a loss of function. A note will be added indicating that voluntary entry is prohibited; the 2 hour front stop will be retained.

A similar Note will also be added to the Unit 2 LCO. Even though it requires that two CSTs be OPERABLE, the requirement is for a combined volume. Consequently, if the volume goes outside the limits, the safety function is lost.

NRC Question #2:

If the three notes discussed above do not include all deviations from TSTF-505, please provide all other deviations and provide a technical basis for each deviation.

SNC Response:

All the deviations from TSTF-505 were listed in the September 13, 2012 submittal, and they are all further described in the previous response to NRC Question # 1 above.

NRC question #3:

NRC staff has not located any list in the LAR that provides deviations from NEI 06-09, Revision 0, “Risk Informed Technical Specifications Initiative 4b, Risk Managed Technical Specifications (RMTS) Guidelines,” as endorsed by the NRC staff’s safety evaluation. Please identify all such deviations and provide a technical basis for each deviation.

SNC Response:

Except for the items discussed in the response to Question #1, no known deviations were taken from the NEI 06-09 Guidelines in the proposed Vogtle RMTS, nor are any planned.

NRC Question #4:

The regulations in 10 CFR 50.36 states that:

(b) Each licensee authorizing operation of a production or utilization facility of a type described in 50.21 or 50.22 will include technical specifications. The technical specifications will be derived from the analysis and evaluation included in the safety analysis report, and amendment thereto, submitted pursuant to 50.34. The Commission may include such additional technical specifications as the Commission finds appropriate.

Therefore, 10 CFR 50.36 requires that TS be derived from the analyses and evaluation included in the safety analysis report. This LAR proposed to establish new conditions and required actions which permit application of a RICT when all trains of a TS system are inoperable. These new conditions are restricted to conditions in which at least one train of the TS system retains PRA functionality and the CRMP can discern which TS functions are available and which are failed due to the inoperability. Please address how the VEGP updated final safety analysis report will be revised to reflect the new conditions and required actions.

For example, LCO 3.5.2 ECCS allows calculating a RICT when less than 100% of the ECCS flow equivalent to a single operable ECCS train is available provided at least one train retains PRA functionality. How is the flow rate required to retain PRA functionality calculated, e.g., what assumptions and computer codes are used? Where is the calculation documented? How is the available flow rate determined? How are changes (e.g., fuel reloads) incorporated into the process?

SNC Response:

10 CFR 50.36 addresses the requirements for Technical Specifications. The regulation provides four criteria for determining if a particular system, structure, or component (SSC) should be given a Limiting Condition for Operation (LCO) in the TS. Also, instructions are given for the inclusion of Safety Limits, Limiting Safety System Settings (LSSS), Surveillance Requirements (SR), and Administrative Controls.

The systems selected for LCOs are certainly derived from the safety analyses, as are the safety limits, LSSSs, as well as the setpoints used in the Reactor Protection System, Reactor Trip System and Emergency Core Cooling Systems actuation functions, for example. However, Required Actions and Completion Times (CT), which

are the focus of the Risk Managed Technical Specifications, are not derived from the safety analyses.

Many of the Completion Times are arbitrary, while some may be risk-informed, usually resulting from plant-specific Technical Specifications amendments. There are, however, no FSAR safety related, deterministic, Appendix B calculations which determine Technical Specifications Completion Times.

The proposed Vogtle Risk Managed Technical Specifications will be completely consistent with the requirements of 10 CFR 50.36. As stated in Section 3 of NEI 06-09, *“A RMTS program does not change any of the conventional Technical Specifications LCOs or associated “action statement” requirements. A RMTS program focuses on managing plant risk to prudently allow configuration-based flexible LCO CT values greater than the front-stop CT values ...”*. Accordingly, the LCOs in the Vogtle TS remain those derived from the safety analysis; no SSCs are being eliminated from the TS; the safety limits are not being modified, no changes are proposed to any LSSS or to any other setpoints, and no SRs are being modified. The Administrative Control section of the TS is changing only to describe the RMTS.

In addition, Final Safety Evaluation by the Office of Nuclear Reactor Regulation Topical Report (TR) NEI 06-09, Revision 0 *“Risk-Informed Technical Specifications Initiative 4b, Risk-Managed Technical Specifications (RMTS) Guidelines”* Nuclear Energy Institute Project No. 689 NRC SER on the NEI 06-09 states, *“The methodology for extending CTs does not impact the existing frontstop CTs of the TS. Further, there is no permanent change to the CT of any TS LCO, since configuration-specific risk must always be assessed each time the frontstop CT is to be exceeded, based on the actual status of all SSCs within the scope of the CRMP. The NRC staff considers extensions of TS CTs using TR NEI 06-09, Revision 0, to be temporary changes in plant risk, and the RG 1.177 ICCDP and ICLERP guidelines for AOT changes should not be applied. Therefore, these CT extensions may be assessed and managed using the criteria consistent with NUMARC 93-01.”*

Accordingly, evaluations of a Risk-Informed Completion Time for a specific inoperable TS component are performed using the CRMP Tool derived from the plant specific PRA Model. That model is based on the quality requirements as defined by Reg Guide 1.200 and the Peer Review process documented as part of the LAR. The RICT program is also compliant with the processes consistent with the Maintenance Rule (10 CFR 50.65) and its Reg Guide (1.182).

Consequently, SNC does not believe that 10 CFR 50.36, either implicitly or explicitly, requires a discussion of the *analyses* dealing with Required Actions or Completion Times in the FSAR. In the context of the RMTS, PRA Functionality is used only *after* a particular component has been declared inoperable which, again, is outside of safety analysis space. It is worth noting that the current Standard Technical Specifications describes several Conditions which are loss of functions (or at least loss of all trains)

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where operation is allowed for a certain finite Completion Time, and no FSAR analysis is provided for *those* Completion Times.

The NEI 06-09 Guidelines, TSTF-505 and RG 1.174 would allow the use of a non-safety related, non-Appendix B component (The PRA Models and CRMP Tools) to adjust the Completion Times for certain LCOs based on the specific plant configuration at the time. Therefore, connecting the RICT evaluations done by those tools to an FSAR safety related, Appendix B analysis, is incongruent.

Nevertheless, SNC will voluntarily include a summary of the Risk Informed Completion Time (RICT) program in Chapter 16 of the FSAR, "Technical Specifications". This will include a section on PRA Functionality which will list those conditions which must be satisfied before declaring a component as "PRA Functional" per the NEI 06-09 Guidelines. The section will explicitly state that for a TS component to be considered PRA Functional, its PRA success criteria, among other things, must be satisfied. For example, ECCS flow rates satisfying the PRA criteria are determined by the existing PRA success criteria for that system. Therefore, should an ECCS become inoperable due to failing to meet its required TS SR Flow rate, its Functionality status would depend on whether or not the actual measured flow rate met the PRA success criteria.

Furthermore, the FSAR Chapter 16 RICT discussion will include a section on PRA adequacy. It will state that the on-record PRA model that forms the basis for the VEGP CRM Tool has been developed to the requirements of Reg Guide 1.200, "*An Approach for Determining the Technical Adequacy of Probabilistic Risk Assessment Results for Risk-Informed Activities*", and is subjected to Peer Reviews per the requirements of NRC endorsed applicable PRA standards and SNC procedures. These Peer Reviews are formally documented along with the findings and observations of the review, and their corresponding resolutions.

Please note that a vast majority of the information that will be placed in Chapter 16 can be found in the September 13, 2013 SNC LAR. For example, the success criteria for the various LCOs are provided in Enclosure 1, the update process for the inclusion of design changes, procedure changes, initiating events and failure rates is described in Enclosure 5. Additionally, PRA adequacy is described in Enclosure 2 and PRA Functionality in Enclosure 8 and Attachment 1.