

**Draft Supplemental Environmental
Impact Statement for
Combined Licenses (COLs) for
Vogtle Electric Generating Plant
Units 3 and 4**

Draft Report for Comment

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United States Nuclear Regulatory Commission

Protecting People and the Environment

NUREG-1947

Draft Supplemental Environmental Impact Statement for Combined Licenses (COLs) for Vogtle Electric Generating Plant Units 3 and 4

Draft Report for Comment

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Abstract

1

2 This supplemental environmental impact statement (SEIS) documents the U.S. Nuclear
3 Regulatory Commission (NRC) staff's analysis and conclusions regarding the environmental
4 impacts of constructing and operating two new nuclear units (Units 3 and 4) at the Vogtle
5 Electric Generating Plant (VEGP) site near Waynesboro, Georgia, and the mitigation measures
6 available for reducing or avoiding adverse environmental impacts.

7 On August 26, 2009, NRC issued Early Site Permit (ESP)-004 to Southern Nuclear Operating
8 Company, Inc. (Southern) and several co-applicants (i.e., Georgia Power Company, Oglethorpe
9 Power Corporation, Municipal Electric Authority of Georgia, and the City of Dalton, Georgia) for
10 the VEGP ESP site (the site of the proposed Units 3 and 4). An ESP is an NRC approval of a
11 site as suitable for construction and operation of one or more new nuclear units. As requested
12 in the ESP application, the VEGP ESP also included a Limited Work Authorization (LWA) that
13 authorized certain limited construction activities at the site in accordance with Title 10 of the
14 Code of Federal Regulations (CFR) Subparts 50.10 and 52.24(c). In response to subsequent
15 license amendment applications from Southern relating to the activities authorized by the ESP
16 LWA, the NRC issued three amendments to the ESP in May, June, and July 2010, respectively.
17 These amendments authorized Southern to use Category-1 and Category-2 backfill material
18 from additional onsite sources and to use engineered granular backfill over the side slopes of
19 the Units 3 and 4 excavations.

20 On March 31, 2008, Southern (on behalf of itself and its four co-applicants) submitted an
21 application for combined licenses (COLs) for two new units at the VEGP site, referencing the
22 VEGP ESP. A COL is a Commission approval for the construction and operation of one or
23 more nuclear power facilities. Southern subsequently updated its COL application to reference
24 the issued ESP-004.

25 For a COL application that references an ESP, the NRC staff, pursuant to 10 CFR 51.75(c),
26 prepares a supplement to the ESP EIS in accordance with 10 CFR 51.92(e). NRC regulations
27 related to the environmental review of COL applications are in 10 CFR Part 51 and 10 CFR Part
28 52, Subpart C. Pursuant to NRC regulations in 10 CFR 51.50(c)(1), a COL applicant
29 referencing an ESP need not submit information or analyses regarding environmental issues
30 that were resolved in the ESP EIS, except to the extent the COL applicant has identified new
31 and significant information regarding such issues. In addition, pursuant to 10 CFR 52.39,
32 matters resolved in the ESP proceedings are considered to be resolved in any subsequent
33 proceedings, absent identification of new and significant information.
34

1 In October 2009, Southern supplemented its COL application to include a second request for an
2 LWA. The second LWA, in accordance with 10 CFR 50.10 (d), would authorize installation of
3 reinforcing steel, sumps, drain lines, and other embedded items along with placement of
4 concrete for the nuclear island foundation base slab.

5 After considering the environmental aspects of the proposed action, the NRC staff's
6 preliminary recommendation to the Commission is that the COLs and LWA be issued.
7 This recommendation is based on (1) the application, including the environmental report and
8 responses to staff requests for additional information, submitted by Southern; (2) the staff's
9 review conducted for the ESP application and documented in the ESP EIS; (3) the staff's review
10 conducted for the ESP license amendments as documented in the staff's environmental
11 assessments; (4) consultation with Federal, State, Tribal, and local agencies; (5) the staff's own
12 independent review of potential new and significant information available since preparation and
13 publication of the ESP EIS; and (6) the assessments summarized in this SEIS, including the
14 potential mitigation measures identified. The staff's evaluation of the safety and security
15 aspects of the proposed action will be addressed in the staff's Safety Evaluation Report.

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Executive Summary

1

2 On March 31, 2008, the U.S. Nuclear Regulatory Commission (NRC) received an application
3 from Southern Nuclear Operating Company, Inc. (Southern), on behalf of itself and four co-
4 applicants (i.e., Georgia Power Company, Oglethorpe Power Corporation, Municipal Electric
5 Authority of Georgia, and the City of Dalton, Georgia), for combined licenses (COLs) for two
6 new nuclear units (Units 3 and 4) to be located adjacent to the existing Vogtle Electric
7 Generating Plant (VEGP) Units 1 and 2. The VEGP site is located in Burke County, Georgia,
8 approximately 42 km (26 mi) southeast of Augusta, Georgia.

9 In Early Site Permit (ESP)-004 issued on August 26, 2009, NRC approved the VEGP site as
10 suitable for the construction and operation of Units 3 and 4. As requested in the ESP
11 application, the VEGP ESP also included a Limited Work Authorization (LWA) that authorized
12 certain limited construction activities at the site in accordance with Title 10 of the Code of
13 Federal Regulations (CFR) Subparts 50.10 and 52.24(c). As permitted by NRC regulations, the
14 COL application references the VEGP ESP.

15 The proposed design specified in the COL application for the two new units is the Westinghouse
16 AP1000 pressurized reactor. An amendment to the certified AP1000 design currently is being
17 reviewed by NRC in a separate design certification process.

18 On October 2, 2009, Southern supplemented its COL application to include a request for a
19 second LWA. The second LWA, in accordance with 10 CFR 50.10 (d), would authorize
20 installation of reinforcing steel, sumps, drain lines, and other embedded items along with
21 placement of concrete for the nuclear island foundation base slab.

22 During April, May, and June 2010, Southern submitted requests for amendments to the ESP
23 relating to the activities authorized by the ESP LWA. In response to these applications, the
24 NRC issued three amendments to the ESP in May, June, and July 2010, respectively. These
25 amendments authorized Southern to use Category-1 and Category-2 backfill materials from
26 additional onsite borrow areas and to change the classification of engineered backfill over the
27 slopes of the excavations for Units 3 and 4. The NRC staff prepared an Environmental
28 Assessment (EA) and Finding of No Significant Impact (FONSI) for each license amendment
29 request.

30 Section 102 of the National Environmental Policy Act of 1969 (NEPA) (42 USC 4321) directs
31 that an environmental impact statement (EIS) be prepared for major Federal actions with the
32 potential to significantly affect the quality of the human environment. NRC has implemented
33 Section 102 of NEPA in 10 CFR Part 51. Further, in 10 CFR 51.20, NRC has determined that
34 the issuance of a COL under 10 CFR Part 52 is an action that requires an EIS.

1 The purpose of Southern's requested action is to obtain from the NRC a license to construct
2 and operate two new nuclear power units on the VEGP site as well as an LWA to allow early
3 commencement of certain limited construction activities. A license from the NRC to construct
4 and operate nuclear power plants is necessary but not sufficient for construction and operation
5 of the power plant. Southern must obtain and maintain permits from other Federal, State, and
6 local agencies and permitting authorities. Therefore, the purpose of the NRC environmental
7 review of the Southern application is to determine if a nuclear power plant of the proposed
8 design can be constructed and operated at the VEGP site without unacceptable adverse
9 impacts on the human environment.

10 The Southern COL application incorporates information from both the ESP Site Safety Analysis
11 Report and Southern's environmental report (ER). Subpart A of 10 CFR Part 52 contains
12 NRC regulations related to ESPs. An ESP is an NRC approval of a site as suitable for
13 construction and operation of one or more new nuclear units. The NRC's detailed review of
14 the environmental impacts of constructing and operating new units at the VEGP ESP Site is
15 documented in NUREG-1872, *Final Environmental Impact Statement for an Early Site Permit*
16 *(ESP) at the Vogtle Electric Generating Plant Site*, which was published in August 2008. For
17 a COL application that references an ESP, the NRC staff, pursuant to 10 CFR Part 51.75(c),
18 prepares a supplement to the ESP environmental impact statement (SEIS) in accordance with
19 10 CFR 51.92(e).

20 NRC regulations related to the environmental review of COL applications are in 10 CFR Part 51
21 and 10 CFR 52, Subpart C. Pursuant to NRC regulations in 10 CFR 51.50(c)(1), a COL
22 applicant referencing an ESP need not submit information or analyses regarding environmental
23 issues that were resolved in the ESP EIS, except to the extent the COL applicant has identified
24 new and significant information regarding such issues. In addition, pursuant to 10 CFR 52.39,
25 matters resolved in the ESP proceedings are considered to be resolved in any subsequent
26 proceedings, absent identification of new and significant information.

27 Upon acceptance of Southern's COL application, the NRC began the environmental review
28 process by publishing in the *Federal Register* on June 11, 2008, an Acceptance for Docketing,
29 which announced its intent to perform a detailed technical review and conduct a hearing in
30 accordance with Subpart L, "Informal Hearing Procedures for NRC Adjudications," of
31 10 CFR Part 2 (73 FR 33118). Subsequent to the site visits in August 2008 and September
32 2009 and in accordance with the provisions of NEPA and 10 CFR Part 51, the staff identified
33 and evaluated the potential environmental impacts of constructing and operating two new units
34 at the VEGP site. Included in this SEIS are (1) the results of the NRC staff's analyses, which
35 consider and weigh the environmental effects of the proposed action (i.e., issuance of the COLs
36 and LWA) and of constructing and operating two additional nuclear units at the VEGP site;
37 (2) mitigation measures for reducing or avoiding adverse effects; (3) the environmental impacts
38 of alternatives to the proposed action; and (4) the staff's recommendation regarding the

1 proposed action. To guide its assessment of environmental impacts of a proposed action or
2 alternative actions, the NRC has established a standard of significance for impacts based on
3 guidance developed by the Council on Environmental Quality (40 CFR 1508.27). The three
4 significance levels established by the NRC – SMALL, MODERATE, or LARGE – are defined
5 as follows:

6 SMALL – Environmental effects are not detectable are so minor that they will neither
7 destabilize nor noticeably alter any important attribute of the resource.

8 MODERATE – Environmental effects are sufficient to alter noticeably, but not to
9 destabilize, important attributes of the resource.

10 LARGE – Environmental effects are clearly noticeable and are sufficient to destabilize
11 important attributes of the resource.

12 Mitigation measures were considered for each environmental issue and are discussed in the
13 appropriate sections of the SEIS. In preparing this SEIS, the staff reviewed Southern's COL
14 application, including the ER and responses to staff requests for additional information;
15 reviewed the ESP EIS and the ESP license amendment EAs; reviewed Southern's process for
16 identifying new and significant information; consulted with Federal, State, Tribal, and local
17 agencies; reviewed other relevant literature and documents; and followed the guidance set forth
18 in NRC NUREG-1555, *Standard Review Plans for Environmental Reviews for Nuclear Power
19 Plants (ESRP)*.

20 The NRC staff's preliminary recommendation to the Commission related to the environmental
21 aspects of the proposed action is that the COLs and LWA be issued as proposed. This
22 recommendation is based on (1) the COL application, including the ER and responses to staff
23 requests for additional information submitted by Southern; (2) the staff's review conducted for
24 the ESP application and documented in the ESP EIS; (3) consultation with Federal, State,
25 Tribal, and local agencies; (4) the staff's own independent review of potentially new and
26 significant information available since preparation and publication of the ESP EIS, including that
27 associated with the three amendments to the ESP; and (5) the assessments summarized in this
28 SEIS, including the potential mitigation measures identified.

29 A 75-day comment period to allow members of the public to comment on the results of the NRC
30 staff's review will begin on the date of publication of the U.S. Environmental Protection Agency
31 Notice of Availability of the draft SEIS. During this comment period, the staff will conduct a
32 public meeting near the VEGP site to describe the results of the NRC environmental review,
33 provide members of the public with information to assist them in formulating comments on
34 the SEIS, and accept public comments. After the comment period, the staff will consider and
35 disposition all comments received. These comments and staff responses will be included in
36 the final SEIS.

Abbreviations/Acronyms

1		
2	ac	acre(s)
3	ACHP	Advisory Council on Historic Preservation
4	ADAMS	Agencywide Document Access and Management System
5	ARRA	America Recovery and Reinvestment Act
6	AQCR	Air Quality Control Region
7		
8	BTU	British Thermal Unit
9		
10	°C	degree Celsius
11	CAA	Clean Air Act
12	CDC	U.S. Center for Disease Control and Prevention
13	CFR	Code of Federal Regulations
14	CO ₂	carbon dioxide
15	COL	combined license
16	CWA	Clean Water Act
17	CWS	cooling water system
18		
19	dBA	decibel(s)
20	DBA	design basis accident
21	DCD	Design Control Document
22	DSM	demand-side management
23		
24	EA	Environmental Assessment
25	EAB	exclusion area boundary
26	EIS	environmental impact statement
27	EPA	U.S. Environmental Protection Agency
28	EPP	Environmental Protection Plan
29	ER	Environmental Report
30	ESP	early site permit
31	ESRP	Environmental Standard Review Plan
32		
33	FR	Federal Register
34	°F	degree Fahrenheit
35	FONSI	Finding of No Significant Impact
36	ft	foot/feet
37	FWS	U.S. Fish and Wildlife Service
38		

1	GCRP	U.S. Global Change Research Program
2	GDHR	Georgia Department of Human Resources
3	GDNR	Georgia Department of Natural Resources
4	GHPD	Georgia Historic Preservation Division
5	gpm	gallons per minute
6	GPC	Georgia Power Company
7	GPSC	Georgia Public Service Commission
8		
9	ha	hectare(s)
10	HLW	high-level waste
11	hr	hour
12		
13	in.	inch(es)
14	IRP	integrated resource plan
15		
16	km	kilometer(s)
17	kV	kilovolt
18		
19	L	liter(s)
20	L/s	liter(s) per second
21	LAR	License Amendment Request
22	LLW	low-level waste
23	LOS	level of service
24	LPZ	low-population zone
25	LWA	Limited Work Authorization
26		
27	m	meter(s)
28	MOU	Memorandum of Understanding
29	mi	mile(s)
30	mSv	millisievert
31	mrem	millirem(s)
32	MTU	metric tons uranium
33	MW	megawatt(s)
34	MWd	megawatts per day
35	MW(e)	megawatts electric
36	MWh	megawatt hour(s)
37	MW(t)	megawatts thermal
38		
39	NAAQS	National Ambient Air Quality Standards
40	NEPA	National Environmental Policy Act of 1969
41	NHPA	National Historic Preservation Act of 1966

1	NMFS	National Marine Fisheries Service
2	NPDES	National Pollutant Discharge Elimination System
3	NRHP	National Register of Historic Places
4	NRC	U.S. Nuclear Regulatory Commission
5		
6	ppm	parts per million
7	PRA	probabilistic risk assessment
8		
9	RAI	Request(s) for Additional Information
10	ROI	region of interest
11		
12	SAMA	severe accident mitigation alternatives
13	SAMDA	severe accident mitigation design alternatives
14	SCDNR	South Carolina Department of Natural Resources
15	sec	second/seconds
16	SER	Safety Evaluation Report
17	SHPO	State Historic Preservation Office/Officer
18	SEIS	supplemental environmental impact statement
19	SME	subject matter experts
20	Southern	Southern Nuclear Operating Company, Inc.
21	Sv	sievert
22	SWS	service water system
23		
24	TEDE	total effective dose equivalent
25		
26	USACE	U.S. Army Corps of Engineers
27	USC	United States Code
28		
29	VEGP	Vogtle Electric Generating Plant
30		
31	Westinghouse	Westinghouse Electric Company, LLC
32	wt	weight
33		
34	χ/Q	dispersion values
35		
36	yd	yard
37	yr	year(s)
38		

1.0 Introduction

On March 31, 2008, Southern Nuclear Operating Company, Inc. (Southern), acting on behalf of itself and several co-applicants (Georgia Power Company, Oglethorpe Power Corporation, Municipal Electric Authority of Georgia, and the City of Dalton, Georgia), submitted to the U.S. Nuclear Regulatory Commission (NRC) an application for combined licenses (COLs) for the construction and operation of two new nuclear units at the Vogtle Electric Generating Plant (VEGP) site. The VEGP site and existing facilities are owned and operated by Georgia Power Company, Oglethorpe Power Corporation, Municipal Electric Authority of Georgia, and the City of Dalton, Georgia. Southern is the licensee and operator of the existing VEGP Units 1 and 2, and has been authorized by the VEGP co-owners to apply for COLs to construct and operate two additional units (Units 3 and 4) at the VEGP site.

1.1 Background

On August 26, 2009, the NRC approved issuance to Southern and the same four co-applicants of an early site permit (ESP) and a Limited Work Authorization (LWA) for two additional nuclear units at the VEGP site (NRC 2009). This approval was supported by information contained in NUREG-1872, *Final Environmental Impact Statement for an Early Site Permit at the Vogtle Electric Generating Plant Site* (ESP EIS) (NRC 2008a) and errata. The ESP resolved many safety and environmental issues and allowed the applicant to "bank" the VEGP ESP site for up to 20 years. The LWA authorized the applicant to conduct certain limited construction activities at the site in accordance with Title 10 of the Code of Federal Regulations (CFR) Subparts 50.10 and 52.24(c).

As permitted by NRC regulations, the COL application references the VEGP ESP. Southern also submitted a request for a second LWA as part of its COL application. The second LWA, in accordance with 10 CFR 50.10(d), would allow for installation of reinforcing steel, sumps, drain lines, and other embedded items along with placement of concrete for the nuclear island foundation base slab that are not included in the existing LWA (Southern 2009a):

The proposed design specified in the COL application for the two new units is the Westinghouse AP1000 pressurized reactor. An amendment to the certified AP1000 design is currently being reviewed by NRC in a separate design certification process.

During April, May, and June, 2010, Southern submitted requests for three ESP license amendments associated with the previously-authorized LWA construction activities. These amendment requests sought authorization to use Category 1 and Category 2 backfill materials from additional onsite sources, including three new borrow areas, as well as to change the classification of engineered backfill over the side slopes of the excavations for Units 3 and 4

Introduction

1 (Southern 2010a, b, c, d). The NRC prepared an environmental assessment (EA) and Finding
2 of No Significant Impact (FONSI) for each license amendment request (NRC 2010a, b, c).
3 These ESP license amendments were issued in May 2010 (NRC 2010d), June 2010 (NRC
4 2010e), and July 2010 (NRC 2010f), respectively.

5 **1.1.1 COL Application and Review**

6 To construct and operate a nuclear power plant, an ESP holder must either obtain a
7 Construction Permit and an Operating License or obtain a COL. Either approach constitutes a
8 separate major federal action and would require that an environmental impact statement (EIS)
9 be issued in accordance with 10 CFR Part 51. Under 10 CFR Part 52, which contains NRC's
10 reactor licensing regulations, and in accordance with the applicable provisions of 10 CFR Part
11 51, which are the NRC regulations implementing the National Environmental Policy Act of 1969
12 (NEPA), the NRC is required to prepare a supplemental environmental impact statement (SEIS)
13 as part of its review of a COL application referencing an ESP. As required by 10 CFR 51.26,
14 the NRC published in the *Federal Register* a Notice of Intent (74 FR 49407) to prepare and
15 publish a draft SEIS for public comment. The SEIS for the COLs will be prepared in the same
16 manner as the final EIS for the ESP except that the NRC determined that it would not conduct a
17 formal scoping process in accordance with 10 CFR 51.26(d). A separate Safety Evaluation
18 Report (SER) also will be prepared in accordance with 10 CFR Part 52.

19 If a COL application references an ESP, the NRC staff, pursuant to 10 CFR Part 51.75(c), is
20 required to prepare a supplement to the ESP EIS (NRC 2008a). Therefore, the staff can "tier
21 off" the ESP EIS at the COL stage and disclose the NRC conclusion for matters resolved in the
22 ESP review. Such matters will not be subject to litigation at the combined license stage unless
23 new and significant information is identified. Because the VEGP COL application references the
24 VEGP ESP, the NRC staff will rely on the analysis in the ESP EIS as the basis in preparing the
25 SEIS. NRC's regulatory standards for a review of a COL application are listed in 10 CFR 52.81.
26 Detailed procedures for conducting the environmental portion of the review are found in
27 guidance set forth in NUREG-1555, *Environmental Standard Review Plan: Standard Review*
28 *Plans for Environmental Review for Nuclear Power Plants* (NRC 2000) and recent updates.

29 According to 10 CFR 52.80(b), an application for a COL must contain an environmental report
30 (ER), which provides the applicant's input to the NRC's EIS. NRC regulations related to the
31 contents of the ER are found in 10 CFR Part 51.

32 In accordance with 10 CFR 51.45 and 10 CFR 51.50(c)(1), Southern submitted an ER as part of
33 its COL application (Southern 2009b). In accordance with 10 CFR 51.49, Southern also
34 submitted an ER in support of its additional LWA request (Southern 2010e). The ER submitted
35 with the COL application is not required to contain information or analysis that was previously
36 submitted in the ER for the ESP application or address issues that were resolved in the ESP
37 EIS and associated proceedings.

38

1 The SEIS, together with the ESP EIS (NRC 2008a), the ESP hearing proceedings, and the ESP
2 license amendment EAs, provides the staff's evaluation of the environmental effects of
3 constructing and operating two AP1000 reactors at the VEGP site. In addition to considering
4 the environmental effects of the proposed action, the SEIS addresses new and significant
5 information with respect to alternatives to the proposed action and the benefits of the proposed
6 action (e.g., the need for power). Southern's COL application references an ESP; therefore, in
7 accordance with 10 CFR 52.83, issues resolved as part of the ESP proceeding remain resolved
8 except under conditions set forth in 10 CFR 52.39(a)(2). In addition, measures and controls
9 previously identified to limit adverse impacts are evaluated along with any new or significant
10 information that would have the potential to affect the findings or conclusions reached in the
11 ESP EIS.

12 Upon acceptance of Southern's COL application, the NRC began the environmental review
13 process by publishing in the *Federal Register* on June 11, 2008, an Acceptance for Docketing
14 that announced its intent to perform a detailed technical review and conduct a hearing in
15 accordance with Subpart L, "Informal Hearing Procedures for NRC Adjudications," of
16 10 CFR Part 2 (73 FR 33118).

17 To guide its assessment of environmental impacts of a proposed action or alternative actions,
18 the NRC has established a standard of significance for impacts based on guidance developed
19 by the Council on Environmental Quality (40 CFR 1508.27). The three significance levels
20 established by the NRC – SMALL, MODERATE, or LARGE – are defined as follows:

21 SMALL – Environmental effects are not detectable or are so minor that they will
22 neither destabilize nor noticeably alter any important attribute of the resource.

23 MODERATE – Environmental effects are sufficient to alter noticeably, but not to
24 destabilize, important attributes of the resource.

25 LARGE – Environmental effects are clearly noticeable and are sufficient to
26 destabilize important attributes of the resource.

27 This SEIS presents the staff's analysis, which considers and weighs the environmental impacts
28 of the proposed action at the VEGP site, including the environmental impacts associated with
29 construction and operation of Units 3 and 4 at the site, the environmental impacts of alternatives
30 to granting the COLs, and the mitigation measures available for reducing or avoiding adverse
31 environmental effects. The SEIS also provides the NRC staff's preliminary recommendation to
32 the Commission regarding the issuance of the COLs and LWA for the VEGP site.
33

Introduction

1 A 75-day comment period to allow members of the public to comment on the results of the NRC
2 staff's review will begin on the date of publication of the U.S. Environmental Protection Agency
3 Notice of Filing of the draft SEIS. A public meeting will be held near the VEGP site during the
4 public comment period. During this public meeting, the staff will describe the results of the NRC
5 environmental review, provide members of the public with information to assist them in
6 formulating comments on the SEIS, and accept comments. After the comment period, the staff
7 will consider and address all comments in a final SEIS.

8 **1.1.2 Concurrent Reviews**

9 In a review separate from the environmental review process, the NRC analyzes the safety and
10 security aspects of construction and operation of the proposed new reactors at the site,
11 including the applicant's emergency planning information. These analyses will be documented
12 in an SER. The SER will present the conclusions reached by the NRC regarding whether there
13 is reasonable assurance that two Westinghouse AP1000 light-water reactors can be
14 constructed and operated at the VEGP site without undue risk to the health and safety of the
15 public and whether issuance of the license will be inimical to the common defense and security.

16 In addition, the AP1000 reactor design referenced in the application is a standard design that is
17 undergoing a design certification amendment review pursuant to 10 CFR Part 52, Subpart B.
18 This review will be the subject of a later rulemaking by the NRC.

19 **1.2 The Proposed Federal Action**

20 The proposed Federal action is issuance of COLs, under the provisions of 10 CFR Part 52, for
21 two AP1000 reactors at the VEGP site and an LWA for requested construction activities. The
22 ESP EIS (NRC 2008a) disclosed the staff's analysis of the environmental impacts that could
23 result from the construction and operation of these two new units. This SEIS for the COL
24 application evaluates whether any new and potentially significant information has been identified
25 that would alter the staff's conclusions regarding issues resolved in the ESP proceeding.

26 In the context of a COL application that references an ESP, the term "new" in the phrase "new
27 and significant information" is defined as any information that was both (1) not considered in
28 preparing the ESP ER or EIS (as may be evidenced by references in these documents,
29 applicant responses to NRC Requests for Additional Information (RAIs), comment letters, etc.)
30 and (2) not generally known or publicly available during the preparation of the ESP EIS (such as
31 information in reports, studies, and treatises).
32

1 For new information to be "significant," it must be material to the issue being considered; that is,
2 it must have the potential to affect the finding or conclusions of the NRC staff's evaluation of the
3 issue. The applicant for a COL need only provide information in the application about a
4 previously resolved environmental issue if it is both new and significant (72 FR 49352).

5 In this SEIS, the staff evaluates the impacts of construction and operation of two AP1000 units,
6 with a total combined thermal power rating of 6800 megawatts thermal (MW(t)). The proposed
7 units would use a closed-cycle cooling system and require a single natural draft cooling tower
8 for each unit.

9 **1.3 The Purpose and Need for the Proposed Action**

10 The purpose and need for the issuance of the COLs is to provide for additional base-load
11 electrical generating capacity in the region of interest as defined in Section 9.4.1 of the ESP EIS
12 (NRC 2008a). Southern indicated that the proposed action also will allow it to be responsive to
13 the Georgia legislature, which urged Georgia utilities to study the feasibility of building new
14 nuclear power plants (Senate Resolution 865) The purpose and need for the issuance of the
15 LWA is "... to support the project schedule by assuring that [the proposed LWA activities] occur
16 independent of the COL issuance schedule and contribute to maintaining a margin in the
17 construction schedule that ensures the operation need dates will be met" (Southern 2010e).

18 The ultimate decision about whether or not to build a facility and the schedule for any
19 construction are not within the purview of NRC and would be determined by the license holder if
20 the authorization is granted. A license from NRC to construct and operate a nuclear power
21 plant is necessary but not sufficient for construction and operation of the power plant. Certain
22 long lead-time activities, such as ordering and procuring certain components and materials
23 necessary to construct the plant, may begin before the COL is granted. Southern must obtain
24 and maintain permits or authorizations from other Federal, State, and local agencies and
25 permitting authorities before undertaking certain activities.

26 **1.4 Alternatives to the Proposed Action**

27 Section 102(2)(C)(iii) of NEPA states that an EIS is to include a detailed statement on
28 alternatives to the proposed action. This SEIS addresses the following categories of
29 alternatives: (1) the no-action alternative, (2) energy source alternatives, and (3) system design
30 alternatives. In accordance with 10 CFR 51.92(e)(3), the SEIS does not contain a separate
31 discussion of alternative sites. The NRC's detailed evaluation of alternative sites is documented
32 in Chapters 9 and 10 of the ESP EIS (NRC 2008a).

1 **1.5 Compliance and Consultations**

2 Prior to construction and operation of the new unit, Southern is required to hold certain Federal,
3 State, and local environmental permits, as well as meet applicable statutory and regulatory
4 requirements. provided a list of environmental approvals and consultations associated with the
5 VEGP proposed Units 3 and 4 Southern (2010e). Potential authorizations and consultations
6 relevant to the proposed COL are included in Appendix H.

7 Before it can obtain a COL from NRC, Southern must obtain a Clean Water Act Section
8 401 Certification. This certification would be issued by the Georgia Department of Natural
9 Resources (GDNR) and would ensure that the project does not conflict with water quality
10 management programs in Georgia. Upon receipt of the certification, Southern would notify
11 NRC.

12 The NRC staff has contacted the appropriate Federal, State, Tribal, and local agencies to
13 identify any compliance, permit, or significant environmental issues of concern to the reviewing
14 agencies that relate to the construction and operation of the proposed Units 3 and 4. A list of
15 organizations contacted is included in Appendix B.

16 **1.6 New and Significant Information Review**

17 As set forth in 10 CFR 51.92, an SEIS for a COL referencing an ESP shall contain an analysis
18 of those issues related to the impacts of construction and operation that were resolved in the
19 ESP proceeding for which new and significant information has been identified. Information is
20 considered new if it was (1) not considered in preparing the ESP ER or ESP EIS (NRC 2008a)
21 (as may be evidenced by references in these documents, applicant responses to NRC RAIs,
22 comment letters, etc.) and (2) not generally known or publicly available during the preparation of
23 the ESP EIS (such as information in studies and reports). For information to be significant, it
24 must be material to the issue being considered; that is, it must have the potential to affect the
25 finding or conclusions of the NRC staff's evaluation of the issue (72 FR 49352). If there is no
26 new and significant information for matters resolved at the ESP stage, the staff may tier off of
27 the ESP EIS at the COL stage and disclose the NRC conclusions for matters considered during
28 the ESP review.

29 A COL applicant should have a reasonable process to ensure it becomes aware of new and
30 significant information that may have a bearing on the earlier NRC conclusion, and should
31 document the results of this process in an auditable form. The NRC staff will verify that the
32 applicant's process for identifying new and significant information is effective (72 FR 49352).

1 **1.6.1 Applicant's Process**

2 Southern developed a process to identify new and significant information relevant to the issues
3 and conclusions presented in the ESP EIS. This process is detailed in *Guidance for New and*
4 *Significant Information* (Southern 2007) and is summarized in the COL ER (Southern 2009b).
5 The process was designed to satisfy the requirements of 10 CFR 51.50(c) and to "... provide a
6 methodical, comprehensive review of the conclusions presented in the ESP EIS and the
7 supporting information for those conclusions to identify any new and significant information that
8 has the potential to change the NRC's conclusions presented in the ESP EIS" (Southern
9 2009b). For purposes of its review, Southern adopted definitions of "new" and "significant"
10 previously published by the NRC (72 FR 49352).

11 Southern's process for identifying new and significant information began with the designation of
12 subject matter experts (SMEs) with extensive knowledge about plant systems, site environs,
13 station environmental issues, and the regulatory issues relevant to the plant and site. The
14 SMEs performed a line-by-line review of the ESP EIS to identify "key inputs." This review
15 focused on the portions of the EIS where conclusions were directly supported, especially
16 Chapters 4, 5, 6, and 7. The review also considered key assumptions that were included in
17 Appendix J of the ESP EIS, key site characteristics, Westinghouse design parameters and site
18 interface values that were found in Appendix I of the ESP EIS, and dose calculation
19 assumptions provided in Appendix G of the ESP EIS.

20 The SMEs reviewed the key inputs to determine if any new information exists that could affect
21 the NRC staff's findings or conclusions. This determination typically was based, as appropriate,
22 on current construction plans and designs, site documentation, environmental monitoring and
23 sampling programs, interviews with Federal, State, or local officials, contact with Federal, State,
24 or local agencies, and when necessary, the SMEs' local knowledge. The SMEs conducted a
25 review of other information sources including interviews with industry peers, academia, and
26 Federal, State, and local resource agencies, a review of the AP1000 Design Control Document,
27 Westinghouse Technical Reports for the AP1000, environmental monitoring reports from
28 existing programs, and applicable scientific literature, to determine if additional information
29 relevant to the COL application was available that was not captured in the direct review of the
30 ESP EIS.

31 The SMEs then reviewed all information that had been identified as new to determine if it might
32 be significant. When possible, this determination was based on comparison with regulatory
33 limits, guidelines provided in NRC review guidance such as NUREG-1555, or other applicable
34 criteria. When such a comparison was not possible, the SMEs used their best professional
35 judgment to determine if new information was considered significant. The results of this review,
36 including the bases for the conclusion on new information and the rationale for determination of
37 significance, were summarized in documents that were audited by the NRC staff during the site
38 audit that was conducted in late September 2009.

1 **1.6.2 Staff Evaluation**

2 The NRC staff's evaluation of Southern's new and significant information methodology began
3 with the review of Southern's process as described in Rev. 0 of the VEGP Units 3 and 4 COL
4 Application (Southern 2008). In August 2008, the staff performed an assessment of Southern's
5 process for identifying new and significant information in three specific areas: (1) aquatic
6 ecology, (2) terrestrial ecology, and (3) hydrology. The assessment was performed at the
7 VEGP site near Waynesboro, Georgia, and included review of documents, staff discussions with
8 Southern, site tours, and discussions with representatives from other State and Federal
9 agencies including the GDNR, the U.S. Army Corps of Engineers, the U.S. Environmental
10 Protection Agency, and the U.S. Fish and Wildlife Service. The staff raised several questions
11 about certain aspects of the methodology that Southern needed to address. The results of that
12 assessment were documented in a trip report (NRC 2008b).

13 During June 2009, the staff was provided access to the information developed during
14 Southern's implementation of its new and significant information methodology. This access
15 was available through a reading room set up by Southern in Richland, Washington.

16 After the ESP was authorized in August 2009, the NRC staff performed a new and significant
17 information audit at the VEGP site near Waynesboro, Georgia, during the period from
18 September 28 through October 1, 2009. The focus of the staff's audit was to determine if
19 Southern's new and significant information methodology was robust and comprehensive and
20 had the ability to capture any new information developed since completion of the ESP EIS and
21 authorization of the ESP, and whether Southern adhered to its process set forth in the new and
22 significant information methodology. To make these determinations, the staff examined
23 Southern's process in detail for all the resource areas discussed in the ESP EIS, assessed the
24 results of Southern's review for new and significant information, and participated in several site
25 tours including potential transmission line rights-of-way, the location of the new intake structure
26 on the Savannah River, and the location of cultural and historic resources on the VEGP site.
27 In addition, the appropriate Federal, State, and local agencies and officials were contacted to
28 verify the presence or absence of new and potentially significant information. A summary of the
29 site audit is provided in the site audit trip report (NRC 2010g). Following the audit, the staff
30 conducted an independent assessment of other sources of new and significant information.

31 During March 2010, Southern provided new information about potential new onsite borrow
32 areas (Southern 2010f). Because these borrow sources had not been evaluated in the ESP
33 EIS, the NRC staff performed a second site audit during the period May 3-5, 2010, to evaluate
34 the potential environmental impacts of developing these new borrow areas. The results of the
35 second site audit are provided in a site audit trip report (NRC 2010h).

1 **1.6.3 Conclusion**

2 Based on the staff's independent review of Southern's new and significant information process,
3 the staff determined that the process was adequate to identify new and potentially significant
4 information concerning environmental issues addressed in the ESP EIS (NRC 2008a).

5 **1.7 Report Contents**

6 The subsequent chapters of this SEIS are organized as follows. Chapter 2 describes the
7 proposed site and discusses the environment that would be affected by the addition of the new
8 unit. Chapter 3 describes the power plant characteristics to be used as the basis for evaluating
9 the environmental impacts. Chapters 4 and 5 examine the environmental impacts of
10 construction (Chapter 4) and operation (Chapter 5) of the proposed Units 3 and 4. Chapter 6
11 analyzes the environmental impacts of the uranium fuel cycle, transportation of radioactive
12 materials, and decommissioning, while Chapter 7 discusses the cumulative impacts of the
13 proposed action as defined in 10 CFR Part 51.75(c). Chapter 8 addresses the need for power.
14 Chapter 9 discusses alternatives to the proposed action, and Chapter 10 summarizes the
15 conclusions regarding the impacts of the proposed action and alternatives, while Chapter 11
16 summarizes the findings of the preceding chapters and presents the staff's preliminary
17 recommendation with respect to issuance of the COL and LWA.

18 **1.8 References**

19 10 CFR Part 50. Code of Federal Regulations, Title 10, *Energy*, Part 50, "Domestic Licensing of
20 Production and Utilization Facilities."

21 10 CFR Part 51. Code of Federal Regulations, Title 10, *Energy*, Part 51, "Environmental
22 Protection Regulations for Domestic Licensing and Related Regulatory Functions."

23 10 CFR Part 52. Code of Federal Regulations, Title 10, *Energy*, Part 52, "Licenses,
24 Certifications, and Approvals for Nuclear Power Plants."

25 40 CFR Part 1508. Code of Federal Regulations, Title 40, *Protection of Environment*,
26 Part 1508, "Terminology and Index."

27 72 FR 49352. "Licenses, Certifications, and Approvals for Nuclear Power Plants." Vol. 72,
28 No. 166. August 28, 2007.

29 73 FR 33118. "Southern Nuclear Operating Company; Acceptance for Docketing of an
30 Application for Combined License for Vogtle Electric Generating Plant Units 3 and 4." Vol. 73,
31 No. 113. June 11, 2008.

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- 1 74 FR 49407. "Southern Nuclear Operating Company Vogtle Electric Generating Plant, Units 3
2 and 4 Combined License Application; Notice of Intent to Prepare a Supplemental Environmental
3 Impact Statement." Vol. 74, No. 186. September 28, 2009.
- 4 Southern Nuclear Operating Company (Southern). 2007. *Guidance for New and Significant*
5 *Information*. ND-ARL-012, Version 1.0, October 8, 2007, Southern Company, Birmingham,
6 Alabama. Accession No. ML081570520.
- 7 Southern Nuclear Operating Company (Southern). 2008. *Vogtle Electric Generating Plant,*
8 *Units 3 and 4, COL Application, Part 3 Environmental Report*. Revision 0, March 28, 2008,
9 Southern Company, Birmingham, Alabama. Accession No. ML081050181.
- 10 Southern Nuclear Operating Company (Southern). 2009a. *Vogtle Electric Generating Plant,*
11 *Units 3 and 4, COL Application, Part 6 Limited Work Authorization*. Revision 1, October 2,
12 2009, Southern Company, Birmingham, Alabama. Accession No. ML092960512.
- 13 Southern Nuclear Operating Company (Southern). 2009b. *Vogtle Electric Generating Plant,*
14 *Units 3 and 4, COL Application, Part 3 Environmental Report*. Revision 1, August 23, 2009,
15 Southern Company, Birmingham, Alabama. Accession No. ML092740400.
- 16 Southern Nuclear Operating Company (Southern). 2010a. Southern Nuclear Operating
17 Company, Early Site Permit Site Safety Analysis Report Change Request, Vogtle Electric
18 Generating Plant Units 3 and 4, Use of Category 1 and 2 Backfill Material for Additional Onsite
19 Areas, on an Exigent Basis for Units 3 and 4. Letter ND-10-0795 dated April 20, 2010,
20 Southern Company, Birmingham, Alabama. Accession No. ML101120089.
- 21 Southern Nuclear Operating Company (Southern). 2010b. Southern Nuclear Operating
22 Company, Vogtle Electric Generating Plant Units 3 and 4, Early Site Permit Site Safety Analysis
23 Report Amendment Request, Revised Site Safety Analysis Report Markup for Onsite Sources of
24 Backfill. Letter ND-10-0960 dated May 13, 2010, Southern Company, Birmingham, Alabama.
25 Accession No. ML101340649.
- 26 Southern Nuclear Operating Company (Southern). 2010c. Southern Nuclear Operating
27 Company, Vogtle Electric Generating Plant Units 3 and 4, Early Site Permit Site Safety Analysis
28 Report Amendment Request, Revised Site Safety Analysis Report Markup for Onsite Sources of
29 Backfill, Part 2. Letter ND-10-1005 dated May 24, 2010, Southern Company, Birmingham,
30 Alabama. Accession No. ML101470212.
- 31

- 1 Southern Nuclear Operating Company (Southern). 2010d. Southern Nuclear Operating
2 Company, Vogtle Electric Generating Plant Units 3 and 4, Site Safety Analysis Report License
3 Amendment Request, Revise Backfill Geometry. Letter ND-10-0964 dated May 24, 2010,
4 Southern Company, Birmingham, Alabama. Accession No. ML101470213.
- 5 Southern Nuclear Operating Company (Southern). 2010e. Vogtle Electric Generating Plant
6 Units 3 and 4, Combined License Application, Environmental Report to Support Revision 1 to
7 Part 6, LWA Request. ND-10-0227, dated February 5, 2010, Southern Company, Birmingham,
8 Alabama. Accession No. ML100470600.
- 9 Southern Nuclear Operating Company (Southern). 2010f. *Supporting Information for*
10 *Environmental Report Review*, March 12, 2010, Southern Company, Birmingham, Alabama.
11 Accession No. ML100750038.
- 12 National Environmental Policy Act of 1969 (NEPA). 42 USC 4321, et seq.
- 13 U.S. Nuclear Regulatory Commission (NRC). 2000. *Standard Review Plans for Environmental*
14 *Reviews for Nuclear Power Plants*. NUREG-1555, Vol. 1, Washington, D.C. Includes 2007
15 revisions.
- 16 U.S. Nuclear Regulatory Commission (NRC). 2008a. *Final Environmental Impact Statement for*
17 *an Early Site Permit (ESP) at the Vogtle Electric Generating Plant Site* –NUREG-1872, Vols. 1
18 and 2, and Errata, Washington, D.C. Accession Nos. ML082240145; ML082240165,
19 ML082260203; ML082550040.
- 20 U.S. Nuclear Regulatory Commission (NRC). 2008b. *Summary of Environmental Site Audit*
21 *Related to the Review of the Combined License Application for Vogtle Electric Generating Plant,*
22 *Units 3 and 4*. Washington, D.C. Accession No. ML082620184.
- 23 U.S. Nuclear Regulatory Commission (NRC). 2009. *Vogtle Electric Generating Plant Early Site*
24 *Permit No. ESP-004*. Washington, D.C. Accession No. ML092290157.
- 25 U.S. Nuclear Regulatory Commission (NRC). 2010a. *Vogtle Electric Generating Plant ESP*
26 *Site Early Site Permit and Limited Work Authorization Environmental Assessment and Finding*
27 *of no Significant Impact*. Docket No. 52-011. Accession No. ML101380114.
- 28 U.S. Nuclear Regulatory Commission (NRC). 2010b. *Vogtle Electric Generating Plant ESP*
29 *Site Early Site Permit and Limited Work Authorization Environmental Assessment and Finding*
30 *of no Significant Impact*. Docket No. 52-011. Accession No. ML101670592.

Introduction

- 1 U.S. Nuclear Regulatory Commission (NRC). 2010c. *Vogtle Electric Generating Plant ESP Site*
2 *Early Site Permit and Limited Work Authorization Environmental Assessment and Finding of no*
3 *Significant Impact*. Docket No. 52-011. Accession No. ML101660076.
- 4 U.S. Nuclear Regulatory Commission (NRC). 2010d. May 21, 2010, letter from C. Patel, Senior
5 Project Manager, NRC, to J.A. Miller, Executive Vice President, SNC, Subject: Vogtle Electric
6 Generating Plant ESP Site - Issuance of Exigent Amendment Regarding Request for Changes
7 to the Site Safety Analysis Report. Washington, D.C. Accession No. ML101400509.
- 8 U.S. Nuclear Regulatory Commission (NRC). 2010e. June 25, 2010, Letter from T. Spicher,
9 Project Manager, NRC to J.A. Miller, Executive Vice President, SNC, Subject: Vogtle Electric
10 Generating Plant ESP Site - Issuance of Amendment Regarding Request for Changes to the
11 Site Safety Analysis Report Regarding Onsite Sources of Backfill. Washington, D.C.
12 Accession No. ML101760370.
- 13 U.S. Nuclear Regulatory Commission (NRC). 2010f. July 9, 2010, Letter from T. Spicher,
14 Project Manager, NRC to J.A. Miller, Executive Vice President, SNC, Subject: Vogtle Electric
15 Generating Plant ESP Site, Subject: Issuance of Amendment RE: Request for changes to the
16 classification of backfill over the side slopes of Units 3 and 4 excavations. Washington, D.C.
17 Accession No. ML101870522.
- 18 U.S. Nuclear Regulatory Commission (NRC). 2010g. *Summary of Environmental New and*
19 *Significant Site Audit Related to the Review of the Combined License Application for Vogtle*
20 *Electric Generating Plant Site*. Package Accession No. ML093631125.
- 21 U.S. Nuclear Regulatory Commission (NRC). 2010h. Memorandum regarding the Site Audit
22 Summary Concerning Environmental Impacts Associated with Acquisition of Additional Backfill
23 Material for the Vogtle Electric Generating Plant Site Combined License Application Review.
24 Washington, D.C. Package Accession No. ML101550095.
- 25

2.0 Affected Environment

U.S. Nuclear Regulatory Commission (NRC) staff provided a description of the affected environment in the vicinity of the Vogtle Electric Generating Plant (VEGP) early site permit (ESP) site in Chapter 2 of the ESP environmental impact statement (EIS) (NRC 2008). The applicant, Southern Nuclear Operating Company, Inc. (Southern), evaluated potential new and significant information that could affect the description of the affected environment. The NRC staff reviewed Southern's process for identifying new and significant information, but also conducted its own independent review to verify whether new and significant information has been identified. The results of those reviews are presented in this chapter. The site location is described in Section 2.1, and the land, meteorology and air quality, geology, radiological environment, water, ecology, socioeconomics, historic and cultural resources, and environmental justice aspects (or conditions) of the site are presented in Sections 2.2 through 2.10, respectively. Section 2.11 examines related Federal projects, and references cited are listed in Section 2.12.

2.1 Site Location

The staff described the location of the VEGP ESP site in Sections 2.1 and 2.2 of the ESP EIS (NRC 2008). This description included the location of the proposed Units 3 and 4 on the VEGP site in relation to the regions within 10 km (6 mi) and 80 km (50 mi) of the site. The VEGP site comprises 1282.5 ha (3169 ac) in an unincorporated area of Burke County, Georgia. The site is approximately 24 km (15 mi) east-northeast of Waynesboro, the county seat of Burke County, and 42 km (26 mi) southeast of Augusta, Georgia.

In the environmental report (ER) included in its combined license (COL) application (Southern 2009a), Southern provided no new and significant information related to site location, and the NRC staff found no new and significant information during its review of Southern's process for identifying new and significant information and the staff's visit to the VEGP site.

2.2 Land

The staff described land-related issues for the ESP site in Section 2.2 of the ESP EIS (NRC 2008). This discussion included a description of the VEGP site, the vicinity and region surrounding the site, and the existing electric power transmission system supporting the site.

In its COL ER (Southern 2009a), Southern provided no new and significant information related to land-related issues, and the NRC staff found no new and significant information during its review of Southern's process for identifying new and significant information and the staff's audit visit to the VEGP site.

1 **2.3 Meteorology and Air Quality**

2 The staff described the meteorology and air quality of the VEGP ESP site in Section 2.3 of the
3 ESP EIS (NRC 2008) and in Section 2.7 of the ESP ER (Southern 2008a). These descriptions
4 included a summary of the climatology and air quality for the region. They also included
5 discussions of the onsite meteorological monitoring program and associated measurements
6 that were the bases for other assessments described in the ESP EIS. For example, estimates
7 of site-specific atmospheric relative concentration were used to assess dose from routine and
8 accidental radiological releases in Sections 5.9 and 5.10, respectively, of the ESP EIS
9 (NRC 2008).

10 In its COL ER (Southern 2009a), Southern provided no new and significant information related
11 to meteorology and air quality. However, during the NRC staff's independent review, new
12 information related to changes to the National Ambient Air Quality Standard (NAAQS) for ozone
13 was identified. The staff determined that this new information warranted further review.

14 The VEGP site is centrally located within the Augusta (Georgia) – Aiken (South Carolina)
15 Interstate Air Quality Control Region (AQCR) (Title 40 Code of Federal Regulations [CFR]
16 Part 81.114). All of the counties in this AQCR currently are designated as in attainment or
17 unclassified for all criteria pollutants for which NAAQS have been established (40 CFR 81.311).
18 On March 12, 2008, the U.S. Environmental Protection Agency (EPA) promulgated a revision to
19 the NAAQS for ozone. The final rule (73 FR 16436) is designed to further protect public health
20 by reducing the standard from 0.084 parts per million (ppm) to 0.075 ppm. Section 107(d)(1) of
21 the Clean Air Act requires each state to submit, within 1 year of the revised standard, its
22 recommended designation (i.e., attainment, non-attainment, or unclassified) for each county.
23 On March 12, 2009, the Georgia Department of Natural Resources (GDNR) issued a letter to
24 the EPA providing its recommended designations; under those recommendations Burke County
25 remains unclassified/attainment with respect to the new ozone standard (GDNR 2009). EPA
26 will make its final determination no later than March 2011.

27 **2.4 Geology**

28 The staff described the geology of the VEGP ESP site in Section 2.4 of the ESP EIS (NRC
29 2008). The discussion included general descriptions of the regional geology, the topography of
30 the site area, and the regional mineral resources. Detailed descriptions of the geologic, seismic,
31 and geotechnical engineering properties of the site, including the results of field and laboratory
32 investigations, were provided in the ESP Site Safety Analysis Report (Southern 2008b) and the
33 ESP Safety Evaluation Report (NRC 2009).
34

1 In its COL ER (Southern 2009a), Southern provided no new and significant information related
2 to the environmental aspects of geology, and the NRC staff found no new and significant
3 information during its review of Southern's process for identifying new and significant
4 information and during the audit at the VEGP site.

5 **2.5 Radiological Environment**

6 The staff provided detailed descriptions of the radiological environment of the VEGP ESP site in
7 Section 2.5 of the ESP EIS (NRC 2008) and in Section 6.2 of the ESP ER (Southern 2008a).
8 These discussions included summaries of historical data from radiological environmental
9 monitoring program annual reports for the existing VEGP Units 1 and 2. Each year, Southern
10 issues a report entitled *Annual Radioactive Effluent Release Report for the Vogtle Power*
11 *Station*, which documents gaseous and liquid releases and resulting doses from VEGP.

12 In its COL ER (Southern 2009a), Southern provided no new and significant information related
13 to radiological environment, and the NRC staff found no new and significant information during
14 its review of Southern's process for identifying new and significant information, during the audit
15 at the VEGP site, and during its review of recent data on releases and estimated occupational
16 and population doses regarding the radiological environment since issuance of the VEGP ESP
17 (Southern 2006, 2007, 2008c, 2009b).

18 **2.6 Water**

19 The staff described the hydrology of the VEGP ESP site in Section 2.6 of the ESP EIS
20 (NRC 2008). These discussions included the regional and site surface water features, the
21 regional and site hydrogeology and groundwater features, consumptive and non-consumptive
22 surface-water and groundwater use in the area affected by the site, surface-water and
23 groundwater quality in the area affected by the site, and existing and possible future
24 hydrological, thermal, and chemical monitoring at the site.

25 In its COL ER (Southern 2009a), Southern provided no new and significant information related
26 to hydrology, and the NRC staff found no new and significant information during its review of
27 Southern's process for identifying new and significant information and during the audit at the
28 VEGP site.

29 **2.7 Ecology**

30 The staff presented detailed descriptions of the terrestrial and aquatic ecology in the vicinity of
31 the VEGP site in Section 2.7 of the ESP EIS (NRC 2008). The following sections update these
32 descriptions where appropriate with information developed since the ESP EIS was prepared,

1 including information from the COL ER (Southern 2009a), supplemental information provided by
2 Southern, and reviews of current information available from Federal and State agencies.

3 **2.7.1 Terrestrial Ecology**

4 The staff presented a detailed description of the terrestrial resources in the vicinity of the
5 VEGP ESP site in Section 2.7.1 of the ESP EIS (NRC 2008). This discussion included
6 wildlife habitats, wildlife usage, and terrestrial monitoring in the vicinity of the VEGP site and
7 the proposed transmission line rights-of-way. The evaluation also included a discussion of
8 the important species as specified by NUREG-1555, *Environmental Standard Review Plan:
9 Standard Review Plans for Environmental Review for Nuclear Power Plants* (NRC 2000),
10 including Federally and State-listed threatened and endangered species.

11 In its COL ER (Southern 2009a), Southern provided no new and significant information related
12 to terrestrial resources. The NRC staff performed site audits in September 2009 and May 2010,
13 and contacted the GDNR, the South Carolina Department of Natural Resources (SCDNR), and
14 the U.S. Fish and Wildlife Service (FWS) to determine if new information was available. During
15 the COL application review, Southern did identify new information with respect to the proposed
16 new borrow areas, as described in its March 12, 2010, submittal (Southern 2010a). Southern
17 also provided information in its subsequent submittals on May 10, May 13, and May 24, 2010, in
18 support of requested ESP license amendments to obtain backfill material from onsite borrow
19 areas not previously identified in the ESP (Southern 2010b, c, d). This information resulted in a
20 change in the terrestrial baseline conditions considered in the ESP EIS and is discussed below.

21 In the ESP EIS, which was completed in the summer of 2008, the NRC staff noted that, while
22 mounds indicative of the State-threatened Southeastern pocket gopher (*Geomys pinetis*) had
23 been identified just north of the VEGP site boundary and that similar habitat occurred nearby on
24 the VEGP site, the footprint of construction disturbance for the ESP EIS was not expected to
25 encompass such habitat. The EIS also indicated that while the State-threatened sandhills
26 milkvetch (*Astragalus michauxii*), an herbaceous legume, was known to occur within 16 km
27 (10 mi) of the VEGP site, it had not been identified as occurring within 3.2 km (2 mi) of the
28 VEGP site. The sandhills milkvetch has since been observed on the northern section of the
29 VEGP site (NRC 2010a). As discussed in the staff's June 2010 environmental assessment (EA)
30 (NRC 2010b) prepared in connection with Southern's license amendment request (LAR) to use
31 three additional onsite backfill borrow areas (Southern 2010d), both species were found in a
32 proposed new borrow area west-northwest of the power-block area in the spring of 2010 during
33 the environmental review of the LAR. Additional details concerning the distribution and habitat
34 preferences of the Southeastern pocket gopher and the sandhills milkvetch are found in the
35 LAR EA issued in June 2010 (NRC 2010b). The staff incorporates that information by reference
36 in this SEIS.

1 **2.7.2 Aquatic Ecology**

2 The staff presented detailed descriptions of the aquatic ecology in the vicinity of the VEGP site
3 in Section 2.7.2 of the ESP EIS (NRC 2008). These include descriptions of onsite ponds and
4 streams and the Savannah River in the vicinity of the VEGP site. They also include descriptions
5 of important species as specified by NUREG-1555 (NRC 2000), including Federally and State-
6 listed threatened and endangered species.

7 In its COL ER (Southern 2009a), Southern provided no new and significant information related
8 to aquatic ecology, and the NRC staff found no new and significant information during its review
9 of Southern's process for identifying new and significant information, the audit at the VEGP site,
10 and contacts with representatives of FWS, National Marine Fisheries Service (NMFS), GDNR,
11 and SCDNR (see Appendix F for the letters regarding consultation).

12 **2.8 Socioeconomics**

13 The staff provided a detailed description of socioeconomics in the VEGP ESP region in
14 Section 2.8 of the ESP EIS (NRC 2008). The discussion included the socioeconomic resources
15 that could potentially be impacted by the construction and operation of the proposed Units 3
16 and 4 at the VEGP site. The discussion is organized into two major subsections that provide
17 details on demographics and community characteristics. New information that has become
18 available since issuance of the VEGP ESP is described in the following sections.

19 **2.8.1 Demographics**

20 The staff provided a detailed discussion of the community characteristics of the VEGP ESP site
21 in Section 2.8.1 of the ESP EIS (NRC 2008). The discussion included the resident population,
22 transient population, and migrant populations.

23 In its COL ER (Southern 2009a), Southern provided no new and significant information related
24 to demographics, and the NRC staff found no new and significant information during its review
25 of Southern's process for identifying new and significant information, the audit at the VEGP site,
26 and contacts with county officials.

27 **2.8.2 Community Characteristics**

28 The staff provided a detailed discussion of the community characteristics of the VEGP ESP site
29 in Section 2.8.2 of the ESP EIS (NRC 2008). The discussion included the economy, taxes,
30 transportation, aesthetics, recreation, housing, public services, and education in Burke,
31 Richmond and Columbia Counties, all of which are the most impacted by activities at the VEGP
32 site.

1 In its COL ER (Southern 2009a), Southern provided no new and significant information related
 2 to community characteristics. However, the NRC staff's independent review identified changes
 3 in the community characteristics of the VEGP region that warranted further investigation. The
 4 2009 average annual unemployment rates for Burke, Richmond, and Columbia Counties and
 5 statewide in Georgia are provided in Table 2-1. In the ESP EIS, the 2005 unemployment rate
 6 for Burke, Columbia, and Richmond Counties, and the State of Georgia was 7.7, 4.4, 7.1, and
 7 5.2 percent, respectively. The unemployment rates of all three counties and statewide in
 8 Georgia have increased, with Burke County's unemployment rate the highest at 11.5 percent.
 9 Unemployment rates are discussed further in Section 4.5.

10 **Table 2-1. 2009 Average Annual Unemployment Rates**

	Labor Force	Employment	Unemployment Number	Unemployment Rate
Burke County	9942	8802	1140	11.5
Columbia County	60,003	55,937	4066	6.8
Richmond County	90,520	82,553	8967	9.8
Georgia	4,769,000	4,312,000	457,000	9.6

Source: USBLS 2010

11 **2.9 Historic and Cultural Resources**

12 The staff provided a detailed discussion of the historic and cultural resources of the VEGP ESP
 13 site in Section 2.9 of the ESP EIS (NRC 2008). The discussion included the cultural
 14 background of the area and sites eligible for listing under the National Historic Preservation Act
 15 of 1966 (NHPA) (NRC 2008, Table 2-24).

16 In its COL ER (Southern 2009a), Southern provided no new and significant information related
 17 to historic and cultural resources. The NRC staff performed a site audit in September 2009, and
 18 contacted the Georgia State Historic Preservation Office (SHPO) during December 2009 to
 19 determine if new information was available. The new information identified during the COL
 20 application review effort was the existence of a historic cemetery located on the VEGP site
 21 outside the proposed construction footprint and the proposed new borrow areas (Southern
 22 2010a, d). A letter report dated May 14, 2007, documents an archaeological survey that was
 23 conducted to record the boundaries and features of the cemetery (New South Associates 2007).
 24 All of the proposed additional borrow areas whose use was authorized by the ESP amendments
 25 issued in May and June 2010 are within the VEGP site boundary and are within the area of
 26 potential effect for the cultural resource analysis included in the ESP EIS (NRC 2008, 2010b, c).

1 In accordance with Title 36 of the Code of Federal Regulations (CFR) Subpart 800.8c, the NRC
2 staff is using the process implemented in the National Environmental Policy Act of 1969 (NEPA)
3 to comply with the obligations defined under Section 106 of the NHPA. The area of potential
4 effect used by the staff for this COL review is the same as that used for the ESP review
5 (NRC 2008).

6 During December 2009, the NRC initiated contact with the Georgia SHPO, 25 Tribes (see
7 Appendix C for a complete listing), and the Advisory Council on Historic Preservation (ACHP) to
8 begin consultations on the proposed COL action. NRC requested the participation of the
9 SHPO, the ACHP, and the Tribes in identifying new and significant information concerning
10 historic properties that may be impacted by this COL action.

11 **2.10 Environmental Justice**

12 The staff provided a discussion of environmental justice issues in the vicinity of the VEGP ESP
13 site in Section 2.10 of the ESP EIS (NRC 2008). The discussion included analysis on the
14 location of minority and low-income individuals, scoping and outreach completed, health
15 preconditions and special circumstances, and migrant populations.

16 In its COL ER (Southern 2009a), Southern provided no new and significant information related
17 to environmental justice, and the NRC staff found no new and significant information during its
18 review of Southern's process for identifying new and significant information, or during the audit
19 at the VEGP site.

20 **2.11 Related Federal Projects and Consultations**

21 The staff discussed related Federal projects and consultations in Section 2.11 of the ESP EIS
22 (NRC 2008). The staff reviewed the possibility that activities of other Federal agencies might
23 impact the issuance of a COL for proposed Units 3 and 4. Any such activities could result in
24 cumulative environmental impacts or the possible need for another Federal agency to become
25 a cooperating or coordinating agency for preparation of this supplemental EIS (SEIS)
26 (10 CFR 51.10(b)(2)).

27 In its COL ER (Southern 2009a), Southern provided no new and significant information
28 regarding related Federal projects and consultations, and the staff found no new and significant
29 information during its review of Southern's process for identifying new and significant
30 information, the audits at the VEGP site, and contacts with the FWS, NMFS, ACHP, U.S. Army
31 Corps of Engineers (USACE), and various Tribal representatives.

32 The NRC is required under Section 102(2)(C) of NEPA to consult with and obtain the comments
33 of any other Federal agency that has jurisdiction by law or special expertise with respect to any

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1 environmental impact involved in the subject matter of the SEIS. During the course of preparing
2 the SEIS, NRC consulted with the FWS, NMFS, and the ACHP. Contact correspondence is
3 included in Appendix F.

4 **2.12 References**

5 10 CFR Part 51. Code of Federal Regulations. Title 10, *Energy*, Part 51, "Environmental
6 Protection Regulations for Domestic Licensing and Related Regulatory Functions."

7 36 CFR Part 800. Code of Federal Regulations. Title 36, *Parks, Forests, and Public Property*,
8 Part 800, "Protection of Historic Properties."

9 40 CFR Part 81. Code of Federal Regulations. Title 40, *Protection of Environment*, Part 81,
10 "Designation of Areas for Air Quality Planning Purposes."

11 73 FR 16436. March 27, 2008. "National Ambient Air Quality Standards for Ozone." *Federal*
12 *Register*, Environmental Protection Agency, pp 16435-16514. Clean Air Act (CAA). 42 USC
13 7401, et seq.

14 Clean Air Act. 42 USC 7401, et seq.

15 Georgia Department of Natural Resources (GDNR). 2009. *Recommended Designations of*
16 *Ozone Non-Attainment Areas in Georgia*. Letter from Georgia Department of Natural
17 Resources to U.S Environmental Protection Agency, Region 4, Atlanta, Georgia. March 12,
18 2009. Accession No. ML100601088.

19 National Environmental Policy Act of 1969 (NEPA). 42 USC 4321, et seq.

20 National Historic Preservation Act of 1966 (NHPA). 16 USC 470, et seq.

21 New South Associates. 2007. Letter Report: A Determination of Boundaries and Surface
22 Features for Historic Cemetery on Plant Vogtle in Burke County, Georgia. May 14, 2007. Not
23 for public disclosure per Section 304 of the National Historic Preservation Act.

24 Southern Nuclear Operating Company, Inc. (Southern). 2006. *Annual Radioactive Effluent*
25 *Release Report for January 1, 2005 to December 31, 2005. Vogtle Electric Generating Plant –*
26 *Units 1 and 2*, NRC Docket Nos. 50-424 and 50-425, Facility Operating License Nos. NPF-68
27 and NPF-81. Southern Company, Birmingham, Alabama. Accession No. ML061240254.

- 1 Southern Nuclear Operating Company, Inc. (Southern). 2007. *Annual Radioactive Effluent*
2 *Release Report for January 1, 2006 to December 31, 2006. Vogtle Electric Generating Plant –*
3 *Units 1 and 2*, NRC Docket Nos. 50-424 and 50-425, Facility Operating License Nos. NPF-68
4 and NPF-81. Southern Company, Birmingham, Alabama.
5 Package Accession No. ML071220467.
- 6 Southern Nuclear Operating Company, Inc. (Southern). 2008a. *Vogtle Early Site Permit*
7 *Application: Part 3. Environmental Report*. Revision 4, Southern Company, Birmingham,
8 Alabama. Accession No. ML081020073.
- 9 Southern Nuclear Operating Company, Inc. (Southern). 2008b. *Site Safety Analysis Report*.
10 Rev. 5. Section 2.5 Geology, Seismology, and Geotechnical Engineering, Subsections 2.5.1.1
11 and 2.5.1.2, December 2008. Southern Company, Birmingham, Alabama.
12 Accession No. ML091540908.
- 13 Southern Nuclear Operating Company, Inc. (Southern). 2008c. *Annual Radioactive Effluent*
14 *Release Report for January 1, 2007 to December 31, 2007. Vogtle Electric Generating Plant –*
15 *Units 1 and 2*, NRC Docket Nos. 50-424 and 50-425, Facility Operating License Nos. NPF-68
16 and NPF-81. Southern Company, Birmingham, Alabama. Accession No. ML081290295.
- 17 Southern Nuclear Operating Company (Southern). 2009a. *Vogtle Electric Generating Plant,*
18 *Units 3 and 4, COL Application, Part 3 Environmental Report*. Revision 1, September 23, 2009,
19 Southern Company, Birmingham, Alabama. Accession No. ML092740400.
- 20 Southern Nuclear Operating Company, Inc. (Southern). 2009b. *Annual Radioactive Effluent*
21 *Release Report for January 1, 2008 to December 31, 2008. Vogtle Electric Generating Plant –*
22 *Units 1 and 2*, NRC Docket Nos. 50-424 and 50-425, Facility Operating License Nos. NPF-68
23 and NPF-81. Southern Company, Birmingham, Alabama. Accession No. ML091260689.
- 24 Southern Nuclear Operating Company (Southern). 2010a. Southern Nuclear Operating
25 Company, Vogtle Electric Generating Plant Units 3 and 4, Combined License Application,
26 Supporting Information for Environmental Report Review. Letter ND-10-0526 dated
27 March 12, 2010. Southern Company, Birmingham, Alabama. Accession No. ML100750038.
- 28 Southern Nuclear Operating Company (Southern). 2010b. Southern Nuclear Operating
29 Company, Vogtle Electric Generating Plant Units 3 and 4, Combined License Application, Post
30 New and Significant Audit Supporting Information. Letter ND-10-0923 dated May 10, 2010.
31 Southern Company, Birmingham, Alabama. Accession No. ML101320256.
- 32 Southern Nuclear Operating Company (Southern). 2010c. Southern Nuclear Operating
33 Company, Vogtle Electric Generating Plant Units 3 and 4, Early Site Permit Site Safety Analysis
34 Report Amendment Request, Revised Site Safety Analysis Report Markup for Onsite Sources of

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- 1 Backfill. Letter ND-10-0960 dated May 13, 2010, Southern Company, Birmingham, Alabama.
2 Accession No. ML101340649.
- 3 Southern Nuclear Operating Company (Southern). 2010d. Southern Nuclear Operating
4 Company, Vogtle Electric Generating Plant Units 3 and 4, Early Site Permit Site Safety Analysis
5 Report Amendment Request, Revised Site Safety Analysis Report Markup for Onsite Sources of
6 Backfill, Part 2. Letter ND-10-1005 dated May 24, 2010. Southern Company, Birmingham,
7 Alabama. Accession No. ML101470212.
- 8 U. S. Bureau of Labor Statistics (USBLS). 2010. *Local Area Unemployment Statistics*.
9 Accessed at <http://www.bls.gov/lau/> on May 12, 2010. Accession No. ML 102020520.
- 10 U.S. Nuclear Regulatory Commission (NRC). 2000. *Environmental Standard Review Plan:
11 Standard Review Plans for Environmental Reviews for Nuclear Power Plants*. NUREG-1555,
12 Washington, D.C.
- 13 U.S. Nuclear Regulatory Commission (NRC). 2008. *Final Environmental Impact Statement
14 for an Early Site Permit (ESP) at the Vogtle Electric Generating Plant Site. Main Report*.
15 NUREG-1872, Vol. 1, Washington, D.C.
- 16 U.S. Nuclear Regulatory Commission (NRC). 2009. *Vogtle ESP Final Safety Evaluation
17 Report – Chapter 2.0, Section 2.5 Geology, Seismology, and Geotechnical Engineering*.
18 Washington, D.C. Accession No. ML090130160.
- 19 U.S. Nuclear Regulatory Commission (NRC). 2010a. *GDNR Conference Call Summaries, May
20 26-June 3, 2010*. Washington, D.C. Accession No. ML101570079.
- 21 U.S. Nuclear Regulatory Commission (NRC). 2010b. *Vogtle Electric Generating Plant ESP
22 Site Early Site Permit and Limited Work Authorization Environmental Assessment and Finding
23 of No Significant Impact*. Docket No. 52-011, Washington, D.C. Accession No. ML101670592.
- 24 U.S. Nuclear Regulatory Commission (NRC). 2010c. *Vogtle Electric Generating Plant ESP Site
25 Early Site Permit and Limited Work Authorization Environmental Assessment and Finding of no
26 Significant Impact*. Docket No. 52-011. Accession No. ML101380114.
- 27

3.0 Site Layout and Plant Description

The U.S. Nuclear Regulatory Commission (NRC) staff provided a description of the proposed Units 3 and 4 at Vogtle Electric Generating Plant (VEGP) in Chapter 3 of the early site permit (ESP) environmental impact statement (EIS) (NRC 2008). This chapter of the combined license (COL) supplemental EIS (SEIS) provides new information relative to the key site and facility characteristics that the NRC staff used to assess the environmental impacts of the proposed action. The site layout and existing facilities are discussed in Section 3.1. The plant design and power transmission system are discussed in Sections 3.2 and 3.3, respectively. References cited in this chapter are listed in Section 3.4.

3.1 External Appearance and Plant Layout

A detailed description of the external appearance and plant layout for VEGP Units 3 and 4 and associated structures and facilities was provided in Section 3.1 of the ESP EIS (NRC 2008). The description also includes a summary of the existing VEGP Units 1 and 2 and their associated facilities and a discussion of Plant Wilson, a six-unit, oil-fueled combustion turbine facility located on the VEGP site. The ESP EIS states that the VEGP site is located on the Savannah River and that the proposed Units 3 and 4 would be located in a previously disturbed area adjacent to the existing Units 1 and 2. Figure 3-1 shows the proposed VEGP site footprint with the proposed two new units and associated facilities. Figure 3-2 shows the areas on the site that will be disturbed by construction and preconstruction activities.

3.2 Plant Description

Section 3.2 of the ESP EIS (NRC 2008) described VEGP, including information about the Westinghouse AP1000 plant design that has been certified by NRC (Title 10 of the Code of Federal Regulations [CFR] Part 52, Appendix D) (Westinghouse 2005) and that has been selected by Southern Nuclear Operating Company, Inc. (Southern), as the reactor design for the proposed Units 3 and 4. Westinghouse Electric Company, LLC (Westinghouse), the AP1000 vendor, submitted Revision 17 of the *AP1000 Design Control Document* to the NRC for review (Westinghouse 2008), and the NRC staff is reviewing the design revision separately from this proposed action.

Section 3.2 of the ESP EIS also discussed the proposed cooling system and power output for proposed Units 3 and 4. The proposed cooling system would consist of one concrete natural-draft hyperbolic cooling tower for each unit, and each unit would operate at an estimated net electrical power output of approximately 1117 MW(e) (NRC 2008).

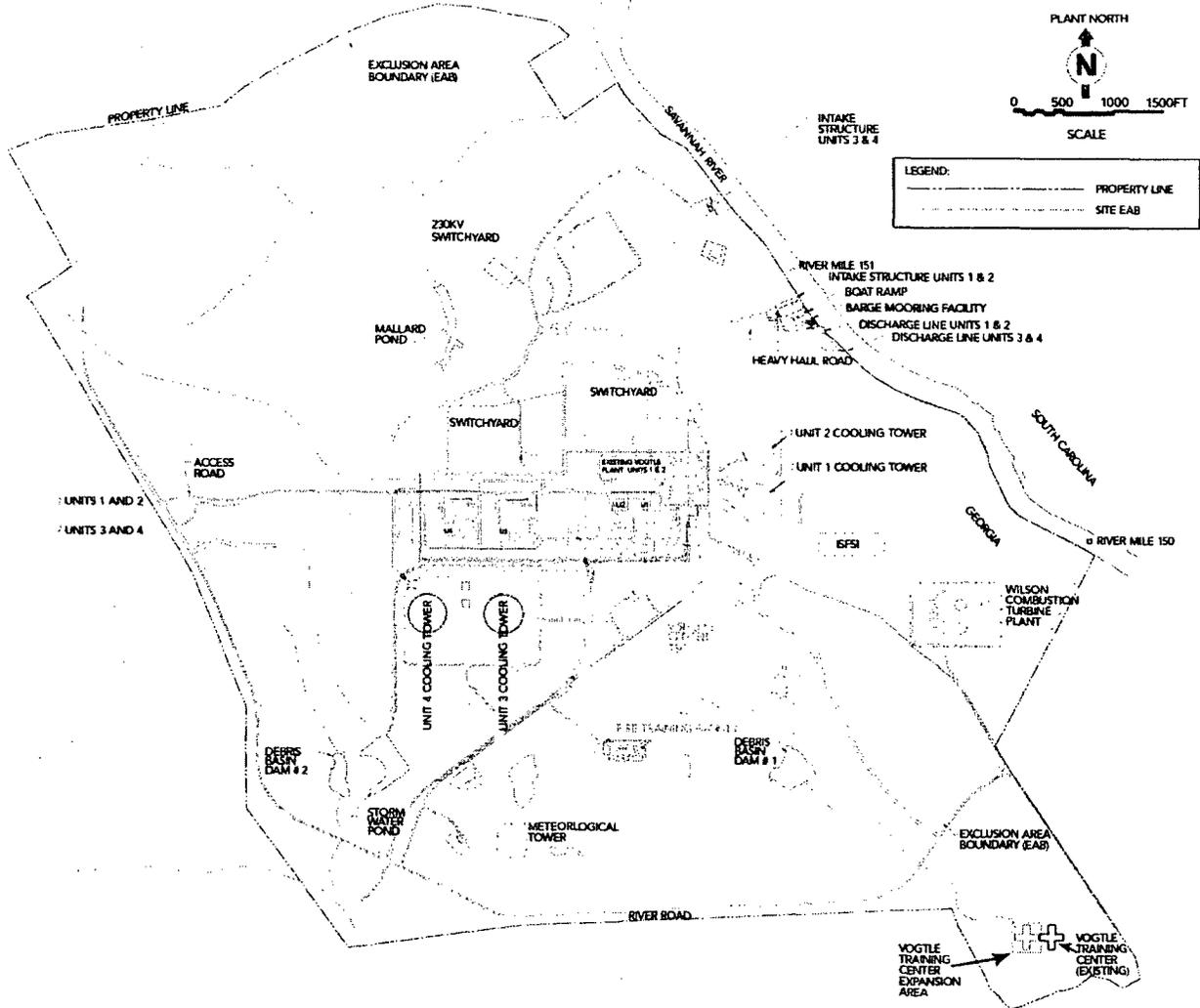


Figure 3-1. Proposed VEGP Site Footprint with Proposed Units 3 and 4

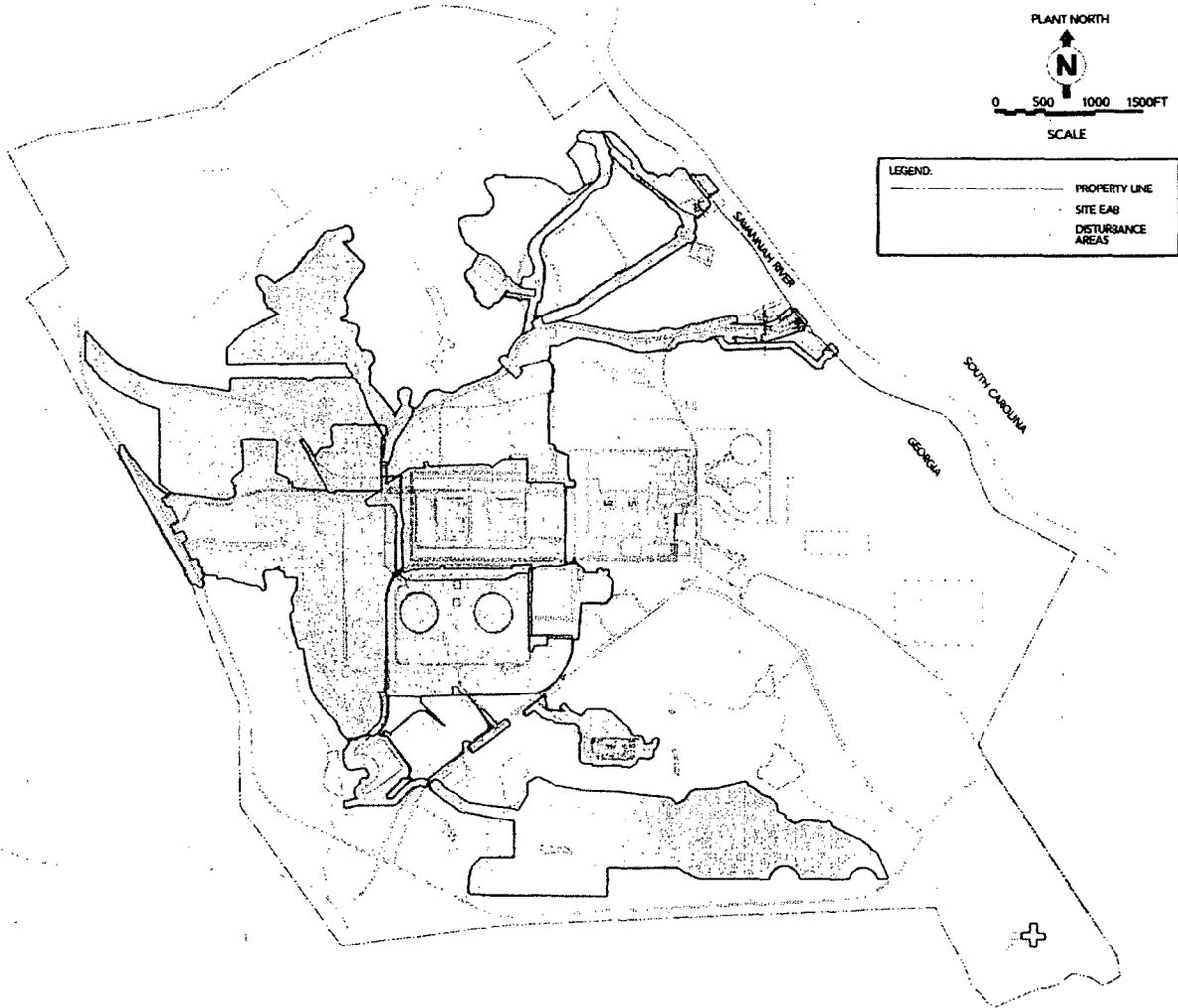


Figure 3-2. Areas that will be Disturbed by Construction and Preconstruction Activities for VEGP Units 3 and 4

1 **3.2.1 Plant Water Use**

2 Sections 3.2.1 and 3.2.2 of the ESP EIS (NRC 2008) and Section 3.3 of the ESP ER (Southern
3 2008) described plant water use for the proposed Units 3 and 4. These sections described the
4 surface-water and groundwater withdrawals required for operation of the facility, the
5 consumptive and nonconsumptive water uses of the proposed units, the plant effluent streams,
6 and the plant water-treatment systems.

7 Southern provided no new and significant information related to plant water use in the COL ER,
8 and the staff found no new and significant information during its review of Southern's process
9 for identifying new and significant information and during the VEGP site audit. However, the
10 NRC staff's review did identify the following information that warranted further staff analysis in
11 this SEIS.

12 Estimated plant water use for operation of Units 3 and 4 is provided in Appendix I. The normal
13 and maximum plant effluent discharges to the Savannah River are 631 L/s (10,008 gpm) and
14 2000 L/s (31,695 gpm), respectively. The impact of the plant effluent discharge described in the
15 ESP EIS corresponded to a maximum discharge rate of 1941 L/s (30,761 gpm), which is 3
16 percent less than the value given above. Accordingly, the effect on the staff's ESP EIS
17 conclusion of a plant effluent discharge of 2000 L/s (31,695 gpm) is evaluated in Section 5.3 of
18 this document.

19 **3.2.2 Cooling System**

20 Section 3.2.2 of the ESP EIS (NRC 2008) and Section 3.4 of the ESP ER (Southern 2008)
21 described the operational modes and the components of the cooling water system for the
22 proposed Units 3 and 4.

23 The cooling water intake structure has been repositioned upstream approximately 45.7 m
24 (150 ft), which places it approximately 649.2 m (2130 ft) upstream of the existing intakes for
25 Units 1 and 2, and approximately 426.7 m (1400 ft) downstream of the location where the
26 stream from Mallard Pond enters the Savannah River. Southern also described a change in the
27 dimensions of the intake structure (Southern 2010), lowering the intake structure floor from
28 elevation 38.1 m to 32.0 m (125 ft to 105 ft). In addition, there would be a slight bend
29 (approximately 30 degrees) roughly halfway down the canal to orient the mouth of the intake
30 canal perpendicular to the river. Figure 3-3 illustrates the revised intake structure and wetlands
31 in its vicinity.

32 Southern determined the information in the preceding paragraph to be new but not significant
33 information, and provided no other new information related to the cooling system in the COL
34 ER. During its review of Southern's process for identifying new and significant information and
35 during the audit at the VEGP site, the staff found no additional new information that warranted
36 further analysis.

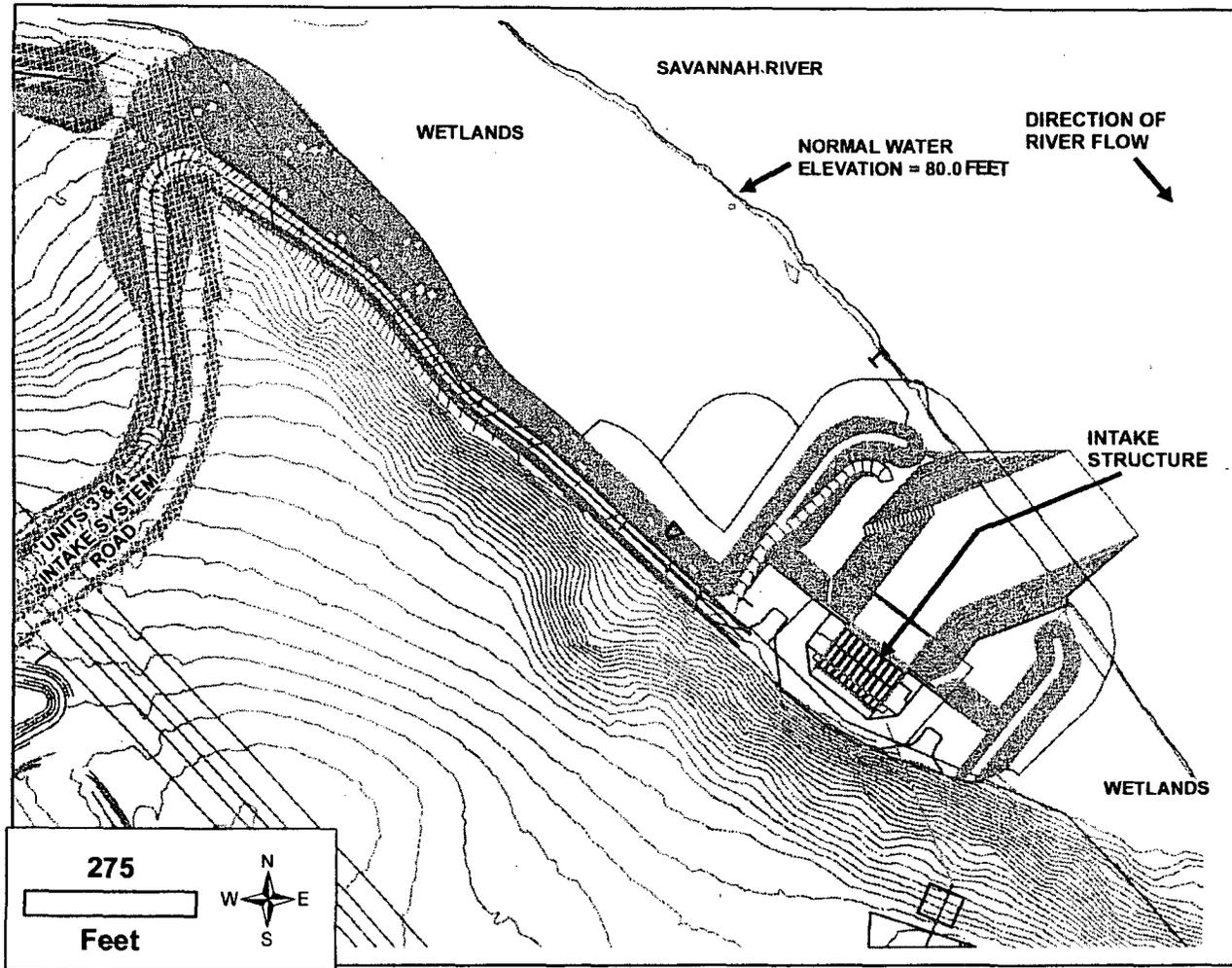


Figure 3-3. Revised Intake Structure and Surrounding Wetlands

1 **3.2.3 Radioactive Waste Management System**

2 Section 3.2.3 of the ESP EIS (NRC 2008) and Section 3.5 of the ESP ER (Southern 2008)
3 provided summary descriptions of the liquid, gaseous, and solid radioactive waste-management
4 systems for the AP1000 reactor, based on Revision 15 of the *AP1000 Design Control Document*
5 (Westinghouse 2005). The summaries of the radioactive waste-management system presented
6 in the ESP EIS are augmented below where additional descriptive information was provided by
7 Southern in its COL application (Southern 2009). A more detailed description of these systems
8 can be found in Chapter 11 of Revision 17 of the *AP1000 Design Control Document*
9 (Westinghouse 2008). The description of the radioactive waste-management system provided
10 in the COL ER is based on information from Revision 17 of the *AP1000 Design Control*
11 *Document* (Westinghouse 2008). None of the changes in the description of the radioactive
12 waste-management system from Revision 15 to Revision 17 of the *AP1000 Design Control*
13 *Document* is considered to be significant for the purposes of the environmental review. In
14 particular, the radioactive effluent release source terms are identical for Revision 15 and
15 Revision 17 of the *AP1000 Design Control Document*. Therefore, there is no change in the
16 design characteristic that is most relevant to dose and other environmental impacts associated
17 with radioactive waste.

18 **3.2.3.1 Liquid Radioactive Waste-Management System**

19 The liquid radioactive waste-management system functions to control, collect, process, handle,
20 store, and dispose of liquids containing radioactive material. Section 3.2.3.1 of the ESP EIS
21 (NRC 2008) described the liquid radioactive waste-management system.

22 The liquid radioactive effluent source term for the proposed Units 3 and 4, taken from
23 Revision 15 of the *AP1000 Design Control Document* (Westinghouse 2005), was presented in
24 Appendix G, Table G-1 of the ESP EIS (NRC 2008). The liquid radioactive effluent source term
25 presented in Revision 17 of the *AP1000 Design Control Document* (Westinghouse 2008) is
26 unchanged from Revision 15 of the *AP1000 Design Control Document* (Westinghouse 2005).
27 Dose calculation results presented in Section 5.9 of the ESP EIS (NRC 2008) remain valid and
28 show that all the dose projected to the maximally exposed individual is within the design
29 objectives identified in 10 CFR Part 50, Appendix I.

30 **3.2.3.2 Gaseous Radioactive Waste-Management System**

31 The gaseous radioactive waste-management system functions to collect, process, and
32 discharge radioactive or hydrogen-bearing gaseous wastes. Section 3.2.3.2 of the ESP EIS
33 (NRC 2008) described the gaseous radioactive waste-management system.

1 The gaseous radioactive effluent release source term for proposed Units 3 and 4, taken from
 2 Revision 15 of the *AP1000 Design Control Document* (Westinghouse 2005), was presented in
 3 Appendix G, Table G-4 of the ESP EIS (NRC 2008). The gaseous radioactive effluent source
 4 term presented in Revision 17 of the *AP1000 Design Control Document* (Westinghouse 2008) is
 5 unchanged from Revision 15 of the *AP1000 Design Control Document* (Westinghouse 2005).
 6 The results of calculations presented in Section 5.9 of the ESP EIS (NRC 2008) remain valid
 7 and show that all the projected dose to the maximally exposed individual is within the design
 8 objectives identified in 10 CFR Part 50, Appendix I.

9 **3.2.3.3 Solid Radioactive Waste-Management System**

10 The solid radioactive waste-management system functions to treat, store, package, and dispose
 11 of dry or wet solids. Section 3.2.3.3 of the ESP EIS (NRC 2008) described the solid radioactive
 12 waste-management system. Southern provided no new and significant information related to
 13 radioactive waste systems in the COL ER (Southern 2009), and the staff found no new and
 14 significant information during its review of Southern's process for identifying new and significant
 15 information and during the audit at the VEGP site. However, Section 6.1 of this SEIS describes
 16 the NRC staff's assessment of the potential environmental impacts that might occur if
 17 permanent disposal facilities for low-level solid radioactive waste remain unavailable to VEGP
 18 and Southern's contingency plans for interim management of such waste need to be
 19 implemented.

20 **3.2.4 Nonradioactive Waste Systems**

21 Section 3.2.4 of the ESP EIS (NRC 2008) and Section 3.6 of the ESP ER (Southern 2008)
 22 described the nonradioactive waste systems for the VEGP site. Southern provided no new and
 23 significant information related to nonradioactive waste systems in the COL ER (Southern 2009),
 24 and the staff found no new and significant information during its review of Southern's process
 25 for identifying new and significant information and during the audit at the VEGP site.

26 **3.3 Power Transmission System**

27 Section 3.3 of the ESP EIS (NRC 2008) described Southern's proposed system for transmitting
 28 the power produced by the proposed Units 3 and 4 to the regional distribution grid.

29 As described in Section 3.3 of the ESP EIS, Southern determined that one additional 500-kV
 30 transmission line in a new transmission line right-of-way would be required. The new
 31 transmission line would connect the substation for the proposed Units 3 and 4 to the Thomson
 32 substation located west of Augusta, Georgia. The precise route of the new transmission line

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1 right-of-way has yet to be determined, but it would be within a previously defined macro-right-of-
2 way (NRC 2008).

3 Southern provided no new and significant information regarding the route of the new
4 transmission line right-of-way in its COL ER (Southern 2009), and the staff found no additional
5 new and significant information during its review of Southern's process for identifying new and
6 significant information and during the audit at the VEGP site.

7 **3.4 References**

8 10 CFR Part 50. Code of Federal Regulations, Title 10, *Energy*, Part 50, "Domestic Licensing of
9 Production and Utilization Facilities."

10 10 CFR Part 52. Code of Federal Regulations, Title 10, *Energy*, Part 52, "Licenses,
11 Certifications, and Approvals for Nuclear Power Plants."

12 Southern Nuclear Operating Company, Inc. (Southern). 2008. *Vogtle Early Site Permit*
13 *Application: Part 3. Environmental Report*. Revision 5, Southern Company, Birmingham,
14 Alabama. Package Accession No. ML091550858.

15 Southern Nuclear Operating Company, Inc. (Southern). 2009. *Vogtle Electric Generating Plant,*
16 *Units 3 and 4, COL Application: Part 3. Environmental Report*. Revision 1, September 23,
17 2009. Southern Company, Birmingham, Alabama. Accession No. ML092740400.

18 Southern Nuclear Operating Company, Inc. (Southern). 2010. Southern Nuclear Operating
19 Company Vogtle Electric Generating Plant Units 3 and 4 Combined License Application,
20 Response to Request for Additional Information Letter on Environmental Issues. January 8,
21 2010. Southern Company, Birmingham, Alabama. Accession No. ML100120479.

22 U.S. Nuclear Regulatory Commission (NRC). 2008. *Final Environmental Impact Statement for*
23 *an Early Site Permit (ESP) at the Vogtle Electric Generating Plant Site. Main Report*.
24 NUREG-1872, Vol. 1, Washington, D.C.

25 Westinghouse Electric Company, LLC (Westinghouse). 2005. *AP1000 Design Control*
26 *Document*. AP1000 Document. APP-GW-GL-700, Revision 15, Westinghouse Electric
27 Company, Pittsburgh, Pennsylvania. Package Accession No. ML053480403.

28 Westinghouse Electric Company, LLC (Westinghouse). 2008. *AP1000 Design Control*
29 *Document*. AP1000 Document. APP-GW-GL-700, Revision 17, Westinghouse Electric
30 Company, Pittsburgh, Pennsylvania. Package Accession No. ML083230168.

4.0 Environmental Impacts of Construction

In Chapter 4 of the early site permit (ESP) environmental impact statement (EIS) (NRC 2008a), the U.S. Nuclear Regulatory Commission (NRC) staff provided an analysis of the environmental impacts of constructing the proposed Units 3 and 4 at the Vogtle Electric Generating Plant (VEGP) site. The applicant, Southern Nuclear Operating Company, Inc. (Southern), evaluated potential new and significant information that could affect the impacts of construction in its environmental report (ER) submitted as part of its combined license (COL) application (Southern 2009a). The NRC staff reviewed Southern's process for identifying new and significant information, but also conducted its own independent review to verify whether new and significant information had been identified. The results of that review are presented in this chapter. Sections 4.1 through 4.9 discuss the potential new and significant information regarding the impacts on land use; meteorology and air quality; water use and quality; terrestrial and aquatic ecosystems; socioeconomics; historic and cultural resources; environmental justice; nonradiological health effects; and radiological health effects. Section 4.10 describes the applicable measures and controls that would limit the adverse impacts of construction of the proposed Units 3 and 4. An overview of the site redress plan that is applicable to both the Limited Work Authorization (LWA) issued concurrently with the ESP and the second LWA requested by Southern as part of its COL application is provided in Section 4.11. A summary of the construction-related impacts is presented in Section 4.12. References cited in this chapter are listed in Section 4.13. Cumulative impacts of construction and other past, present, and future actions are discussed in Chapter 7. The technical analyses provided in this chapter support the results, conclusions, and recommendations presented in Chapter 11.

Because the VEGP COL application references an approved ESP, the significance levels of the potential adverse impacts for the various areas evaluated will remain the same as documented in the ESP EIS (NRC 2008a) unless new and significant information has been identified that would change the original significance level. The definition of new and significant information is documented in a 2007 *Federal Register* notice (72 FR 49352) and is described in Chapter 1 of this supplemental EIS (SEIS).

4.1 Land-Use Impacts

This section provides information on land-use impacts associated with construction of proposed Units 3 and 4 at the VEGP site. Topics discussed are land-use impacts at the VEGP site and in the vicinity of the site (Section 4.1.1) and land-use impacts in transmission line rights-of-way and offsite areas (Section 4.1.2).

1 **4.1.1 The Site and Vicinity**

2 The NRC staff's assessment of the land-use impacts related to construction of the proposed
3 Units 3 and 4 was provided in Section 4.1.1 of the ESP EIS (NRC 2008a). The assessment
4 addressed the land area that would be impacted by various construction activities. Based on
5 the staff's analysis in the ESP proceeding, the staff concluded that the land-use impacts of
6 construction would be SMALL.

7 In the ER included in its COL application, Southern indicated that there is no new and significant
8 information regarding construction-related impacts on land use (Southern 2009a, 2010a).
9 During its review of the COL application, the NRC staff performed an independent review of
10 potential new and significant information related to land use by reviewing Southern's ER,
11 auditing Southern's process for identifying new and significant information, examining other
12 information available at the site audit, and considering applicable regulations and reference
13 documents. This review identified the following new information that warranted further review:

14 • The VEGP site land area impacted on a long-term basis would increase from the 131 ha
15 (324 ac) stated in the ESP EIS to approximately 153 ha (379 ac) (Southern 2009b). The
16 revised area includes land for the fire training facility and the simulator building.

17 • The VEGP site land area impacted on a short-term basis would increase by approximately
18 108 ha (267 ac) to a total of 200 ha (494 ac). The additional land area consists of three
19 onsite locations that would be used as a source of Category 1 and Category 2 backfill.
20 The staff analyzed the environmental impacts associated with this additional land in an
21 environmental assessment (EA) and finding of no significant impact (NRC 2010a).

22 • The entire VEGP site has been designated an Energy Production District in the Burke
23 County Comprehensive Plan (MACTEC 2007).

24 The NRC staff determined that the new information does not have the potential to change the
25 staff's impact characterization in the ESP EIS. The reasons for this determination are (1) the
26 additional affected acreage is on the VEGP site and (2) the entire VEGP site is designated an
27 Energy Production District in the Burke County Comprehensive Plan (MACTEC 2007). Based
28 on this review, the staff determined that the conclusion presented in Section 4.1.1 of the ESP
29 EIS remains valid.

30 Southern indicated in a new and significant information evaluation (Southern 2010b) that it may
31 subsequently seek to obtain engineering grade backfill materials from an existing, permitted,
32 offsite borrow source. Southern stated that it has not made a final decision on whether to
33 submit an ESP license amendment request (LAR) to the NRC to use this borrow source, and
34 will not make that determination until it determines whether the already-approved onsite sources

1 will be sufficient for its construction needs. The staff recognizes that the use (or possible
2 expansion) of an offsite borrow source could have adverse impacts to land-use; however,
3 because the extent to which such an offsite source would be disturbed or expanded, if it is even
4 needed at all, is not presently known, and the potential significance of those land use impacts
5 cannot be evaluated until a LAR is submitted. If Southern submits a LAR to use an offsite
6 source, the staff would conduct an environmental review as part of its determination on that
7 LAR. The COL SEIS would be modified or supplemented with the results of that review, as
8 appropriate.

9 **4.1.2 Transmission Line Rights-of-Way**

10 The NRC staff's assessment of the land-use impacts related to the construction of the planned
11 new transmission lines and right-of-way to serve proposed Units 3 and 4 was provided in
12 Section 4.1.2 of the ESP EIS (NRC 2008a). Based on the staff's analysis, impacts to land use
13 were considered to be MODERATE.

14 In its COL ER (Southern 2009a), Southern indicated that there is no new and significant
15 information regarding construction-related impacts on the transmission line right-of-way. During
16 its review of the COL application, the NRC staff independently verified that no new and
17 significant information was available related to construction impacts on the transmission line
18 right-of-way by reviewing Southern's ER, auditing Southern's process for identifying new and
19 significant information, examining other information available at the site audit, and considering
20 applicable regulations and reference documents. Based on this review, the staff determined
21 that the conclusion presented in Section 4.1.2 of the ESP EIS that the impacts could be
22 MODERATE remains bounding and valid.

23 **4.2 Meteorological and Air-Quality Impacts**

24 The NRC staff's assessment of meteorological and air quality construction-related impacts,
25 including dust generation during ground clearing and emissions from construction equipment
26 and workers' vehicles, was provided in Section 4.2 of the ESP EIS (NRC 2008a). Based on the
27 staff's analysis, construction-related impacts to meteorology and air quality were considered to
28 be SMALL.

29 In its COL ER (Southern 2009a), Southern indicated that there is no new and significant
30 information regarding construction-related impacts on meteorology and air quality. During its
31 review of the COL application, the NRC staff performed an independent review of potential new
32 and significant information related to meteorology and air quality by reviewing Southern's ER,
33 auditing Southern's process for identifying new and significant information, examining other
34 information available at the site audit, and considering applicable regulations and reference
35 documents. The review identified new information related to potential changes in construction

Environmental Impacts of Construction

1 traffic as well as changes to the National Ambient Air Quality Standard (NAAQS) for ozone that
2 warranted further review.

3 During the September 2009 site audit, Southern indicated that a traffic study had been
4 completed in July 2009 (Neel-Schaffer 2009). The traffic study uses different workforce and
5 shift assumptions than were used in the ESP EIS (NRC 2008a); however, the staff determined
6 that these assumptions are reasonable and the results remain consistent with the ESP EIS. In
7 addition to the vehicle traffic analyzed in the traffic study, Southern has indicated the potential
8 need for additional truck deliveries if more backfill material is needed than could be obtained
9 onsite (Southern 2010b). Southern stated that traffic impacts would be minimized by using
10 different routes near the site for inbound and outbound trucks. Although the potential truck
11 traffic would result in more air emissions, these emissions would be temporary and would be
12 completed before peak construction begins (Southern 2010b). The staff therefore expects the
13 air quality conclusions presented in the ESP EIS related to construction traffic would remain
14 valid.

15 As discussed in Section 2.3, the U.S. Environmental Protection Agency (EPA) promulgated a
16 revision to the NAAQS for ozone on March 12, 2008. The final rule (73 FR 16436) reduced the
17 ozone standard from 0.084 ppm to 0.075 ppm. Section 107(d)(1) of the Clean Air Act requires
18 each state to submit, within 1 year of the revised standard, its recommended designation
19 (i.e., attainment, non-attainment, or unclassified) for each county. On March 12, 2009, the
20 Georgia Department of Natural Resources (GDNR) issued a letter to the EPA providing its
21 recommended designations. Under those recommendations, Burke County remains
22 unclassified/attainment with respect to the new ozone standard (GDNR 2009a). EPA will make
23 its final determination on attainment status no later than March 2011. Based on the staff's
24 review of new and significant information and the fact that GDNR has determined that Burke
25 County will remain designated as in attainment with respect to the NAAQS standard, the NRC
26 staff determined that the conclusions presented in the ESP EIS remain valid.

27 **4.3 Water-Related Impacts**

28 The NRC staff's assessment of the water-related impacts associated with construction of the
29 proposed Units 3 and 4 at the VEGP site were provided in Section 4.3 of the ESP EIS (NRC
30 2008a). Based on the staff's analysis, construction-related impacts of hydrological alterations
31 and on water use and water quality were considered to be SMALL.

32 In its COL ER (Southern 2009a) and RAI responses (Southern 2010c), Southern provided new
33 information on the proposed intake structure design, as described in Section 3.2.2. Changes to
34 the design (Southern 2010c) do not substantially modify the width of the intake canal or the
35 length of the canal extending beyond the existing river bank. The impacts of hydrological
36 alterations resulting from construction activities would thus remain localized and temporary as

1 concluded in the ESP EIS (NRC 2008a). In support of its recent requests to amend the ESP
2 site safety analysis report, Southern provided new information regarding additional onsite
3 borrow areas from which it sought to obtain backfill material, including three new borrow areas
4 in previously undeveloped portions of the VEGP site (Southern 2010d, e). In assessing the
5 significance of this information for the COL review, the staff has incorporated by reference the
6 description and analysis in the EAs. These borrow areas are currently included in Southern's
7 National Pollutant Discharge Elimination System (NPDES) permit for construction stormwater,
8 and the excavations would neither intersect the water table nor require dewatering. As a result,
9 the NRC staff determined that the conclusions reached in the ESP EIS with respect to surface
10 water and groundwater remain valid for excavations from the new borrow areas (NRC 2010a,b).
11 In addition, the NPDES storm water permits, Clean Water Act Section 401 certification, and U.S.
12 Army Corps of Engineers (USACE) Clean Water Act Section 404 and Rivers and Harbors Act
13 Section 10 permit processes would minimize impacts.

14 As noted in the ESP EIS, prior to initiating construction activities including certain site-
15 preparation work, Southern would be required to obtain the appropriate authorizations
16 regulating alterations to the hydrological environment. Those authorizations would likely include
17 a certification issued by the GDNR under Section 401 of the Clean Water Act. Until Southern
18 obtains its Section 401 certification applicable to construction and operation of the new units (or
19 a determination from GDNR that one is not required), the Commission cannot issue a COL.
20 Southern has not yet obtained a Section 401 certification for the construction activities that
21 would be authorized by a COL, but has listed it among the required permits and certifications
22 specified in its ER (see SEIS Appendix H).

23 During its review of the COL application, the NRC staff performed an independent review of
24 potential new and significant information regarding water-related impacts of construction by
25 reviewing Southern's ER, auditing Southern's process for identifying new and significant
26 information, examining other information available at the site audit (including permits for
27 groundwater withdrawal and dewatering of the surficial aquifer during construction) and
28 provided by Southern subsequent to the site audit, reviewing information submitted as part of
29 Southern's ESP license amendment requests, and considering applicable regulations
30 and reference documents. Beyond the information identified by Southern and discussed
31 above, the staff's review identified no additional information requiring further staff consideration.
32 Based on this review, the staff determined that the conclusions presented in the ESP EIS, that
33 impacts would be SMALL, remain valid.

34 **4.4 Ecology**

35 This section provides information on terrestrial and aquatic resource impacts associated with
36 construction of the proposed Units 3 and 4 at the VEGP site. Topics discussed are terrestrial

1 and aquatic resource impacts at the VEGP site and in the vicinity of the site (Sections 4.4.1
2 and 4.4.2).

3 **4.4.1 Terrestrial Impacts**

4 The NRC staff's assessment of the potential construction impacts to terrestrial resources,
5 including impacts to Federal and State-listed threatened and endangered species, was provided
6 in Sections 4.4.1 and 4.4.3 of the ESP EIS (NRC 2008a). Terrestrial-resource-related impacts
7 of construction, including impacts on Federal and State-listed species, that are discussed in the
8 ESP EIS include wildlife habitat removal during ground clearing, direct and indirect impacts to
9 wetlands during construction, wildlife displacement and mortality related to construction
10 activities and increased traffic, avian collisions with tall structures during construction, and noise
11 from construction activities. Based on the staff's analysis, construction-related impacts to
12 terrestrial resources were considered to be SMALL in the vicinity of the VEGP site. The
13 construction-related impacts on terrestrial resources in the vicinity of the new transmission line
14 were considered to be SMALL to MODERATE because of the uncertainty regarding the actual
15 transmission line route, as well as the uncertainty regarding the distribution of State-protected
16 species along and within the right-of-way.

17 In its COL ER (Southern 2009a), Southern indicated that there is no new and significant
18 information regarding construction-related impacts on terrestrial resources. During its review of
19 the COL application, the NRC staff performed an independent review of potential new and
20 significant information related to terrestrial resources by reviewing Southern's ER, reviewing
21 information submitted as part of the ESP LAR activities to obtain backfill from additional onsite
22 borrow areas, auditing Southern's process for identifying new and significant information,
23 examining other information available at the site audit, considering applicable regulations and
24 reference documents, and contacting the South Carolina Department of Natural Resources
25 (SCDNR), U.S. Fish and Wildlife Service (FWS), and GDNR (NRC 2010c, d, e; SCDNR 2009;
26 GDNR 2009b, c). This review identified new information related to construction-related impacts
27 to wildlife habitat, wetlands, and Federal and State-listed species that warranted additional staff
28 analysis.

29 Information relating to additional proposed onsite borrow areas was submitted by Southern on
30 March 12, 2010, as part of the new and significant evaluation for the COL (Southern 2010a).
31 Southern also submitted information pertaining to these borrow areas in subsequent submittals
32 supporting its LAR to obtain backfill material from areas not previously identified in the ESP
33 (Southern 2010e, f). The extent of disturbance within these borrow areas is further summarized
34 below; the updated acreage provided by Southern represents new information with respect to
35 the COL review that accordingly warranted further review. As the borrow areas requested
36 under Amendment 1 were located in onsite areas whose disturbance had already been
37 evaluated in the ESP EIS, the staff's Amendment 1 EA concluded that terrestrial resource

1 impacts associated with these locations would be consistent with the impacts previously
2 evaluated in the ESP EIS and found not to be significant. (NRC 2010b) With respect to the
3 borrow locations requested under Amendment 2, which were not previously evaluated in the
4 ESP EIS, the NRC staff described and evaluated the associated potential impacts on terrestrial
5 resources within these areas in the Amendment 2 EA issued in June 2010 (NRC 2010a).
6 Accordingly, as described further below, the staff incorporates the description and analysis in
7 the Amendment 2 EA by reference in this SEIS.

8 As discussed in the ESP EIS (NRC 2008a), approximately 225 ha (556 ac) would be disturbed
9 during construction of proposed Units 3 and 4, including 131 ha (324 ac) that would be
10 permanently disturbed and an additional 94 ha (232 ac) that could be temporarily disturbed
11 (NRC 2008a). Southern updated the estimated acreage needed for construction of proposed
12 Units 3 and 4 and currently estimates that approximately 353 ha (873 ac) would be disturbed by
13 construction of the proposed Units 3 and 4, including approximately 153 ha (379 ac) that could
14 be permanently disturbed for facilities and onsite infrastructure; 92 ha (227 ac) that would be
15 temporarily disturbed for parking, laydown areas, and spoils piles; and 108 ha (267 ac) that
16 have been cleared and excavated for backfill material (Southern 2009a, b; 2010 a, c, d).

17 The additional 22 ha (55 ac) impacted for permanent facilities would result in a change in habitat
18 types impacted for some facilities. An additional 1.2 ha (3.0 ac) of planted pines, previously
19 disturbed areas, and open fields would be cleared during construction of permanent facilities.
20 An estimated 21 ha (52 ac) of hardwood habitat would be lost to permanent structures and
21 facilities, representing an increase from the 2 ha (5 ac) that was estimated in the ESP EIS. This
22 additional acreage is a fragmented mosaic of hardwood remnants interspersed among planted
23 pine and previously disturbed areas. The updated onsite hardwood disturbance estimates are
24 still a small fraction (less than 0.1 percent) of the total acres of hardwood habitat available
25 (31,669 ha [78,253 ac]) within 16 km (10 mi) of the site (USGS 2001).

26 Hardwood habitats have much greater plant species and structural diversity than upland fields,
27 planted pine forests, and previously disturbed areas, and are thus assumed to be much more
28 important as wildlife habitat. However, as noted above, the updated onsite hardwood habitat
29 lost to permanent structures and facilities represents a small percentage of the total available
30 hardwood habitat available onsite and in the vicinity of the VEGP site. In addition, as discussed
31 in the Amendment 2 EA issued in June 2010 (NRC 2010a), approximately 108 ha (267 ac) in
32 three locations composed of planted longleaf (*Pinus palustris*), loblolly (*P. taeda*), and slash
33 pines (*P. elliottii*) will be cleared to obtain backfill material. The areas would be stabilized with
34 permanent vegetation when land-disturbing activities have been completed. Southern has
35 committed to replanting all the areas in longleaf pine, if possible. Two sandhills species, the
36 Southeastern pocket gopher (*Geomys pinetis*) and the sandhills milkvetch (*Astragalus*
37 *michauxii*), both of which are listed as State-threatened by GDNR, were found in one of the
38 proposed borrow areas. The NRC staff discussed the loss of sandhills habitat with GDNR.

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1 GDNR indicated that there is a general concern for the loss of sandhills habitat. However,
2 sandhills habitat quality in the areas being affected by obtaining the additional backfill material
3 authorized by the ESP amendments is considered to be marginal compared to the quality of
4 sandhills habitat located on the northern section of the VEGP site, which would not be disturbed
5 (NRC 2010e, GDNR 2009d). Southern has voluntarily collaborated with GDNR and the Georgia
6 Plant Conservation Alliance to mitigate impacts to the Southeastern pocket gopher and the
7 sandhills milkvetch. In the Amendment 1 and Amendment 2 EAs, issued in May and June
8 2010, the staff also described, among other matters, the applicable stormwater permitting
9 provisions and the best management practices Southern intends to follow for erosion and
10 sediment control. (NRC 2010a, b) In the Amendment 2 EA the staff also evaluated the impacts
11 to habitat from relocation of the State-threatened species associated with obtaining the
12 additional backfill material and determined that there would not be any destabilizing effect on
13 terrestrial resources. With respect to the EAs for ESP Amendments 1, 2, and 3 the staff
14 determined that approval of the ESP amendments would have no significant impact (NRC 2010
15 a, b, f).

16 Southern has submitted to USACE a joint Clean Water Act Section-404/Rivers and Harbors Act
17 Section-10 permit application, which is required with respect to any wetlands or water of the
18 United States that would be impacted by construction (Southern 2010c). Southern currently
19 estimates that 3.3 ha (8.24 ac) of jurisdictional wetlands would be impacted during construction
20 of the water intake system, access road, and outfall structure (Southern 2010c). This
21 represents approximately 5 percent of the 69 ha (170 ac) of wetlands that occur on the VEGP
22 site. As discussed in the ESP EIS, Southern originally estimated that approximately 8.5 ha
23 (21.0 ac) of wetlands would be directly affected by Unit 3 and 4 construction activities (NRC
24 2008a). The updated wetlands information reflects a decrease in the amount of wetland habitat
25 that would be impacted during construction. Accordingly, the staff's conclusion in the ESP EIS
26 with respect to impacts to wetlands remains bounding.

27 During its review, the NRC staff also identified new information related to onsite and offsite
28 infrastructure alterations in connection with how the large reactor components and other
29 materials would be delivered to the site.

30 Southern submitted a letter to the NRC in February 2010 stating that large components and
31 other construction materials would be transported to the VEGP site via rail, using the Norfolk-
32 Southern rail line from Savannah, Georgia, to Waynesboro, Georgia, where the line connects
33 with the spur to VEGP (Southern 2010g). The letter states that there would be no substantive
34 changes made to either the Norfolk-Southern rail line or to the private spur line to VEGP to
35 support the shipment of an estimated 70 components and pieces of heavy equipment that will
36 require special cars or size considerations. Some routine track maintenance, (e.g. such as
37 replacement of cross ties and/or ballast) may be necessary, but no land disturbing activities or
38 modifications of bridges, overpasses, or other structures would be needed. Southern stated

1 that modifications would be needed for the onsite rail yard and rail spur to support storage and
2 unloading of equipment and materials delivered by rail. The rail yard is located in an area
3 previously disturbed by construction of VEGP Units 1 and 2 and is within the current disturbance
4 footprint.

5 Based on the information in Southern's February 2010 letter (Southern 2010g) and in the
6 information received in Southern's RAI response (Southern 2010c), which indicates that no
7 significant land-disturbing activities will be needed to support rail transport and delivery of large
8 components to the site, the staff does not expect either the transportation of reactor
9 components to the site or modifications to the onsite rail yard and spur to adversely impact
10 terrestrial resources, including threatened and endangered species.

11 The combined loss of sandhills habitat, hardwood forest and bottomland wetlands, planted pine
12 habitat, and open field habitat during the construction of Units 3 and 4 and the clearing of the
13 new borrow areas for backfill material would reduce available habitat for wildlife, including two
14 State-threatened species, the Southeastern pocket gopher and sandhills milkvetch. However,
15 Georgia is currently working to restore sandhills habitat across the state, which includes planting
16 longleaf pine. Southern has committed to replant the disturbed onsite borrow areas in longleaf
17 pine, if possible. In addition, the areas that have been disturbed are of marginal quality
18 compared to the remaining higher quality habitat available onsite. Planted pine, open field, and
19 bottomland hardwood wetland habitats are available in other locations onsite and in the region.
20 Furthermore, as explained in the Amendment 2 EA, the potential losses to the Southeastern
21 pocket gopher and sandhills milkvetch are isolated and will not jeopardize the stability or viability
22 of any of the remaining populations in Georgia. These populations occur in different locations
23 throughout the state and each population is not dependent on the success of others. Therefore,
24 and for the reasons discussed above and in more detail in the Amendment 2 EA (NRC 2010a),
25 construction activities associated with the proposed action are not expected to destabilize
26 terrestrial resources, including the State-threatened Southeastern pocket gopher and sandhills
27 milkvetch.

28 As part of the NRC's responsibilities under Section 7 of the Endangered Species Act, the staff is
29 preparing a biological assessment documenting potential impacts on Federally listed threatened
30 or endangered terrestrial species as a result of the facility operation and construction and
31 operation of the proposed transmission line right-of-way associated with the development of the
32 VEGP site. A biological assessment documenting potential impacts on the Federally listed
33 threatened or endangered species as a result of the site preparation and preliminary
34 construction of the nonsafety-related structures, systems or components on the VEGP site was
35 submitted to FWS on January 25, 2008, and FWS concurred with the findings on September 19,
36 2008 (FWS 2008).

Environmental Impacts of Construction

1 There are no known Federally-threatened or endangered terrestrial species on the VEGP site,
2 with the exception of the American alligator (*Alligator mississippiensis*). As explained in the
3 ESP EIS and the Amendment 1 and Amendment 2 EAs, while an alligator has previously been
4 observed in Mallard Pond on the VEGP site (See Figures 3-1 and 3-2), alligators appear to be
5 relatively common in the Savannah River near and on the VEGP site, and construction impacts
6 on alligators would be negligible because any displacement would be temporary and there is
7 ample habitat in the region. Furthermore, there are no adequate nesting and foraging locations
8 for the Federally endangered red-cockaded woodpecker (*Picoides borealis*) in the additional
9 onsite areas that have been and would be disturbed. Details on the 21 ha (52 ac) currently
10 enrolled in the Red-Cockaded Woodpecker Safe Harbor Agreement acreage that would be
11 impacted are discussed in the Amendment 2 EA (NRC 2010a); Southern intends to retain the
12 acres under the agreement and to replant these areas in longleaf pine, if possible, once the
13 areas have been stabilized and closed out. In addition, no critical habitat for threatened or
14 endangered species is present on the VEGP site. The new information with respect to the
15 additional borrow areas did not reveal impacts that may affect Federally-listed species or critical
16 habitat in a manner not previously considered in the ESP EIS , and no additional listed species
17 or critical habitat were identified.

18 In summary, the staff has reviewed the COL application and subsequent submittals, has
19 performed an independent review of potential new and significant information related to
20 terrestrial resources, has reviewed information submitted in conjunction with the ESP license
21 amendments, has audited Southern's process for identifying new and significant information,
22 has examined information provided at the site audits, has considered applicable regulations and
23 reference documents, and has contacted the GDNR, SCDNR, and FWS.

24 Southern is required to comply with conditions of the NPDES construction storm water general
25 permit issued by GDNR's Environmental Protection Division, and Southern has committed to
26 using best management practices to minimize impacts from erosion. Southern has voluntarily
27 mitigated impacts to the Southeastern pocket gopher and the sandhills milkvetch, both of which
28 are State-threatened species. Southern also has committed to replant longleaf pine in areas
29 that would be disturbed, if possible. Longleaf pine is a fundamental component of sandhills
30 habitat and a species ideally suited to the soil type and regional topography.

31 Based on the total acres of habitat that would be disturbed for the proposed project and
32 Southern's efforts to mitigate impacts to State-threatened species in connection with the use of
33 onsite borrow areas, the NRC staff concludes that site preparation and construction activities
34 related to building VEGP Units 3 and 4 could have a MODERATE impact on local terrestrial
35 resources through the loss of habitat and the displacement of localized populations of two State-
36 threatened species, the Southeastern pocket gopher and the sandhills milkvetch, but would not
37 have a destabilizing effect either on wildlife habitats or on the populations of two State-listed
38 species in Georgia.

1 Southern indicated in a new and significant information evaluation (Southern 2010b) that it may
2 subsequently seek to obtain engineering grade backfill materials from an existing, permitted,
3 offsite borrow source. Southern stated that it has not made a final decision on whether to
4 submit an ESP LAR to the NRC to use this borrow source, and will not make that determination
5 until it determines whether the already-approved onsite sources will be sufficient for its
6 construction needs. The staff recognizes that the use (or possible expansion) of an offsite
7 borrow source could have adverse impacts to terrestrial resources; however, because the
8 extent to which such an offsite source would be disturbed or expanded, if it is even needed at
9 all, is not presently known, the potential significance of those ecological impacts cannot be
10 evaluated until a LAR is submitted. If Southern submits a LAR to use an offsite source, the staff
11 would conduct an environmental review as part of its determination on that LAR. The COL SEIS
12 would be modified or supplemented with the results of that review, as appropriate.

13 **4.4.2 Aquatic Ecosystem Impacts**

14 The NRC staff's assessment of the aquatic ecology related impacts, including the impacts to
15 aquatic biota in onsite ponds and streams from soil-disturbing activities, to aquatic biota in the
16 Savannah River from construction of the cooling water intake structure, the barge structure,
17 and the discharge structure, and from construction of the proposed transmission line, was
18 provided in Section 4.4.2 of the ESP EIS (NRC 2008a). The impacts to important species,
19 including Federally and State-listed threatened and endangered species, were discussed in
20 Sections 4.4.2 and 4.4.3.2 of the ESP EIS. Based on the staff's analysis in the ESP EIS,
21 construction-related impacts to the aquatic biota in the onsite water bodies and the Savannah
22 River were considered to be SMALL.

23 In its COL ER (Southern 2009a), Southern indicated that there is no new and significant
24 information regarding construction related impacts on aquatic ecology. The NRC staff
25 independently reviewed Southern's ER, audited Southern's process for identifying new and
26 significant information, examined other information available at the site audit, and discussed
27 potential construction impacts with resource agencies (i.e., FWS, SCDNR, and GDNR; see
28 Appendix F). Southern subsequently provided new information on three additional onsite
29 borrow areas from which it sought to obtain backfill material via license amendment (Southern
30 2010d, e). Based on the information provided by Southern and the NRC analysis in the ESP
31 EIS, the staff concluded in the LAR EAs for Amendments 1 and 2 (NRC 2010a, b) that site
32 preparation and construction activities at the additional onsite borrow locations are similar to
33 those that have been previously analyzed and documented in the ESP EIS, and that the aquatic
34 resource impacts of activities which would be conducted at the borrow areas are consistent with
35 the impacts previously examined and found not to be significant. Accordingly, the staff
36 incorporates by reference its analysis in the LAR EAs (NRC 2010a, b).

1 As part of the NRC's responsibilities under Section 7 of the Endangered Species Act, the staff
2 prepared a biological assessment (BA) in connection with the Vogtle ESP review, documenting
3 potential impacts on the shortnose sturgeon (*Acipenser brevirostrum*) as a result of construction
4 and operation of two new units at the VEGP site. That BA was submitted to the National Marine
5 Fisheries Service (NRC 2008b). That assessment concluded that the proposed action is not
6 likely to adversely affect the shortnose sturgeon. The NMFS concurred with that determination
7 (NMFS 2008). The staff has determined that the project has not been modified in a way that
8 would cause an effect to a listed species not previously considered or modified to cause an
9 effect on the shortnose sturgeon that was not previously considered in the ESP EIS.

10 The staff has not identified any additional new information that warranted further analysis in the
11 SEIS. Based on this review, the staff determined that the conclusions presented in the ESP EIS
12 remain valid.

13 **4.5 Socioeconomic Impacts**

14 This section evaluates the social and economic impacts to the surrounding region as a result of
15 constructing the proposed Units 3 and 4 at the VEGP site. Topics discussed are the
16 socioeconomic impacts at the VEGP site and in the 80-km (50-mi) region of the site with an
17 emphasis on Burke, Columbia, and Richmond Counties (Section 4.5).

18 **4.5.1 Physical Impacts**

19 The NRC staff's assessment of the physical impacts, including noise, odor, vehicle exhaust
20 emissions, aesthetics, and dust, were provided in Section 4.5.1 of the ESP EIS (NRC 2008a).
21 Based on the staff's analysis and Southern's representation that it would undertake mitigation
22 measures, construction-related physical impacts on workers and the local public, buildings,
23 roads, and aesthetics were considered to be SMALL, with the exception of a MODERATE
24 impact on aesthetics as a result on construction of new transmission lines.

25 In its COL ER (Southern 2009a), Southern indicated that there is no new and significant
26 information regarding construction-related physical impacts on workers and the local public,
27 buildings, roads, and aesthetics. During its review of the COL application, the NRC staff
28 independently verified that there is no new and significant information related to physical
29 impacts by reviewing Southern's ER, auditing Southern's process for identifying new and
30 significant information, examining other information available at the site audit, and considering
31 applicable regulations and reference documents.

32 Based on this review, the staff determined that the conclusions presented in the ESP EIS that
33 impacts would be SMALL, with the exception of MODERATE aesthetic impacts related to
34 transmission lines, remain bounding and valid.

1 **4.5.2 Demography**

2 The NRC staff's assessment of the demographic impacts was provided in Section 4.5.2 of the
3 ESP EIS (NRC 2008a). Based on the staff's analysis described in the ESP EIS, the regional
4 impacts from the in-migration of workers as a result of construction activities were projected to
5 be SMALL in most of the region, but MODERATE in Burke County. Based on information from
6 Southern, the ESP EIS estimated that approximately 2500 construction workers would be
7 expected to in-migrate into the region.

8 In its COL ER (Southern 2009a), Southern indicated that there is no new and significant
9 information regarding construction-related demographic impacts on the 80-km (50-mi) region.
10 During its review of the COL application, the NRC staff performed an independent review of
11 potential new and significant information related to demographic impacts by reviewing
12 Southern's ER, auditing Southern's process for identifying new and significant information,
13 examining other information available at the site audit, and considering applicable regulations
14 and reference documents. This review identified new information related to the need for
15 additional onsite and offsite backfill material that warranted additional evaluation. As explained
16 in the Amendment 1 and 2 EAs (NRC 2010a, b), backfill activities would occur concurrently with
17 other site preparation activities and would not require additional workers beyond the workforce
18 evaluated in the ESP EIS. The staff analyzed the environmental impacts associated with onsite
19 backfill activities in two EAs, both of which resulted in findings of no significant impact (NRC
20 2010a, b). Accordingly, the staff incorporates by reference its analysis in the LAR EAs. The
21 staff has not identified any additional new information that warranted further analysis in the
22 SEIS.

23 Based on this review, the staff determined that the conclusions presented in the ESP EIS
24 remain bounding and valid.

25 **4.5.3 Economic Impacts to the Community**

26 The staff's assessment of the economic and tax-related impacts was provided in Section 4.5.3
27 of the ESP EIS (NRC 2008a). Based on the staff's analysis described in the ESP EIS,
28 construction impacts to the regional economy were considered to be SMALL, with the exception
29 of a possible MODERATE and beneficial impact in Burke County.

30 In its COL ER (Southern 2009a), Southern indicated that there is no new and significant
31 information regarding construction-related economic impacts to the community. During its
32 review of the COL application, the staff performed an independent review of potential new and
33 significant information related to economic impacts by reviewing Southern's ER, auditing
34 Southern's process for identifying new and significant information, examining other information
35 available at the site audit, considering applicable regulations and reference documents, and

1 discussions with Burke County officials. This review identified new information related to the
2 local unemployment rate that warranted additional evaluation.

3 As shown in Table 2-1, unemployment rates for Burke, Richmond, and Columbia Counties and
4 statewide in Georgia have risen recently. This development is consistent with the current
5 economic slowdown throughout the United States and is not unique to the VEGP site. In the
6 short term, higher unemployment could lead to an increased demand for social services, a
7 decrease in income tax to the state and, to an extent, a decrease in sales tax to the counties.
8 However, construction of the proposed Units 3 and 4 could alleviate these impacts by providing
9 jobs to unemployed individuals either directly at the site or through multiplier-induced, indirect
10 jobs described in Section 4.5.3 of the ESP EIS (NRC 2008a). Construction of the proposed
11 Units 3 and 4 would also provide additional tax revenue for Burke County that would provide
12 funding for any additional social services needed due to the higher unemployment. In the long
13 term, by the time construction peaks, unemployment will likely have had time to adjust and
14 adverse impacts from decreased tax revenue or increased social service demands will have
15 subsided. Based on this review, the NRC staff determined that the conclusions presented in the
16 ESP EIS remain valid.

17 **4.5.4 Infrastructure and Community Service Impacts**

18 The NRC staff's assessment of the infrastructure and community-service impacts was provided
19 in Section 4.5.4 of the ESP EIS (NRC 2008a). Based on the staff's ESP analysis, the
20 infrastructure and community-service impacts from the relocation of workers as a result of
21 construction activities were projected to be SMALL in most of the region with two exceptions.
22 The staff found in the EIS that there remains a possibility of a MODERATE impact on
23 transportation during peak construction if mitigation strategies are not implemented and a
24 MODERATE impact on housing and public services if the less-populated counties see a larger
25 than expected number of in-migrating construction workers.

26 During the September 2009 site audit, Southern indicated that a traffic study had been
27 completed in July 2009 (Neel-Schaffer 2009). The traffic study uses different workforce and
28 shift assumptions than were used in the ESP EIS (NRC 2008a); however, the staff determined
29 that these assumptions are reasonable and the results remain consistent with the ESP EIS.
30 The traffic study is based on assumptions that 25 percent of workers will carpool during both the
31 day shift, which will consist of 75 percent of the construction workforce, and the nightshift,
32 which will consist of the remaining 25 percent of the workforce. The traffic study does not
33 account for outage workers or truck deliveries. The two scenarios used in the traffic study
34 are the construction ramp-up in January 2011 and the peak construction stage in March 2013.
35 Approximately 1200 construction workers are expected to be present in January 2011.
36 Assuming 75 percent of the workers are on the day shift, 25 percent on the night shift, and that
37 25 percent of workers would carpool, approximately 675 vehicles will be on the day shift and

1 225 on the night shift. Approximately 4300 construction workers are expected to be present in
2 March 2013 with approximately 2419 vehicles on the day shift and 806 vehicles on the night
3 shift. In the January 2011 projections, most intersections near VEGP would range from a level
4 of service (LOS) of A to a LOS of C. However, the eastbound and westbound sections of the
5 intersection of River Road and Hancock Road would have LOS D and LOS F ratings,
6 respectively. LOS A is the best rating, corresponding to no wait times at an intersection, and
7 LOS F is the worst rating, corresponding to long wait times at an intersection. According to the
8 new traffic study, intersection ratings during the peak construction period occurring in 2013
9 would include as many as five LOS F ratings, with considerable wait times at several
10 intersections.

11 Recommendations from the traffic study for the 2011 scenario were minor improvements such
12 as restriping affected lanes. The traffic study's recommendations to Southern for the 2013
13 scenario were more extensive, proposing several additional turn lanes, as well as rerouting
14 existing plant traffic and the realignment of Ebenezer Church Road with the entrance to the
15 VEGP gate. Staggering construction shifts also would alleviate traffic congestion on heavily
16 impacted intersections.

17 In addition to the vehicle traffic analyzed in the traffic study, Southern has indicated the potential
18 need for additional truck deliveries if additional backfill material is needed that would be
19 obtained offsite. In its analysis of the impact of the truck deliveries, Southern assumed all
20 deliveries would be made during the 10-hour day shift coinciding with Units 1 and 2 operations
21 shift change, but not during the Units 3 and 4 construction shift change. Southern also
22 assumed deliveries would consist of approximately 250 trucks a day. Each truck is the
23 equivalent of 3.5 vehicles on the road by Georgia Department of Transportation definitions. The
24 additional 250 truck deliveries is the equivalent of 875 vehicles a day (which equals 87.5
25 vehicles one way per hour during the 10 hour shift). The additional 87.5 vehicles one way an
26 hour is within the design capacity limits for the roads near the VEGP site even during the current
27 shift changes for the existing Units 1 and 2. Design capacity limits on Georgia roads are 1700
28 (2-lane roadway) and 2000 (4-lane roadway) vehicles each way per hour. Georgia capacity
29 limits were used for analysis on South Carolina roads too. Impacts would be minimized by
30 using different routes near the site for inbound (SR 23) and outbound (SR 56) trucks. Deliveries
31 are expected to last 7 months and would be completed before the peak of construction begins
32 (Southern 2010b).

33 Although the July 2009 traffic study uses different (more conservative) assumptions than the
34 ESP EIS (NRC 2008a), the impacts and recommendations are similar. In the ESP EIS (NRC
35 2008a), the NRC staff concluded that impacts to transportation would be SMALL to
36 MODERATE for local highways and River Road in the vicinity of VEGP. The 2009 traffic study
37 commissioned by Southern and the potential additional backfill truck deliveries further reiterates
38 the MODERATE impact on River Road and other nearby intersections. The traffic study and

1 potential additional backfill truck deliveries confirm that traffic impacts will noticeably alter the
2 local roads during shift changes, but the recommendations also demonstrate that, by
3 implementing mitigating measures, the impacts could be managed. Therefore, the NRC staff
4 determined that the MODERATE conclusion presented in the ESP EIS with respect to
5 transportation impacts remains valid.

6 In regard to other infrastructure and community-service impacts, there is no new and significant
7 information regarding construction-related impacts in the region within an 80-km (50-mi) radius
8 of the VEGP site. During its review of the COL application, the NRC staff independently verified
9 that no new and significant information was available related to infrastructure and community-
10 service impacts by reviewing Southern's ER, auditing Southern's process for identifying new
11 and significant information, examining other information available at the site audit, and
12 considering applicable regulations, reference documents, and discussions with county officials.
13 Based on this review, the staff determined that the conclusions presented in the ESP EIS
14 remain bounding and valid.

15 **4.5.5 Summary of Socioeconomic Impacts**

16 As described in the ESP EIS (NRC 2008a), adverse socioeconomic impacts resulting from
17 construction of proposed Units 3 and 4 range from SMALL to MODERATE, and beneficial
18 impacts range from SMALL to MODERATE. For the reasons described above, these
19 conclusions remain valid.

20 **4.6 Historic and Cultural Resources**

21 The NRC staff's assessment of the construction-related impacts to historic and cultural
22 resources, including sites that are listed or eligible for listing under the National Historic
23 Preservation Act of 1966 (NHPA), was provided in Section 4.6 of the ESP EIS (NRC 2008a).
24 Based on the staff's analysis, construction-related impacts to historic and cultural resources
25 were considered to be MODERATE.

26 In its COL ER (Southern 2009a), Southern indicated that there is no new and significant
27 information regarding construction-related impacts to historic and cultural resources. During its
28 review of the COL application, the NRC staff performed an independent review of potential new
29 and significant information related to historic and cultural resources by reviewing Southern's ER,
30 auditing Southern's process for identifying new and significant information, examining other
31 information available at the site audit, considering applicable regulations and reference
32 documents, and contact with the Georgia State Historic Preservation Officer (SHPO) Advisory
33 Council, and Tribes (see Appendix C for complete listing).

1 This review identified new information related to the presence of a historic cemetery on the
2 VEGP site (New South Associates 2007) and mitigation for impacts to a site eligible to the
3 National Register of Historic Places (NRHP), which warranted further staff consideration.
4 Southern has installed a fence around the cemetery, determined that the planned construction
5 actions will not impact the site, and has consulted with the SHPO regarding protection and
6 mitigation of the site. Southern signed a Memorandum of Understanding (MOU) with the
7 Georgia SHPO for "... the preservation of the remaining balance of site 9BK416 from physical
8 disturbance and performance of additional archaeological surveys as directed" by the SHPO
9 (GHPD 2010). Archaeological site 9BK416 is eligible for listing in the National Register of
10 Historic Places. In the MOU, Southern states, "The proposed project will disturb approximately
11 2.5 acres of the estimated 29 total acres of site 9BK416. The disturbance constitutes
12 approximately 8.5 percent of the total estimated site and results from the installation of the river
13 water intake piping, an electrical duct bank and associated right-of-way clearings. Based on
14 consultation and supporting field surveys, the SHPO determined the proposed project will
15 impact site 9BK416, but will not adversely impact the site." The new information provides
16 further indication that Southern will protect historic and cultural resources on the VEGP site, or
17 mitigate impacts in coordination with the SHPO. As a result of these protective measures
18 proposed by Southern and consultation with the SHPO, the staff concludes that the
19 identification of the historic cemetery and the signed MOU does not change its conclusion that
20 the construction activities will alter but not destabilize the cultural resources in the vicinity of the
21 VEGP site.

22 The staff's review also identified new information related to Southern's use of backfill from three
23 additional onsite borrow areas as authorized by amendment of the ESP (Southern 2010e). All
24 of the new borrow areas are within the VEGP site and also are within the area of potential effect
25 for the cultural resource analysis included in the ESP EIS (NRC 2008a). The known cultural
26 resources located within the additional borrow areas were recommended as not eligible
27 for inclusion in the NRHP. The Georgia SHPO concurred with this finding by letter (GDNR
28 2007). As described in the Amendment 2 EA (NRC 2010a), in June 2010, NRC consulted with
29 the SHPO regarding the use of the onsite borrow areas and the SHPO "... agreed with NRC
30 that the backfill operations will have no effect to properties listed on or eligible for listing on the
31 National Register of Historic Places...." (GDNR 2010). The staff incorporates that analysis by
32 reference in this SEIS. As a result of the cultural resources analysis, field investigations,
33 procedures Southern has in place for unanticipated cultural resources discoveries, and the
34 consultation with the SHPO, the NRC staff concludes that the use of the additional onsite
35 backfill areas (Southern 2010e) likewise does not change its conclusions in the ESP EIS that
36 the construction activities will alter, but not destabilize, the cultural resources in the vicinity of
37 the VEGP site.

38 Southern indicated in a new and significant information evaluation (Southern 2010b) that it may
39 subsequently seek to obtain engineering grade backfill materials from an existing, permitted,

1 offsite borrow source. Southern stated that it has not made a final decision on whether to
2 submit an ESP LAR to the NRC to use this borrow source, and will not make that determination
3 until it determines whether the already-approved onsite sources will be sufficient for its
4 construction needs. The staff recognizes that the use (or possible expansion) of an offsite
5 borrow source could have adverse impacts to cultural and historic resources; however, because
6 the extent to which such an offsite source would be disturbed or expanded, if it is even needed
7 at all, is not presently known, the potential significance of those historic and cultural resource
8 impacts cannot be evaluated until an LAR is submitted. If Southern submits an LAR to use an
9 offsite source, the staff would conduct an environmental review as part of its determination on
10 that LAR. The COL SEIS would be modified or supplemented with the results of that review, as
11 appropriate.

12 Based on this review, the NRC staff determined that the conclusions presented in the ESP EIS
13 remain valid.

14 **4.7 Environmental Justice Impacts**

15 The NRC staff's assessment of environmental justice impacts, including environmental
16 pathways, socioeconomic impacts, and subsistence and special conditions, was provided in
17 Section 4.7.1 of the ESP EIS (NRC 2008a). Based on the staff's analysis, construction impacts
18 to environmental justice were considered to be SMALL.

19 In its COL ER (Southern 2009a), Southern indicated that there is no new and significant
20 information regarding construction-related impacts on environmental justice. During its review
21 of the COL application, the NRC staff performed an independent review of potential new and
22 significant information related to environmental justice by reviewing Southern's ER, auditing
23 Southern's process for identifying new and significant information, examining other information
24 available at the site audit, and considering applicable regulations and reference documents.
25 This review identified new information related to the impacts on traffic that warranted additional
26 evaluation. As described in Section 4.5.4, Southern has completed a new traffic study and has
27 indicated the potential for additional truck deliveries for offsite backfill. In regards to the new
28 study, the assumptions are different but the conclusions are similar and still lead to a
29 MODERATE impact on roads near the VEGP site and a SMALL impact elsewhere. As stated in
30 the traffic study, Southern plans to mitigate potentially adverse impacts via roadway and traffic
31 control improvements. With respect to the potential need for offsite backfill, the hypothetical
32 truck deliveries routes identified by Southern would likely run through a small number of
33 additional minority or low-income communities north of the VEGP site in South Carolina.
34 However, the delivery routes would not be concentrated in minority or low-income communities
35 nor are there likely to be noticeable adverse impacts (such as from traffic or air emissions) to
36 these communities because the additional vehicles related to deliveries would remain within the

1 design capacity of the roads. Therefore the staff determined that the SMALL conclusion
2 presented in the ESP EIS with respect to environmental justice impacts remains valid.

3 Based on this review, the NRC staff determined that the conclusions presented in the ESP EIS
4 remain bounding and valid.

5 **4.8 Nonradiological Health Impacts**

6 The NRC staff provided a description of the nonradiological health impacts for construction of
7 the proposed Units 3 and 4 in Section 4.8 of the ESP EIS (NRC 2008a). Physical impacts of
8 construction on public and occupational health, including dust, vehicle emissions, noise, and
9 transportation of materials and personnel, were summarized. Public and occupational health is
10 discussed in Section 4.8.1, while the impacts of transporting construction materials and
11 construction personnel to the VEGP site are discussed in Section 4.8.2.

12 **4.8.1 Public and Occupational Health**

13 The NRC staff's assessment of the public and occupational health-related impacts, including air
14 quality, site-preparation and construction worker health, and noise impacts, were provided in
15 Section 4.8.1 of the ESP EIS (NRC 2008a). Based on the staff's analysis, construction-related
16 impacts to public and occupational health were considered to be SMALL.

17 In its COL ER (Southern 2009a), Southern indicated that there is no new and significant
18 information regarding construction-related impacts on public and occupational health. During
19 its initial review of the COL application, the NRC staff independently verified that there was no
20 new and significant information related to public and occupational health by reviewing
21 Southern's ER, auditing Southern's process for identifying new and significant information,
22 examining other information available at the site audit, and considering applicable regulations
23 and reference documents. Subsequently, Southern also provided new information on three
24 additional onsite borrow areas from which it sought to obtain backfill material via license
25 amendment (Southern 2010e). Based on the information provided by Southern and the NRC
26 analysis in the ESP EIS, the staff concluded in its EA for Amendment 2 (NRC 2010a) that site
27 preparation and construction activities at the additional onsite borrow locations are similar to
28 those that have been previously analyzed and documented in the ESP EIS, and that the
29 nonradiological health impacts on workers and the public from activities conducted at the borrow
30 areas are consistent with the impacts previously examined and found not to be significant.
31 Accordingly, the staff incorporates by reference its analysis in the LAR EAs (NRC 2010a, b).
32 The staff has not identified any additional new information that warranted further analysis in the
33 SEIS.

1 Based on this review, the staff determined that the conclusions presented in the ESP EIS
2 remain bounding and valid.

3 **4.8.2 Impacts of Transporting Construction Materials and Construction** 4 **Personnel to the VEGP Site**

5 The NRC staff's assessment of the nonradiological impacts associated with transporting
6 construction materials and personnel to and from the VEGP site was presented in Section 4.8.2
7 of the ESP EIS (NRC 2008a). These impacts include the damage, injuries, and fatalities
8 associated with vehicular accidents. Based on the staff's analysis, the transportation-related
9 impacts on human health were considered to be SMALL.

10 In its COL ER (Southern 2009a), Southern provided no new or significant information related to
11 transportation accidents. During its initial review of the COL application, the NRC staff
12 independently verified that there was no new and significant information related to transportation
13 of construction materials and personnel through its evaluation of Southern's process for
14 identifying new and significant information, additional information provided by Southern at the
15 site audit, and the staff's independent review of available information. However, subsequent to
16 the site audit, Southern determined that it would need to obtain backfill material from onsite
17 borrow areas other than those previously specified in the ESP site safety analysis report.
18 Accordingly, Southern submitted license amendment requests to obtain approval of the use of
19 backfill from additional onsite borrow areas. The NRC staff evaluated the nonradiological
20 impacts associated with truck transport of backfill material from these additional locations (NRC
21 2010a) and determined that the additional truck shipments would not significantly increase the
22 nonradiological impacts presented in the ESP EIS (NRC 2008a). Accordingly, the staff
23 incorporates by reference its analysis in the Amendment 2 EA (NRC 2010a).

24 Additionally, Southern indicated in a new and significant information evaluation (Southern
25 2010b) that it may subsequently seek to obtain engineering grade backfill materials from an
26 offsite borrow source. Although Southern has not made a final decision on whether to submit
27 an ESP LAR to do so, and thus a final plan is not before the NRC, the NRC staff conducted an
28 evaluation of the nonradiological impacts of transporting backfill material from offsite borrow
29 areas to the VEGP site, to assess whether such a development could potentially affect the
30 staff's conclusions in the ESP EIS regarding nonradiological impacts associated with building
31 Units 3 and 4.

32 The nonradiological impacts of transporting backfill material from offsite borrow areas to the
33 VEGP site were calculated using the same general approach and data that were used in the
34 ESP EIS and in the Amendment 2 EA (NRC 2010a). To calculate nonradiological impacts,
35 shipping distances are multiplied by unit rates (i.e., accidents, injuries, and fatalities per unit
36 distance). The bases and assumptions for these calculations are listed below:

- 1 • The NRC staff assumed that a total of 611,644 m³ (800,000 yd³) of backfill would be
2 transported by truck from a nearby borrow source to the power-block area of the Units 3 and
3 4 site (Southern 2010b).
- 4 • Southern assumed that shipment capacities for backfill material are approximately 15 m³
5 (20 yd³) per truck load (Southern 2010a).
- 6 • The NRC staff assumed that the average one-way shipping distance for backfill material to
7 be about 96.6 km (60 mi) based on information provided by the Southern (Southern 2010b).
8 This distance was doubled to account for the empty return trip.
- 9 • Accident, injury, and fatality rates for transporting building materials were taken from
10 Table 4 in ANL/ESD/TM-150, *State-level Accident Rates for Surface Freight Transportation:
11 A Reexamination* (Saricks and Tompkins 1999). Rates for the State of Georgia were used
12 for backfill material shipments. The data provided in Saricks and Tompkins (1999) are
13 representative of heavy-truck accident rates.
- 14 • The DOT Federal Motor Carrier Safety Administration evaluated the data underlying the
15 Saricks and Tompkins (1999) rates, which were taken from the Motor Carrier Management
16 Information System, and determined that the rates were under-reported. Therefore, the
17 accident, injury, and fatality rates from Saricks and Tompkins (1999) were adjusted using
18 factors derived from data provided by the University of Michigan Transportation Research
19 Institute (UMTRI 2003). The University of Michigan Transportation Research Institute data
20 indicate that accident rates for the period from 1994 to 1996, which are the same data used
21 by Saricks and Tompkins (1999), were under-reported by about 39 percent. Injury and
22 fatality rates were under-reported by 16 percent and 36 percent, respectively. As a result,
23 the accident, injury, and fatality rates were increased by factors of 1.64, 1.20, and 1.57,
24 respectively, to account for the apparent under-reporting. These adjustments were applied
25 to the construction materials, which are transported by heavy truck shipments similar to
26 those evaluated by Saricks and Tompkins (1999) but not to commuter traffic accidents.
- 27 The estimated nonradiological impacts of transporting backfill materials to the power-block
28 area of the VEGP site from an offsite source are approximately 8.5 accidents, 4.1 injuries, and
29 0.2 fatalities. The estimated total annual nonradiological fatalities related to transporting backfill
30 material represents about a 2.4 percent increase above the average 9.8 traffic fatalities per year
31 that occurred in Burke County, Georgia, from 2004 to 2008 (DOT 2010). Even when considered
32 in combination with the minor increase in traffic fatality risk analyzed in the ESP EIS, this
33 increase remains small relative to the current traffic fatality risks in the area surrounding the
34 proposed VEGP site.

1 Based on this review and on information analyzed in the Amendment 2 EA for additional onsite
2 borrow areas (NRC 2010a), the NRC staff determined that the conclusions related to the
3 nonradiological impacts of transporting construction materials and personnel to and from the
4 proposed Units 3 and 4 presented in the ESP EIS remain valid.

5 **4.8.3 Summary of Nonradiological Health Impacts**

6 The NRC staff concluded in the ESP EIS that nonradiological health impacts to construction and
7 operational workers at the VEGP site and to the local population from fugitive dust, occupational
8 injuries, noise, and transport of materials and personnel would be SMALL. During its review of
9 the COL application, the NRC staff independently examined information related to public and
10 occupational health by reviewing Southern's ER, auditing Southern's process for identifying new
11 and significant information, examining other information available at the site audit, considering
12 the information provided in conjunction with the Amendment 2 LAR (Southern 2010e) and
13 information regarding the potential LAR for use of offsite backfill, and considering applicable
14 regulations and reference documents.

15 Based on this review and information in the EA (NRC 2010a), the staff determined that the
16 conclusions presented in the ESP EIS remain bounding and valid.

17 **4.9 Radiological Health Impacts**

18 The NRC staff provided a description of the radiological health impacts for construction of
19 the proposed Units 3 and 4 at the VEGP site in Section 4.9 of the ESP EIS (NRC 2008a). The
20 sources of radiation exposure for construction workers included exposures from direct radiation,
21 gaseous radioactive effluents, and liquid radioactive waste discharges from routine operations
22 at the existing VEGP Units 1 and 2 during construction of proposed Units 3 and 4. For the
23 purposes of this discussion, construction and site-preparation workers were assumed to be
24 members of the public; therefore, the dose estimates were compared to the dose limits for
25 the public, pursuant to Title 10 of the Code of Federal Regulations (CFR) Part 20, Subpart D.
26 Southern noted that all major construction activities are expected to occur outside the
27 VEGP Units 1 and 2 protected area boundary but inside the restricted area boundary
28 (Southern 2008a). The impact of direct radiation exposure is discussed in Section 4.9.1,
29 gaseous effluents in Section 4.9.2, and liquid effluents in Section 4.9.3, while total dose to
30 site preparation workers is discussed in Section 4.9.4.

31 **4.9.1 Direct Radiation Exposures**

32 The NRC staff's assessment of direct radiation exposures was provided in Section 4.9.1 of the
33 ESP EIS (NRC 2008a). Based on the staff's analysis, construction-related impacts resulting
34 from direct radiation exposure were considered to be SMALL.

1 In its COL ER (Southern 2009a), Southern indicated that there is no new and significant
2 information regarding construction-related impacts resulting from direct radiation exposure.
3 During its initial review of the COL application, the NRC staff independently verified that there
4 was no new and significant information related to direct radiation exposure by reviewing
5 Southern's ER, auditing Southern's process for identifying new and significant information,
6 examining other information available at the site audit, and considering applicable regulations,
7 reference documents, and recent data on direct radiation sources that have become available
8 since issuance of the VEGP ESP (Southern 2006, 2007, 2008b, 2009c). Southern
9 subsequently provided new information on three additional borrow areas from which it sought to
10 obtain backfill material via license amendment (Southern 2010e). Based on the information
11 provided by Southern and the NRC analysis in the ESP EIS, the staff concluded in its EA (NRC
12 2010a) that site preparation and construction activities at the additional onsite borrow locations
13 are similar to those that have been previously analyzed and documented in the ESP EIS, and
14 that the radiological health impacts of direct radiation exposure of workers conducting activities
15 at the borrow areas are consistent with the impacts previously examined and found not to be
16 significant. Accordingly, the staff incorporates by reference its analysis in the Amendment 2 EA
17 (NRC 2010a). The staff has not identified any additional new information that warranted further
18 analysis in the SEIS. As discussed in Section 2.5 of this SEIS, the data and analysis showed
19 that direct radiation exposure rates remained within trends identified in the ESP EIS.

20 Based on this review and information in the Amendment 2 EA (NRC 2010a), the staff
21 determined that the conclusions presented in the ESP EIS remain valid.

22 **4.9.2 Radiation Exposures from Gaseous Effluents**

23 The NRC staff's assessment of radiation exposures resulting from gaseous effluents was
24 provided in Section 4.9.2 of the ESP EIS (NRC 2008a). Based on the staff's analysis,
25 construction-related impacts resulting from radiation exposure to gaseous effluents were
26 considered to be SMALL.

27 In its COL ER (Southern 2009a), Southern indicated that there is no new and significant
28 information regarding construction-related impacts resulting from radiation exposure to gaseous
29 effluents. During its initial review of the COL application, the NRC staff independently verified
30 that there was no new and significant information related to gaseous effluents by reviewing
31 Southern's ER, auditing Southern's process for identifying new and significant information,
32 examining other information available at the site audit, and considering applicable regulations,
33 reference documents, and recent data on gaseous effluents that have become available since
34 issuance of the VEGP ESP (Southern 2006, 2007, 2008b, 2009c). Southern subsequently
35 provided new information on three additional borrow areas from which it sought to obtain backfill
36 material via license amendment (Southern 2010e). Based on the information provided by
37 Southern and the NRC analysis in the ESP EIS, the staff concluded in its EA (NRC 2010a) that

1 site preparation and construction activities at the additional onsite borrow locations are similar to
2 those that have been previously analyzed and documented in the ESP EIS, and that the
3 radiological health impacts of exposure of workers to gaseous effluents while conducting
4 activities at the borrow areas are consistent with the impacts previously examined and found not
5 to be significant. Accordingly, the staff incorporates by reference its analysis in the Amendment
6 2 EA (NRC 2010a). The staff has not identified any additional new information that warranted
7 further analysis in the SEIS. As discussed in Section 2.5 of this SEIS, the data and analysis
8 showed that radiation exposure rates resulting from gaseous effluents remained within trends
9 identified in the ESP EIS.

10 Based on this review and information in the EA (NRC 2010a), the staff determined that the
11 conclusions presented in the ESP EIS remain valid.

12 **4.9.3 Radiation Exposures from Liquid Effluents**

13 The NRC staff's assessment of radiation exposures resulting from liquid effluents was provided
14 in Section 4.9.3 of the ESP EIS (NRC 2008a). Based on the staff's analysis, construction-
15 related impacts resulting from radiation exposure to liquid effluents were considered to be
16 SMALL.

17 In its COL ER (Southern 2009a), Southern indicated that there is no new and significant
18 information regarding construction-related impacts resulting from radiation exposure to liquid
19 effluents. During its initial review of the COL application, the NRC staff independently verified
20 that there was no new and significant information related to liquid effluents by reviewing
21 Southern's ER, auditing Southern's process for identifying new and significant information,
22 examining other information available at the site audit, and considering applicable regulations,
23 reference documents, and recent data on liquid effluents that have become available since
24 issuance of the VEGP ESP (Southern 2006, 2007, 2008b, 2009c). Southern subsequently
25 provided new information on three additional borrow areas from which it sought to obtain backfill
26 material via license amendment (Southern 2010e). Based on the information provided by
27 Southern and the NRC analysis in the ESP EIS, the staff concluded in its EA (NRC 2010a) that
28 site preparation and construction activities at the additional onsite borrow locations are similar to
29 those that have been previously analyzed and documented in the ESP EIS, and that the
30 radiological health impacts of exposure of workers to liquid effluents while conducting activities
31 at the borrow areas are consistent with the impacts previously examined and found not to be
32 significant. Accordingly, the staff incorporates by reference its analysis in the Amendment 2 EA
33 (NRC 2010a). The staff has not identified any additional new information that warranted further
34 analysis in the SEIS. As discussed in Section 2.5 of this SEIS, the data and analysis showed
35 that radiation exposure rates resulting from liquid effluents remained within trends identified in
36 the ESP EIS.

1 Based on this review, the staff determined that the conclusions presented in the ESP EIS
2 remain valid.

3 **4.9.4 Total Dose to Site-Preparation Workers**

4 The NRC staff's assessment of total dose to site-preparation workers was provided in
5 Section 4.9.3 of the ESP EIS (NRC 2008a). Here, the term site preparation workers refers to
6 workers performing either preconstruction or construction activities. Based on the staff's
7 analysis, construction-related impacts resulting from total dose to site-preparation workers were
8 considered to be SMALL.

9 In its COL ER (Southern 2009a), Southern indicated that there is no new and significant
10 information regarding construction-related impacts resulting from total dose to site-preparation
11 workers. During its initial review of the COL application, the NRC staff independently verified
12 that there was no new and significant information related to total dose to site-preparation
13 workers by reviewing Southern's ER, auditing Southern's process for identifying new and
14 significant information, examining other information available at the site audit, and considering
15 applicable regulations, reference documents, and recent data on direct radiation sources and
16 radiological effluents that have become available since issuance of the ESP (Southern 2006,
17 2007,2008b, 2009c). Southern subsequently provided new information on three additional
18 borrow areas from which it sought to obtain backfill material via license amendment (Southern
19 2010e). Based on the information provided by Southern and the NRC analysis in the ESP EIS,
20 the staff concluded in its EA (NRC 2010a) that site preparation and construction activities at the
21 additional onsite borrow locations are similar to those that have been previously analyzed and
22 documented in the ESP EIS, and that the radiological health impacts of exposures of workers
23 while conducting activities at the borrow areas are consistent with the impacts previously
24 examined and found not to be significant. Accordingly, the staff incorporates by reference its
25 analysis in the Amendment 2 EA (NRC 2010a). The staff has not identified any additional new
26 information that warranted further analysis in the SEIS. As discussed in Section 2.5 of this
27 SEIS, the data and analysis showed that total dose to site preparation workers remained within
28 trends identified in the ESP EIS.

29 Based on this review and information in the EA (NRC 2010a), the staff determined that total
30 dose to site-preparation workers at the VEGP site remained within the limits specified in Federal
31 environmental radiation standards – 10 CFR Part 20; 10 CFR Part 50, Appendix I; and 40 CFR
32 Part 190 – and that the conclusions presented in the ESP EIS remain valid.

33 **4.9.5 Summary of Radiological Health Impacts**

34 The NRC staff concluded in the ESP EIS that radiological health impacts to construction
35 workers at the VEGP site would be SMALL. During its review of the COL application, the staff
36 independently examined information related to radiological exposure by reviewing Southern's

1 ER, auditing Southern's process for identifying new and significant information, examining other
2 information available at the site audit, considering information Southern submitted in conjunction
3 with the Amendment 2 LAR for additional onsite borrow sources, and considering applicable
4 regulations, reference documents, and recent data on direct radiation sources and radiological
5 effluents that have become available since issuance of the VEGP ESP (Southern 2006, 2007,
6 2008b, 2009c).

7 Based on this review and information in the Amendment 2 EA (NRC 2010a), the staff
8 determined that total dose to construction workers at the VEGP site remained within the limits
9 specified in Federal environmental radiation standards – 10 CFR Part 20; 10 CFR Part 50,
10 Appendix I; and 40 CFR Part 190 – and that the conclusions presented in the ESP EIS remain
11 valid.

12 **4.10 Measures and Controls to Limit Adverse Impacts During** 13 **Site-Preparation Activities and Construction**

14 The staff's assessment of the measures and controls to limit adverse impacts during site-
15 preparation and construction were addressed in Section 4.10 of the ESP EIS (NRC 2008a).
16 Part 10 of Southern's COL application includes a draft Environmental Protection Plan (EPP) for
17 the site, which identifies proposed conditions, monitoring, reporting, and record keeping for
18 environmental data during construction. The draft EPP provided with the COL application is
19 substantively similar to the EPP attached as Appendix G to ESP-004 (NRC 2009b).

20 In its COL ER (Southern 2009a), Southern indicated that there is no new and significant
21 information regarding measures and controls to limit adverse impacts, but that it remains
22 committed to the mitigation measures described in Section 4.10 of the ESP EIS. During its
23 review of the COL application, the NRC staff identified an MOU between the Georgia SHPO and
24 Southern (GHPD 2010) that related to measures and controls to limit adverse impacts to cultural
25 resources. Additionally, the staff identified new information (Southern 2010e) indicating that
26 prior to developing the additional onsite backfill borrow sources associated with its second ESP
27 LAR, Southern implemented rare plant and animal relocation programs in an attempt to
28 minimize impacts (NRC 2010a). The NRC staff discussed these measures in the EA for
29 Amendment 2 and incorporates that discussion by reference in this SEIS. With respect to the
30 COL review, the NRC staff performed an independent analysis by reviewing Southern's ER,
31 auditing Southern's process for identifying new and significant information, examining other
32 information available at the site audit, information submitted in conjunction with the ESP LARs,
33 and considering applicable regulations and reference documents.

34 With respect to historic and cultural resources, the MOU between the SHPO and Southern is for
35 the preservation of the remaining balance of site 9BK416 from physical disturbance and
36 performance of additional archaeological surveys as directed by the Georgia Historic

1 Preservation Division (GHPD). The proposed project would disturb approximately 1 ha (2.5 ac)
2 of the estimated 11.7 ha (29 ac) of site 9BK416. The SHPO determined that based on
3 consultation and supporting field surveys the proposed project would impact site 9BK416, but
4 not adversely impact the site (GHPD 2010). As described in Section 4.6, the staff considered
5 these measures and controls in reaching its impact conclusion.

6 As noted above, regarding rare species, Southern implemented voluntary programs to relocate
7 the Southeastern pocket gopher and the sandhills milkvetch prior to development of a new
8 borrow source in an area with populations of both of these species. These efforts have resulted
9 in the relocation of both Southeastern pocket gophers and sandhills milkvetch plants to an area
10 on the northern part of the VEGP site. The relocation programs were developed in consultation
11 with GDNR.

12 Based on this review, with the addition of the MOU and the species relocation programs, the
13 staff determined that the measures and controls identified to limit adverse impacts during site
14 preparation activities and construction presented in the ESP EIS remain valid, and also that
15 Southern's proposed EPP is appropriate. If the COLs are issued, the staff would include the
16 EPP as part of the licenses.

17 **4.11 Site Redress Plan**

18 Southern submitted a revised site redress plan as part of its ESP application (Southern 2008c),
19 and the NRC staff described and evaluated that plan in Section 4.11 of the ESP EIS (NRC
20 2008a). The purpose of the site redress plan was to ensure that the VEGP site would be
21 returned to an environmentally stable and aesthetically acceptable condition if the proposed
22 Units 3 and 4 were not fully developed to generate electricity. The site redress plan is
23 applicable specifically to those actions allowed under the LWA that was issued concurrently with
24 the ESP in August 2009 (NRC 2009b).

25 In its COL ER (Southern 2009a), Southern indicated that there is no new and significant
26 information regarding the current site redress plan. In October 2009, Southern submitted an
27 application for a second LWA that, if approved by the NRC, would allow for additional
28 construction-related activities to be conducted prior to issuance of the COLs for Units 3 and 4.
29 The second LWA, in accordance with 10 CFR 50.10(d), would authorize installation of
30 reinforcing steel, sumps, drain lines, and other embedded items along with placement of
31 concrete for the nuclear island foundation base slab. The second LWA application indicates
32 that the existing site redress plan would be applicable to the additional LWA activities. During
33 its review of the COL application, the NRC staff independently verified that no new and
34 significant information was available related to the site redress plan by reviewing Southern's ER,
35 auditing Southern's process for identifying new and significant information, examining other
36 information available at the site audit, and considering applicable regulations and reference

1 documents. In its ER submitted in support of the second LWA request, Southern explained
2 why, in each resource area evaluated in Chapter 4 of the ESP EIS, the requested LWA activities
3 would involve no additional impacts beyond those presented in the ESP EIS (Southern 2010h).
4 The staff reviewed and independently assessed Southern's evaluation of the LWA impacts.

5 In the ESP EIS, the staff examined the construction activities requested in Southern's ESP LWA
6 application and determined that the environmental impacts of those activities would be a small
7 proportion of the impacts of the combined construction and preconstruction impacts. The staff
8 determined that the LWA impacts would be bounded by the analysis of those overall impacts,
9 and would be SMALL. As Southern's ER in support of its second LWA explains, that is also true
10 of the subset of construction activities requested in the second LWA, in that they represent a
11 small proportion of the planned construction and preconstruction activities and would occur
12 entirely within the footprint of the nuclear island. Accordingly, the ESP conclusion regarding the
13 impacts of the ESP LWA reinforces a conclusion that construction impacts specifically
14 attributable to the October 2009 LWA request would likewise be SMALL.

15 Based on this review, the staff verified that the site redress plan discussed in the ESP EIS
16 would adequately redress the impacts of the activities requested under the second LWA in the
17 event construction is terminated by Southern or its successor, the COL application is withdrawn
18 by Southern or denied by the NRC, or the second LWA is revoked by the NRC. As a result, the
19 staff's conclusion in accordance with 10 CFR 50.10(c) that the LWA activities requested in the
20 October 2009 submittal would not result in any significant adverse environmental impacts that
21 could not be redressed is bounding and valid.

22 **4.12 Summary of Construction Impacts**

23 Impact level characterizations identified by the NRC staff during the evaluation of the ESP
24 application were documented in Table 4-7 of the ESP EIS (NRC 2008a). In addition to impact
25 characterizations, environmental impacts categories were listed in Table 4-7 along with the
26 specific measures and controls Southern proposed to implement in connection with those
27 impact categories. For the reasons stated in this chapter, the NRC staff's review of information
28 available during the site audit and from other information sources did not identify any
29 information that would change the impact characterization for any of the categories in Table 4-7
30 of the ESP EIS (NRC 2008a), with the exception of the impact level for onsite terrestrial
31 resources, which changed from SMALL to MODERATE for reasons described in Section 4.4.1
32 of this SEIS. The staff determined that the activities associated with the second LWA are a
33 small subset of the overall construction activities that would occur entirely within the footprint of
34 the nuclear island. Therefore, impacts from the activities requested in the second LWA would be
35 SMALL for all resource areas.

1 **4.13 References**

- 2 10 CFR Part 20. Code of Federal Regulations. Title 10, *Energy*, Part 20, "Standards for
3 Protection Against Radiation."
- 4 10 CFR Part 50. Code of Federal Regulations, Title 10, *Energy*, Part 50, "Domestic Licensing of
5 Production and Utilization Facilities."
- 6 40 CFR Part 190. Code of Federal Regulations, Title 40, *Protection of Environment*, Part 190,
7 "Environmental Radiation Protection Standards for Nuclear Power Operation."
- 8 72 FR 49352. August 28, 2007. "Licenses, Certifications, and Approvals for Nuclear Power
9 Plants; Final Rule." *Federal Register*, U.S. Nuclear Regulatory Commission.
- 10 73 FR 16436. March 27, 2008. "National Ambient Air Quality Standards for Ozone." *Federal*
11 *Register*, Environmental Protection Agency.
- 12 Clean Air Act. 42 USC 7401, et seq.
- 13 Clean Water Act (CWA). 33 USC 1251, et seq. (also called the Federal Water Pollution Control
14 Act [FWPCA]).
- 15 Endangered Species Act of 1973. 16 USC 1531, et seq.
- 16 Georgia Historic Preservation Division (GHPD). 2010. "Memorandum of Understanding.
17 Archaeological Site 9BK416 Vogtle Electric Generating Plant Expansion Burke County, Georgia.
18 Letter from Georgia Historic Preservation Division to Southern Nuclear Operating Company, Inc,
19 Birmingham, Alabama." Atlanta, Georgia. Accession No. ML100500302.
- 20 Georgia Department of Natural Resources (GDNR) 2007. Georgia Department of Natural
21 Resources, Early Site Permit – Draft EIS Vogtle Electric Generating Plant. Letter from Georgia
22 Department of Natural Resources to U.S. Nuclear Regulatory Commission. December 27, 2010
23 Accession No. ML080070095.
- 24 Georgia Department of Natural Resources (GDNR). 2009a. *Recommended Designations of*
25 *Ozone Non-Attainment Areas in Georgia*. Letter from Georgia Department of Natural
26 Resources to U.S Environmental Protection Agency, Region 4, Atlanta, Georgia. March 12,
27 2009. Accession No. ML100601088.
- 28 Georgia Department of Natural Resources (GDNR). 2009b. Email from Matt Elliott (GDNR) to
29 Mallecia Sutton, NRC. December 16, 2009. Accession No. ML093500211.

Environmental Impacts of Construction

- 1 Georgia Department of Natural Resources (GDNR). 2009c. Email from Katrina Morris (GDNR,
2 Environmental Review Coordinator) to Mallecia Sutton, NRC. December 21, 2009. Accession
3 No. ML100490042.
- 4 Georgia Department of Natural Resources (GDNR). 2009d. Sandhills Inventory. Accession No.
5 ML101690125.
- 6 Georgia Department of Natural Resources (GDNR). 2010. Email from Elizabeth Shirk (GDNR,
7 Historic Preservation Division) to Mallecia Sutton, NRC. June 17, 2010. Accession No.
8 ML101940268.
- 9 MACTEC. 2007. *Burke County Comprehensive Plan*. Accessed February 4, 2010 at
10 http://www.burkechamber.org/burke-county/department-profile.php?Department_ID=6.
11 Accession No. ML100600797.
- 12 National Historic Preservation Act of 1966 (NHPA). 16 USC 470, et seq.
- 13 Neel-Schaffer. 2009. Traffic Study, Plant Vogtle Construction of Two New Units. July 2009.
14 Accession No. ML101940362.
- 15 New South Associates. 2007. Letter Report: A Determination of Boundaries and Surface
16 Features for Historic Cemetery on Plant Vogtle in Burke County, Georgia. May 14, 2007. Not
17 for public disclosure per Section 304 of the National Historic Preservation Act and Supplemental
18 Staff Guidance to NUREG-1555, "Environmental Standard Review Plan," for Cultural and
19 Historic Reviews (Accession No. ML10055073013).
- 20 Rivers and Harbors Act of 1889. 33 USC. 403, Section 10.
- 21 Saricks C.L. and M.M. Tompkins. 1999. *State-Level Accident Rates for Surface Freight*
22 *Transportation: A Reexamination*. ANL/ESD/TM-150. Argonne National Laboratory, Argonne,
23 Illinois.
- 24 South Carolina Department of Natural Resources (SCDNR). 2009. E-mail from Julie Holling,
25 SCDNR, Data Manager, to Mallecia Sutton, NRC, December 15, 2009. Columbia, South
26 Carolina. Accession No. ML093491132.
- 27 Southern Nuclear Operating Company, Inc. (Southern). 2006. *Annual Radioactive Effluent*
28 *Release Report for January 1, 2005 to December 31, 2005. Vogtle Electric Generating Plant –*
29 *Units 1 and 2*, NRC Docket Nos. 50-424 and 50-425, Facility Operating License Nos. NPF-68
30 and NPF-81. Southern Company, Birmingham, Alabama. Accession No. ML061240254.

- 1 Southern Nuclear Operating Company, Inc. (Southern). 2007. *Annual Radioactive Effluent*
2 *Release Report for January 1, 2006 to December 31, 2006. Vogtle Electric Generating Plant –*
3 *Units 1 and 2*, NRC Docket Nos. 50-424 and 50-425, Facility Operating License Nos. NPF-68
4 and NPF-81. Southern Company, Birmingham, Alabama.
5 Package Accession No. ML071220467.
- 6 Southern Nuclear Operating Company, Inc. (Southern). 2008a. *Vogtle Early Site Permit*
7 *Application: Part 3. Environmental Report*. Revision 4, Southern Company, Birmingham,
8 Alabama. Package Accession No. ML081020073.
- 9 Southern Nuclear Operating Company, Inc. (Southern). 2008b. *Annual Radioactive Effluent*
10 *Release Report for January 1, 2007 to December 31, 2007. Vogtle Electric Generating Plant –*
11 *Units 1 and 2*, NRC Docket Nos. 50-424 and 50-425, Facility Operating License Nos. NPF-68
12 and NPF-81. Southern Company, Birmingham, Alabama. Accession No. ML081290295.
- 13 Southern Nuclear Operating Company, Inc. (Southern). 2008c. *Vogtle Early Site Permit*
14 *Application: Part 4. Site Redress Plan*. Revision 4, Southern Company, Birmingham,
15 Alabama. Accession No. ML081020073.
- 16 Southern Nuclear Operating Company (Southern). 2009a. *Vogtle Electric Generating Plant,*
17 *Units 3 and 4, COL Application, Part 3 Environmental Report*. Revision 1, September 23, 2009.
18 Southern Company, Birmingham, Alabama. Accession No. ML092740400.
- 19 Southern Nuclear Operating Company (Southern). 2009b. *Vogtle Units 3 and 4 Revised*
20 *Disturbance Table*. Accession No. ML101960587.
- 21 Southern Nuclear Operating Company, Inc. (Southern). 2009c. *Annual Radioactive Effluent*
22 *Release Report for January 1, 2008 to December 31, 2008. Vogtle Electric Generating Plant –*
23 *Units 1 and 2*, NRC Docket Nos. 50-424 and 50-425, Facility Operating License Nos. NPF-68
24 and NPF-81. Southern Company, Birmingham, Alabama. Accession No. ML091260689.
- 25 Southern Nuclear Operating Company, Inc. (Southern). 2010a. *Supporting Information for*
26 *Environmental Report Review*. March 12, 2010. Southern Company, Birmingham, Alabama.
27 Accession No. ML100750038.
- 28 Southern Nuclear Operating Company, Inc. (Southern). 2010b. Southern Nuclear Operating
29 Company, Vogtle Electric Generating Plant Units 3 and 4, Combined License Application, New
30 and Significant Information Evaluation for the transportation of backfill from an offsite source.
31 Letter ND-10-1389 dated July 16, 2010. Southern Company, Birmingham, Alabama.
32 Accession No. ML102010031

Environmental Impacts of Construction

- 1 Southern Nuclear Operating Company, Inc. (Southern). 2010c. *Response to Request for*
2 *Additional Information Letter on Environmental Issues*, January 8, 2010. Southern Company,
3 Birmingham, Alabama. Accession No. ML100120479.
- 4 Southern Nuclear Operating Company (Southern). 2010d. Southern Nuclear Operating
5 Company, Vogtle Electric Generating Plant Units 3 and 4, Early Site Permit Site Safety Analysis
6 Report Amendment Request, Revised Site Safety Analysis Report Markup for Onsite Sources of
7 Backfill. Letter ND-10-0960 dated May 13, 2010, Southern Company, Birmingham, Alabama.
8 Accession No. ML101340649.
- 9 Southern Nuclear Operating Company, Inc. (Southern). 2010e. Southern Nuclear Operating
10 Company, Vogtle Electric Generating Plant Units 3 and 4, Early Site Permit Site Safety Analysis
11 Report Amendment Request, Revised Site Safety Analysis Report Markup for Onsite Sources of
12 Backfill, Part 2. Letter ND-10-1005 dated May 24, 2010. Southern Company, Birmingham,
13 Alabama. Accession No. ML101470212.
- 14 Southern Nuclear Operating Company (Southern). 2010f. Southern Nuclear Operating
15 Company, Vogtle Electric Generating Plant Units 3 and 4, Combined License Application, Post
16 New and Significant Audit Supporting Information. Letter ND-10-0923 dated May 10, 2010.
17 Southern Company, Birmingham, Alabama. Accession No. ML101320256.
- 18 Southern Nuclear Operating Company, Inc. (Southern). 2010g. Letter from Mr. Charles R.
19 Pierce, Southern Nuclear Operating Company, Inc., to NRC regarding the large component
20 transportation decision, February 19, 2010. Southern Company, Birmingham, Alabama.
21 Accession No. ML100550033.
- 22 Southern Nuclear Operating Company, Inc. (Southern). 2010h. Southern Nuclear Operating
23 Company, Vogtle Electric Generating Plant Units 3 and 4 Combined License Application,
24 Environmental Report to Support Revision 1 to part 6, LWA Request. February 5, 2010.
25 Southern Company, Birmingham, Alabama. Accession No. ML100450055.
- 26 University of Michigan Transportation Research Institute (UMTRI). 2003. *Evaluation of the*
27 *Motor Carrier Management Information System Crash File, Phase One*. UMTRI, Ann Arbor,
28 Michigan.
- 29 U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National
30 Marine Fisheries Service (NMFS). 2008. Letter from Roy E. Crabtree, Ph.D., Regional
31 Administrator to William Burton, NRC, dated August 11, 2008, "A Biological Assessment for the
32 Shortnose Sturgeon for the Vogtle Electric Generating Plant Early Site Permit Application."
33 Accession No. ML082480450.

- 1 U.S. Department of Transportation (DOT). 2010. *Traffic Safety Facts, Burke County, Georgia,*
2 *2004-2008.* Accessed June 1, 2010 at [http://www-nrd.nhtsa.dot.gov/departments/nrd-](http://www-nrd.nhtsa.dot.gov/departments/nrd-30/nrsa/STSI/13_GA/2008/Counties/Georgia_Burke%20County_2008.HTM)
3 [30/nrsa/STSI/13_GA/2008/Counties/Georgia_Burke%20County_2008.HTM](http://www-nrd.nhtsa.dot.gov/departments/nrd-30/nrsa/STSI/13_GA/2008/Counties/Georgia_Burke%20County_2008.HTM).
- 4 U.S. Fish and Wildlife Service (FWS). 2008. Letter from U.S. Fish and Wildlife Service, Athens,
5 Georgia to U.S. Nuclear Regulatory Commission, Washington, DC. Re: USFWS Log# 08-FA-
6 0473. September 19, 2008. Accession No. ML082760694
- 7 U.S. Geological Survey (USGS). 2001. *National Land Cover Database Zone 55 Land Cover*
8 *Layer.* Accessed on February 11, 2010 at <http://www.mrlc.gov/nlcd.php>. Accession
9 No. ML100601081.
- 10 U.S. Nuclear Regulatory Commission (NRC). 2008a. *Final Environmental Impact Statement*
11 *for an Early Site Permit (ESP) at the Vogtle Electric Generating Plant Site. Main Report.*
12 NUREG-1872, Vol. 1, Washington, D.C.
- 13 U.S. Nuclear Regulatory Commission (NRC). 2008b. Letter from NRC to NMFS dated January
14 25, 2008. Subject: Biological Assessment for the Shortnose Sturgeon for the Vogtle Electric
15 Generating Plant Early Site Permit Application. Accession Number ML080070538 (cover letter)
16 and ML080100588 (attachment).
- 17 U.S. Nuclear Regulatory Commission (NRC). 2009a. Notes from September 14, 2009,
18 telephone call with Mr. Eric Hawks, National Marine Fisheries Service, concerning the Biological
19 Assessment for the Vogtle COL application. Accession No. ML092600667.
- 20 U.S. Nuclear Regulatory Commission (NRC). 2009b. *Southern Nuclear Operating Company,*
21 *Vogtle Electric Generating Plant ESP Site, Docket No. 52-011, Early Site Permit and Limited*
22 *Work Authorization. Early Site Permit No. ESP-004.* Washington. D.C.
23 Accession No. ML092290157.
- 24 U.S. Nuclear Regulatory Commission (NRC). 2010a. Vogtle Electric Generating Plant ESP
25 Site Early Site Permit and Limited Work Authorization EA and Finding of No Significant Impact.
26 Docket No. 52-011, Washington, D.C. Accession No. ML101670592.
- 27 U.S. Nuclear Regulatory Commission (NRC). 2010b. Vogtle Electric Generating Plant ESP
28 Site Early Site Permit and Limited Work Authorization EA and Finding of No Significant Impact.
29 Docket No. 52-011, Washington, D.C. Accession No. ML101380114.
- 30 U.S. Nuclear Regulatory Commission (NRC). 2010c. Letter from NRC to FWS dated January
31 7, 2010. Washington, D.C. Accession No. ML092600684.

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- 1 U.S. Nuclear Regulatory Commission (NRC). 2010d. Site Audit Summary. Washington, D.C.
- 2 Accession No. ML101550095.

- 3 U.S. Nuclear Regulatory Commission (NRC). 2010e. GDNR Conference Call Summaries, May
- 4 26-June 3, 2010. Washington, D.C. Accession No. ML101670079.

- 5 U.S. Nuclear Regulatory Commission (NRC). 2010f. *Vogtle Electric Generating Plant ESP Site*
- 6 *Early Site Permit and Limited Work Authorization Environmental Assessment and Finding of no*
- 7 *Significant Impact*. Docket No. 52-011. Accession No. ML101660076.
- 8

5.0 Environmental Impacts of Operation

In Chapter 5 of the early site permit (ESP) environmental impact statement (EIS) (NRC 2008a), the U.S. Nuclear Regulatory Commission (NRC) staff provided a description of the environmental impacts of operating the proposed Units 3 and 4 at the Vogtle Electric Generating Plant (VEGP) site. The applicant, Southern Nuclear Operating Company, Inc. (Southern), evaluated the potential new and significant information that could affect impacts of operation. The NRC staff reviewed Southern's process for identifying new and significant information, but also conducted its own independent review to verify whether new and significant information had been identified. The results of that review are presented in the following sections. Sections 5.1 through 5.10 discuss the potential operational impacts on land use, meteorology and air quality; water use and quality; terrestrial and aquatic ecosystems; socioeconomics; historic and cultural resources; environmental justice; nonradiological health effects; radiological health effects; and postulated accidents. Applicable measures and controls that would limit the adverse impacts during the 40-year operating period for the proposed Units 3 and 4 are described in Section 5.11. A summary of the operational impact is presented in Section 5.12. The references cited in this chapter are listed in Section 5.13.

5.1 Land-Use Impacts

The NRC staff's assessment of the land-use impacts related to the operation of proposed Units 3 and 4 and the planned new transmission line right-of-way was provided in Section 5.1 of the ESP EIS (NRC 2008a). Based on the staff's analysis, impacts to land use were considered to be SMALL.

In the environmental report (ER) included in its combined license (COL) application (Southern 2009a), Southern indicated that there is no new and significant information regarding impacts of the operation of Units 3 and 4 and the planned new transmission right-of-way on land use. During its review of the COL application, the NRC staff independently verified that no new and significant information was available related to the land-use impacts of operating Units 3 and 4 and the planned new transmission right-of-way by reviewing Southern's ER, auditing Southern's process for identifying new and significant information, examining other information available at the site audit, and considering applicable regulations and reference documents.

Based on this review, the staff determined that the conclusions presented in Section 5.1 of the ESP EIS remain bounding and valid.

1 **5.2 Meteorological and Air-Quality Impacts**

2 The NRC staff's assessment of meteorology and air-quality impacts, including impacts from the
3 cooling tower plumes and emissions from the operation of auxiliary generators and boilers, was
4 provided in Section 5.2 of the ESP EIS (NRC 2008a). Based on the staff's analysis, operation-
5 related impacts to meteorology and air quality were considered to be SMALL.

6 In its COL ER (Southern 2009a), Southern indicated that there is no new and significant
7 information regarding construction-related impacts on meteorology and air quality. During its
8 review of the COL application, the NRC staff performed an independent review of potential new
9 and significant information related to meteorology and air quality by reviewing Southern's ER,
10 auditing Southern's process for identifying new and significant information, examining other
11 information available at the site audit, and considering applicable regulations and reference
12 documents. During this review, the staff identified new information related to changes to the
13 National Ambient Air Quality Standard (NAAQS) for ozone that warranted further review.

14 As discussed in Chapter 2.3, the U.S. Environmental Protection Agency (EPA) promulgated a
15 revision to the NAAQS for ozone on March 12, 2008. The final rule (73 FR 16436) reduced the
16 ozone standard from 0.084 parts per million (ppm) to 0.075 ppm. Section 107(d)(1) of the Clean
17 Air Act (CAA) requires each state to submit, within 1 year of the revised standard, its
18 recommended designation (i.e., attainment, non-attainment, or unclassified) for each county.
19 On March 12, 2009, the Georgia Department of Natural Resources (GDNR) issued a letter to
20 EPA providing GDNR's recommended designations; Burke County remains unclassified/
21 attainment for the new ozone standard (GDNR 2009). EPA will make its final determination
22 regarding attainment status no later than March 2011.

23 Based on this review and the fact that Burke County has been proposed to remain in
24 attainment, the NRC staff determined that the conclusions presented in the ESP EIS
25 (NRC 2008a) remain bounding and valid.

26 **5.3 Water-Related Impacts**

27 The NRC staff's assessment of the water-related impacts associated with operation of the
28 proposed Units 3 and 4 was provided in Section 5.3 of the ESP EIS (NRC 2008a). Based on
29 the staff's analysis, operations-related impacts of hydrological alterations on water use and
30 water quality were considered to be SMALL.

31 During its review of the COL application, the NRC staff performed an independent review of
32 potential new and significant information regarding water-related impacts of operation by
33 reviewing Southern's ER, auditing Southern's process for identifying new and significant
34 information, examining other information available at the site audit (including permits for

1 groundwater withdrawal and dewatering of the surficial aquifer during construction), and
2 considering applicable regulations and reference documents.

3 In its COL ER (Southern 2009a) and request for additional information (RAI) responses
4 (Southern 2010), Southern provided new information on the proposed intake structure design,
5 as described in Section 3.2.2. These design changes would have no impact on water use and
6 water quality during operation and therefore do not change the assessment of operations-
7 related impacts described in the ESP EIS.

8 As described in Section 3.2.1, during its review, the staff identified information on the total
9 effluent discharge to the Savannah River that warranted further staff analysis in the SEIS. The
10 discharge estimate is 2000 L/s (31,695 gpm) (Southern 2010), which is 3 percent more than the
11 value of 1941 L/s (30,761 gpm) used in the ESP EIS to evaluate water-quality impacts of
12 operations. The NRC staff performed an independent assessment of the thermal effluent
13 plume's extent using a total discharge of 2000 L/s (31,695 gpm) and assuming the same
14 conservative conditions described in ESP EIS Section 5.3.3. The extent of the thermal plume
15 was estimated as the 2.8°C (5.0°F)-above-ambient isotherm using CORMIX Version 6.0
16 (Doneker and Jirka 2007). The 3-percent increase in discharge resulted in an increase in the
17 estimated thermal plume extent from 29.6 m (97 ft) to 33.6 m (110 ft) in length and from 4.6 m
18 (15 ft) to 5.2 m (17 ft) in width. Because the estimated extent of the thermal plume remains
19 small in relation to the width of the river, the 3-percent increase in the discharge does not result
20 in a change to the staff's impact conclusion in the ESP EIS.

21 Based on this review, the staff determined that the conclusion presented in the ESP EIS, that
22 impacts would be SMALL, remains valid.

23 **5.4 Terrestrial and Aquatic Ecosystems**

24 **5.4.1 Terrestrial Impacts**

25 The NRC staff's assessments of the potential operational impacts to terrestrial resources,
26 including impacts to Federally and State-listed threatened and endangered species, were
27 provided in Sections 5.4.1 and 5.4.3 of the ESP EIS (NRC 2008a). Terrestrial-resource-related
28 impacts of operations that are discussed in the ESP EIS include impacts on vegetation related
29 to cooling tower drift, icing, fogging, or increased humidity; bird collisions with cooling towers
30 and transmission lines; cooling tower noise; shoreline habitat; transmission line right-of-way
31 management; electromagnetic fields; transmission line right-of-way maintenance on floodplains
32 and wetlands; and Federal and State-listed species. Based on the staff's analysis, operations-
33 related impacts to terrestrial resources were considered to be SMALL.

1 In its COL ER (Southern 2009a), Southern indicated that there is no new and significant
2 information regarding operations-related impacts on terrestrial resources. During its review of
3 the COL application, the NRC staff independently verified that there is no new and significant
4 information related to terrestrial ecology by reviewing Southern's ER, auditing Southern's
5 process for identifying new and significant information, examining other information available at
6 the site audit, considering applicable regulations and reference documents, and contacting
7 representatives of the South Carolina Department of Natural Resources (SCDNR), U.S. Fish
8 and Wildlife Service (FWS), and GDNR (see Appendix F).

9 As part of the NRC's responsibilities under Section 7 of the Endangered Species Act, the staff is
10 preparing a biological assessment documenting potential impacts on the Federally listed
11 threatened or endangered terrestrial species as a result of operation of the proposed Units 3
12 and 4 and proposed transmission line. A biological assessment documenting potential impacts
13 on the Federally listed threatened or endangered species as a result of the site preparation and
14 preliminary construction of the nonsafety-related structures, systems or components on the
15 VEGP site was submitted to FWS on January 25, 2008, and FWS concurred with the findings
16 on September 19, 2008 (FWS 2008).

17 Based on this review, the staff determined that the conclusion presented in the ESP EIS, that
18 impacts would be SMALL, remain bounding and valid.

19 **5.4.2 Aquatic Impacts**

20 The NRC staff's assessments of aquatic-ecology-related impacts were provided in Section 5.4.2
21 and 5.4.3 of the ESP EIS (NRC 2008a). The staff assessed impacts to onsite streams and
22 ponds and to the Savannah River from operation of the cooling-water system, including impacts
23 from entrainment and impingement resulting from the operation of the intake system; impacts
24 from operation of the discharge including thermal, chemical, and physical impacts; and impacts
25 from transmission-line maintenance. Impacts to important species, including Federally and
26 State-listed threatened and endangered species, also are discussed in Sections 5.4.2 and 5.4.3
27 of the ESP EIS (NRC 2008a). Based on the staff's analysis, operations-related impacts to the
28 aquatic resources were considered to be SMALL.

29 In its COL ER (Southern 2009a), Southern indicated that there is no new and significant
30 information regarding operations-related impacts on aquatic biota. However, Southern indicated
31 that there would be a 3-percent increase in the thermal discharge flow. As explained in
32 Section 5.3 of this SEIS, using the same conservative assumptions employed in the ESP EIS
33 analysis, this change would result in only a small increase in the size of the 2.8°C (5.0°F)-
34 above-ambient isotherm, from 29.6 m (97 ft) to 33.6 m (110 ft) in length and from 4.6 m (15 ft) to
35 5.2 m (17 ft) in width. The NRC staff reviewed this information and determined that consistent
36 with the reasoning identified by the ESP EIS analysis, the thermal plume would remain small

1 compared to the width of the Savannah River at that location, and it still would not impede fish
2 passage up and down the river. Accordingly, this minor change would not affect the conclusion
3 in the ESP EIS related to the impacts to aquatic biota from thermal discharges resulting from
4 operation of two additional units. In addition to independently reviewing the ER, the NRC staff
5 audited Southern's process for identifying new and significant information, examined other
6 information available at the site audit, and discussed potential operational impacts with resource
7 agencies (i.e., FWS, the National Marine Fisheries Service, SCDNR, and GDNR; see Appendix
8 F for the consultation letters).

9 During the site audit, Southern informed the NRC staff that the design and location of the
10 cooling water intake structure for proposed Units 3 and 4 had changed. As a result, the staff
11 requested further information on the design and location to determine whether any of these
12 changes might affect the entrainment and/or impingement of aquatic organisms. In response to
13 requests for additional information from the NRC staff, Southern (2010) indicated the intake
14 structure would be located 46 m (150 ft) upstream of its previously designated location. The
15 staff determined that this new location would not alter the basis for the staff's analysis and
16 conclusion in the ESP EIS because the orientation of the mouth of the intake canal in relation to
17 the river (perpendicular) has not changed, and because the new location of the intake canal is in
18 habitat similar to that in the previous location (on a straight portion of the river and in the same
19 floodplain). In addition, Southern described the changes to the intake design (Southern 2010)
20 and indicated that no changes had been made to the water withdrawal rates, through-screen
21 velocities, traveling screen mesh size, or to the hydraulic zone of influence, which are the main
22 factors that would impact the entrainment or impingement rate of aquatic biota during operation
23 of the cooling water intake structure. As a result, the staff determined there was no change to
24 the impact on aquatic biota from entrainment or impingement as discussed in the ESP EIS.

25 As part of the NRC's responsibilities under Section 7 of the Endangered Species Act, the staff
26 prepared a biological assessment (BA) in connection with the Vogtle ESP review, documenting
27 potential impacts on the shortnose sturgeon (*Acipenser brevirostrum*) as a result of construction
28 and operation of two new units at the VEGP site. That BA was submitted to the National Marine
29 Fisheries Service. (NRC 2008b) That assessment concluded that the proposed action,
30 including the risk of sturgeon impingement with the intake structure and the potential effect from
31 thermal discharge and chemical effluents, is not likely to adversely affect the shortnose
32 sturgeon. The NMFS concurred with that determination. (NMFS 2008) The staff has
33 determined that the project has not been modified in a way that would cause an effect to a listed
34 species not previously considered or modified to cause an effect on the shortnose sturgeon that
35 was not previously considered in the ESP EIS.

36

1 Based on this review, the staff has not identified new information that warranted further analysis
2 in the SEIS. Based on this review, the staff determined that the conclusions presented in the
3 ESP EIS and the hearing proceedings remain valid.

4 **5.5 Socioeconomic Impacts**

5 The NRC staff's assessments of the socioeconomic-related impacts, including physical impacts,
6 demographic impacts, economic impacts, and infrastructure and community-service impacts,
7 were provided in Section 5.5 of the ESP EIS (NRC 2008a). Based on the staff's analysis,
8 operations-related impacts to socioeconomics were considered to be SMALL, with the following
9 three exceptions: (1) a MODERATE impact associated with the aesthetics of the transmission
10 lines, (2) a MODERATE beneficial impact on the economy of Burke County, and (3) a LARGE
11 beneficial tax impact in Burke County.

12 In its COL ER (Southern 2009a), Southern indicated that there is no new and significant
13 information regarding operations-related impacts on socioeconomics. During its review of the
14 COL application, the NRC staff independently verified that there is no new and significant
15 information related to socioeconomics by reviewing Southern's ER, auditing Southern's process
16 for identifying new and significant information, examining other information available at the site
17 audit, considering applicable regulations and reference documents, and contacts with county
18 officials.

19 Based on this review, the staff determined that the conclusions presented in the ESP EIS
20 remain bounding and valid.

21 **5.6 Historic and Cultural Resource Impacts**

22 The NRC staff's assessment of impacts from operation of Units 3 and 4 to historic and cultural
23 resources was provided in Section 5.6 of the ESP EIS (NRC 2008a). Based on the staff's
24 analysis, operational impacts related to historic and cultural resources were considered to be
25 SMALL.

26 In its COL ER (Southern 2009a), Southern indicated that there is no new and significant
27 information regarding operations-related impacts on historic and cultural resources. During its
28 review of the COL application, the NRC staff independently verified that there is no new and
29 significant information regarding operational impacts related to historic and cultural resources by
30 reviewing Southern's ER, auditing Southern's process for identifying new and significant
31 information, examining other information available at the site audit, considering applicable
32 regulations and reference documents, and contact with the Georgia State Historic Preservation
33 Officer (SHPO), Advisory Council on Historic Preservation, and Tribes (see Appendix C for the
34 complete listing). The staff notes that, as described in Section 4.6, Southern has signed a

1 memorandum of understanding with the Georgia SHPO. This action further indicates that
2 Southern will protect historic and cultural resources on the VEGP site or mitigate impacts in
3 consultation with the Georgia SHPO.

4 Based on this review, the NRC staff determined that the conclusions presented in the ESP EIS
5 remain valid.

6 **5.7 Environmental Justice**

7 The NRC staff's assessment of the environmental justice-related impacts, including health and
8 environmental impacts, socioeconomic impacts, and subsistence and special conditions, was
9 provided in Section 5.7 of the ESP EIS (NRC 2008a). Based on the staff's analysis, operations-
10 related environmental justice impacts were considered to be SMALL.

11 In its COL ER (Southern 2009a), Southern indicated that there is no new and significant
12 information regarding operations-related impacts on environmental justice. During its review of
13 the COL application, the NRC staff independently verified that there is no new and significant
14 information related to environmental justice by reviewing Southern's ER, auditing Southern's
15 process for identifying new and significant information, examining other information available at
16 the site audit, and considering applicable regulations and reference documents.

17 Based on this review, the staff determined that the conclusions presented in the ESP EIS
18 remain bounding and valid.

19 **5.8 Nonradiological Health Impacts**

20 The NRC staff's assessment of the nonradiological health impacts for operation of the proposed
21 Units 3 and 4 at the VEGP site was provided in Section 5.8 of the ESP EIS (NRC 2008a).
22 Health impacts to the public from the cooling system, noise generated by operations,
23 electromagnetic fields, other occupational health concerns, and transporting operations and
24 outage workers were summarized. Health impacts from the same sources also were evaluated
25 for workers at the proposed Units 3 and 4.

26 The NRC staff concluded in the ESP EIS that nonradiological health impacts to the public and
27 the workers from the cooling system (e.g., exposure to thermophilic organisms), noise
28 generated by unit operations, acute effects of electromagnetic fields at the higher power levels,
29 occupational health-related impacts (e.g., falls, electric shock, etc.), and transporting operations
30 and outage workers to/from the two additional units would be SMALL.

1 In the ESP EIS, the staff did not reach a conclusion on the chronic effects of electromagnetic
2 fields. The staff found that available information was not sufficient to cause the staff to consider
3 the potential impacts of electromagnetic fields as significant to the public.

4 In its COL ER (Southern 2009a), Southern indicated that there is no new and significant
5 information regarding operations-related impacts to nonradiological health. During its review
6 of the COL application, the NRC staff independently verified that there is no new and significant
7 information by reviewing Southern's ER, auditing Southern's process for identifying new and
8 significant information, examining other information available at the site audit, and considering
9 applicable regulations and reference documents, including recent data from the U.S. Centers
10 for Disease Control and Prevention (CDC 2009), Georgia Department of Human Resources
11 (GDHR 2009), and South Carolina Department of Health and Environmental Control
12 (SCDHEC 2008, 2009, 2010).

13 Based on this review, the staff determined that the conclusions presented in the ESP EIS
14 remain bounding and valid.

15 **5.9 Radiological Impacts of Normal Operations**

16 The NRC staff's assessment of the radiological health impacts resulting from normal operation
17 of the proposed Units 3 and 4 at the VEGP site was provided in Section 5.9 of the ESP EIS
18 (NRC 2008a). The discussion included the estimated radiation dose to a member of the public
19 and to the biota in the vicinity of the VEGP site. Estimated doses to workers at the proposed
20 units also were discussed.

21 This section considers whether new and significant information has been identified relative to
22 the radiological health impacts during operation of the proposed Units 3 and 4. Exposure
23 pathways are discussed in Section 5.9.1, radiological doses to members of the public are
24 discussed in Section 5.9.2, impacts to members of the public are discussed in Section 5.9.3,
25 occupational doses to workers are discussed in Section 5.9.4, impacts to biota other than
26 members of the public are discussed in Section 5.9.5, and radiological monitoring is discussed
27 in Section 5.9.6.

28 **5.9.1 Exposure Pathways**

29 The staff provided a summary of exposure pathways considered in its assessment of
30 radiological impacts of normal operations in Section 5.9.1 of the ESP EIS (NRC 2008a).

31 In its COL ER (Southern 2009a), Southern indicated that there is no new and significant
32 information regarding the exposure pathways considered in the analyses. During its review of
33 the COL application, the NRC staff independently verified that there is no new and significant

1 information related to exposure pathways by reviewing Southern's ER, auditing Southern's
2 process for identifying new and significant information, examining other information available at
3 the site audit, considering applicable regulations and reference documents, and reviewing the
4 most recent offsite dose calculation manual for the existing Units 1 and 2. Although the new
5 dairy being developed near Girard, Georgia, (approximately 9.6 km [6 mi] south of the VEGP
6 site) is not considered in the analysis because it is greater than 8 km (5 mi) from the existing
7 and proposed units, milk from the dairy will be monitored by Southern for radionuclides.
8 Monitoring of milk from local dairies is carried out as part of the radiological monitoring program
9 for the existing Units 1 and 2. Southern staff indicated during the site audit, and the NRC staff
10 verified, that no previous samples had indicated the presence of radionuclides. The new dairy
11 in Girard, Georgia, will become the nearest dairy being monitored.

12 Based on this review, the staff determined that the exposure pathways considered in the ESP
13 EIS remain bounding and valid.

14 **5.9.2 Radiation Doses to Members of the Public**

15 The NRC staff's assessment of radiation doses to members of the public was provided in
16 Section 5.9.2 of the ESP EIS (NRC 2008a).

17 In its COL ER (Southern 2009a), Southern indicated that there is no new and significant
18 information regarding the radiation doses to members of the public. During its review of the
19 COL application, the NRC staff independently verified that there is no new and significant
20 information related to radiation doses to members of the public by reviewing Southern's ER,
21 auditing Southern's process for identifying new and significant information, examining other
22 information available at the site audit, considering applicable regulations and reference
23 documents, and reviewing the most recent offsite dose calculation manual for the existing
24 Units 1 and 2.

25 For the ESP EIS (NRC 2008a), radiological impacts were determined using data from
26 Revision 15 of the Westinghouse AP1000 reactor design (Westinghouse 2005) with expected
27 direct radiation and liquid and gaseous radiological effluent rates. The Southern ESP
28 application referenced Revision 15 of the AP1000 standard reactor design, and Revision 15 is
29 certified by rule in Title 10 of the Code of Federal Regulations (CFR) Part 52, Appendix D. Prior
30 to publication of the ESP EIS, Westinghouse submitted Revision 16 (Westinghouse 2007) to the
31 AP1000 reactor design to the NRC for review. The staff noted this submission in the ESP EIS,
32 but did not update the analyses with respect to radiological impacts because the staff review of
33 Revision 16 was not complete. Subsequently, Westinghouse submitted Revision 17
34 (Westinghouse 2008) to the AP1000 reactor design. Although Revision 17 remains under a
35 separate design certification review pursuant to 10 CFR Part 52, the NRC staff has considered
36 the impact of this latest revision in its evaluation of potential impacts for normal operations in

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1 this SEIS. For normal operations, the staff has not found any changes in estimated direct
2 radiation, gaseous radiological effluent releases, or liquid radiological effluent releases based on
3 data in Revisions 15, 16, and 17.

4 In its COL ER (Southern 2009a), Southern indicated that a new low-level waste (LLW) storage
5 area had been developed northwest of the existing Unit 2 cooling tower to accommodate wastes
6 from the existing units as well as Units 3 and 4. Because of the distance between the LLW
7 storage area and the proposed construction area, Southern determined and the staff agrees
8 that the LLW storage area would provide negligible contribution to direct radiation dose to
9 construction workers. Likewise, because of distances, occupancy factors, and the lack of
10 effluents from the facility, doses to members of the public, operations personnel, and other biota
11 would also be negligible.

12 Based on this review, the staff determined that the radiation doses to members of the public
13 described in the ESP EIS remain valid.

14 **5.9.3 Impacts to Members of the Public**

15 The NRC staff's assessment of the estimated impacts to members of the public was provided in
16 Section 5.9.3 of the ESP EIS (NRC 2008a), including to a maximally exposed individual near
17 the VEGP site and a population dose (collective dose to the population within 80 km [50 mi]) in
18 the vicinity of the VEGP site. Based on the NRC staff's analysis, operation-related health
19 impacts to individual members of the public and the population resulting from radiation exposure
20 were considered to be SMALL.

21 In its COL ER (Southern 2009a), Southern indicated that there is no new and significant
22 information regarding the impacts to members of the public. During its review of the COL
23 application, the staff independently verified that there is no new and significant information
24 related to impacts to members of the public by reviewing Southern's ER, auditing Southern's
25 process for identifying new and significant information, examining other information available at
26 the site audit, considering applicable regulations and reference documents, and reviewing the
27 most recent offsite dose calculation manual for the existing Units 1 and 2.

28 Based on this review, the staff determined that the radiation doses to members of the public
29 described in the ESP EIS remain valid.

30 **5.9.4 Occupational Doses to Workers**

31 The staff's assessment of the estimated impacts to occupational workers was provided in
32 Section 5.9.4 of the ESP EIS (NRC 2008a). Based on the staff's analysis, operation-related
33 health impacts to occupational workers resulting from radiation exposure were considered to be
34 SMALL.

1 In its COL ER, Southern indicated that there is no new and significant information regarding the
2 impacts to occupational workers. During its review of the COL application, the NRC staff
3 independently verified that there is no new and significant information related to impacts to
4 members of the public by reviewing Southern's ER, auditing Southern's process for identifying
5 new and significant information, examining other information available at the site audit, and
6 considering applicable regulations and reference documents.

7 Based on this review, the staff determined that the radiation doses to occupational workers
8 described in the ESP EIS remain valid.

9 **5.9.5 Impacts to Biota Other than Members of the Public**

10 The NRC staff's assessment of the estimated impacts to biota other than members of the public
11 was provided in Section 5.9.5 of the ESP EIS (NRC 2008a). Based on the staff's analysis,
12 operation-related health impacts to biota from radiation exposure were considered to be
13 SMALL.

14 In its COL ER (Southern 2009a), Southern indicated that there is no new and significant
15 information regarding the impacts to biota. During its review of the COL application, the NRC
16 staff independently verified that there is no new and significant information related to impacts to
17 biota by reviewing Southern's ER, auditing Southern's process for identifying new and
18 significant information, examining other information available at the site audit, considering
19 applicable regulations and reference documents, and reviewing the most recent offsite dose
20 calculation manual for the existing Units 1 and 2.

21 Based on this review, the staff determined that the radiation doses to biota other than members
22 of the public described in the ESP EIS remain valid.

23 **5.9.6 Radiological Monitoring**

24 In Section 5.9.6 of the ESP EIS (NRC 2008a), the NRC staff provided a summary of radiological
25 monitoring performed at and near the VEGP site.

26 In its COL ER (Southern 2009a), Southern indicated that there is no new and significant
27 information regarding radiological monitoring. During its review of the COL application, the NRC
28 staff independently verified that there is no new and significant information related to
29 radiological monitoring by reviewing Southern's ER, auditing Southern's process for identifying
30 new and significant information, examining other information available at the site audit,
31 considering applicable regulations and reference documents, and reviewing the most recent
32 offsite dose calculation manual for the existing Units 1 and 2.

1 Based on this review, the staff determined that the radiological monitoring described in the ESP
2 EIS remains valid.

3 **5.10 Environmental Impacts of Postulated Accidents**

4 The NRC staff's assessment of the environmental impacts of postulated design-basis accidents
5 and severe accidents for AP1000 reactors at the VEGP ESP site was provided in Section 5.10
6 of the ESP EIS (NRC 2008a). Based on the staff's analysis, the environmental impacts of
7 design-basis and severe accidents were considered to be SMALL.

8 The Southern ESP application referenced Revision 15 of the *AP1000 Design Control Document*
9 for the AP1000 standard reactor design (Westinghouse 2005). Revision 15 is certified by rule in
10 10 CFR Part 52, Appendix D. Prior to publication of the ESP EIS, Westinghouse submitted
11 Revision 16 to the *AP1000 Design Control Document* (Westinghouse 2007) for NRC staff
12 review. The staff noted this submission in the ESP EIS, but did not update the accident
13 analyses because the staff review of Revision 16 was not complete. Subsequently,
14 Westinghouse submitted Revision 17 of the *AP1000 Design Control Document* (Westinghouse
15 2008). Consequently, Southern updated its review of potential impacts for postulated accidents
16 based on Revision 17 of the *AP1000 Design Control Document*, which is under separate review
17 by the NRC staff pursuant to 10 CFR Part 52.

18 The term "accident," as used in this section, refers to any off-normal event not addressed in
19 Section 5.9 that results in release of radioactive materials into the environment. The focus of
20 this review is on events that could lead to releases substantially in excess of permissible limits
21 for normal operations. Normal release limits are specified in 10 CFR Part 20, Appendix B,
22 Table 2.

23 **5.10.1 Design Basis Accidents**

24 The NRC staff's review of Design Basis Accidents (DBAs) was provided in Section 5.10.1 of the
25 ESP EIS (NRC 2008a). The review of environmental impacts of postulated accidents in the
26 ESP EIS assumed the location of two new nuclear units at the VEGP ESP site. The calculation
27 approach used by Southern for its COL application is consistent with the approach described in
28 the ESP EIS (NRC 2008a) and is summarized below.

29 Southern evaluated the potential consequences of postulated accidents to demonstrate that an
30 AP1000 reactor could be constructed and operated at the VEGP site without undue risk to the
31 health and safety of the public (Southern 2008). These evaluations used a set of DBAs that are
32 representative for the AP1000 reactor design and site-specific meteorological data. The set of
33 accidents covers events that range from a relatively high probability of occurrence with relatively
34 low consequences to a relatively low probability with high consequences.

1 The DBA analyses in the ESP EIS (NRC 2008a) assumed that the postulated releases would
2 occur from the location on an imaginary border of an area surrounding all release points for the
3 two proposed units that would result in the greatest doses at the exclusion area and low
4 population zone boundaries. The units proposed in the COL application are situated entirely
5 within the area assumed in the ESP application, so the previous exclusion area boundary and
6 low-population zone distances remain valid for the COL application. The staff evaluated
7 potential consequences of DBAs following procedures outlined in regulatory guides and
8 standard review plans. Potential consequences of accidental releases depend on
9 characteristics of the specific radionuclides released, radionuclide release rates, and
10 meteorological conditions. Methods for evaluating potential accidents are based on guidance in
11 Regulatory Guide 1.183 (NRC 2000).

12 Based on the ESP review and having found no new and significant information applicable to this
13 analysis, the NRC staff concludes that the atmospheric dispersion factors (χ/Qs) for the VEGP
14 site are still applicable for evaluating potential environmental consequences of postulated DBAs
15 for Revision 17 of the *AP1000 Design Control Document* (Westinghouse 2008) at the VEGP
16 site.

17 Table 5-1 lists the set of DBAs considered and presents estimates of the environmental
18 consequences of each accident in terms of total effective dose equivalent (TEDE), which is the
19 sum of the committed effective dose equivalent from inhalation and the effective dose
20 equivalent from external exposure. The DBAs listed in the table are the same as those being
21 considered in the design certification and those that were considered in the ESP review. The
22 NRC staff independently reviewed the calculation of the consequences of the DBAs in
23 Revision 17 of the *AP1000 Design Control Document* and found the calculations to be correct.
24 There are no environmental criteria related to the potential consequences of DBAs.
25 Consequently, the review criteria used in the staff's safety review of DBA doses are included
26 in Table 5-1 to illustrate the magnitude of the calculated environmental consequences (TEDE
27 doses). In all cases, the calculated TEDE values are considerably smaller than the TEDE
28 doses used as safety review criteria. Further, in no case is the consequence estimate
29 significantly different than the corresponding estimate presented in the ESP EIS (NRC 2008a).
30 Therefore, the staff determined that the conclusion in the ESP EIS that the environmental
31 consequences of DBAs for an AP1000 reactor at the VEGP site are SMALL remains valid.

1 **Table 5-1. DBA Doses for an AP1000 Reactor at the VEGP Site (Southern 2009a)**

Accident	Standard Review Plan Section ^(b)	TEDE in rem ^(a)		
		Exclusion Area Boundary	Low-Population Zone	Safety Review Criterion
Main steam line break	15.0.3			
Pre-incident iodine spike		0.07	0.03	25 ^(c)
Equilibrium iodine activity		0.08	0.08	2.5 ^(d)
Loss-of-coolant accident	15.0.3	3.6	1.5	25 ^(c)
Steam generator tube rupture	15.0.3			
Pre-incident iodine spike		0.16	0.04	25 ^(c)
Equilibrium iodine activity		0.08	0.02	2.5 ^(d)
Locked rotor	15.0.3			
No feedwater		0.06	0.01	2.5 ^(d)
Feedwater available		0.04	0.02	2.5 ^(d)
Failure of small lines carrying primary coolant outside containment	15.0.3	0.15	0.03	2.5 ^(d)
Rod ejection accident	15.0.3	0.27	0.17	6.3 ^(d)
Fuel handling	15.0.3	0.38	0.07	6.3 ^(d)

(a) To convert rem to Sv, divide rem by 100.
(b) NUREG-0800 (NRC 2007).
(c) 10 CFR 52.79(a)(2) and 10 CFR 100.21.
(d) Standard Review Plan criterion.

2 **5.10.2 Severe Accidents**

3 The staff's analysis of the potential consequences of severe accidents was provided in
4 Section 5.10.2 of the ESP EIS (NRC 2008a). The staff concluded that the probability-weighted
5 consequences of the severe accidents for an AP1000 reactor at the VEGP ESP site were
6 SMALL and that the issue was resolved.

7 Southern conducted a search for new information related to severe accidents and states that
8 there have been no significant changes in either the reactor-specific or site-specific information
9 used in the severe accident consequence assessment (Southern 2009a). The NRC staff has
10 reviewed the process that Southern used to search for new information and has conducted its
11 own search. The staff concurs that there is no new and significant information related to the
12 site-specific input to the severe accident consequence assessment in Section 5.10.2 of the
13 ESP EIS.

14 The NRC staff evaluated the significance of the new information related to the AP1000 design.
15 Westinghouse reviewed the AP1000 Probabilistic Risk Analysis (PRA) for Revision 15 of the

1 AP1000 Design Control Document (Westinghouse 2005) and concluded that the PRA remained
2 valid for a proposed Revision 16 of the AP1000 Design Control Document (Westinghouse
3 2007); the PRA is unchanged for Revision 17 (Westinghouse 2008). The NRC staff also
4 evaluated the current PRA using DC/COL-ISG-3, *Probabilistic Risk Assessment Information to*
5 *Support Design Certification and Combined License Applications*, (NRC 2008c), and concluded
6 that the PRA submitted with Revision 15 is a conservative and acceptable basis for evaluating
7 severe accident consequences for the current revision.

8 Because the NRC staff is not aware of any new and significant site-specific or reactor-specific
9 information, the NRC staff determined that its conclusion set forth in Section 5.10.2 of the ESP
10 EIS that the probability-weighted consequences of severe accidents at the VEGP site would be
11 SMALL remains valid.

12 **5.10.3 Severe Accident Mitigation Alternatives**

13 The NRC staff provided a review of Severe Accident Mitigation Alternatives (SAMAs) for
14 Revision 15 of the AP1000 reactor design at the VEGP site in Section 5.10.3 of the ESP EIS
15 (NRC 2008a). The staff found that the VEGP site characteristics are within the site
16 characteristics considered in the severe accident design mitigation alternatives (SAMDA) review
17 conducted for certification of the AP1000 design (10 CFR 52, Appendix D). Consequently,
18 further SAMDA review was precluded by rule. The other attributes of the SAMA review, namely
19 procedures and training, were also addressed in the ESP EIS.

20 In its COL ER, Southern states that there is no new and significant information related to
21 postulated accidents (Southern 2009a). However, the NRC staff notes that the ER did contain
22 an update of information on DBAs associated with the proposed revision to the AP1000 design.
23 In the previous section of this SEIS, the staff reviewed the information used in the severe
24 accident consequence assessment included in the staff's ESP EIS and determined that the
25 revised reactor design did not change any of the input to the severe accident consequence
26 assessment.

27 Westinghouse reviewed the AP1000 PRA for Revision 15 and concluded that the PRA remains
28 valid for a proposed revision of the design control document (Westinghouse 2007); the PRA is
29 unchanged for Revision 17. Furthermore, the NRC staff evaluated the current PRA using
30 DC/COL-ISG-3 (NRC 2008c) and concluded that the PRA submitted with Revision 15 is a
31 conservative and acceptable basis for evaluating strategies for mitigating severe accidents.
32 Therefore, the NRC staff considers the PRA for Revision 15 of the design control document to
33 be an adequate basis for a SAMDA analysis for an application referencing Revision 17.
34 Consequently, the NRC staff incorporates, by reference, the environmental assessment
35 accompanying the design certification rulemaking for 10 CFR Part 52, Appendix D (NRC 2005).

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1 Because there is no new and significant information related to either the site-specific data used
2 in the ESP EIS to conclude that the characteristics of the VEGP site are bounded by those
3 considered in the generic SAMDA review or to the AP1000 PRA, the NRC staff reaffirms and
4 adopts the ESP EIS conclusions that there are no cost-effective SAMDAs for an AP1000 at the
5 VEGP site.

6 Other attributes of the SAMA review, namely procedures and training, have been addressed by
7 Southern's statement that "...appropriate administrative controls on plant operations would be
8 incorporated into the plants' management systems as part of its baseline..." (Southern 2008).
9 Further, the staff notes that, pursuant to regulatory requirements, procedures and training,
10 programs are being developed. The staff has a reasonable expectation that risk mitigation
11 measures will be considered when procedures would be in place and training would be
12 completed prior to loading fuel. Therefore, the NRC staff concludes that SAMAs were
13 appropriately considered in the ESP EIS.

14 **5.10.4 Summary of Postulated Accident Impacts**

15 In the ESP EIS (NRC 2008a), the staff evaluated the environmental impacts from DBAs and
16 severe accidents for an AP1000 at the VEGP site and considered SAMAs. Based on the
17 information provided by Southern and NRC's own independent review, the staff concluded
18 that the potential environmental impacts (risks) from postulated accidents from the operation
19 of the proposed AP1000 reactors would be SMALL and that additional mitigation is not
20 warranted. Staff from Southern and NRC have considered new information, including changes
21 to the certified AP1000 reactor design, and determined that there is no new and significant
22 information. Therefore, the staff concludes that ESP EIS conclusions related to DBAs, severe
23 accidents, and SAMAs remain valid.

24 **5.11 Measures and Controls to Limit Adverse Impacts During** 25 **Operation**

26 The staff's assessment of measures and controls to limit adverse impacts during operation are
27 provided in Section 5.11 of the ESP EIS (NRC 2008a).

28 In its COL ER (Southern 2009a), Southern indicated that there is no new and significant
29 information regarding measures and controls to limit adverse impacts during construction, but
30 did indicate that it remains committed to the mitigation measures included in Section 5.11 of the
31 ESP EIS. During its independent review of the COL application, the NRC staff evaluated new
32 and significant information related to the measures and controls by reviewing Southern's ER,
33 auditing Southern's process for identifying new and significant information, examining other
34 information available at the site audit, and considering applicable regulations and reference
35 documents. As discussed in Section 5.6, a memorandum of understanding (GHPD 2010) has

1 been signed between Southern and the Georgia State Historic Preservation Officer concerning
2 protection of archaeological site 9BK416. The staff determined that this agreement constitutes
3 a new measure and control.

4 Part 10 of the COL application includes a draft Environmental Protection Plan (EPP) for the site,
5 which identifies proposed conditions, monitoring, reporting, and record keeping for
6 environmental data during operations.

7 Based on its review, the staff determined that, with the addition of the Memorandum of
8 Understanding that was identified, the measures and controls to limit adverse impacts during
9 operation as presented in the ESP EIS remain valid, and also that Southern's proposed EPP is
10 appropriate. If the COL is issued, the staff will include the EPP as part of the license.

11 **5.12 Summary of Operation Impacts**

12 Impact level categories identified during the evaluation of the ESP application are documented
13 in Table 5-19 of the ESP EIS (NRC 2008a). These levels are designated as SMALL,
14 MODERATE, or LARGE as a measure of their expected adverse impacts. The NRC staff's
15 review of information available during both site audits and from other information sources did
16 not identify any information that would change the designation for any of the categories in
17 Table 5-19 of the ESP EIS.

18 **5.13 References**

19 10 CFR Part 20. Code of Federal Regulations, Title 10, *Energy*, Part 20, "Standards for
20 Protection Against Radiation."

21 10 CFR Part 52. Code of Federal Regulations, Title 10, *Energy*, Part 52, "Licenses,
22 Certifications, and Approvals for Nuclear Power Plants."

23 10 CFR Part 100. Code of Federal Regulations, Title 10, *Energy*, Part 100 "Reactor Site
24 Criteria."

25 73 FR 16436. March 27, 2008. "National Ambient Air Quality Standards for Ozone." *Federal*
26 *Register*, Environmental Protection Agency.

27 Centers for Disease Control and Prevention (CDC). 2009. "Summary of Notifiable Diseases —
28 United States, 2007." *Morbidity and Mortality Weekly Report* 56(53). July 9, 2009. Atlanta,
29 Georgia. Accession No. ML100470938.

30 Clean Air Act (CAA). 42 USC 7401, et seq.

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- 1 Doneker, R.L. and G.H. Jirka. 2007. *Cormix User Manual, A Hydrodynamic Mixing Zone Model*
2 *and Decision Support System for Pollutant Discharges into Surface Waters.*
3 EPA#823/K-07-001. Accessed at <http://www.cormix.info>. (No-cost site, but registration
4 required.)
- 5 Georgia Department of Human Resources (GDHR). 2009. *Georgia Epidemiology Report.*
6 Volume 25, Number 3, March 2009, Division of Public Health, Epidemiology Branch, Atlanta,
7 Georgia. Accession No. ML100470930.
- 8 Georgia Department of Natural Resources (GDNR). 2009. *Recommended Designations of*
9 *Ozone Non-Attainment Areas in Georgia.* Letter from Georgia Department of Natural
10 Resources to U.S Environmental Protection Agency, Region 4, Atlanta, Georgia. March 12,
11 2009. Accession No. ML100601088.
- 12 Georgia Historic Preservation Division (GHPD). 2010. "Memorandum of Understanding,
13 Archaeological Site 9BK416 Vogtle Electric Generating Plant Expansion, Burke County,
14 Georgia," Letter from Georgia Historic Preservation Division to Southern Nuclear Operating
15 Company, Inc. Southern Company, Atlanta, Georgia. Accession No. ML100500302.
- 16 South Carolina Department of Health and Environmental Control (SCDHEC). 2008. *2006*
17 *South Carolina Annual Report on Reportable Conditions.* Columbia, South Carolina. Accession
18 No. ML100481115.
- 19 South Carolina Department of Health and Environmental Control (SCDHEC). 2009. *Epi Notes*
20 *Disease Prevention and Epidemiology Newsletter XXVI(2)*, Columbia, South Carolina.
21 Accession No. ML100470958.
- 22 South Carolina Department of Health and Environmental Control (SCDHEC). 2010. *Epi Notes*
23 *Disease Prevention and Epidemiology Newsletter XXVII(1):*Winter 2010, Columbia, South
24 Carolina. Accession No. ML100470979.
- 25 Southern Nuclear Operating Company, Inc. (Southern). 2008. *Southern Nuclear Operating*
26 *Company, Vogtle Early Site Permit Application: Revision 4*, Southern Company, Birmingham,
27 Alabama. Package Accession No. ML081020073.
- 28 Southern Nuclear Operating Company, Inc. (Southern). 2009a. *Vogtle Electric Generating*
29 *Plant, Units 3 and 4, COL Application: Part 3. Environmental Report.* Revision 1, August 23,
30 2009, Southern Company, Birmingham, Alabama. Accession No. ML092740400.
- 31 Southern Nuclear Operating Company, Inc. (Southern). 2010. Response to Request for
32 Additional Information Letter on Environmental Issues, January 8, 2010. Southern Company,
33 Birmingham, Alabama. Accession No. ML100120479.

- 1 U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National
2 Marine Fisheries Service (NMFS). 2008. Letter from Roy E. Crabtree, Ph.D., Regional
3 Administrator to William Burton, NRC, dated August 11, 2008, "A Biological Assessment for the
4 Shortnose Sturgeon for the Vogtle Electric Generating Plant Early Site Permit Application."
5 Accession No. ML082480450.
- 6 U.S. Fish and Wildlife Service (FWS). 2008. Letter from U.S. Fish and Wildlife Service, Athens,
7 Georgia to U.S. Nuclear Regulatory Commission, Washington, DC. Re: USFWS
8 Log# 08-FA-0473. September 19, 2008. Accession No. ML082760694.
- 9 U.S. Nuclear Regulatory Commission (NRC). 2000. *Alternative Radiological Source Terms for*
10 *Evaluating Design Basis Accidents at Nuclear Power Plants*. Regulatory Guide 1.183,
11 Washington, D.C.
- 12 U.S. Nuclear Regulatory Commission (NRC). 2005. *Environmental Assessment Relating to the*
13 *Certification of the AP1000 Standard Plant Design*. Docket No. 52-006. Washington, D.C.
14 Accession No. ML053250292.
- 15 U.S. Nuclear Regulatory Commission (NRC). 2007. *Standard Review Plan for the Review of*
16 *Safety Analysis Reports for Nuclear Power Plants*. NUREG-0800, Washington, D.C.
- 17 U.S. Nuclear Regulatory Commission (NRC). 2008a. *Final Environmental Impact Statement*
18 *for an Early Site Permit (ESP) at the Vogtle Electric Generating Plant Site*. Main Report.
19 NUREG-1872, Vol. 1, Washington, D.C.
- 20 U.S. Nuclear Regulatory Commission (NRC). 2008b. Letter from NRC to NMFS dated January
21 25, 2008. Subject: Biological Assessment for the Shortnose Sturgeon for the Vogtle Electric
22 Generating Plant Early Site Permit Application. Accession Number ML080070538 (cover letter)
23 and ML080100588 (attachment).
- 24 U.S. Nuclear Regulatory Commission (NRC). 2008c. *Interim Staff Guidance, Probabilistic Risk*
25 *Assessment Information to Support Design Certification and Combined License Applications*.
26 DC/COL-ISG-3, Washington, D.C. Accession No. ML081430675.
- 27 U.S. Nuclear Regulatory Commission (NRC). 2009. Notes from September 14, 2009,
28 telephone call with Mr. Eric Hawks, National Marine Fisheries Service, concerning the Biological
29 Assessment for the Vogtle COL application. Accession No. ML092600667.
- 30 Westinghouse Electric Company, LLC (Westinghouse). 2005. *AP1000 Design Control*
31 *Document*. AP1000 Document. APP-GW-GL-700, Revision 15, Westinghouse Electric
32 Company, Pittsburgh, Pennsylvania. Package Accession No. ML053480403.

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- 1 Westinghouse Electric Company, LLC (Westinghouse). 2007. *AP1000 Design Control*
- 2 *Document*. AP1000 Document. APP-GW-GL-700, Revision 16, Westinghouse Electric
- 3 Company, Pittsburgh, Pennsylvania. Package Accession No. ML071580939.

- 4 Westinghouse Electric Company, LLC (Westinghouse). 2008. *AP1000 Design Control*
- 5 *Document*. AP1000 Document. APP-GW-GL-700, Revision 17, Westinghouse Electric
- 6 Company, Pittsburgh, Pennsylvania. Package Accession No. ML083230168.

1 **6.0 Fuel Cycle, Transportation, and Decommissioning**

2 In Chapter 6 of the Vogtle Electric Generating Plant (VEGP) early site permit (ESP)
3 environmental impact statement (EIS) (NRC 2008), the U.S. Nuclear Regulatory Commission
4 (NRC) staff provided a description of the environmental impacts from (1) the uranium fuel cycle
5 and solid waste management, (2) the transportation of radioactive material, and (3) the
6 decommissioning of two new nuclear units at the VEGP site. Fuel cycle impacts and solid
7 waste management are discussed in Section 6.1. Transportation impacts are discussed in
8 Section 6.2. Decommissioning impacts are discussed in Section 6.3. The list of references
9 cited is in Section 6.4.

10 **6.1 Fuel Cycle Impacts and Solid Waste Management**

11 The NRC staff's assessment of fuel cycle and solid waste-management-related impacts was
12 provided in Section 6.1 of the ESP EIS (NRC 2008). Based on the staff's analysis,
13 environmental impacts were considered to be SMALL.

14 Southern Nuclear Operating Company, Inc. (Southern) stated in the environmental report (ER)
15 included in its combined license (COL) application that there is no new and significant
16 information regarding fuel cycle and solid-waste management-related environmental impacts
17 (Southern 2009a). During its review of the COL application, the staff independently verified that
18 there is no new and significant information related to fuel cycle and solid-waste management by
19 reviewing Southern's ER, auditing Southern's process for identifying new and significant
20 information, examining other information available at the site audit, and considering applicable
21 regulations and reference documents, including Southern's response to the staff's request for
22 additional information regarding the proposed solid-waste-management system (Southern
23 2009b). However, because of additional information submitted by the applicant regarding its
24 low-level waste (LLW) disposal options and associated contingency plans, the staff assessed
25 the significance of this information for its analysis in the ESP EIS of the environmental impacts
26 of the uranium fuel cycle regarding LLW management.

27 The quantities of buried radioactive waste material (i.e., LLW, high-level waste [HLW], and
28 transuranic waste) are specified in Table S-3 (Title 10 of the Code of Federal Regulations
29 (CFR) Subpart 51.51(b)). For LLW disposal at land burial facilities, the Commission notes in
30 Table S-3 that there would be no significant radioactive releases to the environment.

31 Southern indicated in its response to the staff's request for additional information (ND-09-1540)
32 that the Barnwell LLW disposal facility in Barnwell, South Carolina, no longer accepts Class B
33 and C wastes from sources in states outside of the Atlantic Compact (Southern 2009b). By the
34 time Units 3 and 4 begin operations, Southern stated that it expects to enter into an agreement

1 with an NRC-licensed facility that would accept LLW from VEGP. If that expectation is not met,
2 Southern indicated that it could implement measures to limit the generation of Class B and C
3 wastes, extending the capacity of the onsite Auxiliary Building to store such wastes. Southern
4 noted that it also could construct additional storage facilities onsite and has indicated that such
5 facilities would be designed and operated to meet the guidance standards in Appendix 11.4-A of
6 NUREG-0800, *Standard Review Plan for the Review of Safety Analysis Reports for Nuclear*
7 *Power* (NRC 1987). Finally, Southern indicated that it could enter into an agreement with a
8 third-party contractor to process, store, own, and ultimately dispose of LLW from VEGP.
9 Because Southern indicates that it would choose one or a combination of these options, the
10 staff considered the environmental impacts of each of these three options.

11 Table S-3 addresses the environmental impacts expected if Southern enters into an agreement
12 with an NRC-licensed facility for disposal of LLW, and Table S-4 addresses the environmental
13 impacts from transportation of LLW as discussed in the ESP EIS (NRC 2008). The use of third-
14 party contractors was not explicitly addressed in Tables S-3 and S-4; however, such third-party
15 contractors are currently licensed by the NRC and are required to comply with 10 CFR part 20
16 dose limits. The impacts from on-site storage or use of a third party contractor are therefore
17 expected to be similar, and the additional environmental impacts are not significant compared to
18 the impacts described in Tables S-3 and S-4.

19
20 The measures to reduce the generation of Class B and C wastes described by Southern, such
21 as mixing spent resins to limit radioactivity concentrations, could increase the volume of LLW
22 but would not increase the total curies of radioactive material in the waste. The volume of waste
23 would still be bounded by or very similar to the estimates shown in Table S-3, and the
24 environmental impacts would not be significantly different.

25 When applicable criteria are met, the NRC's regulations (10 CFR 50.59) allow licensees
26 operating nuclear power plants to construct and operate additional onsite LLW storage facilities
27 without seeking approval from the NRC. Licensees are required to evaluate the safety and
28 environmental impacts before constructing the facility and make those evaluations available to
29 NRC inspectors. A number of nuclear power plant licensees have constructed and operate
30 such facilities in the United States, including Southern, which currently maintains an onsite LLW
31 storage area for VEGP Units 1 and 2. These facilities have available storage capacity for 6 to
32 8 years of accumulated waste and adequate room for expansion (Southern 2008). Typically,
33 these facilities are constructed near the power block inside the security fence on land that has
34 already been disturbed during initial plant construction. Therefore, the impacts on
35 environmental resources (e.g., land use and aquatic and terrestrial biota) of such additional
36 storage would be very small. All of the NRC (10 CFR Part 20) and U.S. Environmental
37 Protection Agency (EPA) (40 CFR Part 190) dose limitations would apply both for public and
38 occupational radiation exposure and the radiation doses continue to be below 0.25 mSv/yr (25
39 mrem/yr), which is the dose limit stated in 40 CFR Part 190. The NRC staff concludes that

1 doses to members of the public within the NRC and EPA regulations are a small impact.
2 Therefore, the staff concludes the environmental impacts from any additional or expanded LLW
3 storage facilities that Southern might construct and operate would be SMALL.

4 In addition, NUREG-1437, *Generic Environmental Impact Statement for License Renewal of*
5 *Nuclear Plants, Main Report, Final Report*, assessed the impacts of LLW storage onsite at
6 currently operating nuclear power plants and concluded that the radiation doses to offsite
7 individuals from interim LLW storage are insignificant (NRC 1996). The types and amounts of
8 LLW generated by the proposed Units 3 and 4 would be very similar to those generated by
9 currently operating nuclear power plants, and the construction and operation of these interim
10 LLW storage facilities would be very similar to the construction and operation of the currently
11 operating facilities.

12 The Commission notes that HLW and transuranic waste are to be buried at a repository, such
13 as the proposed geologic HLW repository at Yucca Mountain, Nevada, and that no release to
14 the environment is expected to be associated with such disposal because it has been assumed
15 that all of the gaseous and volatile radionuclides contained in the spent fuel are released to the
16 atmosphere before the disposal of the waste. In NUREG-0116, *Environmental Survey of the*
17 *Reprocessing and Waste Management Portions of the LWR Fuel Cycle* (NRC 1976), which
18 provides background and context for the Table S-3 values established by the Commission, the
19 staff indicates that HLW and transuranic waste will be buried and will not be released to the
20 environment.

21 As part of the Table S-3 rulemaking, the staff evaluated, along with more conservative
22 assumptions, this zero-release assumption associated with waste burial in a repository, and the
23 NRC reached an overall generic determination that fuel cycle impacts would not be significant.
24 In 1983, the U.S. Supreme Court affirmed the NRC's position that the zero-release assumption
25 was reasonable in the context of the Table S-3 rulemaking to address generically the impacts of
26 the uranium fuel cycle in individual reactor licensing proceedings (*Baltimore Gas and Electric*
27 *Company vs. Natural Resources Defense Council, Inc.* 1983).

28 Furthermore, in the Commission's Waste Confidence Decision (10 CFR 51.23), the Commission
29 has made the generic determination that "... if necessary, spent fuel generated in any reactor
30 can be stored safely and without significant environmental impacts for at least 30 years beyond
31 the licensed life for operation of that reactor at its spent fuel storage basin or at either onsite or
32 offsite independent spent fuel storage installations." That regulation also states that "... the
33 Commission believes there is reasonable assurance that at least one mined geologic repository
34 will be available within the first quarter of the twenty-first century, and sufficient repository
35 capacity will be available within 30 years beyond the licensed life for operation of any reactor to
36 dispose of the commercial high-level waste and spent fuel originating in such reactor and
37 generated up to that time." The regulation provides that, accordingly, no discussion of any

1 environmental impact of spent fuel storage for the period following the term of the reactor
2 combined license is required in any EIS prepared in connection with the issuance of that
3 combined license.

4 In October 2008, the Commission proposed a rulemaking to update and revise the Waste
5 Confidence Decision (73 FR 59551). Public comments were received on the rulemaking, and
6 the public comment period for the rule was extended through February 2009 (73 FR 72370). At
7 this time, however, the Commission has not approved the publication of a final rule. If a revised
8 rule concerning the waste confidence determination is ultimately issued by the Commission, the
9 staff will be required to follow that determination. Absent further developments with respect to
10 the waste confidence rulemaking, Table S-3 and the existing Waste Confidence Decision
11 indicate that any environmental impacts associated with the HLW that would be generated by
12 proposed Units 3 and 4 would be minimal.

13 In the context of operating license renewal, Sections 6.2 and 6.4 of NUREG-1437 (NRC 1996)
14 provide additional descriptions of the generation, storage, and ultimate disposal of LLW, mixed
15 waste, and spent fuel from power reactors, concluding that environmental impacts from these
16 activities are SMALL. For the reasons stated above, the staff concludes that the environmental
17 impacts of radioactive waste storage and disposal associated with Units 3 and 4 would be
18 minor, and that the conclusions presented in the ESP EIS remain valid.

19 **6.2 Transportation Impacts**

20 The NRC staff's assessment of the impacts to public health from transporting unirradiated fuel,
21 spent fuel, and radioactive waste to and from the VEGP site was provided in Section 6.2 of the
22 ESP EIS (NRC 2008). The staff concluded in the ESP EIS that the radiological and non-
23 radiological impacts on human health would be SMALL.

24 Southern indicated in its COL ER (Southern 2009a) that there is no new and significant
25 information regarding transportation-related impacts. During its review of the COL application,
26 the NRC staff independently verified that there is no new and significant information regarding
27 transportation-related impacts by reviewing Southern's ER, auditing Southern's process for
28 identifying new and significant information, examining other information available at the site
29 audit, and considering applicable regulations and reference documents.

30 The NRC staff notes that, on March 3, 2010, the U.S. Department of Energy submitted a motion
31 to the Atomic Safety and Licensing Board to withdraw with prejudice its application for a
32 permanent geologic repository at Yucca Mountain, Nevada (DOE 2010). The motion was
33 subsequently denied by the Atomic Safety and Licensing Board (NRC 2010). Regardless of the
34 final outcome of this proceeding, the NRC staff concludes that transportation impacts are
35 roughly proportional to the distance from the reactor site to the repository site, in this case

1 Georgia to Nevada. The distance from the VEGP site to any new planned repository in the
2 contiguous United States would be no more than double the distance from the VEGP site to
3 Yucca Mountain. Doubling the environmental impact estimates from the transportation of spent
4 reactor fuel, as presented in the ESP EIS (NRC 2008), would provide a reasonable bounding
5 estimate of the impacts for NEPA purposes. The NRC staff concludes that the environmental
6 impacts of these doubled estimates would still be SMALL.

7 Based on this review, the staff determined that the conclusions presented in the ESP EIS
8 regarding transportation-related impacts remain valid.

9 **6.3 Decommissioning Impacts**

10 The NRC staff's assessment of the decommissioning-related impacts was provided in
11 Section 6.3 of the ESP EIS. Based on the staff's analysis, these environmental impacts were
12 considered to be SMALL.

13 Southern indicated in its COL ER (Southern 2009a) that there is no new and significant
14 information regarding decommissioning-related impacts. During its review of the COL
15 application, the staff independently verified that there is no new and significant information
16 related to decommissioning by reviewing Southern's ER, auditing Southern's process for
17 identifying new and significant information, examining other information available at the site
18 audit, and considering applicable regulations and reference documents.

19 Based on this review, the staff determined that the conclusions presented in the ESP EIS
20 remain bounding and valid.

21 **6.4 References**

22 10 CFR Part 20. Code of Federal Regulations, Title 10, *Energy*, Part 20, "Standards for
23 Protection against Radiation."

24 10 CFR Part 50. Code of Federal Regulations, Title 10, *Energy*, Part 50, "Domestic Licensing of
25 Production and Utilization Facilities."

26 10 CFR Part 51. Code of Federal Regulations, Title 10, *Energy*, Part 51, "Environmental
27 Protection Regulations for Domestic Licensing and Related Regulatory Functions."

28 40 CFR Part 190. Code of Federal Regulations, Title 40, *Protection of Environment*, Part 190,
29 "Environmental Radiation Protection Standards for Nuclear Power Operations."

30 73 FR 59551. October, 9, 2008. "Update and Proposed Revision of Waste Confidence
31 Decision." *Federal Register*. U.S. Nuclear Regulatory Commission.

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- 1 73 FR 72370. November 28, 2008. "Consideration of Environmental Impacts of Temporary
2 Storage of Spent Fuel After Cessation of Reactor Operation and Waste Confidence Decision
3 Update: Extension of Comment Period." *Federal Register*. U.S. Nuclear Regulatory
4 Commission.
- 5 Baltimore Gas & Electric Company vs. Natural Resources Defense Council, Inc. June 6, 1983.
6 462 U.S. 87.
- 7 Southern Nuclear Operating Company (Southern). 2008. *10 CFR 50.59 Screening/Evaluation*.
8 Activity/Document No. RER A071430001, Version No. 1.0, Birmingham, Alabama. Accession
9 No. ML102100523.
- 10 Southern Nuclear Operating Company (Southern). 2009a. *Vogtle Electric Generating Plant,*
11 *Units 3 and 4, COL Application, Part 3 Environmental Report*. Revision 1, September 23, 2009,
12 Birmingham, Alabama. Accession No. ML092740400.
- 13 Southern Nuclear Operating Company (Southern). 2009b. *Response to NRC RAI Letter*
14 *No. 039 on the VEGP Units 3 & 4 COL Application Involving the Solid Waste Management*
15 *System, ND-09-1540*. September 23, 2009, Birmingham, Alabama. Accession No.
16 ML092680023.
- 17 U.S. Department of Energy (DOE). 2010. *In the Matter of U.S. Department of Energy (High-*
18 *Level Waste Repository), Docket No. 63-001. U.S. Department of Energy's Motion to*
19 *Withdraw*. March 3, 2010, Washington, D.C. Accession No. ML100621397.
- 20 U.S. Nuclear Regulatory Commission (NRC). 1976. *Environmental Survey of the Reprocessing*
21 *and Waste Management Portions of the LWR Fuel Cycle*. NUREG-0116 (Supplement 1 to
22 WASH-1248), Washington, D.C.
- 23 U.S. Nuclear Regulatory Commission (NRC). 1987. *Standard Review Plan for the Review of*
24 *Safety Analysis Reports for Nuclear Power Plants*. NUREG-0800, Washington, D.C.
- 25 U.S. Nuclear Regulatory Commission (NRC). 1996. *Generic Environmental Impact Statement*
26 *for License Renewal of Nuclear Plants, Main Report, Final Report*. NUREG-1437 Vol. 1,
27 Washington, D.C.
- 28 U.S. Nuclear Regulatory Commission (NRC). 2008. *Final Environmental Impact Statement*
29 *for an Early Site Permit (ESP) at the Vogtle Electric Generating Plant Site. Main Report*.
30 NUREG-1872, Vol. 1, Washington, D.C.

- 1 U.S. Nuclear Regulatory Commission (NRC). 2010. Atomic Safety and Licensing Board, in the
- 2 Matter of U.S. Department of Energy (High Level Waste Repository), Memorandum and Order
- 3 (Granting intervention to Petitioners and Denying Withdrawal Motion), June 29, 2010,
- 4 Washington D.C. Accession No. ML101800299.

7.0 Cumulative Impacts

In Chapter 7 of the Vogtle Electric Generating Plant (VEGP) early site permit (ESP) environmental impact statement (EIS) (NRC 2008), the U.S. Nuclear Regulatory Commission (NRC) staff provided a description of the potential cumulative impacts that could result from construction and operation of the proposed Units 3 and 4. The discussions in the ESP EIS included past, present, and reasonably foreseeable actions, and the geographical area over which the past, present, and reasonably foreseeable actions could contribute to cumulative impacts. This chapter of the supplemental EIS (SEIS) provides new information relative to cumulative impacts. Land use, air quality, water use and quality, terrestrial and aquatic ecosystems, socioeconomics and historic and cultural resources, nonradiological health, radiological impacts, severe accidents, fuel cycle, transportation, and decommissioning are discussed in Sections 7.1 through 7.10 of this chapter. The staff's conclusions are summarized in Section 7.11, and references are listed in Section 7.12.

7.1 Land Use

The NRC staff's assessment of the cumulative land-use impacts related to the construction and operation of the proposed Units 3 and 4 was provided in Section 7.1 of the ESP EIS (NRC 2008). Based on its analysis in the ESP EIS, the staff determined that cumulative land-use impacts would be SMALL.

In the environmental report (ER) included in its combined license (COL) application (Southern 2009), Southern Nuclear Operating Company, Inc. (Southern) indicated that there is no new and significant information regarding cumulative impacts related to the construction and operation of the proposed Units 3 and 4. During its review of the COL application, the NRC staff independently verified that there is no new and significant information related to the cumulative land-use impacts of constructing and operating Units 3 and 4 by reviewing Southern's ER, information submitted in support of ESP license amendment requests, auditing Southern's process for identifying new and significant information, examining other information available at the site audit, and considering applicable regulations and reference documents. Based on this review, the staff determined that the conclusion presented in Section 7.1 of the ESP EIS remains valid.

7.2 Air Quality

The NRC staff's assessment of cumulative air-quality impacts from criteria air pollutants was provided in Section 7.2 of the ESP EIS (NRC 2008). Permitted air-emission sources in the vicinity of the VEGP site include the Allen B. Wilson Combustion Turbine Plant (Plant Wilson)

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1 located on the VEGP site and the U.S. Department of Energy's Savannah River Site in South
2 Carolina. In addition, a mixed-oxide nuclear fuel facility has been proposed for development on
3 the Savannah River Site. Based on the staff's analysis, cumulative impacts to air quality were
4 considered to be SMALL.

5 In its COL ER (Southern 2009), Southern indicated that there is no new and significant
6 information regarding cumulative impacts on air quality. During its review of Southern's COL
7 application, the NRC staff performed an independent review of potential new and significant
8 information related to meteorology and air quality by reviewing Southern's ER, auditing
9 Southern's process for identifying new and significant information, examining other information
10 available at the site audit, and considering applicable regulations and reference documents.
11 This review identified new information related to potential changes in construction traffic as well
12 as changes to the National Ambient Air Quality Standard (NAAQS) for ozone that warranted
13 further staff analysis.

14 In Section 4.2, it was noted that Southern has indicated the potential need for additional truck
15 deliveries if more backfill material is needed than could be obtained onsite; this would result in
16 additional truck traffic to and from the site (Southern 2010a). Traffic impacts would be
17 *minimized by using different routes for inbound and outbound trucks. Although the potential*
18 *truck traffic would result in more air emissions, these emissions would be temporary and would*
19 *be completed before the peak of construction begins (Southern 2010a). The staff therefore*
20 *expects the air quality conclusions presented in the ESP EIS related to construction traffic would*
21 *remain valid.*

22 As discussed in Section 2.3, the U.S. Environmental Protection Agency (EPA) promulgated a
23 revision to the NAAQS for ozone on March 12, 2008. The final rule (73 FR 16436) reduced the
24 ozone standard from 0.084 ppm to 0.075 ppm. Section 107(d)(1) of the Clean Air Act (CAA)
25 requires each state to submit, within one year of the revised standard, its recommended
26 designation (i.e., attainment, non-attainment, or unclassified) for each county. On
27 March 12, 2009, the Georgia Department of Natural Resources (GDNR) issued a letter to the
28 EPA providing its recommended designations; Burke County remains unclassified/attainment for
29 the new ozone standard (GDNR 2009). EPA will make its final determination on attainment
30 status no later than March 2011. Based on this review and the fact that GDNR has determined
31 that Burke County will remain in attainment, the NRC staff determined that the conclusions
32 presented in the ESP EIS remain bounding and valid.

33 In November 2009, the Commission issued Commission Order CLI-09-21, which provided
34 guidance to the NRC staff to "... include consideration of carbon dioxide and other greenhouse
35 gas emissions in its environmental reviews for major licensing actions under the National
36 Environmental Policy Act" (NRC 2009). Although the staff considered greenhouse gas
37 emissions in the ESP EIS and the issue therefore is not new, the staff has nevertheless re-

1 examined its previous analysis to show conformance with the Commission's instructions in
 2 CLI-09-21.

3 While there are some carbon dioxide (CO₂) emissions associated with the construction and
 4 operation of a nuclear power plant, the life-cycle contributions are dominated by emissions
 5 associated with the uranium fuel cycle. These emissions primarily result from the operation of
 6 fossil-fueled power plants that provide the electricity needed to manufacture the fuel. Published
 7 estimates of CO₂ emissions from nuclear-fuel-cycle processes and operations that support a
 8 nuclear power plant range from about 1 percent to 5 percent of the CO₂ emissions emitted from
 9 a comparably sized coal-fired plant (Sovacool 2008). A coal-fired power plant emits about 1.02
 10 metric tons (1.12 short tons^(a)) of CO₂ for each megawatt hour (MWh) generated (EPA 2009a).
 11 Therefore, for consistency with Table S-3 of 10 CFR 51.51, the NRC staff has estimated the
 12 fuel cycle CO₂ emissions as 0.05 metric tons (0.055 short tons) of CO₂ per MWh generated. For
 13 a 1000 MW nuclear power reactor, the resulting annual CO₂ emission rate is approximately
 14 447,000 metric tons (492,733 short tons). For context, Table 7-1 compares this value to other
 15 CO₂ emission estimates, including other sources of base-load power generation.

16 **Table 7-1. Comparison of Annual CO₂ Emission Rates**

Source	Metric Tons per Year	Short Tons per Year
Global Emissions	28,000,000,000 ^(a)	30,865,000,000
United States	6,000,000,000 ^(a)	6,614,000,000
1000 MW Coal-Fired Power Plant	8,939,000 ^(b)	9,854,000
1000 MW Natural-Gas-Fired Power Plant	4,511,000 ^(b)	4,973,000
1000 MW Nuclear Power Plant ^(c)	447,000	492,733
Average U.S. Passenger Vehicle	5 ^(d)	5.5

(a) EPA 2009b
 (b) EPA 2009a
 (c) Including emissions from fuel cycle processes and operations; 90 percent capacity factor.
 (d) EPA 2009c

17 As discussed in the state-of-the-science report issued by the U.S. Global Change Research
 18 Program (GCRP), it is the "... production and use of energy that is the primary cause of global
 19 warming, and in turn, climate change will eventually affect our production and use of energy.
 20 The vast majority of U.S. greenhouse gas emissions, about 87 percent, come from energy
 21 production and use...." Approximately one-third of the greenhouse gas emissions result from
 22 generating electricity and heat (GCRP 2009).

(a) The published emission estimates are reported in terms of metric tons. The short-ton (U.S.) values shown in this section are conversions from the published values.

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1 For the following reasons, it is difficult to evaluate cumulative impacts of a single or combination
2 of greenhouse gas sources.

- 3 • The impact is global rather than local or regional.
- 4 • The impact is not particularly sensitive to location of the release point.
- 5 • The magnitude of individual greenhouse gas sources related to human activity, no matter
6 how large compared to other sources, are small when compared to the total mass of
7 greenhouse gases in the atmosphere.
- 8 • The total number and variety of greenhouse gas sources are extremely large, and they are
9 located everywhere.

10 These points are illustrated by the magnitude and comparison of annual CO₂ emission rates
11 listed in Table 7-1.

12 Evaluation of cumulative impacts of greenhouse gas emissions requires the use of a global
13 climate model. The GCRP report (GCRP 2009) provides a synthesis of the results of numerous
14 climate modeling studies. The NRC staff concludes that the cumulative impacts of greenhouse
15 emissions around the world as presented in the GCRP report are the appropriate basis for its
16 evaluation of cumulative impacts. Based on the impacts set forth in the GCRP report, the staff
17 concludes that the cumulative impacts of greenhouse gas emissions are significant at the global
18 level. The staff further concludes that the cumulative impact level would be significant, either
19 with or without the greenhouse gas emissions of the proposed project.

20 Consequently, the NRC staff has determined that the proper approach to addressing the
21 cumulative impacts of greenhouse gases, including CO₂, is to recognize that they are important
22 contributors to climate change and that the carbon footprint is a relevant factor in evaluating
23 energy alternatives. Among the viable energy generation sources for base-load power listed in
24 Table 7-1, the CO₂ emissions from nuclear power plants (including the associated fuel cycle
25 processes and operations) are considerably less than emissions from natural-gas-fired and
26 coal-fired power plants, and the staff considers these emissions and their impacts to be SMALL
27 both in isolation and cumulatively when compared to these other viable sources of base-load
28 energy. Accordingly, the staff determined that the conclusions presented in Section 7.2 of the
29 ESP EIS remain valid.

30 **7.3 Water Use and Quality**

31 The NRC staff's assessment of the water-related cumulative impacts of the proposed Units 3
32 and 4, the existing Units 1 and 2, the U.S. Department of Energy's Savannah River Site directly
33 across the Savannah River from the VEGP site, and other water users in the region was
34 provided in Section 7.3 of the ESP EIS (NRC 2008). The staff considered saltwater intrusion in

1 the State of Georgia, tritium that has been found in the unconfined aquifer, and contamination in
2 the environment surrounding the Savannah River Site. Based on the staff's analysis,
3 cumulative impacts to water use and water quality were considered to be SMALL.

4 In its COL ER (Southern 2009), Southern indicated that there is no new and significant
5 information regarding cumulative impacts on water use and water quality. During its review of
6 the COL application, the staff independently verified that there is no new and significant
7 information related to water use and water quality by reviewing Southern's ER, information
8 submitted in support of ESP license amendment requests, auditing Southern's process for
9 identifying new and significant information, examining other information available at the site
10 audit, and considering applicable regulations and reference documents.

11 Based on this review, the NRC staff determined that the conclusions presented in the ESP EIS
12 remain valid.

13 **7.4 Terrestrial Ecosystem**

14 The NRC staff's cumulative impact assessment of the terrestrial resources in the vicinity of the
15 VEGP site and the proposed transmission line right-of-way was provided in Section 7.4 of the
16 ESP EIS (NRC 2008). Based on the staff's analysis, cumulative impacts to terrestrial resources
17 were considered to be SMALL.

18 In its COL ER (Southern 2009), Southern indicated that there is no new and significant
19 information regarding cumulative impacts on terrestrial resources. During its review of the COL
20 application, the staff independently verified that there is no new and significant information
21 related to the cumulative impact assessment of terrestrial resources by reviewing Southern's
22 ER, reviewing information submitted as part of the license amendment request (LAR) activities
23 to obtain backfill from additional onsite borrow areas, auditing Southern's process for identifying
24 new and significant information, examining other information available at the site audit,
25 considering applicable regulations and reference documents, and contact with the U.S. Fish and
26 Wildlife Service (FWS), the Georgia Department of Natural Resources (GDNR), and the South
27 Carolina Department of Natural Resources (SCDNR).

28 The land that would be disturbed for permanent structures and land that has been cleared for
29 additional backfill material is composed of hardwood forest and bottomland wetlands, planted
30 pine, sandhills, and open field habitats. The sandhill habitat that has been disturbed is of
31 marginal quality compared to the remaining higher quality sandhills habitat available onsite.
32 Planted pine, open field, and bottomland hardwood wetland habitats are available in other
33 locations onsite and in the region. Furthermore, as explained in the Amendment 2 EA (NRC
34 2010), the potential losses to the Southeastern pocket gopher and sandhills milkvetch are
35 isolated and will not jeopardize the stability or viability of any of the remaining populations in

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1 Georgia. These populations occur in different locations throughout the state and each
2 population is not dependent on the success of others. Staff did not identify new and significant
3 information concerning any activities or projects in the geographic region of interest that would
4 result in an adverse cumulative affect on terrestrial resources, including wildlife habitats and the
5 State-threatened Southeastern pocket gopher and sandhills milkvetch. Based on this review,
6 the NRC staff determined that, while the localized impact has increased, the conclusions
7 presented in the ESP EIS, that cumulative impacts to terrestrial resources would be SMALL,
8 remain valid.

9 **7.5 Aquatic Ecosystem**

10 The NRC staff's assessment of the cumulative impacts to aquatic resources in the Savannah
11 River from upstream of the VEGP site to the mouth of the river was provided in Section 7.5 of
12 the ESP EIS (NRC 2008). Based on the staff's analysis, cumulative impacts to aquatic
13 resources were considered to be SMALL.

14 One of the sources of cumulative impact discussed in the ESP EIS and subsequent hearing
15 proceedings was the potential for impacts from dredging the navigation channel to facilitate
16 shipment of large components to the site. Southern submitted a letter to the NRC in February
17 2010 (Southern 2010b) stating that large components and other construction materials would be
18 transported to the VEGP site via rail using the Norfolk-Southern rail line from Savannah,
19 Georgia, to Waynesboro, Georgia, where the line connects with the spur to VEGP. The letter
20 also states that Southern will not construct a barge slip or seek maintenance dredging of the
21 Savannah River navigation channel. Thus, in the absence of these shoreline construction or
22 dredging activities, the cumulative impacts to aquatic resources would not include any impacts
23 from these sources and thus would be bounded by the potential impacts described in Section
24 7.5 of the ESP EIS.

25 In its COL ER (Southern 2009), Southern indicated that there is no new and significant
26 information regarding cumulative impacts on aquatic ecology. During the review of the COL
27 application, the staff independently verified that there is no new and significant information
28 related to cumulative impacts for aquatic ecology by reviewing Southern's ER, information
29 submitted in support of ESP license amendment requests, auditing Southern's process for
30 identifying new and significant information, examining other information available at the site
31 audit, considering applicable reference documents, and contact with the FWS, National Marine
32 Fisheries Service, GDNR, USACE, and SCDNR.

33 Based on this review, the staff determined that the conclusions presented in the ESP EIS
34 remain valid.

1 **7.6 Socioeconomics, Historic and Cultural Resources,**
2 **Environmental Justice**

3 The NRC staff's assessment of the cumulative socioeconomic impacts related to the
4 construction and operation of the proposed Units 3 and 4 was provided in Section 7.6 of the
5 ESP EIS (NRC 2008). Based on the staff's analysis, impacts to socioeconomics were
6 considered to be SMALL, with the exception for a possible MODERATE impact on roads,
7 housing, and public services in Burke County and a LARGE beneficial impact in regards to
8 taxes in Burke County. Based on the staff's analysis, cumulative impacts to historic and cultural
9 resources were considered to be MODERATE, and Environmental Justice Impacts were
10 considered to be SMALL.

11 In its COL ER (Southern 2009), Southern indicated that there is no new and significant
12 information regarding cumulative impacts related to the construction and operation of the
13 proposed Units 3 and 4. During its review of the COL application, the staff reviewed Southern's
14 ER, audited Southern's process for identifying new and significant information, examined other
15 information available at the site audit, and considered applicable regulations, reference
16 documents, and discussions with state and county officials, Georgia State Historic Preservation
17 Division, Advisory Council on Historic Preservation, and potentially interested Tribes (see
18 Appendix C for complete listing). This independent review identified new information in the
19 areas of historic and cultural resources and socioeconomics that warranted further staff review.

20 As previously described in Section 4.6 of this SEIS, the staff identified a historic cemetery
21 located on the VEGP site outside the proposed construction footprint. Southern has installed a
22 fence around the cemetery, determined that the planned construction actions would not impact
23 the site, and has consulted with the State Historic Preservation Office (SHPO) regarding
24 protection and mitigation of the site. As a result of these protective measures proposed by
25 Southern and consultation with the SHPO, the staff concludes that the identification of the
26 historic cemetery does not change its conclusion regarding the cumulative impacts to historic
27 and cultural resources in the vicinity of the VEGP site. The staff identified new proposed onsite
28 barrow areas as a result of the LAR (Southern 2010b). The impacts to historic and cultural
29 resources associated with the new proposed onsite barrow areas are previously described in
30 Section 4.6. There are no NRHP eligible properties located in the vicinity of the proposed onsite
31 barrow areas. As a result of the cultural resources analysis, field investigations, procedures
32 SNC has in place for unanticipated cultural resources discoveries, and the consultation with the
33 SHPO, the staff concludes that the proposed new onsite barrow areas does not change its
34 conclusions regarding cumulative impacts to historic and cultural resources in the vicinity of the
35 VEGP site.

36 This independent review also identified new information related to funding provided by the
37 American Recovery and Reinvestment Act (ARRA), which warranted further staff consideration.

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1 A significant amount of the ARRA funding that could have potential socioeconomic impacts on
2 Columbia and Richmond Counties in Georgia has been allocated to the nearby Savannah River
3 Site. The ARRA funding has saved and created thousands of jobs at the Savannah River Site,
4 which is near the VEGP site (DOE 2009). However, ARRA is not a renewable source of
5 funding, and ARRA-related employment will diminish before construction of the proposed
6 Units 3 and 4 peaks; therefore, the staff does not expect any increase in cumulative impacts.
7 The NRC staff's independent review found no new and significant information regarding
8 environmental justice.

9 Section 4.5 of this SEIS described the possibility of Southern needing additional backfill material
10 delivered by truck from an offsite source thus adding additional vehicles to the roadways
11 (Southern 2010a). Traffic impacts would be minimized by using different routes for inbound and
12 outbound trucks. As discussed in Section 4.5, although the truck deliveries would increase the
13 amount of traffic on the roadways, the increases would remain within the design capacities of
14 the roads, and the increased traffic would be temporary and completed before the peak of
15 construction begins (Southern 2010a). Based on this review, the staff determined that the
16 conclusions presented in the ESP EIS remain valid.

17 **7.7 Nonradiological Health**

18 The NRC staff's assessment of cumulative nonradiological, health-related impacts was provided
19 in Section 7.7 of the ESP EIS (NRC 2008). Based on the staff's analysis, cumulative impacts to
20 nonradiological health were considered to be SMALL.

21 In its COL ER (Southern 2009), Southern indicated that there is no new and significant
22 information regarding cumulative impacts on nonradiological health. During its review of the
23 COL application, the staff independently verified that there is no new and significant information
24 related to nonradiological health by reviewing Southern's ER, auditing Southern's process for
25 identifying new and significant information, examining other information available at the site
26 audit, and considering applicable regulations and reference documents. However, subsequent
27 to the site audit, Southern determined that it would need to obtain backfill material from onsite
28 borrow areas other than those previously specified in the ESP site safety analysis report.
29 Accordingly, Southern submitted license amendment requests to obtain approval of the use of
30 backfill from additional onsite and offsite borrow areas. The NRC staff evaluated the
31 nonradiological impacts associated with truck transport of backfill material from these additional
32 locations (NRC 2010) and determined that the additional truck shipments would not significantly
33 increase the nonradiological impacts presented in the ESP EIS (NRC 2008). Furthermore, in
34 Section 4.8.2 of this SEIS, the staff examined the potential increase in traffic fatality risk in the
35 event Southern were to need to obtain additional backfill material from an offsite source. As
36 explained in Section 4.8.2, even when considered in combination with the minor increase in

1 traffic fatality risk analyzed in the ESP FEIS, this increase remains small relative to the current
2 traffic fatality risks in the area surrounding the proposed VEGP site.

3 Based on this review, the staff determined that the conclusions presented in the ESP EIS
4 remain valid.

5 **7.8 Radiological Impacts of Normal Operation**

6 The NRC staff's assessment of cumulative radiological, health-related impacts was provided in
7 Section 7.8 of the ESP EIS (NRC 2008). Based on the staff's analysis, cumulative impacts to
8 radiological health were considered to be SMALL.

9 In its COL ER (Southern 2009), Southern indicated that there is no new and significant
10 information regarding cumulative impacts on radiological health. During its review of the COL
11 application, the staff independently verified that there is no new and significant information
12 related to radiological health by reviewing Southern's ER, information submitted in support of
13 ESP license amendment requests, auditing Southern's process for identifying new and
14 significant information, examining other information available at the site audit, and considering
15 applicable regulations and reference documents.

16 In Section 6.1 of this SEIS, the staff analyzed the potential environmental impacts of additional
17 onsite or offsite storage of low-level radioactive waste, if it becomes necessary for Southern to
18 implement one or more of the contingency options it has described. For the reasons described
19 in those sections, implementation of those contingencies would not result in doses in excess of
20 the applicable 10 CFR Part 20 limits, and thus any cumulative impacts would be SMALL.

21 Based on this review, the staff determined that the conclusions presented in the ESP EIS
22 remain bounding and valid.

23 **7.9 Severe Accidents**

24 The NRC staff's assessment of cumulative, severe-accident-related impacts was provided in
25 Section 7.9 of the ESP EIS (NRC 2008). Based on the staff's analysis, cumulative impacts of
26 severe accidents were considered to be SMALL.

27 In its COL ER (Southern 2009), Southern indicated that there is no new and significant
28 information regarding cumulative impacts related to severe accidents. During its review of the
29 COL application, the NRC staff independently verified that there is no new and significant
30 information related to radiological health by reviewing Southern's ER, auditing Southern's
31 process for identifying new and significant information, examining other information available at
32 the site audit, and considering applicable regulations and reference documents.

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1 Based on this review, the staff determined that the conclusions presented in the ESP EIS
2 remain bounding and valid.

3 **7.10 Fuel Cycle, Transportation, and Decommissioning**

4 The NRC staff's assessment of impacts related to the fuel cycle, transportation, and
5 decommissioning was provided in Section 7.10 of the ESP EIS (NRC 2008). Based on the
6 staff's analysis, cumulative impacts related to the fuel cycle, transportation, and
7 decommissioning were considered to be SMALL.

8 In its COL ER (Southern 2009), Southern indicated that there is no new and significant
9 information regarding cumulative impacts related to the fuel cycle, transportation, and
10 decommissioning. During its review of the COL application, the staff independently verified that
11 there is no new and significant information related to the fuel cycle, transportation, and
12 decommissioning by reviewing Southern's ER, auditing Southern's process for identifying new
13 and significant information, examining other information available at the site audit, and
14 considering applicable regulations and reference documents.

15 Based on this review, the NRC determined that the conclusions presented in the ESP EIS
16 remain bounding and valid.

17 **7.11 NRC Staff Conclusions and Recommendations**

18 The NRC staff considered the potential impacts resulting from constructing and operating the
19 proposed Units 3 and 4 together with the past, present, and reasonably foreseeable future
20 actions in the VEGP site area. The staff summarized its conclusions in Section 7.11 of the ESP
21 EIS and found that all potential cumulative impacts resulting from construction and operation
22 generally would be SMALL, and additional mitigation was not warranted. The staff's review of
23 Southern's process for identifying new and significant information results from the VEGP site
24 audit, and contacts with various Federal, State, and Tribal agencies identified no information
25 that would change these cumulative impact designations.

26 **7.12 References**

27 10 CFR Part 20. Code of Federal Regulations, Title 10, *Energy*, Part 20, "Standards for the
28 Protection Against Radiation."

29 10 CFR Part 51. Code of Federal Regulations, Title 10, *Energy*, Part 51, "Environmental
30 Protection Regulations for Domestic Licensing and Related Regulatory Functions."

1 73 FR 16436. March 27, 2008. "National Ambient Air Quality Standards for Ozone; Final
2 Standard." Federal Register, U.S. Environmental Protection Agency.

3 American Recovery and Reinvestment Act of 2009. Public Law 111-5.

4 Clean Air Act. 42 USC 7401, et seq.

5 Georgia Department of Natural Resources (GDNR). 2009. *Recommended Designations of*
6 *Ozone Non-Attainment Areas in Georgia*. Letter from Georgia Department of Natural
7 Resources to U.S Environmental Protection Agency, Region 4, Atlanta, Georgia. March 12,
8 2009. Accession No. ML100601088.

9 Southern Nuclear Operating Company (Southern). 2009. *Vogtle Electric Generating Plant,*
10 *Units 3 and 4, COL Application, Part 3 Environmental Report*. Revision 1, September 23, 2009.
11 Southern Company, Birmingham, Alabama. Accession No. ML092740400.

12 Southern Nuclear Operating Company, Inc. (Southern). 2010a. Southern Nuclear Operating
13 Company, Vogtle Electric Generating Plant Units 3 and 4, Combined License Application, New
14 and Significant Information Evaluation for the transportation of backfill from an offsite source.
15 Letter ND-10-1389 dated July 16, 2010. Southern Company, Birmingham, Alabama.
16 Accession No. ML102010031.

17 Southern Nuclear Operating Company, Inc. (Southern). 2010b. Letter from Mr. Charles R.
18 Pierce, Southern Nuclear Operating Company, Inc., to NRC regarding the large component
19 transportation decision, February 19, 2010. Southern Company, Birmingham, Alabama.
20 Accession No. ML100550033.

21 Sovacool, B.K. 2008. "Valuing the Greenhouse Gas Emissions from Nuclear Power: A Critical
22 Survey." *Energy Policy* 36(2008):2940–2953.

23 U.S. Department of Energy (DOE). 2009. "Recovery and Reinvestment." Accessed January 7,
24 2010, at <http://www.energy.gov/recovery/>. Accession No. ML100601103.

25 U.S. Environmental Protection Agency (EPA). 2009a. *Air Emissions*. Accessed January 12,
26 2010, at <http://www.epa.gov/RDEE/energy-and-you/affect/air-emissions.html>.
27 Accession No. ML100600773.

28 U.S. Environmental Protection Agency (EPA). 2009b. *Global Greenhouse Gas Data*.
29 Accessed January 22, 2010, at <http://www.epa.gov/climatechange/emissions/globalghg.html>.
30 Accession No. ML100221499.

Cumulative Impacts

- 1 U.S. Environmental Protection Agency (EPA). 2009c. Emission Facts: Greenhouse Gas
2 Emissions for a Typical Passenger Vehicle. Accessed January 22, 2010 at
3 <http://www.epa.gov/OMS/climate/42f05004.htm>. Accession No. ML100600790.
- 4 U.S. Global Change Research Program (GCRP). 2009. *Global Climate Change Impacts in the*
5 *United States*. T.R. Karl, J.M. Melillo, and T.C. Peterson, eds, Cambridge University Press,
6 New York.
- 7 U.S. Nuclear Regulatory Commission (NRC). 2008. *Final Environmental Impact Statement*
8 *for an Early Site Permit (ESP) at the Vogtle Electric Generating Plant Site. Main Report*.
9 NUREG-1872, Vol. 1, Washington, D.C.
- 10 U.S. Nuclear Regulatory Commission (NRC). 2009. Memorandum and Order, Duke Energy
11 Carolinas, LLC, Combined License Application for William States Lee Nuclear Station,
12 Units 1 and 2, and Tennessee Valley Authority, Bellefonte Nuclear Power Plan, Units 3 and 4,
13 CLI-09-21, November 3, 2009. Washington, D.C. Accession No. ML093070689.
- 14 U.S. Nuclear Regulatory Commission (NRC). 2010. *Vogtle Electric Generating Plant ESP Site*
15 *Early Site Permit and Limited Work Authorization Environmental Assessment and Finding of no*
16 *Significant Impact*. Docket No. 52-011. Accession No. ML101670592
- 17

8.0 Need for Power

1

2 A discussion of the need for power from proposed Units 3 and 4 was provided in Chapter 8 of
3 the Vogtle Electric Generating Plant (VEGP) early site permit (ESP) environmental impact
4 statement (EIS) (NRC 2008). This section describes the need for power assessment for the
5 proposed units. The discussion in the ESP EIS is organized into four major subsections that
6 provide details on the power system, power demand, power supply, and the assessment of
7 need for power.

8 Southern Nuclear Operating Company, Inc. (Southern) indicated in its combined license (COL)
9 environmental report (ER) that there is no new and significant information regarding need for
10 power (Southern 2009). During its review of the COL application, the U.S. Nuclear Regulatory
11 Commission (NRC) staff performed an independent review of potential new and significant
12 information related to need for power that included reviewing Southern's ER, auditing
13 Southern's process for identifying new and significant information, examining other information
14 available at the site audit, and considering applicable regulations and reference documents
15 including the Georgia Power Company (GPC) Integrated Resource Plan (IRP) (GPC 2010)
16 which was approved by the Georgia Public Service Commission (GPSC) on July 13, 2010
17 (GPSC 2010a).

18 A certification for construction of the proposed Units 3 and 4 was approved by GPSC in March
19 2009 (GPSC 2009) and was amended in June 2010 (GPSC 2010b) with additional information
20 concerning the need for power and other issues after the original certification was remanded
21 back to the GPSC by the Fulton County Superior Court. In its June 2010 decision, GPSC
22 specifically found that:

- 23
- There will be a need for new base-load generation in Georgia during the 2016 to 2017
24 timeframe.
 - Demand side management programs do not eliminate the need for new base-load
25 generation.
26

27 A certification is issued if GPSC finds there is a need for new capacity and the resource being
28 used is economical and reliable. That GPSC has found that a need for power exists and
29 decided to issue the Certification further supports the ESP EIS's (NRC 2008) conclusion that a
30 need for power in the region of interest exists. Based on this review, the staff determined that
31 the conclusions regarding need for power presented in the ESP EIS remain valid.

1 **8.1 References**

- 2 Georgia Power Company (GPC). 2010. *Integrated Resource Plan*. Georgia Public Service
3 Commission. Docket No. 31081. Accessed March 10, 2010 at
4 <ftp://www.psc.state.ga.us/Dockets/31081/125981.zip>. Accession No. ML100760714.
- 5 Georgia Public Service Commission (GPSC). 2009. *Docket No. 27800. Georgia Power's*
6 *Application for the Certification of Units 3 and 4 at Plant Vogtle and Updated Integrated*
7 *Resource Plan. Amended Certification Order*. March 17, 2009. Accession No. ML100600818.
- 8 Georgia Public Service Commission (GPSC). 2010a. *Docket 31081. Georgia Power*
9 *Company's Application for Approval of its 2010 Integrated Resource Plan, Docket 31082.*
10 *Georgia Power Company's application for the Certification of Demand-side Management*
11 *Programs for its 2010 Integrated Resource Plan*. July 13, 2010, Atlanta, Georgia.
12 Accession No. ML101960367
- 13 Georgia Public Service Commission (GPSC). 2010b. *Docket No. 27800. Georgia Power's*
14 *Application for the Certification of Units 3 and 4 at Plant Vogtle and Updated Integrated*
15 *Resource Plan. Order on Remand*. June 17, 2010, Atlanta, Georgia.
16 Accession No. ML101960603
- 17 Southern Nuclear Operating Company (Southern). 2009. *Vogtle Electric Generating Plant,*
18 *Units 3 and 4, COL Application, Part 3 Environmental Report, Revision 1, September 23, 2009.*
19 Southern Company, Birmingham, Alabama. Accession No. ML092740400.
- 20 U.S. Nuclear Regulatory Commission (NRC). 2008. *Final Environmental Impact Statement for*
21 *an Early Site Permit (ESP) at the Vogtle Electric Generating Plant Site. Main Report.*
22 NUREG-1872, Vol. 1, Washington, D.C.

9.0 Environmental Impacts of Alternatives

The environmental impacts of alternatives to the proposed action were evaluated in Chapter 9 of the early site permit (ESP) environmental impact statement (EIS) (NRC 2008). This chapter discusses new and significant information, where applicable, concerning alternatives to the proposed action. Topics discussed are the no-action alternative (Section 9.1), energy alternatives (Section 9.2), system design alternatives (Section 9.3), Southern's region of interest (ROI) and site selection process (Section 9.4), and evaluation of alternative sites (Section 9.5).

9.1 No-Action Alternative

For purposes of a combined license (COL) application, the no-action alternative refers to a scenario in which the U.S. Nuclear Regulatory Commission (NRC) would deny Southern Nuclear Operating Company's (Southern's) application for COLs and a second limited work authorization (LWA). Upon such a denial, the construction and operation of new nuclear generating units at the Vogtle Electric Generating Plant (VEGP) ESP site in accordance with Title 10 of the Code of Federal Regulations (CFR) Part 52, including performance of the LWA construction activities requested pursuant to 10 CFR 50.10(d), would not occur. There would be no environmental impacts at the VEGP site associated with not issuing the COLs, except the impacts associated with (1) any activities not within the definition of construction at 10 CFR 51.4, (2) activities authorized by the LWA included in the ESP (NRC 2009) issued to Southern and conducted prior to the time the COLs are denied, and/or (3) activities performed under the second LWA that Southern requested in conjunction with its COL application (if the second LWA were granted by the NRC prior to denial of the COLs) and conducted prior to the time the COL requests are denied. At the same time, the benefits associated with the proposed action would not occur. If the Commission approved the COLs but denied the requested LWA, the construction activities associated with the LWA would still occur, but at a somewhat later time. In that scenario, the benefits of the LWA – for example, potentially earlier completion of construction and, accordingly, earlier commencement of power production – would not be realized.

If the COL requests (including the second LWA request) are denied, the power will still be needed as discussed in Chapter 8 of the ESP EIS (NRC 2008). As described in Section 9.2 of the ESP EIS, Southern would have a variety of options for meeting power needs including constructing a new nuclear power plant at another site, constructing a coal-fired or natural gas-fired plant at the VEGP site or at another site, and pursuing one or more of the other energy alternatives discussed in that Section. There would be environmental impacts associated with each of these options that would occur at the site of implementation.

1 **9.2 Energy Alternatives**

2 In Section 9.2 of the ESP EIS, the NRC staff evaluated alternative energy sources (NRC 2008).
3 Based on its analysis in the ESP EIS, the staff concluded in Section 9.2.5 of the ESP EIS that
4 from an environmental perspective, none of the viable energy alternatives would be clearly
5 preferable to construction of a new base-load nuclear power generation plant. The basis for this
6 conclusion is summarized in Table 9-4 in the ESP EIS (NRC 2008).

7 During its review of Southern's COL application, the NRC staff performed an independent
8 review of potential new and significant information related to energy alternatives by reviewing
9 Southern's environmental report and supporting information, responses to requests for
10 additional information (Southern 2010), auditing Southern's process for identifying new and
11 significant information, examining other information available at the site audit, and considering
12 applicable regulations and reference documents. This review identified the following new
13 information that warranted further review:

14 Georgia Power Company (GPC) expects to achieve approximately 900 MW(e) of
15 demand reduction by 2013 through the implementation of existing and new
16 demand-side management (DSM) programs. This load reduction represents
17 more than 5 percent of GPC's current load (GPC 2010). The 900 MW(e) is
18 already accounted for (partly as a load reduction and partly as a capacity
19 resource) in GPC's Integrated Resource Plan (IRP) and is therefore not available
20 to offset the need for two new nuclear generating units that would generate base-
21 load power.

22 Southern has no plans to reactivate any retired power plants in its ROI.

23 The staff determined that the new information does not have the potential to change the staff's
24 conclusion in Section 9.3.5 of the ESP EIS. The reasons for this determination are (1) the
25 additional 900 MW(e) attributable to DSM programs is accounted for in GPC's IRP (GPC 2010)
26 and is, therefore, not available to offset the need for two new nuclear generating units that
27 would generate base-load power and (2) none of Southern's retired power plants would be
28 available to offset the need for the new nuclear units.

29 In addition, as discussed in Chapters 4, 5, and 7 of this COL supplemental environmental
30 impact statement, the staff did not identify any information that would change any of the entries
31 in the nuclear column of Table 9-4 in the ESP EIS (NRC 2008). As discussed in Section 4.4.1
32 of this SEIS, although the staff's conclusion with respect to magnitude of the on-site terrestrial
33 impacts increased, the staff determined that the overall conclusion for "Ecology" in Table 9-4 of
34 the ESP EIS would still be the range of SMALL to MODERATE; thus the overall comparison of
35 impacts with other energy alternatives would not change. Accordingly, the staff affirms its

1 conclusion in Section 9.3.5 of the ESP EIS (NRC 2008) that, from an environmental
2 perspective, none of the viable energy alternatives would be clearly preferable to construction of
3 a new base-load nuclear power generation plant at the VEGP ESP site.

4 **9.3 System Design Alternatives**

5 The information and associated impacts for this section are provided and resolved in
6 Section 9.3 of the ESP EIS (NRC 2008). Once-through cooling and dry or hybrid wet/dry
7 cooling towers were evaluated by the staff as alternatives to the proposed wet cooling tower
8 design. The NRC staff concluded that none of the alternatives would be preferable to the
9 proposed wet cooling towers for proposed Units 3 and 4. For the reasons discussed in earlier
10 chapters of this supplemental environmental impact statement, the new information available
11 since completion of the ESP EIS does not significantly affect the impact on the environment of
12 the proposed cooling towers as analyzed in the ESP EIS, and the staff concludes that those
13 impacts remain SMALL. Accordingly, the staff concludes that the wet cooling tower design
14 remains preferable to the alternatives considered in the ESP EIS.

15 **9.4 Region of Interest and Alternative Site Selection Process**

16 The staff's review of Southern's ROI and site selection process was provided in Section 9.4 of
17 the ESP EIS (NRC 2008). No additional discussion of this topic is required in a supplement to
18 an ESP EIS that is prepared for a COL application (10 CFR 51.92(e)(3)).

19 **9.5 Evaluation of Alternative Sites**

20 The staff's evaluation of alternative sites was provided in Section 9.5 of the ESP EIS (NRC
21 2008). That review determined that none of the alternative sites would be environmentally
22 preferable or obviously superior to the proposed VEGP site. No additional discussion of this
23 topic is required in a supplement to an ESP EIS that is prepared for a COL application
24 [10 CFR 51.92(e)(3)].

25 **9.6 References**

26 10 CFR Part 50. Code of Federal Regulations. Title 10, Energy, Part 50, "Domestic Licensing of
27 Production and Utilization Facilities."

28 10 CFR Part 51. Code of Federal Regulations, Title 10, Energy, Part 51, "Environmental
29 Protection Regulations for Domestic Licensing and Related Regulatory Functions."

30 10 CFR Part 52. Code of Federal Regulations, Title 10, *Energy*, Part 52, "Licenses,
31 Certifications, and Approvals for Nuclear Power Plants."

Environmental Impacts of Alternatives

- 1 Georgia Power Company (GPC). 2010. *Integrated Resource Plan*. Georgia Public Service
- 2 Commission. Docket No. 31081. Accessed March 10, 2010 at
- 3 <ftp://www.psc.state.ga.us/Dockets/31081/125981.zip>. Accession No. ML100760714.

- 4 Southern Nuclear Operating Company, Inc. (Southern). 2010. *Vogtle Electric Generating Plant*
- 5 *Units 3 and 4 Combined License Application, Supporting Information for Environmental Report*
- 6 *Review*, ND-10-0526. Southern Company, Birmingham, Alabama.
- 7 Accession No. ML100750038.

- 8 U.S. Nuclear Regulatory Commission (NRC). 2008. *Final Environmental Impact Statement*
- 9 *for an Early Site Permit (ESP) at the Vogtle Electric Generating Plant Site. Main Report*.
- 10 NUREG-1872, Vol. 1, Washington, D.C.

- 11 U.S. Nuclear Regulatory Commission (NRC). 2009. *Southern Nuclear Operating Company*
- 12 *Vogtle Electric Generating Plant ESP Site, Docket No. 52-011, Early Site Permit and Limited*
- 13 *Work Authorization*. Early Site Permit No. ESP-004, Washington, D.C. Accession No.
- 14 ML0902290157.

10.0 Comparison of the Impacts of the Proposed Action and the Alternative Sites

A comparison of the proposed action at Vogtle Electric Generating Plant (VEGP) and at three alternative sites was provided in Chapter 10 of the early site permit (ESP) environmental impact statement (EIS) (NRC 2008). The U.S. Nuclear Regulatory Commission (NRC) staff concluded that none of the alternative sites was environmentally preferable or obviously superior to the proposed VEGP ESP site. As set out at Title 10 of the Code of Federal Regulations (CFR) Part 51 (10 CFR 51.92(e)(3)), no additional discussion of alternative sites is required in a supplemental EIS (SEIS) that is prepared for a combined license (COL) application referencing an ESP.

Chapter 10 of the ESP EIS also compares the proposed action with the no-action alternative, which in this SEIS refers to a scenario in which the NRC would deny Southern Nuclear Operating Company's (Southern's) application for COLs and a second limited work authorization (LWA). As described in Section 9.1 of this SEIS, if the COLs and second LWA applications were denied, the construction and operation of new nuclear generating units at the VEGP ESP site would not occur. There would be no environmental impacts at the VEGP site associated with not issuing the COLs, except the impacts associated with (1) activities conducted by Southern that are not within the definition of construction at 10 CFR 51.4, (2) activities performed under the LWA that was granted concurrently with the ESP, and conducted prior to the time the COLs were denied and/or (3) activities performed under the second LWA that Southern requested in conjunction with its COL application (if the second LWA were granted by NRC prior to denial of the COLs). Under the no-action alternative, the benefits associated with the proposed action would not occur. The power would still be needed as discussed in Chapter 8 of the ESP EIS (NRC 2008). Southern would have a variety of options for meeting power needs, as discussed in Section 9.2 of the ESP EIS. There would be environmental impacts associated with each of these options that would occur at the site of implementation.

Redress would be required for any actions performed pursuant to the first LWA and second LWA (if issued prior to denial of the COLs) in accordance with the Site Redress Plan in Appendix F of the ESP issued to Southern (NRC 2009). As discussed in Sections 4.11 and 10.4 of the ESP EIS (NRC 2008), the staff concluded that LWA activities would not result in any significant adverse impacts that could not be redressed. The NRC staff affirms this conclusion for activities conducted under the LWA granted with the ESP and any activities that would be conducted under the second LWA request if the request is granted prior to issuance of the COLs. There also would be impacts associated with activities performed by Southern that are

Comparison of the Impacts of the Proposed Action and the Alternative Sites

1 not within the definition of construction at 10 CFR 51.4. Redress for these activities would be
2 conducted according to the laws and regulations of Burke County and the State of Georgia.

3 **10.1 References**

4 10 CFR Part 51. Code of Federal Regulations, Title 10, *Energy*, Part 51, "Environmental
5 Protection Regulations for Domestic Licensing and Related Regulatory Functions."

6 U.S. Nuclear Regulatory Commission (NRC). 2008. *Final Environmental Impact Statement*
7 *for an Early Site Permit (ESP) at the Vogtle Electric Generating Plant Site. Main Report.*
8 NUREG-1872, Vol. 1, Washington, D.C.

9 U.S. Nuclear Regulatory Commission (NRC). 2009. *Southern Nuclear Operating Company*
10 *Vogtle Electric Generating Plant ESP Site, Docket No. 52-011, Early Site Permit and Limited*
11 *Work Authorization.* Early Site Permit No. ESP-004, Washington, D.C. Accession No.
12 ML092290157.

11.0 Conclusions and Recommendations

The U.S. Nuclear Regulatory Commission (NRC) staff's conclusions and recommendations for the Vogtle Electric Generating Plant (VEGP) early site permit (ESP) environmental impact statement (EIS) were provided in Chapter 11 of the ESP EIS (NRC 2008). As described in Chapter 1 of this supplemental EIS (SEIS), Southern Nuclear Operating Company, Inc. (Southern) evaluated, and the NRC staff independently reviewed, the potential new and significant information with respect to environmental impacts that could occur if combined licenses (COLs) and a second Limited Work Authorization (LWA) were issued to Southern for proposed Units 3 and 4 at the VEGP ESP site. The results of the NRC staff review are presented in Chapters 1 through 10 of this SEIS. Southern's COL application, and accompanying environmental report (ER) (Southern 2009), reference an ESP, so where appropriate, this SEIS adopts the analysis and the results of the environmental review conducted in support of the ESP application and incorporates by reference the analyses and results presented in the ESP EIS.

Mitigation measures were considered for each environmental issue and are discussed in the appropriate sections. During its environmental review, the NRC staff considered planned activities and actions that Southern indicated it and others would likely take should Southern receive two COLs and an LWA.

Impacts of the proposed action are summarized in Section 11.1. Unavoidable adverse environmental impacts, alternatives to the proposed action, the relationship between short-term uses and long-term productivity of the human environment, irreversible and irretrievable commitments of resources, benefit-cost balance, and the staff conclusions and recommendations are described in Sections 11.2 through 11.7, respectively. The references cited are listed in Sections 11.8.

11.1 Impacts of the Proposed Action

A summary of the impacts associated with issuance of the ESP and the first LWA was given in Section 11.1 of the ESP EIS (NRC 2008). This information, as supplemented by this SEIS, provides the basis for an informed decision concerning the environmental impacts of issuance of COLs and a second LWA by the NRC. In the staff's review of new and significant information for the COL review, with the exception of terrestrial ecology as described in Section 4.4.1, no new and significant information was identified that would change any of the conclusions stated in the ESP EIS.

1 **11.2 Unavoidable Adverse Environmental Impacts**

2 The NRC staff's assessment of unavoidable adverse environmental impacts during construction
3 and operation of the proposed Units 3 and 4 was provided in Section 11.2 of the ESP EIS (NRC
4 2008). That assessment explained whether adverse impacts had been identified, listed actions
5 anticipated to mitigate impacts, and noted which impacts would be unavoidable. In its COL ER
6 (Southern 2009), Southern concluded that there is no new and significant information related to
7 unavoidable adverse environmental impacts, but did note there would be an increase in the
8 permanently disturbed land area, from 131 ha (324 ac) to 153 ha (379 ac). The development of
9 additional onsite borrow areas also increased the amount of additional land disturbance
10 (Southern 2010a) from 92 ha (227 ac) to 200 ha (494 ac). These changes in land area were
11 noted and evaluated by the NRC staff in Chapter 4 of this SEIS. Development of the new
12 borrow areas also resulted in the loss or diminishment of populations of two State-listed species
13 (the Southeastern pocket gopher [*Geomys pinetis*] and the sandhills milkvetch [*Astragalus*
14 *michauxii*]). These impacts were noted and evaluated in Section 4.4 of this SEIS.

15 While these land use and terrestrial resource impacts would be adverse and unavoidable, the
16 staff's review identified actions to mitigate these impacts. These mitigating actions are
17 consistent with those described in Section 11.2 of the ESP EIS, and include compliance with the
18 requirements of applicable Federal, State, Tribal, and local permits, and observance of best
19 management practices. With respect to the impacts to the State-listed species, the staff's
20 analysis in Section 4.4.1 of this SEIS also describes Southern's efforts to relocate the onsite
21 populations of these species and to replant the disturbed areas with longleaf pine, if possible.
22 These developments do not alter the staff's conclusions in Section 11.2 of the ESP EIS, and in
23 the staff's review of new and significant information, as described throughout this SEIS, no other
24 information was identified that would change the conclusions stated in Section 11.2 of the ESP
25 EIS regarding unavoidable adverse environmental impacts.

26 If the second LWA requested by Southern were granted by NRC and the COLs subsequently
27 denied, there would be some environmental impacts at the VEGP site from the conduct of those
28 activities. However, the staff concluded in Chapter 10 of this SEIS that any such impacts
29 related to NRC authorized activities could be adequately redressed.

30 **11.3 Alternatives to the Proposed Action**

31 The proposed action for this SEIS is identified in Section 1.2. A summary of the alternatives to
32 the proposed action at the ESP stage was presented in Section 11.3 of the ESP EIS (NRC
33 2008). Alternatives to the proposed action discussed in this SEIS are the no-action alternative,
34 energy alternatives, and system design alternatives. As described in Sections 9.2 and 9.3 of
35 this SEIS, no new and significant information was identified in the areas of energy alternatives

1 or system design alternatives. Therefore, the staff determines that the conclusions regarding
2 these alternatives in the ESP EIS remain valid.

3 The no-action alternative is discussed in Section 9.1 of this SEIS. Under the no-action
4 alternative, the NRC would not issue the COLs or second LWA to Southern. There would be no
5 environmental impacts associated with not issuing the COLs, except the impacts associated
6 with activities not within the definition of construction at 10 CFR 50.10(a) and 10 CFR 51.4 and
7 any activities performed under an LWA prior to the time the COLs were denied. At the same
8 time, the benefits associated with the proposed action would not occur. If the COL application is
9 denied, the power would still be needed as discussed in Chapter 8 of this SEIS. Southern
10 would have a variety of options for meeting power needs, including constructing a new nuclear
11 power plant at another site, constructing a coal- or natural-gas-fired plant at the VEGP site or at
12 another site, and pursuing one or more of the energy alternatives discussed in Sections 9.2.1
13 and 9.2.2 of the ESP EIS. There would be environmental impacts associated with each of these
14 options that would occur at the site of implementation. For reasons explained in Chapter 9 of
15 the ESP EIS, however, the options evaluated in Sections 9.2.1 and 9.2.3 were determined not
16 to be reasonable alternatives to providing new baseload power generation capacity.

17 **11.4 Relationship Between Short-Term Uses and Long-Term** 18 **Productivity of the Human Environment**

19 The staff's review of the relationship between local short-term uses of the environment and the
20 long-term productivity of the environment for the ESP and first LWA application was provided in
21 Section 11.4 of the ESP EIS (NRC 2008). As stated in the ESP EIS, the evaluation of the
22 relationship between local short-term uses of the environment and the maintenance and
23 enhancement of long-term productivity for the construction and operation of proposed COL units
24 can be performed by discussing the benefits of operating the units. The principal benefit is the
25 production of electricity. The analysis of the benefit-cost balance was presented in Section 11.6
26 of the ESP EIS. If new nuclear power plants are constructed on the VEGP site, power
27 production would continue until the COLs expire or the licensee chooses to cease operation.
28 Once the plants are shut down, they would be decommissioned according to NRC regulations.
29 Once decommissioning is complete and the NRC license is terminated, the site would be
30 available for other uses.

31 In its COL ER (Southern 2009), Southern indicated that it had identified no new and significant
32 information relative to this topic. In the NRC staff's review of new and significant information for
33 the COL review, no information was identified that would change the conclusions in the ESP
34 EIS, for the proposed action identified in Section 1.2 of this SEIS, regarding short-term uses and
35 long-term productivity.

1 **11.5 Irreversible and Irretrievable Commitments of Resources**

2 The NRC staff's review of the irreversible and irretrievable commitments of resources
3 associated with the proposed action at the ESP stage was provided in Section 11.5 of the ESP
4 EIS (NRC 2008). As stated in the ESP EIS, irretrievable commitments of resources during
5 construction of the proposed new units generally would be similar to that of any major
6 construction project. The staff expects that the use of construction materials in the quantities
7 associated with those expected for proposed Units 3 and 4, while irretrievable, would be of
8 small consequence with respect to the availability of such resources. Likewise, as stated in the
9 ESP EIS, the main resource that would be irretrievably committed during operation of the new
10 nuclear units would be uranium, but the availability of uranium ore and existing stockpiles of
11 highly enriched uranium in the United States and Russia that could be processed into fuel is
12 sufficient, so that the irreversible and irretrievable commitment would be of small consequence.

13 In its COL ER (Southern 2009), Southern indicated that there is no new and significant
14 information relative to the irreversible and irretrievable commitment of resources related to its
15 request for COLs and a second LWA. In the NRC staff's independent evaluation and review of
16 the COL ER and Southern's process for identifying new and significant information, and
17 supplemental information provided by Southern (Southern 2010b), no new and significant
18 information was identified that would change the conclusions identified in the ESP EIS regarding
19 irreversible and irretrievable commitments of resources.

20 **11.6 Benefit-Cost Balance**

21 A benefit-cost balance discussion is provided in Section 11.6 of the ESP EIS (NRC 2008).
22 Southern indicated in its COL ER (Southern 2009) that there is no new and significant
23 information regarding benefits and costs related to the proposed Units 3 and 4. During its
24 review of the COL application, the NRC staff independently reviewed Southern's ER, audited
25 Southern's process for identifying new and significant information, examined other information
26 available at the site audit, considered applicable regulations and reference documents, and
27 contacted county officials. In doing so, the NRC staff identified new information in the areas of
28 project benefits and ecological costs that warranted further analysis in the SEIS.

29 In March 2009 the Georgia Public Service Commission (GPSC) issued a certification to
30 Southern for construction of the proposed Units 3 and 4 (GPSC 2009). This certification was
31 amended in June 2010 (GPSC 2010) after being remanded back the GPSC by the Fulton
32 County Superior Court. The amended certification (GPSC 2010) further substantiates the
33 conclusions in the ESP EIS concerning the benefits of the proposed action, especially
34 concerning price stability and fuel diversity in Georgia. Specifically, the GPSC found in its June
35 2010 decision that:

- 1 • Fuel diversity is necessary to protect ratepayers from fuel cost and environmental cost risks.
- 2 • The addition of base-load nuclear generation will preserve the diversity of fuel sources
- 3 necessary to assure reliable and economical supply of electric power and energy for the
- 4 Georgia retail consumers of GPSC.
- 5 • The fuel cost savings likely to result from adding nuclear base-load capacity offer substantial
- 6 assurance of reliable and economical supply of power and energy to GPSC's Georgia retail
- 7 consumers.

8 As described in Section 4.4.1 of this SEIS, the development of additional on-site borrow sources
9 that were not considered in the ESP EIS resulted in the loss or diminishment of populations of
10 two species that are listed as State-threatened by the Georgia Department of Natural
11 Resources. However, although the staff's conclusion with respect to the magnitude of the on-
12 site terrestrial impacts increased, the staff determined that the overall conclusion for "Ecology"
13 in Table 11-3 of the ESP EIS would continue to be the range of SMALL to MODERATE. The
14 staff did not identify any other new information in the areas of project benefits and
15 environmental costs that has the potential to affect its conclusions in the EIS with respect to the
16 cost-benefit analysis.

17 Southern has requested a second LWA along with two COLs. The second LWA would allow
18 Southern to perform certain construction activities before the COLs are issued. The economic
19 and environmental costs associated with the second LWA would be a small fraction of the
20 overall costs of construction and operating the proposed facility. The primary benefit from
21 authorizing the LWA activities in the second LWA request in advance of issuing the COLs is that
22 it would enable Southern to maintain the overall project schedule of construction and operation-
23 need dates, thereby decreasing the chance for cost overruns.

24 Based on this review, including consideration of the benefits and costs of the construction
25 activities requested in the second LWA, the staff determined that the assessment of costs and
26 benefits presented in the ESP EIS remains valid. The potential societal benefits to the local
27 economy and the electricity generated appear to be larger in comparison to the overall external
28 socio-environmental costs, including the increase in terrestrial ecology impact. Consequently,
29 the staff continues to conclude that the construction and operation of the proposed Units 3 and
30 4, with mitigation measures identified by the staff, would have accrued benefits that most likely
31 would outweigh the economic, environmental, and social costs associated with constructing and
32 operating two new units at the VEGP site.

33 **11.7 Staff Conclusions and Recommendations**

34 The NRC staff's preliminary recommendation to the Commission related to the environmental
35 aspects of the proposed action is that the COLs and the LWA be issued. The staff's evaluation

Conclusions and Recommendations

1 of the safety and security aspects of the proposed action will be addressed in the staff's Safety
2 Evaluation Report. This preliminary recommendation is based on (1) Southern's COL ER
3 (Southern 2009) and responses to staff requests for additional information; (2) the staff's review
4 conducted for the ESP application (Southern 2008) and the assessment documented in the
5 ESP EIS (NRC 2008); (3) consultation with Federal, State, and Tribal agencies; (4) the staff's
6 own independent review of potential new and significant information available since preparation
7 and publication of the ESP EIS; and (6) the assessments summarized in this SEIS, including the
8 potential mitigation measures identified. Finally, the staff concludes that the requested LWA
9 construction activities defined at 10 CFR 50.10(a) and described in the site redress plan would
10 not result in any significant adverse environmental impacts that cannot be redressed.

11 **11.8 References**

- 12 10 CFR Part 50. Code of Federal Regulations, Title 10, *Energy*, Part 50, "Domestic Licensing of
13 Production and Utilization Facilities."
- 14 10 CFR Part 51. Code of Federal Regulations, Title 10, *Energy*, Part 51, "Environmental
15 Protection Regulations for Domestic Licensing and Related Regulatory Functions."
- 16 Georgia Public Service Commission (GPSC). 2009. *Docket No. 27800. Georgia Power's*
17 *Application for the Certification of Units 3 and 4 at Plant Vogtle and Updated Integrated*
18 *Resource Plan. Amended Certification Order.* March 17, 2009. Accession No. ML100600818.
- 19 Georgia Public Service Commission (GPSC). 2010. *Docket No. 27800. Georgia Power's*
20 *Application for the Certification of Units 3 and 4 at Plant Vogtle and Updated Integrated*
21 *Resource Plan. Order on Remand.* June 17, 2010. Accession No. ML101960603
- 22 Southern Nuclear Operating Company (Southern). 2008. *Vogtle Early Site Permit Application.*
23 *Part 3: Environmental Report. Revision 4.* Southern Company, Birmingham, Alabama.
24 Package Accession No. ML081020073.
- 25 Southern Nuclear Operating Company (Southern). 2009. *Vogtle Electric Generating Plant,*
26 *Units 3 and 4, COL Application, Part 3 Environmental Report, Revision 1,* September 23, 2009.
27 Southern Company, Birmingham, Alabama. Accession No. ML092740400.
- 28 Southern Nuclear Operating Company (Southern). 2010a. Southern Nuclear Operating
29 Company, Vogtle Electric Generating Plant Units 3 and 4, Early Site Permit Site Safety Analysis
30 Report Amendment Request, Revised Site Safety Analysis Report Markup for Onsite Sources of
31 Backfill, Part 2. Letter ND-10-1005 dated May 24, 2010. Birmingham, Alabama. Accession No.
32 ML101470212.

- 1 Southern Nuclear Operating Company (Southern). 2010b. Southern Nuclear Operating
- 2 Company Vogtle Electric Generating Plant Units 3 and 4 Combined License Application,
- 3 Response to Request for Additional Information Letter on Environmental Issues. January 8,
- 4 2010. Southern Company, Birmingham, Alabama. Accession No. ML100120479.

- 5 U.S. Nuclear Regulatory Commission (NRC). 2008. *Final Environmental Impact Statement*
- 6 *for an Early Site Permit (ESP) at the Vogtle Electric Generating Plant Site. Main Report.*
- 7 NUREG-1872, Vol. 1, Washington, D.C.

Appendix A

Contributors to the Environmental Impact Statement

Appendix A

Contributors to the Environmental Impact Statement

1 The overall responsibility for the preparation of this supplemental environmental impact
 2 statement was assigned to the Office of New Reactors, U.S. Nuclear Regulatory Commission
 3 (NRC). The statement was prepared by members of the Office of New Reactors with
 4 assistance from other NRC organizations and the Pacific Northwest National Laboratory.
 5

Name	Affiliation	Function or Expertise
NUCLEAR REGULATORY COMMISSION		
Mallecia Sutton	Office of New Reactors	Environmental Project Manager
Mark Notich	Office of New Reactors	Co-Environmental Project Manager
Gregory Hatchett	Office of New Reactors	Branch Chief
Steve Shaffer	Office of New Reactors	Radiological Health
Jill Caverly	Office of New Reactors	Hydrology
Daniel Mussatti	Office of New Reactors	Socioeconomics, Environmental Justice, Cost-Benefit Balance, Need for Power
Nancy Kuntzleman	Office of New Reactors	Terrestrial/ Aquatic Ecology
Jennifer Davis	Office of Federal State Materials and Environmental Management Programs	Cultural Resources
John Fringer	Office of New Reactors	Land Use, Transmission Lines, Alternatives, Nonradiological Health
Michelle Hart	Office of New Reactors	Design Basis and Severe Accidents
Brad Harvey	Office of New Reactors	Meteorology and Air Quality
Norma Garcia-Santos	Office of Nuclear Material Safety and Safeguards	Transportation
Lucieann Vechioli	Office of Nuclear Material Safety and Safeguards	Transportation
Stan Echols	Office of Nuclear Material Safety and Safeguards	Fuel Cycle
James Shephard	Office of Federal, State, Environmental Management	Decommissioning
PACIFIC NORTHWEST NATIONAL LABORATORY^(a)		
Michael Sackschewsky		Task Leader
Kimberly Leigh		Deputy Task Leader
Amanda Stegen		Terrestrial Ecology
Michael Smith		Radiological and Nonradiological Health, Decommissioning
Jeremy Rishel		Meteorology and Air Quality

Appendix A

Name	Affiliation	Function or Expertise
PACIFIC NORTHWEST NATIONAL LABORATORY^(a) (continued)		
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Rebekah Krieg		Aquatic Ecology
Beverly Miller		Aquatic Ecology
Paul Hendrickson		Energy and Site Alternatives, Land Use
Daniel Strom		Radiological and Nonradiological Health, Decommissioning
James V. Ramsdell, Jr.		Meteorology and Air Quality, Design Basis and Severe Accidents, Nonradiological Health
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Cornelia Brim		Technical Editing
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Donna Austin-Workman		Graphics
Rose Zanders		Graphics

(a) Pacific Northwest National Laboratory is operated by Battelle for the U.S. Department of Energy.

Appendix B

Organizations Contacted



Appendix B

Organizations Contacted

1 This appendix lists the Federal, State, regional, Tribal, and local organizations that were
2 contacted during the course of the U.S. Nuclear Regulatory Commission staff's independent
3 review of new and significant information potential environmental impacts from the construction
4 and operation of new nuclear units at the Vogtle Electric Generating Plant in Burke County,
5 Georgia. See Appendix B of the early site permit (ESP) environmental impact statement, dated
6 August 2008, for a listing of organizations contacted during the ESP review (NRC 2008).

7 Absentee-Shawnee Tribe of Oklahoma, Shawnee, Oklahoma

8 Advisory Council on Historic Preservation, Washington, D.C.

9 Alabama-Coushatta Tribe of Texas, Livingston, Texas

10 Alabama-Quassarte Tribal Town, Wetumka, Oklahoma

11 Catawba Indian Tribe, Catawba, South Carolina

12 Cherokee Nation of Oklahoma, Tahlequah, Oklahoma

13 Chickasaw Nation of Oklahoma, Ada, Oklahoma

14 Coushatta Tribe of Louisiana, Elton, Louisiana

15 Burke County Board of Commissioners, Waynesboro, Georgia

16 Eastern Band of Cherokee Indians, Cherokee, North Carolina

17 Georgia Department of Natural Resources, Atlanta, Georgia

18 Georgia Department of Natural Resources, Social Circle, Georgia

19 Georgia Tribe of Eastern Cherokee, Clayton, Georgia

20 Kialegee Tribal Town, Wetumka, Oklahoma

21 Miccosukee Tribe of Indians of Florida, Miami, Florida

Appendix B

- 1 Mississippi Band of Choctaw Indians, Choctaw, Mississippi
- 2 Muscogee (Creek) Nation of Oklahoma, Okmulgee, Oklahoma
- 3 Poarch Band of Creek Indians, Atmore, Alabama
- 4 Seminole Nation of Oklahoma, Wewoka, Oklahoma
- 5 South Carolina Department of Natural Resources, Columbia, South Carolina
- 6 Seminole Tribe of Florida, Clewiston, Florida
- 7 Thlopthlocco Tribal Town, Okemah, Oklahoma
- 8 United Keetoowah Band of Cherokee Indians, Tahlequah, Oklahoma
- 9 U.S. Army Corps of Engineers, Savannah, Georgia
- 10 U.S. Fish and Wildlife Service, Brunswick, Georgia
- 11 U.S. National Marine Fisheries Service, Southeast Regional Office, St. Petersburg, Florida

12 **B.1 Reference**

- 13 U.S. Nuclear Regulatory Commission (NRC). 2008. Final Environmental Impact Statement for
- 14 an Early Site Permit (ESP) at the Vogtle Electric Generating Plant Site. NUREG-1872, Vol. 2,
- 15 Washington, D.C.

Appendix C

**Chronology of U.S. Nuclear Regulatory Commission
Staff Environmental Review Correspondence Related
to the Southern Nuclear Operating Company, Inc.,
Application for a Combined License for Units 3 and 4
at the Vogtle Electric Generating Plant**

Appendix C

Chronology of U.S. Nuclear Regulatory Commission Staff Environmental Review Correspondence Related to the Southern Nuclear Operating Company, Inc., Application for a Combined License for Units 3 and 4 at the Vogtle Electric Generating Plant

1 This appendix contains a chronological listing of correspondence between the U.S. Nuclear
2 Regulatory Commission (NRC) and Southern Nuclear Operating Company, Inc. (Southern), and
3 other correspondence related to the NRC staff's environmental review of Southern's combined
4 license (COL) application for two AP1000 reactors at the Vogtle Electric Generating Plant
5 (VEGP). Correspondence information pertinent to the early site permit (ESP) review of Units 3
6 and 4 can be found in Appendix C of the ESP environmental impact statement dated August
7 2008. All documents, with the exception of those containing proprietary or sensitive information,
8 have been placed in the Commission's Public Document Room, at One White Flint North,
9 11555 Rockville Pike (first floor), Rockville, Maryland. Such documents are also available
10 electronically from the Public Electronic Reading Room found on the Internet at the following
11 Web address: <<http://www.nrc.gov/reading-rm.html>>. From this site, the public can gain access
12 to the NRC's Agencywide Documents Access and Management System (ADAMS), which
13 provides text and image files of NRC's public documents in the publicly available records
14 component of ADAMS. The ADAMS accession number for each document is included below:

15	May 5, 2008	<i>Federal Register</i> Notice of Receipt and Availability of Application for a
16		Combined License (Accession No. ML081780052)
17	May 30, 2008	Letter from Mr. J.A. "Buzz" Miller, Sr. Vice President, Nuclear
18		Development, Southern Nuclear Operating Company, regarding the
19		Acceptance Review for the Vogtle Electric Generating Plant Units 3 and 4
20		Combined License Application (Accession No. ML081480138)
21	June 11, 2008	<i>Federal Register</i> Notice regarding Acceptance for Docketing of an
22		Application for Combined License for Vogtle Electric Generation Plant
23		Units 3 and 4 (Accession No. ML081770650)

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1 July 2, 2008 Note to File: Public Outreach Meeting on the Vogtle Electric Generating
2 Plant Units 3 and 4 Combined License Application (Accession
3 No. ML081850263)

4 July 9, 2008 Letter from NRC to Ms. Gwen Jackson, Burke County Library, regarding
5 Application by Southern Nuclear Operating Company for a Combined
6 License for Units 3 and 4 at the Vogtle Electric Generating Plant
7 (Accession No. ML081780805)

8 July 16, 2008 Letter from NRC to Mr. J.A. "Buzz" Miller, Southern Nuclear Operating
9 Company, regarding the Notice of Intent to Prepare a Supplement to the
10 Environmental Impact Statement in Relation to the Combined License
11 Application for the Vogtle Electric Generating Plant (Accession
12 No. ML081500677)

13 August 8, 2008 Letter from NRC to the U.S. Environmental Protection Agency, regarding
14 the Final Environmental Impact Statement for an Early Site Permit at the
15 Vogtle Electric Generating Plant Site (Accession No. ML081910396)

16 August 11, 2008 Note to File: Summary of Public Outreach Meeting to Discuss the Review
17 of the Vogtle Combined License Application (Accession
18 No. ML082190977)

19 October 14, 2008 Trip Report – August 11 through August 12, 2008, VEGP, Units 3 and 4,
20 COL Site Audit (Accession No. ML082620184)

21 September 21, 2009 Note to File: Audit Execution Plan for New and Significant Information
22 Audit and Plant Vogtle Combined License Supplement Environmental
23 Impact Statement (Accession No. ML092600338)

24 September 23, 2009 Letter from Mr. Charles R. Pierce, Southern Nuclear Operating Company,
25 to NRC, regarding Revision 1 to the Environmental Report for Vogtle
26 Electric Generating Plant Units 3 and 4 Combined License Application
27 Package (Accession No. ML092740396)

28 September 28, 2009 *Federal Register* Notice of Intent to Prepare a Supplemental
29 Environmental Impact Statement (Accession No. ML092650823)

30 October 2, 2009 Letter from Mr. Michael K. Smith, Southern Nuclear Operating Company,
31 to NRC, regarding Revision 1 to Part 6, Limited Work Authorization
32 Request for the Vogtle Electric Generating Plant Units 3 and 4 Combined
33 License Application (Accession No. ML092960549)

Appendix C

- 1 December 10, 2009 Letter from NRC to Mr. John Zachary, Attorney-at-Law, c/o Coushatta
2 Tribe of Louisiana, initiating Consultation to the Tribes for Vogtle COLA
3 (Accession No. ML092730292)
- 4 December 10, 2009 Letter from NRC to Ms. Evelyn Bucktrot, Town King, Kialegee Tribal
5 Town, initiating Consultation to the Tribes for Vogtle COLA (Accession
6 No. ML092740388)
- 7 December 10, 2009 Letter from NRC to Mr. Steven Terry, Land Resource Manager,
8 Miccosukee Tribe of Indians of Florida, initiating Consultation to the
9 Tribes for Vogtle COLA (Accession No. ML092740375)
- 10 December 10, 2009 Letter from NRC to Ms. Gale Thrower, NAGPRA Contact, Poarch Band of
11 Creek Indians, initiating Consultation to the Tribes for Vogtle COLA
12 (Accession No. ML092710241)
- 13 December 10, 2009 Letter from NRC to Mr. Louis McGertt, Town King, Thlopthlocco Tribal
14 Town initiating, Consultation to the Tribes for Vogtle COLA (Accession
15 No. ML092740554)
- 16 December 10, 2009 Letter from NRC to Mr. A. D. Ellis, Principal Chief, Muscogee (Creek)
17 Nation, initiating Consultation to the Tribes for Vogtle COLA (Accession
18 No. ML092730350)
- 19 December 10, 2009 Letter from NRC to Mr. Richard L. Allen, NAGPRA Contact, Cherokee
20 Nation of Oklahoma, initiating Consultation to the Tribes for Vogtle COLA
21 (Accession No. ML092730092)
- 22 December 10, 2009 Letter from NRC to Ms. Gingy Nail, NAGPRA Contact, Chickasaw Nation,
23 initiating Consultation to the Tribes for Vogtle COLA (Accession
24 No. ML092730177)
- 25 December 10, 2009 Letter from NRC to Mr. Bill Anoatubby, Governor, Chickasaw Nation of
26 Oklahoma, initiating Consultation to the Tribes for Vogtle COLA
27 (Accession No. ML092730147)
- 28 December 10, 2009 Letter from NRC to Mr. Charles Thurmond, NAGPRA Contact, Georgia
29 Tribe of Eastern Cherokee, initiating Consultation to the Tribes for Vogtle
30 COLA (Accession No. ML092730371)

- 1 December 10, 2009 Letter from NRC to Mr. Tarpie Yargee, Alabama-Quassarte Tribal Town,
2 initiating Consultation to the Tribes for Vogtle COLA (Accession
3 No. ML092730274)
- 4 December 10, 2009 Letter from NRC to Mr. Pare Bowlegs, Seminole Nation of Oklahoma,
5 initiating Consultation to the Tribes for Vogtle COLA (Accession
6 No. ML092930629)
- 7 December 10, 2009 Letter from NRC to Mr. Mitchell Hicks, Principal Chief, Eastern Band of
8 Cherokee Indians, initiating Consultation to the Tribes for Vogtle COLA
9 (Accession No. ML092940250)
- 10 December 10, 2009 Letter from NRC to Mr. Dallas Proctor, Chief, United Keetoowah Band of
11 Cherokee Indians, initiating Consultation to the Tribes for Vogtle COLA
12 (Accession No. ML092740393)
- 13 December 10, 2009 Letter from NRC to Ms. Karen Kaniatobe, Director of the Cultural/
14 Historical Preservation Department, initiating Consultation to the Tribes
15 for Vogtle COLA (Accession No. ML092730283)
- 16 December 10, 2009 Letter from NRC to Ms. Debbie Thomas, Tribal Historic Preservation
17 Officer, NAGPRA Coordinator, Alabama- Coushatta Tribe of Texas,
18 initiating Consultation to the Tribes for Vogtle COLA (Accession
19 No. ML092730252)
- 20 December 10, 2009 Letter from NRC to Mrs. Joyce Bear, NAGPRA Contact, Muscogee
21 (Creek) Nation of Oklahoma, initiating Consultation to the Tribes for
22 Vogtle COLA (Accession No. ML092920490)
- 23 December 10, 2009 Letter from NRC to Mr. Chadwick Smith, Principal Chief, Cherokee Nation
24 of Oklahoma, initiating Consultation to the Tribes for Vogtle COLA
25 (Accession No. ML092730059)
- 26 December 10, 2009 Letter from NRC to Mr. Gilbert Blue, Chairperson, Catawba Indian Tribe,
27 initiating Consultation to the Tribes for Vogtle COLA (Accession
28 No. ML092730321)
- 29 December 10, 2009 Letter from NRC to Mr. Willard Steele, Deputy THPO, Seminole Tribe of
30 Florida, initiating Consultation to the Tribes for Vogtle COLA (Accession
31 No. ML092920488)

Appendix C

- 1 December 10, 2009 Letter from NRC to Mr. Kenneth Carleton, THPO/ Tribal Archaeologist,
2 Mississippi Band of Choctaw Indians, initiating Consultation to the Tribes
3 for Vogtle COLA (Accession No. ML092730208)
- 4 December 15, 2009 E-mail from Ms. Julie Holling, South Carolina Department of Natural
5 Resources, to NRC, regarding South Carolina State Threatened and
6 Endangered Species in the Vicinity of Vogtle Electric Generating Plant
7 (Accession No. ML093491132)
- 8 December 15, 2009 E-mail from NRC to Mr. Matt Elliot, Georgia Department of Natural
9 Resources, regarding updated Georgia state-listed species information
10 (Accession No. ML093491138)
- 11 December 16, 2009 E-mail from Mr. Matt Elliot, Georgia Department of Natural Resources, to
12 NRC, regarding GDNR email Vogtle COL (Accession No. ML093500211)
- 13 December 17, 2009 Letter from Ms. Katrina Morris, Georgia Department of Natural
14 Resources, to NRC, regarding known occurrences of natural
15 communities, plants and animals of highest priority conversation status on
16 or near Vogtle COL ,Burke County, Georgia (Accession No.
17 ML100490042)
- 18 December 23, 2009 Letter to Mr. Don Klima, Office of Federal Agency Programs, Advisory
19 Council on Historic Preservation, regarding Request for Information on
20 Historic Properties within the Area Under Evaluation for the VEGP,
21 Units 3 and 4 COL (Accession No. ML092600785)
- 22 December 23, 2009 Summary of Teleconference Held with Southern Nuclear Operating
23 Company regarding Vogtle Electric Generating Plant Site for a COL
24 (Accession No. ML093410022)
- 25 January 7, 2010 Letter from NRC to Ms. Sandra S. Tucker, Field Supervisor, U.S Fish and
26 Wildlife Service Coastal Sub Office, regarding Request for List of
27 Protected Species (Accession No. ML092600684)
- 28 January 7, 2010 Letter from NRC to Mr. Donald Rodgers, Catawba Indian Nation,
29 regarding the U.S. Nuclear Regulatory Commission's Supplemental
30 Environmental Impact Statement for Southern Nuclear Operating
31 Company's Combined License Application for the Proposed Construction
32 and Operation of Units 3 and 4 at the Vogtle Electric Generating Plant in
33 Waynesboro, Georgia (Accession No. ML100060777)

1 January 8, 2010 Letter from Mr. Charles R. Pierce, Southern Nuclear Operating Company,
2 to NRC, regarding the Response to Request for Additional Information
3 Letter on Environmental Issues (Accession No. ML100120479)

4 January 20, 2010 Letter from David Crass, Georgia Department of natural Resources,
5 Historic Preservation Division, to Mr. Thomas Moorer, Southern Nuclear
6 Operating Company, Memorandum of Understanding – Archaeological
7 Site 9BK416 Vogtle Electric Generating Plant Expansion, Burke County,
8 Georgia, HP-060428-001 (Accession No. ML100500302)

9 January 28, 2010 Letter from NRC to Mr. J.A. "Buzz" Miller, Southern Nuclear Operating
10 Company, regarding Issuance of the Environmental Review Schedule for
11 the Combined License Application Review for Vogtle Electric Generating
12 Plant, Units 3 and 4 (Accession No. ML092630002)

13 January 29, 2010 Letter from Mr. J.A. "Buzz" Miller, Southern Nuclear Operating Company,
14 to NRC, regarding Replacement DVD for Letter ND-09-1673 (10/15/09)
15 (Accession No. ML100300006)

16 February 4, 2010 Letter from NRC to Mr. J.A. "Buzz" Miller, Southern Nuclear Operating
17 Company, regarding Request for Additional Information Regarding the
18 Environmental Review of the Limited Work Authorization for the Vogtle
19 Electric Generating Plant, Units 3 and 4 (Accession No. ML100280034)

20 February 5, 2010 Letter from Mr. Charles R. Pierce, Southern Nuclear Operating Company,
21 to NRC, regarding the Environmental Report to Support Revision 1 to
22 Part 6, Limited Work Authorization Request, of the Vogtle Electric
23 Generating Plant Units 3 and 4 Combined License Application (Accession
24 No. ML100470600)

25 February 19, 2010 Letter from Mr. Charles R. Pierce, Southern Nuclear Operating Company,
26 to NRC, regarding the Large Component Transportation Decision.
27 (Accession No. ML100550033)

28 March 1, 2010 Note to File, Discussion with the U.S. Army Corps of Engineers,
29 Savannah District, concerning their participation in the development of the
30 supplemental environmental impact statement for the combined operating
31 license for the Vogtle Electric Generating Plant, Units 3 and 4 (Accession
32 No. ML100570038)

Appendix C

1 March 11, 2010 Letter from Mr. Brian L. (Pete) Ivey, Southern Nuclear Operating
2 Company, to NRC, regarding Supplement to Environmental Report in
3 Support of Revision 1 to Part 6, LWA Request (Accession No.
4 ML100750657)

5 March 12, 2010 Letter from Mr. Michael K. Smith, Southern Nuclear Operating Company,
6 to NRC, regarding Vogtle Electric Generating Plant Units 3 and 4
7 Combined License Application Supporting Information for Environmental
8 Report Review (Accession No. ML100750038)

9 April 6, 2010 Memorandum regarding Summary of the Environmental Site Audit
10 Related to the Review of the Combined License Application for Vogtle
11 Electric Generating Plant Site (Package Accession No. ML093631157)

12 April 21, 2010 Summary of Environmental New and Significant Site Audit Related to the
13 Review of the Combined License Application for Vogtle Electric
14 Generating Plant Site (Package Accession No. ML093631125)

15 April 28, 2010 Summary of Meeting to Discuss Southern Nuclear Operating Company's
16 Plans for Potential License Amendments Regarding Safety-Related
17 Backfill for its Early Site Permit for the Vogtle Site (Accession No.
18 ML101160362)

19 May 10, 2010 Summary of Meeting with Southern Nuclear Operating Company to
20 Discuss Plans to Request Exemption from Requirements of 10 CFR 50,
21 Section 10(d) for its Combined License Application for the Vogtle Electric
22 Generating Plant Proposed Units 3 and 4 (Accession No. ML101250259)

23 May 10, 2010 Letter from Mr. B.L. (Pete) Ivey, Southern Nuclear Operating Company, to
24 NRC, regarding Post New and Significant Audit Support Information
25 (Accession No. ML101310333)

26 May 18, 2010 Letter from NRC to Mr. J.A. "Buzz" Miller, Southern Nuclear Operating
27 Company, regarding Revision of the Environmental Review Schedule for
28 the Combined License Application Review for Vogtle Electric Generating
29 Plant, Units 3 and 4 (Accession No. ML101330353)

30 June 16, 2010 Memorandum regarding the Site Audit Summary Concerning
31 Environmental Impacts Associated with Acquisition of Additional Backfill
32 Material for the Vogtle Electric Generating Plant Site Combined License
33 Application Review (Package Accession No. ML101550095)

1 June 17, 2010 Summary of Teleconference Calls Held with the Georgia Department of
2 Natural Resources for the Vogtle Electric Generating Plant, Units 3 and 4
3 Onsite Backfill Amendment (Accession No. ML101670079)

4 June 18, 2010 E-mail from Ms. Elizabeth Shirk, Georgia Department of Natural
5 Resources, Historic Preservation Division, to NRC, regarding Vogtle
6 Electric Generating Plant, Burke County, Georgia, Units 3 and 4
7 Supplement (Accession No. ML101940268)

8 July 14, 2010 Summary of the teleconference held with Southern Nuclear Operating
9 Company regarding the Vogtle Electric Generating Plant, Units 3 and 4
10 Combined License Application. (Accession No. ML 100620862)

11 July 16, 2010 Letter from Charles R. Pierce, SNC to NRC, Subject: New and Significant
12 information evaluation for the transportation of backfill from an offsite
13 source. Letter ND-10-1389. (Accession No. ML102010031)

14 August 3, 2010 Letter from NRC to Mr. J.A. "Buzz" Miller, Southern Nuclear Operating
15 Company, regarding Revision of the Environmental Review Schedule for
16 the Combined License Application Review for Vogtle Electric Generating
17 Plant, Units 3 and 4 (Accession No. ML012100311)

18



Appendix D

Scoping Comments and Responses

Appendix D

Scoping Comments and Responses

1 Appendix D of the Vogtle Electric Generating Plant (VEGP) early site permit (ESP)
2 environmental impact statement (EIS) details the scoping comments received under that review
3 process. The ESP was granted in August 2009. The combined operating license (COL)
4 application, revision 0, was submitted in March 2008, while revision 1 of the COL application
5 was submitted on September 23, 2009. In accordance with 10 CFR Part 51.26, the
6 U.S. Nuclear Regulatory Commission staff published a Notice of Intent to prepare an
7 environmental impact statement related to the VEGP in the *Federal Register* on September 28,
8 2009. Furthermore, 10 CFR 51.26(d) states that scoping is not required for a supplement to an
9 EIS prepared for a COL application that references an ESP. Therefore, no formal scoping
10 comment period occurred. A public outreach meeting was held on July 17, 2008. A summary
11 of that meeting can be found at Accession No. ML082190977.

12

Appendix E

Comments and Responses on the Draft Supplemental Environmental Impact Statement

Appendix E

Comments and Responses on the Draft Supplemental Environmental Impact Statement

1 This appendix was intentionally left blank in the draft supplemental environmental impact
2 statement (SEIS). In the final SEIS, Appendix E will include written comments and responses
3 received on the draft SEIS.



Appendix F

Key Consultation Correspondence

Appendix F

Key Consultation Correspondence

Key consultation correspondence during the evaluation process of the combined license application for Units 3 and 4 at the Vogtle Electric Generating Plant (VEGP) is identified in Table F-1. A list of pertinent correspondence generated during the preparation of this supplemental environmental impact statement is located in Appendix C. Copies of the correspondence listed in Table F-1 are included at the end of this appendix. Correspondence information relative to the early site permit (ESP) review of Units 3 and 4 can be found in Appendix F of ESP environmental impact statement, dated August 2008.

Table F-1. Key Consultation Correspondence Regarding the Combined Operating License Application for Units 3 and 4 at the VEGP Site

Source	Recipient	Date of Letter
U.S. Nuclear Regulatory Commission (NRC) (Mr. Gregory P. Hatchett)	Georgia Department of National Resources (Dr. Dave Crass)	December 9, 2009
NRC (Mr. Gregory P. Hatchett)	Poarch Band of Creek Indians (Ms. Stephanie Rolin)	December 10, 2009
NRC (Mr. Gregory P. Hatchett)	United Keetoowah Band of Cherokee Indians (Ms. Emma Sue Holland)	December 10, 2009
NRC (Mr. Gregory P. Hatchett)	Poarch Band of Creek Indians (Mr. Eddie Tullis)	December 10, 2009
NRC (Mr. Gregory P. Hatchett)	Eastern Band of Cherokee Indians (Ms. Kathy McCoy)	December 10, 2009
NRC (Mr. Gregory P. Hatchett)	Coushatta Tribe Louisiana (Mr. John Zachary)	December 10, 2009
NRC (Mr. Gregory P. Hatchett)	Kialegee Tribal Town (Ms Evelyn Bucktrot)	December 10, 2009
NRC (Mr. Gregory P. Hatchett)	Miccosukee Tribe of Indians of Florida (Mr. Steven Terry)	December 10, 2009
NRC (Mr. Gregory P. Hatchett)	Poarch Band of Creek Indians (Ms. Gale Thrower)	December 10, 2009
NRC (Mr. Gregory P. Hatchett)	Thlopthlocco Tribal Town (Mr. Louis McGertt)	December 10, 2009
NRC (Mr. Gregory P. Hatchett)	Muscogee National (Mr. A. D. Ellis)	December 10, 2009
NRC (Mr. Gregory P. Hatchett)	Cherokee Nation of Oklahoma (Mr. Richard L. Allen)	December 10, 2009

Table F-1. (contd)

Source	Recipient	Date of Letter
NRC (Mr. Gregory P. Hatchett)	Chickasaw Nation (Ms. Giny Nail)	December 10, 2009
NRC (Mr. Gregory P. Hatchett)	Chickasaw Nation of Oklahoma (Mr. Bill Anoatubby)	December 10, 2009
NRC (Mr. Gregory P. Hatchett)	Georgia Tribe of Easter Cherokee (Mr. Charles Thurmond)	December 10, 2009
NRC (Mr. Gregory P. Hatchett)	Alabama-Quassarte Tribal Town (Mr. Tarpie Yargee)	December 10, 2009
NRC (Mr. Gregory P. Hatchett)	Seminole Nation of Oklahoma (Mr. Pare Bowlegs)	December 10, 2009
NRC (Mr. Gregory P. Hatchett)	Eastern Band of Cherokee Indians (Mr. Mitchell Hicks)	December 10, 2009
NRC (Mr. Gregory P. Hatchett)	United Keetoowah Band of Cherokee Indians (Mr. Dallas Proctor)	December 10, 2009
NRC (Mr. Gregory P. Hatchett)	Cultural/Historic Preservation Department (Ms. Karen Kaniatobe)	December 10, 2009
NRC (Mr. Gregory P. Hatchett)	Alabama-Coushatta Tribe of Texas (Ms. Debbie Thomas)	December 10, 2009
NRC (Mr. Gregory P. Hatchett)	Muscogee (Creek) Nation of Oklahoma (Ms. Joyce Bear)	December 10, 2009
NRC (Mr. Gregory P. Hatchett)	Cherokee Nation of Oklahoma (Mr. Chadwick Smith)	December 10, 2009
NRC (Mr. Gregory P. Hatchett)	Catawba Indian Tribe (Mr. Gilbert Blue)	December 10, 2009
NRC (Mr. Gregory P. Hatchett)	Seminole Tribe of Florida (Mr. Willard Steele)	December 10, 2009
NRC (Mr. Gregory P. Hatchett)	Mississippi Band of Choctaw Indians (Mr. Kenneth Carleton)	December 10, 2009
NRC (Ms. Mallecia Sutton)	South Carolina Department of Natural Resources (Ms. Julie Holling)	December 15, 2009
South Carolina Department of Natural Resources (Ms. Julie Holling)	NRC (Ms. Mallecia Sutton)	December 15, 2009
NRC (Ms. Mallecia Sutton)	Georgia Department of Natural Resources (Mr. Matt Elliot)	December 15, 2009
Georgia Department of Natural Resources (Mr. Matt Elliot)	NRC (Ms. Mallecia Sutton)	December 16, 2009
Georgia Department of Natural Resources (Ms. Katrina Morris)	NRC (Ms. Mallecia Sutton)	December 17, 2009

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Table F-1. (contd)

Source	Recipient	Date of Letter
NRC (Mr. Gregory P. Hatchett)	U.S. Advisory Council on Historic Preservation (Mr. Don Klima)	December 23, 2009
NRC (Mr. Gregory P. Hatchett)	U.S. Fish and Wildlife Service Coastal Sub Office (Ms. Sandra S. Tucker)	January 7, 2010
NRC (Mr. Gregory P. Hatchett)	Catawba Indian Nation (Mr. Donald Rodgers)	January 7, 2010
Georgia Department of Natural Resources (Ms. Elizabeth Shirk)	NRC (Ms. Mallecia Sutton)	June 18, 2010

2

F.1 Reference

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U.S. Nuclear Regulatory Commission (NRC). 2008. *Final Environmental Impact Statement for an Early Site Permit (ESP) at the Vogtle Electric Generating Plant Site*. NUREG-1872, Vol. 2, Washington, D.C.

4

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December 09, 2009

Dr. Dave Crass, Acting Division Director and Deputy SHPO
State of Georgia Historic Preservation Officer
Historic Preservation Division
Department of Natural Resources
254 Washington Street, NW (Ground-level)
Atlanta, GA 30334

**SUBJECT: VOGTLE ELECTRIC GENERATING PLANT, UNITS 3 AND 4 COMBINED
LICENSE APPLICATION REVIEW**

Dear Dr. Crass:

The U.S. Nuclear Regulatory Commission (NRC) staff is reviewing an application submitted by Southern Nuclear Operating Company, Inc. (Southern or SNC), on behalf of itself and several co-applicants, for a combined license (COL) for construction and operation of two new nuclear units at its Vogtle Electric Generating Plant (Vogtle or VEGP) site in Burke County, Georgia. The purpose of this letter is to invite the State of Georgia Historic Preservation Officer (SHPO) to consult with the NRC regarding the proposed action, pursuant to NRC regulations at 10 CFR Part 51 and Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended. The NRC plans to coordinate compliance with Section 106 of the NHPA using the National Environmental Policy Act (NEPA) of 1969, as amended process identified in 36 CFR 800.8(c) in lieu of the procedures set forth in §§ 800.3 through 800.6. Additionally, the NRC staff will rely on procedures in its regulations at 10 CFR 51.92 for supplementing a final environmental impact statement (FEIS).

Section 51.26(d) of the NRC regulations describes the processes for determining the need to supplement an FEIS, issue a notice of intent, and determine whether a formal scoping process will be conducted. As required by 10 CFR 51.92, the NRC staff will prepare a supplement to the FEIS for the early site permit (ESP) issued on August 26, 2009, to SNC and the same co-applicants. In this case, the NRC staff has determined that it will not conduct a formal scoping process for the development of the supplemental environmental impact statement (SEIS).

An ESP is a Commission approval of a site suitable for construction and operation of one or more new nuclear units. Under 10 CFR 51.50(c), a COL applicant referencing an ESP need not submit information or analyses regarding environmental issues that were resolved in the ESP EIS, except to the extent the COL applicant has identified any new and potentially significant information.

In accordance with the provisions in 36 CFR § 800.8, the NRC wishes to ensure that if you have an interest in any potential historic properties in the area of potential effect (APE), you will be afforded the opportunity to identify your concerns, provide advice on the identification and evaluation of historic properties, including those of traditional religious and cultural importance, and, if necessary, participate in the resolution of any adverse effects to such properties.

D. Crass

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Thus, to support the NRC staff's review of any new and potentially significant circumstances or information relevant to the environmental concerns related to the proposed action or its impacts, we request you submit written comments you may have to offer on the environmental review of the COL by January 15, 2010.

The NRC intends to describe and propose measures in the SEIS for the COL analyses for potential impacts to historical and cultural resources, including developing alternatives and proposing measures that might avoid, minimize, or mitigate any adverse effects of the proposed action on historic properties. To complete consultation under § 800.8(c), the NRC staff will forward the SEIS on the COL to you for your review and comment, and will address your comments in the final SEIS on the COL.

The proposed new reactors, Vogtle Units 3 and 4, would be located approximately 26 miles southeast of Augusta, Georgia, near the town of Waynesboro, Georgia. SNC currently operates two reactors, Vogtle Units 1 and 2, on the site, and plans to construct the new units adjacent to the existing reactors. The application for the COL was accepted for docketing on May 30, 2008 and is available through the web-based version of the NRC Agency-wide Documents Access Management System (ADAMS), which can be found at <http://www.nrc.gov/readingrm/adams.html>. The Environmental Report for the application is listed under ADAMS accession number ML081050181. The VEGP COL application is also available on the Internet at <http://www.nrc.gov/reactors/new-licensing/col/vogtle.html>. During the ESP environmental review, the NRC consulted with your office. The detailed review by the NRC of the environmental impacts of constructing and operating proposed Units 3 and 4 is documented in NUREG-1872, "Final Environmental Impact Statement for an Early Site Permit (ESP) at the Vogtle Electric Generating Plant Site." (ESP FEIS Volumes 1 and 2 are available in ADAMS under ADAMS accession numbers ML082240145 and ML082240165, respectively.)

Please submit comments either by mail to Mallecia Sutton, Environmental Project Manager, Division of Site and Environmental Reviews, Mail Stop T-7E18, U.S. Nuclear Regulatory Commission, Washington, D.C.20555-0001 or via e-mail to Vogtle.COLAEIS@nrc.gov by January 15, 2010.

If you have any questions or require additional information, please contact Mrs. Sutton at 301 415-0673 or via e-mail to Mallecia.Sutton@nrc.gov.

Sincerely,

/RA/

Gregory P. Hatchett, Chief
Environmental Projects Branch 1
Division of Site and Environmental Reviews
Office of New Reactors

Docket Nos. 52-025 and 52-026

cc: See next page

December 10, 2009

Ms. Stephanie Rolin
NAGPRA Contact
Poarch Band of Creek Indians
5811 Jack Springs Road
Atmore, AL 36502

SUBJECT: U.S. NUCLEAR REGULATORY COMMISSION'S SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT FOR SOUTHERN NUCLEAR OPERATING COMPANY'S COMBINED LICENSE APPLICATION FOR THE PROPOSED CONSTRUCTION AND OPERATION OF UNITS 3 AND 4 AT THE VOGTLE ELECTRIC GENERATING PLANT IN WAYNESBORO, GEORGIA

Dear Ms. Rolin:

The U.S. Nuclear Regulatory Commission (NRC) staff is reviewing an application submitted by Southern Nuclear Operating Company, Inc. (Southern or SNC), on behalf of itself and several co-applicants, for a combined license (COL) for construction and operation of two new nuclear units at its Vogtle Electric Generating Plant (Vogtle or VEGP) site in Burke County, Georgia. The purpose of this letter is to invite the Poarch Band of Creek Indians to consult with the NRC regarding the proposed action, pursuant to NRC regulations at 10 CFR Part 51 and Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended. The NRC plans to coordinate compliance with Section 106 of the NHPA using the National Environmental Policy Act (NEPA) process identified in 36 CFR 800.8(c) in lieu of the procedures set forth in §§ 800.3 through 800.6. Additionally, the NRC staff will rely on procedures in its regulations at 10 CFR 51.92 for supplementing a final environmental impact statement (FEIS).

Section 51.26(d) of the NRC regulations describes the processes for determining the need to supplement a FEIS, issue a notice of intent, and determine whether or not a formal scoping process will be conducted. As required by 10 CFR 51.92, the NRC staff will prepare a supplement to the FEIS for the early site permit (ESP) issued on August 26, 2009, to SNC and the same co-applicants. In this case, the NRC staff has determined that it will not conduct a formal scoping process for the development of the supplemental environmental impact statement (SEIS).

An ESP is a Commission approval of a site suitable for construction and operation of one or more new nuclear units. Under 10 CFR 51.50(c), a COL applicant referencing an ESP need not submit information or analyses regarding environmental issues that were resolved in the ESP EIS, except to the extent the COL applicant has identified any new and potentially significant information.

In accordance with the provisions in 36 CFR § 800.8, the NRC wishes to ensure that Indian tribes that might have an interest in any potential historic properties in the area of potential effect (APE) are afforded the opportunity to identify their concerns, provide advice on the identification and evaluation of historic properties, including those of traditional religious and cultural importance and, if necessary, participate in the resolution of any adverse effects to such properties.

S. Rolin

-2-

Thus, to support the NRC staff's review of any new and potentially significant circumstances or information relevant to the environmental concerns related to the proposed action or its impacts, we request you submit written comments, if any; your tribe may have to offer on the environmental review of the COL by January 15, 2010.

The NRC intends to propose measures in the SEIS for the COL analyses for potential impacts to historical and cultural resources including developing alternatives and proposing measures that might avoid, minimize, or mitigate any adverse effects of the propose action on historic properties. To complete consultation under § 800.8(c), the NRC staff will forward the SEIS on the COL to you for your review and comment, and will address your comments in the final SEIS on the COL.

The proposed new reactors, Vogtle Units 3 and 4 would be located approximately 26 miles southeast of Augusta, Georgia, near the town of Waynesboro, Georgia. SNC currently operates two reactors, Vogtle Units 1 and 2 on the site and plans to construct the new units adjacent to the existing reactors. The application for the COL was accepted for docketing on May 30, 2008, and is available through the web-based version of the NRC Agency-wide Documents Access Management System (ADAMS), which can be found at <http://www.nrc.gov/readingrm/adams.html>. The Environmental Report for the application is listed under ADAMS accession number ML081050181. The Vogtle Plant COL application is also available on the Internet at <http://www.nrc.gov/reactors/new-licensing/col/vogtle.html>. A detailed review by NRC of the environmental impacts of constructing and operating proposed Units 3 and 4 is documented in NUREG-1872, "Final Environmental Impact Statement for an Early Site Permit (ESP) at the Vogtle Electric Generating Plant Site." (ESP FEIS Volumes 1 and 2 are available in ADAMS under ADAMS accession numbers ML082240145 and ML082240165, respectively.)

Please submit comments either by mail to Mrs. Mallecia Sutton, Environmental Project Manager, Division of Site and Environmental Reviews, Mail Stop T-7E18, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555-0001 or via e-mail to VogtleCOLASEIS@nrc.gov by January 15, 2010.

If you have any questions or require additional information, please contact Mrs. Sutton at (301) 415-0673 or via e-mail to Mallecia.Sutton@nrc.gov.

Sincerely,

/RA/

Gregory P. Hatchett, Branch Chief
Environmental Projects Branch 1
Division of Site and Environmental Reviews
Office of New Reactors

Docket Nos. 52-025 and 52-026

cc: See next page

December 10, 2009

Ms. Emma Sue Holland, NAGPRA Contact
United Keetoowah Band of Cherokee Indians
P.O. Box 746
Tahlequah, OK 74465

SUBJECT: U.S. NUCLEAR REGULATORY COMMISSION'S SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT FOR SOUTHERN NUCLEAR OPERATING COMPANY'S COMBINED LICENSE APPLICATION FOR THE PROPOSED CONSTRUCTION AND OPERATION OF UNITS 3 AND 4 AT THE VOGTLE ELECTRIC GENERATING PLANT IN WAYNESBORO, GEORGIA

Dear Ms. Holland:

The U.S. Nuclear Regulatory Commission (NRC) staff is reviewing an application submitted by Southern Nuclear Operating Company, Inc. (Southern or SNC), on behalf of itself and several co-applicants, for a combined license (COL) for construction and operation of two new nuclear units at its Vogtle Electric Generating Plant (Vogtle or VEGP) site in Burke County, Georgia. The purpose of this letter is to invite the United Keetoowah Band of Cherokee Indians to consult with the NRC regarding the proposed action, pursuant to NRC regulations at 10 CFR Part 51 and Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended. The NRC plans to coordinate compliance with Section 106 of the NHPA using the National Environmental Policy Act (NEPA) process identified in 36 CFR 800.8(c) in lieu of the procedures set forth in §§ 800.3 through 800.6. Additionally, the NRC staff will rely on procedures in its regulations at 10 CFR 51.92 for supplementing a final environmental impact statement (FEIS).

Section 51.26(d) of the NRC regulations describes the processes for determining the need to supplement a FEIS, issue a notice of intent, and determine whether or not a formal scoping process will be conducted. As required by 10 CFR 51.92, the NRC staff will prepare a supplement to the FEIS for the early site permit (ESP) issued on August 26, 2009, to SNC and the same co-applicants. In this case, the NRC staff has determined that it will not conduct a formal scoping process for the development of the supplemental environmental impact statement (SEIS).

An ESP is a Commission approval of a site suitable for construction and operation of one or more new nuclear units. Under 10 CFR 51.50(c), a COL applicant referencing an ESP need not submit information or analyses regarding environmental issues that were resolved in the ESP EIS, except to the extent the COL applicant has identified any new and potentially significant information.

In accordance with the provisions in 36 CFR § 800.8, the NRC wishes to ensure that Indian tribes that might have an interest in any potential historic properties in the area of potential effect (APE) are afforded the opportunity to identify their concerns, provide advice on the identification and evaluation of historic properties, including those of traditional religious and cultural importance and, if necessary, participate in the resolution of any adverse effects to such properties.

Thus, to support the NRC staff's review of any new and potentially significant circumstances or information relevant to the environmental concerns related to the proposed action or its impacts, we request you submit written comments, if any, your tribe may have to offer on the environmental review of the COL by January 15, 2010.

The NRC intends to propose measures in the SEIS for the COL analyses for potential impacts to historical and cultural resources including developing alternatives and proposing measures that might avoid, minimize, or mitigate any adverse effects of the proposed action on historic properties. To complete consultation under § 800.8(c), the NRC staff will forward the SEIS on the COL to you for your review and comment, and will address your comments in the final SEIS on the COL.

The proposed new reactors, Vogtle Units 3 and 4 would be located approximately 26 miles southeast of Augusta, Georgia, near the town of Waynesboro, Georgia. SNC currently operates two reactors, Vogtle Units 1 and 2 on the site and plans to construct the new units adjacent to the existing reactors. The application for the COL was accepted for docketing on May 30, 2008, and is available through the web-based version of the NRC Agency-wide Documents Access Management System (ADAMS), which can be found at <http://www.nrc.gov/readingrm/adams.html>. The Environmental Report for the application is listed under ADAMS accession number ML081050181. The Vogtle Plant COL application is also available on the Internet at <http://www.nrc.gov/reactors/new-licensing/col/vogtle.html>. A detailed review by NRC of the environmental impacts of constructing and operating proposed Units 3 and 4 is documented in NUREG-1872, "Final Environmental Impact Statement for an Early Site Permit (ESP) at the Vogtle Electric Generating Plant Site." (ESP FEIS Volumes 1 and 2 are available in ADAMS under ADAMS accession numbers ML082240145 and ML082240165, respectively.)

Please submit comments either by mail to Mrs. Mallecia Sutton, Environmental Project Manager, Division of Site and Environmental Reviews, Mail Stop T-7E18, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555-0001 or via e-mail to Vogtle.COLAEIS@nrc.gov by January 15, 2010.

If you have any questions or require additional information, please contact Mrs. Sutton at (301) 415-0673 or via e-mail to Mallecia.Sutton@nrc.gov.

Sincerely,

/RA/

Gregory P. Hatchett, Branch Chief
Environmental Projects Branch 1
Division of Site and Environmental Reviews
Office of New Reactors

Docket Nos. 52-025 and 52-026

cc: See next page

December 10, 2009

Mr. Eddie Tullis, Chairperson
Poarch Band of Creek Indians
5811 Jack Springs Rd
Atmore, AL 36502

SUBJECT: U.S. NUCLEAR REGULATORY COMMISSION'S SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT FOR SOUTHERN NUCLEAR OPERATING COMPANY'S COMBINED LICENSE APPLICATION FOR THE PROPOSED CONSTRUCTION AND OPERATION OF UNITS 3 AND 4 AT THE VOGTLE ELECTRIC GENERATING PLANT IN WAYNESBORO, GEORGIA

Dear Mr. Tullis:

The U.S. Nuclear Regulatory Commission (NRC) staff is reviewing an application submitted by Southern Nuclear Operating Company, Inc. (Southern or SNC), on behalf of itself and several co-applicants, for a combined license (COL) for construction and operation of two new nuclear units at its Vogtle Electric Generating Plant (Vogtle or VEGP) site in Burke County, Georgia. The purpose of this letter is to invite the Poarch Band of Creek Indians to consult with the NRC regarding the proposed action, pursuant to NRC regulations at 10 CFR Part 51 and Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended. The NRC plans to coordinate compliance with Section 106 of the NHPA using the National Environmental Policy Act (NEPA) process identified in 36 CFR 800.8(c) in lieu of the procedures set forth in §§ 800.3 through 800.6. Additionally, the NRC staff will rely on procedures in its regulations at 10 CFR 51.92 for supplementing a final environmental impact statement (FEIS).

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An ESP is a Commission approval of a site suitable for construction and operation of one or more new nuclear units. Under 10 CFR 51.50(c), a COL applicant referencing an ESP need not submit information or analyses regarding environmental issues that were resolved in the ESP EIS, except to the extent the COL applicant has identified any new and potentially significant information.

In accordance with the provisions in 36 CFR § 800.8, the NRC wishes to ensure that Indian tribes that might have an interest in any potential historic properties in the area of potential effect (APE) are afforded the opportunity to identify their concerns, provide advice on the identification and evaluation of historic properties, including those of traditional religious and cultural importance and, if necessary, participate in the resolution of any adverse effects to such properties.

E. Tullis

-2-

Thus, to support the NRC staff's review of any new and potentially significant circumstances or information relevant to the environmental concerns related to the proposed action or its impacts, we request you submit written comments, if any, your tribe may have to offer on the environmental review of the COL by January 15, 2010.

The NRC intends to propose measures in the SEIS for the COL analyses for potential impacts to historical and cultural resources including developing alternatives and proposing measures that might avoid, minimize, or mitigate any adverse effects of the propose action on historic properties. To complete consultation under § 800.8(c), the NRC staff will forward the SEIS on the COL to you for your review and comment, and will address your comments in the final SEIS on the COL.

The proposed new reactors, Vogtle Units 3 and 4 would be located approximately 26 miles southeast of Augusta, Georgia, near the town of Waynesboro, Georgia. SNC currently operates two reactors, Vogtle Units 1 and 2 on the site and plans to construct the new units adjacent to the existing reactors. The application for the COL was accepted for docketing on May 30, 2008, and is available through the web-based version of the NRC Agency-wide Documents Access Management System (ADAMS), which can be found at <http://www.nrc.gov/readingrm/adams.html>. The Environmental Report for the application is listed under ADAMS accession number ML081050181. The Vogtle Plant COL application is also available on the Internet at <http://www.nrc.gov/reactors/new-licensing/col/vogtle.html>. A detailed review by NRC of the environmental impacts of constructing and operating proposed Units 3 and 4 is documented in NUREG-1872, "Final Environmental Impact Statement for an Early Site Permit (ESP) at the Vogtle Electric Generating Plant Site." (ESP FEIS Volumes 1 and 2 are available in ADAMS under ADAMS accession numbers ML082240145 and ML082240165, respectively.)

Please submit comments either by mail to Mrs. Mallecia Sutton, Environmental Project Manager, Division of Site and Environmental Reviews, Mail Stop T-7E18, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555-0001 or via e-mail to Vogtle.COLAEIS@nrc.gov by January 15, 2010.

If you have any questions or require additional information, please contact Mrs. Sutton at (301) 415-0673 or via e-mail to Mallecia.Sutton@nrc.gov.

Sincerely,

/RA/

Gregory P. Hatchett, Branch Chief
Environmental Projects Branch 1
Division of Site and Environmental Reviews
Office of New Reactors

Docket Nos. 52-025 and 52-026

cc: See next page

December 10, 2009

Ms. Kathy McCoy, NAGPRA Contact
Eastern Band of Cherokee Indians
P.O. Box 455
Cherokee, NC 28719

SUBJECT: U.S. NUCLEAR REGULATORY COMMISSION'S SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT FOR SOUTHERN NUCLEAR OPERATING COMPANY'S COMBINED LICENSE APPLICATION FOR THE PROPOSED CONSTRUCTION AND OPERATION OF UNITS 3 AND 4 AT THE VOGTLE ELECTRIC GENERATING PLANT IN WAYNESBORO, GEORGIA

Dear Ms. McCoy:

The U.S. Nuclear Regulatory Commission (NRC) staff is reviewing an application submitted by Southern Nuclear Operating Company, Inc. (Southern or SNC), on behalf of itself and several co-applicants, for a combined license (COL) for construction and operation of two new nuclear units at its Vogtle Electric Generating Plant (Vogtle or VEGP) site in Burke County, Georgia. The purpose of this letter is to invite the Eastern Band of Cherokee Indians to consult with the NRC regarding the proposed action, pursuant to NRC regulations at 10 CFR Part 51 and Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended. The NRC plans to coordinate compliance with Section 106 of the NHPA using the National Environmental Policy Act (NEPA) process identified in 36 CFR 800.8(c) in lieu of the procedures set forth in §§ 800.3 through 800.6. Additionally, the NRC staff will rely on procedures in its regulations at 10 CFR 51.92 for supplementing a final environmental impact statement (FEIS).

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In accordance with the provisions in 36 CFR § 800.8, the NRC wishes to ensure that Indian tribes that might have an interest in any potential historic properties in the area of potential effect (APE) are afforded the opportunity to identify their concerns, provide advice on the identification and evaluation of historic properties, including those of traditional religious and cultural importance and, if necessary, participate in the resolution of any adverse effects to such properties.

K. McCoy

-2-

Thus, to support the NRC staff's review of any new and potentially significant circumstances or information relevant to the environmental concerns related to the proposed action or its impacts, we request you submit written comments, if any, your tribe may have to offer on the environmental review of the COL by January 15, 2010.

The NRC intends to propose measures in the SEIS for the COL analyses for potential impacts to historical and cultural resources including developing alternatives and proposing measures that might avoid, minimize, or mitigate any adverse effects of the proposed action on historic properties. To complete consultation under § 800.8(c), the NRC staff will forward the SEIS on the COL to you for your review and comment, and will address your comments in the final SEIS on the COL.

The proposed new reactors, Vogtle Units 3 and 4 would be located approximately 26 miles southeast of Augusta, Georgia, near the town of Waynesboro, Georgia. SNC currently operates two reactors, Vogtle Units 1 and 2 on the site and plans to construct the new units adjacent to the existing reactors. The application for the COL was accepted for docketing on May 30, 2008, and is available through the web-based version of the NRC Agency-wide Documents Access Management System (ADAMS), which can be found at <http://www.nrc.gov/readingrm/adams.html>. The Environmental Report for the application is listed under ADAMS accession number ML081050181. The Vogtle Plant COL application is also available on the Internet at <http://www.nrc.gov/reactors/new-licensing/col/vogtle.html>. A detailed review by NRC of the environmental impacts of constructing and operating proposed Units 3 and 4 is documented in NUREG-1872, "Final Environmental Impact Statement for an Early Site Permit (ESP) at the Vogtle Electric Generating Plant Site." (ESP FEIS Volumes 1 and 2 are available in ADAMS under ADAMS accession numbers ML082240145 and ML082240165, respectively.)

Please submit comments either by mail to Mrs. Mallecia Sutton, Environmental Project Manager, Division of Site and Environmental Reviews, Mail Stop T-7E18, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555-0001 or via e-mail to Vogtle.COLAEIS@nrc.gov by January 15, 2010.

If you have any questions or require additional information, please contact Mrs. Sutton at (301) 415-0673 or via e-mail to Mallecia.Sutton@nrc.gov.

Sincerely,

/RA/

Gregory P. Hatchett, Branch Chief
Environmental Projects Branch 1
Division of Site and Environmental Reviews
Office of New Reactors

Docket Nos. 52-025 and 52-026

cc: See next page

December 10, 2009

Mr. John Zachary, Attorney at Law
c/o Coushatta Tribe of Louisiana
P.O. Box 12730
Alexandria, LA 71315-2730

SUBJECT: U.S. NUCLEAR REGULATORY COMMISSION'S SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT FOR SOUTHERN NUCLEAR OPERATING COMPANY'S COMBINED LICENSE APPLICATION FOR THE PROPOSED CONSTRUCTION AND OPERATION OF UNITS 3 AND 4 AT THE VOGTLE ELECTRIC GENERATING PLANT IN WAYNESBORO, GEORGIA

Dear Mr. Zachary:

The U.S. Nuclear Regulatory Commission (NRC) staff is reviewing an application submitted by Southern Nuclear Operating Company, Inc. (Southern or SNC), on behalf of itself and several co-applicants, for a combined license (COL) for construction and operation of two new nuclear units at its Vogtle Electric Generating Plant (Vogtle or VEGP) site in Burke County, Georgia. The purpose of this letter is to invite the Coushatta Tribe of Louisiana to consult with the NRC regarding the proposed action, pursuant to NRC regulations at 10 CFR Part 51 and Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended. The NRC plans to coordinate compliance with Section 106 of the NHPA using the National Environmental Policy Act (NEPA) process identified in 36 CFR 800.8(c) in lieu of the procedures set forth in §§ 800.3 through 800.6. Additionally, the NRC staff will rely on procedures in its regulations at 10 CFR 51.92 for supplementing a final environmental impact statement (FEIS).

Section 51.26(d) of the NRC regulations describes the processes for determining the need to supplement a FEIS, issue a notice of intent, and determine whether or not a formal scoping process will be conducted. As required by 10 CFR 51.92, the NRC staff will prepare a supplement to the FEIS for the early site permit (ESP) issued on August 26, 2009, to SNC and the same co-applicants. In this case, the NRC staff has determined that it will not conduct a formal scoping process for the development of the supplemental environmental impact statement (SEIS).

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In accordance with the provisions in 36 CFR § 800.8, the NRC wishes to ensure that Indian tribes that might have an interest in any potential historic properties in the area of potential effect (APE) are afforded the opportunity to identify their concerns, provide advice on the identification and evaluation of historic properties, including those of traditional religious and cultural importance and, if necessary, participate in the resolution of any adverse effects to such properties.

Thus, to support the NRC staff's review of any new and potentially significant circumstances or information relevant to the environmental concerns related to the proposed action or its impacts, we request you submit written comments, if any, your tribe may have to offer on the environmental review of the COL by January 15, 2010.

The NRC intends to propose measures in the SEIS for the COL analyses for potential impacts to historical and cultural resources including developing alternatives and proposing measures that might avoid, minimize, or mitigate any adverse effects of the propose action on historic properties. To complete consultation under § 800.8(c), the NRC staff will forward the SEIS on the COL to you for your review and comment, and will address your comments in the final SEIS on the COL.

The proposed new reactors, Vogtle Units 3 and 4 would be located approximately 26 miles southeast of Augusta, Georgia, near the town of Waynesboro, Georgia. SNC currently operates two reactors, Vogtle Units 1 and 2 on the site and plans to construct the new units adjacent to the existing reactors. The application for the COL was accepted for docketing on May 30, 2008, and is available through the web-based version of the NRC Agency-wide Documents Access Management System (ADAMS), which can be found at <http://www.nrc.gov/readingrm/adams.html>. The Environmental Report for the application is listed under ADAMS accession number ML081050181. The Vogtle Plant COL application is also available on the Internet at <http://www.nrc.gov/reactors/new-licensing/col/vogtle.html>. A detailed review by NRC of the environmental impacts of constructing and operating proposed Units 3 and 4 is documented in NUREG-1872, "Final Environmental Impact Statement for an Early Site Permit (ESP) at the Vogtle Electric Generating Plant Site." (ESP FEIS Volumes 1 and 2 are available in ADAMS under ADAMS accession numbers ML082240145 and ML082240165, respectively.)

Please submit comments either by mail to Mrs. Mallecia Sutton, Environmental Project Manager, Division of Site and Environmental Reviews, Mail Stop T-7E18, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555-0001 or via e-mail to Vogtle.COLAEIS@nrc.gov by January 15, 2010.

If you have any questions or require additional information, please contact Mrs. Sutton at (301) 415-0673 or via e-mail to Mallecia.Sutton@nrc.gov.

Sincerely,

/RA/

Gregory P. Hatchett, Branch Chief
Environmental Projects Branch 1
Division of Site and Environmental Reviews
Office of New Reactors

Docket Nos. 52-025 and 52-026

cc: See next page

December 10, 2009

Ms. Evelyn Bucktrot, Town King
Kialegee Tribal Town
P.O. Box 332
Wetumka, OK 74883

SUBJECT: U.S. NUCLEAR REGULATORY COMMISSION'S SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT FOR SOUTHERN NUCLEAR OPERATING COMPANY'S COMBINED LICENSE APPLICATION FOR THE PROPOSED CONSTRUCTION AND OPERATION OF UNITS 3 AND 4 AT THE VOGTLE ELECTRIC GENERATING PLANT IN WAYNESBORO, GEORGIA

Dear Ms. Bucktrot:

The U.S. Nuclear Regulatory Commission (NRC) staff is reviewing an application submitted by Southern Nuclear Operating Company, Inc. (Southern or SNC), on behalf of itself and several co-applicants, for a combined license (COL) for construction and operation of two new nuclear units at its Vogtle Electric Generating Plant (Vogtle or VEGP) site in Burke County, Georgia. The purpose of this letter is to invite the Kialegee Tribal Town to consult with the NRC regarding the proposed action, pursuant to NRC regulations at 10 CFR Part 51 and Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended. The NRC plans to coordinate compliance with Section 106 of the NHPA using the National Environmental Policy Act (NEPA) process identified in 36 CFR 800.8(c) in lieu of the procedures set forth in §§ 800.3 through 800.6. Additionally, the NRC staff will rely on procedures in its regulations at 10 CFR 51.92 for supplementing a final environmental impact statement (FEIS).

Section 51.26(d) of the NRC regulations describes the processes for determining the need to supplement a FEIS, issue a notice of intent, and determine whether or not a formal scoping process will be conducted. As required by 10 CFR 51.92, the NRC staff will prepare a supplement to the FEIS for the early site permit (ESP) issued on August 26, 2009, to SNC and the same co-applicants. In this case, the NRC staff has determined that it will not conduct a formal scoping process for the development of the supplemental environmental impact statement (SEIS).

An ESP is a Commission approval of a site suitable for construction and operation of one or more new nuclear units. Under 10 CFR 51.50(c), a COL applicant referencing an ESP need not submit information or analyses regarding environmental issues that were resolved in the ESP EIS, except to the extent the COL applicant has identified any new and potentially significant information.

In accordance with the provisions in 36 CFR § 800.8, the NRC wishes to ensure that Indian tribes that might have an interest in any potential historic properties in the area of potential effect (APE) are afforded the opportunity to identify their concerns, provide advice on the identification and evaluation of historic properties, including those of traditional religious and cultural importance and, if necessary, participate in the resolution of any adverse effects to such properties.

E. Bucktrot

-2-

Thus, to support the NRC staff's review of any new and potentially significant circumstances or information relevant to the environmental concerns related to the proposed action or its impacts, we request you submit written comments, if any, your tribe may have to offer on the environmental review of the COL by January 15, 2010.

The NRC intends to propose measures in the SEIS for the COL analyses for potential impacts to historical and cultural resources including developing alternatives and proposing measures that might avoid, minimize, or mitigate any adverse effects of the propose action on historic properties. To complete consultation under § 800.8(c), the NRC staff will forward the SEIS on the COL to you for your review and comment, and will address your comments in the final SEIS on the COL.

The proposed new reactors, Vogtle Units 3 and 4 would be located approximately 26 miles southeast of Augusta, Georgia, near the town of Waynesboro, Georgia. SNC currently operates two reactors, Vogtle Units 1 and 2 on the site and plans to construct the new units adjacent to the existing reactors. The application for the COL was accepted for docketing on May 30, 2008, and is available through the web-based version of the NRC Agency-wide Documents Access Management System (ADAMS), which can be found at <http://www.nrc.gov/readingrm/adams.html>. The Environmental Report for the application is listed under ADAMS accession number ML081050181. The Vogtle Plant COL application is also available on the Internet at <http://www.nrc.gov/reactors/new-licensing/col/vogtle.html>. A detailed review by NRC of the environmental impacts of constructing and operating proposed Units 3 and 4 is documented in NUREG-1872, "Final Environmental Impact Statement for an Early Site Permit (ESP) at the Vogtle Electric Generating Plant Site." (ESP FEIS Volumes 1 and 2 are available in ADAMS under ADAMS accession numbers ML082240145 and ML082240165, respectively.)

Please submit comments either by mail to Mrs. Mallecia Sutton, Environmental Project Manager, Division of Site and Environmental Reviews, Mail Stop T-7E18, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555-0001 or via e-mail to Vogtle.COLAEIS@nrc.gov by January 15, 2010.

If you have any questions or require additional information, please contact Mrs. Sutton at (301) 415-0673 or via e-mail to Mallecia.Sutton@nrc.gov.

Sincerely,

/RA/

Gregory P. Hatchett, Branch Chief
Environmental Projects Branch 1
Division of Site and Environmental Reviews
Office of New Reactors

Docket Nos. 52-025 and 52-026

cc: See next page

December 10, 2009

Mr. Steven Terry
Land Resource Manager
Miccosukee Tribe of Indians of Florida
Real Estate Services, Mile Marker 70
US 41 at Admin. Bldg.
Miami, FL 33194

SUBJECT: U.S. NUCLEAR REGULATORY COMMISSION'S SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT FOR SOUTHERN NUCLEAR OPERATING COMPANY'S COMBINED LICENSE APPLICATION FOR THE PROPOSED CONSTRUCTION AND OPERATION OF UNITS 3 AND 4 AT THE VOGTLE ELECTRIC GENERATING PLANT IN WAYNESBORO, GEORGIA

Dear Mr. Terry:

The U.S. Nuclear Regulatory Commission (NRC) staff is reviewing an application submitted by Southern Nuclear Operating Company, Inc. (Southern or SNC), on behalf of itself and several co-applicants, for a combined license (COL) for construction and operation of two new nuclear units at its Vogtle Electric Generating Plant (Vogtle or VEGP) site in Burke County, Georgia. The purpose of this letter is to invite the Miccosukee Tribe of Indians to consult with the NRC regarding the proposed action, pursuant to NRC regulations at 10 CFR Part 51 and Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended. The NRC plans to coordinate compliance with Section 106 of the NHPA using the National Environmental Policy Act (NEPA) process identified in 36 CFR 800.8(c) in lieu of the procedures set forth in §§ 800.3 through 800.6. Additionally, the NRC staff will rely on procedures in its regulations at 10 CFR 51.92 for supplementing a final environmental impact statement (FEIS).

Section 51.26(d) of the NRC regulations describes the processes for determining the need to supplement a FEIS, issue a notice of intent, and determine whether or not a formal scoping process will be conducted. As required by 10 CFR 51.92, the NRC staff will prepare a supplement to the FEIS for the early site permit (ESP) issued on August 26, 2009, to SNC and the same co-applicants. In this case, the NRC staff has determined that it will not conduct a formal scoping process for the development of the supplemental environmental impact statement (SEIS).

An ESP is a Commission approval of a site suitable for construction and operation of one or more new nuclear units. Under 10 CFR 51.50(c), a COL applicant referencing an ESP need not submit information or analyses regarding environmental issues that were resolved in the ESP EIS, except to the extent the COL applicant has identified any new and potentially significant information.

In accordance with the provisions in 36 CFR § 800.8, the NRC wishes to ensure that Indian tribes that might have an interest in any potential historic properties in the area of potential effect (APE) are afforded the opportunity to identify their concerns, provide advice on the identification and evaluation of historic properties, including those of traditional religious and cultural importance and, if necessary, participate in the resolution of any adverse effects to such properties.

Thus, to support the NRC staff's review of any new and potentially significant circumstances or information relevant to the environmental concerns related to the proposed action or its impacts, we request you submit written comments, if any, your tribe may have to offer on the environmental review of the COL by January 15, 2010.

The NRC intends to propose measures in the SEIS for the COL analyses for potential impacts to historical and cultural resources including developing alternatives and proposing measures that might avoid, minimize, or mitigate any adverse effects of the proposed action on historic properties. To complete consultation under § 800.8(c), the NRC staff will forward the SEIS on the COL to you for your review and comment, and will address your comments in the final SEIS on the COL.

The proposed new reactors, Vogtle Units 3 and 4 would be located approximately 26 miles southeast of Augusta, Georgia, near the town of Waynesboro, Georgia. SNC currently operates two reactors, Vogtle Units 1 and 2 on the site and plans to construct the new units adjacent to the existing reactors. The application for the COL was accepted for docketing on May 30, 2008, and is available through the web-based version of the NRC Agency-wide Documents Access Management System (ADAMS), which can be found at <http://www.nrc.gov/readingrm/adams.html>. The Environmental Report for the application is listed under ADAMS accession number ML081050181. The Vogtle Plant COL application is also available on the Internet at <http://www.nrc.gov/reactors/new-licensing/col/vogtle.html>. A detailed review by NRC of the environmental impacts of constructing and operating proposed Units 3 and 4 is documented in NUREG-1872, "Final Environmental Impact Statement for an Early Site Permit (ESP) at the Vogtle Electric Generating Plant Site." (ESP FEIS Volumes 1 and 2 are available in ADAMS under ADAMS accession numbers ML082240145 and ML082240165, respectively.)

Please submit comments either by mail to Mrs. Mallecia Sutton, Environmental Project Manager, Division of Site and Environmental Reviews, Mail Stop T-7E18, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555-0001 or via e-mail to Vogtle.COLAEIS@nrc.gov by January 15, 2010.

If you have any questions or require additional information, please contact Mrs. Sutton at (301) 415-0673 or via e-mail to Mallecia.Sutton@nrc.gov.

Sincerely,

/RA/

Gregory P. Hatchett, Branch Chief
Environmental Projects Branch 1
Division of Site and Environmental Reviews
Office of New Reactors

Docket Nos. 52-025 and 52-026

cc: See next page

December 10, 2009

Ms. Gale Thrower, NAGPRA Contact
Poarch Band of Creek Indians
5811 Jack Springs Road
Atmore, AL 36502

SUBJECT: U.S. NUCLEAR REGULATORY COMMISSION'S SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT FOR SOUTHERN NUCLEAR OPERATING COMPANY'S COMBINED LICENSE APPLICATION FOR THE PROPOSED CONSTRUCTION AND OPERATION OF UNITS 3 AND 4 AT THE VOGTLE ELECTRIC GENERATING PLANT IN WAYNESBORO, GEORGIA

Dear Ms. Thrower:

The U.S. Nuclear Regulatory Commission (NRC) staff is reviewing an application submitted by Southern Nuclear Operating Company, Inc. (Southern or SNC), on behalf of itself and several co-applicants, for a combined license (COL) for construction and operation of two new nuclear units at its Vogtle Electric Generating Plant (Vogtle or VEGP) site in Burke County, Georgia. The purpose of this letter is to invite the Poarch Band of Creek Indians to consult with the NRC regarding the proposed action, pursuant to NRC regulations at 10 CFR Part 51 and Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended. The NRC plans to coordinate compliance with Section 106 of the NHPA using the National Environmental Policy Act (NEPA) process identified in 36 CFR 800.8(c) in lieu of the procedures set forth in §§ 800.3 through 800.6. Additionally, the NRC staff will rely on procedures in its regulations at 10 CFR 51.92 for supplementing a final environmental impact statement (FEIS).

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An ESP is a Commission approval of a site suitable for construction and operation of one or more new nuclear units. Under 10 CFR 51.50(c), a COL applicant referencing an ESP need not submit information or analyses regarding environmental issues that were resolved in the ESP EIS, except to the extent the COL applicant has identified any new and potentially significant information.

In accordance with the provisions in 36 CFR § 800.8, the NRC wishes to ensure that Indian tribes that might have an interest in any potential historic properties in the area of potential effect (APE) are afforded the opportunity to identify their concerns, provide advice on the identification and evaluation of historic properties, including those of traditional religious and cultural importance and, if necessary, participate in the resolution of any adverse effects to such properties.

Thus, to support the NRC staff's review of any new and potentially significant circumstances or information relevant to the environmental concerns related to the proposed action or its impacts, we request you submit written comments, if any, your tribe may have to offer on the environmental review of the COL by January 15, 2010.

The NRC intends to propose measures in the SEIS for the COL analyses for potential impacts to historical and cultural resources including developing alternatives and proposing measures that might avoid, minimize, or mitigate any adverse effects of the propose action on historic properties. To complete consultation under § 800.8(c), the NRC staff will forward the SEIS on the COL to you for your review and comment, and will address your comments in the final SEIS on the COL.

The proposed new reactors, Vogtle Units 3 and 4 would be located approximately 26 miles southeast of Augusta, Georgia, near the town of Waynesboro, Georgia. SNC currently operates two reactors, Vogtle Units 1 and 2 on the site and plans to construct the new units adjacent to the existing reactors. The application for the COL was accepted for docketing on May 30, 2008, and is available through the web-based version of the NRC Agency-wide Documents Access Management System (ADAMS), which can be found at <http://www.nrc.gov/readingrm/adams.html>. The Environmental Report for the application is listed under ADAMS accession number ML081050181. The Vogtle Plant COL application is also available on the Internet at <http://www.nrc.gov/reactors/new-licensing/col/vogtle.html>. A detailed review by NRC of the environmental impacts of constructing and operating proposed Units 3 and 4 is documented in NUREG-1872, "Final Environmental Impact Statement for an Early Site Permit (ESP) at the Vogtle Electric Generating Plant Site." (ESP FEIS Volumes 1 and 2 are available in ADAMS under ADAMS accession numbers ML082240145 and ML082240165, respectively.)

Please submit comments either by mail to Mrs. Mallecia Sutton, Environmental Project Manager, Division of Site and Environmental Reviews, Mail Stop T-7E18, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555-0001 or via e-mail to Vogtle.COLAEIS@nrc.gov by January 15, 2010.

If you have any questions or require additional information, please contact Mrs. Sutton at (301) 415-0673 or via e-mail to Mallecia.Sutton@nrc.gov.

Sincerely,

/RA/

Gregory P. Hatchett, Branch Chief
Environmental Projects Branch 1
Division of Site and Environmental Reviews
Office of New Reactors

Docket Nos. 52-025 and 52-026

cc: See next page

December 10, 2009

Mr. Louis McGertt, Town King
Thlopthlocco Tribal Town
P.O. Box 188
Okema, OK 74859

SUBJECT: U.S. NUCLEAR REGULATORY COMMISSION'S SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT FOR SOUTHERN NUCLEAR OPERATING COMPANY'S COMBINED LICENSE APPLICATION FOR THE PROPOSED CONSTRUCTION AND OPERATION OF UNITS 3 AND 4 AT THE VOGTLE ELECTRIC GENERATING PLANT IN WAYNESBORO, GEORGIA

Dear Mr. McGertt:

The U.S. Nuclear Regulatory Commission (NRC) staff is reviewing an application submitted by Southern Nuclear Operating Company, Inc. (Southern or SNC), on behalf of itself and several co-applicants, for a combined license (COL) for construction and operation of two new nuclear units at its Vogtle Electric Generating Plant (Vogtle or VEGP) site in Burke County, Georgia. The purpose of this letter is to invite the Thlopthlocco Tribal Town to consult with the NRC regarding the proposed action, pursuant to NRC regulations at 10 CFR Part 51 and Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended. The NRC plans to coordinate compliance with Section 106 of the NHPA using the National Environmental Policy Act (NEPA) process identified in 36 CFR 800.8(c) in lieu of the procedures set forth in §§ 800.3 through 800.6. Additionally, the NRC staff will rely on procedures in its regulations at 10 CFR 51.92 for supplementing a final environmental impact statement (FEIS).

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An ESP is a Commission approval of a site suitable for construction and operation of one or more new nuclear units. Under 10 CFR 51.50(c), a COL applicant referencing an ESP need not submit information or analyses regarding environmental issues that were resolved in the ESP EIS, except to the extent the COL applicant has identified any new and potentially significant information.

In accordance with the provisions in 36 CFR § 800.8, the NRC wishes to ensure that Indian tribes that might have an interest in any potential historic properties in the area of potential effect (APE) are afforded the opportunity to identify their concerns, provide advice on the identification and evaluation of historic properties, including those of traditional religious and cultural importance and, if necessary, participate in the resolution of any adverse effects to such properties.

L. McGertt

-2-

Thus, to support the NRC staff's review of any new and potentially significant circumstances or information relevant to the environmental concerns related to the proposed action or its impacts, we request you submit written comments, if any, your tribe may have to offer on the environmental review of the COL by January 15, 2010.

The NRC intends to propose measures in the SEIS for the COL analyses for potential impacts to historical and cultural resources including developing alternatives and proposing measures that might avoid, minimize, or mitigate any adverse effects of the proposed action on historic properties. To complete consultation under § 800.8(c), the NRC staff will forward the SEIS on the COL to you for your review and comment, and will address your comments in the final SEIS on the COL.

The proposed new reactors, Vogtle Units 3 and 4 would be located approximately 26 miles southeast of Augusta, Georgia, near the town of Waynesboro, Georgia. SNC currently operates two reactors, Vogtle Units 1 and 2 on the site and plans to construct the new units adjacent to the existing reactors. The application for the COL was accepted for docketing on May 30, 2008, and is available through the web-based version of the NRC Agency-wide Documents Access Management System (ADAMS), which can be found at <http://www.nrc.gov/readingrm/adams.html>. The Environmental Report for the application is listed under ADAMS accession number ML081050181. The Vogtle Plant COL application is also available on the Internet at <http://www.nrc.gov/reactors/new-licensing/col/vogtle.html>. A detailed review by NRC of the environmental impacts of constructing and operating proposed Units 3 and 4 is documented in NUREG-1872, "Final Environmental Impact Statement for an Early Site Permit (ESP) at the Vogtle Electric Generating Plant Site." (ESP FEIS Volumes 1 and 2 are available in ADAMS under ADAMS accession numbers ML082240145 and ML082240165, respectively.)

Please submit comments either by mail to Mrs. Mallecia Sutton, Environmental Project Manager, Division of Site and Environmental Reviews, Mail Stop T-7E18, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555-0001 or via e-mail to Vogtle.COLAEIS@nrc.gov by January 15, 2010.

If you have any questions or require additional information, please contact Mrs. Sutton at (301) 415-0673 or via e-mail to Mallecia.Sutton@nrc.gov.

Sincerely,

/RA/

Gregory P. Hatchett, Branch Chief
Environmental Projects Branch 1
Division of Site and Environmental Reviews
Office of New Reactors

Docket Nos. 52-025 and 52-026

cc: See next page

December 10, 2009

Mr. A.D. Ellis, Principal Chief
Muscogee (Creek) Nation
P.O. Box 580
Okmulgee, OK 74447

SUBJECT: U.S. NUCLEAR REGULATORY COMMISSION'S SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT FOR SOUTHERN NUCLEAR OPERATING COMPANY'S COMBINED LICENSE APPLICATION FOR THE PROPOSED CONSTRUCTION AND OPERATION OF UNITS 3 AND 4 AT THE VOGTLE ELECTRIC GENERATING PLANT IN WAYNESBORO, GEORGIA

Dear Mr. Ellis:

The U.S. Nuclear Regulatory Commission (NRC) staff is reviewing an application submitted by Southern Nuclear Operating Company, Inc. (Southern or SNC), on behalf of itself and several co-applicants, for a combined license (COL) for construction and operation of two new nuclear units at its Vogtle Electric Generating Plant (Vogtle or VEGP) site in Burke County, Georgia. The purpose of this letter is to invite the Muscogee (Creek Nation) to consult with the NRC regarding the proposed action, pursuant to NRC regulations at 10 CFR Part 51 and Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended. The NRC plans to coordinate compliance with Section 106 of the NHPA using the National Environmental Policy Act (NEPA) process identified in 36 CFR 800.8(c) in lieu of the procedures set forth in §§ 800.3 through 800.6. Additionally, the NRC staff will rely on procedures in its regulations at 10 CFR 51.92 for supplementing a final environmental impact statement (FEIS).

Section 51.26(d) of the NRC regulations describes the processes for determining the need to supplement a FEIS, issue a notice of intent, and determine whether or not a formal scoping process will be conducted. As required by 10 CFR 51.92, the NRC staff will prepare a supplement to the FEIS for the early site permit (ESP) issued on August 26, 2009, to SNC and the same co-applicants. In this case, the NRC staff has determined that it will not conduct a formal scoping process for the development of the supplemental environmental impact statement (SEIS).

An ESP is a Commission approval of a site suitable for construction and operation of one or more new nuclear units. Under 10 CFR 51.50(c), a COL applicant referencing an ESP need not submit information or analyses regarding environmental issues that were resolved in the ESP EIS, except to the extent the COL applicant has identified any new and potentially significant information.

In accordance with the provisions in 36 CFR § 800.8, the NRC wishes to ensure that Indian tribes that might have an interest in any potential historic properties in the area of potential effect (APE) are afforded the opportunity to identify their concerns, provide advice on the identification and evaluation of historic properties, including those of traditional religious and cultural importance and, if necessary, participate in the resolution of any adverse effects to such properties.

A. D. Ellis

-2-

Thus, to support the NRC staff's review of any new and potentially significant circumstances or information relevant to the environmental concerns related to the proposed action or its impacts, we request you submit written comments, if any, your tribe may have to offer on the environmental review of the COL by January 15, 2010.

The NRC intends to propose measures in the SEIS for the COL analyses for potential impacts to historical and cultural resources including developing alternatives and proposing measures that might avoid, minimize, or mitigate any adverse effects of the proposed action on historic properties. To complete consultation under § 800.8(c), the NRC staff will forward the SEIS on the COL to you for your review and comment, and will address your comments in the final SEIS on the COL.

The proposed new reactors, Vogtle Units 3 and 4 would be located approximately 26 miles southeast of Augusta, Georgia, near the town of Waynesboro, Georgia. SNC currently operates two reactors, Vogtle Units 1 and 2 on the site and plans to construct the new units adjacent to the existing reactors. The application for the COL was accepted for docketing on May 30, 2008, and is available through the web-based version of the NRC Agency-wide Documents Access Management System (ADAMS), which can be found at <http://www.nrc.gov/readingrm/adams.html>. The Environmental Report for the application is listed under ADAMS accession number ML081050181. The Vogtle Plant COL application is also available on the Internet at <http://www.nrc.gov/reactors/new-licensing/col/vogtle.html>. A detailed review by NRC of the environmental impacts of constructing and operating proposed Units 3 and 4 is documented in NUREG-1872, "Final Environmental Impact Statement for an Early Site Permit (ESP) at the Vogtle Electric Generating Plant Site." (ESP FEIS Volumes 1 and 2 are available in ADAMS under ADAMS accession numbers ML082240145 and ML082240165, respectively.)

Please submit comments either by mail to Mrs. Mallecia Sutton, Environmental Project Manager, Division of Site and Environmental Reviews, Mail Stop T-7E18, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555-0001 or via e-mail to Vogtle.COLAEIS@nrc.gov by January 15, 2010.

If you have any questions or require additional information, please contact Mrs. Sutton at (301) 415-0673 or via e-mail to Mallecia.Sutton@nrc.gov.

Sincerely,

/RA/

Gregory P. Hatchett, Branch Chief
Environmental Projects Branch 1
Division of Site and Environmental Reviews
Office of New Reactors

Docket Nos. 52-025 and 52-026

cc: See next page

December 10, 2009

Mr. Richard L. Allen, NAGPRA Contact
Cherokee Nation of Oklahoma
P.O. Box 948
Tahleque, OK 74465-0948

SUBJECT: U.S. NUCLEAR REGULATORY COMMISSION'S SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT FOR SOUTHERN NUCLEAR OPERATING COMPANY'S COMBINED LICENSE APPLICATION FOR THE PROPOSED CONSTRUCTION AND OPERATION OF UNITS 3 AND 4 AT THE VOGTLE ELECTRIC GENERATING PLANT IN WAYNESBORO, GEORGIA

Dear Mr. Allen:

The U.S. Nuclear Regulatory Commission (NRC) staff is reviewing an application submitted by Southern Nuclear Operating Company, Inc. (Southern or SNC), on behalf of itself and several co-applicants, for a combined license (COL) for construction and operation of two new nuclear units at its Vogtle Electric Generating Plant (Vogtle or VEGP) site in Burke County, Georgia. The purpose of this letter is to invite the Cherokee Nation of Oklahoma to consult with the NRC regarding the proposed action, pursuant to NRC regulations at 10 CFR Part 51 and Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended. The NRC plans to coordinate compliance with Section 106 of the NHPA using the National Environmental Policy Act (NEPA) process identified in 36 CFR 800.8(c) in lieu of the procedures set forth in §§ 800.3 through 800.6. Additionally, the NRC staff will rely on procedures in its regulations at 10 CFR 51.92 for supplementing a final environmental impact statement (FEIS).

Section 51.26(d) of the NRC regulations describes the processes for determining the need to supplement a FEIS, issue a notice of intent, and determine whether or not a formal scoping process will be conducted. As required by 10 CFR 51.92, the NRC staff will prepare a supplement to the FEIS for the early site permit (ESP) issued on August 26, 2009, to SNC and the same co-applicants. In this case, the NRC staff has determined that it will not conduct a formal scoping process for the development of the supplemental environmental impact statement (SEIS).

An ESP is a Commission approval of a site suitable for construction and operation of one or more new nuclear units. Under 10 CFR 51.50(c), a COL applicant referencing an ESP need not submit information or analyses regarding environmental issues that were resolved in the ESP EIS, except to the extent the COL applicant has identified any new and potentially significant information.

In accordance with the provisions in 36 CFR § 800.8, the NRC wishes to ensure that Indian tribes that might have an interest in any potential historic properties in the area of potential effect (APE) are afforded the opportunity to identify their concerns, provide advice on the identification and evaluation of historic properties, including those of traditional religious and cultural importance and, if necessary, participate in the resolution of any adverse effects to such properties.

Thus, to support the NRC staff's review of any new and potentially significant circumstances or information relevant to the environmental concerns related to the proposed action or its impacts, we request you submit written comments, if any, your tribe may have to offer on the environmental review of the COL by January 15, 2010.

The NRC intends to propose measures in the SEIS for the COL analyses for potential impacts to historical and cultural resources including developing alternatives and proposing measures that might avoid, minimize, or mitigate any adverse effects of the propose action on historic properties. To complete consultation under § 800.8(c), the NRC staff will forward the SEIS on the COL to you for your review and comment, and will address your comments in the final SEIS on the COL.

The proposed new reactors, Vogtle Units 3 and 4 would be located approximately 26 miles southeast of Augusta, Georgia, near the town of Waynesboro, Georgia. SNC currently operates two reactors, Vogtle Units 1 and 2 on the site and plans to construct the new units adjacent to the existing reactors. The application for the COL was accepted for docketing on May 30, 2008, and is available through the web-based version of the NRC Agency-wide Documents Access Management System (ADAMS), which can be found at <http://www.nrc.gov/readingrm/adams.html>. The Environmental Report for the application is listed under ADAMS accession number ML081050181. The Vogtle Plant COL application is also available on the Internet at <http://www.nrc.gov/reactors/new-licensing/col/vogtle.html>. A detailed review by NRC of the environmental impacts of constructing and operating proposed Units 3 and 4 is documented in NUREG-1872, "Final Environmental Impact Statement for an Early Site Permit (ESP) at the Vogtle Electric Generating Plant Site." (ESP FEIS Volumes 1 and 2 are available in ADAMS under ADAMS accession numbers ML082240145 and ML082240165, respectively.)

Please submit comments either by mail to Mrs. Mallecia Sutton, Environmental Project Manager, Division of Site and Environmental Reviews, Mail Stop T-7E18, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555-0001 or via e-mail to Vogtle.COLAEIS@nrc.gov by January 15, 2010.

If you have any questions or require additional information, please contact Mrs. Sutton at (301) 415-0673 or via e-mail to Mallecia.Sutton@nrc.gov.

Sincerely,

/RA/

Gregory P. Hatchett, Branch Chief
Environmental Projects Branch 1
Division of Site and Environmental Reviews
Office of New Reactors

Docket Nos. 52-025 and 52-026

cc: See next page

December 10, 2009

Ms. Gingy (Virginia) Nail
NAGPRA Contact
Chickasaw Nation
P.O. Box 1548
Ada, OK 74883

SUBJECT: U.S. NUCLEAR REGULATORY COMMISSION'S SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT FOR SOUTHERN NUCLEAR OPERATING COMPANY'S COMBINED LICENSE APPLICATION FOR THE PROPOSED CONSTRUCTION AND OPERATION OF UNITS 3 AND 4 AT THE VOGTLE ELECTRIC GENERATING PLANT IN WAYNESBORO, GEORGIA

Dear Ms. Nail:

The U.S. Nuclear Regulatory Commission (NRC) staff is reviewing an application submitted by Southern Nuclear Operating Company, Inc. (Southern or SNC), on behalf of itself and several co-applicants, for a combined license (COL) for construction and operation of two new nuclear units at its Vogtle Electric Generating Plant (Vogtle or VEGP) site in Burke County, Georgia. The purpose of this letter is to invite the Chickasaw Nation to consult with the NRC regarding the proposed action, pursuant to NRC regulations at 10 CFR Part 51 and Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended. The NRC plans to coordinate compliance with Section 106 of the NHPA using the National Environmental Policy Act (NEPA) process identified in 36 CFR 800.8(c) in lieu of the procedures set forth in §§ 800.3 through 800.6. Additionally, the NRC staff will rely on procedures in its regulations at 10 CFR 51.92 for supplementing a final environmental impact statement (FEIS).

Section 51.26(d) of the NRC regulations describes the processes for determining the need to supplement a FEIS, issue a notice of intent, and determine whether or not a formal scoping process will be conducted. As required by 10 CFR 51.92, the NRC staff will prepare a supplement to the FEIS for the early site permit (ESP) issued on August 26, 2009, to SNC and the same co-applicants. In this case, the NRC staff has determined that it will not conduct a formal scoping process for the development of the supplemental environmental impact statement (SEIS).

An ESP is a Commission approval of a site suitable for construction and operation of one or more new nuclear units. Under 10 CFR 51.50(c), a COL applicant referencing an ESP need not submit information or analyses regarding environmental issues that were resolved in the ESP EIS, except to the extent the COL applicant has identified any new and potentially significant information.

In accordance with the provisions in 36 CFR § 800.8, the NRC wishes to ensure that Indian tribes that might have an interest in any potential historic properties in the area of potential effect (APE) are afforded the opportunity to identify their concerns, provide advice on the identification and evaluation of historic properties, including those of traditional religious and cultural importance and, if necessary, participate in the resolution of any adverse effects to such properties.

G. Nail

-2-

Thus, to support the NRC staff's review of any new and potentially significant circumstances or information relevant to the environmental concerns related to the proposed action or its impacts, we request you submit written comments, if any, your tribe may have to offer on the environmental review of the COL by January 15, 2010.

The NRC intends to propose measures in the SEIS for the COL analyses for potential impacts to historical and cultural resources including developing alternatives and proposing measures that might avoid, minimize, or mitigate any adverse effects of the propose action on historic properties. To complete consultation under § 800.8(c), the NRC staff will forward the SEIS on the COL to you for your review and comment, and will address your comments in the final SEIS on the COL.

The proposed new reactors, Vogtle Units 3 and 4 would be located approximately 26 miles southeast of Augusta, Georgia, near the town of Waynesboro, Georgia. SNC currently operates two reactors, Vogtle Units 1 and 2 on the site and plans to construct the new units adjacent to the existing reactors. The application for the COL was accepted for docketing on May 30, 2008, and is available through the web-based version of the NRC Agency-wide Documents Access Management System (ADAMS), which can be found at <http://www.nrc.gov/readingrm/adams.html>. The Environmental Report for the application is listed under ADAMS accession number ML081050181. The Vogtle Plant COL application is also available on the Internet at <http://www.nrc.gov/reactors/new-licensing/col/vogtle.html>. A detailed review by NRC of the environmental impacts of constructing and operating proposed Units 3 and 4 is documented in NUREG-1872, "Final Environmental Impact Statement for an Early Site Permit (ESP) at the Vogtle Electric Generating Plant Site." (ESP FEIS Volumes 1 and 2 are available in ADAMS under ADAMS accession numbers ML082240145 and ML082240165, respectively.)

Please submit comments either by mail to Mrs. Mallecia Sutton, Environmental Project Manager, Division of Site and Environmental Reviews, Mail Stop T-7E18, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555-0001 or via e-mail to VogtleCOLAEIS@nrc.gov by January 15, 2010.

If you have any questions or require additional information, please contact Mrs. Sutton at (301) 415-0673 or via e-mail to Mallecia.Sutton@nrc.gov.

Sincerely,

/RA/

Gregory P. Hatchett, Branch Chief
Environmental Projects Branch 1
Division of Site and Environmental Reviews
Office of New Reactors

Docket Nos. 52-025 and 52-026

cc: See next page

December 10, 2009

Mr. Bill Anoatubby, Governor
Chickasaw Nation of Oklahoma
P.O. Box 1548
Ada, OK 74821-1548

SUBJECT: U.S. NUCLEAR REGULATORY COMMISSION'S SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT FOR SOUTHERN NUCLEAR OPERATING COMPANY'S COMBINED LICENSE APPLICATION FOR THE PROPOSED CONSTRUCTION AND OPERATION OF UNITS 3 AND 4 AT THE VOGTLE ELECTRIC GENERATING PLANT IN WAYNESBORO, GEORGIA

Dear Mr. Anoatubby:

The U.S. Nuclear Regulatory Commission (NRC) staff is reviewing an application submitted by Southern Nuclear Operating Company, Inc. (Southern or SNC), on behalf of itself and several co-applicants, for a combined license (COL) for construction and operation of two new nuclear units at its Vogtle Electric Generating Plant (Vogtle or VEGP) site in Burke County, Georgia. The purpose of this letter is to invite the Chickasaw Nation of Oklahoma to consult with the NRC regarding the proposed action, pursuant to NRC regulations at 10 CFR Part 51 and Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended. The NRC plans to coordinate compliance with Section 106 of the NHPA using the National Environmental Policy Act (NEPA) process identified in 36 CFR 800.8(c) in lieu of the procedures set forth in §§ 800.3 through 800.6. Additionally, the NRC staff will rely on procedures in its regulations at 10 CFR 51.92 for supplementing a final environmental impact statement (FEIS).

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An ESP is a Commission approval of a site suitable for construction and operation of one or more new nuclear units. Under 10 CFR 51.50(c), a COL applicant referencing an ESP need not submit information or analyses regarding environmental issues that were resolved in the ESP EIS, except to the extent the COL applicant has identified any new and potentially significant information.

In accordance with the provisions in 36 CFR § 800.8, the NRC wishes to ensure that Indian tribes that might have an interest in any potential historic properties in the area of potential effect (APE) are afforded the opportunity to identify their concerns, provide advice on the identification and evaluation of historic properties, including those of traditional religious and cultural importance and, if necessary, participate in the resolution of any adverse effects to such properties.

Thus, to support the NRC staff's review of any new and potentially significant circumstances or information relevant to the environmental concerns related to the proposed action or its impacts, we request you submit written comments, if any, your tribe may have to offer on the environmental review of the COL by January 15, 2010.

The NRC intends to propose measures in the SEIS for the COL analyses for potential impacts to historical and cultural resources including developing alternatives and proposing measures that might avoid, minimize, or mitigate any adverse effects of the proposed action on historic properties. To complete consultation under § 800.8(c), the NRC staff will forward the SEIS on the COL to you for your review and comment, and will address your comments in the final SEIS on the COL.

The proposed new reactors, Vogtle Units 3 and 4 would be located approximately 26 miles southeast of Augusta, Georgia, near the town of Waynesboro, Georgia. SNC currently operates two reactors, Vogtle Units 1 and 2 on the site and plans to construct the new units adjacent to the existing reactors. The application for the COL was accepted for docketing on May 30, 2008, and is available through the web-based version of the NRC Agency-wide Documents Access Management System (ADAMS), which can be found at <http://www.nrc.gov/readingrm/adams.html>. The Environmental Report for the application is listed under ADAMS accession number ML081050181. The Vogtle Plant COL application is also available on the Internet at <http://www.nrc.gov/reactors/new-licensing/col/vogtle.html>. A detailed review by NRC of the environmental impacts of constructing and operating proposed Units 3 and 4 is documented in NUREG-1872, "Final Environmental Impact Statement for an Early Site Permit (ESP) at the Vogtle Electric Generating Plant Site." (ESP FEIS Volumes 1 and 2 are available in ADAMS under ADAMS accession numbers ML082240145 and ML082240165, respectively.)

Please submit comments either by mail to Mrs. Mallecia Sutton, Environmental Project Manager, Division of Site and Environmental Reviews, Mail Stop T-7E18, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555-0001 or via e-mail to Vogtle.COLAEIS@nrc.gov by January 15, 2010.

If you have any questions or require additional information, please contact Mrs. Sutton at (301) 415-0673 or via e-mail to Mallecia.Sutton@nrc.gov.

Sincerely,

/RA/

Gregory P. Hatchett, Branch Chief
Environmental Projects Branch 1
Division of Site and Environmental Reviews
Office of New Reactors

Docket Nos. 52-025 and 52-026

cc: See next page

December 10, 2009

Mr. Charles Thurmond, NAGPRA Contact
Georgia Tribe of Eastern Cherokee
P.O. Box 1324
Clayton, GA 30525

SUBJECT: U.S. NUCLEAR REGULATORY COMMISSION'S SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT FOR SOUTHERN NUCLEAR OPERATING COMPANY'S COMBINED LICENSE APPLICATION FOR THE PROPOSED CONSTRUCTION AND OPERATION OF UNITS 3 AND 4 AT THE VOGTLE ELECTRIC GENERATING PLANT IN WAYNESBORO, GEORGIA

Dear Mr. Thurmond:

The U.S. Nuclear Regulatory Commission (NRC) staff is reviewing an application submitted by Southern Nuclear Operating Company, Inc. (Southern or SNC), on behalf of itself and several co-applicants, for a combined license (COL) for construction and operation of two new nuclear units at its Vogtle Electric Generating Plant (Vogtle or VEGP) site in Burke County, Georgia. The purpose of this letter is to invite the Georgia Tribe of Eastern Cherokee to consult with the NRC regarding the proposed action, pursuant to NRC regulations at 10 CFR Part 51 and Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended. The NRC plans to coordinate compliance with Section 106 of the NHPA using the National Environmental Policy Act (NEPA) process identified in 36 CFR 800.8(c) in lieu of the procedures set forth in §§ 800.3 through 800.6. Additionally, the NRC staff will rely on procedures in its regulations at 10 CFR 51.92 for supplementing a final environmental impact statement (FEIS).

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An ESP is a Commission approval of a site suitable for construction and operation of one or more new nuclear units. Under 10 CFR 51.50(c), a COL applicant referencing an ESP need not submit information or analyses regarding environmental issues that were resolved in the ESP EIS, except to the extent the COL applicant has identified any new and potentially significant information.

In accordance with the provisions in 36 CFR § 800.8, the NRC wishes to ensure that Indian tribes that might have an interest in any potential historic properties in the area of potential effect (APE) are afforded the opportunity to identify their concerns, provide advice on the identification and evaluation of historic properties, including those of traditional religious and cultural importance and, if necessary, participate in the resolution of any adverse effects to such properties.

Thus, to support the NRC staff's review of any new and potentially significant circumstances or information relevant to the environmental concerns related to the proposed action or its impacts, we request you submit written comments, if any, your tribe may have to offer on the environmental review of the COL by January 15, 2010.

The NRC intends to propose measures in the SEIS for the COL analyses for potential impacts to historical and cultural resources including developing alternatives and proposing measures that might avoid, minimize, or mitigate any adverse effects of the propose action on historic properties. To complete consultation under § 800.8(c), the NRC staff will forward the SEIS on the COL to you for your review and comment, and will address your comments in the final SEIS on the COL.

The proposed new reactors, Vogtle Units 3 and 4 would be located approximately 26 miles southeast of Augusta, Georgia, near the town of Waynesboro, Georgia. SNC currently operates two reactors, Vogtle Units 1 and 2 on the site and plans to construct the new units adjacent to the existing reactors. The application for the COL was accepted for docketing on May 30, 2008, and is available through the web-based version of the NRC Agency-wide Documents Access Management System (ADAMS), which can be found at <http://www.nrc.gov/readingrm/adams.html>. The Environmental Report for the application is listed under ADAMS accession number ML081050181. The Vogtle Plant COL application is also available on the Internet at <http://www.nrc.gov/reactors/new-licensing/col/vogtle.html>. A detailed review by NRC of the environmental impacts of constructing and operating proposed Units 3 and 4 is documented in NUREG-1872, "Final Environmental Impact Statement for an Early Site Permit (ESP) at the Vogtle Electric Generating Plant Site." (ESP FEIS Volumes 1 and 2 are available in ADAMS under ADAMS accession numbers ML082240145 and ML082240165, respectively.)

Please submit comments either by mail to Mrs. Mallecia Sutton, Environmental Project Manager, Division of Site and Environmental Reviews, Mail Stop T-7E18, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555-0001 or via e-mail to Voqtle.COLAEIS@nrc.gov by January 15, 2010.

If you have any questions or require additional information, please contact Mrs. Sutton at (301) 415-0673 or via e-mail to Mallecia.Sutton@nrc.gov.

Sincerely,

/RA/

Gregory P. Hatchett, Branch Chief
Environmental Projects Branch 1
Division of Site and Environmental Reviews
Office of New Reactors

Docket Nos. 52-025 and 52-026

cc: See next page

December 10, 2009

Mr. Tarpie Yargee
Alabama-Quassarte Tribal Town
P.O. Box 187
Wetumka, OK 74883

SUBJECT: U.S. NUCLEAR REGULATORY COMMISSION'S SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT FOR SOUTHERN NUCLEAR OPERATING COMPANY'S COMBINED LICENSE APPLICATION FOR THE PROPOSED CONSTRUCTION AND OPERATION OF UNITS 3 AND 4 AT THE VOGTLE ELECTRIC GENERATING PLANT IN WAYNESBORO, GEORGIA

Dear Mr. Yargee:

The U.S. Nuclear Regulatory Commission (NRC) staff is reviewing an application submitted by Southern Nuclear Operating Company, Inc. (Southern or SNC), on behalf of itself and several co-applicants, for a combined license (COL) for construction and operation of two new nuclear units at its Vogtle Electric Generating Plant (Vogtle or VEGP) site in Burke County, Georgia. The purpose of this letter is to invite the Alabama-Quassarte Tribal Town to consult with the NRC regarding the proposed action, pursuant to NRC regulations at 10 CFR Part 51 and Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended. The NRC plans to coordinate compliance with Section 106 of the NHPA using the National Environmental Policy Act (NEPA) process identified in 36 CFR 800.8(c) in lieu of the procedures set forth in §§ 800.3 through 800.6. Additionally, the NRC staff will rely on procedures in its regulations at 10 CFR 51.92 for supplementing a final environmental impact statement (FEIS).

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An ESP is a Commission approval of a site suitable for construction and operation of one or more new nuclear units. Under 10 CFR 51.50(c), a COL applicant referencing an ESP need not submit information or analyses regarding environmental issues that were resolved in the ESP EIS, except to the extent the COL applicant has identified any new and potentially significant information.

In accordance with the provisions in 36 CFR § 800.8, the NRC wishes to ensure that Indian tribes that might have an interest in any potential historic properties in the area of potential effect (APE) are afforded the opportunity to identify their concerns, provide advice on the identification and evaluation of historic properties, including those of traditional religious and cultural importance and, if necessary, participate in the resolution of any adverse effects to such properties.

Thus, to support the NRC staff's review of any new and potentially significant circumstances or information relevant to the environmental concerns related to the proposed action or its impacts, we request you submit written comments, if any, your tribe may have to offer on the environmental review of the COL by January 15, 2010.

The NRC intends to propose measures in the SEIS for the COL analyses for potential impacts to historical and cultural resources including developing alternatives and proposing measures that might avoid, minimize, or mitigate any adverse effects of the propose action on historic properties. To complete consultation under § 800.8(c), the NRC staff will forward the SEIS on the COL to you for your review and comment, and will address your comments in the final SEIS on the COL.

The proposed new reactors, Vogtle Units 3 and 4 would be located approximately 26 miles southeast of Augusta, Georgia, near the town of Waynesboro, Georgia. SNC currently operates two reactors, Vogtle Units 1 and 2 on the site and plans to construct the new units adjacent to the existing reactors. The application for the COL was accepted for docketing on May 30, 2008, and is available through the web-based version of the NRC Agency-wide Documents Access Management System (ADAMS), which can be found at <http://www.nrc.gov/readingrm/adams.html>. The Environmental Report for the application is listed under ADAMS accession number ML081050181. The Vogtle Plant COL application is also available on the Internet at <http://www.nrc.gov/reactors/new-licensing/col/vogtle.html>. A detailed review by NRC of the environmental impacts of constructing and operating proposed Units 3 and 4 is documented in NUREG-1872, "Final Environmental Impact Statement for an Early Site Permit (ESP) at the Vogtle Electric Generating Plant Site." (ESP FEIS Volumes 1 and 2 are available in ADAMS under ADAMS accession numbers ML082240145 and ML082240165, respectively.)

Please submit comments either by mail to Mrs. Mallecia Sutton, Environmental Project Manager, Division of Site and Environmental Reviews, Mail Stop T-7E18, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555-0001 or via e-mail to VogtleCOLASEIS@nrc.gov by January 15, 2010.

If you have any questions or require additional information, please contact Mrs. Sutton at (301) 415-0673 or via e-mail to Mallecia.Sutton@nrc.gov.

Sincerely,

/RA/

Gregory P. Hatchett, Branch Chief
Environmental Projects Branch 1
Division of Site and Environmental Reviews
Office of New Reactors

Docket Nos. 52-025 and 52-026

cc: See next page

December 10, 2009

Mr. Pare Bowlegs
Seminole Nation of Oklahoma
P.O. Box 1498
Wewoka, OK 74884

SUBJECT: U.S. NUCLEAR REGULATORY COMMISSION'S SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT FOR SOUTHERN NUCLEAR OPERATING COMPANY'S COMBINED LICENSE APPLICATION FOR THE PROPOSED CONSTRUCTION AND OPERATION OF UNITS 3 AND 4 AT THE VOGTLE ELECTRIC GENERATING PLANT IN WAYNESBORO, GEORGIA

Dear Mr. Bowlegs:

The U.S. Nuclear Regulatory Commission (NRC) staff is reviewing an application submitted by Southern Nuclear Operating Company, Inc. (Southern or SNC), on behalf of itself and several co-applicants, for a combined license (COL) for construction and operation of two new nuclear units at its Vogtle Electric Generating Plant (Vogtle or VEGP) site in Burke County, Georgia. The purpose of this letter is to invite the Seminole Nation of Oklahoma to consult with the NRC regarding the proposed action, pursuant to NRC regulations at 10 CFR Part 51 and Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended. The NRC plans to coordinate compliance with Section 106 of the NHPA using the National Environmental Policy Act (NEPA) process identified in 36 CFR 800.8(c) in lieu of the procedures set forth in §§ 800.3 through 800.6. Additionally, the NRC staff will rely on procedures in its regulations at 10 CFR 51.92 for supplementing a final environmental impact statement (FEIS).

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In accordance with the provisions in 36 CFR § 800.8, the NRC wishes to ensure that Indian tribes that might have an interest in any potential historic properties in the area of potential effect (APE) are afforded the opportunity to identify their concerns, provide advice on the identification and evaluation of historic properties, including those of traditional religious and cultural importance and, if necessary, participate in the resolution of any adverse effects to such properties.

Thus, to support the NRC staff's review of any new and potentially significant circumstances or information relevant to the environmental concerns related to the proposed action or its impacts, we request you submit written comments, if any, your tribe may have to offer on the environmental review of the COL by January 8, 2010.

The NRC intends to propose measures in the SEIS for the COL analyses for potential impacts to historical and cultural resources including developing alternatives and proposing measures that might avoid, minimize, or mitigate any adverse effects of the propose action on historic properties. To complete consultation under § 800.8(c), the NRC staff will forward the SEIS on the COL to you for your review and comment, and will address your comments in the final SEIS on the COL.

The proposed new reactors, Vogtle Units 3 and 4 would be located approximately 26 miles southeast of Augusta, Georgia, near the town of Waynesboro, Georgia. SNC currently operates two reactors, Vogtle Units 1 and 2 on the site and plans to construct the new units adjacent to the existing reactors. The application for the COL was accepted for docketing on May 30, 2008, and is available through the web-based version of the NRC Agency-wide Documents Access Management System (ADAMS), which can be found at <http://www.nrc.gov/readingrm/adams.html>. The Environmental Report for the application is listed under ADAMS accession number ML081050181. The Vogtle Plant COL application is also available on the Internet at <http://www.nrc.gov/reactors/new-licensing/col/vogtle.html>. A detailed review by NRC of the environmental impacts of constructing and operating proposed Units 3 and 4 is documented in NUREG-1872, "Final Environmental Impact Statement for an Early Site Permit (ESP) at the Vogtle Electric Generating Plant Site." (ESP FEIS Volumes 1 and 2 are available in ADAMS under ADAMS accession numbers ML082240145 and ML082240165, respectively.)

Please submit comments either by mail to Mrs. Mallecia Sutton, Environmental Project Manager, Division of Site and Environmental Reviews, Mail Stop T-7E18, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555-0001 or via e-mail to VogtleCOLASEIS@nrc.gov by January 8, 2010.

If you have any questions or require additional information, please contact Mrs. Sutton at (301) 415-0673 or via e-mail to Mallecia.Sutton@nrc.gov.

Sincerely,

/RA/

Gregory P. Hatchett, Branch Chief
Environmental Projects Branch 1
Division of Site and Environmental Reviews
Office of New Reactors

Docket Nos. 52-025 and 52-026

cc: See next page

December 10, 2009

Mr. Michell Hicks, Principal Chief
Eastern Band of Cherokee Indians
P.O. Box 455
Qualla Boundary
Cherokee, NC 28719

SUBJECT: U.S. NUCLEAR REGULATORY COMMISSION'S SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT FOR SOUTHERN NUCLEAR OPERATING COMPANY'S COMBINED LICENSE APPLICATION FOR THE PROPOSED CONSTRUCTION AND OPERATION OF UNITS 3 AND 4 AT THE VOGTLE ELECTRIC GENERATING PLANT IN WAYNESBORO, GEORGIA

Dear Mr. Hicks:

The U.S. Nuclear Regulatory Commission (NRC) staff is reviewing an application submitted by Southern Nuclear Operating Company, Inc. (Southern or SNC), on behalf of itself and several co-applicants, for a combined license (COL) for construction and operation of two new nuclear units at its Vogtle Electric Generating Plant (Vogtle or VEGP) site in Burke County, Georgia. The purpose of this letter is to invite the Eastern Band of Cherokee Indians to consult with the NRC regarding the proposed action, pursuant to NRC regulations at 10 CFR Part 51 and Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended. The NRC plans to coordinate compliance with Section 106 of the NHPA using the National Environmental Policy Act (NEPA) process identified in 36 CFR 800.8(c) in lieu of the procedures set forth in §§ 800.3 through 800.6. Additionally, the NRC staff will rely on procedures in its regulations at 10 CFR 51.92 for supplementing a final environmental impact statement (FEIS).

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M. Hicks

-2-

Thus, to support the NRC staff's review of any new and potentially significant circumstances or information relevant to the environmental concerns related to the proposed action or its impacts, we request you submit written comments, if any, your tribe may have to offer on the environmental review of the COL by January 15, 2010.

The NRC intends to propose measures in the SEIS for the COL analyses for potential impacts to historical and cultural resources including developing alternatives and proposing measures that might avoid, minimize, or mitigate any adverse effects of the propose action on historic properties. To complete consultation under § 800.8(c), the NRC staff will forward the SEIS on the COL to you for your review and comment, and will address your comments in the final SEIS on the COL.

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Please submit comments either by mail to Mrs. Mallecia Sutton, Environmental Project Manager, Division of Site and Environmental Reviews, Mail Stop T-7E18, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555-0001 or via e-mail to Vogtle.COLAEIS@nrc.gov by January 15, 2010.

If you have any questions or require additional information, please contact Mrs. Sutton at (301) 415-0673 or via e-mail to Mallecia.Sutton@nrc.gov.

Sincerely,

/RA/

Gregory P. Hatchett, Branch Chief
Environmental Projects Branch 1
Division of Site and Environmental Reviews
Office of New Reactors

Docket Nos. 52-025 and 52-026

cc: See next page

December 10, 2009

Mr. Dallas Proctor, Chief
United Keetoowah Band of Cherokee Indians
P.O. Box 746
Tahlequah, OK 74465

SUBJECT: U.S. NUCLEAR REGULATORY COMMISSION'S SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT FOR SOUTHERN NUCLEAR OPERATING COMPANY'S COMBINED LICENSE APPLICATION FOR THE PROPOSED CONSTRUCTION AND OPERATION OF UNITS 3 AND 4 AT THE VOGTLE ELECTRIC GENERATING PLANT IN WAYNESBORO, GEORGIA

Dear Chief Proctor:

The U.S. Nuclear Regulatory Commission (NRC) staff is reviewing an application submitted by Southern Nuclear Operating Company, Inc. (Southern or SNC), on behalf of itself and several co-applicants, for a combined license (COL) for construction and operation of two new nuclear units at its Vogtle Electric Generating Plant (Vogtle or VEGP) site in Burke County, Georgia. The purpose of this letter is to invite the United Keetoowah Band of Cherokee Indians to consult with the NRC regarding the proposed action, pursuant to NRC regulations at 10 CFR Part 51 and Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended. The NRC plans to coordinate compliance with Section 106 of the NHPA using the National Environmental Policy Act (NEPA) process identified in 36 CFR 800.8(c) in lieu of the procedures set forth in §§ 800.3 through 800.6. Additionally, the NRC staff will rely on procedures in its regulations at 10 CFR 51.92 for supplementing a final environmental impact statement (FEIS).

Section 51.26(d) of the NRC regulations describes the processes for determining the need to supplement a FEIS, issue a notice of intent, and determine whether or not a formal scoping process will be conducted. As required by 10 CFR 51.92, the NRC staff will prepare a supplement to the FEIS for the early site permit (ESP) issued on August 26, 2009, to SNC and the same co-applicants. In this case, the NRC staff has determined that it will not conduct a formal scoping process for the development of the supplemental environmental impact statement (SEIS).

An ESP is a Commission approval of a site suitable for construction and operation of one or more new nuclear units. Under 10 CFR 51.50(c), a COL applicant referencing an ESP need not submit information or analyses regarding environmental issues that were resolved in the ESP EIS, except to the extent the COL applicant has identified any new and potentially significant information.

In accordance with the provisions in 36 CFR § 800.8, the NRC wishes to ensure that Indian tribes that might have an interest in any potential historic properties in the area of potential effect (APE) are afforded the opportunity to identify their concerns, provide advice on the identification and evaluation of historic properties, including those of traditional religious and cultural importance and, if necessary, participate in the resolution of any adverse effects to such properties.

Thus, to support the NRC staff's review of any new and potentially significant circumstances or information relevant to the environmental concerns related to the proposed action or its impacts, we request you submit written comments, if any, your tribe may have to offer on the environmental review of the COL by January 8, 2010.

The NRC intends to propose measures in the SEIS for the COL analyses for potential impacts to historical and cultural resources including developing alternatives and proposing measures that might avoid, minimize, or mitigate any adverse effects of the propose action on historic properties. To complete consultation under § 800.8(c), the NRC staff will forward the SEIS on the COL to you for your review and comment, and will address your comments in the final SEIS on the COL.

The proposed new reactors, Vogtle Units 3 and 4 would be located approximately 26 miles southeast of Augusta, Georgia, near the town of Waynesboro, Georgia. SNC currently operates two reactors, Vogtle Units 1 and 2 on the site and plans to construct the new units adjacent to the existing reactors. The application for the COL was accepted for docketing on May 30, 2008, and is available through the web-based version of the NRC Agency-wide Documents Access Management System (ADAMS), which can be found at <http://www.nrc.gov/readingrm/adams.html>. The Environmental Report for the application is listed under ADAMS accession number ML081050181. The Vogtle Plant COL application is also available on the Internet at <http://www.nrc.gov/reactors/new-licensing/col/vogtle.html>. A detailed review by NRC of the environmental impacts of constructing and operating proposed Units 3 and 4 is documented in NUREG-1872, "Final Environmental Impact Statement for an Early Site Permit (ESP) at the Vogtle Electric Generating Plant Site." (ESP FEIS Volumes 1 and 2 are available in ADAMS under ADAMS accession numbers ML082240145 and ML082240165, respectively.)

Please submit comments either by mail to Mrs. Mallecia Sutton, Environmental Project Manager, Division of Site and Environmental Reviews, Mail Stop T-7E18, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555-0001 or via e-mail to Vogtle.COLAEIS@nrc.gov by January 8, 2010.

If you have any questions or require additional information, please contact Mrs. Sutton at (301) 415-0673 or via e-mail to Mallecia.Sutton@nrc.gov.

Sincerely,

/RA/

Gregory P. Hatchett, Branch Chief
Environmental Projects Branch 1
Division of Site and Environmental Reviews
Office of New Reactors

Docket Nos. 52-025 and 52-026

cc: See next page

December 10, 2009

Ms. Karen Kaniatobe
Director of the Cultural/Historical Preservation Department
Absentee-Shawnee Tribe of Oklahoma
2025 S. Gordon Cooper Drive
Shawnee, OK 74801

SUBJECT: U.S. NUCLEAR REGULATORY COMMISSION'S SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT FOR SOUTHERN NUCLEAR OPERATING COMPANY'S COMBINED LICENSE APPLICATION FOR THE PROPOSED CONSTRUCTION AND OPERATION OF UNITS 3 AND 4 AT THE VOGTLE ELECTRIC GENERATING PLANT IN WAYNESBORO, GEORGIA

Dear Ms Kaniatobe:

The U.S. Nuclear Regulatory Commission (NRC) staff is reviewing an application submitted by Southern Nuclear Operating Company, Inc. (Southern or SNC), on behalf of itself and several co-applicants, for a combined license (COL) for construction and operation of two new nuclear units at its Vogtle Electric Generating Plant (Vogtle or VEGP) site in Burke County, Georgia. The purpose of this letter is to invite the Absentee-Shawnee Tribe of Oklahoma to consult with the NRC regarding the proposed action, pursuant to NRC regulations at 10 CFR Part 51 and Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended. The NRC plans to coordinate compliance with Section 106 of the NHPA using the National Environmental Policy Act (NEPA) process identified in 36 CFR 800.8(c) in lieu of the procedures set forth in §§ 800.3 through 800.6. Additionally, the NRC staff will rely on procedures in its regulations at 10 CFR 51.92 for supplementing a final environmental impact statement (FEIS).

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An ESP is a Commission approval of a site suitable for construction and operation of one or more new nuclear units. Under 10 CFR 51.50(c), a COL applicant referencing an ESP need not submit information or analyses regarding environmental issues that were resolved in the ESP EIS, except to the extent the COL applicant has identified any new and potentially significant information.

In accordance with the provisions in 36 CFR § 800.8, the NRC wishes to ensure that Indian tribes that might have an interest in any potential historic properties in the area of potential effect (APE) are afforded the opportunity to identify their concerns, provide advice on the identification and evaluation of historic properties, including those of traditional religious and cultural importance and, if necessary, participate in the resolution of any adverse effects to such properties.

Thus, to support the NRC staff's review of any new and potentially significant circumstances or information relevant to the environmental concerns related to the proposed action or its impacts, we request you submit written comments, if any, your tribe may have to offer on the environmental review of the COL by January 15, 2010.

The NRC intends to propose measures in the SEIS for the COL analyses for potential impacts to historical and cultural resources including developing alternatives and proposing measures that might avoid, minimize, or mitigate any adverse effects of the proposed action on historic properties. To complete consultation under § 800.8(c), the NRC staff will forward the SEIS on the COL to you for your review and comment, and will address your comments in the final SEIS on the COL.

The proposed new reactors, Vogtle Units 3 and 4 would be located approximately 26 miles southeast of Augusta, Georgia, near the town of Waynesboro, Georgia. SNC currently operates two reactors, Vogtle Units 1 and 2 on the site and plans to construct the new units adjacent to the existing reactors. The application for the COL was accepted for docketing on May 30, 2008, and is available through the web-based version of the NRC Agency-wide Documents Access Management System (ADAMS), which can be found at <http://www.nrc.gov/readingrm/adams.html>. The Environmental Report for the application is listed under ADAMS accession number ML081050181. The Vogtle Plant COL application is also available on the Internet at <http://www.nrc.gov/reactors/new-licensing/col/vogtle.html>. A detailed review by NRC of the environmental impacts of constructing and operating proposed Units 3 and 4 is documented in NUREG-1872, "Final Environmental Impact Statement for an Early Site Permit (ESP) at the Vogtle Electric Generating Plant Site." (ESP FEIS Volumes 1 and 2 are available in ADAMS under ADAMS accession numbers ML082240145 and ML082240165, respectively.)

Please submit comments either by mail to Mrs. Mallecia Sutton, Environmental Project Manager, Division of Site and Environmental Reviews, Mail Stop T-7E18, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555-0001 or via e-mail to Vogtle.COLAEIS@nrc.gov by January 15, 2010.

If you have any questions or require additional information, please contact Mrs. Sutton at (301) 415-0673 or via e-mail to Mallecia.Sutton@nrc.gov.

Sincerely,

/RA/

Gregory P. Hatchett, Branch Chief
Environmental Projects Branch 1
Division of Site and Environmental Reviews
Office of New Reactors

Docket Nos. 52-025 and 52-026

cc: See next page

December 10, 2009

Ms. Debbie Thomas
Tribal Historic Preservation Officer
NAGPRA Coordinator
Alabama-Coushatta Tribe of Texas
571 State Park Road 56
Livingston, TX 77351

SUBJECT: U.S. NUCLEAR REGULATORY COMMISSION'S SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT FOR SOUTHERN NUCLEAR OPERATING COMPANY'S COMBINED LICENSE APPLICATION FOR THE PROPOSED CONSTRUCTION AND OPERATION OF UNITS 3 AND 4 AT THE VOGTLE ELECTRIC GENERATING PLANT IN WAYNESBORO, GEORGIA

Dear Ms. Thomas:

The U.S. Nuclear Regulatory Commission (NRC) staff is reviewing an application submitted by Southern Nuclear Operating Company, Inc. (Southern or SNC), on behalf of itself and several co-applicants, for a combined license (COL) for construction and operation of two new nuclear units at its Vogtle Electric Generating Plant (Vogtle or VEGP) site in Burke County, Georgia. The purpose of this letter is to invite the Alabama-Coushatta Tribe of Texas to consult with the NRC regarding the proposed action, pursuant to NRC regulations at 10 CFR Part 51 and Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended. The NRC plans to coordinate compliance with Section 106 of the NHPA using the National Environmental Policy Act (NEPA) process identified in 36 CFR 800.8(c) in lieu of the procedures set forth in §§ 800.3 through 800.6. Additionally, the NRC staff will rely on procedures in its regulations at 10 CFR 51.92 for supplementing a final environmental impact statement (FEIS).

Section 51.26(d) of the NRC regulations describes the processes for determining the need to supplement a FEIS, issue a notice of intent, and determine whether or not a formal scoping process will be conducted. As required by 10 CFR 51.92, the NRC staff will prepare a supplement to the FEIS for the early site permit (ESP) issued on August 26, 2009, to SNC and the same co-applicants. In this case, the NRC staff has determined that it will not conduct a formal scoping process for the development of the supplemental environmental impact statement (SEIS).

An ESP is a Commission approval of a site suitable for construction and operation of one or more new nuclear units. Under 10 CFR 51.50(c), a COL applicant referencing an ESP need not submit information or analyses regarding environmental issues that were resolved in the ESP EIS, except to the extent the COL applicant has identified any new and potentially significant information.

In accordance with the provisions in 36 CFR § 800.8, the NRC wishes to ensure that Indian tribes that might have an interest in any potential historic properties in the area of potential effect (APE) are afforded the opportunity to identify their concerns, provide advice on the identification and evaluation of historic properties, including those of traditional religious and cultural importance and, if necessary, participate in the resolution of any adverse effects to such properties.

Thus, to support the NRC staff's review of any new and potentially significant circumstances or information relevant to the environmental concerns related to the proposed action or its impacts, we request you submit written comments, if any, your tribe may have to offer on the environmental review of the COL by January 15, 2010.

The NRC intends to propose measures in the SEIS for the COL analyses for potential impacts to historical and cultural resources including developing alternatives and proposing measures that might avoid, minimize, or mitigate any adverse effects of the proposed action on historic properties. To complete consultation under § 800.8(c), the NRC staff will forward the SEIS on the COL to you for your review and comment, and will address your comments in the final SEIS on the COL.

The proposed new reactors, Vogtle Units 3 and 4 would be located approximately 26 miles southeast of Augusta, Georgia, near the town of Waynesboro, Georgia. SNC currently operates two reactors, Vogtle Units 1 and 2 on the site and plans to construct the new units adjacent to the existing reactors. The application for the COL was accepted for docketing on May 30, 2008, and is available through the web-based version of the NRC Agency-wide Documents Access Management System (ADAMS), which can be found at <http://www.nrc.gov/readingrm/adams.html>. The Environmental Report for the application is listed under ADAMS accession number ML081050181. The Vogtle Plant COL application is also available on the Internet at <http://www.nrc.gov/reactors/new-licensing/col/vogtle.html>. A detailed review by NRC of the environmental impacts of constructing and operating proposed Units 3 and 4 is documented in NUREG-1872, "Final Environmental Impact Statement for an Early Site Permit (ESP) at the Vogtle Electric Generating Plant Site." (ESP FEIS Volumes 1 and 2 are available in ADAMS under ADAMS accession numbers ML082240145 and ML082240165, respectively.)

Please submit comments either by mail to Mrs. Mallecia Sutton, Environmental Project Manager, Division of Site and Environmental Reviews, Mail Stop T-7E18, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555-0001 or via e-mail to Vogtle.COLAEIS@nrc.gov by January 15, 2010.

If you have any questions or require additional information, please contact Mrs. Sutton at (301) 415-0673 or via e-mail to Mallecia.Sutton@nrc.gov.

Sincerely,

/RA/

Gregory P. Hatchett, Branch Chief
Environmental Projects Branch 1
Division of Site and Environmental Reviews
Office of New Reactors

Docket Nos. 52-025 and 52-026

cc: See next page

December 10, 2009

Mrs. Joyce A. Bear, NAGPRA Contact
Muscogee (Creek) Nation of Oklahoma
P.O. Box 580
Okmulgee, OK 74447

SUBJECT: U.S. NUCLEAR REGULATORY COMMISSION'S SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT FOR SOUTHERN NUCLEAR OPERATING COMPANY'S COMBINED LICENSE APPLICATION FOR THE PROPOSED CONSTRUCTION AND OPERATION OF UNITS 3 AND 4 AT THE VOGTLE ELECTRIC GENERATING PLANT IN WAYNESBORO, GEORGIA

Dear Mrs. Bear:

The U.S. Nuclear Regulatory Commission (NRC) staff is reviewing an application submitted by Southern Nuclear Operating Company, Inc. (Southern or SNC), on behalf of itself and several co-applicants, for a combined license (COL) for construction and operation of two new nuclear units at its Vogtle Electric Generating Plant (Vogtle or VEGP) site in Burke County, Georgia. The purpose of this letter is to invite the Muscogee (Creek) Nation of Oklahoma to consult with the NRC regarding the proposed action, pursuant to NRC regulations at 10 CFR Part 51 and Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended. The NRC plans to coordinate compliance with Section 106 of the NHPA using the National Environmental Policy Act (NEPA) process identified in 36 CFR 800.8(c) in lieu of the procedures set forth in §§ 800.3 through 800.6. Additionally, the NRC staff will rely on procedures in its regulations at 10 CFR 51.92 for supplementing a final environmental impact statement (FEIS).

Section 51.26(d) of the NRC regulations describes the processes for determining the need to supplement a FEIS, issue a notice of intent, and determine whether or not a formal scoping process will be conducted. As required by 10 CFR 51.92, the NRC staff will prepare a supplement to the FEIS for the early site permit (ESP) issued on August 26, 2009, to SNC and the same co-applicants. In this case, the NRC staff has determined that it will not conduct a formal scoping process for the development of the supplemental environmental impact statement (SEIS).

An ESP is a Commission approval of a site suitable for construction and operation of one or more new nuclear units. Under 10 CFR 51.50(c), a COL applicant referencing an ESP need not submit information or analyses regarding environmental issues that were resolved in the ESP EIS, except to the extent the COL applicant has identified any new and potentially significant information.

In accordance with the provisions in 36 CFR § 800.8, the NRC wishes to ensure that Indian tribes that might have an interest in any potential historic properties in the area of potential effect (APE) are afforded the opportunity to identify their concerns, provide advice on the identification and evaluation of historic properties, including those of traditional religious and cultural importance and, if necessary, participate in the resolution of any adverse effects to such properties.

Thus, to support the NRC staff's review of any new and potentially significant circumstances or information relevant to the environmental concerns related to the proposed action or its impacts, we request you submit written comments, if any, your tribe may have to offer on the environmental review of the COL by January 15, 2010.

The NRC intends to propose measures in the SEIS for the COL analyses for potential impacts to historical and cultural resources including developing alternatives and proposing measures that might avoid, minimize, or mitigate any adverse effects of the proposed action on historic properties. To complete consultation under § 800.8(c), the NRC staff will forward the SEIS on the COL to you for your review and comment, and will address your comments in the final SEIS on the COL.

The proposed new reactors, Vogtle Units 3 and 4 would be located approximately 26 miles southeast of Augusta, Georgia, near the town of Waynesboro, Georgia. SNC currently operates two reactors, Vogtle Units 1 and 2 on the site and plans to construct the new units adjacent to the existing reactors. The application for the COL was accepted for docketing on May 30, 2008, and is available through the web-based version of the NRC Agency-wide Documents Access Management System (ADAMS), which can be found at <http://www.nrc.gov/readingrm/adams.html>. The Environmental Report for the application is listed under ADAMS accession number ML081050181. The Vogtle Plant COL application is also available on the Internet at <http://www.nrc.gov/reactors/new-licensing/col/vogtle.html>. A detailed review by NRC of the environmental impacts of constructing and operating proposed Units 3 and 4 is documented in NUREG-1872, "Final Environmental Impact Statement for an Early Site Permit (ESP) at the Vogtle Electric Generating Plant Site." (ESP FEIS Volumes 1 and 2 are available in ADAMS under ADAMS accession numbers ML082240145 and ML082240165, respectively.)

Please submit comments either by mail to Mrs. Mallecia Sutton, Environmental Project Manager, Division of Site and Environmental Reviews, Mail Stop T-7E18, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555-0001 or via e-mail to Vogtle.COLAEIS@nrc.gov by January 15, 2010.

If you have any questions or require additional information, please contact Mrs. Sutton at (301) 415-0673 or via e-mail to Mallecia.Sutton@nrc.gov.

Sincerely,

/RA/

Gregory P. Hatchett, Branch Chief
Environmental Projects Branch 1
Division of Site and Environmental Reviews
Office of New Reactors

Docket Nos. 52-025 and 52-026

cc: See next page

December 10, 2009

Mr. Chadwick Smith, Principal Chief
Cherokee Nation of Oklahoma
P.O. Box 948
Tahlequa, OK 74465

SUBJECT: U.S. NUCLEAR REGULATORY COMMISSION'S SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT FOR SOUTHERN NUCLEAR OPERATING COMPANY'S COMBINED LICENSE APPLICATION FOR THE PROPOSED CONSTRUCTION AND OPERATION OF UNITS 3 AND 4 AT THE VOGTLE ELECTRIC GENERATING PLANT IN WAYNESBORO, GEORGIA

Dear Mr. Smith:

The U.S. Nuclear Regulatory Commission (NRC) staff is reviewing an application submitted by Southern Nuclear Operating Company, Inc. (Southern or SNC), on behalf of itself and several co-applicants, for a combined license (COL) for construction and operation of two new nuclear units at its Vogtle Electric Generating Plant (Vogtle or VEGP) site in Burke County, Georgia. The purpose of this letter is to invite the Cherokee Nation of Oklahoma to consult with the NRC regarding the proposed action, pursuant to NRC regulations at 10 CFR Part 51 and Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended. The NRC plans to coordinate compliance with Section 106 of the NHPA using the National Environmental Policy Act (NEPA) process identified in 36 CFR 800.8(c) in lieu of the procedures set forth in §§ 800.3 through 800.6. Additionally, the NRC staff will rely on procedures in its regulations at 10 CFR 51.92 for supplementing a final environmental impact statement (FEIS).

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Thus, to support the NRC staff's review of any new and potentially significant circumstances or information relevant to the environmental concerns related to the proposed action or its impacts, we request you submit written comments, if any, your tribe may have to offer on the environmental review of the COL by January 15, 2010.

The NRC intends to propose measures in the SEIS for the COL analyses for potential impacts to historical and cultural resources including developing alternatives and proposing measures that might avoid, minimize, or mitigate any adverse effects of the proposed action on historic properties. To complete consultation under § 800.8(c), the NRC staff will forward the SEIS on the COL to you for your review and comment, and will address your comments in the final SEIS on the COL.

The proposed new reactors, Vogtle Units 3 and 4 would be located approximately 26 miles southeast of Augusta, Georgia, near the town of Waynesboro, Georgia. SNC currently operates two reactors, Vogtle Units 1 and 2 on the site and plans to construct the new units adjacent to the existing reactors. The application for the COL was accepted for docketing on May 30, 2008, and is available through the web-based version of the NRC Agency-wide Documents Access Management System (ADAMS), which can be found at <http://www.nrc.gov/readingrm/adams.html>. The Environmental Report for the application is listed under ADAMS accession number ML081050181. The Vogtle Plant COL application is also available on the Internet at <http://www.nrc.gov/reactors/new-licensing/col/vogtle.html>. A detailed review by NRC of the environmental impacts of constructing and operating proposed Units 3 and 4 is documented in NUREG-1872, "Final Environmental Impact Statement for an Early Site Permit (ESP) at the Vogtle Electric Generating Plant Site." (ESP FEIS Volumes 1 and 2 are available in ADAMS under ADAMS accession numbers ML082240145 and ML082240165, respectively.)

Please submit comments either by mail to Mrs. Mallecia Sutton, Environmental Project Manager, Division of Site and Environmental Reviews, Mail Stop T-7E18, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555-0001 or via e-mail to Vogtle.COLAEIS@nrc.gov by January 15, 2010.

If you have any questions or require additional information, please contact Mrs. Sutton at (301) 415-0673 or via e-mail to Mallecia.Sutton@nrc.gov.

Sincerely,

/RA/

Gregory P. Hatchett, Branch Chief
Environmental Projects Branch 1
Division of Site and Environmental Reviews
Office of New Reactors

Docket Nos. 52-025 and 52-026

cc: See next page

December 10, 2009

Mr. Gilbert Blue, Chairperson
Catawba Indian Tribe
P.O. box 188
Catawaba, SC 29704

SUBJECT: U.S. NUCLEAR REGULATORY COMMISSION'S SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT FOR SOUTHERN NUCLEAR OPERATING COMPANY'S COMBINED LICENSE APPLICATION FOR THE PROPOSED CONSTRUCTION AND OPERATION OF UNITS 3 AND 4 AT THE VOGTLE ELECTRIC GENERATING PLANT IN WAYNESBORO, GEORGIA

Dear Mr. Blue:

The U.S. Nuclear Regulatory Commission (NRC) staff is reviewing an application submitted by Southern Nuclear Operating Company, Inc. (Southern or SNC), on behalf of itself and several co-applicants, for a combined license (COL) for construction and operation of two new nuclear units at its Vogtle Electric Generating Plant (Vogtle or VEGP) site in Burke County, Georgia. The purpose of this letter is to invite the Catawba Indian Tribe to consult with the NRC regarding the proposed action, pursuant to NRC regulations at 10 CFR Part 51 and Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended. The NRC plans to coordinate compliance with Section 106 of the NHPA using the National Environmental Policy Act (NEPA) process identified in 36 CFR 800.8(c) in lieu of the procedures set forth in §§ 800.3 through 800.6. Additionally, the NRC staff will rely on procedures in its regulations at 10 CFR 51.92 for supplementing a final environmental impact statement (FEIS).

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G. Blue

-2-

Thus, to support the NRC staff's review of any new and potentially significant circumstances or information relevant to the environmental concerns related to the proposed action or its impacts, we request you submit written comments, if any; your tribe may have to offer on the environmental review of the COL by January 15, 2010.

The NRC intends to propose measures in the SEIS for the COL analyses for potential impacts to historical and cultural resources including developing alternatives and proposing measures that might avoid, minimize, or mitigate any adverse effects of the propose action on historic properties. To complete consultation under § 800.8(c), the NRC staff will forward the SEIS on the COL to you for your review and comment, and will address your comments in the final SEIS on the COL.

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Please submit comments either by mail to Mrs. Mallecia Sutton, Environmental Project Manager, Division of Site and Environmental Reviews, Mail Stop T-7E18, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555-0001 or via e-mail to Vogtle.COLAEIS@nrc.gov by January 15, 2010.

If you have any questions or require additional information, please contact Mrs. Sutton at (301) 415-0673 or via e-mail to Mallecia.Sutton@nrc.gov.

Sincerely,

/RA/

Gregory P. Hatchett, Branch Chief
Environmental Projects Branch 1
Division of Site and Environmental Reviews
Office of New Reactors

Docket Nos. 52-025 and 52-026

cc: See next page

December 10, 2009

Mr. Willard Steele, Deputy THPO
Seminole Tribe of Florida
Ah-Tah-Thi-Ki Museum
HC 61, Box 21A
Clewiston, FL 33440

SUBJECT: U.S. NUCLEAR REGULATORY COMMISSION'S SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT FOR SOUTHERN NUCLEAR OPERATING COMPANY'S COMBINED LICENSE APPLICATION FOR THE PROPOSED CONSTRUCTION AND OPERATION OF UNITS 3 AND 4 AT THE VOGTLE ELECTRIC GENERATING PLANT IN WAYNESBORO, GEORGIA

Dear Mr. Steele:

The U.S. Nuclear Regulatory Commission (NRC) staff is reviewing an application submitted by Southern Nuclear Operating Company, Inc. (Southern or SNC), on behalf of itself and several co-applicants, for a combined license (COL) for construction and operation of two new nuclear units at its Vogtle Electric Generating Plant (Vogtle or VEGP) site in Burke County, Georgia. The purpose of this letter is to invite the Seminole Tribe of Florida to consult with the NRC regarding the proposed action, pursuant to NRC regulations at 10 CFR Part 51 and Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended. The NRC plans to coordinate compliance with Section 106 of the NHPA using the National Environmental Policy Act (NEPA) process identified in 36 CFR 800.8(c) in lieu of the procedures set forth in §§ 800.3 through 800.6. Additionally, the NRC staff will rely on procedures in its regulations at 10 CFR 51.92 for supplementing a final environmental impact statement (FEIS).

Section 51.26(d) of the NRC regulations describes the processes for determining the need to supplement a FEIS, issue a notice of intent, and determine whether or not a formal scoping process will be conducted. As required by 10 CFR 51.92, the NRC staff will prepare a supplement to the FEIS for the early site permit (ESP) issued on August 26, 2009, to SNC and the same co-applicants. In this case, the NRC staff has determined that it will not conduct a formal scoping process for the development of the supplemental environmental impact statement (SEIS).

An ESP is a Commission approval of a site suitable for construction and operation of one or more new nuclear units. Under 10 CFR 51.50(c), a COL applicant referencing an ESP need not submit information or analyses regarding environmental issues that were resolved in the ESP EIS, except to the extent the COL applicant has identified any new and potentially significant information.

In accordance with the provisions in 36 CFR § 800.8, the NRC wishes to ensure that Indian tribes that might have an interest in any potential historic properties in the area of potential effect (APE) are afforded the opportunity to identify their concerns, provide advice on the identification and evaluation of historic properties, including those of traditional religious and

W. Steele

-2-

cultural importance and, if necessary, participate in the resolution of any adverse effects to such properties. Thus, to support the NRC staff's review of any new and potentially significant circumstances or information relevant to the environmental concerns related to the proposed action or its impacts, we request you submit written comments, if any; your tribe may have to offer on the environmental review of the COL by January 15, 2010.

The NRC intends to propose measures in the SEIS for the COL analyses for potential impacts to historical and cultural resources including developing alternatives and proposing measures that might avoid, minimize, or mitigate any adverse effects of the propose action on historic properties. To complete consultation under § 800.8(c), the NRC staff will forward the SEIS on the COL to you for your review and comment, and will address your comments in the final SEIS on the COL.

The proposed new reactors, Vogtle Units 3 and 4 would be located approximately 26 miles southeast of Augusta, Georgia, near the town of Waynesboro, Georgia. SNC currently operates two reactors, Vogtle Units 1 and 2 on the site and plans to construct the new units adjacent to the existing reactors. The application for the COL was accepted for docketing on May 30, 2008, and is available through the web-based version of the NRC Agency-wide Documents Access Management System (ADAMS), which can be found at <http://www.nrc.gov/readingrm/adams.html>. The Environmental Report for the application is listed under ADAMS accession number ML081050181. The Vogtle Plant COL application is also available on the Internet at <http://www.nrc.gov/reactors/new-licensing/col/vogtle.html>. A detailed review by NRC of the environmental impacts of constructing and operating proposed Units 3 and 4 is documented in NUREG-1872, "Final Environmental Impact Statement for an Early Site Permit (ESP) at the Vogtle Electric Generating Plant Site." (ESP FEIS Volumes 1 and 2 are available in ADAMS under ADAMS accession numbers ML082240145 and ML082240165, respectively.)

Please submit comments either by mail to Mrs. Mallecia Sutton, Environmental Project Manager, Division of Site and Environmental Reviews, Mail Stop T-7E18, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555-0001 or via e-mail to Vogtle.COLAEIS@nrc.gov by January 15, 2010.

If you have any questions or require additional information, please contact Mrs. Sutton at (301) 415-0673 or via e-mail to Mallecia.Sutton@nrc.gov.

Sincerely,

/RA/

Gregory P. Hatchett, Branch Chief
Environmental Projects Branch 1
Division of Site and Environmental Reviews
Office of New Reactors

Docket Nos. 52-025 and 52-026

cc: See next page

December 10, 2009

Mr. Kenneth H. Carleton
THPO/Tribal Archaeologist
Mississippi Band of Choctaw Indians
P.O. Box 6257/ 101 Industrial Road
Choctaw, MS 39350

SUBJECT: U.S. NUCLEAR REGULATORY COMMISSION'S SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT FOR SOUTHERN NUCLEAR OPERATING COMPANY'S COMBINED LICENSE APPLICATION FOR THE PROPOSED CONSTRUCTION AND OPERATION OF UNITS 3 AND 4 AT THE VOGTLE ELECTRIC GENERATING PLANT IN WAYNESBORO, GEORGIA

Dear Mr. Carleton:

The U.S. Nuclear Regulatory Commission (NRC) staff is reviewing an application submitted by Southern Nuclear Operating Company, Inc. (Southern or SNC), on behalf of itself and several co-applicants, for a combined license (COL) for construction and operation of two new nuclear units at its Vogtle Electric Generating Plant (Vogtle or VEGP) site in Burke County, Georgia. The purpose of this letter is to invite the Mississippi Band of Choctaw Indians to consult with the NRC regarding the proposed action, pursuant to NRC regulations at 10 CFR Part 51 and Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended. The NRC plans to coordinate compliance with Section 106 of the NHPA using the National Environmental Policy Act (NEPA) process identified in 36 CFR 800.8(c) in lieu of the procedures set forth in §§ 800.3 through 800.6. Additionally, the NRC staff will rely on procedures in its regulations at 10 CFR 51.92 for supplementing a final environmental impact statement (FEIS).

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An ESP is a Commission approval of a site suitable for construction and operation of one or more new nuclear units. Under 10 CFR 51.50(c), a COL applicant referencing an ESP need not submit information or analyses regarding environmental issues that were resolved in the ESP EIS, except to the extent the COL applicant has identified any new and potentially significant information.

In accordance with the provisions in 36 CFR § 800.8, the NRC wishes to ensure that Indian tribes that might have an interest in any potential historic properties in the area of potential effect (APE) are afforded the opportunity to identify their concerns, provide advice on the identification and evaluation of historic properties, including those of traditional religious and cultural importance and, if necessary, participate in the resolution of any adverse effects to such properties.

Thus, to support the NRC staff's review of any new and potentially significant circumstances or information relevant to the environmental concerns related to the proposed action or its impacts, we request you submit written comments, if any, your tribe may have to offer on the environmental review of the COL by January 15, 2010.

The NRC intends to propose measures in the SEIS for the COL analyses for potential impacts to historical and cultural resources including developing alternatives and proposing measures that might avoid, minimize, or mitigate any adverse effects of the propose action on historic properties. To complete consultation under § 800.8(c), the NRC staff will forward the SEIS on the COL to you for your review and comment, and will address your comments in the final SEIS on the COL.

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Please submit comments either by mail to Mrs. Mallecia Sutton, Environmental Project Manager, Division of Site and Environmental Reviews, Mail Stop T-7E18, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555-0001 or via e-mail to Vogtle.COLAEIS@nrc.gov by January 15, 2010.

If you have any questions or require additional information, please contact Mrs. Sutton at (301) 415-0673 or via e-mail to Mallecia.Sutton@nrc.gov.

Sincerely,

/RA/

Gregory P. Hatchett, Branch Chief
Environmental Projects Branch 1
Division of Site and Environmental Reviews
Office of New Reactors

Docket Nos. 52-025 and 52-026

cc: See next page

PMVogtleCOLNPEM Resource

From: Sutton, Mallecia
Sent: Tuesday, December 15, 2009 4:24 PM
To: Kuntzleman, Nancy
Cc: PMVogtleCOLNPEM Resource
Subject: FW: SC State Threatened and Endangered Species in the Vicinity of Vogtle Electric Generating Plant

FYI

From: Julie Holling [mailto:HollingJ@dnr.sc.gov]
Sent: Tuesday, December 15, 2009 2:49 PM
To: Sutton, Mallecia
Subject: RE: SC State Threatened and Endangered Species in the Vicinity of Vogtle Electric Generating Plant

Ms. Sutton,

The species listed in your attachment are still accurate for the 10-mile radius from VEGP. Please let me know if you need additional information.

Julie

Julie Holling - Data Manager
SC Dept. of Natural Resources
Heritage Trust Program
P. O. Box 167, Columbia, SC 29202
1000 Assembly St., Columbia, SC 29201
office: 803-734-3917 fax: 803-734-3931
HollingJ@dnr.sc.gov

DNR protects and manages South Carolina's natural resources by making wise and balanced decisions for the benefit of the state's natural resources and its people. Find out more about DNR at www.dnr.sc.gov.



Please consider the environment before printing this e-mail.

From: Sutton, Mallecia [mailto:Mallecia.Sutton@nrc.gov]
Sent: Tuesday, December 15, 2009 1:13 PM
To: Julie Holling
Cc: PMVogtleCOLNPEM Resource
Subject: SC State Threatened and Endangered Species in the Vicinity of Vogtle Electric Generating Plant

Dear Ms. Holling:

The NRC staff is currently reviewing an application submitted by Southern Nuclear Operating Company, Inc., for a combined license (COL) for construction and operation of a two new nuclear power plants at the Vogtle Electric Generating Plant (VEGP) site in Burke County, Georgia. We originally consulted with you in 2007 when we were preparing the Environmental Impact Statement (EIS) for the Early Site Permit (ESP) for VEGP Units 3 and 4. The EIS for the COL will be a supplement to the ESP EIS. In 2007, we compiled a list of state threatened and endangered species in South Carolina within 10 miles of the VEGP site using the quads on the SCDNR website. I have attached the tables we included in the ESP EIS that contained this information. Could

Appendix F

you please let us know if these lists are still accurate or if there is updated or new species information? I have included the shapefile containing the centroid for the VEGP site. Coordsys is geographic: NAD27 degrees and is provided within the .prj file. Please let me know if you can provide information to verify or update this list with new information and if anything else is required to enable this data exchange. If I need to contact someone else for this information, please advise.

I can be reached by phone or by email.

Thanks for your assistance.

Mallecia Sutton
Environmental Project Manager
U.S.Nuclear Regulatory Commission
Two White Flint North
11545 Rockville Pike
Rockville, MD 20852-27388
Mailstop:T7E18
301-415-0673

Best regards,

PMVogleCOLNPEm Resource

From: Sutton, Mallecia
Sent: Wednesday, December 16, 2009 10:03 AM
To: Matt Elliott
Cc: Brett Albanese; Katrina Morris; PMVogleCOLNPEm Resource
Subject: RE: FW: GDNR email Vogtle COL

Thanks

Mallecia Sutton
U.S.Nuclear Regulatory Commission
Two White Flint North
11545 Rockville Pike
Rockville, MD 20852-27388
Mailstop:T7E18
301-415-0673

-----Original Message-----

From: Matt Elliott [mailto:Matt.Elliott@dnr.state.ga.us]
Sent: Wednesday, December 16, 2009 9:49 AM
To: Sutton, Mallecia
Cc: Brett Albanese; Katrina Morris
Subject: Re: FW: GDNR email Vogtle COL

Mallecia

Attached is our current GA protected species list. It has not changed since 2006 (when the last changes took effect). The attachment shows the changes that took place in 2006.

Trina Morris and Brett Albanese will work on the rest of your request.

Thanks
Matt

Matt Elliott
Program Manager
Georgia Department of Natural Resources
Wildlife Resources Division
Nongame Conservation Section
2065 US Hwy 278, SE
Social Circle, GA 30025
(770)918-6411 or (706)557-3032 - office
(404)291-8156 - cell

>>> "Sutton, Mallecia" <Mallecia.Sutton@nrc.gov> 12/15/09 1:07 PM >>>

Dear Matt:

Appendix F

Thanks for taking time out of your busy schedule to participate on the phone call held Tuesday, December 8 with the environmental staff working on the Vogtle COL application. As mentioned on the phone, the NRC staff is currently reviewing an application submitted by Southern Nuclear Operating Company, Inc. (SNC) for a combined license (COL) for construction and operation of two new nuclear power plants at the Vogtle Electric Generating Plant (VEGP) site in Burke County, Georgia. NRC is preparing a supplement to their 2008 Final Environmental Impact Statement (FEIS) that was prepared to support the decision to grant an Early Site Permit (ESP) to Southern for the VEGP site. NRC is particularly interested in any new Georgia state-listed species information in the vicinity of the VEGP site and the associated proposed transmission line macrocorridor.

Attached are:

1. Shapefiles for the boundary of the VEGP site and the transmission line macrocorridor.
2. Tables 2-3 through 2-6 and Tables 2-9 and 2-10 from the ESP EIS. These tables provide lists of terrestrial and aquatic Federally and State-listed species within 10 miles of the VEGP site in Burke County and listed species in the counties crossed by the proposed transmission corridor (Burke, McDuffie, Jefferson, and Warren) as of 2007.

We would appreciate it if you would please provide an updated list of the Georgia state-listed species or verify that there have been no changes. In addition, we would appreciate any new information you have on the occurrences of federally-listed species in the vicinity of Vogtle and the proposed transmission corridor.

If you have any questions, I can be reached by email or phone.

Thanks for your assistance

Best Regards,

Mallecia Sutton
U.S.Nuclear Regulatory Commission
Two White Flint North
11545 Rockville Pike
Rockville, MD 20852-27388
Mailstop:T7E18
301-415-0673

PMVogtleCOLPEm Resource

From: Katrina Morris [Katrina.Morris@dnr.state.ga.us]
Sent: Monday, December 21, 2009 11:22 AM
To: Sutton, Mallecia
Cc: Matt Elliott
Subject: Re: FW: GDNR email Vogtle COL
Attachments: ir_12784.pdf

Hi Mallecia,
Please see attached letter regarding the Vogtle COL. Let me know if you have any questions.
Thanks,
Trina

Trina Morris, Wildlife Biologist
Environmental Review Coordinator
Georgia Dept. of Natural Resources
Nongame Conservation Section
2065 U.S. Hwy. 278 S.E.
Social Circle, GA 30025-4743
Ph: 770-918-6411 or 706-557-3032
Fax: 706-557-3033
katrina.morris@dnr.state.ga.us
<http://georgiawildlife.dnr.state.ga.us/>

Wild about wildlife? Sign up for Georgia Wild, DNR's free e-newsletter about all things nongame, from animals to habitats. Click here to subscribe (or paste this link into your browser):
<http://www.georgiawildlife.com/enewsletters.aspx>

>>> "Sutton, Mallecia" <Mallecia.Sutton@nrc.gov> 12/15/09 1:07 PM >>>

Dear Matt:

Thanks for taking time out of your busy schedule to participate on the phone call held Tuesday, December 8 with the environmental staff working on the Vogtle COL application. As mentioned on the phone, the NRC staff is currently reviewing an application submitted by Southern Nuclear Operating Company, Inc. (SNC) for a combined license (COL) for construction and operation of two new nuclear power plants at the Vogtle Electric Generating Plant (VEGP) site in Burke County, Georgia. NRC is preparing a supplement to their 2008 Final Environmental Impact Statement (FEIS) that was prepared to support the decision to grant an Early Site Permit (ESP) to Southern for the VEGP site. NRC is particularly interested in any new Georgia state-listed species information in the vicinity of the VEGP site and the associated proposed transmission line macrocorridor.

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Appendix F

If you have any questions, I can be reached by email or phone.

Thanks for your assistance

Best Regards,

Mallecia Sutton
U.S.Nuclear Regulatory Commission
Two White Flint North
11545 Rockville Pike
Rockville, MD 20852-27388
Mailstop:T7E18
301-415-0673



CHRIS CLARK
COMMISSIONER

WILDLIFE RESOURCES DIVISION

DAN FORSTER
DIRECTOR

December 17, 2009

Mallecia Sutton
US Nuclear Regulatory Commission
Two White Flint North
111545 Rockville Pike
Rockville, MD 20852-27388
Mailstop: T7E18

Subject: Known occurrences of natural communities, plants and animals of highest priority conservation status on or near Vogtle COL, Burke County, Georgia

Dear Ms. Sutton:

This is in response to your request of December 15, 2009. According to our records, **within the VEGP Boundary and the Transmission Line Macrocorridor** there are the following Natural Heritage Database occurrences:

	Scientific Name	Common Name	Status	Counties
	<i>Ambystoma tigrinum tigrinum</i>	Eastern Tiger Salamander		Jefferson, Mcduffie
GA	<i>Ceratiola ericoides</i>	Sandhill Rosemary	ST	Burke
	<i>Desmognathus auriculatus</i>	Southern Dusky Salamander		Burke
GA	<i>Geomys pinetis</i>	Southeastern Pocket Gopher	ST	Burke
GA	<i>Haliaeetus leucocephalus</i>	Bald Eagle	ST	Mcduffie
	<i>Passerina ciris</i>	Painted Bunting		Burke
	<i>Passerina ciris</i>	Painted Bunting		Burke
	<i>Passerina ciris</i>	Painted Bunting		Burke
	<i>Passerina ciris</i>	Painted Bunting		Burke
GA	<i>Stewartia malacodendron</i>	Silky Camellia	SR	Burke

NONGAME CONSERVATION SECTION

2065 U.S. HIGHWAY 278 S.E. | SOCIAL CIRCLE, GEORGIA 30025-4743
770.918.6411 or 706.557.3032 | FAX 706.557.3033 | WWW.GEORGIAWILDLIFE.COM

Boggy Gut Creek [High Priority Stream]
Brier Creek [High Priority Stream]
Brushy Creek [High Priority Stream]
McBean Creek [High Priority Stream]
Reedy Creek [High Priority Stream]
Sandy Run Creek [High Priority Stream]
Savannah River [High Priority Stream]

According to our records, **within 10 miles of the VEGP Boundary** there are the following Natural Heritage Database occurrences:

- US *Acipenser brevirostrum* (Shortnose Sturgeon) approx. 1.0 mi. NE of site in the Savannah River
- US *Acipenser brevirostrum* (Shortnose Sturgeon) approx. 10 mi. NW of site in the Savannah River
- US *Acipenser brevirostrum* (Shortnose Sturgeon) approx. 4.0 mi. N of site in the Savannah River
- US *Acipenser brevirostrum* (Shortnose Sturgeon) approx. 5 mi. N of site in the Savannah River
- US *Acipenser brevirostrum* (Shortnose Sturgeon) approx. 6 mi. N of site in the Savannah River
- Acipenser oxyrinchus oxyrinchus* (Atlantic Sturgeon) [HISTORIC?] approx. 4.0 mi. N of site in the Savannah River
- Ambystoma tigrinum tigrinum* (Eastern Tiger Salamander) [HISTORIC] approx. 8 mi. S of site
- Cp mesic broadleaf decid.-broadleaf ever. forest* (Coastal Plain Mesic Ravine Forest) approx. 4.0 mi. S of site
- Cp mesic broadleaf decid.-broadleaf ever. forest* (Coastal Plain Mesic Ravine Forest) approx. 3.5 mi. S of site
- Cp mesic broadleaf decid.-broadleaf ever. forest* (Coastal Plain Mesic Ravine Forest) approx. 4.0 mi. S of site
- Desmognathus auriculatus* (Southern Dusky Salamander) approx. 8 mi. W of site
- Dryopteris celsa* (Log Fern) approx. 7 mi. S of site
- GA *Enneacanthus chaetodon* (Blackbanded Sunfish) approx. 10 mi. E of site in unnamed tributary #3
- GA *Enneacanthus chaetodon* (Blackbanded Sunfish) approx. 5 mi. E of site in Pen Branch
- Etheostoma fricksium* (Savannah Darter) approx. 3.5 mi. S of site in High Head Branch
- Etheostoma fricksium* (Savannah Darter) approx. 10 mi. E of site in Meyers Branch
- Etheostoma fricksium* (Savannah Darter) approx. 8 mi. E of site in Steel Creek
- Etheostoma fricksium* (Savannah Darter) approx. 8 mi. NE of site in Pen Branch
- Etheostoma fricksium* (Savannah Darter) approx. 9 mi. E of site in Meyers Branch
- Etheostoma fricksium* (Savannah Darter) approx. 9 mi. N of site in Upper Three Runs
- Etheostoma serrifer* (Sawcheek Darter) approx. 1.5 mi. E of site in the Savannah River
- Etheostoma serrifer* (Sawcheek Darter) approx. 4.0 mi. E of site in the Savannah River
- Etheostoma serrifer* (Sawcheek Darter) approx. 4.0 mi. SE of site in the Savannah River

- Etheostoma serrifer* (Sawcheek Darter) approx. 5 mi. E of site in the Savannah River
Etheostoma serrifer (Sawcheek Darter) approx. 6 mi. E of site in the Savannah River
Etheostoma serrifer (Sawcheek Darter) approx. 7 mi. SE of site in the Savannah River
Etheostoma serrifer (Sawcheek Darter) approx. 8 mi. E of site in the Savannah River
Etheostoma serrifer (Sawcheek Darter) approx. 8 mi. NE of site in Pen Branch
Etheostoma serrifer (Sawcheek Darter) approx. 9 mi. E of site in the Savannah River
GA *Fusconaia masoni* (Atlantic Pigtoe) [EXTIRPATED?] approx. 8 mi. S of site in Brier
Creek in Brier Creek
Fundulus chrysotus (Golden Topminnow) approx. 1.5 mi. E of site in the Savannah River
Fundulus chrysotus (Golden Topminnow) approx. 4.0 mi. E of site in the Savannah River
Fundulus chrysotus (Golden Topminnow) approx. 4.0 mi. SE of site in the Savannah
River
Fundulus chrysotus (Golden Topminnow) approx. 7 mi. NW of site in the Savannah River
Fundulus chrysotus (Golden Topminnow) approx. 7 mi. SE of site in the Savannah River
Fundulus chrysotus (Golden Topminnow) approx. 8 mi. E of site in the Savannah River
GA *Geomys pinetis* (Southeastern Pocket Gopher) approx. 1.5 mi. NW of site
GA *Geomys pinetis* (Southeastern Pocket Gopher) approx. 2.0 mi. SW of site
GA *Geomys pinetis* (Southeastern Pocket Gopher) approx. 2.5 mi. SW of site
GA *Geomys pinetis* (Southeastern Pocket Gopher) approx. 3.0 mi. NW of site
GA *Geomys pinetis* (Southeastern Pocket Gopher) approx. 3.0 mi. W of site
GA *Geomys pinetis* (Southeastern Pocket Gopher) approx. 3.5 mi. W of site
GA *Geomys pinetis* (Southeastern Pocket Gopher) approx. 4.0 mi. NW of site
GA *Geomys pinetis* (Southeastern Pocket Gopher) approx. 5 mi. NW of site
GA *Geomys pinetis* (Southeastern Pocket Gopher) approx. 5 mi. SW of site
GA *Geomys pinetis* (Southeastern Pocket Gopher) approx. 7 mi. NW of site
Lindera subcoriacea (Bog Spicebush) approx. 4.0 mi. S of site
GA *Moxostoma robustum* (Robust Redhorse) approx. 10 mi. NW of site in the Savannah
River in the Savannah River
GA *Moxostoma robustum* (Robust Redhorse) approx. 2.0 mi. E of site in the Savannah River
in the Savannah River
GA *Moxostoma robustum* (Robust Redhorse) approx. 5 mi. NW of site in the Savannah River
in the Savannah River
GA *Moxostoma robustum* (Robust Redhorse) approx. 7 mi. SE of site in the Savannah River
in the Savannah River
Nerodia floridana (Florida Green Water Snake) approx. 9 mi. SE of site
GA *Nestronia umbellula* (Indian Olive) approx. 3.5 mi. S of site
Notropis chalybaeus (Ironcolor Shiner) approx. 1.0 mi. NE of site in the Savannah River
Notropis chalybaeus (Ironcolor Shiner) approx. 1.5 mi. E of site in the Savannah River
Notropis chalybaeus (Ironcolor Shiner) approx. 1.5 mi. N of site in the Savannah River
Notropis chalybaeus (Ironcolor Shiner) approx. 3.5 mi. NE of site in Fourmile Branch
Notropis chalybaeus (Ironcolor Shiner) approx. 4.0 mi. E of site in the Savannah River
Notropis chalybaeus (Ironcolor Shiner) approx. 4.0 mi. N of site in the Savannah River
Notropis chalybaeus (Ironcolor Shiner) approx. 4.0 mi. SE of site in the Savannah River
Notropis chalybaeus (Ironcolor Shiner) approx. 4.5 mi. E of site in the Savannah River
Notropis chalybaeus (Ironcolor Shiner) approx. 5 mi. E of site in the Savannah River
Notropis chalybaeus (Ironcolor Shiner) approx. 5 mi. N of site in the Savannah River

- Notropis chalybaeus* (Ironcolor Shiner) approx. 6 mi. E of site in the Savannah River
Notropis chalybaeus (Ironcolor Shiner) approx. 6 mi. NE of site in Pen Branch
Notropis chalybaeus (Ironcolor Shiner) approx. 7 mi. NE of site in Indian Grave Branch
Notropis chalybaeus (Ironcolor Shiner) approx. 7 mi. NW of site in the Savannah River
Notropis chalybaeus (Ironcolor Shiner) approx. 7 mi. SE of site in the Savannah River
Notropis chalybaeus (Ironcolor Shiner) approx. 8 mi. E of site in the Savannah River
Notropis chalybaeus (Ironcolor Shiner) approx. 9 mi. E of site in the Savannah River
Passerina ciris (Painted Bunting) approx. 1.0 mi. SW of site
Passerina ciris (Painted Bunting) approx. 1.5 mi. NW of site
Passerina ciris (Painted Bunting) approx. 2.5 mi. NW of site
Passerina ciris (Painted Bunting) approx. 7 mi. SE of site
Passerina ciris (Painted Bunting) approx. 8 mi. S of site
Pituophis melanoleucus mugitus (Florida Pine Snake) approx. 6 mi. SW of site
Pseudacris brimleyi (Brimley's Chorus Frog) [HISTORIC] approx. 5 mi. N of site
Quercus austrina (Bluff White Oak) approx. 7 mi. NW of site
GA *Sarracenia rubra* (Sweet Pitcherplant) approx. 8 mi. SE of site
GA *Scutellaria ocmulgee* (Ocmulgee Skullcap) approx. 4.0 mi. SE of site
Silene caroliniana (Carolina Pink) approx. 3.5 mi. S of site
Silene caroliniana (Carolina Pink) approx. 4.0 mi. SE of site
Silene caroliniana (Carolina Pink) approx. 7 mi. NW of site
Umbra pygmaea (Eastern Mudminnow) approx. 10 mi. E of site in Meyers Branch
Umbra pygmaea (Eastern Mudminnow) approx. 4.0 mi. E of site in the Savannah River
Umbra pygmaea (Eastern Mudminnow) approx. 4.0 mi. NE of site
Umbra pygmaea (Eastern Mudminnow) approx. 4.5 mi. E of site in the Savannah River
Umbra pygmaea (Eastern Mudminnow) approx. 5 mi. E of site in the Savannah River
Umbra pygmaea (Eastern Mudminnow) approx. 5 mi. N of site in the Savannah River
Umbra pygmaea (Eastern Mudminnow) approx. 5 mi. NE of site
Umbra pygmaea (Eastern Mudminnow) approx. 6 mi. E of site in the Savannah River
Umbra pygmaea (Eastern Mudminnow) approx. 6 mi. NE of site in Pen Branch
Umbra pygmaea (Eastern Mudminnow) approx. 7 mi. E of site
Umbra pygmaea (Eastern Mudminnow) approx. 7 mi. N of site in Island Creek
Umbra pygmaea (Eastern Mudminnow) approx. 7 mi. NW of site in the Savannah River
Umbra pygmaea (Eastern Mudminnow) approx. 7 mi. SE of site in the Savannah River
Umbra pygmaea (Eastern Mudminnow) approx. 8 mi. E of site in the Savannah River
Umbra pygmaea (Eastern Mudminnow) approx. 9 mi. E of site in the Savannah River
Umbra pygmaea (Eastern Mudminnow) approx. 9 mi. NW of site in McBean Creek

* Entries above preceded by "US" indicates species with federal status in Georgia (Protected or Candidate). Species that are federally protected in Georgia are also state protected; "GA" indicates Georgia protected species.

Recommendations:

We have records of several high priority species within the project area (see Table). We also a large number of records of species of concern within 10 miles of the VEGP site. This includes a federally listed species, *Acipenser brevirostrum* (Shortnose Sturgeon). Section 9 of the

Endangered Species Act states that taking or harming of a listed species is prohibited. We recommend all requestors with projects located near federally protected species consult with the United States Fish and Wildlife Service. For southeast Georgia, please contact Strant Colwell (912-265-9336, ext.30 or Strant_Colwell@fws.gov). In southwest Georgia, please contact John Doresky (706-544-6999 or John_Doresky@fws.gov). In north Georgia, please contact Robin Goodloe (706-613-9493, ext.221 or Robin_Goodloe@fws.gov).

A record of a nesting Bald Eagle (*Haliaeetus leucocephalus*) is also within the transmission line macrocorridor area. Although Bald Eagles are no longer considered an endangered species, they are still protected by the Migratory Bird Treaty Act, the Bald and Golden Eagle Protection Act and the Georgia Endangered Species Act. These Acts continue to protect bald eagles from potentially harmful human activities. For more information on how to prevent impacts to bald eagles that could violate the Eagle Act, download the National Bald Eagle Management Guidelines:

<http://www.fws.gov/migratorybirds/issues/BaldEagle/NationalBaldEagleManagementGuidelines.pdf>

Though we don't have any records within the project area, there may be appropriate habitat for gopher tortoises (*Gopherus polyphemus*) within the corridor. We recommend identifying any burrows before construction and avoiding disturbance of burrows and tortoises in those areas.

In order to protect aquatic habitats and water quality, we recommend that all machinery be kept out of creeks during construction. Streams should not be culverted/forded to allow equipment access during construction or for future ROW maintenance. Further, we strongly advocate retaining at least a 25-foot vegetative buffer between each stream bank and the closest power pole, and allow this buffer to regenerate to shrub-scrub growth after the line is installed (if the landowner is willing). We realize that some trees may have to be removed, but recommend that shrubs and ground vegetation be left in place. Wider buffers may be needed for projects where land slopes sharply toward the stream being crossed. We also recommend that stringent erosion control practices be used during construction activities and that vegetation is re-established on disturbed areas as quickly as possible. Silt fences and other erosion control devices should be inspected and maintained until soil is stabilized by vegetation. Please use natural vegetation and grading techniques (e.g. vegetated swales, turn-offs, vegetated buffer strips) that will ensure that the project area does not serve as a conduit for storm water or pollutants into the water during or after construction. These measures will help protect water quality in the vicinity of the project as well as in downstream areas.

Please be aware that this project occurs near several high priority streams. As part of an effort to develop a comprehensive wildlife conservation strategy for the state of Georgia, the Wildlife Resources division has developed and mapped a list of streams that are important to the protection or restoration of rare aquatic species and aquatic communities. High priority waters and their surrounding watersheds are a high priority for a broad array of conservation activities, but do not receive any additional legal protections. We now have GIS ESRI shapefiles of GA high priority waters available on our website (<http://www.georgiawildlife.com/content/displaycontent.asp?txtDocument=89&txtPage=13>).

Please contact the Georgia Natural Heritage Program if you would like additional information on high priority waters.

Data Available on the Nongame Conservation Section Website

By visiting the Nongame Conservation Section Website you can view the highest priority species and natural community information by Quarter Quad, County and HUC8 Watershed. To access this information, please visit our GA Rare Species and Natural Community Information page at: <http://georgiawildlife.dnr.state.ga.us/content/displaycontent.asp?txtDocument=89>

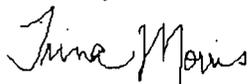
An ESRI shape file of our highest priority species and natural community data by quarter quad and county is also available. It can be downloaded from: <http://georgiawildlife.dnr.state.ga.us/assets/documents/gnhp/gnhpds.zip>

Disclaimer:

Please keep in mind the limitations of our database. The data collected by the Nongame Conservation Section comes from a variety of sources, including museum and herbarium records, literature, and reports from individuals and organizations, as well as field surveys by our staff biologists. In most cases the information is not the result of a recent on-site survey by our staff. Many areas of Georgia have never been surveyed thoroughly. Therefore, the Nongame Conservation Section can only occasionally provide definitive information on the presence or absence of rare species on a given site. Our files are updated constantly as new information is received. **Thus, information provided by our program represents the existing data in our files at the time of the request and should not be considered a final statement on the species or area under consideration.**

If you know of populations of highest priority species that are not in our database, please fill out the appropriate data collection form and send it to our office. Forms can be obtained through our web site (<http://www.georgiawildlife.com>) or by contacting our office. If I can be of further assistance, please let me know.

Sincerely,



Katrina Morris
Environmental Review Coordinator

December 23, 2009

Mr. Don Klima, Director
Office of Federal Agency Programs
Advisory Council on Historic Preservation
Old Post Office Building
1100 Pennsylvania Avenue, NW, Suite 809
Washington, DC 20004

**SUBJECT: REQUEST FOR INFORMATION ON HISTORIC PROPERTIES WITHIN THE
AREA UNDER EVALUATION FOR THE VOGTLE ELECTRIC GENERATING
PLANT, UNITS 3 AND 4 COMBINED LICENSE APPLICATION REVIEW**

Dear Mr. Klima:

The U.S. Nuclear Regulatory Commission (NRC) staff is reviewing an application submitted by Southern Nuclear Operating Company, Inc. (Southern or SNC), on behalf of itself and several co-applicants, for a combined license (COL) for construction and operation of two new nuclear units at its Vogtle Electric Generating Plant (Vogtle or VEGP) site in Burke County, Georgia. The purpose of this letter is to initiate consultation for the subject project with the Advisory Council on Historic Preservation (ACHP) pursuant to U.S. Nuclear Regulatory Commission (NRC) regulations at 10 CFR 51 and Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended. The NRC plans to coordinate compliance with Section 106 of the NHPA using the National Environmental Policy Act (NEPA) of 1969, as amended, process identified in 36 CFR 800.8(c) in lieu of the procedures set forth in §§ 800.3 through 800.6. Additionally, the NRC staff will rely on procedures in its regulations at 10 CFR 51.92 for supplementing a final environmental impact statement (FEIS).

Section 51.26(d) of the NRC regulations describes the processes for determining the need to supplement an FEIS, issue a notice of intent and determine whether a formal scoping process will be conducted. NRC staff will prepare a supplement to the FEIS for the early site permit (ESP) issued on August 26, 2009, as required by 10 CFR 51.92. In this case, the NRC staff has determined that it will not conduct a formal scoping process for the development of the SEIS.

An ESP is a Commission approval of a site suitable for construction and operation of one or more new nuclear units. Therefore, a COL applicant referencing an ESP need not submit information or analyses regarding environmental issues that were resolved in the ESP EIS, except to the extent the COL applicant has identified any new and potentially significant information.

In accordance with the provisions in 36 CFR § 800.8, the NRC wishes to ensure that if your agency has an interest in any potential historic properties in the area of potential effect (APE), it will be afforded the opportunity to identify its concerns, provide advice on the identification and evaluation of historic properties, including those of traditional religious and cultural importance, and, if necessary, participate in the resolution of any adverse effects to such properties.

D. Klima

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Thus, to support the NRC staff's review of any new and potentially significant circumstances or information relevant to the environmental concerns related to the proposed action or its impacts, we request that you submit written comments, if any, you may have to offer on the environmental review of the COL by January 19, 2010.

The NRC intends to propose measures in the SEIS for the COL analyses for potential impacts to historical and cultural resources including developing alternatives and proposing measures that might avoid, minimize, or mitigate any adverse effects of the proposed action on historic properties. To complete consultation under § 800.8, the NRC staff will forward the SEIS on the COL to you for your review and comment, and will address your comments in the final SEIS on the COL.

The proposed new reactors, Vogtle Units 3 and 4, would be located approximately 26 miles southeast of Augusta, Georgia, near the town of Waynesboro, Georgia. SNC currently operates two reactors, Vogtle Units 1 and 2, on the site and plans to construct the new units adjacent to the existing reactors. The application for the COL was accepted for docketing on May 30, 2008, and is available through the web-based version of the NRC Agency-wide Documents Access Management System (ADAMS), which can be found at <http://www.nrc.gov/readingrm/adams.html>. The Environmental Report for the application is listed under ADAMS accession number ML081050181. The Vogtle Plant COL application is also available on the Internet at <http://www.nrc.gov/reactors/new-licensing/col/vogtle.html>. A detailed review by NRC of the environmental impacts of constructing and operating proposed Units 3 and 4 is documented in NUREG-1872, "Final Environmental Impact Statement for an Early Site Permit (ESP) at the Vogtle Electric Generating Plant Site." (ESP FEIS Volumes 1 and 2 are available in ADAMS under ADAMS accession numbers ML082240145 and ML082240165, respectively.)

Please submit comments either by mail to Mrs. Mallecia Sutton, Environmental Project Manager, Division of Site and Environmental Reviews, Mail Stop T-7E18, U.S. Nuclear Regulatory Commission, Washington, D.C.20555-0001 or via e-mail to VogtleCOLAEIS@nrc.gov by December 30, 2009.

If you have any questions or require additional information, please contact Mrs. Sutton by telephone at 301- 415-0673 or via e-mail to Mallecia.Sutton@nrc.gov.

Sincerely,

/RA/ A Fetter for

Gregory P. Hatchett, Branch Chief
Environmental Projects Branch 1
Division of Site and Environmental Reviews
Office of New Reactors

Docket Nos. 52-025 and 52-026

cc: See next page

January 7, 2010

Sandra S. Tucker, Field Supervisor
U.S. Fish and Wildlife Service
Coastal Sub Office
4270 Norwich Street
Brunswick, GA 31520

**SUBJECT: REQUEST FOR LIST OF PROTECTED SPECIES WITHIN THE AREA
UNDER EVALUATION FOR THE VOGTLE ELECTRIC GENERATING PLANT,
UNITS 3 AND 4 COMBINED LICENSE APPLICATIONS**

Dear Ms. Tucker:

The U.S. Nuclear Regulatory Commission (NRC) staff is reviewing an application submitted by Southern Nuclear Operating Company (SNC), on behalf of itself and four co-applicants, for a combined license (COL) for construction and operation of two new nuclear power plants at the Vogtle Electric Generating Plant (VEGP) site in Burke County, Georgia. As part of the review of this COL application, the NRC is conducting an environmental review as required by Title 10, of the *Code of Federal Regulations* (10 CFR) Part 51, the NRC regulation that implements the National Environmental Policy Act of 1969, as amended (NEPA). This letter is being submitted under provisions of the Endangered Species Act of 1973 (ESA), and the Fish and Wildlife Coordination Act of 1934, as amended (FWCA).

In accordance with the procedures set forth in NRC regulations at 10 CFR 51.92, the NRC is preparing a supplement (an SEIS) to the Final Environmental Impact Statement (FEIS) that was issued in connection with the NRC's review of an early site permit (ESP) application submitted to the NRC in 2006 by SNC and the same co-applicants. The ESP was issued on August 26, 2009. Because the COL application references the Vogtle ESP, the COL SEIS will supplement the NRC staff's analysis in the ESP FEIS with an analysis of any new and significant information regarding the environmental effects of construction and operation of a new nuclear power plant at the VEGP site. Accordingly, the COL EIS will address new and significant information pertinent to the environmental issues resolved in the ESP FEIS, such as impacts to fish and wildlife, including threatened or endangered species. To support the process for preparing the SEIS on the COL application and to ensure compliance with Section 7 of the ESA, the NRC requests current information on Federally-listed, proposed and candidate species, and critical habitat that may be in the vicinity of the VEGP site. In addition, to fulfill consultation requirements of the FWCA, please provide any information you consider appropriate under the provisions of that statute.

The proposed new reactors, Plant Vogtle Units 3 and 4, would be located on a 3169 acre site in Burke County, approximately 26 miles southeast of Augusta, Georgia. SNC currently operates two reactors, Units 1 and 2, on the site, and it plans to construct Units 3 and 4 adjacent to the existing units, wholly within the existing boundaries of the VEGP site. SNC submitted the application for COL by letter dated March 28, 2008, pursuant to NRC requirements in 10 CFR

S. Tucker

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Part 52. The application was accepted for docketing on May 30, 2008, and is available through the web-based version of the NRC Agency-wide Documents Access Management System (ADAMS), which can be found at <http://www.nrc.gov/readingrm/adams.html>. The Environmental Report for the application is listed under ADAMS accession number ML081050181. The VEGP COL application is also available on the Internet at <http://www.nrc.gov/reactors/new-licensing/col/vogtle.html>.

On August 26, 2009, the NRC issued SNC and its co-applicants an early site permit (ESP) for the VEGP site, which is the site proposed for Units 3 and 4. An ESP is a Commission approval of a site as suitable for construction and operation of one or more new nuclear units. During the ESP environmental review, the NRC consulted with the Coastal Sub Office in Brunswick, GA, and by letter dated September 19, 2008, (Enclosure 1) received concurrence on a biological assessment evaluating the impacts of limited site-preparation activities for two new reactors at the VEGP site on potentially occurring federally-listed threatened or endangered species. The NRC's detailed review of the environmental impacts of constructing and operating proposed Units 3 and 4 is documented in NUREG-1872, "Final Environmental Impact Statement for an Early site Permit (ESP) at the Vogtle Electric Generating Plant Site." (ESP FEIS Volumes 1 and 2 are available in ADAMS under ADAMS accession numbers ML082240145 and ML082240165, respectively.) Pursuant to NRC regulations in 10 CFR 51.50(c), a COL applicant referencing an ESP need not submit information or analyses regarding environmental issues that were resolved in the ESP EIS, except to the extent the COL applicant has identified new and significant information regarding such issues. Pursuant to 10 CFR 52.39, matters resolved in the ESP proceedings are considered to be resolved in any subsequent proceedings, absent identification of new and significant information.

Consequently, in this consultation, the NRC is particularly interested in any information related to Federally-listed species, critical habitat, and our interactions under the FWCA that may have changed since our last consultation. As set forth in the COL application, SNC intends to use a closed-cycle, wet cooling tower system to remove waste heat during power operation for Plant Vogtle Units 3 and 4. Make-up water for the cooling tower system would be withdrawn from the Savannah River through a new intake structure. Blow-down from the closed-cycle cooling system would be discharged to the Savannah River through a new discharge structure. As noted above, the NRC SEIS on the COL application will include, among other things, analyses of new and significant information relating to threatened or endangered species, if any.

As part of your office's participation in the consultation process, please submit by January 29, 2010, any written comments you have to offer regarding the environmental review. Comments should be submitted either by mail to Mallecia Sutton, Environmental Project Manager, Division of Site and Environmental Reviews, Mail Stop T-7E18, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555-0001 or via e-mail to Vogtle.COLAEIS@nrc.gov.

S. Tucker

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If you have any questions or require additional information, please contact Mrs. Mallecia Sutton, Environmental Project Manager by telephone at 301 415-0673 or via e-mail to Mallecia.Sutton@nrc.gov.

Sincerely,

/RA/

Gregory P. Hatchett, Chief
Environmental Projects Branch 1
Division of Site and Environmental Reviews
Office of New Reactors

Docket Nos. 52-025 and 52-026

cc: See next page

Enclosure: As stated

January 7, 2010

Mr. Donald Rodgers, Chief
Catawba Indian Nation
996 Avenue of the Nations
Catawba, SC 29730

SUBJECT: U.S. NUCLEAR REGULATORY COMMISSION'S SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT FOR SOUTHERN NUCLEAR OPERATING COMPANY'S COMBINED LICENSE APPLICATION FOR THE PROPOSED CONSTRUCTION AND OPERATION OF UNITS 3 AND 4 AT THE VOGTLE ELECTRIC GENERATING PLANT IN WAYNESBORO, GEORGIA

Dear Chief Rodgers:

The U.S. Nuclear Regulatory Commission (NRC) staff is reviewing an application submitted by Southern Nuclear Operating Company, Inc. (Southern or SNC) on behalf of itself and several co-applicants for a combined license (COL) for construction and operation of two new nuclear units at its Vogtle Electric Generating Plant (Vogtle or VEGP) site in Burke County, Georgia. The purpose of this letter is to invite the Catawba Indian Nation to consult with the NRC regarding the proposed action, pursuant to NRC regulations at 10 CFR Part 51 and Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended. The NRC plans to coordinate compliance with Section 106 of the NHPA using the National Environmental Policy Act (NEPA) process identified in 36 CFR 800.8(c) in lieu of the procedures set forth in §§ 800.3 through 800.6. Additionally, the NRC staff will rely on procedures in its regulations at 10 CFR 51.92 for supplementing a final environmental impact statement (FEIS).

Section 51.26(d) of the NRC regulations describes the processes for determining the need to supplement a FEIS, issue a notice of intent, and determine whether or not a formal scoping process will be conducted. As required by 10 CFR 51.92, the NRC staff will prepare a supplement to the FEIS for the early site permit (ESP) issued on August 26, 2009, to SNC and the same co-applicants. In this case, the NRC staff has determined that it will not conduct a formal scoping process for the development of the supplemental environmental impact statement (SEIS).

An ESP is a Commission approval of a site suitable for construction and operation of one or more new nuclear units. Under 10 CFR 51.50(c), a COL applicant referencing an ESP need not submit information or analyses regarding environmental issues that were resolved in the ESP EIS, except to the extent the COL applicant has identified any new and potentially significant information.

In accordance with the provisions in 36 CFR § 800.8, the NRC wishes to ensure that Indian tribes that might have an interest in any potential historic properties in the area of potential effect (APE) are afforded the opportunity to identify their concerns, provide advice on the identification and evaluation of historic properties, including those of traditional religious and cultural importance and, if necessary, participate in the resolution of any adverse effects to such properties.

Chief Rodgers

-2-

Thus, to support the NRC staff's review of any new and potentially significant circumstances or information relevant to the environmental concerns related to the proposed action or its impacts, we request you submit written comments, if any; your tribe may have to offer on the environmental review of the COL by January 29, 2010.

The NRC intends to propose measures in the SEIS for the COL analyses for potential impacts to historical and cultural resources including developing alternatives and proposing measures that might avoid, minimize, or mitigate any adverse effects of the propose action on historic properties. To complete consultation under § 800.8(c), the NRC staff will forward the SEIS on the COL to you for your review and comment, and will address your comments in the final SEIS on the COL.

The proposed new reactors, Vogtle Units 3 and 4 would be located approximately 26 miles southeast of Augusta, Georgia, near the town of Waynesboro, Georgia. SNC currently operates two reactors, Vogtle Units 1 and 2 on the site and plans to construct the new units adjacent to the existing reactors. The application for the COL was accepted for docketing on May 30, 2008, and is available through the web-based version of the NRC Agency-wide Documents Access Management System (ADAMS), which can be found at <http://www.nrc.gov/readingrm/adams.html>. The Environmental Report for the application is listed under ADAMS accession number ML081050181. The Vogtle Electric Generating Plant COL application is also available on the Internet at <http://www.nrc.gov/reactors/new-licensing/col/vogtle.html>. A detailed review by NRC of the environmental impacts of constructing and operating proposed Units 3 and 4 is documented in NUREG-1872, "Final Environmental Impact Statement for an Early Site Permit (ESP) at the Vogtle Electric Generating Plant Site." (ESP FEIS Volumes 1 and 2 are available in ADAMS under ADAMS accession numbers ML082240145 and ML082240165, respectively.)

Please submit comments either by mail to Mrs. Mallecia Sutton, Environmental Project Manager, Division of Site and Environmental Reviews, Mail Stop T-7E18, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555-0001 or via e-mail to Vogtle.COLAEIS@nrc.gov by January 29, 2010.

If you have any questions or require additional information, please contact Mrs. Sutton at (301) 415-0673 or via e-mail to Mallecia.Sutton@nrc.gov.

Sincerely,

/RA/

Gregory P. Hatchett, Branch Chief
Environmental Projects Branch 1
Division of Site and Environmental Reviews
Office of New Reactors

Docket Nos. 52-025 and 52-026

cc: See next page

-----Original Message-----

From: Elizabeth Shirk [mailto:Elizabeth.Shirk@dnr.state.ga.us]
Sent: Thursday, June 17, 2010 4:02 PM
To: Sutton, Mallecia
Subject: Vogtle Electric Generating Plant, Burke County, Georgia, Units
3 and 4 Supplement

Ms. Sutton:

The Historic Preservation Division (HPD) has reviewed the additional information concerning the above referenced undertaking in Burke County, Georgia. Our comments are offered to assist the U.S. Nuclear Regulatory Commission (NRC) and its applicants in complying with the provisions of Section 106 of the National Historic Preservation Act of 1966, as amended.

Based on the information provided, HPD agrees with NRC that the backfill operations will have no effect to properties listed on or eligible for listing on the National Register of Historic Places.

If we may be of further assistance, please feel free to contact me.

Sincerely,

Elizabeth (Betsy) Shirk
Environmental Review Coordinator
Historic Preservation Division
254 Washington Street, SW
Ground Floor
Atlanta, GA 30334
404-651-6624

Please Note Our New Address

Appendix G

Supporting Documentation for Radiological Dose Assessment



Appendix G

Supporting Documentation for Radiological Dose Assessment

1 Appendix G of the VEGP early site permit (ESP) environmental impact statement (EIS)
2 (NRC 2008) provided information regarding the methodology and input data for dose estimates
3 to the public from liquid effluents, from gaseous effluents, cumulative dose estimates, and dose
4 estimates to biota from liquid and gaseous effluents. Southern Nuclear Operating Company,
5 Inc. indicated in the Environmental Report (ER) included in its combined operating license
6 (COL) application that there is no new and significant information regarding construction,
7 operation, and cumulative radiological impacts (Southern 2009). During its review of the COL
8 application, the NRC staff independently verified that there is no new and significant information
9 related to radiological impacts (see Sections 4.9, 5.9, and 7.8) by reviewing Southern's ER,
10 auditing Southern's process for identifying new and significant information, examining other
11 information available at the site audit, and considering applicable regulations and reference
12 documents. While the ESP EIS is based on information from Revision 15 of the AP1000 Design
13 Control Document (DCD)(Westinghouse 2005), this SEIS is based on information from
14 Revision 17 of the DCD (Westinghouse 2008). No significant changes in radiation doses result
15 from using the information from Revision 17 of the DCD rather than information provided in
16 Revision 15. Based on this review, the staff determined that the information presented in
17 Appendix G of the ESP EIS remains bounding and valid.

18 **G.1 References**

19 Southern Nuclear Operating Company (Southern). 2009. *Vogtle Electric Generating Plant,*
20 *Units 3 and 4, COL Application, Part 3 Environmental Report.* Revision 1, September 23, 2009.
21 Accession No. ML092740400.

22 U.S. Nuclear Regulatory Commission (NRC). 2008. *Final Environmental Impact Statement*
23 *for an Early Site Permit (ESP) at the Vogtle Electric Generating Plant Site.* NUREG-1872,
24 Vols. 1 and 2, Nuclear Regulatory Commission, Washington, D.C.

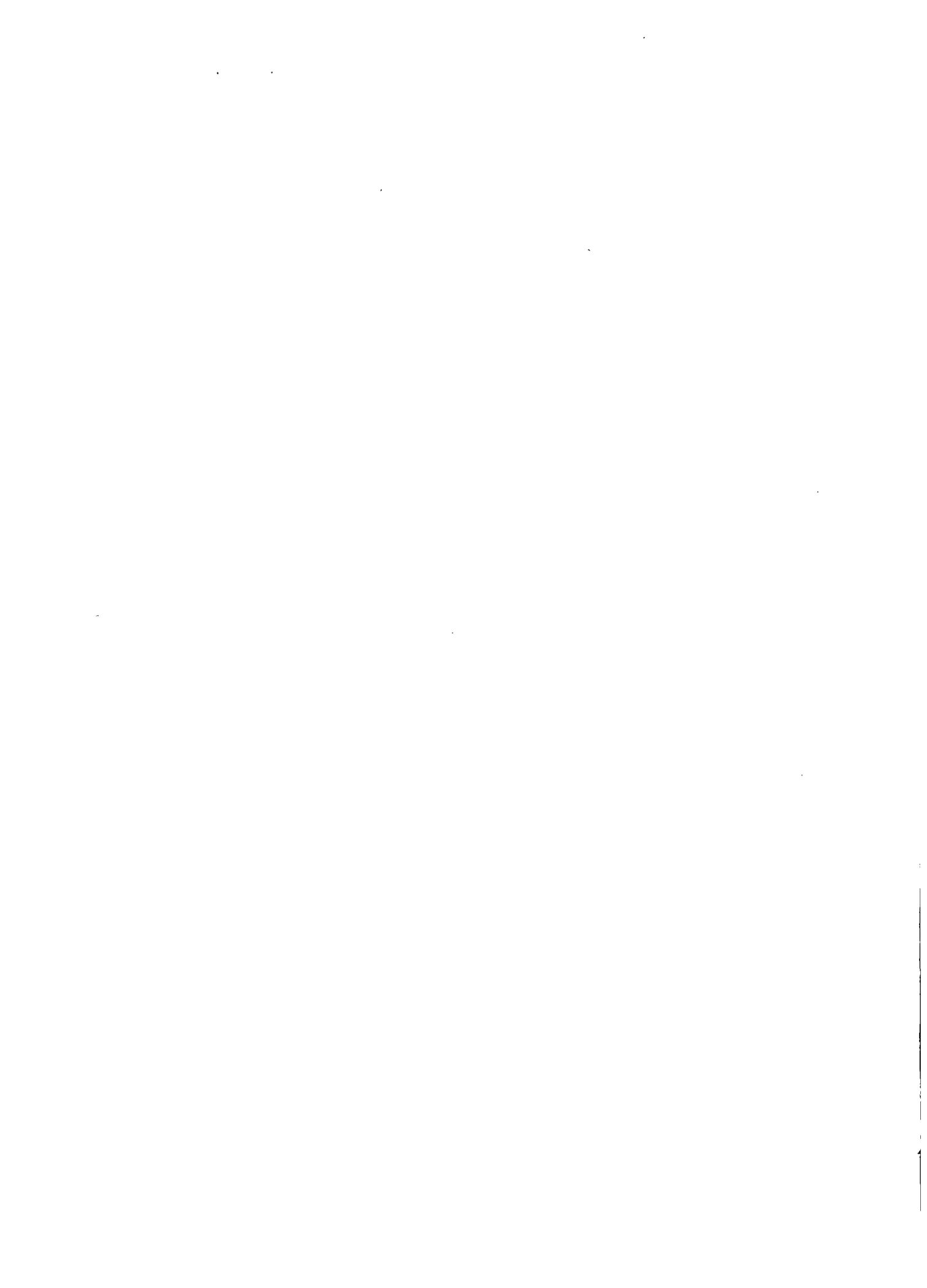
25 Westinghouse Electric Company, LLC (Westinghouse). 2005. *AP1000 Design Control*
26 *Document.* AP1000 Document. APP-GW-GL-700, Revision 15, Westinghouse Electric
27 Company, Pittsburgh, Pennsylvania. Package Accession No. ML053480403.

Appendix G

- 1 Westinghouse Electric Company LLC (Westinghouse). 2008. AP1000 Design Control
- 2 Document. APP-GW-GL-700, Revision 17, Pittsburgh, Pennsylvania. Accession No.
- 3 ML083230868.

Appendix H

Authorizations and Certifications



Appendix H

Authorizations and Certifications

1 This appendix contains a list of the authorizations, permits, and certifications potentially required
2 by Federal, State, regional, local and affected Native American Tribal agencies related to the
3 site preparation, construction, and operation of the proposed Units 3 and 4 at the Vogtle Electric
4 Generating Plant site. Tables 1.5-1 through 1.5-5 of the Environmental Report submitted by
5 Southern Nuclear Operating Company, Inc. on September 23, 2009 (Southern 2009) to the
6 U.S. Nuclear Regulatory Commission, as amended by information provided in Southern
7 (2010a), are reproduced in this appendix as Table H-1, Table H-2, Table H-4, Table H-5, and
8 Table H-6. Table H-3 is reproduced from Table 1.4-1 in the Environmental Report for the
9 Limited Work Authorization Request (Southern 2010b).

10

Table H-1. Authorizations Required for Early Site Permit

Agency	Authority	Requirement	License/ Permit No.	Expiration Date	Activity Covered	Status
U.S. Fish and Wildlife Service (USFWS)	Endangered Species Act	Consultation regarding potential to adversely impact protected species (non-marine species)	NA	NA	Concurrence with no adverse impact or consultation on appropriate mitigation measures.	On Oct 12, 2006, the NRC wrote the USFWS describing the project and asking for a list of protected species and habitats at the proposed site and alternative sites, and for any information under the jurisdiction of the USFWS that the agency considered pertinent to the project.
National Marine Fisheries Service (NMFS)	Endangered Species Act	Consultation regarding potential to adversely impact protected species (marine species)	NA	NA	Concurrence with no adverse impact or consultation on appropriate mitigation measures.	On Oct 12, 2006, the NRC wrote the NMFS describing the project and asking for a list of protected species and habitats at the proposed site and alternative sites, and for any information under the jurisdiction of the NMFS that the agency considered pertinent to the project. NMFS responded on Oct 24, 2006 with a list of federally protected species under the jurisdiction of NMFS in Georgia and Alabama. In a letter dated August 11, 2008, NMFS responded to the NRC biological assessment prepared for the ESP and concurred that the project is not likely to adversely affect the protected species under their jurisdiction.

Table H-1. (contd)

Agency	Authority	Requirement	License/ Permit No.	Expiration Date	Activity Covered	Status
South Carolina Department of Archives and History	National Historic Preservation Act (36 CFR 800)	Consultation regarding potential to adversely affect historic resources	NA	NA	Confirm site construction or operation would not affect protected historic resources.	SNC has initiated preliminary discussions with permitting agency regarding permits and compliance actions relative to this issue.
Alabama Historical Commission	National Historic Preservation Act (36 CFR 800)	Consultation regarding potential to adversely affect historic resources	NA	NA	Confirm site construction or operation would not affect protected historic resources.	On Oct 12, 2006, the NRC wrote the Alabama Historical Commission describing the project and inviting the SHPO to consult with the NRC regarding the proposed project. The SHPO responded without comment on Oct 20, 2006.
Georgia Department of Natural Resources (GDNR)	National Historic Preservation Act (36 CFR 800)	Consultation regarding potential to adversely affect historic resources	NA	NA	Confirm site construction or operation would not affect protected historic resources.	On Oct 12, 2006, the NRC wrote the Georgia SHPO describing the project and inviting the SHPO to consult with the NRC regarding the proposed project. The Georgia SHPO responded on Dec 27, 2007 and provided their assessment of the eligibility of sites at VEGP and suggested measures to protect eligible sites during construction and after.

Table H-1. (contd)

Agency	Authority	Requirement	License/ Permit No.	Expiration Date	Activity Covered	Status
						SNC submitted a Memorandum of Understanding (MOU) to the Georgia SHPO on January 4, 2010 for review and approval. The MOU is for the installation of the river water intake piping and associated duct bank and to preserve the balance of archaeological site 9BK416 for future investigations as directed by the Georgia SHPO.
GDNR	Federal Clean Water Act (33 U.S.C. 1251 et seq.) (CWA)	Section 401 Certification	NA	NA	Compliance with water quality standards.	SNC has initiated preliminary discussions with permitting agency regarding permits and compliance actions relative to this issue. SNC submitted a request for 401 Water Quality Certification to the Georgia EPD on January 7, 2010.
Native American Nations: Cherokee Nation of Oklahoma Chickasaw Nation Chickasaw Nation of Oklahoma Georgia Tribe of Eastern Cherokee	Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions (10 CFR 51) require Protection of Historic Properties (36 CFR 800)	Consultation regarding protection of traditional Native American religious or cultural resources	NA	NA	Confirm that traditional Native American religious or cultural resources are protected	On Oct 12, 2006 and Oct 16, 2006 the NRC wrote the listed Native American groups describing the project and inviting them to consult with the NRC regarding the proposed project. The Miccosukee Tribe responded on Oct 16, 2006 that it limited itself to matters within the State of Florida.

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Table H-1. (contd)

Agency	Authority	Requirement	License/ Permit No.	Expiration Date	Activity Covered	Status
Alabama- Quassarte Tribal Town						The United Keetoowah Band of Cherokee Indians in Oklahoma responded on Oct 22, 2006 that it had no objections to the referenced project.
Seminole Nation of Oklahoma						
Eastern Band of Cherokee Indians						The Seminole Nation of Oklahoma responded on Oct 13, 2006 that it was not interested in the project.
United Keetoowah Band of Cherokee Indians						
Poarch Band of Creek Indians						
Coushatta Tribe of Louisiana						
Absentee- Shawnee Tribe of Oklahoma						
Muscogee (Creek) Nation of Oklahoma						
Alabama- Coushatta Tribe of Texas						
Catawba Indian Tribe						
Seminole Tribe of Florida						
Mississippi Band of Choctaw Indians						

Appendix H

Table H-1. (contd)

Agency	Authority	Requirement	License/ Permit No.	Expiration Date	Activity Covered	Status
Kialegee Tribal Town						
Miccosukee Tribe of Indians of Florida						
Thlopthlocco Tribal Town						
Muscogee (Creek) Nation						

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2

Table H-2. Authorizations Required for Site Preparation Activities that Do Not Require a Limited Work Authorization

Agency	Authority	Requirement	License/ Permit No.	Expiration Date	Activity Covered	Status
U.S. Army Corps of Engineers (USACE)	CWA	Section 404 Permit			Disturbance or crossing wetland areas or navigable waters. For site and rail corridor upgrade ^(a)	SNC has completed jurisdictional determinations for all site wetlands with the exception of the required metes and bounds survey.
USACE	33 CFR 323	Dredge and Fill Discharge Permit			Construction/ modification of intake/ discharge to Savannah River. For site and rail corridor upgrade. ^(a)	<p>SNC has submitted a joint application package for all permits under the jurisdiction of the USACE (Section 404, Section 10, and Dredge and Fill) on January 7, 2010.</p> <p>SNC has initiated preliminary discussions with permitting agency regarding permits and compliance actions relative to this issue.</p> <p>SNC has submitted a joint application package for all permits under the jurisdiction of the USACE (Section 404, Section 10, and Dredge and Fill) on January 7, 2010.</p>
USACE	Rivers and Harbors Act	Section 10 Permit			Barge slip modification impacts to navigable waters of the U.S.	<p>SNC has initiated preliminary discussions with permitting agency regarding permits and compliance actions relative to this issue.</p> <p>SNC has submitted a joint application package for all permits under the jurisdiction of the USACE (Section 404, Section 10, and Dredge and Fill) on January 7, 2010.</p>

Table H-2. (contd)

Agency	Authority	Requirement	License/ Permit No.	Expiration Date	Activity Covered	Status
U.S. Department of Transportation (USDOT)	49 CFR 107, Subpart G	Certificate of Registration	051409 551 044R	06/30/2010	Transportation of hazardous materials.	USDOT has provided the certificate.
USFWS	Migratory Bird Treaty Act, 50 CFR 21	Federal permit			Adverse impacts on protected species and/or their nests. For site and rail corridor upgrade. ^(a)	SNC has initiated preliminary discussions with permitting agency regarding permits and compliance actions relative to this issue.
Federal Aviation Administration (FAA)	49 USC 1501 14 CFR 77	Construction Notice			Notice of erection of structures (>200 feet high) potentially impacting air navigation.	SNC has initiated preliminary discussions with permitting agency regarding permits and compliance actions relative to this issue.
Georgia Public Service Commission (GPSC)	GA Public Utilities Act (O.C.G.A. Section 46-3-1 et seq.), GA Rules and Regulations 515-3-4-.07	Certificate of Public Convenience and Necessity			Present and future public convenience and necessity require the operation of such equipment or facility.	SNC received GPSC certification of the project on March 17, 2009.
GDNR	GA Endangered Wildlife Act (O.C.G.A. Section 27-3-130 et seq.), GA Rules and Regulations 391-4- 10	Depredation Permit			Adverse impacts on state designated protected species and/or their habitat. For site and rail corridor. ^(a)	SNC has initiated preliminary discussions with permitting agency regarding permits and compliance actions relative to this issue.

Table H-2. (contd)

Agency	Authority	Requirement	License/ Permit No.	Expiration Date	Activity Covered	Status
GDNR	Federal Clean Air Act (CAA), GA Air Quality Act (O.C.G.A. Section 12-9-1 et seq.), GA Rules and Regulations 391-3-1	Part 70 Air Quality Construction Permit	1629-033-0039-S-01-0		Construction air emission sources.	Shaw was issued its SIP Air Quality permit on June 18, 2009. SNC PSD permit application currently under review by GA EPD.
GDNR	CWA, GA Water Quality Control Act	Revision of existing National Pollutant Discharge Elimination System Permit			Regulates limits of pollutants in liquid discharge to surface water	SNC has initiated preliminary discussions with permitting agency regarding permits and compliance actions relative to this issue.
GDNR	CWA, GA Water Quality Control Act (O.C.G.A. 12-5-20), GA Rules and Regulations 391-3-6	General Permit Registration for Storm Water Discharges Associated with Construction Activity for Common Development Projects.	GAR 100003	07/31/2013	Discharge storm water from site during construction	SNC does not expect to have to file for coverage under GAR 100003. No Erosion, Sedimentation and Pollution Control plans have been developed for submittal under GAR 100003.
GDNR	CWA, GA Water Quality Control Act (O.C.G.A. 12-5-20), GA Rules and Regulations 391-3-6	General Permit Registration for Storm Water Discharges Associated with Construction Activity for Infrastructure Construction Projects	GAR 100002	07/31/2013	Discharge storm water from linear construction sites (e.g., roadways and rail corridor)	SNC has developed Erosion, Sedimentation, and Pollution Control Plans and submitted Notices of Intent to GA EPD for coverage under GAR 100002.

Table H-2. (contd)

Agency	Authority	Requirement	License/ Permit No.	Expiration Date	Activity Covered	Status
GDNR	GA Safe Drinking Water Act (O.C.G.A. 12-5-170 et seq.), GA Rules and Regulations 391-3-5	Permit to operate a public water system			Operate a public, nontransient, non-community water system.	Based on discussions with GDNR, the potable water system for VEGP Units 3 & 4 will be a new system. SNC submitted the potable water permit application and construction design details on June 16, 2009. GDNR approved the construction design on July 14, 2009, which allows SNC to initiate construction of the potable water system and drill two wells for potable water use.
GDNR	GA Safe Drinking Water Act (O.C.G.A. 12-5-170 et seq.), GA Rules and Regulations 391-3-5	Permit to operate a public water system				
GDNR	GA Groundwater Use Act (O.C.G.A. 12-5-90 et seq.), GA Rules and Regulations 391-3-2- .03	Modification of Existing Permit to Use Groundwater	017-0003	08/06/2012	Consumptive use of 100,000 gallons per day or more of groundwater.	Received.
GDNR	GA Groundwater Use Act (O.C.G.A. 12-5-90 et seq.), GA Rules and Regulations 391-3-2- .09	Permit to Withdraw Groundwater	017-0006	03/13/2012	Dewater for foundation if needed for more than 60 days.	Received.

Table H-2. (contd)

Agency	Authority	Requirement	License/ Permit No.	Expiration Date	Activity Covered	Status
GDNR	GA Groundwater Use Act (O.C.G.A. 12-5-90 et seq.), GA Rules and Regulations 391-3-2- .14	Certification of Abandoned Wells			Abandoned wells have been filled, plugged and sealed.	SNC provided a notification to EPD regarding Well SW-5, one of two wells to be taken out of service, on February 18, 2009. The remaining well, MU-2a, is scheduled to be removed from service in 2012.
GDNR	GA Erosion and Sedimentation Act (O.C.G.A. Section 12-7-1 et seq.), GA Rules and Regulations 391-3-7	Land Disturbing Activity Permit	GAR 100001	07/31/2013	Permission to conduct land disturbing activities of one acre or larger, or within 200 feet of the bank of any state waters. For site and rail corridor upgrade. ^(a)	SNC has developed Erosion, Sedimentation, and Pollution Control Plans and submitted Notices of Intent to GA EPD for coverage under GAR 100001.
GDNR	GA Comprehensive Solid Waste Management Act (O.C.G.A. 12-8-20 et seq.), GA Rules and Regulations 391-3-4- .06	Permit by Rule - Inert Landfill Permit			On-site disposal of solid waste consisting of earth and earth-like products, concrete, cured asphalt, rock, bricks, and land clearing debris.	SNC has initiated preliminary discussions with permitting agency regarding permits and compliance actions relative to this issue.
GDNR	GA Comprehensive Solid Waste Management Act (O.C.G.A. 12-8-20 et seq.), GA Rules and Regulations 391-3-4	Private Industry Landfill Permit			On-site disposal of solid waste consisting of construction and demolition debris.	SNC has initiated preliminary discussions with permitting agency regarding permits and compliance actions relative to this issue.

Table H-2. (contd)

Agency	Authority	Requirement	License/ Permit No.	Expiration Date	Activity Covered	Status
GDNR	GA Comprehensive Solid Waste Management Act (O.C.G.A. 12-8-20 et seq.), GA Rules and Regulations 391-3-4	Solid Waste Handling Permit			Disposal of industrial solid wastes. Transportation of putrescible waste for disposal in a permitted landfill.	SNC has initiated preliminary discussions with permitting agency regarding permits and compliance actions relative to this issue.
GDNR	Federal Clean Air Act (FCAA), GA Air Quality Act (O.C.G.A. Section 12-9-1 et seq.), GA Rules and Regulations 391-3-1	Revision of existing Title V Operating Permit			Operation of air emission sources.	SNC submitted a request for modification to this permit along with the PSD/NSR permit application submitted on May 26, 2009.
Burke County Building Office	Burke County Code of Ordinances, Article VII, Sec. 26- 331	Land Disturbing Activity Permit			All land disturbing activities within the boundaries of Burke County.	As a utility regulated by the GA PSC, SNC is exempt from having to submit a Land Disturbing Activity request to a Local Issuing Authority (Burke County). Instead, a Land Disturbing Activity request is submitted directly to the GA EPD through GAR 100001 and GAR 100002.
Burke County Building Office	Burke County Code of Ordinances, Article VII, Sec. 26- 336	Building Permit			Construction, alteration, repair, or demolition of any building or structure within the boundaries of Burke County.	SNC has initiated preliminary discussions with permitting agency regarding permits and compliance actions relative to this issue.

(a) The VEGP rail spur was recently upgraded, and SNC will verify that additional upgrades are not needed. For completeness, this table assumes upgrades to the rail corridor will be made.

Table H-3. Permits and Authorizations Required for Limited Work Authorization Activities

Agency	Authority	Requirement	License/ Permit No.	Expiration Date	Activity Covered	Status
GDNR	Georgia Groundwater Use Act (O.C.G.A. 12-5-90 et seq.); Georgia Rules and Regulation 391-3-2-09	Permit to withdraw groundwater	017-0006	03/13/2012	Dewater for foundation if needed for no more than 60 days.	Received
GDNR	Federal Clean Air Act; Georgia Air Quality Act (O.C.G.A. 12-9-1 et seq.); Georgia Rules and Regulation 391-3-1	Part 70 Air Quality Construction Permit	1629-033-0039-S-01-1		Construction of air emission sources.	Received
GDNR	Georgia Erosion and Sedimentation Act (O.C.G.A. 12-7-1 et seq.); Georgia Rules and Regulation 391-3-7	Land-Disturbing Activity Permit	GAR 100001	07/31/2013	Permission to conduct land disturbing activities of one acre or larger, or within 200 feet of the bank of any state waters. For site (and rail corridor) upgrades.	SNC has developed Erosion, Sedimentation, and Pollution Control Plans and submitted Notices of Intent to the Georgia Environmental Protection Division for coverage under GAR 100001
GDNR	Federal Clean Water Act (CWA); Georgia Water Quality Control Act (O.C.G.A. 12-5-31 et seq.); Georgia Rules and Regulation 391-3-6	Permit to discharge process waste water	GA0039276 (pending EPD issuance)	5 years from date of issuance	Ready-mix concrete batch plant process wastewater discharges	EPD has issued a draft permit for public comment. Issuance of final permit expected in March 2010.
GDNR	CWA, Georgia Water Quality Control Act (O.C.G.A. 12-5-31 et seq.); Georgia Rules and Regulation 391-3-6	Industrial Storm Water Permit	GAR 000000	07/31/2011	Permit to discharge storm water associated with industrial activity.	SNC is preparing to submit to EPD a Storm Water Pollution Prevention Plan and Notice of Intent for coverage under GAR 000000.

Table H-4. Authorizations Required for Redress Activities

Agency	Authority	Requirement	License/ Permit No.	Expiration Date	Activity Covered	Status
USACE	CWA	Section 404 Permit			Disturbance or crossing wetland areas or navigable waters.	If redress activities were required SNC would seek the necessary permits.
USDOT	49 FR 107, Subpart G	Certificate of Registration			Transportation of hazardous materials.	If redress activities were required SNC would seek the necessary permits.
GDNR	CWA	Section 401 Certification			Compliance with water quality standards.	If redress activities were required SNC would seek the necessary permits.
GDNR	CWA, GA Water Quality Control Act (O.C.G.A. 12-5-20), GA Rules and Regulations 391-3-6	General Permit Registration for Storm Water Discharges Associated with Construction Activity for Common Development Projects			Discharge storm water from site during construction.	If redress activities were required SNC would seek the necessary permits.
GDNR	CWA, GA Water Quality Control Act (O.C.G.A. 12-5-20), GA Rules and Regulations 391-3-6	General Permit Registration for Storm Water Discharges Associated with Construction Activity for Infrastructure Construction Projects			Discharge storm water linear construction sites (e.g., roadways, transmission lines) during construction.	If redress activities were required SNC would seek the necessary permits.
GDNR	GA Erosion and Sedimentation Act (O.C.G.A. Section 12-7-1 et seq.), GA Rules and Regulations 391-3-7	Land Disturbing Activity Permit			Permission to conduct land disturbing activities of one acre or larger, or within 200 feet of the bank of any state waters. For site and rail corridor.	If redress activities were required SNC would seek the necessary permits.

Table H-4. (contd)

Agency	Authority	Requirement	License/ Permit No.	Expiration Date	Activity Covered	Status
GDNR	CAA, GA Air Quality Act (O.C.G.A. Section 12-9-1 et seq.), GA Rules and Regulations 391-3-1	Part 70 Air Quality Construction Permit			Construction air emission sources.	If redress activities were required SNC would seek the necessary permits.
GDNR	GA Safe Drinking Water Act (O.C.G.A. 12-5-170 et seq.), GA Rules and Regulations 391-3-5	Notice of Termination (NOT) - Permit to operate a Public Water System			Operate a public, non-transient, non-community water system.	If redress activities were required SNC would seek the necessary permits.
GDNR	GA Safe Drinking Water Act (O.C.G.A. 12-5-170 et seq.), GA Rules and Regulations 391-3-5	NOT - Permit to operate a Public Water System			Operate a public, transient, non-community water system.	If redress activities were required SNC would seek the necessary permits.
GDNR	GA Groundwater Use Act (O.C.G.A. 12-5-90 et seq.), GA Rules and Regulations 391-3-2-03	NOT - Permit to Use Groundwater			Consumptive use of 100,000 gallons per day or more of groundwater.	If redress activities were required SNC would seek the necessary permits.

Table H-4. (contd)

Agency	Authority	Requirement	License/ Permit No.	Expiration Date	Activity Covered	Status
GDNR	GA Groundwater Use Act (O.C.G.A. 12-5-90 et seq.), GA Rules and Regulations 391-3-2-.09	Permit to Withdraw Groundwater			Dewater for foundation if needed for more than 60 days.	If redress activities were required SNC would seek the necessary permits.
GDNR	GA Groundwater Use Act (O.C.G.A. 12-5-90 et seq.), GA Rules and Regulations 391-3-2-.14	Certification of Abandoned Wells			Abandoned wells have been filled, plugged and sealed.	If redress activities were required SNC would seek the necessary permits.
GDNR	GA Comprehensive Solid Waste Management Act (O.C.G.A. 12-8-20 et seq.), GA Rules and Regulations 391-3-4-.06	Permit by Rule - Inert Landfill Permit			On-site disposal of solid waste consisting of earth and earth-like products, concrete, cured asphalt, rock, bricks, and land clearing debris.	If redress activities were required SNC would seek the necessary permits.
GDNR	GA Comprehensive Solid Waste Management Act (O.C.G.A. 12-8-20 et seq.), GA Rules and Regulations 391-3-4	Private Industry Landfill Permit			On-site disposal of solid waste consisting of construction and demolition debris.	If redress activities were required SNC would seek the necessary permits.

Table H-4. (contd)

Agency	Authority	Requirement	License/ Permit No.	Expiration Date	Activity Covered	Status
GDNR	GA Comprehensive Solid Waste Management Act (O.C.G.A. 12-8-20 et seq.), GA Rules and Regulations 391-3-4	Solid Waste Handling Permit			Disposal of industrial solid wastes. Transportation of putrescible waste for disposal in a permitted landfill.	If redress activities were required SNC would seek the necessary permits.
Burke County Building Office	Burke County Code of Ordinances, Article VII, Sec. 26- 331	Land Disturbing Activity Permit			All land disturbing activities within the boundaries of Burke County	If redress activities were required SNC would seek the necessary permits.
Burke County Building Office	Burke County Code of Ordinances, Article VII, Sec. 26- 336	Building Permit			Construction, alteration, repair, or demolition of any building or structure within the boundaries of Burke County.	If redress activities were required SNC would seek the necessary permits.

Table H-5. Authorizations Required for Construction^(a)

Agency	Authority	Requirement	License/ Permit No.	Expiration Date	Activity Covered	Status
NRC	10 CFR 52, Subpart C	Combined Operating License			Safety-related construction for a nuclear power facility.	
	or	or				
	10 CFR 50.10(e)(3)	Limited Work Authorization	LWA is part of permit ESP-004	09/26/2029		NRC issued LWA on August 26, 2009 as part of ESP-004.
FAA	49 USC 1501 14 CFR 77	Construction Notice			Notice of erection or structures (>200 feet high) potentially impacting air navigation.	SNC has initiated preliminary discussions with permitting agency regarding permits and compliance actions relative to this issue.
USACE	CWA	Section 404 Permit			Disturbance or crossing wetland areas or navigable waters. For transmission line corridor.	SNC has completed jurisdictional determinations for all site wetlands with the exception of the required metes and bounds survey. SNC submitted a joint application package for all permits under the jurisdiction of the USACE (Section 404, Section 10, and Dredge and Fill) on January 7, 2010.

Table H-5. (contd)

Agency	Authority	Requirement	License/ Permit No.	Expiration Date	Activity Covered	Status
USACE	33 CFR 323	Dredge and Fill Discharge Permit			Construction/ modification of intake/ discharge to Savannah River. For transmission line corridor.	SNC has initiated preliminary discussions with permitting agency regarding permits and compliance actions relative to this issue. SNC submitted a joint application package for all permits under the jurisdiction of the USACE (Section 404, Section 10, and Dredge and Fill) on January 7, 2010.
USFWS	Migratory Bird Treaty Act, 50 CFR 21	Federal Depredation Permit			Adverse impacts on protected species and/or their nests. For site transmission line corridor.	SNC has initiated preliminary discussions with permitting agency regarding permits and compliance actions relative to this issue.
GDNR	GA Endangered Wildlife Act (O.C.G.A. Section 27-3- 130 et seq.), GA Rules and Regulations 391- 4-10	Depredation permit			Designated protected species and/ or their habitat. For transmission line corridor.	SNC has initiated preliminary discussions with permitting agency regarding permits and compliance actions relative to this issue.
GDNR	CAA, GA Air Quality Act (O.C.G.A. Section 12-9-1 et seq.), GA Rules and Regulations 391- 3-1	Part 70 Air Quality Construction Permit	1629-033- 0039-S- 01-0		Construction air emission sources.	Shaw was issued its SIP Air Quality permit on June 18, 2009. Southern PSD permit application currently under review by GA EPD.

Table H-5. (contd)

Agency	Authority	Requirement	License/ Permit No.	Expiration Date	Activity Covered	Status
GDNR	CWA, GA Water Quality Control Act (O.C.G.A. 12-5-20), GA Rules and Regulations 391-3-6	General Permit Registration for Storm Water Discharges Associated with Construction Activity for Infrastructure Construction Projects	GAR 100002	07/31/2013	Discharge storm water from linear construction sites (e.g., roadways, transmission lines) during construction.	SNC has developed Erosion, Sedimentation, and Pollution Control Plans and submitted Notices of Intent to GA EPD for coverage under GAR 100002.
GDNR	GA Comprehensive Solid Waste Management Act (O.C.G.A. 12-8-20 et seq.), GA Rules and Regulations 391-3-4	Solid Waste Handling Permit			Disposal of industrial solid wastes. Transportation of putrescible waste for disposal in a permitted landfill.	SNC has initiated preliminary discussions with permitting agency regarding permits and compliance actions relative to this issue.
GDNR	GA Erosion and Sedimentation Act (O.C.G.A. Section 12-7-1 et seq.), GA Rules and Regulations 391-3-7	Land Disturbing Activity Permit	GAR 100001	07/31/2013	Permission to conduct land disturbing activities of one acre or larger, or within 200 feet of the bank of any state waters. For transmission line corridor.	SNC has developed Erosion, Sedimentation, and Pollution Control Plans and submitted Notices of Intent to GA EPD for coverage under GAR 100001.
GDNR	CWA, GA Water Quality Control Act (O.C.G.A. 12-5-20), GA Rules and Regulations 391-3-6	General Permit Registration for Storm Water Discharges Associated with Construction Activity for Common Development Projects	GAR 100003		Discharge storm water from site during construction.	SNC currently does not expect to have to file for coverage under GAR 100003. No Erosion, Sedimentation and Pollution Control plans have been developed for submittal under GAR 100003.

Table H-5. (contd)

Agency	Authority	Requirement	License/ Permit No.	Expiration Date	Activity Covered	Status
Georgia Department of Transportation (GDOT)	23 CFR 1.23	Permit			Utility right-of-way easement.	SNC has initiated preliminary discussions with permitting agency regarding permits and compliance actions relative to this issue.
Burke County Building Office	Burke County Code of Ordinances, Article VII, Sec. 26-331	Land Disturbing Activity Permit			All land disturbing activities within the boundaries of Burke County.	As a utility regulated by the GA PSC, SNC is exempt from having to submit a Land Disturbing Activity request to a Local Issuing Authority (Burke County). Instead, a Land Disturbing Activity request is submitted directly to the GA EPD through GAR 100001 and GAR 100002.
Various county offices responsible for land disturbing activities	Jefferson, Warren, and McDuffie County Ordinances	Land Disturbing Activity Permit			Land disturbing activities within county boundaries for transmission line corridor.	As a utility regulated by the GA PSC, SNC is exempt from having to submit a Land Disturbing Activity request to a Local Issuing Authority (Jefferson, Warren and McDuffir Counties). Instead, a Land Disturbing Activity request is submitted directly to the GA EPD through GAR 100001 and GAR 100002.

(a) Assumes that SNC obtained the authorizations that Table 1.5-2 identifies.

Table H-6. Authorizations Required for Operation^(a)

Agency	Authority	Requirement	License/ Permit No.	Expiration Date	Activity Covered	Status
GDNR	CWA, GA Water Quality Control Act	Revision of existing National Pollutant Discharge Elimination System Permit			Regulates limits of pollutants in liquid discharge to surface water.	SNC has initiated preliminary discussions with permitting agency regarding permits and compliance actions relative to this issue.
GDNR	Federal Clean Air Act (CAA), GA Air Quality Act (O.C.G.A. Section 12-9-1 et seq.), GA Rules and Regulations 391-3-1	Revision of existing Title V Operating Permit			Operation of air emission sources.	SNC submitted a request for modification to this permit along with the PSD/NSR permit application submitted on May 26, 2009.
GDNR	GA Groundwater Use Act (O.C.G.A. 12-5-90 et seq.), GA Rules and Regulations 391-3-2- .03	Revision of existing Permit to Use Groundwater	017-0003	08/06/2010	Consumptive use of 100,000 gallons per day or more of groundwater.	Received.
GDNR	GA Water Quality Control Act (O.C.G.A. 12-5-31 et seq.), GA Rules and Regulations 391-3-6	Revision of existing Surface Water Withdrawal Permit to Withdraw, Divert or Impound Surface Water			Withdraw water from the Savannah River for cooling makeup and in-plant use.	SNC has initiated preliminary discussions with permitting agency regarding permits and compliance actions relative to this issue.

Table H-6. (contd)

Agency	Authority	Requirement	License/ Permit No.	Expiration Date	Activity Covered	Status
State of Tennessee Department of Environment and Conservation Division of Radiological Health	Tennessee Department of Environment and Conservation Rule 1200-2-10.32	Revision of existing Tennessee Radioactive Waste License-for-Delivery			Transportation of radioactive waste into the State of Tennessee.	SNC has initiated preliminary discussions with permitting agency regarding permits and compliance actions relative to this issue.
H-23 State of Utah Department of Environmental Quality Division of Radiation Control	R313-26 of the Utah Radiation Control Rules	Revision of existing General Site Access Permit			Transportation of radioactive materials into the State of Utah.	SNC has initiated preliminary discussions with permitting agency regarding permits and compliance actions relative to this issue.
GPSC	GA Radiation Control Act (O.C.G.A. 31-13-1 et seq.), GA Rules and Regulations 391- 3-17-.06	Revision of existing General Permit – Transportation of Radioactive Materials			Transportation of radioactive materials in the State of Georgia.	SNC has initiated preliminary discussions with permitting agency regarding permits and compliance actions relative to this issue.
(a) Assumes that SNC obtained the authorizations that Tables 1.5-2 and 1.5-4 identify.						

1 **H.1 References**

2 Southern Nuclear Operating Company, Inc. (Southern). 2009. *Vogtle Electric Generating Plant,*
3 *Units 3 and 4, COL Application: Part 3. Environmental Report.* Revision 1, September 23,
4 2009. Southern Company, Birmingham, Alabama. Accession No. ML092740400.

5 Southern Nuclear Operating Company, Inc. (Southern). 2010a. Response to Request for
6 Additional Information Letter on Environmental Issues, January 8, 2010. Southern Company,
7 Birmingham, Alabama. Accession No. ML100120479.

8 Southern Nuclear Operating Company (Southern). 2010b. Environmental Report in Support
9 Revision 1 to Part 6 , Limited Work Authorization Request, of the Vogtle Electric Generating
10 Plant Units 3 and 4 Combined License Application. Southern Company, Birmingham, Alabama.
11 Accession No. ML100470600.

Appendix I

Vogtle Electric Generating Plant Site Characteristics, AP1000 Design Parameters and Site Interface Values

Appendix I

Vogtle Electric Generating Plant Site Characteristics, AP1000 Design Parameters and Site Interface Values

1 Appendix I of the Vogtle Electric Generating Plant early site permit (ESP) environmental impact
2 statement (EIS) provides the site characteristics, AP1000 design parameters, and site interface
3 values (NRC 2008). Table 3.0-1 of Southern Nuclear Operating Company, Inc.'s Environmental
4 Report, Revision 1, dated September 23, 2009 (Southern 2009), reproduced on the following
5 pages as Table I-1, shows that most of the site characteristics, design parameters, and site
6 interface values considered in this COL application fall within those described in the ESP.
7 These characteristics and parameters were used by the U.S. Nuclear Regulatory Commission
8 staff in its independent evaluation of the new and significant information related to the
9 environmental impacts of the proposed new units.

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Table I-1. VEGP Site Characteristics, AP1000 Design Parameters, and Site Interface Values

Part I Site Characteristic Item	ESP		Description and Reference	COL		Comments
	Single Unit [Two Unit] Value			Single Unit [Two Unit] Value		
Airborne Effluent Release Point						
Minimum Distance to Exclusion Area Boundary (EAB)	½ mi (~800 m)		The lateral distance from the release point (power block area) to the modeled EAB for dose analysis.	½ mi (~800 m)		Unchanged from ESP.
Atmospheric Dispersion (χ/Q) (Accident)	The atmospheric dispersion coefficients used to estimate dose consequences of accident airborne releases.					
	Time (hour)	Site (χ/Q)	Atmospheric dispersion coefficients used to estimate dose consequences of accident airborne releases. (From Table 5-13 of the ESP EIS)	Time (hour)	Site (χ/Q)	Unchanged from ESP.
EAB (χ/Q)	0 - 2 EAB	7.38E-5 sec/m3		0 - 2 EAB	7.38E-5 sec/m3	
Low Population Zone (LPZ) (χ/Q)	0 - 8 LPZ	1.40E-5 sec/m3		0 - 8 LPZ	1.40E-5 sec/m3	
	8 - 24 LPZ	1.22E-5 sec/m3		8 - 24 LPZ	1.22E-5 sec/m3	
	24 - 96 LPZ	9.15E-6 sec/m3		24 - 96 LPZ	9.15E-6 sec/m3	
	96 - 720 LPZ	6.04E-6 sec/m3	96 - 720 LPZ	6.04E-6 sec/m3		
Gaseous Effluents Dispersion, Deposition (Annual Average)						
Atmospheric Dispersion (χ/Q)	See Table 3.0-2		The atmospheric dispersion coefficients used to estimate dose consequences of normal airborne releases.	χ/Q values as described in ESP		Unchanged from ESP.
Population Density						
Population density over the lifetime of the new units until 2090	Population density meets the guidance of RS-002, Attachment 3			Population density meets the guidance of RS-002, Attachment 3		Unchanged from ESP.

Table I-1. (contd)

Part I Site Characteristic Item	ESP		COL	
	Single Unit [Two Unit] Value	Description and Reference	Single Unit [Two Unit] Value	Comments
Population density over the lifetime of the new units until 2090	Population density meets the guidance of RS-002, Attachment 3	Population density meets the guidance of RS-002, Attachment 3	Unchanged from ESP.	
EAB	Refer to Figure 2-1 in the EIS	The exclusion area boundary generally follows the plant property line.	Refer to Figure 3.2-1 in the ER	Unchanged from ESP.
LPZ	A 2-mile-radius from the midpoint between the containment buildings of Units 1 and 2	The LPZ is a circle with a radius of 2 miles, centered on the midpoint between Unit 1 and Unit 2 containment buildings	A 2-mile-radius from the midpoint between the containment buildings of Units 1 and 2	Unchanged from ESP.
Height	234 ft 0 in	The height from finished grade to the top of the tallest power block structure, excluding cooling towers	229 ft 0 in	(DCD Rev 17, Table 3.3-5) (Westinghouse 2008) The height affects aesthetic impacts and the potential for bird collisions. Because this height is lower than that analyzed in the ESP application, the impacts are bounded by those impacts

Table I-1. (contd)

Part II Site Characteristic Item	ESP		COL	
	Single Unit [Two Unit] Value	Description and Reference	Single Unit [Two Unit] Value	Comments
Facility Characteristics				
Foundation Embedment	39 ft 6 in to bottom of basemat from plant grade	The depth from finished grade to the bottom of the basemat for the most deeply embedded power block structure.	39 ft 6 in to bottom of basemat from plant grade	Unchanged from ESP.
Max Inlet Temp Condenser / Heat Exchanger	91°F	The maximum acceptable design circulating water temperature at the inlet to the condenser or cooling water system heat exchangers.	91°F	Unchanged from ESP.
Condenser / Heat Exchanger Duty	7.55E9 BTU/hr [1.51E10 BTU/hr]	Design value for the waste heat rejected to the circulating water system across the condensers. Selected value includes part of the service water system heat duty (from turbine equipment heat exchanger).	7.63E9 BTU/hr [1.53E10 BTU/hr]	The COL value was provided in Southern (2007) and was considered in the ESP analysis

Table I-1. (contd)

Part II Site Characteristic Item	ESP		COL	
	Single Unit [Two Unit] Value	Description and Reference	Single Unit [Two Unit] Value	Comments
Cooling Tower Temperature Range	25.2°F	The temperature difference between the hot water entering the tower and the cold water leaving the tower.	25.2°F	Unchanged from ESP.
Cooling Tower Cooling Water Flow Rate	600,000 gpm [1,200,000 gpm]	The total nominal cooling water flow rate through the condenser/ heat exchangers.	631,000 gpm [1,262,000 gpm]	The COL value was provided in Southern (2007) and was considered in the ESP analysis.
Auxiliary Heat Sink				
Component Cooling Water (CCW) Heat Exchanger Duty	8.3E7 BTU/hr normal 2.96E8 BTU/hr shutdown [1.66E8 BTU/hr normal 5.92E8 BTU/hr shutdown]	The heat transferred from the CCW heat exchangers to the service water system for rejection to the environment.	8.3E7 BTU/hr normal 2.96E8 BTU/hr shutdown [1.66E8 BTU/hr normal 5.92E8 BTU/hr shutdown]	Unchanged from ESP.
Service Water System (SWS) Cooling Tower Cooling Water Flow Rate	9,000 gpm normal 18,000 gpm shutdown [18,000 gpm normal 36,000 gpm shutdown]	The total nominal cooling water flow rate through the SWS.	9,000 gpm normal 18,000 gpm shutdown [18,000 gpm normal 36,000 gpm shutdown]	Unchanged from ESP.
Plant Characteristics				
Rated Thermal Power (RTP)	3,400 MWt	The thermal power generated by the core.	3,400 MWt	Unchanged from ESP.

Table I-1. (contd)

Part II Site Characteristic Item	ESP		COL	
	Single Unit [Two Unit] Value	Description and Reference	Single Unit [Two Unit] Value	Comments
Rated Nuclear Steam Supply System (NSSS) Thermal Output	3,415 MWt [6,830 MWt]	The thermal power generated by the core plus heat from the reactor coolant pumps.	3,415 MWt [6,830 MWt]	Unchanged from ESP.
Average Fuel Enrichment	2.35 wt % to 4.45 wt %	Concentration of U-235 in fuel - initial load.	2.35 wt % to 4.45 wt %	Unchanged from ESP.
	4.51 wt %	Average concentration, in weight percent, of U-235 in reloads	4.51 wt %	
Fuel Burn-up	60,000 MWd/MTU (design max)	Value derived by multiplying the reactor thermal power by time of irradiation divided by fuel mass (expressed in megawatt - days per metric ton of uranium fuel).	60,000 MWd/MTU (design max)	Unchanged from ESP.
	48,700 MWd/MTU (expected)		48,700 MWd/MTU (expected)	
Normal Releases				
Liquid Source Term	See Table G-1 of the EIS	The annual activity, by isotope, contained in routine liquid effluent streams.	0.26 curies total nuclides except tritium [0.52 curies]	Unchanged from ESP.
	0.26 curies total nuclides except tritium [0.52 curies]			

Table I-1. (contd)

Part II Site Characteristic Item	ESP		COL	
	Single Unit [Two Unit] Value	Description and Reference	Single Unit [Two Unit] Value	Comments
Tritium (liquid)	1010 curies [2020 curies]	The annual activity of tritium contained in routine liquid effluent streams	1010 curies [2020 curies]	Unchanged from ESP.
Gaseous Source Term	See Table G-4 of the EIS 11,000 curies total nuclides except tritium [22,000 total curies]	The annual activity, by isotope, contained in routine plant airborne effluent streams.	11,000 curies total nuclides except tritium [22,000 total curies]	Unchanged from ESP.
Tritium (gaseous)	350 curies [700 curies]	The annual activity of tritium contained in routine plant airborne effluent streams.	350 curies [700 curies]	Unchanged from ESP.
Solid Waste Activity	1764 curies [3528 curies]	The annual activity contained in solid radioactive wastes generated during routine plant operations.	1764 curies [3528 curies]	Unchanged from ESP.
Dry Active ("Solid") Waste Volume	4994 ft ³ [9988 ft ³]	The expected volume of solid radioactive wastes generated during routine plant operations.	4994 ft ³ [9988 ft ³]	Unchanged from ESP.

Table I-1. (contd)

Part III Site Characteristic Item	ESP		COL	
	Single Unit [Two Unit] Value	Description and Reference	Single Unit [Two Unit] Value	Comments
Accident Releases				
Elevation (Post Accident)	Groundlevel at edge of power block circle	The elevation above finished grade of the release point for accident sequence release analyses	Groundlevel at edge of power block circle	Unchanged from ESP
Gaseous Source Term (Post-Accident)	See ESP Application ER Table 7.1-11	The activity, by isotope, contained in post-accident airborne effluents.	See DCD, Rev 17, Table 15A-5 (Westinghouse 2008).	Doses resulting from DBAs are presented and discussed in ER Table 5.10-1 and SEIS Table 5-1.
Normal Plant Heat Sink (condenser and turbine auxiliary cooling)				
CWS Cooling Tower Acreage	38 acres [69.3 acres]	The land required for CWS natural draft cooling towers, including support facilities such as equipment sheds, basins, or canals,	38 acres [69.3 acres]	Unchanged from ESP
CWS Cooling Tower Approach Temperature	11°F	The difference between the cold water temperature leaving the tower and the ambient wet bulb temperature.	11°F	Unchanged from ESP

Table I-1. (contd)

Part III Site Characteristic Item	ESP		COL	
	Single Unit [Two Unit] Value	Description and Reference	Single Unit [Two Unit] Value	Comments
CWS Cooling Tower Blowdown Temperature	91°F	The design maximum expected blowdown temperature at the point of discharge to the receiving water body.	91°F	Unchanged from ESP
I-9 CWS Cooling Tower Evaporation Rate	13,950 gpm (14,440 gpm) [27,900 gpm (28,880gpm)]	The expected (and maximum) rate at which water is lost by evaporation from the cooling water systems.	14,550 gpm (15,280 gpm) [29,100 gpm (30,560 gpm)]	The COL value was provided in Southern (2007) and was considered in the ESP analysis.
CWS Cooling Tower Drift Rate	12 gpm [24 gpm]	The maximum rate at which water is lost by drift from the cooling water systems.	12.5 gpm [25 gpm]	The COL value was provided in Southern (2007) and was considered in the ESP analysis.
CWS Cooling Tower Height	600 ft	The vertical height above finished grade of the natural draft cooling tower.	600 ft	Unchanged from ESP.

Table I-1. (contd)

Part III Site Characteristic Item	ESP		COL	
	Single Unit [Two Unit] Value	Description and Reference	Single Unit [Two Unit] Value	Comments
CWS Cooling Tower Make-up Flow Rate	18,612 gpm (28,892 gpm) [37,224 gpm (57,784 gpm)]	The expected (and maximum) design rate of removal of water from the Savannah River to replace water losses from circulating water systems. The make-up flow rate is a calculated value based on the sum of the evaporation rate plus the blowdown flow rate plus drift.	19,412 gpm (30, 572 gpm) [38,825 gpm (61,145)]	The COL value was provided in Southern (2007) and was considered in the ESP analysis.
CWS Cooling Tower Offsite Noise Levels	<30 to <40 dBa	The maximum expected sound level at the site boundary.	<30 to <40 dBa	Unchanged from ESP.
CWS Cooling Tower Heat Rejection Rate (Blowdown)	4650 gpm (expected), 14,440 gpm (max) @91°F [9300 gpm (expected), 28,880 gpm (max) @91°F	The expected heat rejection rate to a receiving water body, expressed as flow rate in gallons per minute at a temperature in degrees Fahrenheit.	4850 gpm (expected) 15,280 gpm (max) @91°F [9700 gpm (expected) 30,560 gpm (max)] @ 91°F	The NRC staff analysis of the revised discharge rates is discussed in Section 5.3 of the SEIS.

Table I-1. (contd)

Part III Site Characteristic Item	ESP		COL	
	Single Unit [Two Unit] Value	Description and Reference	Single Unit [Two Unit] Value	Comments
CWS Cooling Tower Maximum Consumption of Raw Water	14,452 gpm [28,904 gpm]	The expected maximum short-term consumptive use of water by the circulating water systems (evaporation and drift losses).	15,292 gpm [30,585 gpm]	The COL value was provided in Southern (2007) and was considered in the ESP analysis.
CWS Cooling Tower Expected Consumption of Raw Water	13,692 gpm [27,924 gpm]	The expected normal operating consumptive use of water by the circulating water systems (evaporation and drift losses).	14,562 gpm [29,125 gpm]	The COL value was provided in Southern (2007) and was considered in the ESP analysis.
SWS Cooling Tower Makeup Rate	269 gpm (1177 gpm) [537 gpm (2353 gpm)]	The expected (maximum) rate of removal of water from wells to replace water losses from auxiliary heat sink.	269 gpm (800 gpm) [537 gpm (1600 gpm)]	The COL value was provided in Southern (2007) and was considered in the ESP analysis.

Table I-1. (contd)

Part III Site Characteristic Item	ESP		COL	
	Single Unit [Two Unit] Value	Description and Reference	Single Unit [Two Unit] Value	Comments
Airborne Effluent Release Point				
Normal Dose Consequences to the Maximally Exposed Individual	Total body: 1.12 mrem [2.24 mrem]	The estimated annual design radiological dose consequences due to gaseous releases from normal operation of the plant (Table 3.0-1 of ESP Application ER Rev 4) is not correct. See Section 5.4.2.2.	Total body: 1.12 mrem [2.24 mrem]	Unchanged from ESP.
Post-Accident Dose Consequences	See Tables 5-14 in the ESP EIS.	The estimated design radiological dose consequences due to gaseous releases from postulated accidents.	See ER Table 5.10-1, SEIS Table 5-1.	Design-basis accidents were recalculated using updated information from DCD, Rev 17 (Westinghouse 2008). All dose consequences remained the same or decreased except those for a loss-of- coolant accident, which increased by 2.86 percent, but remains below the regulatory criterion of 25 rem.

Table I-1. (contd)

Part III Site Characteristic Item	ESP		COL	
	Single Unit [Two Unit] Value	Description and Reference	Single Unit [Two Unit] Value	Comments
Normal Dose Consequences	10 CFR 50, App I, 10 CFR 20	The estimated design radiological dose consequences due to liquid effluent releases from normal operation of the plant.	10 CFR 50, App I, 10 CFR 20	Unchanged from ESP.
	40 CFR 190		40 CFR 190	
Plant Characteristics				
Total Acreage	310 acres for 2 units	The land area required to provide space for all plant facilities, including power block, switchyard, spent fuel storage, and administrative facilities.	376 acres for 2 units	Acreage increased by 66 acres. Acreages for many of the permanent facilities increased or decreased by a few acres between ESP and COL. The new acreage estimate includes the fire training facility and the simulator building, which were not included in previous estimates, and together account for 44 of the additional 66 acres. The NRC staff evaluation of this change is provided in Section 4.1 of the SEIS.
Groundwater Consumptive Use	376 gpm (1570 gpm) [752 gpm (3140 gpm)]	The expected (maximum) rate of withdrawal of	376 gpm (1398.5 gpm) [752 gpm (2797 gpm)]	The COL value was provided in Southern (2007) and was

Table I-1. (contd)

Part III Site Characteristic Item	ESP		COL	
	Single Unit [Two Unit] Value	Description and Reference	Single Unit [Two Unit] Value	Comments
		groundwater to serve the new units. (Table 3.0-1 in the ESP Application listed the expected gpm for 2 units as 762, which was a typographical error.)		considered in the ESP analysis.
Operation	345 [600]	The number of people required to operate and maintain the plant	400 [800]	The COL value was provided in Southern (2007) and was considered in the ESP analysis.
Refueling / Major Maintenance	1000	The additional number of temporary staff required to conduct refueling and major maintenance activities	1000	Unchanged from ESP.

I-14

Table I-1. (contd)

Part III Site Characteristic Item	ESP		COL	
	Single Unit [Two Unit] Value	Description and Reference	Single Unit [Two Unit] Value	Comments
Construction	1576 people monthly average [3152 people monthly average]	The monthly average estimated construction workforce staffing for two AP1000 units being constructed simultaneously. This assumes a site preparation schedule of 18 months, 48 months from first concrete to fuel load, with 6 months from fuel load to commercial operation and 12 months between commercial operation of each unit. This assumes 20.5 job hours per net kilowatt installed, giving credit for offsite modular construction. The peak number of construction workforce personnel could reach the 4400 range.	[3500], excluding SNC and NRC employees	The COL value was provided in Southern (2007) and was considered in the ESP analysis.

1 **I.1 References**

- 2 Southern Nuclear Operating Company, Inc. (Southern). 2007. Southern Nuclear Operating
3 Company, Vogtle Early Site Permit Application, Comments on Draft Environmental Impact
4 Statement. Letter from Southern Nuclear Operating Company (Birmingham, Alabama) to the
5 U.S. Nuclear Regulatory Commission (Washington, DC), December 26, 2007. Southern
6 Company, Birmingham, Alabama. Accession No. ML073620401.
- 7 Southern Nuclear Operating Company, Inc. (Southern). 2009. *Vogtle Electric Generating Plant,*
8 *Units 3 and 4, COL Application, Part 3 Environmental Report.* Revision 1, September 23, 2009,
9 Southern Company, Birmingham, Alabama. Accession No. ML092740400.
- 10 U.S. Nuclear Regulatory Commission (NRC). 2008. *Final Environmental Impact Statement*
11 *for an Early Site Permit (ESP) at the Vogtle Electric Generating Plant Site.* NUREG-1872,
12 Vols. 1 and 2, Washington, D.C.
- 13 Westinghouse Electric Company, LLC (Westinghouse). 2008. AP1000 Design Control
14 Document. AP1000 Document. APP-GW-GL-700, Revision 17, Westinghouse Electric
15 Company, Pittsburgh, Pennsylvania. Accession No. ML083230167.

Appendix J

Statements Made in the Environmental Report Considered in the U.S. Nuclear Regulatory Commission Staff's Environmental Review

Appendix J

Statements Made in the Environmental Report Considered in the U.S. Nuclear Regulatory Commission Staff's Environmental Review

1 Appendix J of the Vogtle Electric Generating Plant early site permit (ESP) environmental impact
2 statement (EIS) (NRC 2008) outlined representations and assumptions in Southern Nuclear
3 Operating Company, Inc.'s ESP environmental report that the U.S. Nuclear Regulatory
4 Commission (NRC) staff relied upon to reach its conclusions in the ESP EIS. Appendix J of the
5 ESP EIS was created primarily as a tool to help reviewers of a future construction permit or
6 combined license (COL). The NRC staff relied on these representations and assumptions in
7 assessing the environmental impacts associated with construction and operation of the
8 proposed Units 3 and 4.

9 Southern submitted a COL application referencing an ESP in March 2008. The staff of the
10 Southern Nuclear Operating Company, Inc. and the NRC considered Appendix J of the ESP
11 EIS in their review of new and significant information. New and significant information
12 considered in the staff's review of the COL application is addressed in the appropriate section of
13 this supplemental EIS.

14 **J.1 Reference**

15 U.S. Nuclear Regulatory Commission (NRC). 2008. *Final Environmental Impact Statement*
16 *for an Early Site Permit (ESP) at the Vogtle Electric Generating Plant Site. Appendixes.*
17 NUREG-1872, Vol. 2, Washington, D.C.

18



BIBLIOGRAPHIC DATA SHEET

(See instructions on the reverse)

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10. SUPPLEMENTARY NOTES

Docket Nos. 52-025 and 52-026

11. ABSTRACT (200 words or less)

This supplemental environmental impact statement (SEIS) includes the U.S. Nuclear Regulatory Commission (NRC) staff's analysis that considers and weighs the environmental impacts of constructing and operating two new nuclear units (Units 3 and 4) at the Vogtle Electric Generating Plant (VEGP) site in Waynesboro, Georgia, and the mitigation available for reducing and avoiding adverse impacts.

The NRC staff's recommendation related to the environmental aspects of the proposed action is that the combined license (COL) should be issued. This recommendation is based on (1) Southern Nuclear Operating Company's (Southern) Environmental Report (ER); (2) the staff's review conducted for the ESP application and documented in the ESP Environmental Impact Statement (ESP EIS); (3) consultation with Federal, State, Tribal, and local agencies; (4) the staff's own independent review of potential new and significant information available since preparation and publication of the ESP EIS; and (5) the assessments summarized in the SEIS, including the potential mitigation measures identified in the ER and in the SEIS.

12. KEY WORDS/DESCRIPTORS (List words or phrases that will assist researchers in locating the report.)

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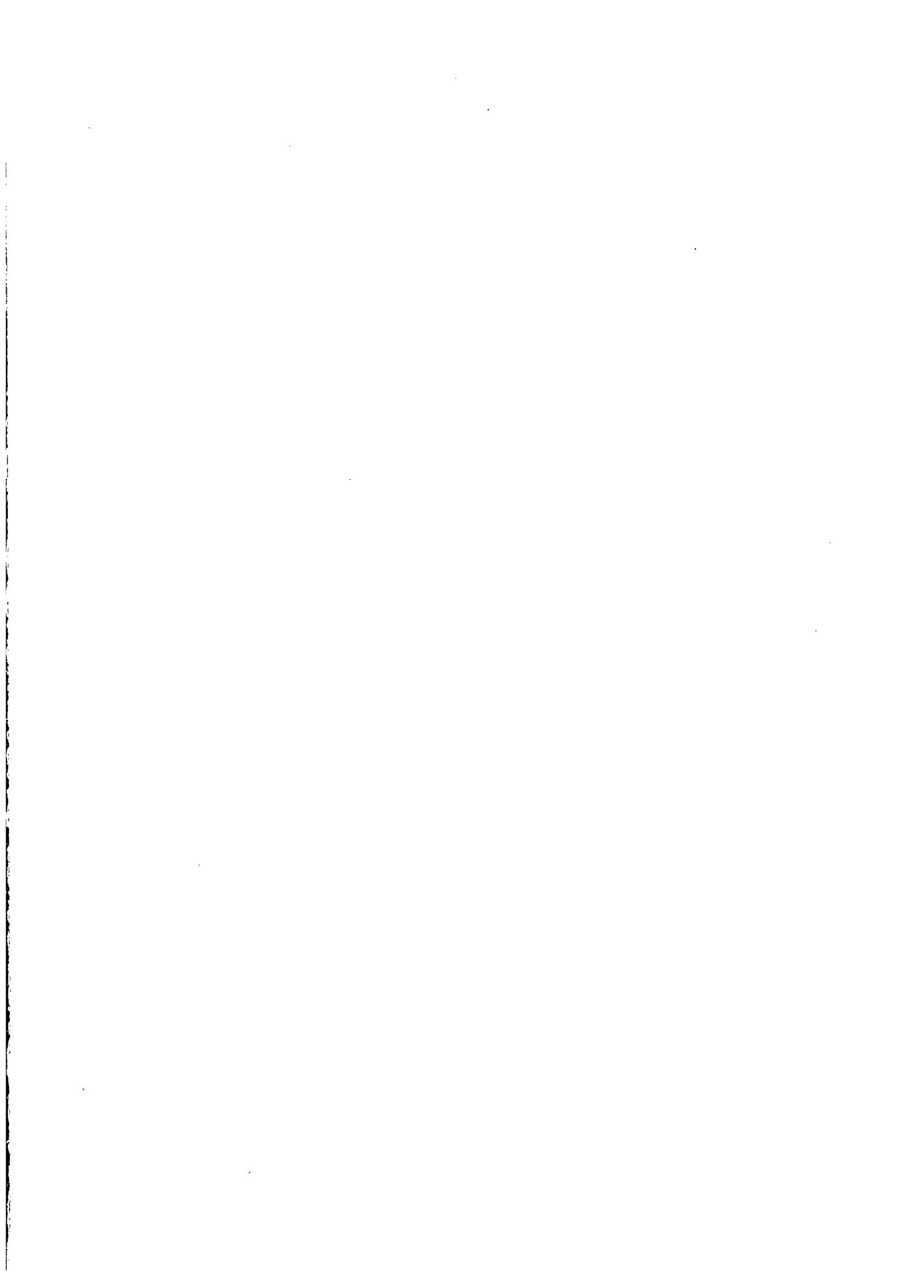
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