

**Southern Nuclear
Operating Company, Inc.**
42 Inverness Center Parkway
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MAY 13 2010

Docket No.: 52-011

ND-10-0960

U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555-0001

Southern Nuclear Operating Company
Vogtle Electric Generating Plant Units 3 and 4
Early Site Permit Site Safety Analysis Report Amendment Request
Revised Site Safety Analysis Report Markup for Onsite Sources of Backfill

Ladies and Gentlemen:

By letter dated April 20, 2010, Southern Nuclear Operating Company (SNC) submitted a license amendment request (LAR) to the U.S. Nuclear Regulatory Commission (NRC), in accordance with 10 CFR 50.90, to change the Vogtle Electric Generating Plant (VEGP) Units 3 and 4 Early Site Permit (ESP) Site Safety Analysis Report (SSAR). The requested change would allow the use of onsite backfill borrow areas not specifically identified in the SSAR. During the NRC's review of this amendment request, the NRC identified a need for additional information, involving the extent of the requested area boundary and the rationale used to conclude that the Barnwell Group of sands extends throughout the VEGP site. By letter dated April 28, 2010, SNC responded to this request for additional information (RAI). Subsequently, during teleconferences held between SNC and NRC on May 12, 2010, the NRC identified a need for clarifying information regarding the geological origin of Category 1 and Category 2 backfill material. In addition, the NRC identified a need for additional information regarding the specific areas to be used as backfill sources relative to the Environmental Assessment (EA) for the LAR.

Enclosure 1 provides SNC's response to the information requests of May 12, 2010. Enclosure 2 provides a revision to SSAR Section 2.5.4.5.4 that clarifies the geological origin description and identifies areas impacted by VEGP 3 and 4 construction which were specifically addressed in NUREG-1872, "The Final Environmental Impact Statement for an Early Site Permit (ESP) at the Vogtle Electric Generating Plant Site", and are suitable as backfill sources. Enclosure 3 provides a LAR Environmental Report (ER) to support development of an EA for the LAR. The proposed changes to the SSAR do not affect the no significant hazards consideration provided in the amendment request.

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LRO

By this letter, SNC requests a limited scope approval of the April 20, 2010 LAR as to the areas identified in Enclosure 2. SNC requests this approval by May 20, 2010.

SNC will provide additional information regarding the remainder of the areas within the scope of the LAR before June 4, 2010. SNC requests approval of the full LAR by July 9, 2010. NRC approval of the full LAR would supersede the limited scope request approval. Pending NRC approval of the full LAR, the limited scope request approval would remain in effect.

If you have any questions regarding this letter, please contact Mr. Brandon Waites at (205) 992-7024. Thank you.

Mr. M. K. Smith states he is the Technical Support Director for Southern Nuclear Operating Company, is authorized to execute this oath on behalf of Southern Nuclear Operating Company and to the best of his knowledge and belief, the facts set forth in this letter are true.

Respectfully submitted,

SOUTHERN NUCLEAR OPERATING COMPANY



Michael K. Smith

Sworn to and subscribed before me this 13th day of May, 2010

Notary Public: Deborah A. Javorka

My commission expires: October 24, 2012

MKS/TEA/dmw

- Enclosure 1: Responses to NRC Requests for Additional Information on the LAR
- Enclosure 2: Proposed SSAR Markup Revision for the LAR
- Enclosure 3: Environmental Report (ER) for the LAR

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Southern Nuclear Operating Company

ND-10-0960

Enclosure 1

Responses to NRC Requests for Additional Information on the LAR

NRC Question No. 1

Proposed SSAR Table 2.5.4-15 identifies the geological origin of the backfill material as the "Barnwell Group." However, the proposed addition to SSAR Section 2.5.4.5.4 identifies the source as the "Upper Sand stratum." Please clarify this apparent discrepancy.

SNC Response:

The geologic origin of the backfill material may be characterized as the Barnwell Group of the Upper Sand stratum. SSAR Section 2.5.4.5.4 is revised to clarify the geologic origin of the backfill material.

NRC Question No. 2

Under 10 CFR 51.21, Criteria for and Identification of Licensing and Regulatory Actions Requiring Environmental Assessments, the LAR requires the NRC perform an environmental assessment (EA) evaluating the impacts associated with the proposed amendment. Please provide an evaluation of the environmental impacts associated with the proposed license amendment.

SNC Response:

While the additional areas described in the LAR were not previously identified in the SSAR for use as onsite sources of backfill material, they were identified and evaluated in the ESP FEIS for impacts related to construction of VEGP Units 3 and 4. In accordance with 10 CFR 51.21, SNC has completed an environmental evaluation of the LAR and determined there are no significant environmental impacts associated with the use of these areas as sources of backfill material beyond the construction related impacts discussed in the ESP FEIS. Included in Enclosure 3 is the LAR Environmental Report (ER) which contains SNC's environmental evaluation of the proposed amendment, referencing, when appropriate, the applicable sections of the ESP FEIS. All impacts associated with the LAR are bounded by the evaluations contained within the ESP FEIS.

Southern Nuclear Operating Company

ND-10-0960

Enclosure 2

Proposed SSAR Markup Revision for the LAR

NOTE: The enclosed document is three (3) pages in length.

2.5.4.5.4 Backfill Sources

Sufficient sources of backfill have been identified on the Vogtle site through the boring and laboratory testing programs and analysis of their results as described below. Flowable fill may also be used as backfill in small restricted areas where adequate compaction cannot be achieved. The flowable fill mix will be designed to have similar strength characteristics as the compacted backfill.

Identified onsite sources of borrow material for the proposed backfill include acceptable materials from the Upper Sand stratum excavated from the power block and a borrow area (switchyard) north of the power block. An alternative borrow area is located about 4,000 feet north of the power block. This alternative location (Borrow Area 4) was also identified and investigated during construction of VEGP Units 1 and 2.

Approximately 3,900,000 cubic yards of material (including an allowance for ramps) will be excavated for the Units 3 and 4 power blocks. Approximately 3,600,000 cubic yards of material will be required to backfill these excavations. Based on a review of the 70 SPT boring logs and laboratory test results on selected samples from the COL subsurface investigation, approximately 50 percent of the material excavated from the power block areas will qualify for reuse as Seismic Category 1 or 2 backfill. However, because a portion of the excavated material may be difficult to segregate, an estimated 30–50 percent of the excavated material is designated for borrow. This quantity accounts for approximately 1,200,000–2,000,000 cubic yards.

Additional backfill for the power blocks, approximately 1,600,000 cubic yards, is available from a borrow source located immediately north of the power blocks (Units 3 and 4 switchyard area). See Figures 2.5.4-15 and 2.5.4-16 for plan and section views, respectively. The switchyard borrow source was explored with 15 SPT borings and five test pits during the COL investigation. The engineering properties of these materials were evaluated with laboratory tests on disturbed, undisturbed, and bulk samples. The COL laboratory testing program (Appendix 2.5.C) included sieve analyses of 27 samples that disclosed an average value of 15 percent fines and a median value of 15 percent. Based on the subsurface data, suitable backfill materials at the switchyard borrow source were identified. These materials were classified according to ASTM D 2488 as silty sands (SM) and poorly graded sands (SP). Clayey sands (SC) were also encountered in some samples. Compaction tests (ASTM D 1557) were conducted on five bulk samples taken from representative soils. Test results disclosed a range of 111 pcf to 125 pcf for the maximum dry density with an average value of 116 pcf.

If additional material is needed, an alternative borrow source is located about 4,000 feet north of the power block area, designated Borrow Area 4. It was explored with four SPT borings and three test pits during the COL investigation. This area was previously explored but not utilized during the design and construction of Units 1 and 2. Sieve analyses were conducted on 31 representative samples and disclosed values ranging from 7 percent to 43 percent fines content

with an average value of 16. Compaction tests (ASTM D 1557) were conducted on five bulk samples taken from representative soils. Test results disclosed a range of 113 pcf to 121 pcf for the maximum dry density with an average value of 116 pcf. Based on the subsurface data, suitable backfill materials at Borrow Area 4 are located at the surface (approximate El. 246 ft) to a depth of 36 ft (approximate El. 210 ft) and the borrow area is estimated to contain approximately 1,200,000 cubic yards.

Other localized deposits of suitable material within the Barnwell Group of the Upper Sand stratum located within the VEGP Exclusion Area Boundary (EAB) (Figure 1-4) outside of the above three borrow areas may be evaluated for use as borrow material. These additional borrow areas are limited to selected areas identified in NUREG 1872, Vol. 1, "Final Environmental Impact Statement for an Early Site Permit (ESP) at the Vogtle Electric Generating Plant Site," Section 4.3, as areas impacted by Vogtle 3 and 4 construction. These selected areas are described in NUREG 1872 as follows:

- Cooling Tower
- Temporary Parking
- Temporary Warehouse, Office, and Laydown
- Spoils Areas

Deposits within these areas may be identified by review of existing boring data, additional informational borings or test pits, or excavation activities incidental to construction. The evaluation to use such material would include a geologic review of the materials, a laboratory testing program, and an engineering review of soil properties. This material would be designated as suitable for use as Category 1 and 2 backfill provided the evaluation concludes that the material meets the acceptance criteria contained in Table 2.5.4-15. Once identified as suitable backfill, the material will be qualified and placed in accordance with all requirements for Category 1 and 2 backfill.

Table 2.5.4-15 Criteria for Evaluation of Borrow Material from Outside of the Three Designated Category 1 and 2 Borrow Areas

Parameter	Acceptance Criteria
Location	Exclusion Area Boundary (Figure 1-4)
Geological Origin	Barnwell Group
Soil Classification	SP, SP-SM or SM
Maximum Dry Density (Modified Proctor)	Engineering Evaluation
Fines Content, Percent passing on a #200 Sieve	3% Minimum 25% Maximum
Gradation	Table 2.5.4-14 and associated text in Section 2.5.4.5.3

Southern Nuclear Operating Company

ND-10-0960

Enclosure 3

Environmental Report (ER) for the LAR

NOTE: The enclosed document is seventeen (17) pages in length.

**Vogtle Electric Generating Plant, Units 3 & 4
License Amendment – Onsite Borrow Sources
Environmental Report**

1.0 INTRODUCTION

Georgia Power Company (GPC), Oglethorpe Power Corporation (an Electric Membership Corporation), the Municipal Electric Authority of Georgia, and the City of Dalton, Georgia, an incorporated municipality in the State of Georgia acting through its Board of Water, Light, and Sinking Fund Commissioners (Dalton Utilities) are co-owners of Vogtle Electric Generating Plant (VEGP) Units 1 and 2 in Burke County, Georgia. The nuclear reactors are operated for the co-owners by Southern Nuclear Operating Company (SNC).

1.1 BACKGROUND

In 2006, SNC, on behalf of the co-owners, submitted an application to the NRC for an Early Site Permit (ESP) for the VEGP site. The Nuclear Regulatory Commission (NRC) issued the ESP on August 26, 2008. In accordance with 10 CFR 50.90, SNC submitted a License Amendment Request (LAR) on April 20, 2010 to allow for backfill material to be used from areas not previously identified in the Site Safety Analysis Report (SSAR).

Under 10 CFR 51.21, Criteria for and Identification of Licensing and Regulatory Actions Requiring Environmental Assessments, the LAR requires the NRC perform an environmental assessment (EA) evaluating the impacts associated with the proposed amendment. During review of the LAR, NRC requested additional information regarding the location of backfill sources and their associated environmental impacts. SNC is providing this environmental report to support the NRC's review of the LAR and development of the EA.

1.2 PROPOSED ACTION

A LAR was submitted to the NRC requesting the use of additional backfill sources not previously included in the ESP SSAR. Localized deposits of suitable material within the Barnwell Group of the Upper Sand stratum located within the VEGP site, other than those previously listed in the ESP SSAR, have been identified. The additional borrow areas are limited to selected areas identified in NUREG 1872, Vol. 1, "Final Environmental Impact Statement for an Early Site Permit (ESP) at the Vogtle Electric Generating Plant Site," Section 4.3, as areas impacted by VEGP Units 3 and 4 construction. These selected areas are described in NUREG 1872 as follows:

- Cooling Tower
- Temporary Parking
- Temporary Warehouse, Office, and Laydown
- Spoils Areas

The impacts associated with the excavation of backfill material from these areas does not differ substantively from the construction activities described and evaluated in the ESP FEIS.

**Vogle Electric Generating Plant, Units 3 & 4
License Amendment – Onsite Borrow Sources
Environmental Report**

1.3 THE NEED FOR THE PROPOSED ACTION

The VEGP ESP FEIS states that “[b]orrow material would be taken from the excavation for the powerblock and 500 kV switchyard...” The FEIS also identifies an additional 31 acre borrow area that would be used as a source in the event inadequate backfill quantities were recovered from the powerblock and switchyard. Based on current estimates of suitable backfill material recovered from the three borrow areas identified in the ESP FEIS, additional backfill sources are required. Following an onsite investigation, additional areas were identified as containing suitable backfill material. These areas are listed in Section 1.2 of this report. A LAR has been submitted to revise the SSAR to allow borrow material to be removed from these locations and used as backfill.

**Vogtle Electric Generating Plant, Units 3 & 4
License Amendment – Onsite Borrow Sources
Environmental Report**

2.0 AFFECTED ENVIRONMENT

Chapter 2 of the VEGP ESP FEIS described the VEGP site, the vicinity or the region, as appropriate, for each environmental topic that could be affected by the construction or operation of two new nuclear units at the VEGP site. LAR activities will be limited to the following areas of the VEGP site:

- Cooling Tower
- Temporary Parking
- Temporary Warehouse, Office, and Laydown
- Spoils Areas

2.1 SITE LOCATION

VEGP ESP FEIS Chapter 2, Section 2.1 described the VEGP site and the proposed locations of the new reactors.

2.2 LAND

VEGP ESP FEIS Chapter 2, Section 2.2 described the habitat types on the VEGP site and the proposed transmission line corridor, the land uses in the vicinity and region, access to the site, and nearby communities.

2.3 METEOROLOGY AND AIR QUALITY

VEGP ESP FEIS Chapter 2, Section 2.3 described the climate and air quality of the VEGP site and region and the existing meteorological monitoring program at the VEGP site.

2.4 GEOLOGY

VEGP ESP FEIS Chapter 2, Section 2.4 described the basic geology underlying the VEGP site and region.

2.5 RADIOLOGICAL ENVIRONMENT

VEGP ESP FEIS Chapter 2, Section 2.5 described radiological doses to the maximally exposed individual due to operation of VEGP Units 1 and 2.

2.6 WATER

VEGP ESP FEIS Chapter 2, Section 2.6 described the hydrological processes governing movement and distribution of groundwater and surface water, water use, and water quality in the vicinity of the VEGP site. Section 2.6 also described the existing VEGP hydrological monitoring program and the chemical monitoring required under the existing VEGP National Pollutant Discharge Elimination System (NPDES) permit.

**Vogtle Electric Generating Plant, Units 3 & 4
License Amendment – Onsite Borrow Sources
Environmental Report**

2.7 ECOLOGY

VEGP ESP FEIS Chapter 2, Section 2.7 described the terrestrial and aquatic ecology in the vicinity of the VEGP site.

2.8 SOCIOECONOMICS

VEGP ESP FEIS Chapter 2, Section 2.8 described the socioeconomics of the region of interest for the VEGP site.

2.9 HISTORIC AND CULTURAL RESOURCES

VEGP ESP FEIS Chapter 2, Section 2.9 described the historic background and cultural resources known on the site.

2.10 ENVIRONMENTAL JUSTICE

VEGP ESP FEIS Chapter 2, Section 2.10 described the minority and low-income populations within the region around VEGP.

2.11 RELATED FEDERAL PROJECTS AND CONSULTATION

VEGP ESP FEIS Chapter 2, Section 2.11 described Federal activities in the region surrounding VEGP.

**Vogtle Electric Generating Plant, Units 3 & 4
License Amendment – Onsite Borrow Sources
Environmental Report**

3.0 SITE LAYOUT AND PLANT DESCRIPTION

This chapter is not relevant to the LAR environmental report.

**Vogle Electric Generating Plant, Units 3 & 4
License Amendment – Onsite Borrow Sources
Environmental Report**

4.0 ENVIRONMENTAL IMPACTS OF LAR ACTIVITIES

Chapter 4 describes the effects of the proposed LAR activities.

4.1 LAND-USE IMPACTS

VEGP ESP FEIS Chapter 4, Section 4.1 described the land-use effects of constructing two new units at the VEGP site, including clearing and grading of the areas described in Section 1.2 of this environmental report. The LAR activities described in Section 1.2 of this environmental report are consistent with and bounded by the analysis and conclusions contained in the ESP FEIS. The ESP FEIS analysis concluded that impacts to land use from all construction activities would be SMALL.

4.2 METEOROLOGICAL AND AIR-QUALITY IMPACTS

VEGP ESP FEIS Chapter 4, Section 4.2 described the effects of constructing two new units at VEGP on the climate and air quality of the VEGP site and region. Air quality impacts associated with construction activities consist of heavy equipment exhaust, and fugitive dust emissions. As stated in the ESP FEIS, construction activities would vary based on the level and duration of a specific activity, but the overall impact is expected to be temporary and limited in magnitude. The proposed LAR activities are consistent with those evaluated in the ESP FEIS and will not change the conclusion that impacts from construction activities on air quality at the VEGP site would be SMALL.

4.3 WATER-RELATED IMPACTS

VEGP ESP FEIS Chapter 4, Section 4.3 described the effects of constructing two new nuclear units at the VEGP site including the water usage by construction activities on hydrological processes and potential impacts to water resources and water quality. The ESP FEIS noted that the effects would be similar to those associated with any large construction project, and would be SMALL and would not require additional mitigation beyond what SNC proposed. These areas are currently covered under a NPDES permit for construction storm water. The LAR activities are consistent with those evaluated in the ESP FEIS and will not result in additional impacts to water resources. The conclusions reached in the FEIS remain valid for the LAR activities.

4.4 ECOLOGICAL IMPACTS

VEGP ESP FEIS Chapter 4, Section 4.4 described the effects of constructing two new nuclear units at the VEGP site on terrestrial and aquatic ecology, including protected species and wildlife habitat. The NRC concluded that construction activities at the VEGP site would have SMALL effects on terrestrial and aquatic resources, and that mitigation beyond what SNC has proposed would not be warranted. The LAR activities are consistent with those evaluated in the ESP FEIS and impacts associated with the excavation of borrow material from the areas listed in Section 1.2 will not result in additional impact to ecological resources. The conclusions reached in the FEIS remain valid for the LAR activities.

**Vogtle Electric Generating Plant, Units 3 & 4
License Amendment – Onsite Borrow Sources
Environmental Report**

4.5 SOCIOECONOMIC IMPACTS

VEGP ESP FEIS Chapter 4, Section 4.5 described the effects of constructing two new nuclear units at the VEGP site on socioeconomic conditions. Construction effects on local economies would be beneficial and SMALL except in Burke County, and possibly Screven County, where the impacts could be beneficial and MODERATE. The effect on tax revenues would be beneficial and SMALL, except in Burke County where they are expected to be beneficial and MODERATE. The temporary effects of construction traffic would be MODERATE on the two-lane highways in Burke County, particularly River Road and the roadways that feed into it and SMALL elsewhere.

Aesthetic and recreational effects would be SMALL at the VEGP site. The effects on housing and public services would be SMALL. The overall effects on infrastructure and community services would be SMALL. The LAR activities are consistent with those evaluated in the ESP FEIS and will have no additional impact to socioeconomic conditions.

4.6 HISTORIC AND CULTURAL RESOURCE IMPACTS

VEGP ESP FEIS Chapter 4, Section 4.6 described the effects of constructing two new nuclear units at the VEGP site on historic and cultural resources. The NRC concluded that effects to cultural resources would be MODERATE. The LAR activities are consistent with those evaluated in the ESP FEIS and impacts associated with excavating borrow material from the areas listed in Section 1.2 will not result in additional impacts to historic and cultural resources. The conclusions reached in the FEIS remain valid for the LAR activities.

4.7 ENVIRONMENTAL JUSTICE IMPACTS

VEGP ESP FEIS Chapter 4, Section 4.7 evaluated the effects of construction on the health and welfare of minority or low income populations within the region. The NRC concluded that adverse effects to these populations would be SMALL. The LAR activities are consistent with those evaluated in the ESP FEIS and will not result in additional impacts to the health and welfare of minority or low income populations within the region.

4.8 NON-RADIOLOGICAL HEALTH IMPACTS

VEGP ESP FEIS Chapter 4, Section 4.8 evaluated the health effects of constructing two new units at VEGP on the residents in the area, the Units 1 and 2 workforce, and the construction workforce. Non-radiological effects from fugitive dust, noise, transport of materials and personnel, and occupational injuries would be SMALL, and would not warrant mitigation beyond that proposed by SNC. The LAR activities are consistent with those evaluated in the ESP FEIS and will not result in additional non-radiological effects from fugitive dust, noise, transport of materials and personnel, and occupational injuries.

**Vogtle Electric Generating Plant, Units 3 & 4
License Amendment – Onsite Borrow Sources
Environmental Report**

4.9 RADIOLOGICAL HEALTH IMPACTS

VEGP ESP FEIS Chapter 4, Section 4.9 described the effects of radiation exposure from Units 1 and 2 on the construction workforce. Doses to the workforce would be well below NRC annual exposure limits and the effects of radiological exposure to the construction workforce would be SMALL. The LAR activities are consistent with those evaluated in the ESP FEIS and will not result in additional radiological health impacts.

4.10 MEASURES AND CONTROLS TO LIMIT ADVERSE IMPACTS DURING SITE PREPARATION ACTIVITIES AND CONSTRUCTION

VEGP ESP FEIS Chapter 4, Section 4.10 summarized the measures and controls SNC would invoke to ensure that adverse effects are minimized. SNC has acquired all the required federal, state and local permits and authorizations to perform the proposed LAR work (with the exception of NRC's issuance of the license amendment). The construction project is:

- In compliance with applicable local, state, and federal ordinances, laws and regulations intended to prevent or minimize the adverse environmental effects of construction activities on air, water, and land, workers and the public.
- In compliance with existing permits and licenses for the existing units.
- In compliance with existing SNC or GPC procedures and processes applicable to construction projects. Incorporates environmental requirements of construction permits in construction contracts.

4.11 REDRESS PLAN

VEGP ESP FEIS Chapter 4, Section 4.11 described SNC activities to redress the VEGP site should the project be cancelled after construction began. In December 2008, SNC submitted a revised site redress plan that addressed activities subject to regulation 10 CFR 50.10(d) that became effective November 8, 2007 (SNC 2008). The revised site redress plan provides reasonable assurance that construction activities conducted under a Limited Work Authorization (LWA) would be remediated to return the site to an acceptable environmental condition.

In the FEIS, the NRC determined that LWA activities addressed in the site redress plan were bounded by the environmental effects for construction of the entire project. This assessment remains resolved under the current site redress plan. LAR activities that would be conducted for construction are consistent with the site redress plan.

4.12 SUMMARY OF CONSTRUCTION IMPACTS

VEGP ESP FEIS Chapter 4, Section 4.12 summarized the effects of constructing two new nuclear units at VEGP. All impacts resulting from the requested LAR activities are consistent with those evaluated in the ESP FEIS. The activities associated with the LAR do not result in substantive environmental impacts beyond those addressed in the ESP FEIS and do not alter the conclusions of the FEIS.

**Vogtle Electric Generating Plant, Units 3 & 4
License Amendment – Onsite Borrow Sources
Environmental Report**

4.13 REFERENCES

SNC 2008. Southern Nuclear Operating Company, Vogtle Early Site Permit Application, Revision 5. Southern Company, Birmingham, AL.

**Vogtle Electric Generating Plant, Units 3 & 4
License Amendment – Onsite Borrow Sources
Environmental Report**

5.0 STATION OPERATIONAL IMPACTS AT THE PROPOSED SITE

This chapter is not relevant to the LAR environmental report.

**Vogtle Electric Generating Plant, Units 3 & 4
License Amendment – Onsite Borrow Sources
Environmental Report**

6.0 FUEL CYCLE, TRANSPORTATION, AND DECOMMISSIONING

This chapter is not relevant to the LAR environmental report.

**Vogtle Electric Generating Plant, Units 3 & 4
License Amendment – Onsite Borrow Sources
Environmental Report**

7.0 CUMULATIVE IMPACTS

VEGP ESP FEIS Chapter 7 evaluated the effects of the proposed action, the construction and operation of two new nuclear units at the VEGP site, combined with other past, present, and reasonably foreseeable future actions in the vicinity to determine the magnitude of the cumulative impacts. The LAR activities do not result in substantive impacts beyond those evaluated in the ESP FEIS and the conclusions remain the same.

**Vogtle Electric Generating Plant, Units 3 & 4
License Amendment – Onsite Borrow Sources
Environmental Report**

8.0 NEED FOR POWER

This chapter is not relevant to the LAR environmental report.

**Vogle Electric Generating Plant, Units 3 & 4
License Amendment – Onsite Borrow Sources
Environmental Report**

9.0 ENVIRONMENTAL IMPACTS OF ALTERNATIVES

This chapter is not relevant to the LAR environmental report.

**Vogtle Electric Generating Plant, Units 3 & 4
License Amendment – Onsite Borrow Sources
Environmental Report**

**10.0 COMPARISON OF IMPACTS OF THE PROPOSED ACTION AND THE
ALTERNATIVE SITES**

This chapter is not relevant to the LAR environmental report.

**Vogtle Electric Generating Plant, Units 3 & 4
License Amendment – Onsite Borrow Sources
Environmental Report**

11.0 CONCLUSIONS AND RECOMMENDATIONS

Chapter 11 summarizes the conclusions and recommendations made throughout the ESP FEIS.

11.1 IMPACTS OF THE PROPOSED ACTION

VEGP ESP FEIS Chapter 11, Section 11.1 summarized the potential cumulative impacts from construction and operation of Units 3 and 4 at the VEGP site with past, present, and reasonably foreseeable future actions. The impacts associated with the LAR activities described in Section 1.2 and discussed in Chapter 4 of this environmental report are consistent with the analysis and conclusions presented in the ESP FEIS. The NRC determined that for each impact area, the cumulative impacts would be SMALL and mitigation would not be warranted. The impacts associated with the excavation of backfill material from these areas do not differ substantively from the construction activities described and evaluated in the ESP FEIS. The proposed LAR activities are consistent with those evaluated in the ESP FEIS.

11.2 UNAVOIDABLE ADVERSE ENVIRONMENTAL IMPACTS

VEGP ESP FEIS Chapter 11, Section 11.2 identified the unavoidable adverse impacts from construction and operation of Units 3 and 4 at the VEGP site (summarized in FEIS Tables 11-1 for construction and 11-2 for operations).

The VEGP ESP FEIS stated that unavoidable adverse environmental impacts due to the construction activities would take place at the VEGP site and would not result in any significant adverse impacts that could not be redressed. The impacts associated with the proposed LAR activities described in Section 1.2 and analyzed in Chapter 4 of this environmental report are consistent with the analysis and conclusions contained in the ESP FEIS.

11.3 ALTERNATIVES TO THE PROPOSED ACTION

No Action Alternative: The “no action” alternative would not meet SNC's basic project purpose, and is therefore not a practicable alternative. Under this alternative, quantities of material sufficient enough to complete backfill of the VEGP Unit 3 and 4 powerblock excavation would not be obtained. This alternative would avoid the minimal environmental impacts that would result from the proposed LAR.

Alternative Off-site Borrow Sources: If sufficient quantities of suitable backfill material is not acquired from additional onsite sources, SNC would be required to obtain the material from offsite borrow sources. Since the quantity of backfill needed remains unchanged regardless of the source from which it is obtained, the land area required to produce the material from an offsite source(s) would be comparable to that of the onsite sources. Additionally, once the material has been extracted, it would have to be transported to the VEGP Unit 3 and 4 site. In letters ND-10-0526, Supporting Information for Environmental Report Review, dated March 12, 2010 and ND-10-0923, Post New and Significant Audit Supporting Information, dated May 10, 2010, SNC provided the environmental evaluations for two offsite borrow delivery options; by truck

**Vogtle Electric Generating Plant, Units 3 & 4
License Amendment – Onsite Borrow Sources
Environmental Report**

and by rail, respectively. Due to the additional impacts associated with transporting material to the VEGP site, the use of offsite borrow sources is not a preferred alternative.

11.4 RELATIONSHIP BETWEEN SHORT-TERM USES AND LONG-TERM PRODUCTIVITY OF THE HUMAN ENVIRONMENT

This section is not relevant to the LAR environmental report.

11.5 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

VEGP ESP FEIS Chapter 11, Section 11.5 identified irreversible and irretrievable commitments of resources due to the construction and operation of Units 3 and 4 at the VEGP site. Resources that would be committed as part of the LAR activities described in Section 1.2 are consistent with the analysis and conclusions contained in the ESP FEIS.

11.6 BENEFIT-COST BALANCE

VEGP ESP FEIS Chapter 11, Section 11.6 identified the benefits and costs of constructing and operating two new nuclear units on the VEGP site.

Benefits and costs that would occur as part of the LAR activities described in Section 1.2 are small in comparison to the benefits and costs evaluated in the ESP FEIS analysis and conclusions. Not granting the proposed LAR has the potential to impact construction schedule and would require the need for offsite borrow sources, both potentially resulting in impacts to cost.

11.7 STAFF CONCLUSIONS AND RECOMMENDATIONS

The conclusions and recommendations for the environmental impacts associated with the proposed LAR to be completed by NRC staff.