UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

November 13, 2017

Mr. Bryan C. Hanson
Senior Vice President
Exelon Generation Company, LLC
President and Chief Nuclear Officer
Exelon Nuclear
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: CALVERT CLIFFS NUCLEAR POWER PLANT, UNITS 1 AND 2 – REQUEST FOR ADDITIONAL INFORMATION REGARDING RISK-INFORMED TECHNICAL SPECIFICATION COMPLETION TIMES (CAC NOS. MF7415 AND MF7416; EPID L-2016-LLA-0001)

Dear Mr. Hanson:

By letter dated February 25, 2016 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML16060A223), as supplemented by letter dated April 3, 2017 (ADAMS Accession No. ML17094A591), Exelon Generation Company, LLC (the licensee) submitted a license amendment request proposing to modify the Calvert Cliffs Nuclear Power Plant, Units 1 and 2, Technical Specification requirements to permit the use of risk-informed completion times in accordance with Technical Specifications Task Force (TSTF) Traveler TSTF-505, Revision 1, "Provide Risk-Informed Extended Completion Times – RITSTF Initiative 4b" (ADAMS Accession No. ML111650552).

The U.S. Nuclear Regulatory Commission staff is reviewing the submittal and has determined that additional information is needed to complete its review. The specific questions are found in the enclosed request for additional information. The request for additional information was discussed with your staff on November 1, 2017, and it was agreed that your response would be provided within 60 days from the date of this letter.

If you have any questions regarding this matter, please contact me at (301) 415-2871 or Michael.Marshall@nrc.gov.

Sincerely,

Michael L. Marshall, Jr., Senior Project Manager
Plant Licensing Branch I
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-317 and 50-318

Enclosure:
Request for Additional Information

cc w/Enclosure: Distribution via Listserv

REQUEST FOR ADDITIONAL INFORMATION

REGARDING RISK-INFORMED TECHNICAL SPECIFICATION COMPLETION TIMES

EXELON GENERATION COMPANY, LLC

CALVERT CLIFFS NUCLEAR POWER PLANT, UNITS 1 AND 2

DOCKET NOS. 50-317 AND 50-318

By letter dated February 25, 2016 (Agencywide Documents Access and Management System (ADAMS Accession No. ML16060A223), as supplemented by letter dated April 3, 2017 (ADAMS Accession No. ML17094A591), Exelon Generation Company, LLC (Exelon; the licensee) submitted a license amendment request (LAR) proposing to modify the Calvert Cliffs Nuclear Power Plant (Calvert Cliffs), Units 1 and 2, Technical Specification (TS) requirements to permit the use of risk-informed completion times in accordance with Technical Specifications Task Force (TSTF) Traveler TSTF-505, Revision 1, "Provide Risk-Informed Extended Completion Times – RITSTF Initiative 4b" (ADAMS Accession No. ML111650552).

The U.S. Nuclear Regulatory Commission (NRC) staff has determined that additional information is needed to complete its review of the LAR. The requests for additional information (RAIs) listed below are not a complete listing of the additional information needed to complete the NRC staff's review. Additional RAIs will be provided by separate correspondence.

Requests for Additional Information

(1) Fact and Observation 4-21 related to supporting requirement LE-G5 was written because the peer review team could not find documentation on the limitations of the large early release frequency (LERF) analysis that could impact different applications.

Identify the specific limitations in the LERF analysis for this application.

(2) The LAR references a tornado methodology reviewed by the NRC staff as described in a letter from the NRC dated May 1, 1995 (ADAMS Accession No. ML17304A020). LAR Enclosure 4, Section 4, explains that bounding core damage frequency (CDF) values for tornado-generated missile events of less than 5E-06/year and bounding LERF values of less than 5E-07/year were calculated for Calvert Cliffs, Units 1 and 2. The most limiting CDF and LERF increases associated with structures, systems, and components (SSCs) unavailability are applied to the risk-informed completion time (RICT) evaluations, except for five TS limiting conditions for operation (LCOs) conditions. In the revised Enclosure 4 submitted in the supplement dated April 3, 2017, the licensee states in Section 4 that for the five conditions:

> ... additional analyses or restrictions will be required during RICT implementation, in the unlikely event a RICT evaluation is performed for any of those LCOs. For example, entering an extended completion time may be precluded during time periods with severe weather forecasts, or a bounding penalty factor may be applied.

a. The letter dated May 1, 1995, referenced a methodology for "evaluating the need for tornado-generated missile barriers." It appears that this referenced approach only considered exposed emergency diesel generator (EDG) components and it does not consider the scope of SSCs within the RICT program.

Estimating extended completion times is a different application than evaluating the need for barriers. Therefore, justify that the proposed approach for estimating the tornado risk in the RICT program is bounding and accounts for various uncertainties such as plant configuration, variations in missile distribution around the site, seasonal changes in tornado frequencies, etc. Alternatively, provide a bounding or conservative estimate using other qualitative or quantitative approaches to quantify or justify screening the risk associated with tornadoes.

b. The LAR states that certain unprotected SSCs are assumed to fail during a tornado event with a probability of 1.0, and other unprotected SSCs are assumed to fail based on a calculated missile strike probability. It also appears that there is another group of SSCs (e.g., main steam safety valves and atmospheric dump valves vent stacks) that are assumed to be hit but not failed.

Explain how the generic CDF increase estimates of 3.0E-6/year for Unit 1 and 4.3E-6/year for Unit 2 are calculated by discussing the adjustment performed in the probabilistic risk assessment (PRA) model to estimate the risk of tornado events and the basis for assigning failure rates to different SSCs. Justify why the estimated generic CDF increase is considered bounding for all possible plant configurations expected during the application of a RICT. Alternatively, provide a bounding or conservative estimate of the tornado risk using other quantitative or qualitative approaches to quantify or justify screening the risk associated with tornadoes.

c. Explain what additional analyses would be performed and what circumstances or criteria would trigger the need for additional analyses or restrictions for the five LCO conditions excluded from the tornado RICT evaluations.

(3) Enclosure 4 states that the baseline 1.1E-6/year seismic CDF contribution and corresponding seismic LERF contribution will be added to the configuration specific delta CDF and delta LERF from the internal and fire initiating events contributions. The LAR clarifies that the baseline seismic PRA risk conservatively assumes that all SSC seismic induced failures are correlated (i.e., if one train fails all trains fail). The LAR further states that:

> ... if one were to assume no correlation at all in the seismic failures, then the [baseline] seismic risk would be lower than the risk predicted by a fully correlated model, but the change in risk using the uncorrelated model with a redundant piece of important equipment out of service would be equivalent to the level predicted by the correlated model.

Assuming full correlation between SSCs, the LAR continues that:

> ... the conditional core damage frequency given a seismic event will remain unaltered whether equipment is out of service or not. Thus, the

> risk increase due to out of service equipment cannot be greater than the total SCDF [seismic core damage frequency] estimated by the bounding method...

For the SSCs within an LCO during an extended RICT, full correlation will not result in any seismic contribution to change the RICT because seismic-induced failure would fail all operable and inoperable SSCs. However, it is unclear why full correlation among SSCs not within the LCO could not contribute greater than the baseline seismic risk because those SSCs will be at risk of failure from a seismic event but would otherwise be operable. The importance of the SSCs not within the LCO might be increased by the inoperable SSCs within the LCO.

Clarify how the proposed approach, of adding the baseline seismic risk to the configuration-specific internal and fire risk increases, appropriately captures any configuration-specific seismic risk increase for the RICT calculation.

(4) LCO 3.8.1.c specifies constraints regarding power supply to the control room emergency ventilation system (CREVS) and control room emergency temperature system (CRETS), requiring that the opposite unit's offsite circuit and EDG that supply power to the CREVS and CRETS be operable. Condition 3.8.1.G is in the scope of the RICT program. This condition applies to one required LCO 3.8.1.a offsite circuit that provides power to the CREVS and CRETS inoperable and the required LCO 3.8.1.c offsite circuit inoperable.

The LAR does not describe how the CREVS and CRETS systems are modeled in the PRA. Unavailable equipment that is excluded from the PRA but affects the functionality can result in an over-estimate of the RICT.

a. Explain how the CREVS and CRETS systems are modeled in the PRA.

b. Describe how the inoperability of the power supplies to the CREVS and CRETS systems impacts the risk estimates.

c. Describe and justify how any cascading impacts on other systems that may result from inoperability of CREVS and CRETS are captured in the risk estimates.

(5) The NRC Final Safety Evaluation (SE) for Topical Report (TR) Nuclear Energy Institute (NEI) 06-09, "Risk-Managed Technical Specifications (RMTS) Guidelines" (ADAMS Accession No. ML071200238), approved and provided limitations and conditions for use of the TR. Section 4.0, Item 6, of the SE requires that the licensee provide the plant-specific total CDF and LERF to confirm that these are less than 1E-4/year and 1E-5/year, respectively. This is consistent with the risk acceptance guidelines in Regulatory Guide (RG) 1.174, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis" (ADAMS Accession No. ML100910006). The LAR makes several commitments to complete certain plant modifications and actions prior to implementation of the RICT program. LAR Attachment 5 lists National Fire Protection Association (NFPA) 805 plant modification commitments that resolve fire protection issues and states that Calvert Cliffs will implement the modifications "prior to use of the RICT Program on each unit." LAR Enclosure 9 explains that calculation of some pipe break frequencies in the internal flooding PRA was based on an older method than other break frequencies in the internal flooding PRA and identifies this as a key source of uncertainty. An entry in LAR

Enclosure 9, Table E9-1 states, "Prior to implementation of the RICT program, the internal flood model will be updated so that the model consistently uses the newer methodology."

The NRC staff considers the following as potential implementation activities:

- Complete NFPA 805 plant modification commitments that resolve fire protection issues as discussed in Attachment 5 of the LAR.

- Update pipe break frequencies in the internal flooding PRA as discussed in Enclosure 9 of the LAR.

- Confirm that the total CDF and LERF are less than 1E-4/year and 1E-5/year, respectively.

  a. Provide a list of activities (i.e., implementation items) that are credited as part of the approval of the request to implement a RICT program that needs to be completed before implementation of the RICT program.

  b. Describe the mechanism(s) to ensure that the activities (i.e., implementation items) provided in response to RAI 5a will be completed before implementation of the RICT program.

(6) LAR Enclosure 8 describes the process that will be used to translate the baseline PRA models into the configuration risk management program (CRMP) models to be used in the RICT program. The description implies that the CRMP model has not yet been developed and, furthermore, the translation process itself does not appear to be fully developed. Specifically, some expected adjustments or changes to the baseline model are not identified, such as:

- integration of the internal events, internal flooding, and fire PRA models;
- use of a plant availability factor for determining the average annual risk that would not be applicable to configuration-specific risk;
- adjustments to allow user-specified configurations (e.g., train alignments) that apply to specific configurations that are different from the average configurations modeled in the PRA;
- accounting for the bounding seismic and tornado-generated missile risk contributions; and
- modeling of equipment that is in the RICT program but not in the PRA, such as containment airlocks.

  a. Summarize the translation process. Include discussion of the five modeling adjustments cited above.

  b. Summarize all changes made to the baseline PRA model to produce the CRMP model and how it is assured that these changes are appropriate and comprehensive.

(7) In the letter dated April 3, 2017, the licensee supplemented its original LAR to remove from the list of requested TS changes those TS actions related to loss of function. Loss

of function conditions are those TS conditions with insufficient TS operable equipment to meet the specified safety function of the system.

Based on the design success criteria listed in LAR Table E1-1, it appears that the following LCO conditions represent a loss of function:

- 3.4.10.A, "One pressurizer safety valve inoperable"
- 3.4.11.B, "One PORV inoperable and not capable of being manually cycled"
- 3.4.11.C, "One block valve inoperable"
- 3.4.11.D, "Two PORVs inoperable and not capable of being manually cycled"
- 3.4.11.E, "Two block valves inoperable"
- 3.6.6.B, "One or more penetration flow paths with two containment isolation valves inoperable" (only applicable to penetration flow paths with two containment isolation valves and not a closed system)
- 3.6.6.D, "Two containment cooling trains"
- 3.7.2.A, "One MSIV inoperable in mode 1"
- 3.7.4.A, "CST inoperable"
- 3.7.15.A, "One or more MFIVs inoperable"

Additionally, based on descriptions in the TS Bases, it appears that the following LCO condition represents a loss of function:

- 3.5.1.B, "One SIT inoperable for other reasons than boron"

For this condition, the TS Bases state that three safety injection tanks (SITs) are required to reach the core during a loss-of-coolant accident (LOCA) and that the design-basis analysis assumes that the contents of one tank spills through the break. Therefore, one inoperable SIT would be a loss of function. The TS Bases further state that "if the contents of fewer than three tanks are injected during the blowdown phase of a LOCA, the ECCS acceptance criteria [...] could be violated."

For each of the 11 LCO conditions listed above, either:

a. Confirm and describe how all design-basis functions are met when entering any of the conditions listed above;

b. Remove the proposed RICT; or

c. Compare the design-basis success criteria parameter values with the PRA success criteria parameter values, explain how the RICT is consistent with the new constraint proposed in TS 5.5.18.d, and justify how defense in depth and safety margins are maintained if the design basis will not be met during the RICT.

(8) Instrumentation is generally not modeled in detail in PRAs and is often modeled as a single, generic basic event representing all trains or channels. The LAR did not provide discussion on the PRA modeling for many of the LCO conditions pertaining to instrumentation that are proposed in the scope of the RICT program, or provided only a brief summary for others.

a. For each condition in TS 3.3 proposed in the scope of the RICT program, describe how it is modelled in the PRA. If the TS condition/TS required action covers multiple functions, such as in the case of engineered safety features actuation system instrumentation, describe each one individually. If there are different types of models (e.g., multiple channel basic events versus a single combined basic event) that are used for different instrumentation, explain all the different models.

b. Clarify how each of the models will be changed to model the impact of an inoperable channel and justify why the modelling is correct or will conservatively bound the RICT calculation.

(9) In addition to consideration of risk-significant SSCs, LAR Enclosure 12, Section 3, states that "several areas of uncertainty in the internal events and fire PRAs will be considered in defining configuration-specific risk management actions (RMAs) when entering a RICT." LAR Enclosure 9 identifies two fire event uncertainty issues: configurations in which automatic fire suppression in the cable spreading room or switchgear room are important and configurations in which transient combustibles and hot work are important. LAR Tables E9-1 and E9-4 also identify modeling of human failure events as a key uncertainty that requires RMAs. Table E9-4 indicates that uncertainty will be addressed during the development of RMAs. Enclosure 12 discusses the development of RMAs. This enclosure repeats the guidance in NEI 06-09, Revision 0-A, "Risk-Informed Technical Specifications Initiative 4b, Risk-Managed Technical Specifications (RMTS) Guidelines" (ADAMS Accession No. ML12286A322), that RMAs are required when the risk management action time (RMAT) thresholds will be, or are, exceeded. Enclosure 12 also states that "Enclosure 9 identifies several areas of uncertainty in the internal events and fire PRAs that will be considered in defining configuration-specific RMAs when entering a RICT."

a. Please provide an overview of the procedure or process for developing configuration-specific RMAs for each RICT.

b. Please explain how that process will systematically evaluate the potential impact of uncertainties such as those discussed above into the identification and development of the configuration-specific RMAs.

(10) While the guidance in NEI 06-09 states that no common cause failure (CCF) adjustment is required for planned maintenance, the NRC approval of NEI 06-09 is based on RG 1.177, Revision 1, "An Approach for Plaint-Specific, Risk-Informed Decisionmaking: Technical Specifications" (ADAMS Accession No. ML100910008), as indicated in the NRC SE to NEI 06-09. Specifically, Section 2.2 of the NRC SE for NEI 06-09 states that "Specific methods and guidelines acceptable to the NRC staff are also outlined in RG 1.177 for assessing risk-informed TS changes." Further, Section 3.2 of the NRC SE states that compliance with the guidance of RG 1.174 and RG 1.177, which provides an acceptable method for implementing specific regulations, is achieved by evaluation

using a comprehensive risk analysis, which assesses the configuration-specific risk by including contributions from human errors and CCFs.

The guidance in RG 1.177, Section 2.3.3.1, states that "CCF modeling of components is not only dependent on the number of remaining inservice components, but is also dependent on the reason components were removed from service (i.e. whether for preventative or corrective maintenance)." In relation to CCF for preventive maintenance, the guidance in RG 1.177, Appendix A, Section A-1.3.1.1, states:

> If the component is down because it is being brought down for maintenance, the CCF contributions involving the component should be modified to remove the component and to only include failures of the remaining components (also see Regulatory Position 2.3.1 of Regulatory Guide 1.177).

According to RG 1.177, if a component from a CCF group of three or more components is declared inoperable, the CCF of the remaining components should be modified to reflect the reduced number of available components in order to properly model the as-operated plant.

a. Explain how CCFs are included in the PRA model (e.g., with all combinations in the logic models as different basic events or with identification of multiple basic events in the cutsets).

b. Explain how the quantification and/or models will be changed when, for example, one component from a CCF group of three or more components is removed for preventative maintenance and describe how the treatment of CCF either meets the guidance in RG 1.177 or meets the intent of this guidance when quantifying a RICT.

(11) According to Section A-1.3.2.1 of Appendix A of RG 1.177, when a component fails, the CCF probability for the remaining redundant components should be increased to represent the conditional failure probability due to CCF of these components in order to account for the possibility that the first failure was caused by a CCF mechanism. When a component fails, the calculation of the plant risk, assuming that there is no increase in CCF potential in the redundant components before any extent of condition evaluation is completed, could lead to a non-conservative extended completion time calculation, as illustrated by inclusion of the guidance in Appendix A of RG 1.177. Much of the discussion in Appendix A describes how configuration-specific risk calculations should be performed.

In Section 3.2 of the NRC SE for NEI 06-09, the NRC staff stated that compliance with the guidance of RG 1.174 and RG 1.177, which provides an acceptable method for implementing specific regulations, is achieved by evaluation using a comprehensive risk analysis, which assesses the configuration-specific risk by including contributions from human errors and CCFs.

The limitations and conditions in Section 4.0 of the SE for NEI 06-09 state that the NRC staff interprets NEI 06-09 as requiring consideration of additional RMAs due to the potential for increased risks from CCF of similar equipment whenever the redundant components are considered to remain operable, but the licensee has not completed the extent of condition (or more correctly extent of cause) evaluations.

The requirement to consider additional RMAs prior to the completion of the extent of cause evaluation was included by the NRC staff in the SE for NEI 06-09 as an additional measure to account for the increased potential that the first failure was caused by a CCF mechanism. However, no exception to the RG 1.177 guidance was taken in the calculation of the RICT with regard to the quantification of the unresolved potential for CCF before the extent of cause evaluation is complete. The NRC staff interprets that the combined guidance in RG 1.177 and NEI 06-09 could be met with the following actions:

- When, prior to exceeding the front stop, there is a high degree of confidence based on the evidence collected there is no CCF mechanism that could affect the redundant components, the RICT calculation may use nominal CC factor probability.

- If a high degree of confidence cannot be established that there is no CCF that could affect the redundant components, the RICT shall account for the increased possibility of CCF. Accounting for the increased possibility of CCF shall be accomplished by one of the two methods below. If one of the two methods below is not used, the TS front stop shall not be exceeded.

- The RICT calculation shall be adjusted to numerically account for the increased possibility of CCF in accordance with RG 1.177, as specified in Section A-1.3.2.1 of Appendix A of the RG. Specifically, when a component fails, the CCF probability for the remaining redundant components shall be increased to represent the conditional failure probability due to CCF of these components in order to account for the possibility the first failure was caused by a common cause mechanism.

- Prior to exceeding the front stop, the licensee shall implement RMAs not already credited in the RICT calculation that target the success of the redundant and/or diverse SSCs of the failed SSC, and, if possible, reduce the frequency of initiating events that call upon the function(s) performed by the failed SSC. Documentation of RMAs shall be available for NRC review.

    a. Confirm and describe how that treatment of CCF in the case of an emergent failure either meets the guidance in RG 1.177 or meets the intent of this guidance, together with the NEI 06-09 guidance when quantifying a RICT.

    b. Update the TS administrative section to include the guidance on treatment of CCFs in the RICT program.

(12) In the proposed changes to TS Administrative Section 5.5.18, the constraint currently states:

> When a RICT is being used, any plant configuration change within the scope of the Risk Informed Completion Time Program must be considered for the effect on the RICT.

The parallel limitations from the NRC SE for NEI 06-09 are:

> When a RICT is being used, any plant configuration change within the scope of the CRMP must be considered for the effect on the RICT.

Revise the constraint to clearly identify which configuration changes will be considered for the effect on the RICT, as, for example:

When a RICT is being used, any change to the plant configuration, as defined in NEI 06-09, Appendix A, must be considered for the effect on the RICT.

(13) NEI 06-09, Revision 0-A, references Nuclear Management and Resources Council (NUMARC) 93-01, Revision 3, "Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," and RG 1.182, "Assessing and Managing Risk Before Maintenance Activities at Nuclear Power Plants," as providing support for the risk-managed TSs guidelines. Specifically, the limits established for entry into a RICT and for RMA implementation are consistent with the guidance of NUMARC 93-01, endorsed by RG 1.182, as applicable to plant maintenance activities. The current NUMARC 93-01 version is Revision 4A. RG 1.182 has been withdrawn and its subject matter is included in Revision 3 of RG 1.160, "Monitoring the Effectiveness of Maintenance at Nuclear Power Plants."

State whether the latest version of NUMARC 93-01 and appropriate sections of RG 1.160 will be referenced and used in the RICT program.

(14) The LAR, as supplemented, includes a RICT for LCO Condition 3.6.6.A, "One containment spray train inoperable," and Condition 3.6.6.B, "One containment cooling train inoperable." As stated in LAR Table E1-1, the function of the containment spray system is to provide containment atmosphere cooling and limit post-accident pressure increase and iodine removal. The function of the containment cooling system is to provide containment atmosphere cooling. The SE for NEI 06-09 states that a RICT can be applied to SSCs that are either modeled in the PRA, or whose impact can be quantified using conservative or bounding approaches.

LAR Table E1-1 states that "SSCs are modeled consistent with the TS scope and so can be directly evaluated using the CRMP tool" and that "The success criteria in the PRA are consistent with the design basis criteria," but did not provide any description of the PRA modeling for these systems.

Describe how containment spray and containment cooling systems are modeled in the PRA and how a RICT based on CDF and LERF can be quantitatively determined for these systems.

(15) In Section 4.0, "Limitations and Conditions," of the NRC staff SE to NEI 06-09, the staff stated:

> As part of its review and approval of a licensee's application requesting to implement the RMTS, the NRC staff intends to impose a license condition that will explicitly address the scope of the PRA and non-PRA methods approved by the NRC staff for use in the plant-specific RMTS program. If

> a licensee wishes to change its methods, and the change is outside the bounds of the license condition, the licensee will need NRC approval, via a license amendment, of the implementation of the new method in its RMTS program.

Propose a license condition limiting the scope of the PRA and non-PRA methods to what is approved by the NRC staff for use in the plant-specific RMTS program. For example:

> The risk assessment approach, methods, and data shall be acceptable to the NRC, be based on the as-built, as-operated, and maintained plant; and reflect the operating experience at the plant. Acceptable methods to assess the risk from extending the completion times must be PRA methods accepted as part of this license amendment, or other methods currently approved by the NRC for generic use. If a licensee wishes to change its methods and the change is outside the bounds of this license condition, the licensee will need prior NRC approval, via a license amendment.

(16) LCO 3.8.4, "DC Sources–Operating," requires that four channels of direct current (DC) electrical sources shall be operable. Condition A is applicable when one DC channel is inoperable due to an inoperable battery and the reserve battery is available.

The LAR proposes to add the option of either applying the existing front stop completion time or applying a RICT for Required Action A.1. Required Action A.1 requires replacement of an inoperable battery with reserve battery. In general, the RICT program applies to required actions that restore a component to operable status, place an instrument channel in the tripped position, or isolate a containment penetration path with an inoperable isolation valve.

Please provide a justification, including a discussion of the effects on defense in depth and safety margins, for applying a RICT to a non-restorative action (i.e., the action directs replacement of the battery with the reserve battery instead of returning the normal battery to operable status).

(17) In Attachment 2 of the LAR, the licensee proposed to use the RICT program for the following Calvert Cliffs current TS conditions:

TS LCO	**Conditions in LAR, Attachment 2 (Current TSs)**
3.8.1	A. One required LCO 3.8.1.a offsite circuit inoperable
3.8.1	B. One LCO 3.8.1.b DG [diesel generator] inoperable
3.8.1	G. Two required LCO 3.8.1.a offsite circuits inoperable OR One required LCO 3.8.1.a offsite circuit that provides power to the CREVS and CRETS inoperable and the required LCO 3.8.1.c offsite circuit inoperable
3.8.1	H. One required LCO 3.8.1.a offsite circuit inoperable AND One LCO 3.8.1.b DG inoperable
3.8.4	A. One DC channel inoperable due to an inoperable battery and the reserve battery available

TS LCO	Conditions in LAR, Attachment 2 (Current TSs)
3.8.4	B. One DC channel inoperable for reasons other than Condition A
3.8.7	A. One required inverter inoperable
3.8.9	A. One or more AC [alternating current] electrical power distribution subsystems inoperable
3.8.9	B. One or more AC vital bus subsystem(s) inoperable
3.8.9	C. One DC electrical power distribution subsystem inoperable

In Enclosure 1 of the LAR, Table E1-1, "In Scope TS/LCO Conditions to Corresponding PRA Functions," and Table E1-2, "In Scope TS/LCO Conditions RICT Estimate," provide the PRA functions and the RICT estimates, respectively, for the following TS conditions:

TS LCO	Conditions in LAR, Tables E1-1 and E-2
3.8.1	A. One offsite power source inoperable
3.8.1	B. One DG inoperable
3.8.1	G. Two offsite power sources inoperable or offsite source and EDG to CREV/CRETs power supply
3.8.1	H. One offsite power source AND one DG inoperable
3.8.4	A. One battery inoperable and the reserve battery available
3.8.4	B. One DC channel inoperable
3.8.7	A. One inverter inoperable
3.8.9	A. One AC distribution subsystem inoperable
3.8.9	B. One or more AC vital subsystems inoperable
3.8.9	C. One DC distribution subsystem inoperable

The staff notes that the above TS conditions in Attachment 2 (first RAI table) of the LAR are different from the TS conditions in Table E1-1 and E-2 (second RAI table) of the LAR.

Provide a discussion on this discrepancy, or revise LAR Tables E1-1 and E1-2 for the correct electrical power systems TS conditions, as provided in the Calvert Cliffs current TSs.

(18) NEI 06-09, Revision 0-A, states that RMAs and compensatory actions for significant components should be predefined to the extent practicable in plant procedures and implemented at the earliest appropriate time in order to maintain defense in depth.

Moreover, the NRC staff's SE for NEI 06-09, Section 4.0, states that a licensee's LAR adopting the NEI 06-09 initiative will describe the process to identify and provide compensatory measures and RMAs during extended completion times and provide examples of compensatory measures or RMAs.

In the LAR dated February 25, 2016, Enclosure 12, "Risk Management Action Examples," the licensee provided an example of RMAs that may be considered during the RICT program entry for an inoperable.

a. Provide similar examples of RMAs that assure a reasonable balance of defense in depth is maintained for the proposed electrical power systems TS 3.8.1, Conditions A, G, and H; TS 3.8.4, Conditions A and B; TS 3.8.7, Condition A; and TS 3.8.9, Conditions A, B, and C.

b. Provide similar examples of RMAs that include the use of additional equipment for the proposed electrical power systems TS 3.8.1, Conditions A, G, and H; TS 3.8.4, Conditions A and B; TS 3.8.7, Condition A; and TS 3.8.9, Conditions A, B, and C.

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