U.S.NRC
UNITED STATES NUCLEAR REGULATORY COMMISSION
Protecting People and the Environment

Information Sheet on the Proposed V.C. Summer Units 2 and 3 Combined Operating Licenses Environmental Review

OVERVIEW

South Carolina Electric and Gas (SCE&G) with Santee Cooper submitted an application to the U.S. Nuclear Regulatory Commission (NRC) on March 27, 2008, for combined licenses (COLs) to construct and operate two new nuclear units at the V.C. Summer Nuclear Station site in Fairfield County, South Carolina.

As part of the NRC's review of SCE&G's application, the staff performed an environmental review. The results of that review are documented in the draft Environmental Impact Statement (EIS). The US Army Corps of Engineers (USACE) partnered with the NRC on this environmental review and, collectively, are referred to as the review team.

WHERE TO FIND MORE INFORMATION

Copies of SCE&G's Environmental Report and the review team's draft EIS are available for review at the Fairfield County Library, 300 Washington Street, Winnsboro, SC and on the NRC's website.

More information regarding the NRC's review of the SCE&G application, including the draft EIS, is available online at: http://www.nrc.gov/reactors/new-reactors /col/summer.html.

Environmental Project Manager

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ENVIRONMENTAL REVIEW MILESTONES

Application submitted to NRC	Mar 2008
Public Scoping Meetings	Jan 2009
Open House	Mar 2009
Publication of Draft EIS	Apr 2010
Public Meetings on Draft EIS	May 2010
Publication of Final EIS	Feb 2011*

* Target date

Comments on the V.C. Summer Draft EIS will be accepted through **July 09, 2010**.

Your input on the EIS is a very important aspect of our environmental review. Here are a few ways you can share your comments with us.

Email: Summer.COLEIS@nrc.gov

Mail: Chief,
Rules, Announcements and
Directives Branch
Division of Administrative Services
Office of Administration
Mailstop TWB-05-B01M
US Nuclear Regulatory Commission
Washington, DC 20555-0001

Fax: 301.492.3446

Online: http://www.nrc.gov/public-involve/doc-comment/form.html

Tonight's Public Meeting:
Submit verbally to an NRC-designated court reporter, during the transcribed portion of the meeting, or in writing

THE NRC'S NEW REACTOR LICENSING PROCESS

The NRC is responsible for issuing combined licenses (COLs) for commercial nuclear power facilities. The combined licenses, if issued by the NRC, would authorize SCE&G to build and operate two new nuclear units. The NRC is reviewing revisions to the proposed reactor design, the Advanced Passive (AP) 1000; if approved, the design will be certified in NRC regulations.

In addition to the design review, the NRC's evaluation of SCE&G's COL application involves two other reviews:

- Safety Review
- Environmental Review

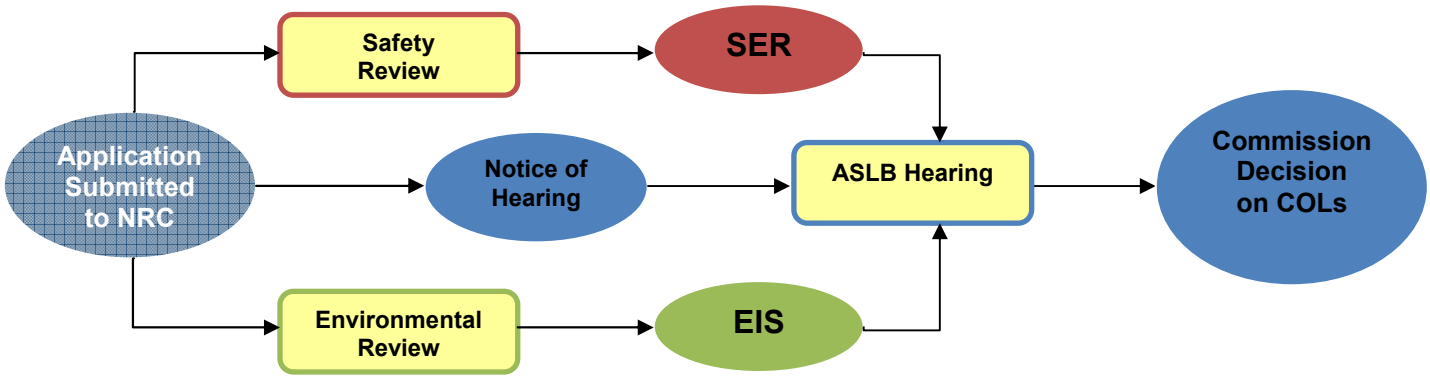

Figure 1. Simple Overview of the NRC's Review of a COL Application

The purpose of the **safety review** is to ensure the new reactors are safely built and operated according to NRC regulations and requirements. The review includes an evaluation of the design of the facility, siting requirements, quality assurance programs, physical security, and emergency preparedness. The NRC's analysis will be documented in the **Safety Evaluation Report (SER)**.

The **environmental review** documents the potential environmental impacts of building and operating new nuclear reactors. The environmental review includes input from the public, consultation and coordination with local, State, and Federal agencies, Tribal Nations, as well as independent evaluation by NRC, USACE, and contractor experts. These experts review the applicant's environmental report and conduct site visits, audits, and, when necessary, perform confirmatory analyses. Example subject areas reviewed include: water quality and use, ecology, land use, socioeconomics, and environmental justice. The review team's analysis of the environmental impacts is documented in the **Environmental Impact Statement (EIS)**.

The NRC's Advisory Committee on Reactor Safeguards (ACRS) – an independent group of technical experts – reviews each COL application and the NRC's corresponding safety evaluation, and reports its results to the NRC's five-member Commission. A mandatory public hearing is conducted by the Commission. When a contested proceeding is appropriate, it would be conducted by the Atomic Safety and Licensing Board (ASLB) panel, who would make a recommendation to the Commission on whether to grant COLs. The Commission makes the final licensing decision.

SCE&G submitted an application for two new units that reference the AP1000 design. More information about the AP1000 design can be found online at:
http://www.nrc.gov/reactors/new-reactors/design-cert/ap1000.html.

ORGANIZATION OF THE DRAFT EIS FOR V.C. SUMMER UNITS 2 AND 3

Chapter 1 – Introduction

This introductory chapter outlines important elements of the National Environmental Policy Act (NEPA) review – such as defining the *proposed action* and the *purpose and need* of the proposed action. For this review, the proposed actions are the issuance of NRC combined licenses and issuance of a USACE permit to perform certain activities that may impact waters of the United States, including wetlands. In addition, the chapter provides a brief outline of the NRC and USACE environmental review processes.

Chapter 2 – Affected Environment

The location of the V.C. Summer site, the existing conditions at the site and surrounding area are described in this chapter. It includes descriptions of the existing land use, current water use and quality, ecological resources, socioeconomic conditions (taxes, public services), historic resources and air quality, to name a few. This information provides the "baseline" for the analysis. This baseline is used by the team to determine the level of impacts the new reactors would have on the environment.

Chapter 3 – Site Layout and Plant Design

In this chapter, the proposed site layout and the key plant characteristics that are used for the impact analysis of the proposed actions are described. The chapter briefly depicts the major plant structures that would be built, such as the nuclear reactor and supporting safety systems and the cooling system. This chapter also explains some of the physical activities that would take place while building and operating Units 2 and 3, including the number of workers, amount of water withdrawn, noise levels, and dimensions of new structures.

Chapter 4 – Environmental Impacts of Construction

In Chapter 4, the review team evaluates the potential impacts associated with building the proposed Units 2 and 3 on land use, water use and quality, terrestrial and aquatic ecosystems, socioeconomics, environmental justice, historic and cultural resources, meteorology and air quality, nonradiological and radiological health effects, nonradioactive waste, and applicable measures and controls that would limit the adverse impacts of building the new units. Impact category levels—SMALL, MODERATE or LARGE— are used by the review team to communicate the significance of potential impacts for each resource area.

Chapter 5 – Environmental Impacts of Operation

The review team examines the potential operational impacts on land use, water use and quality, terrestrial and aquatic ecosystems, socioeconomics, environmental justice, historic and cultural resources, meteorology and

air quality, nonradiological and radiological health effects, nonradioactive waste, and postulated accidents. Applicable measures and controls that would limit the adverse impacts of proposed Units 2 and 3 operation during the 40-year operating period are considered in this chapter.

Chapter 6 – Fuel Cycle, Transportation, and Decommissioning

The potential environmental impacts from (1) the uranium fuel cycle and solid waste management, (2) the transportation of radioactive material, and (3) the decommissioning of proposed Units 2 and 3 are detailed in this chapter. Decommissioning is the safe removal of a facility from service and the reduction of residual radioactivity to a level that permits termination of the NRC licenses.

Chapter 7 – Cumulative Impacts

Cumulative impacts result when the effects of one action are added to or interact with other past, present, and reasonably foreseeable future actions on the same resources. For this cumulative analysis, past actions are those prior to the receipt of the COL application. If the licenses are granted, then present actions are those from the time of the COL application until building the proposed new units begins. Reasonably foreseeable actions are those that could occur during building and operating the proposed Units 2 and 3, including decommissioning. The geographic area over which past, present, and reasonably foreseeable future actions could contribute to cumulative impacts is dependent on the type of resource considered and is described for each resource area.

Chapter 8 – Need for Power

The review team's evaluation of the need for baseload generating capacity within the region of interest is discussed in Chapter 8. In this case, the review team relied upon the state's process for review of the need for power conducted by the Public Service Commission of South Carolina as well as the Board of Directors of the South Carolina Public Service Authority to make its determination of the need for new power. A description of the South Carolina regulatory framework and summaries of the State's findings are provided within this chapter.

Chapter 9 – Alternatives

Considering alternatives is often described as the "heart of NEPA" and, logically, the review team discusses alternatives in detail. This chapter contains the evaluation of several kinds of alternatives – no-action, energy, site, and design. The no-action alternative is discussed in Section 9.1 along with the impacts if the licenses were not issued. In Section 9.2, alternative energy sources, such as coal, natural gas, and a combination of energies (renewable energies, conservation and natural gas) are evaluated and impacts are compared to those of nuclear power generation. The site-selection process and the environmental impacts at alternative sites are compared to the proposed site in Section 9.3. The environmental impacts of alternative systems, such as cooling and circulating water, are compared to the proposed systems in Section 9.4. Section 9.5 is a comparison of impacts to waters of the U.S. for proposed and alternative sites. None of the alternatives are environmentally preferable to the proposed action.

Chapter 10 – Conclusions and Recommendations

The final chapter of the EIS provides the NRC staff's preliminary recommendation, based on assessment of the environmental impacts, regarding whether the NRC COLs should be issued to SCE&G. The impacts of building and operating two new reactors are summarized. The costs (e.g., habitat loss, traffic noise) versus the benefits (e.g., more jobs, electricity generation) of the two new units are weighed in this chapter. These analyses will also inform the USACE's determination of whether or not to issue a permit.

The NRC staff's preliminary recommendation to the Commission – related to the environmental aspects of the proposed action - is that the combined licenses for V.C. Summer Units 2 and 3 should be issued. This recommendation will be part of the input the Commission uses to determine whether or not to issue the combined licenses to SCE&G.