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10 CFR 50.90
10 CFR 52.98(f)

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Virgil C. Summer Nuclear Station (VCSNS) Units 2 and 3
Combined License Nos. NPF-93 and NPF-94
Docket Nos. 52-027 & 52-028

Subject: VCSNS Units 2 & 3 Supplement to License Amendment Request:
Addition of Interim Amendment Request (LAR 16-19S1)

Reference: 1. NND-16-0490, VCSNS Units 2 & 3 Request for License Amendment:
Addition of Interim Amendment Request Process to License Condition
2.D.(1) (LAR 16-19) (Accession Number ML16316A003)

2. Request for Additional Information Letter NO. 11 Related to Addition of
Interim Amendment Request Process for the Vogtle Electric Generating
Plant Units 3 and 4 Combined Licenses (TAC NO. RP9532) (Accession
Number ML16341A968)

3. ND-16-2626, Southern Nuclear Operating Company, Vogtle Electric
Generating Plant Units 3 and 4 Response to Requests for Additional
Information Regarding Request for License Amendment: Addition of
Interim Amendment Request Process (LAR-16-015S1)

In accordance with the provisions of 10 CFR 52.98(f) and 10 CFR 50.90, South Carolina Electric & Gas Company (SCE&G), on behalf of itself and the South Carolina Public Service Authority (Santee Cooper), requested an amendment to the Virgil C. Summer Nuclear Station (VCSNS) Units 2 and 3 combined license numbers NPF-93 and NPF-94, respectively. The requested amendment proposed to add to License Condition 2.D.(1) of the VCSNS Units 2 and 3 COLs an Interim Amendment Request process for changes during construction when emergent conditions are present.

On December 06, 2016, the NRC issued a Request for Additional Information (Reference 2) to Southern Nuclear Operating Company (SNC). SNC responded to this request in Reference 3.

As SCE&G's LAR 16-19 (Reference 1) is similar in scope to the information discussed in Reference 2, SCE&G elects to provide a response to these questions. This supplement is similar to the responses provided by SNC in Reference 3. SCE&G's response is found in Enclosure 3 of this letter, which supplements Reference 1. Enclosures 1 and 2 were provided in Reference 1.

The information provided in Enclosure 3 of this letter does not change the scope of, nor affect the Technical Evaluation or the conclusions of the Significant Hazards Consideration determination of the LAR provided in Reference 1.

Enclosure 3 does not alter the initial request date provided in Reference 1.

This letter contains no regulatory commitments.

This letter, including enclosures, has been reviewed and confirmed to not contain security-related information.

In accordance with 10 CFR 50.91, SCE&G is notifying the State of South Carolina of this LAR by transmitting a copy of this letter and enclosures to the designated State Official.

Should you have any questions, please contact Mr. Nick Kellenberger by telephone at (803) 941-9834, or by email at nicholas.r.kellenberger@scana.com.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on this 7th day of February, 2017.

Sincerely,



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MRP/RAJ/mrp

Enclosure 3: Response to NRC Request for Additional Information Letter No. 11
(LAR 16-19S1)

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South Carolina Electric and Gas Company (SCE&G)

NND-17-0077

Enclosure 3

Virgil C. Summer Nuclear Station (VCSNS) Units 2 and 3

Response to NRC Request for Additional Information Letter No. 11

Regarding LAR 16-19 (LAR 16-19S1)

(This Enclosure consists of 9 pages, including this cover page)

The following questions were provided by the NRC Staff via Request for Additional Information Letter No. 11, dated December 6, 2016, regarding the review of Southern Nuclear Operating Company (SNC) License Amendment Request (LAR) 16-015, which was submitted by letter ND-16-1273 on July 29, 2016.

Note: The NRC Questions below are unedited from their issue in SNC's Letter ND-16-2626. Where they reference SNC, they are answered as if referring to South Carolina Electric and Gas (SCE&G).

NRC Questions

Regarding your license amendment request (LAR [16-015]) dated July 29, 2016, the NRC requests that Southern Nuclear Corporation (SNC) provide responses to the following questions. Please use as much detail and real examples as possible.

NRC Question 1 Construction Experience

- (a) Provide examples of specific instances during the current construction activities for the Vogtle units when the proposed interim amendment request (IAR) process could have been utilized as contrasted to the use of the Preliminary Amendment Request (PAR) process.
- (b) Describe from a safety perspective why it would have been advantageous to utilize the IAR process instead of the PAR process.
- (c) Provide details about what unnecessary regulatory burdens may have been present under the PAR process versus the proposed IAR process.
- (d) Explain how the proposed IAR process would impact recordkeeping, quality assurance and inspections/inspectability.

SCE&G Response to Question 1a

As presented in a public meeting with the Staff on September 8, 2016 in a presentation entitled "Request for License Amendment: Addition of Interim Amendment Request Process to License Condition 2.D.(1)" (ML16237A298), SCE&G has identified three examples of previously submitted license amendment requests (LARs) where the proposed interim amendment request (IAR) process could have been employed had they been emergent:

1. LAR 15-21, Use of Localized Shoring for Composite Floors and Roof in the Auxiliary Building (ML16019A403)
2. LAR 13-01, Nuclear Island Basemat Shear Reinforcing Spacing (ML13017A082)
3. LAR 12-02, Tier 1 Definition of Wall Thicknesses (Table 3.3-1) (ML12275A274)

As discussed in the public meeting, had these LARs met the emergent condition criteria the IAR process could have been employed as each of these LARs met the remaining required IAR conditions: a determination of no significant hazards and categorical exclusion from the environmental review could be made, and the proposed change could

be shown to have low safety significance through the Nuclear Construction Safety Assessment (NCSA). In each of these situations, the nonconforming condition was discovered either during construction or in design reviews prior to construction and construction could not begin/proceed without resolution of the non-conforming condition. Although in these circumstances, the Preliminary Amendment Request (PAR) process was sufficient to meet SCE&G's needs in terms of continued construction, SCE&G foresees the possibility of future situations where emergent conditions that have little or no safety significance but require LARs are identified but the current LAR/PAR process will not support construction schedule requirements. In the appropriate circumstance, the proposed IAR process would allow construction to proceed in the affected area, at the Licensee's risk, while SCE&G prepares the associated LAR. Under the current LAR/PAR process, a PAR no objection letter cannot be issued (and thus construction in the affected area must be suspended) until the Licensee submits the related LAR and the NRC accepts the related LAR for detailed technical review. In situations where calculations or design basis documents are needed to support statements of fact in a LAR, a conservative qualitative assessment could be employed to support an IAR while proceeding with detailed analysis in support of the LAR.

SCE&G Response to Question 1b

The IAR process is not intended to resolve any issue with the PAR process from a safety perspective. A no-objection determination under both the LAR/PAR process and the IAR process would only be issued where any barrier to continued construction is compliance related, and determined to have little or no safety significance. In certain situations, the use of the IAR process would be advantageous over the PAR process in terms of resource loading and human performance improvements. Under the current LAR/PAR process, when an emergent condition is identified both the Licensee's and the NRC Staff's resources are strained, e.g., in terms of time commitments to develop, discuss, and review a full scope LAR/PAR on an expedited schedule. Using the IAR process would allow the LAR/PAR to be developed on a less resource-intensive timeline, thereby keeping both the Staff and the Licensee focused on issues of greater safety significance.

SCE&G Response to Question 1c

In the Part 52 process, a significantly higher portion of the information in the license would require a LAR to change. The proposed IAR process addresses those situations where revising the licensing basis would delay construction solely for compliance reasons, with little to no impact on safety. Importantly, the IAR process would allow construction to continue in the affected area, at the Licensee's risk, while a LAR is being developed, only where a NCSA concludes that the proposed change would not result in any material decrease in safety. The IAR submittal would include a succinct qualitative

assessment demonstrating low safety significance of the issue while SCE&G develops the more detailed supporting documentation.

SCE&G Response to Question 1d

SCE&G does not see any impact at this time to recordkeeping, quality assurance or inspections/inspectability of the IAR process as a LAR would be submitted in every case or the plant returned to its existing licensing basis at the time the IAR was requested. The initiating paperwork for the IAR and all NRC correspondence would be maintained for the IAR in a similar fashion to the documentation for PARs such that documentation is available for NRC inspectors that reconciles the licensing basis with what is currently being constructed in the field.

NRC Question 2 Emergent Conditions

- (a) Define “emergent conditions” under the IAR process and explain how SNC would assess that emergent conditions exist.
- (b) Explain the safety advantages of recognizing these emergent conditions as part of the staff’s assessment of Nuclear Construction Safety Assessment (NCSA).

SCE&G Response to Question 2a

“Emergent Conditions” are defined in the proposed license condition. “Emergent conditions” arise where a non-conforming condition is not discovered until actual construction begins and the work activity cannot be adjusted to allow the construction to proceed until the non-conforming condition is resolved. SCE&G will assess emergent conditions based on this definition. For instance, an “emergent condition” could arise where an as-built feature of the plant (listed in the UFSAR) varies from the Tier 2* description due to various factors which were not anticipated. During construction, individual components of the plant may satisfy applicable tolerances and incorporated Codes. However, when those individual components are stacked up together, there may be an accumulation of differences between the design details and the as-built structure such that the structure does not exactly comply with the description in the UFSAR. This is because certain aspects of the feature can vary based on unanticipated circumstances like a particular day-night cycle or variation in seasonal weather. Under this scenario an “emergent condition” could arise.

“Emergent circumstances” have previously been identified by the NRC in ISG-025, noting that in such circumstances, a “more rapid review” may be necessary. While this provision could relieve impacts following submittal of the LAR/PAR, the proposed IAR process would allow construction to continue, at SCE&G’s risk, during the development of the LAR/PAR.

SCE&G Response to Question 2b

The NCSA includes four elements: 1) identification of scope of the proposed change; 2) evaluation of whether emergent conditions are present; 3) evaluation of whether the proposed change would result in any material decrease in safety; and 4) evaluation of whether continued construction would make the nonconforming condition irreversible. The evaluation in the NCSA of whether emergent conditions are present is a threshold determination and serves to limit application of the IAR process. As the staff reviews SCE&G's NCSA, it would assess SCE&G's conclusions of the emergent conditions criteria and proceed with review of the scope, safety, and construction impacts only when satisfied that emergent conditions are present. The safety advantage gained by implementation of this process is discussed in the response to 1b above.

NRC Question 3

What do you mean when you say on page 3 of 11 that there are emergent conditions and that the work activity cannot be adjusted? What are the standards by which the licensee will judge that the work activity cannot be adjusted? In addition, please explain why the exigent circumstances detailed in 50.91 would not be appropriate to deal with such a situation (the staff notes that it approved an LAR under exigent circumstances early in the construction of Vogtle Units 3 and 4).

SCE&G Response to Question 3

The construction schedule is complex, each activity in the schedule is driven by predecessor activities and has ties to successor activities. The sequence of construction activities is dependent on these preceding and succeeding ties, however there are at times opportunities in the schedule to readjust the order of activities. The timeframe for when a specific component needs to be installed can be a window in the construction schedule relative to other activities, such as placement of walls before the placement of a ceiling. The construction schedule may be able to be adjusted to move the setting date of a component from the earliest available date in the schedule window to a later date in the schedule window. In the above example, the work activity of installing the ceiling could not be adjusted without impacting the overall construction schedule. If the component placement was at the end of its window, then it would meet the criteria of the emergent conditions in the IAR process.

SCE&G already evaluates whether work activities can be adjusted for every LAR that is submitted to ensure adequate NRC review time. Each situation is individually assessed; input considered includes delay to other construction activities, accessibility of construction area, re-working of non-conformances, scope and impact of a potential

LAR, etc. The determination on whether an emergent condition exists, along with possible resolutions for the conditions, is discussed at various levels of management including the executive level.

The exigent circumstances provision in 10 CFR 50.91 addresses the notice for public comment for LARs when “a licensee and the Commission must act quickly and [] time does not permit the Commission to publish a Federal Register notice allowing 30 days for prior public comment, and it also determines that the amendment involves no significant hazards considerations”. This provision assumes a LAR fully supported by calculations or design basis documents has been submitted. The IAR process would allow construction to continue in the affected area, at SCE&G’s risk, while a LAR is being developed. While the exigent circumstances provision of 10 CFR 50.91 could be utilized for the related LAR, the purpose of the IAR is not to shorten the public involvement period. In fact, when the related LAR/PAR is submitted following the process outlined in COL-ISG-025, the public involvement process would be unaltered from that for an existing LAR/PAR.

NRC Question 4

In proposed license condition 2.D(1)(e) regarding the content of the NCSA, the licensee is to evaluate whether the continued construction would make the nonconforming condition irreversible. What are the standards by which the licensee would assess irreversibility? What if the work would be deemed irreversible? How would the licensee disposition such a situation when the work would be irreversible and the NRC did not approve the LAR?

SCE&G Response to Question 4

Irreversibility would be assessed on a case-by-case basis for the scope of the IAR and the requested continued construction activity. Much like the PAR process, a condition of the IAR process is that the licensee must return the plant to its current licensing basis if the related LAR is not approved. The concept of irreversibility is described in project procedures. One qualifying statement made in the project procedure specifically describes irreversible as “no longer reasonably able to be reworked, repaired, or detected.” Inherent to the concept of irreversibility is a degree of reasonableness, where it is incumbent upon the constructor to assess a condition based on known construction practices and incorporation of lessons learned to acknowledge when it is reasonable to conclude that construction progress cannot be returned to its previous state. For the IAR process to be utilized, SCE&G must determine that the proposed activity is reversible. SCE&G will not proceed with the process if the construction activity is deemed irreversible.

From the history of SCE&G’s use of the PAR process, construction activities have been determined to be reversible when SCE&G is willing to take the risk that the associated

components would be removed, concrete from walls and floors would be removed by hydrolasing, or rebar and structural components would be re-worked or removed should the LAR not be approved. For the IAR process, much like the PAR process, construction activities that would be considered irreversible are setting and anchoring of major components, extensive pouring of concrete, completion and setting of modules such that components cannot be uninstalled.

NRC Question 5

SNC has stated that an IAR would include all of the items listed in proposed license condition 2.D(1)(d) and (e). Please explain the difference in scope and depth of the content of the NCSA and the eventual LAR. What information would not be available to the licensee, the public, and NRC staff at the time an IAR is commenced and before the LAR is submitted? With that difference in information in mind, how can the licensee or the NRC staff come to a conclusion that there would be no objection to proceeding with the work that was not done in accordance with the licensing basis?

SCE&G Response to Question 5

The NCSA would identify the scope of the proposed change, evaluate whether emergent conditions are present, evaluate whether the proposed change would result in any material decrease in safety, and evaluate whether continued construction would make the nonconforming condition irreversible. The NCSA would only cover the scope of the requested emergent construction activities, while the LAR may include additional changes deemed not to be directly dependent on the IAR scope but appropriate for the full scope of the LAR. The IAR would also not include the results of full calculations if required by the scope of the LAR, but qualitative assessment if necessary.

The NRC's IAR determination would be based on 1) a significant hazards consideration determination; 2) a review of categorical exclusion from environmental review; and 3) NCSA determination that emergent conditions are present, the proposed change would not result in any material decrease in safety and continued construction would not make the nonconforming condition irreversible. Thus, the Staff would have clear documentation of the issue provided in the NCSA, a clear basis for why the work is not safety significant and the assurance that the plant could be returned to its current licensing basis if the related LAR was not approved.

NRC Question 6

What is the typical time it takes from identification of a nonconformance to submission of an LAR? Good examples to highlight this issue may be the mechanical coupler weld issue/LARs and the embed plate issue which were identified as nonconformances and that took many months to resolve and to submit the LARs to the NRC staff.

SCE&G Response to Question 6

The typical time from identification of a nonconformance to submission of a LAR is four to six months. The examples of the coupler weld issue LARs (SCE&G LAR-16-11 (ML16267A163) and LAR-16-18 (ML16301A385)) required additional testing to prepare sufficient technical justification for the LARs. An expedited LAR typically takes 6-8 weeks. For the IAR process, it is expected that the IAR could be completed within 4 weeks of issue identification. A 2 week improvement in time to submit an IAR and proceed with construction while the related LAR is developed would be a significant benefit to the VCSNS 2&3 construction project if an emergent condition exists.

NRC Question 7

Please explain what is meant on page 5 of 11 as “prompt notification” to the NRC of use of the IAR process. What form would this notification take?

SCE&G Response to Question 7

The intent of the statement of “prompt notification” was to indicate that the IAR itself would be submitted to the NRC in an expedient manner. As indicated in the response to Question 6, SCE&G expects an IAR to take 4 weeks or less to develop. In keeping with good communication practices with the Staff, SCE&G would also verbally notify the Staff of an upcoming submittal of an IAR.

NRC Question 8

What are the proposed requirements for the tie to the associated LAR/PAR? Would the LAR have to be accepted in order to move from the IAR process to the LAR/PAR process? Would the no objection letter for the PAR have to be issued to satisfy that requirement or would mere submission of the LAR/PAR be enough?

SCE&G Response to Question 8

As explained on page 6 of Enclosure 1 of LAR-16-19, “The Interim Amendment Request No-Objection letter would remain in effect through the NRC review process, until the NRC makes its determination on the PAR request. Upon NRC’s issuance of its written PAR notification, NRC’s Interim Amendment Request No-Objection letter would be terminated and continued construction would be subject to the NRC’s written PAR notification.” It was clarified in the public meeting on December 1, 2016 that the IAR No-Objection Letter (NOL) would remain in effect through the NRC review of the PAR

request and issuance of the PAR no-objection letter or license amendment, whichever is first. SCE&G anticipates the NRC would indicate in the PAR notification or license amendment issuance that the IAR NOL is superseded by the later regulatory action.

NRC Question 9

Please explain how the public will be informed of and could participate in the IAR process to the same extent that it can now participate in the LAR/PAR process. It appears that the public will not have the opportunity to provide comments and petitions to intervene on the IAR and not until after the changes are already implemented. Does this proposal decrease the ability of the public to participate as compared to the current process.

SCE&G Response to Question 9

SCE&G's proposal to add an IAR process does not decrease the ability of the public to participate as compared to the LAR/PAR process. Public participation in the LAR/PAR process is initiated by the NRC's acceptance of the related LAR for detailed technical review. See 10 CFR § 50.91(a)(2)(i). If the NRC does not object to the PAR, construction proceeds, at Licensee's risk, during the interim time between the no objection letter and the deadline for members of the public to file comments or request a hearing on the LAR. As explained in LAR-16-015, the IAR process would allow construction to continue, at SCE&G's risk, while a LAR/PAR is being prepared. When the LAR/PAR is filed, and the NRC has accepted the LAR for detailed technical review, the public participation process will begin. Thus, following publication in the federal register of the notice of proposed action, *i.e.*, the acceptance of the LAR, the public will be granted a 30-day comment period and 60-day hearing request period. See 10 CFR § 50.91. The IAR process would not impact this comment and hearing opportunity.