



Nuclear Regulatory Commission  
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Exhibit SCE000002

**UNITED STATES OF AMERICA  
 NUCLEAR REGULATORY COMMISSION  
 BEFORE THE COMMISSION**

In the Matter of ) ) SOUTH CAROLINA ELECTRIC & GAS ) COMPANY AND SOUTH CAROLINA ) PUBLIC SERVICE AUTHORITY (ALSO ) REFERRED TO AS SANTEE COOPER ) ) (Virgil C. Summer Nuclear Station Units 2 ) and 3) )	Docket Nos. 52-027-COL 52-028-COL  September 27, 2011
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**TESTIMONY OF STEPHEN A. BYRNE AND ALFRED M. PAGLIA, JR.  
 IN SUPPORT OF THE MANDATORY HEARING  
 FOR V.C. SUMMER UNITS 2 AND 3 COMBINED LICENSES**

**I. WITNESSES BACKGROUND**

**Q1. Please state your name, occupation, and business address.**

A1. (SAB) My name is Stephen A. Byrne (SAB). I hold the positions of Executive Vice President, Generation & Transmission, and Chief Operating Officer for South Carolina Electric & Gas Company (SCE&G). My business address is 220 Operation Way, Cayce, SC 29033.

(AMP) My name is Alfred M. Paglia, Jr. (AMP). I hold the position of Manager, Nuclear Licensing, New Nuclear Deployment, for SCE&G. My business address is P.O. Box 88, Jenkinsville, SC 29065.

**Q2. Please describe your educational and professional background.**

A2. (SAB) I earned a Bachelor of Science degree in chemical engineering from Wayne State University in Michigan in 1983. I joined SCANA Corporation, the parent company of SCE&G, in 1995. In my current role, I am responsible for a diversified fleet of nuclear, coal,

gas, hydro, pumped storage electrical generation facilities and transmission assets. I also head the company's new nuclear construction effort. During my time working for SCANA, I have served as General Manager of Nuclear Plant Operations at V.C. Summer and Vice President of Nuclear Operations. I have more than 27 years of experience in the nuclear industry, including 12 years at the Davis-Besse Nuclear Power Station in Ohio, where I received a Senior Reactor Operator's license. I also chaired the industry's New Plant Working Group (NPWG) for the past three years, and currently I am chair of the New Plant Oversight Committee (NPOC).

Additionally, I serve on the Savannah River National Lab External Advisory Board and South Carolina Governor's Nuclear Advisory Council. My *curriculum vitae* is provided as Exhibit VCS000005.

(AMP) I earned a Bachelor of Science degree in Mechanical Engineering from the University of South Carolina in 1974. I joined SCE&G in 1982. In my current role, I am responsible for the licensing activities of New Nuclear Deployment. During my time working for SCE&G, I have served as the Licensing Manager for V.C. Summer Unit 1, had responsibility for the development of several major engineering programs, and had responsibility for the safety aspects of the Unit 1 license renewal. I have more than 31 years of experience in the nuclear industry. My *curriculum vitae* is provided as Exhibit VCS000006.

**Q3. Please summarize the purpose of your testimony.**

A3. (SAB, AMP) The purpose of our testimony is to provide background information on the V.C. Summer Units 2 and 3 project, including a discussion of the combined license Application (COLA) for the new units, incorporation by reference of the AP1000 Design Control Document (DCD), and the relationship between the COLA and the AP1000 Reference COLA. Our testimony then describes the Nuclear Regulatory Commission (NRC) requirements for

issuing a COL and explains how those requirements are met. In addition to our testimony, which is designed to provide an overview of our conclusion that issuance of the V.C. Summer Units 2 and 3 COLs is justified, SCE&G is concurrently filing the testimony of Witness Monroe, discussing safety issues, and Witness Rice, discussing environmental issues. Those submissions are designed to provide information regarding how each specific regulatory requirement was met by SCE&G's COLA, while our testimony addresses the overarching issues.

**II. BACKGROUND ON V.C. SUMMER UNITS 2 AND 3 PROJECT AND COLA**

**Q4. Please briefly describe SCE&G's V.C. Summer Units 2 and 3 COLA.**

A4. (SAB, AMP) SCE&G's COLA is an application to the NRC by SCE&G and South Carolina Public Service Authority (also referred to as "Santee Cooper") requesting COLs under 10 C.F.R. Part 52 for construction and operation of two AP1000 advanced passive pressurized water reactors. These new reactors are formally designated as V.C. Summer Nuclear Station (VCSNS) Units 2 and 3. The new units will be used to generate electric energy to supply to the electric systems of SCE&G and Santee Cooper for sale to distributors and consumers. The COLA includes a request for the associated material licenses under 10 C.F.R. Parts 30, 40, and 70.

SCE&G's COLA incorporates by reference Appendix D to 10 C.F.R. Part 52 and the Westinghouse Electric Company's application for amendment to portions of the AP1000 DCD, Revision 19, submitted on June 13, 2011.

**Q5. Please describe the owners of V.C. Summer Units 2 and 3.**

A5. (SAB, AMP) SCE&G and Santee Cooper will jointly own V.C. Summer Units 2 and 3 and will share in the costs (including the cost of decommissioning). SCE&G will own 55% and Santee Cooper will own 45% of the new units. SCE&G will retain sole responsibility for operation of the new units after the requirements of 10 C.F.R. § 52.103(g) are satisfied.

SCE&G is the principal subsidiary of SCANA Corporation, an energy-based holding company with headquarters in Cayce, South Carolina. Santee Cooper is South Carolina's state-owned electric and water utility, with corporate headquarters in Moncks Corner, South Carolina. SCE&G has been authorized by Santee Cooper to act as its agent in applying for the COLs for V.C. Summer Units 2 and 3. SCE&G and Santee Cooper are not owned, controlled, or dominated by an alien, foreign corporation, or foreign government.

**Q6. When did SCE&G file the V.C. Summer Units 2 and 3 COLA?**

A6. (SAB, AMP) SCE&G filed its COLA for V.C. Summer Units 2 and 3 on March 27, 2008. The COLA has been updated and revised since the initial filing, most recently on June 28, 2011.

**Q7. Where are V.C. Summer Units 2 and 3 located?**

A7. (SAB, AMP) V.C. Summer Units 2 and 3 are located adjacent to V.C. Summer Unit 1 in western Fairfield County. Unit 1 is a Westinghouse pressurized water reactor plant licensed by the NRC in 1982 and has been in commercial operation since 1984. The site is approximately 15 miles west of Winnsboro, the county seat. Newberry, the county seat of Newberry County, is about 17 miles in a westerly direction. Columbia, the South Carolina state capital, is located about 26 miles to the southeast. The Monticello Reservoir provides the water requirements for V.C. Summer Units 2 and 3. The reservoir is located east of the Broad River and west of South Carolina State Highway 215. Final Safety Analysis Report (FSAR) Figure 1.1-201 is the Site Location Map, which shows the site with respect to nearby roads, highways, and villages in the vicinity.

**Q8. What are the current estimated commercial operation dates of V.C. Summer Units 2 and 3?**

A8. (SAB, AMP) The current estimated commercial operation dates for Units 2 and 3 are April 1, 2016 and January 1, 2019, respectively.

**Q9. Who would construct V.C. Summer Units 2 and 3?**

A9. (SAB, AMP) SCE&G has entered into an Engineering, Procurement, and Construction (EPC) contract with a consortium comprised of Westinghouse Electric Company, LLC and Stone and Webster, Inc. The consortium will act as the AP1000 provider, architect-engineer, and constructor of V.C. Summer Units 2 and 3. Pre-construction activities are well underway. SCE&G will be in position to begin nuclear construction upon issuance of the COLs for the new units.

**Q10. Were other companies involved in preparing the COLA?**

A10. (SAB, AMP) Yes. Bechtel Power Corporation (Bechtel) prepared and published the COLA and acted as the program manager for the COLA. MACTEC Engineering and Consulting, Inc. (now part of AMEC) performed geotechnical field investigations and laboratory testing in support of the COLA. NuStart Energy, Inc. (NuStart) prepared the Reference COLA used as a template for preparation of the non-site-specific portions of the COLA. NuStart is a consortium of member companies, including SCE&G, formed in 2004 with the primary objective of demonstrating the NRC's licensing process for obtaining a COL for an advanced nuclear power plant. Risk Engineering, Inc. (now part of Fugro Consultants, Inc.) performed the probabilistic seismic hazard analyses for development of the site-specific ground motion response spectra as a subcontractor to Bechtel. Tetra Tech NUS, Inc. provided services for site investigations and preparation of the Environmental Report and portions of the FSAR as a

subcontractor to Bechtel. William Lettis & Associates, Inc. (now part of Fugro Consultants, Inc.) performed the investigations and analyses required to prepare the geology, seismology, and geotechnical engineering sections of the COLA as a subcontractor to Bechtel.

**Q11. Please describe how the COLA is organized.**

A11. (SAB, AMP) The COLA is composed of several parts. Each of these is identified below, along with the current revision of each part:

- Part 1 – General and Administrative Information (Revision 5)
- Part 2 – Final Safety Analysis Report (FSAR) (Revision 5)
- Part 3 – Environmental Report (Revision 2)
- Part 4 – Technical Specifications (Revision 4)
- Part 5 – Emergency Plan (Revision 4)
- Part 6 – Not Applicable (because no Limited Work Authorization)
- Part 7 – Departures and Exemptions (Revision 4)
- Part 8 – Safeguards/Security Plans (withheld from public availability)
- Part 9 – Other Withheld Information (financial and security information)
- Part 10 – Proposed License Conditions and Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) (Revision 5)
- Part 11 – Subsurface Reports (Revision 0)
- Part 12 – Seismic Technical Advisory Review Letter (Revision 0)
- Part 13 – Quality Assurance Program Description (Revision 2)
- Part 14 – Mitigative Strategies Description and Plans (withheld from public availability)
- Part 15 – Cyber Security Plan (withheld from public availability)
- Part 16 – Special Nuclear Material Control and Accounting Program Description (Revision 0)

- Part 17 – New Fuel Shipping Plan (Revision 0)
- Part 18 – Supplemental Information in Support of 10 C.F.R. Part 70 Special Nuclear Material License Application (Revision 0)

**Q12. The SCE&G COLA is not the first to reference the AP1000 DCD. How does this affect the NRC’s review?**

A12. (AMP) In 2006, the NRC staff described its “design-centered review approach” (DCRA) in Regulatory Issue Summary 2006-06. The staff discussed the potential efficiencies to be realized from increased standardization and coordination of approaches, stating that:

In order for the DCRA to be fully effective, it is essential that applicants referencing a particular design standardize their applications to the maximum extent practicable (standardize design features, analyses, assumptions, and methods) such that the technical review and decisions are made against a standard application, known as the reference COL (R-COL) application. If this is done, those decisions will be applicable to subsequent COL (S-COL) applications that reference the standard. The NRC’s DCRA uses the DC review or the review of the R-COL as the basis for acceptance. The DC or R-COL application review will identify those technical areas to be considered standard for a given design . . . . S-COL applicants who use the standard application and actively work with the R-COL applicant to standardize will significantly benefit from the DCRA and the goal of having “one issue, one review, one position” for multiple COL applications.

NRC Regulatory Issue Summary 2006-06, New Reactor Standardization Needed to Support the Design-Centered Licensing Review Approach, at 2 (May 31, 2006). The Commission itself embraced the foregoing process in its April 17, 2008 policy statement, Conduct of New Reactor Licensing Proceedings (73 Fed. Reg. 20,963, 20,973).

Here, the SCE&G COLA is a “Subsequent COLA” (or S-COLA) since it incorporates the standard plant material of the COLA submitted by Southern Nuclear Company (SNC) for Vogtle Units 3 and 4, the “Reference COLA” (or R-COLA), which also references the AP1000 DCD. In keeping with the Commission’s urging, SCE&G has adopted SNC’s resolution of standard

plant licensing issues except to the extent required to satisfy site-specific requirements. In this circumstance, the Commission has determined that “no further staff review of the adequacy of the approach [of such common issues] is necessary” and the staff’s review of SCE&G’s COLA with respect to such matters is “limited to verification that [SCE&G] has indeed adopted the previously approved approach and will properly implement it, and, for technical issues that depend on site-specific factors, that the previously-approved approach applies to the applicant’s proposed facility” (73 Fed. Reg. at 20,973).

**Q13. You mentioned that the V.C. Summer COLA references the AP1000 DCD. Please describe the AP1000 DCD’s procedural posture relative to the COLA.**

A13. (SAB, AMP) The current revision of the V.C. Summer COLA, Revision 5, references AP1000 DCD Revision 19, which was submitted by Westinghouse to the NRC for approval on June 13, 2011. The Final Safety Evaluation Report (FSER) for DCD Revision 19 (NUREG-1793, Supplement 2) was issued on August 5, 2011, which supported the issuance of the V.C. Summer Units 2 and 3 COLA FSER on August 17, 2011.

**Q14. What effect does incorporating the AP1000 DCD, Revision 19, have on the V.C. Summer Units 2 and 3 COLA?**

A14. (AMP) Incorporating these documents by reference essentially narrows the scope of issues that the Commission needs to consider before issuing the COLs. An applicant, such as SCE&G, seeking an NRC license to construct and operate a nuclear power reactor using the AP1000 design, need not demonstrate in its application the safety of the certified design; those issues resolved in the NRC’s rulemaking on the AP1000 design certification amendment will not be re-litigated in the COLA proceeding. Proposed Rule, AP1000 Design Certification Amendment, 76 Fed. Reg. 10,269, 10,269-270 (Feb. 24, 2011). Accordingly, safety issues

within the scope of the AP1000 DCD, Revision 19, are not addressed in SCE&G's testimony in this mandatory hearing.

**Q15. Does the V.C. Summer Units 2 and 3 COLA contain any departures from the DCD or exemptions from NRC regulations?**

A15. (AMP) Yes. The departures from the AP1000 DCD and exemptions from the NRC regulations are addressed in the testimony of Witness Monroe.

**Q16. Does the V.C. Summer Units 2 and 3 COLA reference an Early Site Permit (ESP) or a Limited Work Authorization (LWA)?**

A16. (AMP) No. SCE&G has not requested an ESP or an LWA. Therefore, the V.C. Summer Units 2 and 3 COLA does not reference an ESP or an LWA.

### **III. PROCEDURAL HISTORY**

**Q17. Please describe the procedural history of the V.C. Summer Units 2 and 3 COLA.**

A17. (AMP) The NRC staff accepted the COLA for docketing on August 6, 2008, and the Commission issued a notice of hearing and opportunity to petition for leave to intervene regarding the V.C. Summer COLA on October 10, 2008 (73 Fed. Reg. 60,362). On December 7, 2008, one petitioner filed, and on December 8, 2008, two petitioners jointly filed, timely requests for hearing and petitions to intervene seeking to admit various proposed contentions. The Atomic Safety and Licensing Board (Licensing Board) was established on December 18, 2008, to adjudicate this contested portion of the V.C. Summer COL proceeding (73 Fed. Reg. 79,196 (Dec. 24, 2008)). By Order dated February 18, 2009, the Licensing Board found that although one of the petitioners had standing, none of the petitioners had proffered an admissible contention. *South Carolina Electric & Gas Co.* (Virgil C. Summer Nuclear Station, Units 2 and 3), LBP-09-02, 69 NRC 87 (2009).

All of the petitioners timely filed petitions for review of the Licensing Board's order, LBP-09-02. By Order dated January 7, 2010, the Commission reversed and remanded to the Licensing Board for further consideration subparts of a single contention regarding demand side management and cost estimates. *South Carolina Electric & Gas Co.* (Virgil C. Summer Nuclear Station, Units 2 and 3), CLI-10-01, 71 NRC 1 (2010). The Licensing Board subsequently issued a March 17, 2010 Order further explaining the basis for its rejection of the contention, and again terminating the proceeding. *South Carolina Electric & Gas Co.* (Virgil C. Summer Nuclear Station, Units 2 and 3), LBP-10-06, 71 NRC 350 (2010). Two of the petitioners timely filed a petition for review of LBP-10-06. By Order dated August 27, 2010, the Commission affirmed the Licensing Board decision. *South Carolina Electric & Gas Co.* (Virgil C. Summer Nuclear Station, Units 2 and 3), CLI-10-21, 72 NRC \_\_, slip op. (Aug. 27, 2010). Since that time, the contested portion of the proceeding has been terminated.

In April 2011, petitioners filed a request to suspend this proceeding due to the accident at the Fukushima-Daiichi plant in Japan. The petitioners supplemented this request in August 2011. On September 9, 2011, the Commission rejected this request. *See South Carolina Electric & Gas Co.* (Virgil C. Summer Nuclear Station, Units 2 and 3), CLI-11-05, 74 NRC \_\_, slip op. (Sept. 9, 2011).

On February 17, 2011, the Advisory Committee on Reactor Safeguards (ACRS) issued its letter on review of the V.C. Summer Units 2 and 3 COLA, concluding that "there is reasonable assurance that VCSNS, Units 2 and 3, can be built and operated without undue risk to the health and safety of the public. The SCE&G COLA for VCSNS, Units 2 and 3, should be approved following its final revision." Report on the Safety Aspects of the South Carolina Electric and

Gas Company Combined License Application for V.C. Summer Nuclear Station, Units 2 and 3, at 2, 5 (Feb. 17, 2011).

In April 2011, the NRC issued the Final Environmental Impact Statement (FEIS) for the V.C. Summer COLA, concluding that “[t]he NRC staff’s recommendation to the Commission related to the environmental aspects of the proposed action is that the COLs should be issued.” NUREG-1939, Final Environmental Impact Statement for Combined Licenses for Virgil C. Summer Nuclear Station Units 2 and 3, at 10-27 (Apr. 2011). In August 2011, the NRC published its FSER for the V.C. Summer COLA, concluding that there is “reasonable assurance that the facility will be constructed and will operate in conformity with the license, the provisions of the Atomic Energy Act, and the Commission’s regulations.” Final Safety Evaluation Report for Combined Licenses for Virgil C. Summer Nuclear Station Units 2 and 3 (Aug. 2011).

The NRC staff’s review of the V.C. Summer Units 2 and 3 COLA is now complete. The last remaining aspect of the NRC’s review of the COLA is the mandatory hearing on uncontested issues.

#### **IV. REGULATORY REQUIREMENTS APPLICABLE TO V.C. SUMMER UNITS 2 AND 3 COLA**

**Q18. Would you please describe the regulatory requirements applicable to the V.C. Summer Units 2 and 3 COLA?**

A18. (AMP) The central regulatory requirements applicable to the COLA are contained in 10 C.F.R. Part 52. In general, these regulations are divided into two broad categories, environmental regulations and safety-related regulations. With respect to environmental requirements, 10 C.F.R. § 52.80(b) requires a COL applicant to submit an Environmental Report (ER). With respect to safety requirements, 10 C.F.R. § 52.79 generally identifies the safety-related information that a COLA must contain. As I discussed above, the

V.C. Summer Units 2 and 3 COLA references the AP1000 DCD; therefore, some of these requirements are met through the referenced DCD. As a part of referencing the DCD, however, SCE&G's COLA must include other information. For example, the SCE&G COLA must demonstrate that the COL Information Items contained in the DCD are met, and that the applicable requirements and restrictions set out in 10 C.F.R. Part 52, Appendix D, are met. The specific safety-related testimony and testimony on environmental issues submitted concurrently with my testimony address in detail how the COLA meets all of these requirements.

The NRC staff reviews the information submitted by SCE&G and completes its own independent evaluation. The staff then issues the final environmental and safety documents summarizing its review, which are the FEIS and FSER I discussed above. The Commission then must make certain findings in its review of the staff's analysis in order to issue the COLs.

**Q19. What findings must the Commission make in order to issue a COLA?**

A19. (AMP) The Commission must find that the NRC staff's review has been adequate to support the findings set forth in 10 C.F.R. §§ 52.97(a) and 51.107(a). Pursuant to 10 C.F.R. § 52.97(a)(1), to issue a COL the Commission must find that:

- The applicable standards and requirements of the Act and the Commission's regulations have been met;
- Any required notifications to other agencies or bodies have been duly made;
- There is reasonable assurance that the facility will be constructed and will operate in conformity with the license, the provisions of the Act, and the Commission's regulations;
- The applicant is technically and financially qualified to engage in the activities authorized;
- Issuance of the license will not be inimical to the common defense and security or to the health and safety of the public; and
- The findings required by 10 C.F.R. Part 51, Subpart A, have been made.

The findings required by 10 C.F.R. Part 51, Subpart A, for the COL, in turn, are set out in 10 C.F.R. § 51.107(a):

- Determine whether the requirements of Sections 102(2) (A), (C), and (E) of NEPA and the regulations in 10 C.F.R. Part 51, Subpart A, have been met;
- Independently consider the final balance among conflicting factors contained in the record of the proceeding with a view to determining the appropriate action to be taken;
- Determine, after weighing the environmental, economic, technical, and other benefits against environmental and other costs, and considering reasonable alternatives, whether the COL should be issued, denied, or appropriately conditioned to protect environmental values; and
- Determine, in an uncontested proceeding, whether the NEPA review conducted by the NRC staff has been adequate.

**Q20. What issues relevant to these findings have already been resolved in the AP1000 DCD?**

A20. (AMP) The AP1000 design certification rule, once its final version is affirmed by the Commission, resolves safety issues associated with the AP1000 design. All nuclear safety issues associated with the information in the NRC's FSER for the AP1000 design certification rule amendment (NUREG-1793), the Tier 1 and Tier 2 information, and the rulemaking record for Appendix D to 10 C.F.R. Part 52 are resolved within the meaning of 10 C.F.R. § 52.63(a)(5). This includes the Generic Technical Specifications and Bases incorporated from the AP1000 DCD in Part 4 of SCE&G's COLA. The resolution of these issues and the bases for the findings include the information referenced in the DCD that are requirements (*i.e.*, secondary references) (Proposed Rule, AP1000 Design Certification Amendment, 76 Fed. Reg. at 10,276).

**Q21. Does SCE&G's COLA adequately address those remaining issues the NRC must resolve in this proceeding?**

A21. (AMP) Yes. SCE&G's COLA, in summary, provides information showing that the COLA falls within the parameters of the AP1000 design certification rule, and where it does not, provides the necessary support for SCE&G's requests for departures. SCE&G's COLA also shows that all requirements in the AP1000 design certification rule are satisfied or will be included as license conditions in the COL. The detailed testimony of Witness Monroe on safety issues explains how the COLA addresses these issues.

Regarding environmental issues, as I noted above, SCE&G submitted an ER as part of the COLA, which provided the foundation for the NRC staff's environmental review. As noted earlier, the NRC staff issued the FEIS regarding the V.C. Summer Units 2 and 3 COLA in April 2011.

**Q22. Are the findings in 10 C.F.R. § 52.97(a) met for V.C. Summer Units 2 and 3?**

A22. (AMP) Yes. As detailed in the testimony of Witness Monroe, SCE&G's COLA meets all regulatory requirements, including those in 10 C.F.R. §§ 52.73, 52.75, 52.77, 52.79, 52.80, and Appendix D of Part 52. The NRC staff reviewed the COLA and concluded in the FSER that:

- 1) The applicable standards and requirements of the Atomic Energy Act and Commission's regulations have been met;
- 2) Required notifications to other agencies or bodies have been duly made;
- 3) There is reasonable assurance that the facility will be constructed and will operate in conformity with the license, the provisions of the Atomic Energy Act, and the Commission's regulations;
- 4) The applicant is technically and financially qualified to engage in the activities authorized; and

5) Issuance of the license will not be inimical to the common defense and security or to the health and safety of the public.

Final Safety Evaluation Report for Combined Licenses for Virgil C. Summer Nuclear Station Units 2 and 3, Ch. 20 (Aug. 2011).

Together, the NRC staff's review combined with the safety analysis in the COLA support the required findings in 10 C.F.R. § 52.97(a).

**Q23. Are the environmental findings in 10 C.F.R. § 51.107(a) met for V.C.**

**Summer Units 2 and 3?**

A23. (AMP) Yes. As detailed in the testimony of Witness Rice, all environmental findings were supported by the information in SCE&G's updated ER (including supplemental correspondence), submitted with the V.C. Summer Units 2 and 3 COLA. The NRC staff, pursuant to 10 C.F.R. Part 51, first prepared a Draft EIS, which it published and for which it sought public comment. NUREG-1939, Draft Environmental Impact Statement for Combined Licenses for Virgil C. Summer Nuclear Station Units 2 and 3, at 10-27 (Apr. 2010). Thereafter, the staff addressed the comments received on the Draft EIS and prepared an FEIS which documents the staff's review of SCE&G's updated ER (NUREG-1939 (Apr. 2011)). Along with the NRC staff's recommendation, the FEIS includes: (1) the results of the NRC staff's analyses, which consider and weigh the environmental effects of the proposed action; (2) potential mitigation measures for reducing or avoiding adverse effects; and (3) the environmental impacts of alternatives to the proposed action (NUREG-1939, at xxxii).

In its FEIS, the NRC staff recommends to the Commission that the COLs be issued as proposed. This recommendation is based on (1) the ER submitted by SCE&G and responses to staff requests for additional information; (2) consultation with Federal, State, Tribal, and local agencies; (3) the staff review team's independent review; (4) the staff's consideration of

comments related to the environmental review that were received during the public scoping process; (5) the staff's consideration of comments on the draft EIS; and (6) the assessments summarized in the FEIS, including the potential mitigation measures identified in the ER and in the FEIS (NUREG-1939, at 10-27).

Together, the NRC staff's environmental analysis in the FEIS and the environmental analysis in the ER support the Commission's required findings in 10 C.F.R. § 51.107(a) applicable to the COLA.

**Q24. Are true, accurate, and correct copies of each of the referenced exhibits submitted with your testimony?**

A24. (SAB, AMP) Yes.

**Q25. Does this conclude your testimony?**

A25. (SAB, AMP) Yes.

I certify that this written testimony was prepared by me or under my direction, and I adopt the testimony as my sworn testimony in this proceeding.

I declare under penalty of perjury that the foregoing is true and correct to the best of my information, knowledge, and belief.

Executed on September 27, 2011.

Executed in Accord with 10 C.F.R. § 2.304(d)

/s/ Stephen A. Byrne

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Executed in Accord with 10 C.F.R. § 2.304(d)

/s/ Alfred M. Paglia, Jr.

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