

PMVogtleCOLPEM Resource

From: Sutton, Mallecia
Sent: Monday, October 05, 2009 12:35 PM
To: PMVogtleCOLPEM Resource
Subject: FW: N&S Key Inputs
Attachments: 7.9 severe accidents, truncated.doc; 7.10 fuel cycle, truncated.doc; Appendix G Key inputs, truncated.doc; Appendix J, truncated.doc; 4.1 Land Use, truncated.doc; 4.2 Air quality, truncated.doc; 4.3 Water, truncated.doc; 4.4.1 Terrestrial, truncated.doc; 4.4.2 Aquatic, truncated.doc; 4.4.3 Federally listed species, truncated.doc; 4.5 socioeconomics, truncated.doc; 4.6 Historic-Cult Res, truncated.doc; 4.7 Environmental Justice, truncated.doc; 4.8 Non rad health, truncated.doc; 4.9 Radiological health, truncated.doc; 4.10 Measures and Controls, truncated.doc; 4.12 Summary of Construction Impacts, truncated.doc; 5.1 land use, truncated.doc; 5.2 air, truncated.doc; 5.3 water, truncated.doc; 5.4.1 terrestrial, truncated.doc; 5.4.2 and 5.4.3 aquatic, truncated.doc; 5.5 socioeconomics, truncated.doc; 5.6 Historic-Cultural Res, truncated.doc; 5.7 Environmental Justice Impacts, truncated.doc; 5.8 nonrad health, truncated.doc; 5.9 radiological health, truncated.doc; 5.10 accidents, truncated.doc; 5.12 Summary of Operational Impacts, truncated.doc; 6.1 fuel cycle, truncated.doc; 6.2 transportation, truncated.doc; 6.3 decommissioning, truncated.doc; 7.0 cumulative impacts, truncated.doc; 7.1 land use, truncated.doc; 7.2 air, truncated.doc; 7.3 key inputs, truncated.doc; 7.4 terrestrial, truncated.doc; 7.5 aquatic, truncated.doc; 7.6 socioeconomics, truncated.doc; 7.6 Historic-Cult Res-EJ , truncated.doc; 7.7 non-rad health, truncated.doc; 7.8 rad impacts, truncated.doc

-----Original Message-----

From: Fulton, Dale Lane [mailto:DLFULTON@southernco.com]
Sent: Friday, October 02, 2009 1:29 PM
To: Sutton, Mallecia
Cc: Moorer, Tom C.
Subject: N&S Key Inputs

Mallecia,

Attached are the matrix tables of the Key Inputs only. They are broken out by section, which should help you distribute to the staff by discipline.

Let me know if you need additional information or further explanation.

Hope your travels went well and look forward to working with you on the Vogtle project.

Thank you,
Dale L. Fulton
Environmental Specialist
Southern Nuclear Operating Company

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Recipients:
"PMVogtleCOLPEm Resource" <PMVogtleCOLPEm.Resource@nrc.gov>
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Files	Size	Date & Time
MESSAGE	717	10/5/2009 12:35:02 PM
7.9 severe accidents, truncated.doc		36418
7.10 fuel cycle, truncated.doc	40002	
Appendix G Key inputs, truncated.doc		74818
Appendix J, truncated.doc	336962	
4.1 Land Use, truncated.doc	72258	
4.2 Air quality, truncated.doc	49218	
4.3 Water, truncated.doc	81474	
4.4.1 Terrestrial, truncated.doc	106562	
4.4.2 Aquatic, truncated.doc	95810	
4.4.3 Federally listed species, truncated.doc		48194
4.5 socioeconomics, truncated.doc		120898
4.6 Historic-Cult Res, truncated.doc		50242
4.7 Environmental Justice, truncated.doc		64066
4.8 Non rad health, truncated.doc		62530
4.9 Radiological health, truncated.doc		68162
4.10 Measures and Controls, truncated.doc		75330
4.12 Summary of Construction Impacts, truncated.doc		59458
5.1 land use, truncated.doc	33858	
5.2 air, truncated.doc	52290	
5.3 water, truncated.doc	68674	
5.4.1 terrestrial, truncated.doc	73794	
5.4.2 and 5.4.3 aquatic, truncated.doc		93250
5.5 socioeconomics, truncated.doc		115266
5.6 Historic-Cultural Res, truncated.doc		32834
5.7 Environmental Justice Impacts, truncated.doc		62018
5.8 nonrad health, truncated.doc		41538
5.9 radiological health, truncated.doc		42050
5.10 accidents, truncated.doc	42050	
5.12 Summary of Operational Impacts, truncated.doc		116290
6.1 fuel cycle, truncated.doc	42050	
6.2 transportation, truncated.doc		74818
6.3 decommissioning, truncated.doc		30786
7.0 cumulative impacts, truncated.doc		34370
7.1 land use, truncated.doc	32322	

7.2 air, truncated.doc	50754		
7.3 key inputs, truncated.doc		92226	
7.4 terrestrial, truncated.doc		60482	
7.5 aquatic, truncated.doc		57410	
7.6 socioeconomics, truncated.doc			36418
7.6 Historic-Cult Res-EJ , truncated.doc			34882
7.7 non-rad health, truncated.doc		29762	
7.8 rad impacts, truncated.doc	39490		

Options

Priority: Standard

Return Notification: No

Reply Requested: No

Sensitivity: Normal

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**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS**

Section 7.9 Severe Accidents Key Input numbers are not sequential because some input statements marked in the DEIS were ascertained by SMEs not to be key to the conclusions of the NRC and therefore were dropped from this table. Underlined text is new since evaluation based on DEIS.

EIS Section	Input Number	Key Input or Assumption
7.9	S7.9-1	Southern (2007b) states that the population dose risk for VEGP Unit 1 or VEGP Unit 2 is about 1.9×10^{-2} person-Sv/Ryr; <u>FEIS is identical</u>
7.9	S7.9-2	The population dose risk for the two existing reactors is about 3.7×10^{-2} person-Sv/Ryr. <u>FEIS is identical</u>
7.9	S7.9-3	The population dose for a single Westinghouse AP1000 reactor is about 2.8×10^{-4} person-Sv/Ryr. <u>FEIS is identical</u>
7.9	S7.9-4	The combined risk for the existing two units plus two Westinghouse AP1000 reactors is about 3.8×10^{-2} person-Sv/Ryr. <u>FEIS is identical</u>
7.9	S7.9-5	Similar conclusions are obtained when other risks, such as cost risk, early fatalities, and decontamination areas are evaluated. <u>FEIS is identical</u>
NA	Additional Information	On February 28, 2008, the NRC issued amendments to the operating licenses of VEGP Units 1 and 2, for measurement uncertainty recapture power uprates. The uprates increase the licensed core power level for each reactor from 3565 MW(t) to 3625.6 MW(t) (NRC 2008).

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS**

Section 7.10 Fuel Cycle, Transportation, and Decommissioning

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EIS Section	Input Number	Key Input or Assumption
7.10	S7.10-1	The addition of the proposed new units on the VEGP site would result in the need for additional nuclear fuel. <u>FEIS is identical</u>
	S7.10-2	As discussed in Section 6.1 of this EIS, the environmental impacts of fuel cycle activities for the proposed units would be about three times those presented in Table S-3 of 10 CFR 51.51. <u>FEIS is identical</u>
	S7.10-3	The addition of the proposed new VEGP Units 3 and 4 would result in additional shipments of unirradiated fuel to the site and additional shipments of spent fuel and waste from the site. <u>FEIS is identical</u>
	S7.10-4	the number of unirradiated fuel shipments equates to less than one truck shipment per day within criteria specified in Table S-4 of 10 CFR 51.52 <u>FEIS is identical</u>
	S7.10-5	annual dose to workers and the public would be less than dose specified in Table S-4, <u>FEIS is identical</u>
	S7.10-6	health impacts are projected to be small (i.e., less than 1×10^{-4} detriment/yr).

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EIS Section	Input Number	Key Input or Assumption
		<u>FEIS is identical</u>
	S7.10-7	after accounting for conservative assumptions in the staff's evaluation, doses to the worker and the public would be within criteria specified in Table S-4 <u>FEIS is identical</u>
	S7.10-8	health impacts from normal conditions and accident conditions would be small (i.e., less than 0.1 detriment/yr). <u>FEIS is identical</u>
	S7.10-9	Regarding transportation of waste shipments, the staff concluded that the normalized number of waste shipments would be within the value specified in Table S-4 for the 1100-MW(e) reference reactor <u>FEIS is identical</u>

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
APPENDIX G, SUPPORTING DOCUMENTATION ON RADIOLOGICAL DOSE ASSESSMENTS**

Key Input numbers are not sequential because some input statements marked in the DEIS were ascertained by SMEs not to be key to the conclusions of the NRC and therefore were dropped from this table.

EIS Section	Input Number	Key Input or Assumption
Appendix G	SG-1	No drinking water withdrawal of the Savannah River occurs within 160.9 km (100 river mi) downstream of the site. <u>FEIS is identical</u>
Appendix G	SG-2	The peak maximally exposed individual and population doses from the existing unit liquid effluent pathway during the period 2001 to 2004 occurred in year 2001. <u>FEIS is identical</u>
Appendix G	SG-3	Table G-1 - New unit liquid effluent source term (Ci/yr) <u>FEIS is identical</u>
Appendix G	SG-4	Table G-1 - Discharge flow rate (ft ³ /s) <u>FEIS is identical</u>
Appendix G	SG-5	Table G-1 - Source term multiplier <u>FEIS is identical</u>
Appendix G	SG-6	Table G-1 - Site type <u>FEIS is identical</u>
Appendix G	SG-7	Table G-1 - Reconcentration model <u>FEIS is identical</u>
Appendix G	SG-8	Table G-1 - Effluent discharge rate from impoundment system to receiving water body (ft ³ /s)

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EIS Section	Input Number	Key Input or Assumption
		<u>FEIS is identical</u>
Appendix G	SG-9	Table G-1 - Impoundment total volume (ft ³) <u>FEIS is identical</u>
Appendix G	SG-10	Table G-1 - Shore width factor <u>FEIS is identical</u>
Appendix G	SG-11	Table G-1 - Dilution factors for aquatic food and boating, shoreline and swimming, and drinking water <u>FEIS is identical</u>
Appendix G	SG-12	Table G-1 - Transit time (hr) <u>FEIS is identical</u>
Appendix G	SG-13	Table G-1 - Consumption and usage factors for adults, teens, children, and infants <u>FEIS is identical</u>
Appendix G	SG-14	Table G-1 - Total 50-mile population <u>FEIS is identical</u>
Appendix G	SG-15	Table G-1 - Total 50-mile sport fishing (kg/yr) <u>FEIS is identical</u>
Appendix G	SG-16	Table G-1 - Total 50-mile shoreline usage (person-hr/yr)

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EIS Section	Input Number	Key Input or Assumption
		<u>FEIS is identical</u>
Appendix G	SG-17	Table G-1 - Total 50-mile swimming usage (person-hr/yr) <u>FEIS is identical</u>
Appendix G	SG-18	Table G-1 - Total 50-mile boating usage (person-hr/yr) <u>FEIS is identical</u>
Appendix G	SG-19	Table G-3 - Current Populations and Projections to 2090 <u>FEIS is identical</u>
Appendix G	SG-20	Dose to the maximally exposed individual was calculated at 1,071 m (0.67 mi) northeast of the site for the following exposure pathways: plume immersion, direct shine from deposited radionuclides, inhalation, ingestion of local farm or garden vegetables, and ingestion of locally produced beef. <u>FEIS is identical</u>
Appendix G	SG-21	There are no known milk cows within 5 miles of the VEGP site <u>FEIS is identical</u>
Appendix G	SG-22	Table G-4 - New unit gaseous effluent source term (Ci/yr) <u>FEIS is identical</u>
Appendix G	SG-23	Table G-4 - Existing unit gaseous effluent source term (Ci/yr) <u>FEIS is identical</u>

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EIS Section	Input Number	Key Input or Assumption
Appendix G	SG-24	Table G-4 - Population distribution <u>FEIS is identical</u>
Appendix G	SG-25	Table G-4 - Wind speed and direction distribution <u>FEIS is identical</u>
Appendix G	SG-26	Table G-4 - Atmospheric dispersion factors(sec/m ³) <u>FEIS is identical</u>
Appendix G	SG-27	Table G-4 - Ground deposition factors (M ²) <u>FEIS is identical</u>
Appendix G	SG-28	Table G-4 - Milk production rate within an 80-km (50-mi) radius of the VEGP site (L/yr) <u>FEIS is identical</u>
Appendix G	SG-29	Table G-4 - Vegetable/fruit production rate within an 80-km (50-mi) radius of the VEGP site (kg/yr) <u>FEIS is identical</u>
Appendix G	SG-30	Table G-4 - Meat production rate within an 80-km (50-mi) radius of the VEGP site (kg/yr) <u>FEIS is identical</u>
Appendix G	SG-31	Table G-4 - Pathway receptor locations (direction, distance, and atmospheric dispersion factors) -nearest site boundary, vegetable garden, residence, meat animal <u>FEIS is identical</u>

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KEY INPUTS OR ASSUMPTIONS
APPENDIX G, SUPPORTING DOCUMENTATION ON RADIOLOGICAL DOSE ASSESSMENTS**

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EIS Section	Input Number	Key Input or Assumption
Appendix G	SG-32	Table G-4 - Consumption factors for milk, meat, leafy vegetables, and vegetables <u>FEIS is identical</u>
Appendix G	SG-33	Table G-4 - Fraction of year leafy vegetables are grown <u>FEIS is identical</u>
Appendix G	SG-34	Table G-4 - Fraction of year that milk cows are on pasture <u>FEIS is identical</u>
Appendix G	SG-35	Table G-4 - Fraction of MEI vegetable intake from own garden <u>FEIS is identical</u>
Appendix G	SG-36	Table G-4 - Fraction of milk-cow intake that is from pasture while on pasture <u>FEIS is identical</u>
Appendix G	SG-37	Table G-4 - Average absolute humidity over the growing season (g/m^3) <u>FEIS is identical</u>
Appendix G	SG-38	Table G-4 - Average temperature over the growing season ($^{\circ}\text{F}$) <u>FEIS is identical</u>
Appendix G	SG-39	Table G-4 - Fraction of year beef cattle are on pasture <u>FEIS is identical</u>
Appendix G	SG-40	Table G-4 - Fraction of year beef cattle intake that is from pasture while on pasture

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
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EIS Section	Input Number	Key Input or Assumption
		<u>FEIS is identical</u>

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS**

Appendix Table J-2

SNC has verified that the following assumptions used in developing the analyses and conclusions in the DEIS are accurate. No new and significant information has been identified. In the few cases where new information is available, SNC has noted the new information, but had determined it to be not significant for reasons given. Underlined text is new since evaluation based on DEIS.

EIS Section	Input Number	Key Input or Assumption
2.1	SJ-1	<u>FEIS says:</u> <u>The center line of the proposed VEGP Units 3 and 4 would be located approximately 640 m (2100 ft) west and 120 m (400 ft) south of the center of Unit 2 containment building. Unit 4 would be located approximately 244 m (800 ft) west of Unit 3.</u>
2.1	SJ-2	<u>FEIS says:</u> <u>a railroad spur runs to the site from the Norfolk Southern Savannah-to-Augusta track</u>
2.2.1	SJ-3	<u>FEIS says:</u> <u>No prime farmland soils occur on the VEGP site. Burke County is developing zoning regulations, but the VEGP site currently is not zoned.</u>
	SJ-4	<u>FEIS says:</u> <u>The existing transmission system supporting VEGP Units 1 and 2 has two 500-kV lines and four 230-kV transmission lines in four rights-of-way (Southern 2008a). There is an additional 230-kV transmission line to Plant Wilson</u>
	SJ-5	<u>FEIS says:</u> <u>The GPC provides access to the Savannah River at a boat landing immediately downstream of the VEGP site.</u>

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KEY INPUTS OR ASSUMPTIONS
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EIS Section	Input Number	Key Input or Assumption
	SJ-6	<u>FEIS says:</u> <u>This section focuses on three Georgia counties as the region of impact for the construction and operation of new units at VEGP-Burke, Columbia and Richmond-where 79 percent of current VEGP employees reside (see Section 2.5.1).</u>
3.3, 4.1.2, 9.2.2	SJ-7	One new 500-kV transmission line will be constructed for the Vogtle site to handle the new generating capacity. The proposed new transmission line will be routed to an existing substation west of Augusta, Georgia. This substation will have been upgraded to contain a 500-kV bus by the time the connection is made. The specific route for this transmission line has not been determined, but land uses in the area that the line will traverse are indicated in Figure 2.2-4. Section 4.1.2 describes the principles that will be employed in routing the line. <u>FEIS is identical</u>
4.1.2	SJ-8	This analysis assumes that 60 linear miles of a 200-foot wide corridor would be required for the new line. Total area required for the corridor would be approximately 2.0 sq mi. The new line would require approximately 390 towers, and each would require foundation excavations. <u>FEIS is identical</u>
3.3	SJ-9	<u>FEIS says:</u> <u>All 500-kV GPC transmission lines are currently constructed on steel, lattice-type towers designed to provide clearances consistent with the NESC and GPC engineering standards. At a minimum, all clearances will equal or exceed 45 feet phase-to-ground. For 500-kV lines, GPC uses a 3-subconductor-per-phase system with two overhead ground wires. All towers are grounded with either ground rods or a counterpoise system. Any new transmission lines will be constructed using the same standards. No transmission tower will be higher than 200 feet above ground surface; therefore no Federal Aviation Administration permits will be required.</u>
4.1.1	SJ-10	VEGP Units 3 and 4 and supporting facilities will be located on the 3,169-acre VEGP site, adjacent to the existing nuclear units (Figure 3.1-3). Heavy equipment and reactor components will be barged up the Savannah River. A heavy haul road will be constructed from the barge slip on the Savannah River to the construction site. A construction access road will be constructed from River Road, near the rail spur crossing, to the construction site to provide access to the construction site without impeding traffic to the existing units. Another road will be constructed to the new intake structure. Approximately 310 acres of land will be dedicated permanently to the new units and their supporting facilities (Table 4.1-1). Temporary facilities and spoil storage will affect an additional 190 acres. Most of the land was most recently disturbed in the last 30 years and currently consists of planted pines and old fields. Less than 50 acres of mixed and

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EIS Section	Input Number	Key Input or Assumption
		<p>bottom land hardwoods will be lost. One permitted landfill in the construction footprint (Landfill #3) will be relocated.</p> <p><u>FEIS says:</u> <u>...Less than 25 acres of mixed and bottom land hardwoods will be lost...</u></p>
4.1.1	SJ-11	<p>Areas for borrow pits have been identified on the northern part of the VEGP site though the extent of land required has not been determined.</p> <p><u>FEIS is identical</u></p>

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KEY INPUTS OR ASSUMPTIONS
Appendix Table J-2**

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EIS Section	Input Number	Key Input or Assumption
4.1.1	SJ-12	<p>The intake, discharge, and barge facilities will be located in the 100-year floodplain. With those exceptions, construction activities will be outside the 500-year floodplain</p> <p><u>FEIS is identical</u></p>
4.1.2	SJ-13	<p>GPC has procedures for implementing this regulation [transmission line routing], which involve data gathering on land uses, environmental issues, existing corridors, and cultural resources in the study area; consultation with the State Historic Preservation Officer, the U.S. Fish and Wildlife Service (USFWS), the Georgia Department of Natural Resources (GDNR), the U.S. Army Corps of Engineers (USACE); and evaluation of environmental, cultural, and land use issues.</p> <p><u>FEIS is identical</u></p>
4.1.2	SJ-14	<p>As noted in Section 4.1.2, public utilities are required by Georgia state law to select routes for transmission lines based on a consideration of environmental factors as well as engineering and economic factors. To the extent practicable, GPC selects routes based on compatibility with existing land uses and the presence/absence of important cultural and ecological resources. With respect to aquatic resources, GPC tries to avoid impacts to streams, ponds, reservoirs, and wetlands.</p> <p><u>FEIS is identical</u></p>
5.2.2	SJ-15	<p>The auxiliary steam system provides the steam required for plant use during startup, shutdown, and normal operation. The auxiliary boiler, which generates the steam, is located in the turbine building with an emissions release point 150 feet above grade. Standby diesel generators provide reliable power to various plant system electric loads. The generators are in the diesel generator building. Both the auxiliary boiler and the diesel generators use No. 2 diesel fuel and release permitted pollutants to the air. Table 3.6-2 [ER] describes annual estimated emissions. The new Technical Services Center will have a small diesel generator, as will several other miscellaneous buildings. All generators will have appropriate certificates of operation. Emissions from these small generators are not considered in Table 3.6-2.</p> <p><u>FEIS is identical</u></p>

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Appendix Table J-2**

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EIS Section	Input Number	Key Input or Assumption
4.2.1	SJ-16	<p>Specific mitigation measures to control fugitive dust will be identified in a dust control plan, or similar document, prepared prior to project construction. These mitigation measures could include any or all of the following:</p> <ul style="list-style-type: none"> Stabilize construction roads and spoil piles Limit speeds on unpaved construction roads Periodically water unpaved construction roads to control dust Perform housekeeping (e.g., remove dirt spilled onto paved roads) Cover haul trucks when loaded or unloaded Minimize material handling (e.g., drop heights, double-handling) Cease grading and excavation activities during high winds and during extreme air pollution episodes Phase grading to minimize the area of disturbed soils Re-vegetate road medians and slopes <p><u>FEIS is identical</u></p>
4.2.2	SJ-17	<p>SNC has assumed that there will be four construction shifts and each shift will include 25 percent of the total construction workforce. While it is a common practice for construction workers to car pool, this analysis conservatively assumes one worker per vehicle. In addition to construction workers, SNC estimated approximately 100 truck deliveries will be made daily to the construction site. Both truck deliveries and construction worker vehicles will enter the site via the Construction Access Road The construction workforce, the existing units' workforce (and outage workforces) will all access the VEGP site via River Road.</p> <p><u>FEIS is identical</u></p>
4.2.2	SJ-18	<p>Mitigation measured will be included in a construction management traffic plan developed prior to the start of construction. Potential mitigation measures could include installing turn lanes at the construction entrance, establishing a centralized parking area away from the site and shuttling construction workers to the site in buses or vans, encouraging carpools, and staggering construction shifts so they don't coincide with operational shifts. SNC could also establish a shuttle service from the Augusta area, where many of the construction workforce is likely to settle. The operations workforce will continue to enter the plant at the current entrance on River Road which has a left turn lane allowing through north-south traffic to pass, alleviating congestion at the entrance.</p> <p><u>FEIS is identical</u></p>
5.2.1	SJ-19	<p>The SACTI code calculated the expected plume lengths by season and direction for the combined effect of two natural draft cooling towers. The longest plume lengths will occur in the winter months and the shortest in summer. The plumes will occur in all compass directions. No impacts other than aesthetic will result from plumes. Although visible offsite, the plumes resemble clouds and will not disrupt the aesthetic view.</p>

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EIS Section	Input Number	Key Input or Assumption
		<u>FEIS is identical</u>
5.2.1	SJ-20	Water droplets from the cooling towers will have the same concentration of dissolved and suspended solids as the water in the cooling tower basin. The water in the cooling tower basin is assumed to have solid concentrations four times that of the Savannah River, the source of cooling water makeup. <u>FEIS is identical</u>
5.2.1	SJ-21	The maximum predicted solids deposition rate from a single tower will be as follows: Max lbs/acre/month 3.6 Ft to max deposition 1,600 Direction to max deposition N <u>FEIS is identical</u>
5.2.1	SJ-22	The distance between the additional pair of cooling towers and the existing pair of towers will be approximately 4,000 feet. A single cooling tower's plume is estimated to have a maximum salt deposition rate of 3.6 pounds per acre per month, and that maximum deposition will occur 1,600 feet from the tower. Salt deposition was not estimated for Units 1 and 2. Even assuming that all four towers deposited the maximum of 3.6 pounds per acre per month, SNC does not believe that salt deposition from all four units warrants mitigation for several reasons. The deposition rate is a calculated maximum rate, and so the actual rate will likely be less. The maximum salt deposition from all four towers will not overlap and combine since the distance between the two sets of towers (approximately 4,000 feet) is greater than twice the distance to the maximum deposition of 1,600 feet. The salt deposition from the Units 3 and 4 towers would overlap since the towers are only 1,100 feet apart. The maximum estimated cumulative salt deposition rate is 7.2 pounds per acre per month at 1,600 feet north of the towers. <u>FEIS is identical</u>

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Appendix Table J-2**

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EIS Section	Input Number	Key Input or Assumption
2.6.2.2	SJ-23	<u>FEIS says:</u> <u>Most water users in the Savannah River basin depend primarily on surface water to satisfy current and future demands.</u>
2.6.2.1	SJ-24	<u>FEIS says:</u> <u>Many groundwater users in the lower basin will be required to replace groundwater use with surface water due to concerns about salt water intrusion into groundwater.</u>
3.2.2.1	SJ-25	<u>FEIS says:</u> <u>The only use of water from the Savannah River for the AP1000 units will be for the circulating water system/turbine plant cooling water system makeup, where river water will be required to replace cooling tower evaporative water losses, drift losses, and blowdown discharge.</u>
3.2.2.2	SJ-26	<u>FEIS says:</u> <u>Non-radiological effluents from VEGP Units 3 and 4 will consist of cooling tower blowdown and other wastewater streams and will be discharged into the Savannah River through a pipe at a location downstream from the discharge location for existing VEGP Units 1 and 2.</u>
3.2.4.3	SJ-27	<u>FEIS says:</u> <u>Surface water consumptive use for the two AP1000 units' normal operation is 27,924 gpm, with a maximum of 28,904 gpm.</u>
3.2.3.3	SJ-28	<u>FEIS says:</u> <u>The final effluent discharge stream will be routed to the Savannah River downstream of the existing units' discharge.</u>

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EIS Section	Input Number	Key Input or Assumption
3.2.4.3	SJ-29	<u>FEIS says:</u> <u>The Savannah River will be used to supply make-up water for the new units' circulating water system. Biocides will be injected at the intake structure to control biofouling in the circulating water system and associated piping. Additional chemicals will be added in the cooling tower basins to control scaling, corrosion, and solids deposition.</u>
3.2.4.3	SJ-30	<u>FEIS says:</u> <u>Make-up water will be taken from the Savannah River by pumps at a maximum rate of approximately 57,784 gpm (128.8 cfs) for two units.</u>
3.2.2.1	SJ-31	<u>FEIS says:</u> <u>Each AP1000 unit will use a circulating water system (CWS) to dissipate up to 7.55x10⁹ Btu/hr (1.51x10¹⁰ Btu/hr for two units) of waste heat rejected from the main condenser, turbine building closed cooling water heat exchangers, and condenser vacuum pump seal water heat exchangers during normal plant operation at full station load.</u>
3.2.2.1	SJ-32	<u>FEIS says:</u> <u>The AP1000 reactor design employs a passive ultimate heat sink (UHS) system using water stored in a tank above the containment structure for safety-related cooling. The passive containment cooling system (PCS) does not require an active external safety-related UHS system to reach safe shutdown.</u>
2.6.1.3	SJ-33	<u>FEIS says:</u> <u>The final plant discharge from VEGP Units 3 and 4 will consist of cooling tower blowdown and other site wastewater streams, including the domestic water treatment and circulation water treatment systems. All biocides or chemical additives in the discharge will be among those approved by the U.S. Environmental Protection Agency or the state of Georgia as safe for humans and the environment, and the volume and concentration of each constituent discharged to the environment will meet requirements established in the National Pollutant Discharge Elimination System (NPDES) permit.</u>

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EIS Section	Input Number	Key Input or Assumption
3.2.4.3	SJ-34	<u>FEIS says:</u> <u>VEGP generates small quantities of hazardous wastes and is classified as a small-quantity generator, although Southern manages the hazardous waste program as if the site were a large quantity generator. Southern maintains a Waste Minimization Plan for Hazardous Waste. Wastes are stored temporarily on site and periodically disposed at a permitted disposal facility. All hazardous wastes activities are performed in compliance with federal regulations and VEGP Units 1 and 2 waste handling procedures. VEGP Units 1 and 2 have procedures in place to minimize the impact in the unlikely event of a hazardous waste spill.</u>
3.2.3.3	SJ-35	<u>FEIS says:</u> <u>VEGP generates small volumes of mixed wastes. VEGP maintains procedures for the safe storage and disposal of mixed wastes generated by the new units will managed as current mixed wastes are managed.</u>
3.2.4.3	SJ-36	<u>FEIS says:</u> <u>Non-radioactive resins and sludges will be disposed in a permitted industrial landfill. Universal wastes, scrap metal, and used oil and antifreeze will be managed for recycling or recovery. Office paper and aluminum cans will be recycled locally. Putrescible wastes will be disposed in a permitted offsite disposal facility. VEGP practices pollution prevention, including waste minimization. Solid wastes created by the construction and operation of the new units will be handled as current wastes are handled.</u>
3.2.4.3	SJ-37	<u>FEIS says:</u> <u>VEGP has an existing solid waste landfill permitted by Georgia EPS as a Private Industry Landfill. It can receive only such inert material as concrete, bricks, rubble and the like. This landfill will be relocated to accommodate expansion of the switchyard for the proposed VEGP Units 3 and 4. The landfill will either be relocated on site, or the material will be removed and disposed in an offsite permitted facility.</u>
4.3.1	SJ-38	The old retention ponds used during the construction of the existing facilities will not be reused for the new construction. New retention ponds will be constructed to accommodate surface-water runoff and to allow sediment-laden water from dewatering activities to pass through them, if necessary, prior to discharge at an NPDES permitted outfall. <u>FEIS is identical</u>
4.3.1	SJ-39	SNC will follow best management practices for soil and erosion control as required by applicable federal and state laws and regulations.

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EIS Section	Input Number	Key Input or Assumption
		<u>FEIS is identical.</u>
4.3.1	SJ-40	There are no plans to use surface water during the construction phase of the project, but it is conceivable that relatively small amounts of water from the stormwater retention ponds could be used to wash construction equipment or sprayed on roads for dust control. <u>FEIS is identical.</u>
5.3.2.1	SJ-41	Makeup water for the natural draft cooling towers will be pumped from the Savannah River. The expected rate of withdrawal of Savannah River water to replace water losses from the circulating water system will be 18,612 and 37,224 gallons per minute (gpm) for one and two-unit operations, respectively. The maximum rate of withdrawal will be 28,892 and 57,784 gpm for one and two-unit operation, respectively. <u>FEIS is identical.</u>
7.3.1.1	SJ-42	<u>FEIS says:</u> <u>Current evaporative consumptive loss for the existing units is 30,000 gpm.</u>
5.4.2.3	SJ-43	SNC does not anticipate the need for treatment of raw water to prevent biofouling in the intake structure and makeup water piping. Water treatment will take place in the cooling tower basins, and will include the addition of biocides, anti-scaling compounds, and dispersants. <u>FEIS is identical.</u>

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EIS Section	Input Number	Key Input or Assumption
5.3.3.1	SJ-44	The projected blowdown flow of 28,880 gpm ... is 0.45 to 0.91 percent of the average flow and 1.34 to 1.55 percent of the average 7Q10 flow calculated for the VEGP site. This equates to a dilution factor of from 60 to 120, depending on the time of year. <u>FEIS is identical.</u>
5.3.3.1	SJ-45	A 2-foot diameter port was chosen as a compromise between mixing zone and velocity considerations. <u>FEIS is identical.</u>
5.3.3.1	SJ-46	Cooling tower blowdown from the new facility will be discharged directly into the Savannah River by means of a new discharge structure that will be constructed approximately 400 feet down-river of the existing discharge. The new discharge structure will be approximately 2,500 feet downstream of the intake, meaning that recirculation of heated effluent to the intake will not be an issue. <u>FEIS is identical.</u>
4.3.2	SJ-47	Based on water use during the original construction, which peaked at 420- gpm (604,800 gallons per day [gpd]) the existing permitted groundwater withdrawal rates should be capable of providing all construction water needs <u>FEIS is identical.</u>
4.3.2	SJ-48	During construction, groundwater withdrawals will increase from an average of 730 gpm use by existing wells to 1,150 gpm assuming 420 gpm for construction. This could conservatively increase the current potentiometric surface drawdown at the property boundary by approximately 2.3 feet to approximately 6.5 feet. <u>FEIS is identical.</u>
4.3.2	SJ-49	None of the planned construction activities has the potential to affect the deep, confined aquifers <u>FEIS is identical.</u>

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7.3.1.2	SJ-50	No other large groundwater users are in the vicinity of VEGP. <u>FEIS is identical.</u>
4.4.1	SJ-51	<u>FEIS says:</u> <u>Best Management Practices used to minimize impacts during pre-construction and construction activities begin with programmatic Construction Environmental Control Plan being ut into place. This plan would address BMP that would be used to minimize impacts. The plan would cover topics such as erosion and sedimentation control, sensitive resources, spill prevention and response, noise and vibration, air emissions, and general site maintenance. In addition, the applicant states that regular environmental compliance inspections of construction activities would be performed to ensure that site activities are in compliance with all applicable environmental requirements.</u>
4.4.1	SJ-52	<u>FEIS says:</u> <u>Temporary construction ramps at the canal and CWIS area would be removed and disturbed areas around the intake structure would then be stabilized and re-vegetated to preclude future erosion. Erosion and sediment controls would remain in place and would be maintained as long as necessary</u>
4.4.1	SJ-53	<u>FEIS says:</u> <u>The length of disturbance of the shoreline at the barge slip will be approximately 90 feet.</u>
4.4.1	SJ-54	<u>FEIS says:</u> <u>The construction of the discharge structure will impact approximately 20 ft of shoreline during construction and 10 ft of shoreline after construction (during operational phase). The construction of the intake canal will impact approximately 400 ft of shoreline and 300 ft of shoreline after construction (during operational phase).</u>

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EIS Section	Input Number	Key Input or Assumption
4.4.1	SJ-55	<p><u>FEIS says:</u> <u>This project will also require coverage under the Georgia General Stormwater Permit for Construction. The preference would be to perform the excavation of the intake structure primarily from land, as opposed to working on the water, to minimize the dewatering effort and potential for impact to the Savannah River and adjacent wetlands.</u></p>
4.4.1	SJ-56	<p><u>FEIS says:</u> <u>Silt fences, and other erosion and sediment controls will be installed in drainage areas and at the perimeters of the disturbed areas, and the cut and fill operations associated with the building of the access road would begin. The access road would be built incorporating erosion and sediment control measures and road drainage systems consistent with the requirements of the Georgia stormwater permit for the upland portions of the project. Additional controls required by the USACE Section 404 permit would be applied in wetland areas.</u></p>
4.4.1	SJ-57	<p><u>FEIS says:</u> <u>The excavated material would be managed in an upland area onsite for possible reuse in the canal banks. Erosion and sediment control measures and will be installed and BMPs utilized, as necessary for this storage area.</u></p>
4.4.1	SJ-58	<p><u>FEIS says:</u> <u>The final operations would include installation of the inner serrated weir wall, the outer serrated wall and guide vanes at the mouth of the intake canal and removal of the sheet pile cofferdam from the river side of the intake structure. This activity will be conducted from a barge located in the Savannah River. Appropriate environmental controls will be utilized for this phase of the operation to prevent spills and minimize environmental impact to the river and adjacent wetlands.</u></p>

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EIS Section	Input Number	Key Input or Assumption
4.4.1	SJ-59	<p><u>FEIS says:</u> <u>After construction of the barge facility the site will be stabilized and re-vegetated in accordance with permit requirements after all construction activity is complete at the barge facility. Erosion and sediment controls would remain in place as long as necessary and would be removed only after vegetation is well established and controls are no longer necessary.</u></p>
4.4.1	SJ-60	<p><u>FEIS says:</u> <u>SNC performed a bathymetry survey in the fall 2006 to determine the Savannah River cross section information in support of ESP modeling work. Based on review of this information, no dredging will be required to connect the barge slip to the navigation channel.</u></p>
4.4.1	SJ-61	<p><u>FEIS says:</u> <u>The disturbed area would be re-vegetated to prevent erosion and allowed to revert to its native condition once the discharge pipe is in place and covered. Once installed, the discharge pipe is expected to permanently disturb less than a tenth of an acre</u></p>
4.4.1	SJ-62	<p><u>FEIS says:</u> <u>A small amount of rip-rap material would also be placed in the river at the end of the discharge pipe to "armor" the bottom in the immediate area of the discharge to minimize scour.</u></p>
4.4.1	SJ-63	<p><u>FEIS says:</u> <u>The proposed new construction will include a Heavy Haul Road from the barge slip to the construction site. This road is not expected to encounter wetlands along its route, but SNC will implement the necessary erosion and sediment controls and best management practices (BMPs) to ensure runoff does not negatively impact wetlands.</u></p>

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4.4.1	SJ-64	<p><u>FEIS says:</u> <u>New upland retention ponds would be constructed and used to accept surface water runoff and water from the dewatering process.</u> <u>These new retention ponds would function as sedimentation basins.</u> <u>The existing debris basins would not be used for trapping sediment due to construction, but they would be used for storm water management and would likely receive the outflow from the new retention basins.</u></p>
4.4.1	SJ-65	<p><u>FEIS says:</u> <u>The power block area will be excavated to approximately 90 feet below grade, removing sand, silt, and clay down to the marl layer.</u> <u>The excavation will be concurrent with the installation of a dewatering system, slope protection and retaining wall systems. Duration: 6 months</u></p>
4.4.1	SJ-66	<p><u>FEIS says:</u> <u>The construction duration for excavation then backfill to the bottom of the containment and auxiliary buildings is currently projected to be about 18 months.</u></p>
4.4.1	SJ-67	<p><u>FEIS says:</u> <u>Based on recent evaluation (see RAI 2.3-2 response), there may be a short term reduction in recharge flow to Mallard Pond during the dewatering of the Powerblock excavation. The pond level will not be substantially affected since it is maintained by a standpipe. The stream below the pond may experience a reduction in flow, but it is not expected that this reduction will significantly alter the stream habitat, beyond what might be experienced during a drought period.</u></p>
4.4.1	SJ-68	<p>The actual intake structure and canal will be located in approximately 3 acres of wetlands.</p> <p><u>FEIS is identical</u></p>

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EIS Section	Input Number	Key Input or Assumption
4.4.1	SJ-69	<u>FEIS says:</u> <u>1.6 ha (4.0 ac) for the simulator building was included in the disturbance footprint.</u>
4.4.1	SJ-70	SNC will visually monitor Mallard Pond and other site water sources to determine if activities produce changes in pond level, flow reduction in the drainage below the pond or other visual evidence of changes. SNC will use best management practices to protect the aquifer from impact during the construction process, such as controls for wellhead protection, cross protection etc. In the event a significant impact to groundwater resource is discovered by monitoring or other means, this information will be evaluated as potentially new and significant information and provided to the NRC for review, as appropriate. <u>FEIS is identical</u>
4.4.1, 4.4.3	SJ-71	<u>FEIS says:</u> <u>GPC has procedures for implementing this regulation [transmission line routing], which involve data gathering on land uses, environmental issues, existing corridors, and cultural resources in the study area; consultation with the State Historic Preservation Officer, the U.S. Fish and Wildlife Service (USFWS), the Georgia Department of Natural Resources (GDNR), the U.S. Army Corps of Engineers (USACE); and evaluation of environmental, cultural, and land use issues.</u>
4.4.1, 4.4.3	SJ-72	Approximately 310 acres of land will be dedicated permanently to the new units and their supporting facilities <u>FEIS says:</u> <u>Permanent facilities would occupy approximately 320 acres</u>
4.4.1, 4.4.3	SJ-73	Temporary facilities and spoil storage will affect an additional 190 acres <u>FEIS says:</u> <u>Temporary facilities will occupy approximately 200 acres</u>

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EIS Section	Input Number	Key Input or Assumption
4.4.1, 4.4.3	SJ-74	<p><u>FEIS says:</u> <u>Areas for borrow pits, if needed have been identified on the northern part of the VEGP site. The borrow pits, if needed, will consume approximately 31 acres.</u></p>
4.4.1, 4.4.3	SJ-75	<p>Habitat type acreage associated with various construction areas as described in the RAI response [(and in Table 4-3)]</p> <p><u>FEIS is identical</u></p>
4.4.1, 4.4.3	SJ-76	<p>Approximately 12.5 acres of wetlands will be impacted during construction of the Unit 3 and 4 cooling water intake structure.</p> <p><u>FEIS says:</u> <u>wetlands would be directly affected by Unit 3 and 4 construction activities including approximately 4.5 ha (11 ac) during construction of the CWIS.</u></p>
4.4.1, 4.4.3	SJ-77	<p>Approximately 10 acres of wetlands will be impacted during construction of the barge slip and discharge structure.</p>

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EIS Section	Input Number	Key Input or Assumption
		<u>FEIS says:</u> <u>wetlands would be directly affected by Unit 3 and 4 construction activities including approximately ... 4 ha (10 ac) during the construction of the barge facility and discharge structure</u>
4.4.1, 4.4.3	SJ-78	<u>FEIS says:</u> <u>SNC will work with the Georgia Department of Natural Resources to ensure that any protected species are indeed protected.</u>
4.4.1, 4.4.3	SJ-79	Land clearing will be conducted according to Federal and state regulations, permit requirements, existing GPC or Southern Company procedures, good construction practices, and established best management practices (e.g. directed drainage ditches, silt fencing). <u>FEIS is identical</u>
4.4.3	SJ-80	<u>FEIS says:</u> <u>GPC has committed to establishing a 180-m (600 ft) buffer around the active eagle nest to minimize any potential impacts from transmission line construction</u>
4.4.1, 4.4.3	SJ-81	<u>FEIS says:</u> <u>As reported in Section 2.4.1 no protected species, important species (NUREG-1555), critical habitats or important habitats (NUREG-1555) are found within the footprint of the proposed new units.</u>
5.4.1	SJ-82	<u>FEIS says:</u> <u>Although short-term noise levels from construction activities could be as high as approximately 110 dBa, (e.g., impulse noise during pile driving activities, see Table 3.9-1), these noise levels will not extend far beyond the boundaries of the project site. At 400 feet from the construction site, construction noise will range from approximately 60 to 80 dBa.</u>
5.4.1	SJ-83	<u>FEIS says:</u>

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EIS Section	Input Number	Key Input or Assumption
		<u>The noise levels from cooling tower operation and diesel generators are anticipated to be 55 decibels (dBA) at 300 m (1000 ft).</u>
5.4.1	SJ-84	<u>FEIS says:</u> <u>The maximum predicted solids deposition from both towers (7.2 pounds per acre per month) is below the NUREG-1555 significance level of 8.9 pounds per acre per month.</u>
5.4.1	SJ-85	<u>FEIS says:</u> <u>GPC has established corridor vegetation management and line maintenance procedures that will be used to maintain the new corridor and transmission line.</u>
4.4.1, 4.4.3, 5.4.1, 5.4.3	SJ-86	As stated in the corridor study, Georgia Power will use the Representative Delineated Corridor as the basis for identifying actual routing of right-of-way alternatives within it, consistent with Georgia Power's routing procedures under Georgia law. <u>FEIS is identical</u>
2.7.2.1	SJ-87	<u>FEIS says:</u> <u>The site and its exclusion area boundary (EAB) are generally bounded by 1.7 miles of the Savannah River (River Miles 150.0 to 151.7)</u>
2.7.2.1	SJ-88	<u>FEIS says:</u> <u>The bluebarred sunfish (<i>Elassoma okatie</i>) is unlikely to be present in waters on the Vogtle site.</u>
2.7.2.3	SJ-89	<u>FEIS says:</u> <u>The current VEGP NPDES permit does not require monitoring of aquatic ecological resources.</u>
4.4.2.5	SJ-90	The construction activities that could adversely affect aquatic organisms include construction of a new barge slip, a new cooling water intake structure, and a new discharge structure. These activities will disturb sediments (dredging, pile driving) and soils (shoreline construction) at the construction site. Prior to construction in or adjacent to the Savannah River, SNC will use best management practices, such as installation of coffer dams, to limit the distribution downstream of sediments and debris.

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EIS Section	Input Number	Key Input or Assumption
		<u>FEIS is identical</u>
4.4.2.5	SJ-91	The new transmission line could cross intermittent and perennial streams in the upper Coastal Plain and lower Piedmont of Georgia. Encroachment on any stream buffers will require stream buffer variances from Georgia EPD. Best Management Practices will be employed to minimize impacts of transmission line construction on aquatic life. <u>FEIS is identical</u>
4.4.2.1, 4.4.2.2	SJ-92	The activities associated with construction of the new Vogtle units that have potential to impact wetlands are limited to only a small portion of the site. Only the construction of the intake, barge slip, and discharge structures have the potential to directly impact wetlands. ... There are other activities that may result in indirect impacts to wetlands. The construction conducted on the powerblock and cooling towers is in an upland area of the site where no wetlands are present. However, stormwater drainage from these areas is routed to Retention pond 2. Retention pond 2 was constructed in the early stages of construction for Vogtle Units 1-and 2 to provide sediment retention for stormwater prior to discharge to Beaverdam Creek... SNC is evaluating the proper regulatory status for these ponds. However, even if they are determined to be jurisdictional, SNC does not anticipate any activities that will require a Section 404 permit. The ponds will likely be left as is. If additional stormwater retention volume is required, SNC will construct additional storage in an upland area in accordance with applicable regulatory requirements. ... Only retention pond 2 will receive drainage from the powerblock and cooling tower area. Retention pond 1 is not expected to receive runoff from areas disturbed by construction. <u>FEIS is identical</u>
4.4.2.1	SJ-93	The following construction activities may require Clean Water Act Section 404 permits to support dredge and fill: Intake structure construction, including a portion of the access road Barge slip construction Discharge structure construction <u>FEIS is identical</u>
4.4.2.1	SJ-94	The excavated material (approximately 300 yd ³) will be transported and placed in an upland spoils area (Riverfront Structures Spoils Area) located at approximate plant grid coordinates N1 2600 E9000, immediately adjacent to the intake structure access road between the new Intake Structure and the Power Block. This spoils area will cover approximately one acre and will contain the material to support dewatering. <u>FEIS is identical</u>

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4.4.2.1	SJ-95	Excavation will begin at the west end of the slip and move toward the river, thus minimizing turbidity entering the river. The excavated material will be loaded on trucks and transported to the Riverfront Structures Spoils area. <u>FEIS is identical</u>
4.4.2.1	SJ-96	Based on the bathymetry survey conducted in 2006, the need for dredging from the end of the barge slip to connect with the federal navigation channel is not anticipated. <u>FEIS is identical</u>
4.4.2.1	SJ-97	SNC performed a bathymetry survey in the fall 2006 to determine the Savannah River cross section information in support of ESP modeling work. Based on review of this information, no dredging will be required to connect the barge slip to the navigation channel. As such, there will be no benthic impact associated with the barge slip. <u>FEIS is identical</u>
4.4.2.1	SJ-98	Bathymetry studies done by Bechtel show that dredging does not currently have to be done for the barge slip. SNC left the discussion of dredging in the ER in the event that dredging may be required at a future date due to natural movement of sediment in the river. There is no way to estimate the volume of dredged material that might be removed in the future. <u>FEIS is identical</u>
4.4.2.1	SJ-99	The intake structure and canal is sized for three (3) AP-1000 Units. However, only the mechanical components supporting VEGP Units 3 and 4 will be installed. The ER addresses water use and other operations impacts for only two units at this time. The resized intake canal will be approximately 240' long x 170' wide (shown as 200' long x 150' wide on Figure 3.4-4 of the ER), with an earthen bottom at Elevation 70' msl, and vertical sheet pile sides extending to Elevation 98' msl. <u>FEIS is identical</u>
4.4.2.1	SJ-100	The preference would be to perform the excavation of the intake structure primarily from land, as opposed to working on the water, to minimize the dewatering effort and potential for impact to the Savannah River and adjacent wetlands.

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EIS Section	Input Number	Key Input or Assumption
		<u>FEIS is identical</u>
4.4.2.1	SJ-101	Permanent sheet piles forming the North and South banks of the intake canal would be driven using a vibratory or diesel hammer to form the north and south walls of a cofferdam. These walls will remain in place after construction. Temporary sheet piling would also be driven around the perimeter of the intake structure, and across the East or West face of the intake canal, to complete the cofferdam. All piling installations would be completed from land, as opposed to on the river. The intake area material will be excavated first, and the material inside the canal will be left for later excavation. Material within the intake structure cofferdam will be excavated to elevation 70 feet to match the bottom of canal elevation. <u>FEIS is identical</u>
4.4.2.1	SJ-102	The excavation process will include controls to manage erosion and sediment and will also include controls, as necessary to ensure runoff from the excavation process, including the transport of material upland for disposal does not create environmental or aesthetic problems in the construction area. <u>FEIS is identical</u>
4.4.2.1	SJ-103	The next construction operation would be the installation of a tethered and floating silt curtain stretched across the entrance to the intake canal, and the excavation of the canal interior. The intake canal interior area would be excavated down to Elevation 70 msl. This could be accomplished utilizing backhoe, clamshell, or dragline equipment. Excavation will begin at the west end of the canal cofferdam face and proceed towards the river, to minimize the potential for turbidity entering the river... The final operations would include installation of the inner serrated weir wall, the outer serrated wall and guide vanes at the mouth of the intake canal and removal of the sheet pile cofferdam from the river side of the intake structure. This activity will be conducted from a barge located in the Savannah River. Appropriate environmental controls will be utilized for this phase of the operation to prevent spills and minimize environmental impact to the river and adjacent wetlands. <u>FEIS is identical</u>
4.4.2.1	SJ-104	Discharge Structure Construction: The interior of the cofferdam will be excavated to support pipe installation to a grade approximately 3' below the invert elevation of the discharge piping and contoured up the river bank. The excavated material would be transported by truck to the upland Riverfront Structures spoils area. The cofferdam will be dewatered using a well point system or local pumps. Protective rip rap will be installed to stabilize the river bank and discharge point. <u>FEIS is identical</u>

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EIS Section	Input Number	Key Input or Assumption
4.4.2.3	SJ-105	Proposed 500-kV Transmission Line Installation: Wetland areas will be avoided in the routing of the proposed 500-kV transmission line if possible. In the event that wetlands are encountered, construction will be conducted in accordance with the necessary permits to protect wetlands areas. <u>FEIS is identical</u>
4.4.2.1	SJ-106	Construction of the new barge slip will require approximately 300 yd ³ (the quantity could be different at the time of construction).of soil to be dredged from the bed of the Savannah River as part of the formation of the east end (river interface) barge slip envelope. The depth of the dredging is to approximately Elevation 67'msl, with the boundaries of the area to be dredged shown in E3.9 Figure 1. <u>FEIS is identical</u>
4.4.2.1	SJ-107	Work on the intake structure is in the flood plain and it is anticipated that construction would be done in the summer, fall, and early winter to minimize the potential for unwanted flooding of the construction area. <u>FEIS is identical</u>
4.4.2.1	SJ-108	The new intake structure construction would affect approximately 12.5 acres. Most of the acreage involved would be in the bottomland hardwood forest wetland within the Savannah River 100-year floodplain; the remainder would affect the bluff above the floodplain (non wetland). The actual intake structure and intake canal would be located in approximately 2 -3 acres of wetland. The construction area for the new discharge line and barge facility will affect approximately 10 acres. However, the barge facility will be constructed between the old barge facility and the existing intake structure, on fill that was put in place during the initial construction, thus will not affect any existing wetlands. <u>FEIS is identical</u>
4.4.2.3	SJ-109	The new line will cross Burke, Glascock, Jefferson, Richmond, Warren, and McDuffie counties. <u>FEIS is identical</u>
4.4.2.3	SJ-110	The new transmission line could cross several intermittent and perennial streams in the upper Coastal Plain and lower Piedmont of Georgia. Brier Creek, a major tributary of the Savannah River, could be crossed by the new transmission line several times. Land clearing for transmission corridors could, if not properly managed, affect aquatic plants, aquatic insects, mussels, and fish in the streams crossed by the lines. GPC has procedures and Best Management Practices in place to protect aquatic communities and prevent degradation of water quality. ... Access roads will be built only as necessary to construct and

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EIS Section	Input Number	Key Input or Assumption
		service the transmission facilities....Although the proposed new transmission line would cross Jefferson County, it would move through the northern portion of the county, and would not approach the Ogeechee River, which lies in the southern part of the county. <u>FEIS is identical</u>
4.4.3.2	SJ-111	The substrate in the deep sections of the Savannah River is characterized as "...brown poorly graded gravel with Sand..." to "...poorly graded gravel." <u>FEIS is identical</u>
5.4.2.3	SJ-112	SNC does not anticipate the need for treatment of raw water to prevent biofouling in the intake structure and makeup water piping. Water treatment will take place in the cooling tower basins, and will include the addition of biocides, anti-scaling compounds, and dispersants. Sodium hypochlorite and sodium bromide are used to control biological growth in the existing circulating water system and will likely be used in the new system as well. <u>FEIS is identical</u>
5.4.2.3	SJ-113	The final plant discharge from VEGP Units 3 and 4 will consist of cooling tower blowdown and other site wastewater streams, including the domestic water treatment and circulation water treatment systems. All biocides or chemical additives in the discharge will be among those approved by the U.S. Environmental Protection Agency or the State of Georgia as safe for humans and the environment.... The discharge flow to the river will be from the blowdown sump, which collects all site nonradioactive wastewater and tower blowdown for all units. Discharge from the sump will occur through an approximately 3.5-ft-diameter discharge pipe. Before the discharge point, the pipe diameter will reduce to 2.0 ft. <u>FEIS is identical</u>
5.4.2.3	SJ-114	Operation of the new cooling towers will be based on four cycles of concentration, meaning that solids and chemical constituents in makeup water will be concentrated four times before being discharged and replaced with fresh water from the Savannah River. As a result, levels of solids and organics in cooling tower blowdown will be approximately four times higher than ambient concentrations. ...This equates to a dilution factor of from 60 to 120, depending on the time of year. Because the blowdown stream will be small relative to the flow of the Savannah River, concentrations of solids and chemicals used in cooling tower water treatment will return to ambient levels very soon after exiting the discharge pipe. <u>FEIS is identical</u>
5.4.2.4	SJ-115	scouring will be localized.., at the discharge.

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EIS Section	Input Number	Key Input or Assumption
		<u>FEIS is identical</u>
5.4.2.1	SJ-116	The Cooling Water Intake Structure (CWIS) will incorporate a number of design features that will reduce impingement and entrainment of aquatic organisms. These include the basic orientation of the cooling water intake structure and canal, perpendicular to the river and its flow. <u>FEIS is identical</u>
5.4.2.1	SJ-117	The new intake structure will incorporate similar design features, including a recessed intake, and a weir system consistent with currently available technology to minimize velocity and ensure a uniform flow in the intake canal <u>FEIS is identical</u>
4.5.1	SJ-118	Vibration and shock impacts are not expected, due to the strict control of blasting and other shock-producing activities. <u>FEIS is identical</u>
4.5.1.1	SJ-119	All construction activities will occur within the construction site boundary. <u>FEIS is identical</u>
4.5.1.3	SJ-120	The roadways could require some minor repairs or upgrading, such as patching and filling potholes to allow safe equipment access. The railroad was recently upgraded to support the replacement of a transformer, but will be inspected to ensure its condition. <u>FEIS is identical</u>

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EIS Section	Input Number	Key Input or Assumption
4.5.1.1	SJ-121	Construction workers will have adequate training and personal protective equipment to minimize the risk of potentially harmful exposures. Emergency first-aid care will be available at the construction site, and regular health and safety monitoring will be conducted during construction. <u>FEIS is identical</u>
4.5.1.1	SJ-122	People working onsite or living near the VEGP site will not experience any physical impacts greater than those that will be considered an annoyance or nuisance. In the event that atypical or noisy construction activities will be necessary, public announcements or notifications will be provided. <u>FEIS is identical</u>
4.5.1.1	SJ-123	Fugitive dust and odors could be generated as a result of normal construction activities. Mitigation measures (e.g., paving disturbed areas, water suppression, reduced material handling) will prevent or reduce such occurrences. Additional mitigation control measures will address any nuisance issues on a case-by-case basis. <u>FEIS is identical</u>
4.5.1.1	SJ-124	All equipment will be serviced regularly and operated in accordance with local, State, and Federal emission requirements. <u>FEIS is identical</u>
4.5.1.1	SJ-125	Reasonable efforts will be made to ensure that transient populations (mostly sportsmen using the GPC Savannah River boat landing or the Yuchi WMA) are aware of the potential impacts of construction activities. Signs will be posted at or near construction site entrances and exits to make the public aware of the potential for high construction traffic. <u>FEIS is identical</u>
4.5.1.2	SJ-126	Onsite buildings have been constructed to safely withstand any possible impacts, including shock and vibration from construction activities associated with the proposed activity. No historically significant buildings exist in the VEGP site vicinity.

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EIS Section	Input Number	Key Input or Assumption
		<u>FEIS is identical</u>
4.5.1.3	SJ-127	Methods to mitigate potential impacts include: (1) avoiding routes that could adversely affect sensitive areas (e.g., housing, hospitals, schools, retirement communities, businesses) to the extent possible and (2) restricting activities and delivery times to daylight hours. <u>FEIS is identical</u>
4.5.1.3	SJ-128	Any damage to public roads, markings, or signs caused by construction activities will be repaired to pre-existing conditions or better. <u>FEIS is identical</u>
4.5.1.3, 4.5.4.1	SJ-129	A new access road to the construction site and a heavy haul route from the barge facility on the Savannah River will support construction activities. Both will be private and fully contained within the existing site boundary. <u>FEIS is identical</u>
4.5.1.1	SJ-130	[ER]Section 3.9 discusses noise levels during construction, which could be as high as 110 dB in the immediate area of the equipment. Construction workers will use hearing protection per good construction practices. <u>FEIS is identical</u>
4.5.1.1	SJ-131	The following controls or similar ones could be incorporated into activity planning to further minimize noise and associated impacts: Regularly inspect and

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EIS Section	Input Number	Key Input or Assumption
		maintain equipment to include noise aspects (e.g., mufflers); Restrict noise-related activities (e.g., pile driving) to daylight hours; Restrict delivery times to daylight hours. <u>FEIS is identical</u>
4.5.1.1	SJ-132	Specific mitigation measures to control fugitive dust will be identified in a dust control plan, or similar document, prepared prior to project construction. These mitigation measures could include any or all of the following: " Stabilize construction roads and spoil piles " Limit speeds on unpaved construction roads " Periodically water unpaved construction roads to control dust " Perform housekeeping (e.g., remove dirt spilled onto paved roads) " Cover haul trucks when loaded or unloaded " Minimize material handling (e.g., drop heights, double-handling) " Cease grading and excavation activities during high winds and during extreme air pollution " episodes <u>FEIS is identical</u>
4.5.2	SJ-133	SNC based the following analyses on the estimated peak construction workforce. SNC assumed that the construction workforce will locate in the 50-mile region in approximately the same proportion as the existing workforce, that is, 79 percent will relocate to Richmond, Columbia, or Burke Counties, and the remainder will be scattered throughout the region. <u>FEIS is identical</u>
4.5.2	SJ-134	Based on the information presented in Section 3.10, SNC anticipates that approximately 1,000 workers will already reside within the 50-mile region. The remainder will migrate into the region. Of the peak construction jobs filled by in-migrating workers, 2,700 will last two or more years, and are considered permanent jobs in this analysis. <u>FEIS is identical</u>

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EIS Section	Input Number	Key Input or Assumption
4.5.2	SJ-135	<p>It is expected that site preparation and construction activities will continue for approximately 7 years and employ as many as 4,400 construction workers.</p> <p><u>FEIS is identical</u></p>
4.5.4.1	SJ-136	<p>The capacity of River Road is 3,200 cars per hour, so there is enough capacity for an additional 2,000 passenger cars or equivalent beyond the current 1,200 cars per hour use now. For the proposed construction, road capacity could be reached during Year 2 of construction and exceeded through Year 5 (month 50).</p>

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EIS Section	Input Number	Key Input or Assumption
		<u>FEIS is identical</u>
4.5.4.1	SJ-137	Mitigation may be necessary to accommodate the additional vehicles on Burke County roads, particularly River Road. Mitigation measures will be included in a construction management traffic plan developed prior to the start of construction. Potential mitigation measures could include installing turn lanes at the construction entrance, establishing a centralized parking area away from the site and shuttling construction workers to the site in buses or vans, encouraging carpools, and staggering construction shifts so they don't coincide with operational shifts. SNC could also establish a shuttle service from the central Augusta area, where many of the construction workforce are likely to settle. <u>FEIS is identical</u>
4.5.4.2; 4.5.1.4	SJ-138	The clearing and excavation for the new units and adjacent support facilities will not be visible from offsite roads. <u>FEIS is identical</u>
4.5.1.4	SJ-139	The steel tower could be visible from the River Road and the Savannah River, but because it has an open structure does not significantly impact the aesthetes at the site or the surrounding area. <u>FEIS is identical</u>
4.5.4.2	SJ-140	Construction impacts such as noise, and air pollutants will be limited to the VEGP site and will not be noticeable from offsite. Construction will not affect any other recreational facilities in the 50-mile region. <u>FEIS is identical</u>
4.5.4.4	SJ-141	SNC concludes that the potential impacts on police services will be MODERATE in Burke County and will most likely be mitigated by using increased property tax revenues from the construction project to fund additional police manpower and facilities. This conclusion is based in part on an analysis NRC performed of

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EIS Section	Input Number	Key Input or Assumption
		nuclear plant refurbishment impacts based on impacts sustained during original plant construction (in NUREG-1437). <u>FEIS is identical</u>
4.5.2, 4.5.4.5	SJ-142	Assumptions regarding in-migrating construction workers: The estimated number of school-aged children was estimated to be 460, which is approximately 74 percent of the total number of children. <u>FEIS is identical</u>
4.5.3.12	SJ-143	Increased property and special option sales tax revenues as a result of the increased population, and, in the case of Burke County, property taxes on the new reactors, will fund additional teachers and facilities <u>FEIS is identical</u>
5.5.1.1	SJ-144	Good access roads and appropriate speed limits will minimize the amount of dust generated by the commuting work force. <u>FEIS is identical</u>
5.5.4.1	SJ-145	Roads within the vicinity of the VEGP site will experience a temporary increase in traffic at the beginning and the end of the workday. However, the current road network has sufficient capacity to accommodate the increase. <u>FEIS is identical</u>
5.5.2	SJ-146	SNC assumes that all of the new units' employees will migrate into the region, and that each operations worker will bring a family. To be conservative, SNC used the Georgia household size of 2.65 to estimate the increase in population in the 50-mile region. An operational workforce of 660 will increase the

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EIS Section	Input Number	Key Input or Assumption
		<p>population in the 50-mile region by approximately 1,750 people.</p> <p><u>FEIS is identical</u></p>
5.5.2	SJ-147	<p>Seventy-nine percent of the current VEGP workforce is distributed across Burke (20 percent), Richmond (26 percent), and Columbia (34 percent) Counties, and 20 percent is distributed across 25 other counties in the two-state region. SNC assumes that the new units' workforces' residential distribution will resemble that of the current VEGP workforce.</p> <p><u>FEIS is identical</u></p>
5.5.3.1	SJ-148	<p>Currently VEGP's tax payments represent 80-82 percent of the total property taxes received by Burke County.... [ER] Table 5.8.2-1 provides SNC estimates of property taxes that the new nuclear units could provide annually to Burke County during the 40-year period of operation.</p> <p><u>FEIS is identical</u></p>
5.5.4.1	SJ-149	<p>SNC will stagger outage schedules so only one unit will be down at a time.</p> <p><u>FEIS is identical</u></p>
4.5.3.4, 5.5.4.2	SJ-150	<p>... use of the WMA/boat landing is seasonal and not likely to coincide with [VEGP] shift traffic.</p> <p><u>FEIS is identical</u></p>

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EIS Section	Input Number	Key Input or Assumption
5.5.4.1	SJ-151	SNC estimates that the maximum increase in workforce will be 1,000 outage workers. <u>FEIS is identical</u>
2.9.3	SJ-152	SNC has begun informal discussions with the Georgia and South Carolina State Historic Preservation Officers (SHPO) that will continue throughout the ESP application review process. <u>FEIS is identical</u>
5.6	SJ-153	Francis Plantation in Washington County, crossed by the VEGP-Scherer transmission corridor. The current VEGP Units 1 and 2 Environmental Protection Plan specifies that vegetation trimming in the Plantation shall be performed manually. <u>FEIS is identical</u>
5.6	SJ-154	A Georgia Power Company Transmission Bulletin identifies 196 cultural properties on existing Vogtle transmission lines and provides specification for protecting these sites based on the Cultural Resources Plan approved by the Georgia State Historic Preservation Officer" "VEGP maintains procedures which include actions to protect cultural, historic, or paleontological resources. <u>FEIS is identical. However, "VEGP maintains procedures which include actions to protect cultural, historic, or paleontological resources" was not in the FEIS statement</u>
4.6	SJ-155	As part of the site preparations activities, before land-disturbing activities begin, SNC will prepare a similar procedure for construction activities. <u>FEIS is identical</u>
4.6	SJ-156	Prior to the clearing of any new transmission corridor, SNC or GPC will correspond with the Georgia SHPO as required by Section 106 of the National Historic Preservation Act. <u>FEIS is identical</u>
4.6	SJ-157	All land disturbing activities associated with constructing transmission line will follow established procedures.

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EIS Section	Input Number	Key Input or Assumption
		<u>FEIS is identical</u>
4.6, 5.6	SJ-158	All earth-disturbing activities at VEGP are conducted under procedures which prescribe actions to be taken if significant archaeological or paleontological artifacts are encountered. <u>FEIS is identical</u>
5.6	SJ-159	GPC has a procedure that has identified 196 properties on existing Vogtle transmission lines. The procedure also provides specifications for protecting them. The specifications address periodic reclearing, tree removal and trimming, inspections, normal maintenance, vehicle access, artifact collection, and protecting the Francis Plantation complex. <u>FEIS is identical</u>
4.6	SJ-160	The precise routes of new transmission corridors have not been determined ...The procedure will be updated to include any cultural properties identified on the new corridor. <u>FEIS is identical</u>
3.2.3	SJ-161	Radioactive waste management systems will be designed to minimize releases from reactor operations to values as low as reasonably achievable (ALARA). These systems will be designed and maintained to meet the requirements of 10 CFR 20 and 10 CFR 50, Appendix I. <u>FEIS is identical</u>
4.8	SJ-162	No significant industrial or commercial facilities other than the VEGP nuclear units exist or are planned for the vicinity.

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EIS Section	Input Number	Key Input or Assumption
		<u>FEIS is identical</u>
4.8.1.2	SJ-163	Construction workers will have adequate training and personal protective equipment to minimize the risk of potentially harmful exposures. Emergency first-aid care will be available at the construction site, and regular health and safety monitoring will be conducted during construction. <u>FEIS is identical</u>
4.8.1.1	SJ-164	People working onsite or living near the VEGP site will not experience any physical impacts greater than those that will be considered an annoyance or nuisance. In the event that atypical or noisy construction activities will be necessary, public announcements or notifications will be provided. These activities will be performed in compliance with local, state, and federal regulations, and site-specific permit conditions. <u>FEIS is identical</u>
4.8.1.1	SJ-165	Fugitive dust and odors could be generated as a result of normal construction activities. Mitigation measures (e.g., paving disturbed areas, water suppression, reduced material handling) will prevent or reduce such occurrences. Additional mitigation control measures will address any nuisance issues on a case-by-case basis. <u>FEIS is identical</u>
4.8.1.1	SJ-166	Exhaust emissions from construction equipment will have no discernible impact on the local air quality. All equipment will be serviced regularly and operated in accordance with local, state, and federal emission requirements (see Section 4.4.1.3). <u>FEIS is identical</u>
4.8.1.1	SJ-167	Reasonable efforts will be made to ensure that transient populations (mostly sportsmen using the GPC Savannah River boat landing or the Yuchi WMA) are aware of the potential impacts of construction activities. Signs will be posted at or near construction site entrances and exits to make the public aware of the potential for high construction traffic. <u>FEIS is identical</u>

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EIS Section	Input Number	Key Input or Assumption
4.9.4	SJ-168	<p>The annual doses from all three pathways are summarized in [ER] Table 4.5-1 and compared to the public dose criteria in 10 CFR 20.1301 and 40 CFR 190 in [ER] Table 4.5-2 and [ER] Table 4.5-3, respectively. The unrestricted area dose rate in [ER] Table 4.5-2 was estimated from the annual TLD doses. Since the calculated doses (24.1 mrem per year and 0.012 mrem per hour) meet the public dose criteria of 10 CFR 20.1301 and 40 CFR 190, the workers will not need to be classified as radiation workers. [ER] Table 4.5-4 provides documentation confirming that the doses also meet the design objectives of 10 CFR 50, Appendix I, for gaseous and liquid effluents.</p> <p><u>FEIS is identical</u></p>
4.9.4	SJ-169	<p>The maximum annual collective dose to the AP1000 construction work force (4,400 workers) is estimated to be 106 person-rem. The calculated doses are based on available dose rate measurements and calculations. It is possible that these dose rates will increase in the future as site conditions change. However, the VEGP site will be continually monitored during the construction period and appropriate actions will be taken as necessary to ensure that the construction workers are protected from radiation.</p> <p><u>The FEIS says:</u> <u>The maximum annual collective dose to the AP1000 construction work force (3500 workers) is estimated to be 92 person-rem. The calculated doses are based on available dose rate measurements and calculations. It is possible that these dose rates will increase in the future as site conditions change. However, the VEGP site will be continually monitored during the construction period and appropriate actions will be taken as necessary to ensure that the construction workers are protected from radiation.</u></p>
5.9.1	SJ-170	<p>The exposure pathways considered and the analytical methods used to estimate doses to the maximally exposed individual (MEI) and to the population surrounding the new units are based on NRC Regulatory Guide 1.109, Calculation of Annual Doses to Man from Routine Releases of Reactor Effluents for the Purpose of Evaluating Compliance with 10 CFR 50, Appendix I (Rev.1, October 1977) (RG 1.109) and NRC Regulatory Guide 1.111, Methods for Estimating Atmospheric Transport and Dispersion of Gaseous Effluents in Routine Releases from Light-Water-Cooled Reactors (Revision 1, July 1977) (RG 1.111).</p> <p><u>FEIS is identical</u></p>
5.9.3	SJ-171	<p>Table 5.4-7 estimates the single-unit total body and organ doses to the MEI from liquid effluents and gaseous releases from the new units for analytical endpoints prescribed in 10 CFR 50, Appendix I. As the table indicates, the single-unit doses are below Appendix I limits.</p> <p><u>FEIS is identical</u></p>
5.9.3	SJ-172	<p>The total liquid and gaseous effluent doses from existing Units 1 and 2 plus proposed Units 3 and 4 would be well within the regulatory limits of 40 CFR 190.</p>

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS**

Appendix Table J-2

SNC has verified that the following assumptions used in developing the analyses and conclusions in the DEIS are accurate. No new and significant information has been identified. In the few cases where new information is available, SNC has noted the new information, but had determined it to be not significant for reasons given. Underlined text is new since evaluation based on DEIS.

EIS Section	Input Number	Key Input or Assumption
		As indicated in NUREG-1555, demonstration of compliance with the limits of 40 CFR 190 is considered to be in compliance with the 0.1 rem limit of 10 CFR 20.1301. <u>FEIS is identical</u>
5.9.5	SJ-173	Annual doses to all of the surrogates meet the requirements of 40 CFR 190. <u>FEIS is identical</u>
5.9.4	SJ-174	The total body dose to a Unit 4 construction worker from operation of proposed Unit 3, based on all releases being from ground level, would be less than 0.83 mrem/yr, with a maximum organ dose (to the skin) of less than 3.26 mrem/yr. <u>FEIS is identical</u>
6.1.6	SJ-175	SNC will handle mixed wastes generated at the new facilities in accord with existing procedures. <u>The FEIS says: Southern will handle mixed wastes generated at the new facilities in accord with existing procedures.</u>
6.1.6	SJ-176	SNC has in place for the existing units contingency plans, emergency preparedness plans, and spill prevention procedures that will be implemented in the unlikely event of a mixed waste spill. The existing emergency procedures will limit any onsite impacts. <u>The FEIS says: Southern has in place for the existing units contingency plans, emergency preparedness plans, and spill prevention procedures that will be implemented in the unlikely event of a mixed waste spill. The existing emergency procedures will limit any onsite impacts.</u>
6.1.6	SJ-177	Personnel who are designated to handle mixed waste or to respond to mixed waste emergency spills have appropriate training to enable them to perform their work properly and safely. <u>FEIS is identical</u>

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Appendix Table J-2**

SNC has verified that the following assumptions used in developing the analyses and conclusions in the DEIS are accurate. No new and significant information has been identified. In the few cases where new information is available, SNC has noted the new information, but had determined it to be not significant for reasons given. Underlined text is new since evaluation based on DEIS.

EIS Section	Input Number	Key Input or Assumption
6.1.6	SJ-178	VEGP's existing pollution prevention and waste minimization program will apply to the new units. <u>FEIS is identical</u>
6.1.6	SJ-179	All radioactive wastes will be managed according to established laws, regulations, and exposure limits. <u>FEIS is identical</u>
5.9.6	SJ-180	The VEGP radiological monitoring program is not expected to change as a result of adding Units 3 and 4. <u>FEIS is identical</u>
5.9.6	SJ-181	The Radiological Environmental Monitoring Program (REMP) for the new units will be based on Offsite Dose Calculation Manual Guidance: Standard Radiological Effluent Controls for Pressurized Water Reactors, 1991 (NUREG-1301) and the NRC's Branch Technical Position Paper, Acceptable Radiological Environmental Monitoring Program, Revision 1, 1979. <u>FEIS is identical</u>
5.9.6	SJ-182	The Offsite Dose Calculation Manual, based on the Units 1 and 2 Technical Specifications, will be modified for the new units and will address the requirements of 10 CFR 50 Appendix I. <u>FEIS is identical</u>
4.8.2 (correct EIS section is 4.8.1)	SJ-183	The exclusion area boundary is greater than 1/2 mile in all directions from the new Unit 3 and 4 footprint. No major roads, public buildings or *residences are located within the exclusion area. The following controls or similar ones could be incorporated into activity planning to further minimize noise and associated impacts: Regularly inspect and maintain equipment to include noise aspects (e.g., mufflers) <ul style="list-style-type: none"> . Restrict noise-related activities (e.g., pile driving) to daylight hours , Restrict delivery times to daylight hours <u>FEIS is identical</u>

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Appendix Table J-2**

SNC has verified that the following assumptions used in developing the analyses and conclusions in the DEIS are accurate. No new and significant information has been identified. In the few cases where new information is available, SNC has noted the new information, but had determined it to be not significant for reasons given. Underlined text is new since evaluation based on DEIS.

EIS Section	Input Number	Key Input or Assumption
4.8.2 (correct EIS section is 4.10)	SJ-184	<p>The following measures and controls would limit adverse environmental impacts: Compliance with applicable local, state, and federal, ordinances, laws and regulations intended to prevent or minimize the adverse -environmental effects of construction activities on air, water and land, workers and the public. Compliance with existing permits and licenses for the existing units. Compliance with existing SNC or Georgia Power Company procedures and processes applicable to construction projects Incorporation of environmental requirements of construction permits in construction contracts</p> <p><u>FEIS is identical</u></p>
5.8.2	SJ-185	<p>... neither Georgia nor Burke County has noise regulations. Additionally, neither the state nor the county provides guidelines or limitations for impulse noise like a sharp sound pressure peak occurring in a short interval of time. The nearest residence is approximately two-thirds of a mile from the site boundary or approximately one mile from the site of the new units, and distance and vegetation will attenuate any noise.... Most equipment will be located inside structures, reducing the outdoor noise level</p> <p><u>FEIS is identical</u></p>
5.10.1	SJ-186	<p>The design basis accident source terms in the AP1000 DCD are calculated in accordance with RG 1.183, based on 102 percent of the rated core thermal power of 3400 MW.</p> <p><u>FEIS is identical</u></p>
5.10.1	SJ-187	<p>For each accident, the EAB dose shown is for the two-hour period that yields the maximum dose, in accordance with RG 1.183.</p> <p><u>FEIS is identical</u></p>
6.2.1	SJ-188	<p>The (unirradiated) fuel assemblies will be fabricated at a fuel fabrication plant and shipped by truck to the VEGP site shortly before they are required.... The truck shipments will not exceed 73,000 lbs as governed by Federal or State gross vehicle weight restrictions.</p> <p><u>FEIS is identical</u></p>
6.2.3	SJ-189	<p>Radioactive waste will be shipped from the VEGP site by truck.</p>

**VEGP FEIS
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Appendix Table J-2**

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EIS Section	Input Number	Key Input or Assumption
		<u>FEIS is identical</u>
6.2	SJ-190	The AP1 000 has a thermal power rating of 3400 MWt and meets this condition. <u>FEIS is identical</u>
6.2	SJ-191	The AP1000 uses a sintered UO ₂ pellet form. <u>FEIS is identical</u>
6.2	SJ-192	The AP1 000 fuel exceeds the 4 percent U-235 condition. <u>FEIS is identical</u>
6.2	SJ-193	AP1000 uses either Zircalloy or ZIRLO cladding and meets this subsequent evaluation condition. <u>FEIS is identical</u>
6.2.2, 6.2.2.1	SJ-194	...the new units will have storage capacity exceeding that needed to accommodate five-year cooling of irradiated fuel prior to transport offsite. <u>FEIS is identical</u>
6.2.1	SJ-195	SNC will receive fuel via truck shipments for the AP1 000 units being considered for this site. .The fuel shipments to the VEGP site will comply with Federal or state weight restrictions. <u>FEIS is identical</u>
6.2.2	SJ-196	SNC assumed that all spent fuel shipments will be made using legal weight trucks. <u>FEIS is identical</u>

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS**

Appendix Table J-2

SNC has verified that the following assumptions used in developing the analyses and conclusions in the DEIS are accurate. No new and significant information has been identified. In the few cases where new information is available, SNC has noted the new information, but had determined it to be not significant for reasons given. Underlined text is new since evaluation based on DEIS.

EIS Section	Input Number	Key Input or Assumption
6.2.3	SJ-197	SNC will solidify and package the radioactive wastes. <u>FEIS is identical</u>
6.2.3	SJ-198	SNC will ship radioactive waste from the new units by truck.... Radioactive waste is capable of being shipped in compliance with Federal or state weight restrictions. <u>FEIS is identical</u>
6.2.3	SJ-199	<u>FEIS says:</u> <u>Doubling the estimated number of truck shipments to account for empty return shipments still results in a number of shipments well below the one-shipment-per-day condition.</u>
6.2.1.2	SJ-200	<u>FEIS says:</u> <u>The consequences of accidents that are severe enough to result in a release of unirradiated particles to the environment from fuel for advanced LWRS (fuels) are not significantly different from those for current generation LWRs. The fuel form, cladding, and packaging are similar to those LWRs analyzed in AEC (1972).</u>
6.2.2.2	SJ-201	<u>FEIS says:</u> <u>The NRC analysis assumed that shipping casks for advanced LWR spent fuels would provide equivalent mechanical and thermal protection of the spent fuel cargo.</u>

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 4.1 Land Use Impacts**

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EIS Section	Input Number	Key Input or Assumption
4.1.1	S4.1-1	<p>The VEGP site is located entirely within the existing VEGP site</p> <p><u>FEIS is identical</u></p>
	S4.1-2	<p>no zoning regulations currently apply</p> <p><u>FEIS is identical</u></p>
	S4.1-3	<p>All construction activities for the proposed VEGP Units 3 and 4, including ground-disturbing activities, would occur within the existing VEGP site boundary.</p> <p><u>FEIS says:</u> <u>All site-preparation and construction activities for the proposed VEGP Units 3 and 4, including ground-disturbing activities would occur within the existing site boundary.</u></p>
	S4.1-4	<p>The area that would be affected on a long-term basis as a result of permanent facilities at the site is approximately 125 ha (310 ac).</p> <p><u>FEIS says:</u> <u>The area that would be affected on a long-term basis as a result of permanent facilities at the site is approximately 131 ha (324 ac).</u></p>

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS**

Section 4.1 Land Use Impacts

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EIS Section	Input Number	Key Input or Assumption
	S4.1-5	<p>An additional 77 ha (190 ac) would be disturbed for temporary facilities and spoils storage</p> <p><u>FEIS says:</u> <u>An additional approximately 94 ha (232 ac) would be disturbed for temporary facilities and spoils storage</u></p>
	<u>S4.1-5a</u>	<p><u>FEIS says:</u> <u>The 12.5-ha (31-ac) potential borrow area would be adjacent to and northwest of the proposed road to the Unit 3 and 4 intake structure</u></p>
	S4.1-6	<p>No new railroad lines to support the construction of VEGP Units 3 and 4 are planned</p> <p><u>FEIS is identical</u></p>
	<u>S4.1-6a</u>	<p><u>FEIS says:</u> <u>A heavy-haul road would be constructed from the barge slip on the Savannah River to the construction site.</u></p>
	<u>S4.1-6b</u>	<p><u>FEIS says:</u> <u>A construction access road would be constructed from River Road near the rail spur crossing</u></p>
	<u>S4.1-6c</u>	<p><u>FEIS says:</u> <u>A third new road would be constructed to the new intake structure.</u></p>
	<u>S4.1-6d</u>	<p><u>FEIS says:</u></p>

VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 4.1 Land Use Impacts

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EIS Section	Input Number	Key Input or Assumption
		<u>The 500-kV Thalmann transmission line would be rerouted on the VEGP site to avoid footprint of the planned new units.</u>
	S4.1-11	An existing landfill on the VEGP site (Landfill #3) would be relocated onsite or the materials removed and disposed in an offsite disposal facility. <u>FEIS is identical</u>
	S4.1-12	No agricultural lands would be directly affected by construction activities <u>FEIS is identical</u>
	S4.1-13	Borrow material would be taken from the excavation for the powerblock and switchyard for the proposed VEGP Units 3 and 4 <u>FEIS is identical</u>
	S4.1-14	Areas for soil storage are shown in Figure 2-1. <u>FEIS is identical</u>

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 4.1 Land Use Impacts**

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EIS Section	Input Number	Key Input or Assumption
	S4.1-15	<p>The cooling water intake structure (CWIS) for the proposed VEGP Units 3 and 4 would be located in the Savannah River floodplain.</p> <p><u>FEIS is identical</u></p>
	S4.1-16	<p>The discharge structure for the proposed VEGP Units 3 and 4 would be located in the Savannah River floodplain</p> <p><u>FEIS is identical</u></p>
	S4.1-17	<p>The barge slip, also located in the Savannah River floodplain, would be expanded.</p> <p><u>FEIS is identical</u></p>
	S4.1-18	<p>All other construction activities would be outside the 500-year floodplain</p> <p><u>FEIS is identical</u></p>
	S4.1-19	<p>Some dredging in the Savannah River would be needed for a passage from the main channel of the river to the barge slip.</p> <p><u>FEIS is identical</u></p>

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 4.1 Land Use Impacts**

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EIS Section	Input Number	Key Input or Assumption
	S4.1-20	Dredging would also be needed to enlarge the barge slip. <u>FEIS is identical</u>
	S4.1-21	Dredge material would be removed and transported to a spoils area, as shown in Figure 2-1, for disposal. <u>FEIS is identical</u>
	<u>S4.1-21a</u>	<u>This statement was not found in the DEIS: “Dredging activities for the barge slip would require a permit from the U.S. Army Corps of Engineers (USACE).”</u>
4.1.2	<u>S4.1-22</u>	<u>FEIS says: ...new 500-kV transmission line to serve the proposed new units at the VEGP site. FEIS sites Figure 4-1: Approximate Siting of the Planned New Transmission Line Right-of-Way (GPC 2007)</u>
	<u>S4.1-23</u>	<u>FEIS says: The new transmission line right-of-way would be routed northwest from the VEGP site, passing west of Fort Gordon, a U.S. Army facility west of Augusta, Georgia, and then north to the Thomson substation.</u>
	<u>S4.1-24</u>	<u>FEIS says: The transmission line right-of-way would be approximately 46 m (150 ft) wide and approximately 97 km (60 mi) long.</u>
	<u>S4.1-25</u>	<u>FEIS says:</u>

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS**

Section 4.1 Land Use Impacts

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EIS Section	Input Number	Key Input or Assumption
		<u>The new transmission line would require approximately 390 towers (Southern 2008a). Each tower would require foundation excavations.</u>
	<u>S4.1-26</u>	<u>FEIS says: Table 4-1. Existing Land Uses in Planned New Transmission Line Right-of-Way</u>

VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 4.2 Meteorological and Air-Quality Impacts

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EIS Section	Input Number	Key Input or Assumption
4.2.1	S4.2-1	The GDNR does not require a permit for dust generated by construction activities. <u>FEIS is identical</u>
	<u>S4.2-1a</u>	<u>FEIS says:</u> <u>Southern stated in its ER (Southern 2008a) that it would develop a dust-control plan prior to construction that would include specific dust mitigation measures.</u>
4.2.1	S4.2-3	Burke County is in attainment or unclassified for all criteria pollutants <u>FEIS is identical</u>
4.2.1	S4.2-4	If construction activities include the burning of debris, refuse, or residual construction materials, a permit would need to be secured from the State <u>FEIS is identical</u>
4.2.2	S4.2-5	During peak construction there would be 4400 workers divided equally into four shifts,

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS**

Section 4.2 Meteorological and Air-Quality Impacts

Key Input numbers are not sequential because some input statements marked in the DEIS were ascertained by SMEs not to be key to the conclusions of the NRC and therefore were dropped from this table. Underlined text is new since evaluation based on DEIS.

EIS Section	Input Number	Key Input or Assumption
		<p>or 1100 workers per shift</p> <p><u>FEIS says:</u> <u>during peak construction there would be 3500 workers divided equally into four shifts, or 875 workers per shift</u></p>
4.2.2	S4.2-6	<p>One worker per vehicle</p> <p><u>FEIS is identical</u></p>

EIS Section	Input Number	Key Input or Assumption
4.2.2	S4.2-7	<p>An additional 2200 vehicles would be added to the roadway system during a shift change</p> <p><u>FEIS says:</u> <u>An additional 1750 vehicles would be added to the roadway system during a shift change.</u></p>
4.2.2	S4.2-8	<p>The majority of the construction workers would likely reside in Burke, Richmond, and Columbia Counties in a proportion comparable to the existing workforce</p> <p><u>FEIS is identical</u></p>

VEGP FEIS

KEY INPUTS OR ASSUMPTIONS

Section 4.2 Meteorological and Air-Quality Impacts

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EIS Section	Input Number	Key Input or Assumption
4.2.2	S4.2-9	Approximately 100 daily truck deliveries would occur at the site <u>FEIS is identical</u>

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KEY INPUTS OR ASSUMPTIONS

Section 4.2 Meteorological and Air-Quality Impacts

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EIS Section	Input Number	Key Input or Assumption
4.2.2	S4.2-10	Southern has committed to develop mitigation measures that would be included in a construction management traffic plan prior to the start of construction. <u>FEIS is identical</u>

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 4.3 Water-Related Impacts**

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EIS Section	Input Number	Key Input or Assumption
4.3	S4.3-1	Water-related impacts involved in the construction of a nuclear power plant are similar to impacts that would be associated with any large industrial construction project, and not much different than those seen during the construction of VEGP Units 1 and 2. <u>FEIS is identical</u>
	S4.3-2	Prior to initiating construction, including any site-preparation work, Southern would be required to obtain the appropriate authorizations regulating alterations to the hydrological environment. <u>FEIS is identical</u>
4.3.1	S4.3-3	Construction of VEGP Units 3 and 4 would potentially affect several surface waterbodies as well as the aquifers underlying the site. Potentially affected surface waterbodies include Mallard Pond and the associated downstream unnamed creek, several of the onsite debris/sediment basins and their associated drainage areas, and the Savannah River. <u>FEIS is identical</u>
	S4.3-4	Dewatering of the foundation excavations would occur for 18 months during construction of VEGP Units 3 and 4 (Southern 2007d). Dewatering systems would potentially depress the water table in the vicinity of the construction excavation. <u>FEIS is identical</u>
	S4.3-4a	these systems would not dewater the confined aquifers (i.e., Tertiary or Cretaceous aquifer systems) underlying the water table because the Blue Bluff Marl acts to provide a hydraulic separation.

VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 4.3 Water-Related Impacts

Key Input numbers are not sequential because some input statements marked in the DEIS were ascertained by SMEs not to be key to the conclusions of the NRC and therefore were dropped from this table. Underlined text is new since evaluation based on DEIS.

EIS Section	Input Number	Key Input or Assumption
		<u>FEIS is identical</u>
	<u>S4.3.4c</u>	<u>FEIS says:</u> <u>Southern states in its ER that water pumped from the excavation would be discharged into a settling basin if necessary before being released through a NPDES permitted outfall</u>
	S4.3-4b	current bathymetry suggests that no dredging is needed at this time (NRC 2007). <u>FEIS is identical</u>
	<u>S4.3-4d</u>	<u>This statement was not found in the DEIS:</u> <u>"The CWIS for VEGP Units 3 and 4 will be located at the end of the intake canal, and will be approximately 27.4 m (90 ft) long and 38.1 m (125 ft) wide. It will include nine pump bays."</u>
	<u>S4.3-4e</u>	<u>FEIS says:</u> <u>A discharge pipe would extend approximately 15.2 m (50 ft) into the Savannah River from the normal water surface shoreline (an elevation of 24 m (80 ft) above MSL.</u>
	<u>S4.3-4f</u>	<u>FEIS says:</u> <u>The centerline elevation of the pipe would be approximately 0.9 m (3 ft) above the river bottom, and rip-rap material would be placed around the pipe outfall to resist erosion.</u>
	<u>S4.3-4g</u>	<u>FEIS says:</u> <u>A cofferdam would be built using sheet piles before installation of the pipe. The sheet piling would be cut to within 0.3 m (1 ft) of the river bottom grade and left in place after installation...</u>
	S4.3-5	Activities supporting construction of the barge slip, the new intake structure, and the new discharge outfall would involve dredging, <u>FEIS is identical</u>
	S4.3-5a	Dredge materials would be removed from the river and deposited in an area pre-approved for dredge spoils (Southern 2007a).

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KEY INPUTS OR ASSUMPTIONS
Section 4.3 Water-Related Impacts**

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EIS Section	Input Number	Key Input or Assumption
		<u>FEIS is identical</u>
	S4.3-5b	New debris basins would be constructed, and that debris basins built for construction of the existing facilities would not be reused (Southern 2007a). <u>FEIS is identical</u>
	S4.3-6	Wetlands delineations and jurisdictional determinations of the sites impacted by construction, including the equipment laydown areas and associated infrastructure such as roads and stormwater drainage, would be required for Southern to submit an application for a Section 404 Permit to the USACE. <u>FEIS is identical</u>
4.3.2	S4.3-6a	Southern generally does not plan to use surface water during construction of the proposed VEGP Units 3 and 4 (Southern 2007a). <u>FEIS is identical</u>
	S4.3-6b	groundwater wells placed in the Cretaceous aquifer would provide water needed during construction of the proposed VEGP Units 3 and 4 <u>FEIS is identical</u>
	<u>S4.3-6c</u>	<u>FEIS says:</u> <u>Southern has made preliminary wetlands delineations and jurisdictional determinations and has initiated consultation with the USACE</u>
	<u>S4.3-6d</u>	<u>FEIS says:</u> <u>Southern has not obtained a Section 401 certification from the State of Georgia for ESP-related site-preparations and preliminary construction activities at the VEGP site.</u>

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 4.3 Water-Related Impacts**

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EIS Section	Input Number	Key Input or Assumption
	S4.3-7	Among the proposed construction activities, dewatering would potentially impact the groundwater environment temporarily in the immediate vicinity of the VEGP site. <u>FEIS is identical</u>
	S4.3-7a	The Blue Bluff Marl is believed to substantially isolate the Water Table aquifer from the underlying confined Tertiary aquifer. <u>FEIS is identical</u>
	<u>S4.3-7b</u>	<u>FEIS says:</u> <u>Southern states they will "...visually monitor Mallard Pond...use best management practices...(and) In the event a significant impact to the groundwater resource is discovered...this information would be evaluated as potentially new and significant information and provided to the NRC for review as appropriate."</u>
	S4.3-8	The Water Table aquifer in the vicinity of the VEGP site may also experience a change in net infiltration (i.e., recharge from precipitation) because of the clearing of land, the construction of facilities including a stormwater drainage system, and the temporary disturbance of vegetated areas. <u>FEIS is identical</u>
	<u>S4-3-8a</u>	<u>FEIS says:</u> <u>This maximum water usage rate during construction is small compared to the deep aquifer baseflow rate of 5210 L/s (5.20m³/s, 184 cfs, 119 MGD) (see Section 2.6.1.2).</u>
	<u>S4-3-8b</u>	<u>FEIS says:</u> <u>Southern estimates current pumping at 46.1 L/s (730 gpm) to operate VEGP units 1 and 2, a maximum of 26.5 L/s (420 gpm) during construction of VEGP units 3 and 4, and 47.44 L/s (752 gpm) to operate the two new units when they begin operations.</u>
	<u>S4-3-8c</u>	<u>FEIS says:</u> <u>A drawdown in the year 2015 associated with a baseline for VEGP Units 1 and 2 operation; the total rate would be 46.1 L/s (730 gpm).</u>
	<u>S4-3-8d</u>	<u>A drawdown in the year 2015 associated with operation of VEGP Units 1 and 2 and maximum construction pumping; the total rate would be 72.55 L/s (1150 gpm).</u>

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 4.3 Water-Related Impacts**

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EIS Section	Input Number	Key Input or Assumption
	<u>S4-3-8e</u>	<u>FEIS says: A drawdown in the year 2017 associated with operation of VEGP Units 1, 2, and 3 construction of VEGP Unit 4; the total rate would be 83.03 L/s (1316 gpm).</u>
	<u>S4-3-8f</u>	<u>FEIS says: The closest users of the Cretaceous aquifer are a municipal well 23.3 km (14.5 mi) away, an industrial well 13.7 km (8.5 mi) away, and wells located 6.4 km (4 mi) away in the D Area of the Savannah River Site.</u>
	<u>S4-3-8g</u>	<u>FEIS says: ...existing water-use permit (i.e., State of Georgia, Groundwater Use Permit No. 017-003) being of adequate capacity for construction water demand...</u>
4.3.3	S4.3-9	During construction of VEGP Units 3 and 4 and their associated infrastructure, a potential exists for soil erosion to degrade the water quality of surface-waterbodies such as Mallard Pond, Telfair Pond, and the Savannah River. <u>FEIS is identical</u>
	S4.3-10	Construction activities in and along the shoreline of the Savannah River would disturb river sediments, thus increasing turbidity both near and downstream of the construction sites. <u>FEIS is identical</u>
	S4.3-11	During construction, the temporary office and warehouse facilities would use the existing waste treatment facility. Portable toilets would be employed on the construction area (Southern 2007a). <u>FEIS says: During construction, the temporary office and warehouse facilities would use the existing waste treatment facility. Portable toilets or other approved supplemental means of sanitary waste treatment would be employed on the construction area (Southern 2008a).</u>

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 4.4.1 Terrestrial Impacts**

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EIS Section	Input Number	Key Input or Assumption
4.4.1	S4.4.1-1	<p>Approximately 200 ha (500 ac) of land would be disturbed by construction of VEGP Units 3 and 4.</p> <p><u>FEIS says:</u> <u>Southern stated that approximately 210 ha (520 ac) would be disturbed by construction of VEGP Units 3 and 4 (Southern 2008b).</u></p>
	S4.4.1-2	<p>The area that would be affected as a result of construction related to permanent facilities is approximately 125 ha (310 ac).</p> <p><u>FEIS says:</u> <u>....(556 ac), including 131 ha (324 ac) that could be permanently disturbed...</u></p>
	S4.4.1-3	<p>An additional 77 ha (190 ac) would be disturbed for temporary facilities and spoils storage (Southern 2007c).</p> <p><u>FEIS says:</u> <u>....an additional 94 ha (232 ac) could be temporarily disturbed.</u></p>
	S4.4.1-4	<p>The total number of acres needed for each major construction activity and the associated habitat types that would be disturbed is provided in Table 4-3 (Habitat Types and Acreage Associated with Permanent and Temporary Construction Areas Associated with Construction</p>

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 4.4.1 Terrestrial Impacts**

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EIS Section	Input Number	Key Input or Assumption
		<p>of VEGP Units 3 and 4).</p> <p><u>FEIS is identical</u></p>
	S4.4.1-5	<p>Temporary impacts on the 77 ha (190 ac) associated with spoils areas, parking lots, warehouses, offices, and laydown yards would occur in planted longleaf and loblolly pine habitats and in previously disturbed areas.</p> <p><u>FEIS says:</u> <u>Temporary impacts on approximately 81 ha (201 ac) associated with spoils areas, parking lots, warehouses, offices, and laydown yards would occur in planted longleaf and loblolly pine habitats and in previously disturbed areas.</u></p>
	<u>S4.4.1-5a</u>	<u>Southern has identified 12.5 ha (31 acres) that would be set aside for borrow material</u>
	S4.4.1-6	<p>Of the 125 ha (310 ac) that would be disturbed to construct the powerblock, cooling towers, switchyard, roads, and simulator building, approximately 113 ha (279 ac) or 90 percent of the land area would be composed of previously disturbed, open fields or planted pine habitats.</p> <p><u>FEIS says:</u> <u>Of the 131 ha (324 acres) that would be permanently disturbed (including the onsite portion of the new transmission line) approximately 120 ha (297 acres) would be composed of previously disturbed, open fields or planted pine habitats.</u></p>
	S4.4.1-7	<p>About 1.6 ha (4 ac) of mixed hardwoods and pine would be permanently removed for the simulator building (Southern 2007c).</p>

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 4.4.1 Terrestrial Impacts**

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EIS Section	Input Number	Key Input or Assumption
		<u>FEIS is identical and stated previously (First paragraph, 4th sentence) in this context: Therefore, the staff included 1.6 ha (4.0 ac) for the simulator building (Southern 2007b RAI response E4.3-1 b) and 31 acres for the potential borrow area (Southern 2008b).</u>
	S4.4.1-8	Approximately 10.4 ha (25.7 ac) of habitat onsite would be permanently removed for construction of the new 500-kV transmission line. <u>FEIS says:</u> <u>Approximately 11 ha (27.1 ac) of habitat onsite would be permanently removed for construction of the new 500-kV transmission line (Southern 2008b).</u>
	S4.4.1-9	The right-of-way would be 46 m (150 ft) wide, and six transmission tower structures would be located onsite. <u>FEIS is identical</u>
	S4.4.1-10	Transmission towers would be located to free span Mallard Pond and minimize habitat impacts. <u>FEIS is identical</u>
	S4.4.1-11	The area near Mallard Pond that would be crossed by the line is approximately 0.57 ha (1.4 ac) and is composed of pond and bottomland hardwood habitat. <u>FEIS is identical</u>
	S4.4.1-12	The remaining 9.8 ha (24.3 ac) is a mixture of planted loblolly pine, previously disturbed industrial areas, and open fields (Southern 2007b). <u>FEIS says:</u> <u>The remaining 10.4 ha (25.7 ac) is a mixture of planted loblolly pine, previously disturbed industrial areas, and open fields (Southern 2007a, 2008b).</u>
	S4.4.1-13	About 9.11 ha (22.5 ac) of wetlands would be directly affected by Unit 3 and 4 construction

**VEGP FEIS
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Section 4.4.1 Terrestrial Impacts**

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		<p>activities including approximately 5.1 ha (12.5 ac) during construction of the CWIS and 4 ha 3 (10 ac) during the construction of the barge facility and discharge structure (Southern 2007c).</p> <p><u>FEIS says:</u> <u>About 8.5 ha (21.0 ac) of wetlands would be directly affected by Unit 3 and 4 construction activities including approximately 4.5 ha (11 ac) during construction of the CWIS and 4 ha (10 ac) during the construction of the barge facility and discharge structure (Southern 2008b).</u></p>
	S4.4.1-14	<p>Though Southern included the total of 5.1 ha (12.5 ac) of wetlands in the estimate for permanent disturbance, they estimate that the actual intake structure and canal would be located on about 1.2 ha (3 ac) of wetlands.</p> <p><u>FEIS says:</u> <u>Southern estimates that the actual intake structure and canal would be located on about 1.2 ha (3 ac) of wetlands.</u></p>
	S4.4.1-15	<p>Impacts to the remaining 3.84 ha (9.5 ac) of the construction area associated with the CWIS would be temporary (Southern 2007c).</p> <p><u>FEIS says:</u> <u>Impacts to the remaining construction area associated with the CWIS would be temporary (Southern 2007b).</u></p>
	<u>S4.4.1-15a</u>	<p><u>FEIS says:</u> <u>Erosion and sediment controls would remain in place and would be maintained as long as necessary" (Southern 2007b).</u></p>
	S4.4.1-16	<p>One hundred twenty-two meters (400 ft) of shoreline would be disturbed at the CWIS, 27 m (90 ft) would be disturbed at the barge facility; and 6.1 m (20 ft) would be disturbed at the discharge structure (Southern 2007c; NRC 2007).</p> <p><u>FEIS is identical</u></p>
	<u>S4.4.1-</u>	<p><u>FEIS says:</u></p>

**VEGP FEIS
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EIS Section	Input Number	Key Input or Assumption
	<u>16a</u>	<u>In early 2007, Southern submitted the Request for Jurisdictional Determination Form to the USACE and began the Section 404 permitting process (Southern 2007b). The Section 404 permit would also require a Water Quality Certification issued by the GDNR Environmental Protection Division to control discharge of water from the construction process to the Savannah River (Southern 2007b)</u>
	<u>S4.4.1-16b</u>	<u>FEIS says: A Section 10 permit under the Rivers and Harbors Act would be required prior to any in-stream construction activities in the Savannah River. This project would also require a Georgia General Stormwater Permit for Construction (Southern 2007b).</u>
	S4.4.1-17	The dredge material associated with construction of the barge facility (approximately 230 m ³ [300 yd ³]) would be transported and placed in an uplands spoils area. <u>FEIS is identical</u>
	S4.4.1-18	Construction of the barge facility would require an over-excavation approximately 0.9 m (3 ft) deep to allow for placement of a 0.9-m (3-ft)-thick gravel bed (approximately 1990 m ³ [2600 yd ³]). <u>FEIS is identical</u>
	S4.4.1-19	...based on a bathymetry survey conducted in 2006, the need for dredging from the end of the barge facility to connect with the Federal navigation channel is not anticipated at this time. <u>FEIS is identical</u>
	S4.4.1-20	Once installed, the discharge pipe is expected to permanently disturb less than 0.04 ha (0.1 ac) (Southern 2007c). <u>FEIS is identical</u>
	<u>S4.4.1-</u>	<u>FEIS says:</u>

**VEGP FEIS
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	<u>20a</u>	<u>Southern has not discussed specific mitigation activities related to wetlands with the USACE.</u>
	<u>S4.4.1-20b</u>	<u>FEIS says: Excavation is expected to take place over a 6-month period, and operation of the dewatering system would occur over an 18-month period (Southern 2008a).</u>
	S4.4.1-21	In summary, an estimated 9.11 ha (22.5 ac) of wetlands habitat on the VEGP site would be removed to construct permanent structures and facilities associated with construction of the proposed VEGP Units 3 and 4 at the VEGP site. <u>FEIS says: In summary, an estimated 8.5 ha (21 ac) of wetlands habitat on the VEGP site would be altered to construct permanent structures and facilities associated with construction of the proposed VEGP Units 3 and 4 at the VEGP site.</u>
	S4.4.1-22	This represents about 13 percent of the total 69 ha (170 ac) of wetlands that have been identified onsite. <u>FEIS says: This represents about 12.5 percent of the total 69 ha (170 ac) of wetlands that have been identified onsite.</u>
	S4.4.1-24	Wetlands habitat that would be removed is less than 0.03 percent of the total wetlands acreage in the vicinity. <u>FEIS says: Wetlands habitat that would be altered is less than 0.03 percent of the total wetlands acreage in the vicinity.</u>
	S4.4.1-25	An estimated 112.5 ha (278 ac) of upland habitat including planted pines, previously disturbed areas, and open fields would be removed during construction of permanent structures and facilities (including the onsite portion of the new transmission line), representing about 16 percent of the total 700 ha (1730 ac) of planted pine and open areas currently available onsite.

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 4.4.1 Terrestrial Impacts**

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EIS Section	Input Number	Key Input or Assumption
		<p><u>FEIS says:</u> <u>An estimated 120 ha (297 ac) of upland habitat including planted pines, previously disturbed areas, and open fields would be removed during construction of permanent structures and facilities (including the onsite portion of the new transmission line), representing about 17 percent of the total 700 ha (1730 ac) of planted pine and open areas currently available onsite.</u></p>
	S4.4.1-26	<p>An estimated 1.6 ha (4 ac) of mixed hardwood and pine habitat would be lost to permanent structures and facilities, representing less than 1 percent of the total 247.7 ha (612 ac) of hardwood habitat available onsite.</p> <p><u>FEIS is identical</u></p>
	S4.4.1-27	<p>Approximately 0.57 ha (1.4 ac) of land, composed of pond and bottomland hardwood would be crossed by the new transmission line onsite.</p> <p><u>FEIS is identical.</u></p>
	S4.4.1-28	<p>Habitats associated with temporary impacts to 77 ha (190 ac) resulting from construction of parking areas, the batch plant, warehouses, laydown yards, and spoils areas would be re-vegetated following construction activities.</p> <p><u>FEIS says:</u> <u>Habitats associated with temporary impacts to 81 ha (201 ac) resulting from construction of parking areas, the batch plant, warehouses, offices, laydown yards, and spoils areas would be re-vegetated following construction activities.</u></p>

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 4.4.1 Terrestrial Impacts**

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EIS Section	Input Number	Key Input or Assumption
	<u>S4.4.1-28a</u>	<u>FEIS says:</u> <u>The staff assumed that habitat on the 12.5 ha (31 ac) potential borrow area would be revegetated if the borrow from this area is needed</u>
	<u>S4.4.1-28b</u>	<u>FEIS says:</u> <u>.....Southern will only use this area if insufficient borrow is recovered from the powerblock and switchyard excavations (Southern 2008b).</u>
	<u>S4.4.1-28c</u>	<u>FEIS says:</u> <u>Currently, Southern and the GPC are evaluating the actual right-of-way alternatives for the transmission line within the Representative Delineated Corridor (RDC).</u>
	S4.4.1-29	It is anticipated that the transmission line would cross primarily Burke, Jefferson, McDuffie and Warren Counties and would be 46 m (150 ft) wide and 97 km (60 mi) long. <u>FEIS is identical</u>
	S4.4.1-30	Habitats within the hypothetical right-of-way include approximately 97 ha (240 ac) of forested habitat, 133.1 ha (329 ac) of planted pine, 2.6 ha (6.4 ac) of open water, and 63.9 ha (158 ac) of open land. <u>FEIS is identical</u>
	<u>S4.4.1-30a</u>	<u>FEIS says:</u> <u>Southern stated that wetlands would not be impacted by construction of the new right-of-way (NRC 2007).</u>
	S4.4.1-31	In the region surrounding the RDC and any new transmission line, there are approximately 18,085 ha (44,688 ac) of forest, 1354 ha (3346 ac) of open water, and 17,262 ha (42,656 ac) of open land (GPC 2007). <u>FEIS says:</u> <u>In the region (identified in the original GPC study area as approximately 117,359 ha [290,000 ac]) surrounding the RDC and any new transmission line, there are approximately 18,085 ha</u>

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 4.4.1 Terrestrial Impacts**

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		<u>(44,688 ac) of forest, 1354 ha (3346 ac) of open water, and 17,262 ha (42,656 ac) of open land (GPC 2007).</u>
	S4.4.1-32	Short-term noise levels from construction activities onsite could be as high as 110 dBA. <u>FEIS is identical</u>
	S4.4.1-34	However, avian collisions with existing structures at the VEGP site have been infrequent and transmission line maintenance personnel have not reported any dead birds from collisions or contact with the existing transmission lines for VEGP Units 1 or 2 (Southern 2006a). <u>FEIS is identical</u>
	S4.4.1-36	[Traffic] is projected to increase during construction of VEGP Units 3 and 4 by a maximum of 2200 vehicles per hour at peak traffic times (see Section 4.5.4.1). <u>FEIS says: ...projected to increase during construction of VEGP Units 3 and 4 to a maximum of 2950 vehicles per hour at peak traffic times (see Section 4.5.4.1).</u>
	S4.4.1-37	The bay star-vine (<i>Schisandra glabra</i>) is the only State-listed plant species known to occur on the VEGP site. <u>FEIS is identical</u>
	S4.4.1-38	No other Georgia or South Carolina State-listed plant or animal species are known to occur within 3.2 km (2 mi) of the VEGP site (GDNR 2007). <u>FEIS is identical</u>

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 4.4.1 Terrestrial Impacts**

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EIS Section	Input Number	Key Input or Assumption
	<u>S4.4.1-38a</u>	<u>FEIS says:</u> <u>There are no known records of the pocket gopher in Burke County (GDNR 2007).</u>
	<u>S4.4.1-38b</u>	<u>FEIS says:</u> <u>No mounds similar to those made by the southeastern pocket gopher have been reported from the VEGP site, although suitable habitat appears to be present. Southern does not expect the disturbance footprint to encompass such habitat (Southern 2008c).</u>
	S4.4.1-39	Four Georgia State-listed plant species have been recorded in Burke County within 16 km (10 mi) of the VEGP site <u>FEIS is identical</u>
	<u>S4.4.1-39a</u>	<u>FEIS says:</u> <u>Ocmulgee skullcap (<i>Scutellaria ocmulgee</i>), Georgia plume (<i>Elliottia racemosa</i>), sweet pitcherplant (<i>Sarracenia rubra</i>), and Indian olive (<i>Nestronia umbellula</i>). All are listed as State threatened except for the Indian olive, which is listed as rare.</u>
	<u>S4.4.1-39b</u>	<u>FEIS says:</u> <u>The smooth coneflower (<i>Echinacea laevigata</i>) is listed in both Georgia and South Carolina as State-endangered; and 29 other plant species are of regional and local concern within 16 km (10 mi) of the site in South Carolina. None of these State-listed species occur on the VEGP site.</u>
	S4.4.1-40	Three Georgia State-listed bird species, the bald eagle (<i>Haliaeetus leucocephalus</i>), wood stork (<i>Mycteria americana</i>), and red-cockaded woodpecker (<i>Picoides borealis</i>), have potential to occur in suitable habitats within Burke County (FWS 2004c). <u>FEIS is identical</u>
	S4.4.1-41	Although no herpetofauna species of concern have been recorded in Georgia within 16 km (10 mi) of the VEGP site, seven species have been recorded within this distance of the site in South Carolina (SCDNR 2007).

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 4.4.1 Terrestrial Impacts**

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EIS Section	Input Number	Key Input or Assumption
		<u>FEIS is identical</u>
	<u>S4.4.1-41a</u>	<u>FEIS says:</u> <u>These species [gopher frog, eastern tiger salamander, southern hognose snake, bird-voice treefrog, eastern coral snake, pine or gopher snake, black swamp snake] have not been reported on the VEGP site.</u>
	S4.4.1-42	Three State-listed species have been documented by the GDNR to occur within the RDC: the bald eagle, silky camellia (<i>Stewartia malacodendron</i>), and sandhill rosemary (<i>Ceratiola ericoides</i>). <u>FEIS is identical</u>

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 4.4.2 Aquatic Impacts**

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EIS Section	Input Number	Key Input or Assumption
4.4.2	S4.4.2-2	<p>All work would be conducted in accordance with a Clean Water Act Section 404 permit, a Rivers and Harbors Act Section 10 permit issued by the USACE, and a Section 401 Water Quality Certification issued by the GDNR Environmental Protection Division.</p> <p><u>FEIS is identical</u></p>
	S4.4.2-3	<p>This project would also require a Georgia General Stormwater Permit for Construction (Southern 2007c)</p> <p><u>FEIS is identical</u></p>
	S4.4.2-4	<p>The proposed location of the new CWIS is upstream of the existing intake structure for VEGP Units 1 and 2.</p> <p><u>FEIS is identical</u></p>
	S4.4.2-5	<p>The (proposed) intake structure and canal are sized for three Westinghouse AP1000 reactors at the VEGP site; however, only the mechanical components supporting the proposed VEGP Units 3 and 4 would be installed (Southern 2007c).</p> <p><u>FEIS is identical</u></p>
	S4.4.2-6	<p>The intake canal would be approximately 73 m (240 ft) long by 52 m (170 ft) wide with an earthen bottom at 21 m (70 ft) MSL and vertical sheetpile sides extending to 29.9 m (98 ft) MSL (Southern 2007a).</p> <p><u>FEIS is identical</u></p>
	S4.4.2-7	<p>The new intake structure and canal construction would affect approximately 5 ha (12.5 ac) with most of it in the Savannah River floodplain (Southern 2007c).</p> <p><u>FEIS is identical</u></p>

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS**

Section 4.4.2 Aquatic Impacts

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EIS Section	Input Number	Key Input or Assumption
	S4.4.2-8	Southern indicated that it is anticipated that the construction on the intake structure would occur in the summer, fall, and early winter to minimize the potential for unwanted flooding of the construction area (Southern 2007c). <u>FEIS is identical</u>

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 4.4.2 Aquatic Impacts**

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EIS Section	Input Number	Key Input or Assumption
	S4.4.2-9	<p>Southern has indicated that to minimize turbidity entering the river, excavation would begin at the west end of the canal cofferdam face and proceed toward the river (Southern 2007c). Permanent sheet piles forming the north and south banks of the intake canal would be driven using a vibratory or diesel hammer to form the north and south walls of a cofferdam. Temporary sheet piling would be driven around the perimeter of the intake structure and across the east and west face of the intake canal to complete the cofferdam. The piling installations would be completed from the land side (Southern 2007c). Material within the intake area cofferdam would be excavated followed by the excavation of material within the intake structure cofferdam. The interior of the cofferdam would be dewatered to 6 m (20 ft) below water level and excavated (Southern 2007c).</p> <p><u>FEIS is identical</u></p>
	S4.4.2-10	<p>Southern has indicated that the excavation process would include controls to manage erosion and sediment and, as necessary, controls to ensure that runoff from the excavation process does not create environmental or aesthetic problems (Southern 2007c).</p> <p><u>FEIS is identical</u></p>
	S4.4.2-11	<p>The discharge from the dewatering system, and potentially from a hydraulic dredge, would be managed in accordance with the Section 401 Water Quality Certification to be issued by the GDNR</p>

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 4.4.2 Aquatic Impacts**

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EIS Section	Input Number	Key Input or Assumption
		<p>Environmental Protection Division in support of the USACE Section 404 permit (Southern 2007c) to control discharge of water from the construction process to the Savannah River. This typically includes controls of turbidity and use of BMP to prevent spills of oils or hazardous materials associated with the excavation equipment operation (Southern 2007c).</p> <p><u>FEIS says:</u> <u>The discharge from the dewatering system, and potentially from a hydraulic dredge, would be managed in accordance with the Section 401 Water Quality Certification to be issued by the GDNR Environmental Protection Division in support of the USACE Section 404 permit (Southern 2007b) to control discharge of water from the construction process to the Savannah River. This typically includes the use of BMPs to prevent spills of oils or hazardous materials associated with the excavation equipment operation as well as controls on turbidity (Southern 2007b).</u></p>
	S4.4.2-12	<p>A tethered and floating silt curtain would also be used during excavation of the canal interior down to an elevation of 21 m (70 ft) above MSL.</p> <p><u>FEIS is identical</u></p>
	S4.4.2-13	<p>The installation of the inner serrated weir wall and the outer serrated wall and guide vanes at the mouth of the intake would occur from a barge located in the Savannah River. Southern has also committed to using appropriate environmental controls during this process to prevent spills and minimize environmental impact to the river and adjacent wetlands (Southern 2007c).</p> <p><u>FEIS is identical</u></p>
	S4.4.2-14	<p>The barge slip would be enlarged to support the unloading of the Westinghouse AP1 000 reactor components and modules at the VEGP site (Southern 2007a). The downstream sheet pile wall would be removed and the slope excavated to extend the barge slip 27 m (90 ft) along the shoreline (Southern 2007a). The downstream sheet pile wall would be reconstructed and the shoreline stabilized (Southern 2007a).</p> <p><u>FEIS says:</u> <u>A new barge slip would be constructed along the west bank of the Savannah River, downstream of the intake structure for VEGP Units 1 and 2 (Southern 2007c) to support the unloading of the Westinghouse AP1 000 reactor components and modules at the VEGP site (Southern 2008a). The</u></p>

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EIS Section	Input Number	Key Input or Assumption
		<u>downstream sheet pile wall would be removed and the slope excavated to extend the barge slip 27 m (90 ft) along the shoreline (Southern 2008a). The downstream sheet pile wall would be reconstructed and the shoreline stabilized (Southern 2008a).</u>
	S4.4.2-15	A tethered, floating silt curtain would be at the entrance to the barge slip prior to excavating below 27 m (90 ft) MSL (Southern 2007b). <u>FEIS is identical</u>
	S4.4.2-16	Southern estimated that approximately 230 m ³ (300 yd ³) of sediment would be dredged or excavated from the Savannah River at the east end of the barge slip where the barge slip enters the river. The depth of dredging is approximately 20.4 m (67 ft) MSL (normal water elevation is 24 m [80 ft] MSL) (Southern 2007c). <u>FEIS is identical</u>
	S4.4.2-17	In addition, construction of the barge slip would require approximately 1988 m ³ (2600 yd ³) of stone fill within the barge slip basin (most of which is not in the Savannah River) to provide a stable foundation for grounding the loaded barges (Southern 2007a). Some of this fill would be placed in the area that is currently a part of the river. <u>FEIS is identical</u>
	S4.4.2-18	A bathymetry study documented in the ER indicates that there is currently no need to dredge from the end of the barge slip to the navigation channel (Southern 2007c). <u>FEIS says: Based on a bathymetry survey conducted in 2006, the need for dredging from the end of the barge slip to connect with the Federal navigation channel is not anticipated (Southern 2007b).</u>
	<u>S4.4.2-18a</u>	<u>FEIS says: However, river bathymetry may change and dredging to the Federal navigation channel may be necessary in the future (NRC 2007).</u>
	<u>S4.4.2-</u>	<u>FEIS says:</u>

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	<u>18b</u>	<u>A permit for this activity would be needed from the USACE to dredge this small portion of the river. The permit would typically contain restrictions related to the type of dredging, time of year that in-river work could be performed, turbidity and possible requirements for relocation of important benthic macroinvertebrates</u>
	S4.4.2-19	<p>The proposed discharge structure would be placed near the southwest bank of the Savannah River, extending about 15 m (50 ft) into the river (Southern 2007a). The discharge pipe would be approximately 1.07 m (3.5 ft) in diameter, narrowing to 0.6 m (2 ft) in diameter before the discharge point (Southern 2007a). The anticipated centerline elevation of the discharge pipe is 36 0.9 m (3 ft) above the river bottom elevation (Southern 2007a).</p> <p><u>FEIS is identical</u></p>
	S4.4.2-20	<p>Construction would involve the installation of a temporary sheet pile cofferdam (installed using a vibratory or diesel hammer) (Southern 2007a) and a dewatering system. The interior of the cofferdam would be excavated so that the pipe can be installed approximately 0.9 m (3 ft) below the invert elevation of the discharge piping and contoured up the river bank. H-piles that would be used for piping supports would be driven to 15 m (50 ft) MSL. After the pipe is laid, the dewatering system would be removed, and the pipe trench would be backfilled and graded to the required river bank slope contours. The cofferdam would be removed and rip-rap material would be installed to stabilize the river bank and the river bottom in the vicinity of the discharge point</p> <p><u>FEIS is identical</u></p>
	S4.4.2-21	<p>The amount of benthic habitat altered during the construction of the intake canal would be small because most of the activity would occur in the floodplain during the dry season when the floodplain is not flooded.</p> <p><u>FEIS is identical</u></p>
	S4.4.2-22	<p>There would be approximately 82 m (270 feet) of shoreline disturbance (55 m [180 ft] at the intake structure and 27 m [90 ft] at the barge facility) (Southern 2007a).</p>

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		<p><u>FEIS says:</u> <u>There would be approximately 122 m (400 ft) of shoreline disturbance at the intake structure, 27 m [90 ft] at the barge facility, and 6.1 m (20 ft) at the discharge structure (NRC 2007)</u></p>
	S4.4.2-23	<p>Likewise, there would be very little disturbance of the benthic habitat during construction of the discharge structure.</p> <p><u>Not found in FEIS</u></p>
	S4.4.2-24	<p>A greater amount of river habitat would be disturbed during the barge slip construction activities; however, the amount of benthic habitat, open water, shoreline, and benthic fauna that would be lost is a small fraction of the total present in this area of the Savannah River.</p> <p><u>FEIS is identical</u></p>
	S4.4.2-25	<p>In addition, none of the species specifically mentioned as species of interest, concern, or listed are known to spawn specifically in the areas where construction would occur; thus, the activities would not disturb major spawning areas.</p> <p><u>FEIS is identical</u></p>
	S4.4.2-26	<p>Although the construction activities for the powerblock and the cooling towers are in areas of the site where no wetlands are present, the stormwater drainage from these areas is routed to Debris Basin #2 (Southern 2007c). No runoff from areas disturbed by construction is expected to be received by Debris Basin #1.</p> <p><u>FEIS is identical</u></p>
	S4.4.4-26a	<p>If debris basin #2 is determined to be a jurisdictional wetland, the basin would be left as it currently is.</p> <p><u>FEIS is identical</u></p>
	S4.4.2-27	<p>It is anticipated that the transmission line would cross Burke, Jefferson, McDuffie, and Warren Counties.</p>

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		<u>FEIS is identical</u>
	S4.4.2-28	The right-of-way study proposed a feasible route within a field-verified right-of-way that was hypothetically produced to represent potential impacts to land use. The feasible route contained slightly more than 2.6 ha (6.4 ac) of open water, including various streams (GPC 2007). This is not the actual transmission line routing, but provides an estimate of the likelihood of stream and water-body crossings. <u>FEIS is identical</u>
	S4.4.2-29	In addition, no State or Federally threatened and endangered aquatic species occur in the field-verified RDC as indicated in the corridor study dated January 2007 and the State of Georgia's Natural Heritage database. <u>FEIS says:</u> <u>In addition, no State or Federally threatened and endangered aquatic species occur in the field-verified RDC as indicated in the corridor study dated January 2007 (GPC 2007) and the State of Georgia's Natural Heritage database (GDNR 2007).</u>
	S4.4.2-30	Three State-listed [aquatic] species occur in the vicinity of the VEGP site. <u>FEIS is identical</u>
	S4.4.2-31	The robust redhorse (<i>Moxostoma robustum</i>) is found in the Savannah River; however, the only known spawning area is 40 river kilometers (rkm) (60 river miles [RM]) upstream from the site (Grabowski and Isley 2006). <u>FEIS is identical</u>
	S4.4.2-32	...during their migrations, the robust redhorse appears to stay within the channel, entering the floodplains only during high-water events. <u>FEIS is identical</u>

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EIS Section	Input Number	Key Input or Assumption
	S4.4.2-33	<p>The Georgia State-endangered Atlantic pigtoe mussel (<i>Fusconaia masoni</i>), although reported in Burke County, is not known to occur in the Savannah River or on the VEGP site and, thus, would not be adversely affected by construction activities.</p> <p><u>FEIS says:</u> <u>The Georgia State-endangered Atlantic pigtoe mussel (<i>Fusconaia masom</i>), was tentatively identified in surveys by the USFWS (The Catena Group 2007) as being in the Savannah River. However, the specimens were located at a considerable distance (84 km [52 mi]) upstream of the VEGP site and, thus, would not be adversely affected by construction activities at the VEGP site.</u></p>
	S4.4.2-34	<p>The Savannah darter (<i>Etheostoma fricksium</i>) has been observed in Beaverdam Creek but not in the Savannah River in the vicinity of the VEGP site. It is unlikely that Beaverdam Creek would be adversely affected by construction of VEGP Units 3 and 4.</p> <p><u>FEIS says:</u> <u>The Savannah darter (<i>Etheostoma fricksium</i>) is a Georgia State species of concern with no legal protective status. The Savannah darter may at times enter the Savannah River, however its preferred habitat is shallow creeks such as Beaverdam Creek. It is unlikely that Beaverdam Creek would be adversely affected by construction of VEGP Units 3 and 4.</u></p>
	S4.4.2-35	<p>Seven South Carolina mussel species of concern (Table 2-9) are known to occur in the Savannah River near the VEGP site.</p> <p><u>FEIS says:</u> <u>Nine South Carolina mussel species of concern (Table 2-9) are known to occur in the Savannah River near the VEGP site.</u></p>
	S4.4.2-36	<p>Because the area of disruption for mussels is small relative to the extent of the Savannah River benthic habitat at this location, impacts would be temporary and largely mitigable, the impacts to these mussel species are likely to be minor.</p> <p><u>FEIS says:</u></p>

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EIS Section	Input Number	Key Input or Assumption
		<u>The area of disruption for mussels during construction of the intake, discharge and barge slip, and potential dredging between the barge slip and the Federal navigation channel is small relative to the extent of the Savannah River benthic habitat at this location and the impact would be temporary and largely mitigable. Thus, the impacts to these mussel species are likely to be minor.</u>
	S4.4.2-37	<p>...any ground- or river-disturbing activities would be of relatively short duration, permitted and overseen by State and Federal regulators, guided by an approved Stormwater Pollution Prevention Plan, and that any small spills would be mitigated according to the existing VEGP Spill Prevention Control and Countermeasures Plan, and</p> <p><u>FEIS is identical</u></p>
	S4.4.2-38	<p>... there are no sensitive [aquatic] habitats or species of interest at the proposed location...." (Southern 2007a).</p> <p><u>FEIS is identical</u></p>
	S4.4.2-39	<p>Although the shortnose sturgeon (<i>Acipenser brevirostrum</i>), a Federally listed endangered species, is located in the Savannah River, the known spawning areas are not near the VEGP site, and the timing of spawning coincides with high water levels, during which time construction activities would likely not occur.</p> <p><u>FEIS is identical</u></p>

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Section 4.3.3 Federally Listed Species

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EIS Section	Input Number	Key Input or Assumption
4.3.3	S4.4.3-1	<u>FEIS says:</u> <u>...there are no known occurrences [of red-cockaded woodpeckers] in Burke County Georgia, and no active colonies within 16 km (10 miles) of the VEGP site in South Carolina.</u>
	S4.4.3-2	<u>FEIS says:</u> <u>...there are no known occurrences of red-cockaded woodpeckers in the vicinity of the RDC.</u>
	S4.4.3-3	<u>FEIS says:</u> <u>Woodstorks were not identified in threatened and endangered species surveys in 2005, and have not been documented on site</u>
	S4.4.3-4	<u>FEIS says:</u> <u>At this time it is not known if these individuals [wood storks] use habitat along or in the RDC.</u>
	S4.4.3-5	<u>FEIS says:</u> <u>... flatwoods salamanders were not identified in the 2005 threatened and endangered species survey.</u>
	S4.4.3-6	FEIS says: There are no known populations of flatwoods salamanders in the vicinity of the RDC...
	S4.4.3-7	<u>FEIS says:</u> <u>The alligators may be minimally affected by construction at the VEGP site; impacts on alligators would be considered negligible. ...It is likely that GPC would avoid alligators or alligator nests for safety reasons [during the construction of the new transmission line].</u>
	S4.4.3-8	<u>FEIS says:</u> <u>Canby's dropwort was not found on the VEGP site during the 2005 threatened and endangered species survey, and there are no historical records of it occurring on site.</u>

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EIS Section	Input Number	Key Input or Assumption
	S.4.4.3-9	<u>FEIS says:</u> <u>There are no known populations [of Canby's dropwort] within the RDC</u>
	S4.4.3-10	<u>FEIS says:</u> <u>There are no known occurrences of the smooth coneflower in Burke County, no historical occurrences on the VEGP site, and it was not recorded in the 2005 threatened and endangered species survey.</u>
	S4.4.3-11	<u>FEIS says:</u> <u>The smooth coneflower has not been recorded within any of the counties that may be crossed by the new transmission line.</u>
	S4.4.3-12	<u>FEIS says:</u> <u>The relict trillium was not observed during the 2005 or 2007 threatened and endangered species onsite surveys, and it has not been recorded by either the FWS or the GDNR in Burke County, Georgia</u>
	S.4.4.3-13	<u>FEIS says:</u> <u>The relict trillium has not been recorded within any of the counties that may be crossed by the transmission line.</u>
	S4.4.3-14	<u>FEIS says:</u> <u>The Georgia aster...has not been recorded within Burke County, Georgia, and was not observed during the 2005 threatened and endangered onsite species survey.</u>
	S4.4.3-15	<u>FEIS says:</u> <u>Georgia aster is known to occur in McDuffie County, Georgia, about 9 km (5.5 miles) from the RDC.</u>
	S4.4.3-16	<u>FEIS says:</u> <u>...the suspected spawning sites for shortnose sturgeon that have been reported are at rkm 179 to 190 (RM 111 to 118),and rkm275 to 278 (RM 171 to 172) and rkm 179 to 228 (RM 111 to 142)...The VEGP site is located at rkm 241 to 244 (RM 150 to 152)</u>

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EIS Section	Input Number	Key Input or Assumption
4.5	S4.5-1	<p>Southern estimates the peak onsite construction requirements for VEGP Units 3 and 4 to be 4400 workers</p> <p><u>FEIS says:</u> <u>Southern estimates the peak onsite construction requirements for VEGP Units 3 and 4 to be 3500 workers</u></p>
4.5	S4.5-2	<p>There are no bridges near the VEGP site for commuters to cross into South Carolina</p> <p><u>FEIS is identical</u></p>
4.5.1.1	S4.5-3	<p>The VEGP site is located in an area used for industrial purposes and is bounded by agricultural and forested land.</p> <p><u>FEIS is identical</u></p>
4.5.1.1	S4.5-4	<p>No significant industrial or commercial facilities other than the VEGP site exist or planned in the vicinity [10-mile vicinity].</p> <p><u>FEIS is identical</u></p>
4.5.1.1	S4.5-5	<p>The recreational areas closest to the plant include the Yuchi Wildlife Management Area (WMA) and the Crackerneck WMA, which are both adjacent to the plant site.</p> <p><u>FEIS is identical</u></p>

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4.5.1.1	S4.5-6	All construction activities would occur within the VEGP site boundary.
4.5.1.1	S4.5-8	Approximately 3,500 people live within 10 mi of the VEGP site <u>FEIS is identical</u>
4.5.1.1	S4.5-9	Burke County is part of the Augusta-Aiken Interstate Air Quality Control Region which is classified as in attainment of the National Ambient Air Quality Standards for all criteria pollutants <u>FEIS is identical</u>
4.5.1.1	S4.5-9a	The nearest non-attainment area to the proposed site is in Columbia, SC, which is a non-attainment area under the 8-hour ozone standard. <u>FEIS is identical</u>
4.5.1.1	S4.5-10	The pollutants of primary concern include PM ₁₀ , fugitive dust, reactive organic gases, oxides of nitrogen, carbon monoxide, and to a lesser extent, sulfur dioxides. <u>FEIS is identical</u>
4.5.1.1	S4.5-11	Sportsmen using the Yuchi WMA and the GPC boat landing on the Savannah River would be the transient population most affected by construction-related activities. <u>FEIS is identical</u>
4.5.1.3	S4.5-12	Southern plans to build a new private access road to the construction site. <u>FEIS is identical</u>
4.5.1.3	S4.5-13	[Southern plans to build] a heavy-haul route from the VEGP site barge facility on the Savannah River <u>FEIS is identical</u>
4.5.1.3	S4.5-14	[Southern plans to build] a new road from the new intake structure to the construction site. <u>FEIS is identical</u>

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4.5.1.3	S4.5-15	Construction workers would use a dedicated construction access road rather than the primary VEGP site access road. <u>FEIS is identical</u>
4.5.1.4	S4.5-16	Approximately 500 acres on the VEGP site would need to be cleared and excavated to construct VEGP Units 3 and 4. <u>FEIS says: Approximately 224 ha (555 ac) on the VEGP site would need to be cleared and excavated to construct Units 3 and 4.</u>
4.5.1.4	S4.5-17	Approximately 12.5 acres of river shoreline would be cleared, excavated, and graded for the CWIS <u>FEIS is identical</u>
4.5.1.4	S4.5-18	Approximately 10 acres would be cleared and graded for the barge facility and discharge pipe <u>FEIS is identical</u>
4.5.1.4	S4.5-20	The clearing and excavation for the new units and adjacent support facilities would not be visible from offsite roads. <u>FEIS is identical</u>
4.5.1.4	S4.5-21	Clearing and construction activities for the river-front facilities would be visible from the river. <u>FEIS is identical</u>
4.5.2	S4.5-22	Estimated peak construction workforce of 4400 workers <u>FEIS says: Southern's estimated peak construction workforce of 3500 workers</u>
4.5.2	S4.5-23	The proposed construction schedule assumes 18 months for site preparation and 66 months of

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		<p>construction, for a total construction duration of 84 months.</p> <p><u>FEIS is identical</u></p>
4.5.2	S4.5-24	<p>Southern estimates approximately 1000 workers already live within commuting distance of the plant</p> <p><u>FEIS is identical</u></p>
4.5.2	S4.5-26	<p>2700 jobs would last two or more years and the remainder would be for less than two years</p> <p><u>FEIS says:</u> <u>2000 jobs would last two or more years and the remainder would be for less than two years</u></p>
4.5.2	S4.5-27	<p>Based on 2003 information from TVA, the in-migrating workers who stay for more than two years would bring families, increasing the number of in-migrants by app. 4000.</p> <p><u>FEIS says:</u> <u>Based on 2003 information from TVA, the in-migrating workers who stay for more than two years would bring families, increasing the number of in-migrants by app. 3000.</u></p>
4.5.2	S4.5-28	<p>Of the additional 4000 in-migrants, approximately 1500 would be school-age children. Footnote b: Approximately half of the dependents are assumed to be children, and 74 percent of the children are school age.</p> <p><u>FEIS says:</u> <u>Of the additional 3000 in-migrants, approximately 1100 would be school-age children. Footnote a: Approximately half of the dependents are assumed to be children, and 74 percent of the children are school age.</u></p>
4.5.2	S4.5-29	<p>Assumes a residential distribution for the long-term construction workers that resemble the residential distribution of the current VEGP site workforce, and that over 90 percent of the in-migrating workers would live in Columbia, Richmond, Burke, Screven, or Aiken County.</p> <p><u>FEIS is identical</u></p>

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4.5.3.1	S4.5-29a	Region's current and projected economy <u>FEIS is identical</u>
4.5.3.1	S4.5-29a	Region's current and projected population <u>FEIS is identical</u>
4.5.3.1	S4.5-30	Site preparation would be completed by 2010 and construction would have a start date of 2010, with commercial operation of 2015 for VEGP Unit 3 and 2016 for VEGP Unit 4. <u>FEIS says:</u> <u>Site preparation would be completed by 2010 and construction would have a start date of 2010, with commercial operation of 2016 for VEGP Unit 3 and 2017 for VEGP Unit 4.</u>
4.5.3.1	S4.5-31	For every construction worker, BEA estimates an additional 0.70 jobs would be created in the area near the VEGP site. <u>FEIS is identical</u>
4.5.3.1	S4.5-31a	[Screven County] small base population <u>FEIS is identical</u>
4.5.3.1	S4.5-31b	[Screven County] economy

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		<u>FEIS says:</u> <u>[Screven County] small economy</u>
4.5.3.2	S4.5-33	During construction the new units would be assessed at some negotiated valuation that would likely range from \$1.2 to \$2.6 million, based on net electrical output of 1117 MW(e) <u>FEIS is identical</u>
4.5.4.1	S4.5-34	River Road, a two-lane highway provides the only access to VEGP's main gate and the proposed new access road for construction personnel. <u>FEIS is identical</u>
4.5.4.1	S4.5-36	Southern's analysis assumed four construction shifts... Friday through Sunday <u>FEIS is identical</u>
4.5.4.1	S4.5-37	Southern assumed one worker per vehicle, and no staggered shifts <u>FEIS is identical</u>
4.5.4.1	S4.5-38	Southern estimated 100 truck deliveries per day to the construction site <u>FEIS is identical</u>
4.5.4.1	S4.5-39	The 2004 Average Annual Daily Traffic report measured traffic on River Road north of the VEGP as 1277 cars per day in one direction. <u>FEIS is identical</u>
4.5.4.1	S4.5-39a	The current capacity of River Road is 3200 cars per hour.

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		<u>FEIS is identical</u>
4.5.4.1	S4.5-40	Southern employs an average outage workforce of approximately 800 workers for approximately 1 month during every refueling outage. <u>FEIS is identical</u>
4.5.4.1	S4.5-41	During outages most of the plant staff and outage workforce are on 12-hour shifts, 2 shifts per day, 7-days per week. <u>FEIS is identical</u>
4.5.4.1	S4.5-42	Table 4-4, Column 2 “Number of Construction Workers” by construction phase <u>FEIS is identical</u>
4.5.4.1	S4.5-45	It is likely the [rail] spur would be used to transfer equipment during the construction of Units 3 & 4 <u>FEIS is identical</u>
4.5.4.1	S4.5-46	Southern plans to use the Savannah River to supply large components and modules for construction of VEGP Units 3 & 4 <u>FEIS is identical</u>
4.5.4.1	S4.5-47	Construction would require a 76-m crane <u>FEIS is identical</u>
4.5.4.2	S4.5-48	There is very little recreational boating or fishing near the VEGP site. <u>FEIS is identical</u>
4.5.4.3	S4.5-49	2700 [construction] workers would reside in the area for two or more years and would require long term housing <u>FEIS says:</u>

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 4.5 Socioeconomic Impacts**

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		<u>2000 [construction] workers would reside in the area for two or more years and would require long term housing</u>
4.5.4.3	S4.5-50	[Burke, Columbia, Richmond, and Screven Counties in Georgia and Aiken County in South Carolina] have enough housing units to absorb the influx of workers. <u>FEIS is identical</u>
4.5.4.3	S4.5-51	By the time construction begins for VEGP Units 3 and 4, Burke County would have established zoning regulations to restrict RV and trailer park developments in the county. <u>FEIS is identical</u>
4.5.4.4	S4.5-52	VEGP does not use water from a municipal system <u>FEIS is identical</u>
4.5.4.4	S4.5-53	Onsite wells provide potable water, and would provide water for the construction project, as well. <u>FEIS is identical</u>
4.5.4.4	S4.5-54	Southern estimated the total daily groundwater usage at the VEGP site during construction to be approximately 1.8 million gallons per day, which is well within Southern's permitted limits. <u>FEIS is identical</u>

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 4.5 Socioeconomic Impacts**

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4.5.4.4	S4.5-55	<p>Municipal water suppliers in the region have excess capacity (see Table 2-20; 2-21).</p> <p><u>FEIS is identical</u></p>
4.5.4.4	S4.5-56	<p>According to a 2003 EPA report on portable water usage, the average person in the United States uses about 90 gpd.</p> <p><u>FEIS is identical</u></p>
4.5.4.4	S4.5-57	<p>For an assumed construction-related population increase of 6700 people, the estimated 603,000 gpd increase in water consumption amounts to about one-fifth of Burke county's excess capacity</p>

VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 4.5 Socioeconomic Impacts

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		<p><u>FEIS says:</u> <u>For an assumed construction-related population increase of 5500 people, the estimated 495,000 gpd increase in water consumption amounts to about 13 percent of Burke county's excess capacity</u></p>
4.5.4.4	S4.5-58	<p>Wastewater treatment facilities in [Burke, Richmond and Columbia] counties have excess capacity</p> <p><u>FEIS is identical</u></p>
4.5.4.4	S4.5-59	<p>Given a reported excess treatment capacity of over 16 million gpd, in Burke, Richmond and Columbia counties</p> <p><u>FEIS is identical</u></p>
4.5.4.4	S4.5-60	<p>In 2001, the citizen-to-police ratios in Burke, Richmond, and Columbia Counties were 271:1, 998:1, and 992:1, respectively.</p> <p><u>FEIS is identical</u></p>
4.5.4.4	S4.5-60a	<p>Assuming current staffing levels, the assumed population increases in Burke (1340), Richmond (1740), and Columbia (2280) Counties would increase the citizen-to-police-officer ratio to 288:1, (a 6 percent increase) in Burke County, 1008:1 (a 2 percent increase) in Richmond County, and 1017:1 (a 3 percent increase) in Columbia County</p> <p><u>FEIS says:</u> <u>Assuming current staffing levels, the assumed population increases in Burke (1100), Richmond (1430), and Columbia (1870) Counties would increase the citizen-to-police-officer ratio to 284:1, (a 5 percent increase) in Burke County, 1005:1 (a 1 percent increase) in Richmond County, and 1013:1 (a 2 percent increase) in Columbia County</u></p>
4.5.4.4	S4.5-61	<p>According to a 2005 draft planning report produced by the Central Savannah River Area Regional Development Center, planning officials consider police and fire protection adequate in the region.</p>

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 4.5 Socioeconomic Impacts**

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		<u>FEIS is identical</u>
4.5.4.4	S4.5-62	The region is well supplied with hospitals and medical services, as Richmond County serves as a regional medical hub, with four general hospitals, one military hospital, one mental and psychiatric hospital, one rehabilitation hospital, and two Federal hospitals. <u>FEIS is identical</u>
4.5.4.5	S4.5-63	The Burke County School District currently operates with an excess capacity of about 800 students. <u>FEIS is identical</u>
4.5.4.5	S4.5-64	Although Richmond and Columbia County school districts do not operate with excess capacity <u>FEIS is identical</u>

VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 4.6 Historic and Cultural Resources

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EIS Section	Input Number	Key Input or Assumption
4.6	S4.6-1	Previous cultural resource identification efforts indicated the presence of 17 archaeological sites... <u>FEIS is identical</u>
	S4.6-2	...two of which are eligible for listing in the National Register of Historic Places <u>FEIS says:</u> <u>Two are eligible for listing in the National Register of Historic Places. Two other sites are potentially eligible</u>
	S4.6-3	9BK416 would be impacted by construction of utilities associated with the water intake structure, <u>FEIS is identical</u>
	<u>S4.6-3a</u>	<u>FEIS says:</u> <u>Based on the results of the excavation, the Georgia SHPO determined that the proposed project will affect, but not adversely affect, site 9BK416.</u>
	<u>S4.6-3b</u>	<u>FEIS says:</u> <u>Southern and the Georgia SHPO will enter into a Memorandum of Understanding (MOU) to preserve the balance of site 9BK416 from disturbance and to conduct further investigations as directed by the Georgia SHPO.</u>
	<u>S4.6-3c</u>	<u>FEIS says:</u> <u>There will be no activity in the areas where sites 9BK419 and 9BK420 are located</u>
	S4.6-6	During construction Southern would implement procedures that identify the actions that should be

VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 4.6 Historic and Cultural Resources

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EIS Section	Input Number	Key Input or Assumption
		<p>taken if archaeological or historical materials are encountered. Southern has agreed to follow these procedures. Procedures that would be in place prior to construction would identify measures that need to be taken if historic or cultural resources are discovered during construction. <u>FEIS is identical</u></p>
	S4.6-7	<p>Archaeological surveys of the new transmission line right-of-way that would be needed were not conducted. <u>FEIS is identical</u></p>
	<u>S4.6-7a</u>	<p><u>FEIS says:</u> <u>The full extent of impacts cannot be determined until a specific route is defined. Once this process is completed, the appropriate cultural resource studies would be undertaken to ensure that resources are identified and addressed before construction.</u></p>
	S4.6-9	<p>Based on (1) the adverse effect that the construction of the water intake structure and supporting infrastructure likely would have on the integrity of 9BK416, (2) the increased risk of inadvertent discoveries and impacts to archaeological deposits of 9BK416 and possible 9BK423 during</p>

VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 4.6 Historic and Cultural Resources

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EIS Section	Input Number	Key Input or Assumption
		<p>construction, (3) the preconstruction and construction measures that Southern would take to mitigate adverse impacts to significant cultural resources, and (4) the staffs cultural resource analysis and consultation, it is the staffs conclusion that the potential impacts on historic and cultural resources would be MODERATE. <u>FEIS is identical</u></p>
	<u>S4.6-9a</u>	<p><u>FEIS says:</u> <u>Cultural resource monitoring may be required during construction, depending on the outcome of ongoing consultation between with the Georgia SHPO and Southern concerning impacts to 9BK416.</u></p>
	<u>S4.6-9b</u>	<p><u>FEIS says:</u> <u>As called for in plant procedures, construction workers would be given cultural resource training so they would be aware of the types of artifacts that might be encountered. If archaeological materials are discovered during construction, work would stop while an assessment is conducted, following plant procedures.</u></p>
	Additional	<p>SNC met with the Georgia SHPO to discuss results from requested additional testing of the intake</p>

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 4.6 Historic and Cultural Resources**

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EIS Section	Input Number	Key Input or Assumption
	informatio n	pipe route. The SHPO concluded that excavating the pipe corridor through Site 9BK416 may affect but is not likely to adversely affect the cultural resources aspects of the site. SNC agreed to preserve the balance of Site 9BK416 from future construction impacts and to conduct additional investigations at the discretion of the SHPO. This agreement will be documented in an MOA between SNC and SHPO.

VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 4.7 Environmental Justice Impacts

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EIS Section	Input Number	Key Input or Assumption
4.7	S4.7-1	<p>Construction activities at the VEGP site represent the largest source of soil-related environmental impacts. However, while construction activities would disrupt large volumes of soil, the effects are primarily localized and have little migratory ability.</p> <p><u>FEIS is identical</u></p>
	S4.7-2	<p>BMPs at the construction site and a new construction strategy would mitigate these effects (Southern 2008a). Because Southern plans to ship in prefabricated pieces and assemble them onsite, proposed construction activities would involve roughly a third of the peak number of workers employed during construction of VEGP Units 1 and 2.(a) Therefore, the disruption of soils during construction would be mitigated by smaller workforces and a lower level of onsite activity, relative to historic levels.</p> <p><u>FEIS is identical</u></p>

VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 4.7 Environmental Justice Impacts

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EIS Section	Input Number	Key Input or Assumption
	S4.7-3	<p>The soil disruption within those communities that would host in-migrating workers and their families would also be reduced, relative to historic levels.</p> <p><u>FEIS is identical</u></p>
	S4.7-4	<p>The staff interviewed community leaders in towns surrounding the proposed site and discovered there is a much greater state of preparedness now than in the past. Old problems of overcrowded trailer parks and vehicle dust have been addressed through local legislation, and sewer and septic systems now must meet stricter environmental standards.</p> <p><u>FEIS is identical</u></p>
	S4.7-5	<p>Given these mitigating factors, the staff concludes soil-related environmental impacts during the construction of Units 3 and 4 at the VEGP site would pose little or no impacts on any populations within the region of interest (Southern 2008a).</p> <p><u>FEIS is identical</u></p>
	S4.7-7	<p>The Staff expects construction-related impacts on the Water Table aquifer would be completely mitigated at a distance equal to that of the nearest person to the proposed site (about 1.6 km [1 mi]). Construction-related activities are not of sufficient magnitude to impact the Cretaceous or Tertiary aquifers beneath the proposed site. Therefore, the staff determined the potential negative environmental effects from water sources would be small; and, there are no water-related impacts on minority and low-income populations to consider.</p> <p><u>FEIS says:</u> <u>The Staff expects construction-related impacts on the Water Table aquifer would be completely mitigated at a distance equal to that of the nearest person to the proposed site (about 1.6 km [1 mi]). Construction-related activities are not of sufficient magnitude to impact the Cretaceous or Tertiary aquifers beneath the proposed site. Therefore, the staff determined the potential negative environmental effects from water sources would be small; and, consequently, there are no water-related impacts on minority and low-income populations to consider.</u></p>
	S4.7-8	<p>Motor vehicle exhaust and construction dust would cause minor and localized adverse impacts to air</p>

**VEGP FEIS
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Section 4.7 Environmental Justice Impacts**

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EIS Section	Input Number	Key Input or Assumption
		<p>quality but would not extend as far as the site boundary. Therefore, the staff determined the negative environmental effects from construction-related reductions in air quality would be small, localized, and short-lived for any population in the region of interest. Consequently, the staff found no disproportionate and adverse impacts on minority and low-income populations because of changes in air quality.</p> <p><u>FEIS is identical</u></p>
	S4.7-9	<p>Noise levels during construction may be as high as 110 dBA within the construction site,</p> <p><u>FEIS is identical</u></p>
	S4.7-10	<p>Because the loudest construction noise would register 60 to 80 dBA 120 m (400 ft) from the source and the VEGP site exclusion area boundary is more than a half mile from the construction site in all directions, the staff determined impacts from the noise of construction activities would be small and not require mitigation.</p> <p><u>FEIS is identical</u></p>
	S4.7-11	<p>The staff expects traffic to increase beyond the capacity of River Road during the construction phase.</p> <p><u>FEIS is identical</u></p>
	S4.7-13	<p>The staff finds no disproportionate adverse impacts on minority and low-income populations because of changes in traffic and other community services.</p> <p><u>FEIS is identical</u></p>

VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 4.7 Environmental Justice Impacts

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EIS Section	Input Number	Key Input or Assumption
	S4.7-14	<p>The presence of a subsistence population along the Savannah River adjacent to the proposed site has been well documented in the literature (Burger et al. 1999).</p> <p><u>FEIS says:</u> <u>The presence of subsistence fishing practices along the Savannah River adjacent to the proposed site has been well documented in the literature (Burger et al. 1999).</u></p>
	S4.7-15	<p>The primary contaminant of concern for the Savannah River is mercury</p> <p><u>FEIS is identical</u></p>
	S4.7-16	<p>Because they are not a by-product of any construction activities related to the proposed two new reactors, heavy metals cannot be considered a source of any environmental degradation attributable to the proposed VEGP site.</p>

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 4.7 Environmental Justice Impacts**

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EIS Section	Input Number	Key Input or Assumption
		<u>FEIS is identical</u>
	S4.7-17	Therefore, the staff determined there are no disproportionate adverse impacts on the subsistence activities of minority and low-income populations along the Savannah River that can be linked to the construction of Units 3 and 4 at the proposed VEGP site. <u>FEIS is identical</u>
	S4.7-18	There are no Native American communities within the area of interest <u>FEIS is identical</u>
	S4.7-19	while some existing communities within the area exhibit disproportionately high percentages of minority (primarily Black races) and low-income populations, most of the higher percentages of minority and low-income populations can be attributed to the sparseness of the rural population in general. <u>FEIS is identical</u>
	4.7-20	The staff determined there were no environmental justice effects to consider with respect to densely populated minority or low-income peoples. <u>FEIS is identical</u>
	4.7-21	The staff expects the impacts of plant construction on minority and low-income populations in the region of interest would be SMALL because no environmental pathways or preconditions exist that can lead to adverse and disproportionate impacts. <u>FEIS is identical</u>
	4.7-22	The adverse socioeconomic impacts on minority and low-income populations are also expected to be SMALL because of the mitigation strategies employed by nearby communities and the reduced workforce needed because of offsite fabrication. <u>FEIS says:</u> <u>The adverse socioeconomic impacts on minority and low-income populations are also expected to be</u>

VEGP FEIS
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Section 4.7 Environmental Justice Impacts

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EIS Section	Input Number	Key Input or Assumption
		<u>in proportion with the impacts discussed in Section 4.5 and SMALL because of the mitigation strategies employed by nearby communities.</u>
	4.7-23	<p>Depending on how each community participates in the distribution of construction-generated income and tax revenues, the impacts on minority and low-income communities would likely be beneficial impacts. There is no evidence that any particular demographic group would be excluded or limited in their access to those benefits.</p> <p><u>FEIS says:</u> <u>Depending on how each community participates in the distribution of construction-generated income and tax revenues, the impacts on minority and low-income communities would likely be beneficial impacts. There is no evidence that any particular demographic group would be excluded or limited in its access to those benefits.</u></p>
	4.7-24	<p>Based upon the underlying assumptions of their analysis, the staff concludes the adverse impacts on minority and low-income populations resulting from construction of Units 3 and 4 at the VEGP site would be SMALL.</p> <p><u>FEIS says:</u> <u>Based upon the underlying assumptions of its analysis, the staff concludes that the adverse impacts on minority and low-income populations resulting from construction of Units 3 and 4 at the VEGP site would be SMALL.</u></p>

VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 4.8 Nonradiological Health Impacts

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EIS Section	Input Number	Key Input or Assumption
4.8	S 4.8-1	Population of approximately 3560 people within 16 km (10 mi) of the site <u>FEIS says:</u> <u>The area around the VEGP site is predominantly rural with a population of approximately 3560 people within 16 km (10 mi) of the site (Southern 2008a).</u>
	S 4.8-1a	No significant commercial or industrial facilities are ... planned for the area, <u>Neither this statement nor a similar statement appears in the FEIS Section 4.8. However, see key input 4.5-4 for a similar statement.</u>
	S 4.8-7	The public would not be close to the construction site. The nearest accessible area is greater than 0.8 km (0.5 mi) from the construction site for the VEGP Units 3 and 4 <u>FEIS is identical</u>
	S 4.8-8	The nearest residence is approximately 1.6 km (1 mi) from the construction site. <u>FEIS is identical</u>
	S 4.8-12	For the years 2003-2005 the overall injury-only rate for utility system construction ranged from 5.4 to 6.7 percent for similar projects with 1000 or more workers. <u>FEIS says:</u> <u>(e.g., for the years 2003 to 2005 the overall injury-only rate for utility system construction ranged from 5.4 to 6.7 percent compared to 2.0 to 3.0 percent for similar projects with 1000 or more workers</u>

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 4.8 Nonradiological Health Impacts**

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	Input Number	Key Input or Assumption
	S 4.8-13	<p>The average construction workforce for the proposed VEGP Units 3 and 4 would be 3152 during an 84-month period.</p> <p><u>FEIS is identical</u></p>
	S 4.8-16	<p>... annual number of total recordable cases (154 to 271) that might be expected to occur during construction of proposed VEGP Units 3 and 4.</p> <p><u>FEIS is identical</u></p>
	S 4.8-22	<p>Federal regulations governing construction noise are found in 29 CFR Part 1910 and 40 CFR Part 204.</p> <p><u>FEIS is identical</u></p>
	S 4.8-23	<p>Neither the State of Georgia nor Burke County have specific noise regulations.</p> <p><u>FEIS is identical</u></p>

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 4.8 Nonradiological Health Impacts**

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EIS Section	Input Number	Key Input or Assumption
	S 4.8-24	... activities associated with construction of a new unit at the VEGP site would have peak noise levels in the 100 to 110 dBA range. <u>FEIS is identical</u>
	S 4.8-27	The exclusion area boundary of the VEGP site would be greater than 0.8 km (0.5 mi) from construction activities for new units. <u>FEIS is identical</u>
	S 4.8-29	There are no major roads, public buildings, or residences within the exclusion area. <u>FEIS is identical</u>
	<u>S 4.8-29a</u>	<u>Construction activities would be expected to take place 24 hours per day, 7 days per week.</u>
	S 4.8-33	Constructing a new 1000-MW(e) unit requires up to 150,000 m ³ (200,000 yd ³) of concrete and 14,000 MT (15,000 tons) of structural steel. <u>FEIS says:</u> <u>Construction material requirements are based on information taken from the ER (Southern 2008a) and a previous ESP applicant's ER (Dominion 2006). Dominion (2006) stated that constructing a new 1000-MW(e) unit requires up to 150,000 m³ (200,000 yd³) of concrete and 14,000 MT (15,000 tons) of structural steel. These quantities would be doubled to account for a two-unit plant.</u>
	S4.8-34	1.98 million m (6.5 million lineal ft) of cable for a single unit and up to 83,800 lineal m (275,000 lineal ft) of piping greater than 5 cm. (2.5 in.) in diameter per unit would be required. <u>FEIS is identical</u>

VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 4.8 Nonradiological Health Impacts

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EIS Section	Input Number	Key Input or Assumption
	S4.8-35	It was assumed that shipment capacities are 10 m ³ (~13 yd ³) of concrete per shipment, 10 MT (11 tons) of structural steel, and 300 lineal m (1000 lineal ft) of piping and cable per shipment. <u>FEIS is identical</u>
	S4.8-36	The number of construction workers was estimated at 4400 (peak) in the ER. This value represents the peak workforce for construction of two units simultaneously. <u>FEIS says:</u> <u>The number of construction workers was estimated to peak at 3500 (Southern 2008a).</u> <u>This value represents the peak workforce for construction of two units simultaneously.</u>
	S4.8-37	A 6.5-year construction period for each unit was assumed in the ER. <u>FEIS is identical</u>
	S4.8-38	Average shipping distances for construction materials were assumed to be 80 km (50 mi) one way. <u>FEIS is identical</u>
	S4.8-39	The average commute distance for construction workers was assumed to be 32 km (20 mi) one way. <u>FEIS is identical</u>
	<u>S4.8-39a</u>	<u>FEIS says:</u> <u>Accident, injury, and fatality rates for construction materials were taken from Table 4 in ANL/ESD/TM-1 50 State-level Accident Rates for Surface Freight Transportation: A Reexamination (Saricks and Tompkins 1999).</u>
	<u>S4.8-39b</u>	<u>FEIS says:</u> <u>...a source was located that provided a Georgia- specific fatality rate for all traffic for the years 2001 to 2006 (DOT 2008).</u>
	<u>S4.8-39c</u>	<u>FEIS says:</u> <u>Adjustment factors were developed using national-level traffic accident statistics in National Transportation Statistics 2007 (DOT 2007).</u>

VEGP FEIS

KEY INPUTS OR ASSUMPTIONS

Section 4.8 Nonradiological Health Impacts

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**VEGPFEIS
KEY INPUTS OR ASSUMPTIONS
Section 4.9 Radiological Health Impacts**

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EIS Section	Input Number	Key Input or Assumption
4.9	S 4.9-2	All major construction activities are expected to occur outside the VEGP site protected area boundary, but inside the restricted area boundary. <u>FEIS is identical</u>
	S 4.9-3	Two sources of direct radiation exposure from the VEGP site: (1) the current reactor buildings for VEGP Units 1 and 2, and (2) the planned Independent Spent Fuel Storage Installation (ISFSI) <u>FEIS is identical</u>
	S 4.9-4	VEGP Unit 3 as a source of direct radiation exposure to proposed VEGP Unit 4 construction workers <u>FEIS is identical</u>
	S 4.9-5	The planned ISFSI is identified as a source of direct radiation exposure only to proposed VEGP Unit 3 construction workers. <u>FEIS is identical</u>
	S 4.9-7	Sixteen fenceline TLDs are located along the protected area fence. <u>FEIS is identical</u>
	S 4.9-8	Environmental TLDs are located in two rings around the VEGP site, an inner ring near the site boundary, and an outer ring about 8 km (5 mi) from the plant. <u>FEIS is identical</u>
	S 4.9-9	All these TLDs are read quarterly and measure the contribution to dose from any source, either

**VEGPFEIS
KEY INPUTS OR ASSUMPTIONS
Section 4.9 Radiological Health Impacts**

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EIS Section	Input Number	Key Input or Assumption
		<p>natural or anthropogenic including the current reactor buildings and planned ISFSI.</p> <p><u>The FEIS says: Environmental TLDs are read quarterly and fenceline TLDs are read semiannually and measure the contribution to dose from any source, either natural or anthropogenic, including the current reactor buildings and planned ISFSI.</u></p>
	S 4.9-10	<p>The average annual reading of the environmental TLDs was 0.49 mSv (49 mrem)</p> <p><u>FEIS is identical</u></p>
	S 4.9-12	<p>Southern estimated direct radiation exposure to construction workers by using protected area fenceline TLD measurements (Southern 2007a). The average annual readings for the six fenceline TLDs nearest the proposed construction site was 1.159 mSv (115.9 mrem) with a 95 percent plant capacity factor, which scales to 1.217 mSv (121.7 mrem) assuming a 100 percent plant capacity factor (Southern 2007b). Subtracting the average annual result for the environmental TLDs yields 0.727 mSv (72.7 mrem), the annual dose contribution to VEGP Unit 3 and 4 construction workers attributable to operating VEGP Units 1 and 2. Southern Unit 3 and 4 construction workers attributable to operating VEGP Units 1 and 2. Southern (2007a) estimated the direct radiation to construction workers from the planned ISFSI to be 0.15 mSv (15 mrem) per year for the VEGP Unit 3 construction workforce and negligible for the VEGP Unit 4 workforce. This corresponds to an annual dose rate to the VEGP Unit 3 construction workforce of 0.877 mSv (87.7 mrem) per year. Southern (2007b) also estimated that, in addition to the 0.727 mSv (72.7 mrem) per year contribution from VEGP Units 1 and 2, that VEGP Unit 4 construction workers would receive an additional 0.364 mSv (36.4 mrem) from operation of VEGP Unit 3. This corresponds to an annual dose rate to the VEGP Unit 4 construction workforce of 1.091 mSv (109.1 mrem). This corresponds to a dose rate of about 0.125 pSv/hr (12.5 prem/hr). A construction worker present for 2080 hours per year in a dose rate field of about 0.125 pSv/hr (12.5 prem/hr) would receive an annual dose of 0.260 mSv (26.0 mrem).</p> <p><u>The FEIS says:</u></p>

**VEGPFEIS
KEY INPUTS OR ASSUMPTIONS
Section 4.9 Radiological Health Impacts**

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EIS Section	Input Number	Key Input or Assumption
		<p><u>Southern estimated direct radiation exposure to construction workers by using protected area fenceline TLD measurements (Southern 2008a). The average annual readings for the six fenceline TLDs nearest the proposed construction site was 1.159 mSv (115.9 mrem) with a 95 percent plant capacity factor. Subtracting the average annual result for the environmental TLDs and scaling up to assume a 100 percent plant capacity factor yields 0.704 mSv (70.4 mrem), the annual dose at the VEGP Unit 3 and 4 construction site attributable to operating VEGP Units 1 and 2. Southern (2008a) estimated the annual direct radiation contribution at the construction site from the planned ISFSI to be 0.15 mSv (15 mrem), applicable for the VEGP Unit 3 construction workforce and negligible for the VEGP Unit 4 workforce. This corresponds to an annual dose rate at the VEGP Unit 3 construction site of 0.854 mSv (85.4 mrem) per year. Southern (2007a) also estimated that, in addition to the 0.704 mSv (70.4 mrem) per year contribution from VEGP Units 1 and 2, that VEGP Unit 4 construction site would receive an additional 0.352 mSv (35.2 mrem) from operation of VEGP Unit 3. This corresponds to an annual dose rate at the VEGP Unit 4 construction site of 1.056 mSv (105.6 mrem). This higher dose rate (i.e., 105.61 mrem) corresponds to a dose rate of about 0.121 μSv/hr (12.1 μrem/hr) would receive an annual dose of 0.251 mSv (25.1 mrem).</u></p>

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Section 4.9 Radiological Health Impacts**

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EIS Section	Input Number	Key Input or Assumption
	S 4.9-13	The VEGP site releases gaseous effluents via the common station heating, ventilating, and air conditioning stack; the condenser air injector; the steam packing exhaust system; the Radwaste

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EIS Section	Input Number	Key Input or Assumption
		<p>Processing Facility; and the Dry Active Waste Building.</p> <p><u>FEIS is identical</u></p>
	S 4.9-14	<p>Releases from the waste gas decay tanks are through the VEGP Units 1 and 2 plant vents.</p> <p><u>The FEIS says:</u> <u>Releases from the waste gas decay tanks are through the VEGP Unit 1 plant vent, and containment purges are released through the VEGP Unit 1 and 2 plant vents.</u></p>
	S 4.9-15	<p>Southern estimated construction worker dose from gaseous effluents using release data for the year 2002, which resulted in the highest public exposure for the period from 2001 to 2004 (Southern 2007a). The annual total effective dose equivalent to a construction worker from gaseous effluents was 0.0116 mSv (1.16 mrem) (based on an occupancy of 2000 hr/yr) (Southern 2007a). Adjusting this dose for the expected occupancy of a construction worker (i.e., 2080 hours per year), the annual dose from gaseous effluent releases becomes 0.0121 mSv (1.21 mrem).</p> <p><u>The FEIS says:</u> <u>Southern estimated construction worker dose from gaseous effluents using release data for the year 2002, which resulted in the highest public exposure for the period from 2001 to 2004 (Southern 2008a). The annual total effective dose equivalent to a construction worker from gaseous effluents was 0.0116 mSv (1.16 mrem) (based on an occupancy of 2000 hr/yr) (Southern 2008a). Adjusting this dose for the expected occupancy of a construction worker (i.e., 2080 hours per year), the annual dose from gaseous effluent releases becomes 0.0121 mSv (1.21 mrem).</u></p>

**VEGPFEIS
KEY INPUTS OR ASSUMPTIONS
Section 4.9 Radiological Health Impacts**

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EIS Section	Input Number	Key Input or Assumption
	S 4.9-17	<p>Southern estimated the annual dose to a construction worker from liquid effluents to be 0.00034 mSv (0.034 mrem) (Southern 2007a). This estimate was based on an occupancy of 2000 hr/yr and assumed that construction workers would consume locally caught fish and drink surface water. Adjusting this dose for the expected occupancy of a construction worker (i.e., 2080 hr/yr) and assuming a 100 percent plant capacity factor yields an annual dose of 0.00037 mSv (0.037 mrem) per year. Using liquid effluents release data for the year 2001 (Southern 2002) resulted in the highest public exposure for the period from 2001 to 2004.</p> <p><u>The FEIS says:</u> <u>Southern estimated the annual dose to a construction worker from liquid effluents to be 0.00034 mSv (0.034 mrem) (Southern 2008a). This estimate was based on an occupancy of 2000 hr/yr and assumed that construction workers would consume locally caught fish and drink surface water. Adjusting this dose for the expected occupancy of a construction worker (i.e., 2080 hr/yr) and assuming a 100 percent plant capacity factor yields an annual dose of 0.00037 mSv (0.037 mrem) per year. Using liquid effluents release data for the year 2001 (Southern 2002) resulted in the highest public exposure for the period from 2001 to 2004.</u></p>

**VEGPFEIS
KEY INPUTS OR ASSUMPTIONS
Section 4.9 Radiological Health Impacts**

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EIS Section	Input Number	Key Input or Assumption
	S 4.9-19	<p>Estimated an annual dose to a site-preparation worker of 0.229 mSv (22.9 mrem) from the direct radiation pathway assuming an occupancy of 2000 hr/yr and a 95 percent plant capacity factor. Doses from liquid and gaseous effluent releases are negligible compared to the dose from direct radiation. The annual dose estimate for the site-preparation workers, based on an occupancy of 2000 hr/yr, would be approximately 0.241 mSv (24.1 mrem) (Southern 2007a). Adjusting this dose for the expected occupancy of a construction worker (i.e., 2080 hr/yr) and assuming a 100 percent plant capacity factor yields an annual dose of 0.263 mSv (26.3 mrem).</p> <p><u>The FEIS says:</u> <u>Estimated an annual dose to a site-preparation worker of 0.229 mSv (22.9 mrem) from the direct radiation pathway assuming an occupancy of 2000 hr/yr and a 95 percent plant capacity factor. Doses from liquid and gaseous effluent releases add an additional 0.0119 mSv (1.19 mrem) per year. The total annual dose estimate for the site-preparation workers, based on an occupancy of 2000 hr/yr, would be approximately 0.241 mSv (24.1 mrem) (Southern 2008a). Adjusting this dose for the expected occupancy of a construction worker (i.e., 2080 hr/yr) and assuming a 100 percent plant capacity factor yields an annual dose of 0.263 mSv (26.3 mrem).</u></p>

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Section 4.9 Radiological Health Impacts

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EIS Section	Input Number	Key Input or Assumption
	S 4.9-20	The proposed location of VEGP Units 3 and 4 does not change. <u>FEIS is identical</u>

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS**

Section 4.10 Measures and Controls to Limit Adverse Impacts During Site-Preparation Activities and Construction (Land Use)

Key Input numbers are not sequential because some input statements marked in the DEIS were ascertained by SMEs not to be key to the conclusions of the NRC and therefore were dropped from this table. Underlined text is new since evaluation based on DEIS.

EIS Section	Input Number	Key Input or Assumption
4.10, Land-Use	S4.10-1	Conduct ground-disturbing activities in accordance with regulatory and permit requirements. <u>FEIS is identical</u>
	S4.10-2	Use adequate erosion controls and stabilization measures to minimize impacts. <u>FEIS is identical</u>
	S4.10-3	Limit vegetation removal to the area within the site designated for construction activities. <u>FEIS is identical</u>
	S4.10-4	Minimize potential impacts to wetlands through avoidance and compliance with applicable permitting requirements. <u>FEIS is identical</u>
	S4.10-5	Restrict soil stockpiling and reuse to designated areas on the site. <u>FEIS is identical</u>
	S4.10-6	Restrict construction activities to the VEGP site. <u>FEIS is identical</u>
	S4.10-7	Site new right-of-way to avoid critical or sensitive habitats/species as much as possible. <u>FEIS is identical</u>
	S4.10-8	Restrict sites of access of construction equipment to the right-of-way.

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS**

Section 4.10 Measures and Controls to Limit Adverse Impacts During Site-Preparation Activities and Construction (Land Use)

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EIS Section	Input Number	Key Input or Assumption
		<u>FEIS is identical</u>
	S4.10-9	Minimize potential impacts through avoidance and compliance with permitting requirements and BMPs. <u>FEIS is identical</u>
Air Quality	S4.10-10	Use dust-control measures (such as watering, stabilizing disturbed areas, covering trucks). <u>FEIS says:</u> <u>Develop a dust mitigation plan prior to the start of construction to minimize fugitive dust emissions from plant construction.</u>
	<u>S4.10-11</u>	<u>FEIS says:</u> <u>Develop a traffic management plan prior to the start of construction to mitigate vehicular emissions associated with plant construction.</u>
Historic and Cultural	S4.10-12	Follow established Southern procedures to stop work if a potential historic or cultural or paleontological resource is discovered. <u>FEIS is identical</u>
	S4.10-13	Follow established Southern procedure to contact appropriate regulatory agencies if a potential historic or cultural or paleontological resource is discovered. <u>FEIS is identical</u>
4.10 Water-related impacts	S4.10-14	* Adhere to applicable regulations and permits. * Install drainage controls to direct dewatering runoff. * Wells in area are in deep aquifer that should not be affected by construction.

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS**

Section 4.10 Measures and Controls to Limit Adverse Impacts During Site-Preparation Activities and Construction (Land Use)

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EIS Section	Input Number	Key Input or Assumption
		<u>FEIS is identical</u>
	<u>S4.10-15</u>	<u>Water-use - Southern did not propose any additional measures or controls.</u>
	S4.10-16	*Install cofferdams in Savannah River. * Install storm water drainage system at construction sites and stabilize disturbed soils. * Use BMP to minimize erosion and sedimentation. * Use good construction practices to maintain equipment, and prevent spills and leaks. * Invoke Southern's existing Spill Prevention Control and Countermeasure Plan (SPCC) for construction activities <u>FEIS is identical</u>
4.10 Ecology	S4.10-17	Terrestrial Ecology - Southern did not propose any additional measures or controls. <u>FEIS is identical</u>
4.10	S4.10-20	Develop and implement a construction Stormwater Pollution Prevention Plan (SWPPP). <u>FEIS is identical</u>
	S4.10-21	Invoke the existing Southern SPCC plan for construction activities. <u>FEIS is identical</u>
	S4.10-22	Implement erosion and sediment control plans that incorporates recognized BMP. <u>FEIS is identical</u>
	S4.10-23	Install appropriate barriers in river prior to construction.

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KEY INPUTS OR ASSUMPTIONS**

Section 4.10 Measures and Controls to Limit Adverse Impacts During Site-Preparation Activities and Construction (Land Use)

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EIS Section	Input Number	Key Input or Assumption
		<u>FEIS is identical</u>
Socio-economic	<u>S4.10-24</u>	FEIS says: <u>Train and appropriately protect Southern employees and construction workers to reduce the risk of potential exposure to noise, dust, and exhaust emissions.</u>
	<u>S4.10-25</u>	FEIS says: <u>Provide onsite services for emergency first aid, and conduct regular health and safety monitoring.</u>
	<u>S4.10-25a</u>	FEIS says: <u>Provide appropriate job training to construction workers.</u>
	<u>S4.10-26</u>	FEIS says: <u>Make public announcements or prior notification of atypically loud construction activities.</u>
	<u>S4.10-27</u>	FEIS says: <u>Use dust-control measures (such as watering, stabilizing disturbed areas, covering trucks).</u>
	<u>S4.10-28</u>	FEIS says: <u>Manage concerns from adjacent residents or visitors on a case-by-case basis through a Southern Concerns Resolution Program.</u>
	<u>S4.10-29</u>	FEIS says: <u>Post signs near construction entrances and exits to make the public aware of potentially high construction traffic areas.</u>

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS**

Section 4.10 Measures and Controls to Limit Adverse Impacts During Site-Preparation Activities and Construction (Land Use)

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EIS Section	Input Number	Key Input or Assumption
4.10	S4.10-30	Develop traffic control mitigation plan. <u>FEIS is identical</u>
4.10	S4.10-31	Stagger shifts, encourage car or van pooling; time deliveries to avoid shift change or commute times. <u>FEIS is identical</u>
	<u>S4.10-32</u>	<u>FEIS says:</u> <u>Erect signs alerting drivers of the construction and the potential for increased construction traffic.</u>
	<u>S4.10-33</u>	<u>FEIS says:</u> <u>Mitigation of any housing shortage would be through new construction in anticipation of arrival of construction workforce.</u>
	<u>S4.10-34</u>	<u>FEIS says:</u> <u>Increased tax revenues as a result of the large construction project would fund additional community services.</u>
EJ	S4.10-35	Southern did not propose any additional measures or controls beyond those listed above <u>FEIS is identical</u>

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS**

Section 4.10 Measures and Controls to Limit Adverse Impacts During Site-Preparation Activities and Construction (Land Use)

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EIS Section	Input Number	Key Input or Assumption
4.10	S4.10-36 Radio- logical Health	Southern did not propose any additional measures or controls. <u>FEIS is identical</u>
4.10	S4.10-37 Nonradio- logical Health	_Provide job-training and implement procedures to ensure a safe working environment. Provide first-aid capabilities at the construction site. <u>FEIS is identical</u>

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 4.12 Summary of Construction Impacts**

Key Input numbers are not sequential because some input statements marked in the DEIS were ascertained by SMEs not to be key to the conclusions of the NRC and therefore were dropped from this table. Underlined text is new since evaluation based on DEIS.

EIS Section	Input Number	Key Input or Assumption
4.12	4.12-1	<u>Construction activities would take place within existing site boundaries.</u>
	4.12-2	<u>New right-of-way would be developed.</u>
	4.12-3	<u>Construction activities would be conducted in accordance with applicable State requirements. Dust emissions would be minimized through a dust-control plan.</u>
	4.12-4	<u>A traffic management plan will be developed to mitigate vehicular emissions associated with construction. Air quality would not be degraded sufficiently to be noticeable beyond the immediate vicinity.</u>
	4.12-5	<u>Impacts localized and temporary. CWA Section 401 and other permit processes would be adequate to ensure impacts would be SMALL.</u>
	4.12-6	<u>Dewatering may cause localized temporary declines in the water table.</u>
	4.12-7	<u>Construction would be conducted using BMP's to control spills and stormwater runoff.</u>
	4.12-8	<u>Construction activities would have minimal impact to terrestrial ecological resources and habitat in the vicinity of the VEGP site.</u>
	4.12-9	<u>Impact would depend on specific routing of transmission line right-of-way</u>
	4.12-10	<u>Construction activities would have minimal impact to aquatic ecological resources and habitat.</u>
	4.12-11	<u>Construction impacts to Federally listed species are expected to be negligible.</u>
	4.12-12	<u>Impact would depend on specific routing of transmission line right-of-way.</u>
	4.12-13	<u>Construction would take place within existing site boundaries, so impact on the public would be minimal. Impact on workers would be mitigated with training and protective equipment.</u>
	4.12-14	<u>Construction would not affect any offsite buildings, and onsite buildings were constructed to</u>

VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 4.12 Summary of Construction Impacts

Key Input numbers are not sequential because some input statements marked in the DEIS were ascertained by SMEs not to be key to the conclusions of the NRC and therefore were dropped from this table. Underlined text is new since evaluation based on DEIS.

EIS Section	Input Number	Key Input or Assumption
		<u>withstand vibration from construction activities.</u>
	<u>4.12-15</u>	<u>Growth would put pressure on local road systems, but traffic control and management measures would protect any local roads during construction.</u>
	<u>4.12-16</u>	<u>Construction activities would be temporary and would occur on a site already occupied by a nuclear power facility, resulting in SMALL onsite aesthetic impacts. Construction of the new transmission line will likely result in MODERATE impacts.</u>
	<u>4.12-17</u>	<u>Percentage of construction workers relocating to the region likely would be SMALL relative to the existing population base except in Burke County where the impact could be MODERATE.</u>
	<u>4.12-18</u>	<u>Economic impact of construction overall would be beneficial to local economies. In Burke County beneficial impacts would likely be MODERATE while impacts elsewhere would be SMALL.</u>
	<u>4.12-19</u>	<u>Degree of impact depends on the distribution of tax revenues to county or state; generally impact is beneficial especially for property taxes. Under current tax laws, the beneficial impact of additional taxes would be MODERATE in Burke County.</u>
	<u>4.12-20</u>	<u>Traffic impacts on River Road could be MODERATE during peak construction period and during outage periods for Units 1 and 2; however if properly planned and managed, impacts could be reduced with specified mitigation measures to deal with temporary construction impacts.</u>
	<u>4.12-21</u>	<u>Visual impact of construction would be limited to those boating on the Savannah River. Congestion during peak construction could interfere with hunting and fishing in area.</u>
	<u>4.12-22</u>	<u>Adequate housing is available in the greater Augusta area to handle construction workers. If workers concentrate in Burke County, the impact could be moderate.</u>
	<u>4.12-23</u>	<u>Public services are adequate for any temporary influx of workers resulting from construction at the VEGP site.</u>

VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 4.12 Summary of Construction Impacts

Key Input numbers are not sequential because some input statements marked in the DEIS were ascertained by SMEs not to be key to the conclusions of the NRC and therefore were dropped from this table. Underlined text is new since evaluation based on DEIS.

EIS Section	Input Number	Key Input or Assumption
	<u>4.12-24</u>	<u>Excess capacity in Burke County School District ensures adequate infrastructure exists to support the temporary influx of workers.</u>
	<u>4.12-25</u>	<u>Adverse effects were expected at one site (9BK416) and Southern worked with Georgia SHPO to address these impacts and to effect protective measures for another site (9BK423). Southern has committed to develop procedures to manage cultural resources in the event of an inadvertent discovery.</u>
	<u>4.12-26</u>	<u>Physical impacts would be SMALL. Economic impacts would likely be beneficial.</u>
	<u>4.12-27</u>	<u>Emission controls and remote location of the VEGP site would keep nonradiological health impacts small. Adherence to Federal and State Regulations assumed to protect occupational workers.</u>
	<u>4.12-28</u>	<u>Exposures would be below NRC annual occupational and public dose limits</u>

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS**

Section 5.1 Land-Use Impacts

Key Input numbers are not sequential because some input statements marked in the DEIS were ascertained by SMEs not to be key to the conclusions of the NRC and therefore were dropped from this table. Underlined text is new since evaluation based on DEIS.

EIS Section	Input Number	Key Input or Assumption
5.1	S5.1-1	all Georgia counties surrounding the VEGP site have comprehensive land use plans in place <u>FEIS is identical</u>
	<u>S5.1-1a</u>	<u>FEIS says:</u> <u>The maximum estimated cumulative deposition rate is below 8.9 lbs/ac/mo.</u>
	S5.1-2	Georgia Power Company (GPC) provides easements to allow agricultural activities under its transmission lines. <u>FEIS is identical</u>

VEGP FEIS

KEY INPUTS OR ASSUMPTIONS

Section 5.2 Meteorological and Air-Quality Impacts

Key Input numbers are not sequential because some input statements marked in the DEIS were ascertained by SMEs not to be key to the conclusions of the NRC and therefore were dropped from this table. Underlined text is new since evaluation based on DEIS.

EIS Section	Input Number	Key Input or Assumption
5.2.1	S5.2-1	<p>Select engineering data for the Westinghouse AP1000 reactor design and one year of onsite meteorological data from 1999 were used as input to the SACTI model.</p> <p><u>FEIS says:</u> <u>Select engineering data for Revision 15 of the Westinghouse AP1000 DCD (Westinghouse 2005) and 1 year onsite meteorological data from 1999 were used as input to the SACTI model.</u></p>
	<u>5.2-1a</u>	<p><u>FEIS says:</u> <u>The following statement was not found in the DEIS: "Results from the analysis are presented in the ER (Southern 2008a) and are summarized below. NRC staff reviewed the input and output files used in the SACTI analysis and concurs with the results. Southern has since updated the original analysis using Revision 16 of the Westinghouse AP1000 DCD (Westinghouse 2007), which includes revised evaporation and drift rates that are about 4 percent higher than previously analyzed (Southern 2008b). Because the impact level for the Revision 15 values the staff analyzed for was not near a known impact level, the NRC staff does not expect that the 4 percent increase in drift or evaporation rates will appreciably affect results from the SACTI analysis or conclusions."</u></p>
	<u>5.2-1b</u>	<p><u>FEIS says:</u> <u>The cooling system for the proposed Units 3 and 4 at the VEGP site is a natural draft cooling tower. A total of two cooling towers would be constructed-one for each new nuclear unit.</u></p>
5.2.1	S5.2-2	<p>Cooling towers were simulated using a height of 180 m (600 ft)</p> <p><u>This statement was not found in the FEIS</u></p>
5.2.1	S5.2-3	<p>On average the longest plume lengths would occur during the winter and the shortest plume lengths would occur during the summer.</p>

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS**

Section 5.2 Meteorological and Air-Quality Impacts

Key Input numbers are not sequential because some input statements marked in the DEIS were ascertained by SMEs not to be key to the conclusions of the NRC and therefore were dropped from this table. Underlined text is new since evaluation based on DEIS.

EIS Section	Input Number	Key Input or Assumption
		<u>FEIS is identical</u>
5.2.1	S5.2-4	For both seasons, the predominant plume direction is to the north, followed by northeast during the winter and north-northeast during the summer. <u>FEIS is identical</u>
5.2.1	S5.2-5	The longest plume length is 9.7 km (6.0 mi), with a frequency of 3.9 percent in the winter and 0.5 percent in the summer. <u>FEIS is identical</u>
5.2.1	S5.2-6	Ground-level fogging or icing is likely to be infrequent because of the height of the cooling towers. <u>FEIS is identical</u>
5.2.1	S5.2-7	Deposition of salts from cooling tower drift would occur in all directions from the towers. <u>FEIS is identical</u>
5.2.1	S5.2-8	The maximum estimated solids deposition rate for each tower is 4.0 kg/ha/mon (3.6 lb/ac/mon) and occurs 488 m (1600 ft) north of the towers. <u>FEIS says: The maximum estimated solids deposition rate for each tower is 4.0 kg/ha/mon (3.6 lb/ac/mon) and occurs 490 m (1600 ft) north of the towers.</u>

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS**

Section 5.2 Meteorological and Air-Quality Impacts

Key Input numbers are not sequential because some input statements marked in the DEIS were ascertained by SMEs not to be key to the conclusions of the NRC and therefore were dropped from this table. Underlined text is new since evaluation based on DEIS.

EIS Section	Input Number	Key Input or Assumption
5.2.1	S5.2-9	Existing cooling towers for VEGP Units 1 and 2 are located approximately 1219 m (4000 ft) to the east-northeast of the proposed cooling towers for the proposed VEGP Units 3 and 4 <u>FEIS is identical</u>
5.2.1	S5.2-11	Diesel generators and boilers currently operate at VEGP for limited periods; generators and boilers that would be associated with the proposed VEGP Units 3 and 4 would similarly operate for limited periods. <u>FEIS is identical</u>
5.2.2	S5.2-12	Additional standby diesel generators and auxiliary power systems would be used would be used on an infrequent basis. <u>FEIS is identical</u>
5.2.2	S5.2-13	Pollutants discharged would be permitted in accordance with the Georgia Department of Natural Resources (GDNR) and Federal regulatory requirements. <u>FEIS is identical</u>
5.2.3	S5.2-14	One new 500-kV transmission line would be constructed to accommodate the new power generating capacity. <u>FEIS is identical</u>

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 5.3 Water-Related Impacts**

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EIS Section	Input Number	Key Input or Assumption
5.3	S5.3-1	Water-use and water-quality impacts involved with operation of a nuclear plant are similar to the impacts associated with any large thermoelectric power generation facility. <u>FEIS is identical</u>
	S5.3-2	Accordingly, Southern must obtain the same water-related permits and certifications as any other large industrial facility. <u>FEIS is identical</u>
5.3.1	S5.3-2a	Effluent discharge from the plant would be collected into a common sump before being discharged to the river. <u>FEIS is identical</u>
5.3.1 & 5.3.2	S5.3-3a, S5.3-3b	The maximum consumptive use of Savannah River water was reported by Southern in its ER to be 1824 L/s (28,904 gpm) (Southern 2007a). [S5.3-3b] The existing VEGP Units 1 and 2 are among the largest water users in the region. Likewise, the proposed Units 3 and 4 at the VEGP site would also become major users of surface water and groundwater. Most of the proposed water demands associated with operation of the

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EIS Section	Input Number	Key Input or Assumption
		<p>proposed VEGP Units 3 and 4 would be satisfied through the use of surface water originating from the Savannah River. <u>FEIS is identical</u></p>
	<u>S5.3-3aa</u>	<p><u>FEIS says:</u> <u>The normal and maximum Savannah River withdrawal is 2449 L/s (38,825 gpm) and 3858 L/s (61,145 gpm), respectively</u></p>
	<u>S5.3-3ab</u>	<p><u>FEIS says:</u> <u>The normal and maximum Savannah River effluent discharge would be 606 L/s (9608 gpm) and 2000 L/s (31,695 gpm), respectively</u></p>
5.3.2.1	S5.3-3c	<p>Following this period of drought, the Drought Contingency Plan was updated for the basin, and the releases from Thurmond Dam at each Drought Level are currently as follows (see Table 2-2 and USACE 2006; NRC 2007a, b): <u>FEIS says:</u> <u>Following this period of drought, modifications to the Drought Contingency Plan for the basin were proposed. The releases from Thurmond Dam at each Drought Level in the proposed</u></p>

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		<u>plan are currently as follows (see Table 2-2 and USACE 2006).</u>
	<u>S5.3-3d</u>	<u>FEIS says:</u> <u>The Corps is presently operating in a manner similar to the draft Drought Plan except that the Thurmond Dam discharge has been at 102 m³/s (3600 cfs) and not the 108 m³/s (3800 cfs) minimum currently prescribed in the draft plan</u>
	<u>S5.3-3e</u>	<u>FEIS says:</u> <u>Based on the draft plan, the Savannah River Basin is at Drought Level 2 and has never reached Drought Level 3 or 4.</u>
	<u>S5.3-3f</u>	<u>FEIS says:</u> <u>However, in recent consultation the Corps stated that without a reprieve in the drought, Drought Level 3 is likely during the summer of 2008. Additionally, the Corps is considering revising the minimum releases in the December to April period downward to 88 m³/s (3100 cfs).</u>
5.3.2.2	S5.3-4	The proposed VEGP Units 3 and 4 at the VEGP site would use groundwater to supply make-up water for the SWS, the fire protection system, the plant demineralized water system, the

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		<p>potable water supply, and other miscellaneous water uses.</p> <p><u>FEIS is identical</u></p>
	<u>S5.3-4a</u>	<p><u>FEIS says:</u> <u>Wells at the VEGP site are permitted currently by the State of Georgia Environmental Protection Division to withdraw an annual average rate of 20,800 m³/d (5.5 MGD, 3819 gpm) with a maximum monthly average of 22,700 m³/d (6 MGD, 4167 gpm).</u></p>
5.3.2.2	S5.3-5	<p>Three of the VEGP site's existing nine groundwater wells at the VEGP site are completed in the confined Cretaceous aquifer and are used now to supply make-up water for the operation of Units 1 and 2. The six additional wells are completed in the confined Tertiary aquifer and provide water for site-specific operations.</p> <p><u>FEIS is identical</u></p>
<u>5.3.2.2</u>	<u>S5.3-5a</u>	<p><u>FEIS says:</u> <u>Groundwater use under normal long-term demand for the operation or the proposed VEGP</u></p>

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EIS Section	Input Number	Key Input or Assumption
		<u>Units 3 and 4 is 47.4 L/s (752 gpm).</u>
<u>5.3.2.2</u>	<u>S5.3-5b</u>	<u>FEIS says: The normal operating groundwater demand for both existing and proposed units would be 93.5 L/s (1482 gpm) and the maximum operating groundwater demand would be 343.2 L/s (5440 gpm).</u>
5.3.2.2	S5.3-6	...the 47.4 L/s (752 gpm) average long-term groundwater demand represents 1.1 percent of the regional groundwater (i.e., Cretaceous aquifer) discharge to the Savannah River. The average long-term demand also represents recharge to the regional groundwater system from an area approximately half the size of the VEGP site based on the 1.9 in/yr recharge rate estimated by the USGS. <u>FEIS says: 47.4 L/s (1.08 MGD, 753 gpm) for normal operation and 198.1 L/s (4.52 MGD, 3140 gpm) for maximum operation demand (Southern 2008a). These groundwater rates compare to the deep aquifer baseflow estimates of 5210 to 9570 L/s (119 to 218.4 MGD)</u>
<u>5.3.2.2</u>	<u>S5.3-6a</u>	<u>DEIS says: These short-term drawdowns are also less than 1.8 m (6 ft) for single unit maximum demand.” FEIS states “These short-term drawdowns are also less than 2.1 m (7 ft) at the site boundary for single unit maximum demand.</u>
	<u>S5.3-7</u>	<u>FEIS says: Following publication of the draft EIS, Southern advised NRC staff (Southern 2007) that, based on changes between Revision 15 and Revision 16 of the AP1000 DCD, the maximum</u>

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EIS Section	Input Number	Key Input or Assumption
		<u>groundwater demand for Vogtle Units 3 and 4 would be expected to decrease by about 11 percent.</u>
	<u>S5.3-8</u>	<u>FEIS says: Southern states in its ER that the discharge outfall would enter the Savannah River 123.1 m (404 ft) downstream from the existing outfall (Southern 2008a) and on the same (Georgia) bank of the river (See Figure 5-1).</u>
	<u>S5.3-9</u>	<u>FEIS says: The effluent from the proposed outfall would enter the river from a single submerged port angled 70 degrees from the shoreline (pointing toward the center of the channel and slightly downstream) (See Figures 3-6 and 3-7).</u>
	<u>S5.3-10</u>	<u>FEIS says: At the location of the discharge outfall, the Savannah River would be approximately 95.1 m (312 ft) wide with an average depth of 2.50 m (8.2 ft) and have a cross-sectional average velocity of 0.457 m/s (1.50 ft/s). The local water depth near the outfall, which is located near the deepest point in the cross-section, is 3.05 m (10.0 ft).</u>
	<u>S5.3-11</u>	<u>FEIS says: Southern states in its ER that at the outfall terminus, the discharge pipe would be 0.6 m (2 ft) in diameter (Southern 2008a), resulting in an effluent velocity of 6.64 m/s (21.8 ft/s) at the maximum design discharge of 1941 L/s (68.5 cfs, 30,761 gpm) from VEGP Units 3 and 4.</u>

**VEGP FEIS
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Section 5.4.1 Ecological Impacts**

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EIS Section	Input Number	Key Input or Assumption
5.4.1	S5.4.1-1	<p>The proposed cooling system for the proposed VEGP Units 3 and 4 at the VEGP site is a closed-cycle system that would employ natural draft cooling towers.</p> <p><u>FEIS is identical</u></p>
	S5.4.1-2	<p>Southern estimates that one additional 500-kV transmission line would be required to distribute the additional generation from proposed VEGP Units 3 and 4</p> <p><u>FEIS is identical</u></p>
	S5.4.1-3	<p>The proposed new transmission line right-of-way would likely connect the VEGP site with the Thomson-Vogtle substation west of Augusta.</p> <p><u>FEIS is identical</u></p>
5.4.1.1	S5.4.1-4	<p>The maximum drift rate reported by Southern is 1.5 L/s (24 gpm) when both towers are operating.</p> <p><u>FEIS is identical</u></p>
	S5.4.1-5	<p>Southern estimates a single cooling tower's plume to have a maximum deposition rate of 4.0 kg/ha/mo (3.6 lbs/ac/mo), and that maximum deposition would occur 490 m (1600 ft) from the tower.</p> <p><u>FEIS is identical</u></p>
	S5.4.1-6	<p>Therefore, the maximum estimated cumulative deposition rate is 8 kg/ha/mo (7.2 lbs/ac/mo) at 490 m (1600 ft) north of the towers (4.0 kg/ha/mo [3.6 lbs/ac/mo] per tower).</p>

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Section 5.4.1 Ecological Impacts**

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EIS Section	Input Number	Key Input or Assumption
		<u>FEIS is identical</u>
	<u>S5.4.1.1-6a</u>	<u>FEIS says:</u> <u>These estimates are based on a cooling tower characteristics described in the ER (Southern 2008a).</u>
	<u>S5.4.1.1-6b</u>	<u>FEIS says:</u> <u>Southern (2008b) has since updated the original analysis using Revision 16 of the Westinghouse AP1000 DCD (Westinghouse 2007), which includes an increase in drift and evaporation rates of about 4 percent, thus resulting in increases in the maximum salt deposition by about 0.3 kg/ha/mo (0.2 lbs/ac/mo) for each tower.</u>
	<u>S5.4.1.1-6c</u>	<u>FEIS says:</u> <u>The location of the maximum deposition rate is in the vicinity of the proposed Units 3 and 4 switchyard, more than 1.6 km (1 mi) from the northern site boundary.</u>
	<u>S5.4.1.1-6d</u>	<u>FEIS says:</u> <u>Since the maximum deposition for the proposed VEGP Units 3 and 4 is below the level which could cause visible leaf damage in many common species, even if the higher Revision 16 value is used the impacts would be negligible.</u>
	S5.4.1-8	Southern expects the longest vapor plume associated with the new towers would be 10 km (6 mi), but would only occur 3.9 percent of the time. <u>FEIS is identical</u>
	S5.4.1-9	Ground level fogging and icing....are not expected to occur at the new cooling towers associated with proposed VEGP Units 3 and 4. Therefore, impacts associated with fogging and icing would be negligible.

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EIS Section	Input Number	Key Input or Assumption
		<u>FEIS is identical</u>
5.4.1.2	S5.4.1-10	No formal bird collision surveys have been conducted at the VEGP site. <u>FEIS is identical</u>
	S5.4.1-11	No excessive bird-impact events have been reported onsite. <u>FEIS is identical</u>
5.4.1.3	S5.4.1-13	The noise levels from cooling tower operation and diesel generators are anticipated to be 55 decibels (dBA) at 300 m (1000 ft) <u>FEIS is identical</u>
	<u>S5.4.1-13d</u>	<u>Cooling tower noise does not change appreciably with time (steady state) and the estimated noise level at 300m is well below the 80-85-dBA SPL threshold at which birds and small mammals are startled or frightened (Golden et al. 1980).</u>
	<u>S5.4.1-13e</u>	<u>FEIS says: Using the startle criterion reported by Golden et al.(1980), the noise level expected to be generated by cooling tower and diesel generator operations would only approach startle levels in the immediate vicinity (within 5m for noise with approximately 60 dBA SPL at 300 m) of the tower or generator.</u>
5.4.1.4	S5.4.1-14	Based on NRC's own independent review (see Section 5.3.2.1), at the normal withdrawal rate of 2.35 m ³ /s (83 cfs, 37,224 gpm), proposed VEGP Units 3 and 4 would withdraw up to 2.2 percent of the total river flow at Drought Level 3. <u>FEIS is identical</u>
	S5.4.1-15	At the maximum withdrawal rate of 3.65 m ³ /s (129 cfs, 57,784 gpm), the Units 3 and 4 would withdraw between 1.4 and 3.4 percent of the total flow of the Savannah River as the river fluctuates between average and Drought Level 3.

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EIS Section	Input Number	Key Input or Assumption
		<u>FEIS is identical</u>
	S5.4.1-16	Using this relationship and the maximum withdrawal rate of 3.65 m ³ /s (129 cfs), the resulting decrease in river stage as a result of operating the proposed VEGP Units 3 and 4 is approximately 5 cm (2 in.) at Drought Level 3 and approximately 2.5 cm (1 in.) under average discharge conditions. <u>FEIS is identical</u>
	<u>S5.4.1-16b</u>	<u>FEIS says:</u> <u>The fractional maximum withdrawal rates at 85 m³/s (3000 cfs) and 57 m³/s (2000 cfs) are 4.3 percent and 6.5 percent respectively. At these flow levels and using the maximum withdrawal rate for both Units 3 and 4, the decrease in river stage would only be a matter of inches.</u>
	<u>S5.4.1-16c</u>	<u>FEIS says:</u> <u>Following publication of the draft EIS, Southern advised the NRC staff (Southern 2007f) that based on changes between Revision 15 and Revision 16 of the AP1000 DCD, the maximum surface water withdrawal for Vogtle Units 3 and 4 would increase by approximately 0.21 m³/s (7.5 cfs).</u>
	<u>S5.4.1-16d</u>	<u>FEIS says:</u> <u>The staff determined that this change would result in an increase in the consumptive loss to the river of 0.2 percent at 3800 cfs. Such a change would result in an insignificant reduction in river stage. Even assuming the lower river flow values of 85 m³/s (3000 cfs) and 57 m³/s (2000 cfs), the water consumption between Revision 15 and 16 would be from 4.3 percent (Rev 15) to 4.5 percent (Rev 16) for 85 m³/s (3000 cfs) and from 6.5 percent (Rev 15) to 6.8 percent (Rev 16) for 57 m³/s (2000 cfs).</u>
	<u>S5.4.1-16e</u>	<u>FEIS says:</u> <u>Even at river flow rates of 85 m³/s (3000 cfs) and 57 m³/s (2000 cfs), any impact to downstream shoreline habitat would result principally from the extremely low river flows, and not the additional consumptive water loss due to Units 3 and 4.</u>
5.4.1.5	S5.4.1-16a	GPC performs aerial inspections five times a year to support routine maintenance activities.

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 5.4.1 Ecological Impacts**

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EIS Section	Input Number	Key Input or Assumption
		<u>FEIS is identical</u>
	S5.4.1-17	Transmission line right-of-way maintenance was evaluated in the GEIS (NRC 1996), and the impact was found to be of small significance at operating nuclear power plants with associated transmission line rights-of-way of variable widths <u>FEIS is identical</u>
5.4.1.6	S5.4.1-18	Transmission line and right-of-way maintenance personnel have not reported dead birds from collisions or contact with the Unit 1 and 2 transmission lines <u>FEIS is identical</u>
	S5.4.1-19	The conclusion presented in the GEIS is that bird collisions with transmission lines are of small significance at operating nuclear power plants, including transmission line rights-of-way with variable numbers of transmission lines <u>FEIS is identical</u>
5.4.1.7	S5.4.1-20	...a careful review of biological and physical studies of EMFs did not reveal consistent evidence linking harmful effects with field exposures. <u>FEIS is identical</u>
	S5.4.1-21	These studies have found no evidence that EMFs cause any specific types of cancer in rats or mice. <u>FEIS is identical</u>
5.4.1.8	S5.4.1-22	The impacts [of transmission line ROW maintenance on floodplains and wetlands] were found to be of small significance at operating nuclear power plants, and these included transmission line rights-of-way of variable widths.

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Section 5.4.1 Ecological Impacts**

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EIS Section	Input Number	Key Input or Assumption
		<p><u>FEIS says:</u> <u>The impacts were found to be of small significance at operating nuclear power plants with transmission line rights-of-way of variable widths.</u></p>
5.4.1.9	S5.4.1-23	<p>The Georgia State-listed threatened bay star-vine (<i>Schisandra glabra</i>) is the only State-listed plant species known to occur on the VEGP site.</p> <p><u>FEIS is identical</u></p>
	S5.4.1-24	<p>No other Georgia or South Carolina State-listed plant or animal species are known to occur within 3.2 km (2 mi) of the VEGP site</p> <p><u>FEIS is identical</u></p>
	S5.4.1-25	<p>Three State-listed species have been documented by the GDNR as occurring within the RDC: the bald eagle (<i>Haliaeetus leucocephalus</i>), silky camellia (<i>Stewartia malacodendron</i>), and sandhill rosemary (<i>Ceratiola ericoides</i>)</p> <p><u>FEIS is identical</u></p>

VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 5.4.2 and 5.4.3 Aquatic Impacts

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EIS Section	Input Number	Key Input or Assumption
5.4.2.1	S5.4.2-1	<p>Southern has an extensive stormwater drainage system and retention ponds for the VEGP site and this system would be used to manage stormwater discharges prior to discharge to the Savannah River</p> <p><u>FEIS says:</u> <u>Southern has an extensive stormwater drainage system and retention ponds for the VEGP site and this system would be modified during construction of Units 3 and 4 to manage stormwater discharges prior to discharge to the Savannah River (Southern 2008a).</u></p>
	<u>S5.4.2-1a</u>	<p><u>FEIS says:</u> <u>As shown in Table 5-2, at a normal consumptive use rate for average conditions, the consumptive use of water by both Units 3 and 4 would result in a reduction of 0.7 percent of the river flow.</u></p>
	<u>S5.4.2-1b</u>	<p><u>FEIS says:</u> <u>At the maximum consumptive use rate, the two new units would consumptively use between 0.7 and 1.7 percent of the total flow of the Savannah River depending on the drought level (average conditions to drought level 3) in the Savannah River.</u></p>
5.4.2.2	S5.4.2-2	<p>Southern stated in its ER that a closed-cycle wet cooling tower system would be used for the proposed VEGP Units 3 and 4.</p> <p><u>FEIS says:</u> <u>First, Southern stated in its ER that a closed-cycle wet cooling tower system would be used for the proposed VEGP Units 3 and 4.</u></p>
5.4.2.2	S5.4.2-3	<p>The proposed cooling system would be similar to the one employed by VEGP Units 1 and 2</p> <p><u>FEIS is identical</u></p>
5.4.2.2	S5.4.2-6	<p>Southern has stated that the proposed Unit 3 and 4 intake structure would have a design through-screen velocity of less than 15 cm/sec (0.5 ft/sec) at a minimum river water level of 23.8 m (78 ft) above MSL</p> <p><u>FEIS is identical</u></p>
5.4.2.2	S5.4.2-8	<p>At a normal withdrawal rate of 2.35 m³/s (83 cfs), proposed VEGP Units 3 and 4 would</p>

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KEY INPUTS OR ASSUMPTIONS
Section 5.4.2 and 5.4.3 Aquatic Impacts**

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		<p>withdraw between 0.9 and 1.4 percent of the river flow during normal conditions. At the maximum withdrawal rate of 3.65 m³/s (129 cfs) the two new units would withdraw between 1.4 and 3.4 percent of the total flow of the Savannah River depending on the drought level in the Savannah River.</p> <p><u>FEIS says:</u> <u>At a normal withdrawal rate of 2.35 m³/s (83 cfs), proposed VEGP Units 3 and 4 would withdraw between 0.9 and 2.2 percent of the river flow during conditions ranging from average to drought level 3. At the maximum withdrawal rate of 3.65 m³/s (129 cfs) the two new units would withdraw between 1.5 and 3.4 percent of the total flow of the Savannah River depending on the drought level in the Savannah River</u></p>
5.4.2.2	S5.4.2-10	<p>This area of the Savannah River is not considered to have higher than normal productivity.</p> <p><u>FEIS says:</u> <u>As discussed in Section 2.7.2.1, larval densities are significantly greater in the oxbows of the river, indicating that these are areas of higher productivity, as opposed to the straighter stretches of the river, such as in the vicinity of the VEGP site, where the CWIS would be located.</u></p>
5.4.2.2	S5.4.2-11	<p>Southern has stated in its ER (Southern 2007a) that the intake canal would be built so that the river flow is almost perpendicular to the intake canal flow.</p> <p><u>FEIS is identical</u></p>
5.4.2.2	S5.4.2-12	<p>Southern has also stated that at the minimum river operating level (23.8 m [78 ft] above MSL) the flow velocity along the intake canal would be about 3 cm/s (0.1 fps), based on the site maximum make-up water demand of 57,784 gpm, 129 cfs</p> <p><u>FEIS is identical</u></p>
5.4.2.2	S5.4.2-13	<p>A canal weir extending upward from the bottom would be located approximately 15 m (50 ft) inside the canal', with a serrated weir- wall.</p> <p><u>FEIS says:</u> <u>A weir wall would extend upward approximately 0.3 m (1 ft) from the bottom of the intake canal near its entrance.</u></p>

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Section 5.4.2 and 5.4.3 Aquatic Impacts

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	<u>S5.4.2-13a</u>	<u>FEIS says:</u> <u>As indicated in Section 2.7.2.3, entrainment monitoring was initiated in March 2008 at the VEGP Units 1 and 2 CWIS to estimate the species composition and density of ichthyoplankton entrained by the cooling water withdrawals (Southern 2008d).</u>
	<u>S5.4.2-13b</u>	<u>FEIS says:</u> <u>Background river samples are being collected with plankton net tows upstream and beyond the influence of the intake in order to develop site specific background ichthyoplankton values for comparison. The results of this study will not be available until late 2008.</u>
5.4.2.2	S5.4.2-17	First, the volume of water withdrawn is greater at the DOE Savannah River Site, 11.2 m ³ /s (395 cfs) each for K-reactor and L-reactor intakes at full power (note; this equates to approximately 177,500 gpm per reactor) <u>FEIS says:</u> <u>First, the volume of water withdrawn is greater at the Savannah River Site, 11.2 m³/s (395 cfs) each for K-reactor and L-reactor intakes at full power (Paller 1992). This is about three times the anticipated water withdrawal rate of the proposed VEGP Units 3 and 4.</u>
	<u>S5.4.2-17a</u>	<u>FEIS says:</u> <u>Preliminary results based on 6 days of sampling of impingement monitoring program for VEGP Units 1 & 2 collected a total of 25 aquatic organisms, representing 15 species in 9 taxonomic families. The rate of impingement from this small sample is approximately 4 aquatic organisms per day for the combined operation of both units (Southern 2008c).</u>
5.4.2.2	S5.4.2-21	Southern staff indicated that the screen wash collection basket had been cleaned about 2-3 times each of the past two years and no fish were seen. <u>FEIS is identical</u>
5.4.2.2	S5.4.2-22	To date, no such report has been submitted for VEGP Units 1 and 2. <u>FEIS is identical</u>

VEGP FEIS
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Section 5.4.2 and 5.4.3 Aquatic Impacts

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5.4.2.3	S5.4.2-23	The effluent discharge from the proposed VEGP Units 3 and 4 would be directly into the Savannah River. <u>FEIS is identical</u>
5.4.2.3	S5.4.2-24	Assuming conservative river conditions (e.g., minimum river temperatures, maximum discharge temperatures), the maximum width of the curved isotherm is 4.6 m (15 ft). <u>FEIS says:</u> <u>Assuming conservative river conditions (e.g., minimum river temperatures, maximum discharge temperatures), the maximum width of the curved 2.8°C (50F) isotherm is 4.6 m (15 ft).</u>
5.4.2.3	S5.4.2-25	The maximum distance the 2.8 °C (5°F) above ambient isotherm was estimated to occur was 29.6 m (97 ft) downstream of the outfall pipe. <u>FEIS is identical</u>
5.4.2.3	S5.4.2-27	No invasive nuisance organisms other than Asiatic clams (<i>Corbicula fluminea</i>) are found on the site. <u>FEIS says:</u> <u>Neither Asiatic clams (<i>Corbicula fluminea</i>), nor any other invasive species has been observed to have increased in numbers in the vicinity of the thermal plume operated by VEGP Units 1 and 2. Therefore, no large growths of invasive nuisance organisms are anticipated from the thermal plume for the proposed units.</u>
5.4.2.3	S5.4.2-28	Neither Asiatic clams, nor any other invasive species have been observed to have increased in numbers as a result of the thermal plume operated by VEGP Units 1 and 2. <u>FEIS says:</u>

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS**

Section 5.4.2 and 5.4.3 Aquatic Impacts

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		<u>Neither Asiatic clams (<i>Corbicula fluminea</i>), nor any other invasive species has been observed to have increased in numbers in the vicinity of the thermal plume operated by VEGP Units 1 and 2. Therefore, no large growths of invasive nuisance organisms are anticipated from the thermal plume for the proposed units.</u>
5.4.2.4	S5.4.2-29	The ER indicates that chemicals, including biocides, would be added to the cooling tower basins to control scaling, corrosion and solids (Southern 2007a). Biocides would not be injected at the intake structure (NRC 2007d). Biofouling would be controlled using chlorination and/or other treatment methods in the cooling water system cooling tower, in order to ensure that the fill in the cooling tower remains free of organic deposits. This decision was based on the operational experience of VEGP Units 1 and 2 intake structure. The biofouling control in the makeup water pipeline is handled by maintaining an appropriate velocity to prevent the attachment of biofouling species of concern to the piping (Southern 2007b). <u>FEIS is identical</u>
5.4.2.4	S5.4.2-29a	Operation of the cooling towers would be based on four cycles of concentration. <u>FEIS is identical</u>
5.4.2.4	S5.4.2-30	The CWS chemical treatment would be similar to that for the existing units. <u>FEIS is identical</u>
5.4.2.4	S5.4.2-31	The final plant discharge from the proposed VEGP Units 3 and 4 would be composed of circulating and service water blowdown and other site wastewater streams, including sanitary waste, miscellaneous low-volume waste, and treated liquid radwaste. <u>FEIS is identical</u>
5.4.2.4	S5.4.2-32	Calculations performed by Southern and confirmed by the staff (Section 5.3.3.1) give an estimated in river dilution factor of 60 to 120 during periods of average Savannah River discharge, depending on the time of the year and river flow rate. <u>FEIS is identical</u>
	<u>S5.4.2-32a</u>	<u>FEIS says:</u> <u>The concentrations in the discharge are significantly lower than the LC50 (the concentration</u>

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Section 5.4.2 and 5.4.3 Aquatic Impacts

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		<u>that kills 50% of the sample population) obtained from the Material Safety Data Sheets (Southern 2007c).</u>
5.4.2.4	S5.4.2-33a	Table 5-4. Chemical discharges to the Savannah River from Proposed VEGP Units 3 and 4. <u>FEIS statement is identical</u>
5.4.2.4	S5.4.2-34	The chemical concentrations at the outfall for the existing units meets the NPDES limits <u>FEIS is identical</u>
5.4.2.5	S5.4.2-35	A bathymetric study (Southern 2007a) demonstrated that there was a 0.9- to 1.5-m- (3- to 5-ft)-deep trough immediately downstream of the existing VEGP Units 1 and 2 discharge structure, that is presumed to have been caused by the discharge scouring the river bottom. <u>FEIS is identical</u>
5.4.2.5	S5.4.2-36	Southern assumed that the extent of bottom scouring associated with the operation of the new discharge would be similar to that for the existing units, resulting in an area of several hundred square feet that is unsuitable for benthic organisms such as larval aquatic insects or mussels <u>FEIS is identical</u>
	<u>S5.4.2-36a</u>	<u>FEIS says:</u> <u>Two Georgia State-listed species occur in the vicinity of the VEGP site.</u>
	<u>S5.4.2-36b</u>	<u>FEIS says:</u> <u>The robust redhorse (Moxostoma robustum) is found in the Savannah River. Spawning areas for this species have only been reported upstream of the VEGP site. The nearest known spawning area is at rkm 284 (RM 176) located about rkm 40 (25 RM) upstream of the VEGP site (Grabowski and Isely 2006).</u>
	<u>S5.4.2-36c</u>	<u>FEIS says:</u> <u>The Georgia state endangered Atlantic pigtoe mussel (Fusconaia masont), tentatively identified in surveys by the USFWS (The Catena Group 2007) as being in the Savannah River, were located at a considerable distance upstream of the VEGP site (84 rkms (52 RMs)</u>
	<u>S5.4.2-36d</u>	<u>FEIS says:</u> <u>The Savannah darter (Etheostoma fricksium), a Georgia species of concern with no legal protected status may at times enter the Savannah River; however, its preferred habitat is</u>

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		shallow creeks such as <u>Beaverdam Creek</u> .
	<u>S5.4.2-36e</u>	<u>FEIS says:</u> <u>Nine South Carolina mussel species of concern are known to occur in the Savannah River near the VEGP site (Table 2-9).</u>
5.4.2.6	S5.4.2-37	However, it is assumed that the same vegetation management practices currently employed by GPC for the existing VEGP Units 1 and 2 facility transmission line rights-of-way would be applied to the proposed new 500-kV Thomson-Vogtle transmission line right-of-way <u>FEIS is identical</u>
5.4.2.6	S5.4.2-38	However, no Federal or State-listed aquatic organisms are anticipated to be in the transmission line rights-of-way, thus there are no impacts anticipated to important aquatic species. <u>FEIS is identical</u>
5.4.3.1	S5.4.3-1	This section describes the potential impacts that operation of the proposed VEGP Units 3 and 4 could have on the shortnose sturgeon (<i>Acipenser brevirostrum</i>), the only Federally listed aquatic species occurring in the vicinity of the VEGP site. <u>FEIS is identical</u>
	S5.4.3-2	As discussed in Section 2.7.2.2, shortnose sturgeon are known to be in the Savannah River in the vicinity of the site. Suspected spawning grounds are located at rkm 179 to 190 (RM 111 to 120), rkm 275 to 278 (RM 171 to 173) (Hall et al. 1991), and rkm 208 to 228 (RM 129 to 142) (Collins and Smith 1993). <u>FEIS is identical</u>
	S5.4.3-3	However, the proposed transmission line would be located within the RDC. <u>FEIS is identical</u>
	S5.4.3-4	Collins et al. (2002) indicates the nursery habitat for juvenile shortnose sturgeon in the Savannah River is in the lower river approximately from rkm 31.5 to 47.5 (RM 19.57 to 29.52), well distant from the VEGP site. <u>FEIS is identical</u>

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5.4.3.2	S5.4.3.2-5	The design and operation of the CWIS (as discussed in Section 5.4.2.2) including the low-through-screen intake velocity, are not likely to adversely impact shortnose sturgeon. <u>FEIS is identical</u>
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VEGP FEIS
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Section 5.5, Socioeconomic Impacts

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EIS Section	Input Number	Key Input or Assumption
5.5.1.1	S5.5-1	There are no residential areas located within the site boundary. <u>FEIS is identical</u>
5.5.1.1	S5.5-2	The area within 16 km (10 mi) of the VEGP site is predominately rural and characterized by agricultural and forested land, with only 3500 residents (see Section 2.8.1 of this EIS). <u>FEIS is identical</u>
5.5.1.1	S5.5-3	No significant industrial or commercial facilities other than VEGP exist or are planned for this area. <u>FEIS is identical</u>
5.5.1.1	S5.5-4	Burke County is part of the Augusta-Aiken Interstate Air Quality Control Region. <u>FEIS is identical</u>
5.5.1.1	S5.5-5	Augusta-Aiken Interstate Air Quality Control Region is classified as in attainment with all National Ambient Air Quality Standards. <u>FEIS is identical</u>
5.5.1.1	S5.5-6	The two new reactors would not produce any known air pollutant, except for (1) the periodic testing and operation of VEGP's standby diesel generators and auxiliary power systems <u>FEIS is identical</u>
5.5.1.1	S5.5-7	The two new reactors would not produce any known air pollutant, except for (2) commuter vehicle dust and exhaust, (3) odors from operations, and (4) operations-based noise.

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Section 5.5, Socioeconomic Impacts**

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EIS Section	Input Number	Key Input or Assumption
		<u>FEIS is identical</u>
5.5.1.1	S5.5-8	Southern uses a staggered shift schedule for its operations workforce <u>FEIS is identical</u>
5.5.1.1	S5.5-9	The new units would not use chemicals in amounts that would generate odors exceeding Federal and State limits. <u>FEIS is identical</u>
5.5.1.1	S5.5-11	Southern would use single natural draft cooling towers for each Westinghouse AP1000 reactor <u>FEIS is identical</u>
5.5.1.1	S5.5-12	Noise levels below 60 to 65 dBA are not considered to be significant because these levels are not sufficient to cause hearing loss (NRC 1996). <u>FEIS is identical</u>
5.5.1.1	S5.5-13	The maximum sound level generated by the operation of the proposed VEGP Units 3 and 4 at the site boundary would be approximately 30 to 40 dBA <u>FEIS is identical</u>
5.5.1.3	S5.5-14	The access roads to the VEGP site would be paved. <u>FEIS is identical</u>
5.5.1.4	S5.5-15	The nearest residence is more than 1.6 km (1 mi) from the site of the proposed new units.

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EIS Section	Input Number	Key Input or Assumption
		<u>FEIS is identical</u>
5.5.1.4	S5.5-16	The nearest residence is... separated by forested land such that the proposed units would not be clearly visible from its location. <u>FEIS is identical</u>
5.5.1.4	S5.5-17	The proposed intake structure would be clearly visible from the Savannah River <u>FEIS is identical</u>
5.5.1.4	S5.5-18	New 600 ft towers and the top of the new containment domes would be visible from some locations on the river <u>FEIS is identical</u>
5.5.1.4	S5.5-19	The plumes would be most noticeable in the winter months and may extend more than 5 miles from the site. <u>FEIS is identical</u>
5.5.1.4	S5.5-20	The new right-of-way would be approximately 150 feet wide and 60 miles long, and would require approximately 390 metal lattice towers. <u>FEIS is identical</u>
5.5.2	S5.5-21	Based on US Census estimates, approximately 670,000 people lived within a 50-mile radius of the VEGP site in 2000. <u>FEIS is identical</u>

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Section 5.5, Socioeconomic Impacts**

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EIS Section	Input Number	Key Input or Assumption
		the region from other locations. <u>FEIS is identical</u>
5.5.2	S5.5-26	The staff used the average Georgia household size (2.65 persons) <u>FEIS is identical</u>
5.5.2	S5.5-27	The staff assumed the distribution of new operations workers would resemble the residential distribution of employees operating VEGP Units 1 and 2. <u>FEIS is identical</u>
5.5.2	S5.5-29	Table 5-5, Column 2, Percent of Current VEGP Site Workforce by Location <u>FEIS is identical</u>
5.5.3.1	S5.5-30	Section 2.8 of this EIS presents a detailed description of local and regional employment trends. <u>FEIS is identical</u>
5.5.3.1	S5.5-31	Total number of current workforce in the three county region <u>FEIS says:</u> <u>Total current workforce in the three county region (Burke-Columbia-Richmond)</u>
5.5.3.1	S5.5-32	In Burke County, where the plant is location, the 660 additional jobs currently represent a 7 percent increase in the total number of jobs.

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Section 5.5, Socioeconomic Impacts

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EIS Section	Input Number	Key Input or Assumption
		<u>FEIS says:</u> <u>In Burke County, where the plant is located, the 812 additional jobs currently represent a 8.7 percent increase in the total number of jobs.</u>
5.5.3.1	S5.5-33	The operation of two new units at the VEGP site would also result in roughly doubling the workforce needed for scheduled outages. <u>FEIS is identical</u>
5.5.3.1	S5.5-34	Once the proposed VEGP Units 3 and 4 are operational, the refueling outages would occur at least annually, and sometimes semiannually, which would require as many as 1000 (maximum estimate) additional short-term (3- to 5-week) contract employees <u>FEIS is identical</u>
5.5.3.2	S5.5-35	An estimated cost of each Westinghouse AP 1000 installed ranges from \$1.20 to \$2.60 billion based on a net electrical output of 1117 MW(e) This statement does not appear in the FEIS
5.5.3.2	S5.5-36	Table 5-6, Range of Estimated Annual Property Taxes Paid to Burke County Generated by the Proposed VEGP Units 3 and 4 <u>FEIS is identical</u>
5.5.4.1	S5.5-37	River Road, a two-lane highway that provides the only access to the VEGP site. <u>FEIS is identical</u>
5.5.4.1	S5.5-39	The staff assumed current peak traffic on River Road is 1200 cars per hour, both directions.

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Section 5.5, Socioeconomic Impacts**

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EIS Section	Input Number	Key Input or Assumption
		<u>FEIS is identical</u>
5.5.4.1	S5.5-40	The current capacity of River Road is 3200 cars per hour. <u>FEIS is identical</u>
5.5.4.1	S5.5-41	The existing workforce of 890 for VEGP Units 1 and 2 also accesses the VEGP site via River Road. <u>FEIS is identical</u>
5.5.4.1	S5.5-42a	Number of new operations workers per shift is assumed to be similar, in percentage, to the current operations workforce. Therefore, during the afternoon shift change, approximately 60 percent of the 660 operations workers would leave the VEGP site while 30 percent would arrive <u>FEIS says:</u> <u>Number of new operations workers per shift is assumed to be similar, in percentage, to the current operations workforce. Therefore, during the afternoon shift change, approximately 60 percent of the 812 operations workers would leave the VEGP site while 30 percent would arrive</u>
5.5.4.1	S5.5-43	During outages, there could also be as many as 1000 outage workers per unit (divided between two shifts) for approximately 1 month annually or semiannually, increasing the vehicles on River Road by approximately 600.

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Section 5.5, Socioeconomic Impacts**

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EIS Section	Input Number	Key Input or Assumption
		<u>FEIS is identical</u>
5.5.4.1	S5.5-44	Southern would implement several permanent transportation mitigation measures that would minimize most bottlenecks <u>FEIS says: Southern would already have implemented several permanent transportation mitigation measures that would minimize most bottlenecks</u>
5.5.4.2	S5.5-44a	A detailed description of local tourism and recreation is provided in Section 2.8. <u>FEIS is identical</u>
5.5.4.3	S5.5-46	4466 vacant rental units and 1997 vacant housing for sale in Burke, Richmond, and Columbia Counties in 2000

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Section 5.5, Socioeconomic Impacts**

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EIS Section	Input Number	Key Input or Assumption
		<u>FEIS is identical</u>
5.5.4.3	S5.5-47	Maximum influx of workers and their families (1750 total people) <u>FEIS says:</u> <u>Maximum influx of workers and their families (2152 total people)</u>
5.5.4.1	S5.5-48	2 outages every 18 months with the operation of two new units at the plant. During outages plant operation staff and outage workforce are on 12-hour shifts, 24 hours per day and 7 days per week. The outage shifts are staggered with start/end time between 6-7:00 am and 6-7:00 pm. <u>FEIS says:</u> <u>There would be four as many outages every 18 months once Units 3 and 4 become operational (Southern 2006b). During outages plant operation staff and outage workforce are on 12-hour shifts, 24 hours per day and 7 days per week. The outage shifts are staggered with start/end time between 6-7:00 am and 6-7:00 pm (Southern 2006a).</u>
5.5.4.3	S5.5-49	A number of new housing developments currently in the works <u>FEIS says:</u> <u>A number of new housing developments currently in the works, however, could alleviate some of this short-term pressure on housing demand.</u>
5.5.4.3	S5.5-50	The VEGP site would need as many as 1,000 additional outage workers every 18 months for a period of 30 to 40 days per outage to maintain the two new reactors. <u>FEIS says:</u>

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EIS Section	Input Number	Key Input or Assumption
		<u>The VEGP site would need as many as 1,000 additional outage workers for a period of 30 to 40 days during each outage to maintain the two new reactors.</u>
5.5.4.3	S5.5-51	The outages for the new units would be staggered with the other units. <u>FEIS is identical</u>
5.5.4.4	S5.5-51a	The VEGP site does not use water from a municipal system. <u>FEIS is identical</u>
5.5.4.4	S5.5-52	The VEGP site has permits to extract up to 5.5 MGD from their wells, but has typically drawn an average of 1.05 MGD. <u>FEIS is identical</u>
5.5.4.4	S5.5-53	Southern expects those wells [onsite wells] to provide the additional potable water demand for operation of the two proposed units, as well <u>FEIS is identical</u>
5.5.4.4	S5.5-54	The average per capita water usage in the United States is 90 gallons per day per person <u>FEIS is identical</u>
5.5.4.4	S5.5-54a	Therefore, the new operations workforce and their families would require an additional 157,500 gallons per day of potable water. <u>FEIS says:</u> <u>Therefore, the new operations workforce and their families would require an additional</u>

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 5.5, Socioeconomic Impacts**

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EIS Section	Input Number	Key Input or Assumption
		<u>193,290 gallons per day of potable water.</u>
5.5.4.4	S5.5-55	Municipal water suppliers in the region have excess capacity (see Table 2-20; 2-21) with the excess public water capacity in Burke County at approximately 3 million gallons per day. <u>FEIS says:</u> <u>Municipal water suppliers in the region have excess capacity (see Table 2-20; 2-21) with the excess public water capacity in Burke County at approximately 4 million gallons per day.</u>
5.5.4.3	S5.5-56	General housing outlook based on an interview with Ms. Cathy Hawkins of Cox Real Estate, 259 S. Liberty Street, Waynesboro, Georgia, where the housing market in Burke County was described as “tight,” especially for newer, higher-value homes (October 19, 2006). <u>FEIS is identical</u>
5.5.4.4	S5.5-58	Section 2.8 describes the public wastewater treatment systems in the three counties, their permitted capacities, and current demands. Wastewater treatment facilities in the three counties have excess capacity (see Table 2-21). <u>FEIS is identical</u>
5.5.4.4	S5.5-59	Assuming 100 percent of the water consumed would be disposed of through the wastewater treatment facilities <u>FEIS is identical</u>
5.5.4.4	S5.5-60	Operations-related population increase of 1750 people would require 157,500 gpd of additional wastewater treatment capacity <u>FEIS says:</u> <u>Operations-related population increase of 2152 people would require 193,290 gpd of additional wastewater treatment capacity</u>

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 5.5, Socioeconomic Impacts**

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VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 5.6 Historic and Cultural Resources

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EIS Section	Input Number	Key Input or Assumption
5.6	S5.6-2	<p>Any new ground-disturbing activities that might occur during operation would follow Southern procedures, which would require further evaluation to determine if additional archaeological review is necessary (Southern 2007a).</p> <p><u>FEIS is identical</u></p>

VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 5.7 Environmental Justice Impacts

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EIS Section	Input Number	Key Input or Assumption
5.7	S5.7-1	<p>The results of the normal operation dose assessments indicate that the maximum individual dose for these pathways was found to be insignificant, well below the regulatory guidelines in Appendix I of 10 CFR Part 50 and the regulatory standards of 10 CFR Part 20.</p> <p><u>FEIS says:</u> <u>The results of the normal operation dose assessments presented in Section 5.9 indicate that the maximum individual dose for these pathways was found to be insignificant, well below the regulatory guidelines in Appendix I of 10 CFR Part 50 and the regulatory standards of 10 CFR Part 20.</u></p>
	S5.7-2	<p>The evaluation of postulated accidents is provided in Section 5.10 and demonstrates that of 10 CFR 50.34 and 10 CFR Part 100 for the exclusion area boundary and low population zone boundary.</p> <p><u>FEIS says:</u> <u>The evaluation of postulated accidents is provided in Section 5.10 and demonstrates that radiological consequences of these accidents would meet the site acceptance criteria of 10 CFR 50.34 and 10 CFR Part 100 for the exclusion area boundary and low population zone boundary and low population zone boundary.</u></p>
	S5.7-4	<p>There would be no significant adverse health impacts on members of the public, and, therefore, there would be only minimal negative and disproportionate health impacts on minority and low-income members of the public.</p> <p><u>FEIS is identical</u></p>
	S5.7-5	<p>the staff does not believe there would be any operations-related environmental effects to soils at the VEGP site that would impact nearby residents. Therefore, the staff believes there can be no disproportionate impact on any minority or low-income population.</p>

VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 5.7 Environmental Justice Impacts

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EIS Section	Input Number	Key Input or Assumption
		<u>FEIS is identical</u>
	S5.7-6	while the proposed new units would generate low-level radioactive and non-radioactive wastes, these are currently generated and there are existing facilities located throughout the country permitted for disposing of these materials. <u>FEIS is identical</u>
	S5.7-7	Consequently, the staff determined the marginal impact to soils from the proposed new units would be SMALL and not require mitigation. <u>FEIS is identical</u>

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Section 5.7 Environmental Justice Impacts

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EIS Section	Input Number	Key Input or Assumption
	S5.7-8	<p>the staff determined the two proposed units at the VEGP site would operate with a very small thermal plume in the Savannah River and that concentrations of biocides, anti-scaling compounds and dispersants would be very small and greatly diluted by the volume of flow in the Savannah River. Consequently, the concentration of these chemicals in the river should quickly return to near-background levels (Southern 2007a). Therefore, the impact to aquatic biota would be negligible.</p> <p><u>FEIS says:</u> <u>the staff determined the two proposed units at the VEGP site would operate with a very small thermal plume in the Savannah River and that concentrations of biocides, anti-scaling compounds and dispersants would be very small and greatly diluted by the volume of flow in the Savannah River. Consequently, the concentration of these chemicals in the river should quickly return to near-background levels (Southern 2008a). Therefore, the impact to aquatic biota would be negligible.</u></p>
	S5.7-9	<p>Consumptive losses from a portion of the proposed VEGP Units 3 and 4 would account for less than 2 percent of the daily flow of the Savannah River (see Table 5-2) and are too small to affect recreational activities on the river.</p> <p><u>FEIS says:</u> <u>Under normal plant operation, consumptive losses from a portion of the proposed VEGP Units 3 and 4 would account for less than 2 percent of the daily flow of the Savannah River, even under drought conditions (see Table 5-2), and are too small to affect recreational activities on the river.</u></p>
	<u>S5.7-9a</u>	<p><u>FEIS says:</u> <u>The closest of the existing Cretaceous aquifer wells is 1737 m (5700 ft) from the facility boundary. Southern has stated that two new wells may be drilled and completed to supply groundwater, and the proposed well location closest to the facility boundary is 1067 m (3500 ft). The pumping rate would drawdown the level of the Cretaceous aquifer by slightly more</u></p>

VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 5.7 Environmental Justice Impacts

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EIS Section	Input Number	Key Input or Assumption
		<u>than 1.8 m (6 ft) at the 1737-m (5700-ft) distance and nearly 2 m (6.5 ft) at the 1067-m (3500-ft) distance by 2045 for the proposed two new reactors.</u>
	S5.7-10	<p>The staff determined that given the relatively small impact on water quantity and quality in the Savannah River, and the small consumptive water use and the drawdown on the Cretaceous aquifer, there would be no operations-related environmental effects that need to be mitigated and, therefore, there cannot be any disproportionate adverse impacts on minority and low-income populations.</p> <p><u>FEIS is identical</u></p>
	S5.7-11	<p>The total liquid and gaseous effluent doses from all four units (the two existing units plus the two proposed units) would be well within the regulatory limits of 40 CFR 190.</p> <p><u>FEIS identical</u></p>

VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 5.7 Environmental Justice Impacts

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EIS Section	Input Number	Key Input or Assumption
	S5.7-12	<p>As described in Section 5.5.2, the staff concurs with Southern's findings that the potential impacts from all potential air medium sources would be small. Furthermore, the staff believes that because these impacts would be small, there would be no disproportionate and adverse impacts felt by minority or low-income populations within the analytical area.</p> <p><u>FEIS is identical</u></p>
	S5.7-13	<p>Fish advisories from the States of Georgia and South Carolina indicate consumption of some species, especially predatory species, can carry levels of radioactive contamination that could be harmful if ingested. However, an extensive investigation by the Institute for Energy and Environmental Research indicates only a small amount of the radiological contamination (primarily tritium) in the Savannah River and its organisms can be attributed to the existing VEGP (Makhijani et al. 2004). The addition of the proposed VEGP Units 3 and 4 is not expected to significantly increase the level of radioactive contamination in the Savannah River. Therefore, while subsistence consumption of fish species from the Savannah River may be a health problem for minority and low-income populations, it is not attributable to the existing reactors and cannot be reasonably projected to be exacerbated by the addition of two more reactors at the site. The staff determined there were no operations-related disproportionate and adverse impacts on minority or low-income populations related to subsistence.</p> <p><u>FEIS says:</u> <u>Fish advisories from the States of Georgia and South Carolina indicate consumption of some species, especially predatory species, can carry levels of radioactive contamination that could be harmful if ingested. However, an extensive investigation by the Institute for Energy and Environmental Research indicates only a small amount of the radiological contamination (primarily tritium) in the Savannah River and its organisms can be attributed to the existing VEGP (Makhijani et al. 2004). The addition of the proposed VEGP Units 3 and 4 is not expected to significantly increase the level of radioactive contamination in the Savannah River. Therefore, the staff has identified no reason to believe that subsistence consumption of fish species from the Savannah River would present a health problem for minority and low-income populations, but even if that were the case, it would not be attributable to the existing</u></p>

VEGP FEIS
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Section 5.7 Environmental Justice Impacts

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EIS Section	Input Number	Key Input or Assumption
		<u>reactors and cannot be reasonably projected to be exacerbated by the addition of two more reactors at the site. The staff determined there were no operations-related disproportionate and adverse impacts on minority or low-income populations related to subsistence.</u>

VEGP FEIS
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Section 5.7 Environmental Justice Impacts

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EIS Section	Input Number	Key Input or Assumption
	S5.7-14	There are no Native American communities within the region of interest <u>FEIS is identical</u>
	S5.7-15	while some existing communities within the area exhibit disproportionately high percentages of minority (primarily Black races) and low-income populations, most of the higher percentages of minority and low-income populations can be attributed to the sparseness of the rural population in general. <u>FEIS is identical</u>
	S5.7-16	the staff determined there were no environmental justice effects to consider with respect to densely populated minority or low-income communities <u>FEIS is identical</u>

VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 5.7 Environmental Justice Impacts

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EIS Section	Input Number	Key Input or Assumption
	S5.7-17	<p>Based upon the underlying assumptions of the analysis discussed in Section 2.10, the impacts of plant operations on environmental justice would be SMALL because no environmental pathways or health and other preconditions of the minority and low-income population were found that would lead to adverse and disproportionate impacts.</p> <p><u>FEIS says:</u> <u>Based upon the underlying assumptions of the analysis discussed in Section 2.10, the impacts of plant operations on environmental justice would be SMALL because no environmental pathways, health characteristics, or other preconditions of the minority and low-income population were found that would lead to adverse and disproportionate impacts.</u></p>

VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 5.8 Nonradiological Health Impacts

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EIS Section	Input Number	Key Input or Assumption
5.8	S 5.8-6	The maximum projected cooling tower blowdown from operating two new units is about 64 ft ³ /s <u>FEIS is identical</u>
	S 5.8-7	A maximum blowdown temperature of 33.1°C <u>FEIS is identical</u>
	<u>S 5.8-7a</u>	<u>FEIS says:</u> <u>In the vicinity of the existing and proposed discharge structures, there are limited recreational activities (e.g., boats may pass through), and the area is not commonly used for swimming.</u>
	S 5.8-11	Epidemiological reports from the States of Georgia and South Carolina indicate a very low risk of thermophilic microorganisms associated with thermal discharges. <u>FEIS is identical</u>
	<u>S 5.8-11a</u>	<u>FEIS says:</u> <u>According to the ER (Southern 2008a) and Westinghouse (2003), noise levels from cooling towers and diesel generators at new units could have noise levels as high as 55 dBA at a distance of 300 m (1000 ft).</u>
	<u>S 5.8-</u>	<u>FEIS says:</u>

VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 5.8 Nonradiological Health Impacts

Key Input numbers are not sequential because some input statements marked in the DEIS were ascertained by SMEs not to be key to the conclusions of the NRC and therefore were dropped from this table. Underlined text is new since evaluation based on DEIS.

EIS Section	Input Number	Key Input or Assumption
	<u>11b</u>	<u>Southern (2008a) reports that the incidence rate of total recordable cases at the VEGP site from 2000 to 2004 was 1.8 percent, which was less than the corresponding incidence rates for the State of Georgia and the United States for electrical power production workers (4.5 and 3.5 percent).</u>
	<u>S 5.8-11c</u>	<u>FEIS says:</u> <u>The number of workers needed for operations was given by Southern (2008a) as 812 (two units).</u>
	<u>S 5.8-11d</u>	<u>FEIS says:</u> <u>An additional 1000 temporary workers are estimated to be needed for refueling outages.</u>
	S 5.8-27	It was assumed that outages for the two units would not occur simultaneously <u>FEIS is identical</u>
	<u>S 5.8-27a</u>	<u>FEIS says:</u> <u>a source was located that provided a Georgia-specific fatality rate for all traffic for the years 2001 to 2006 (DOT 2008). The average fatality rate for the 2001 to 2006 period in Georgia was used as the basis for estimating Georgia-specific injury and accident rates. Adjustment factors were developed using national-level traffic accident statistics in the U.S. Department of Transportation publication <i>National Transportation Statistics 2007</i> (DOT 2007).</u>

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS**

Section 5.9 Radiological Impacts of Normal Operations

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EIS Section	Input Number	Key Input or Assumption
5.9	S 5.9-2	... the current land use census shows no drinking water use of the river within 100 miles downstream. <u>FEIS is identical</u>
	S 5.9-4	For the gaseous release pathway, Southern considered the following exposure pathways in evaluating the dose to the individual: ... <u>FEIS is identical</u>
	S 5.9-5	...did not calculate a dose [to the MEI] from milk ingestion because the most recent land-use census indicated that no milk cows existed within 8 km (5 mi) of the site. <u>FEIS is identical</u>
	S 5.9-6	Southern calculated population doses using the same exposure pathways as used for the individual dose assessment, but with the addition of the cow milk ingestion pathway <u>FEIS is identical</u>
	S 5.9-24	Table 5-9 <u>FEIS is identical</u>
	S 5.9-25	Table 5-10 <u>FEIS is identical</u>
	S 5.9-27	... the collective total body dose within an 80-km (50-mi) radius of the VEGP site to be

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS**

Section 5.9 Radiological Impacts of Normal Operations

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EIS Section	Input Number	Key Input or Assumption
		0.01837 person-Sv/yr (1.837 per-rem/yr) <u>FEIS is identical</u>
	S 5.9-29	The population living within 80 km (50 mi) of the VEGP site would incur less than one fatal cancer, non-fatal cancer, or severe hereditary effect annually. <u>FEIS is identical</u>
	S 5.9-33	Table 5-11 <u>FEIS is identical</u>
	S 5.9-37	Milk is not currently sampled because there is no known production within 8 km (5 mi) of the site. <u>FEIS is identical</u>

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS**

Section 5.10 Environmental Impacts of Postulated Accidents

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EIS Section	Input Number	Key Input or Assumption
5.10.1	S5.10-1	Table 5-13 lists X/Q values pertinent to the environmental review of DBAs for the VEGP site. <u>FEIS is identical</u>
5.10.2	S5.10-2	Southern calculated the X/Q values listed in Table 5-13 using a set of five years of meteorological data (1998-2002) for the VEGP site assuming the release point was located midway between the two proposed Westinghouse AP1000 reactors. <u>FEIS is identical</u>
5.10.2	S5.10-3	Table 5-14 lists the set of DBAs considered by Southern and presents Southern's estimate of the environmental consequences of each accident in terms of total effective dose equivalent (TEDE). <u>FEIS is identical</u>
5.10.2	S5.10-4	Southern bases its evaluation of the potential environmental consequences for the atmospheric and surface-water pathways on the results of the MACCS2 computer code (Chanin et al. 1990; Jow et al. 1990) run using Westinghouse AP1000 reactor source term information and site-specific meteorological, populations, and land-use data. <u>FEIS is identical</u>
5.10.2	S5.10-5	The results of the MACCS2 runs are presented in Table 5-15. <u>FEIS is identical</u>

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS**

Section 5.10 Environmental Impacts of Postulated Accidents

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EIS Section	Input Number	Key Input or Assumption
5.10.2	S5.10-6	Tables 5-16 and 5-17 compare the health risks from severe accidents for a Westinghouse AP1000 reactor at the VEGP site with the risks for current-generation reactors at various sites and with the AP1000 reactor at the North Anna, Clinton, and Grand Gulf ESP sites. <u>FEIS is identical</u>
5.10.2	S5.10-10	Similarly, the population doses estimated for a Westinghouse AP1000 reactor at the VEGP site are well below the mean and median values for current-generation reactors undergoing license renewal including VEGP Units 1 and 2. <u>FEIS is identical</u>
5.10.3	S5.10-18	Using procedures set forth in NUREG/BR-0184 (NRC 1997), the applicant determined that the maximum averted cost risk for a single Westinghouse AP1000 reactor at the VEGP site is so low that none of the SAMDAs is cost beneficial. <u>FEIS is identical</u>
5.10.3	S5.10-19	The other attributes of the SAMA review, namely procedural modifications and training activities, have not been addressed by the applicant. <u>FEIS is identical</u>
5.10.3	S5.10-20	The applicant has stated (Southern 2007a) that “appropriate administrative controls on plant operations would be incorporated into the plants’ management systems as part of its baseline.” <u>FEIS is identical</u>

VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 5.12 Summary of Operational Impacts

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EIS Section	Input Number	Key Input or Assumption
<u>5.12</u>	<u>5.12-1</u>	<u>FEIS says:</u> <u>Land-Use Impacts - The Site and Vicinity: Southern did not propose any additional measures or controls.</u>
	<u>5.12-2</u>	<u>FEIS says:</u> <u>and-Use Impacts - Transmission Line Rights-of-Way and Offsite Areas :</u> <ul style="list-style-type: none"> • <u>Maintenance practices would protect sensitive habitats and protected species, including wetlands and water crossings.</u> • <u>Routing decisions would consider protected species and critical habitats.</u>
	<u>5.12-3</u>	<u>FEIS says:</u> <u>Land-Use Impacts - Historic Properties and Cultural Resources: Southern did not propose any additional measures or controls.</u>
	<u>5.12-4</u>	<u>FEIS says:</u> <u>Air Quality Impacts - Heat Dissipation to the Atmosphere: Southern did not propose any additional measures or controls.</u>
	<u>5.12-5</u>	<u>FEIS says:</u> <u>Water-Related Impacts - Hydrologic Alterations and Plant Water Supply: Southern did not propose any additional measures or controls.</u>
	<u>5.12-6</u>	<u>FEIS says:</u> <u>Water-Related Impacts - Water-Use Impacts: Southern did not propose any additional measures or controls.</u>
	<u>5.12-7</u>	<u>FEIS says:</u> <u>Water-Related Impacts - Water-Quality Impacts: Southern did not propose any additional measures or controls.</u>

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Section 5.12 Summary of Operational Impacts

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EIS Section	Input Number	Key Input or Assumption
	<u>5.12-8</u>	<u>FEIS says:</u> <u>Water-Related Impacts - Future Water Use: Southern did not propose any additional measures or controls.</u>
	<u>5.12-9</u>	<u>FEIS says:</u> <u>Cooling System Impacts-Intake system: Southern did not propose any additional measures or controls</u>
	<u>5.12-10</u>	<u>FEIS says:</u> <u>Cooling System Impacts-Hydrodynamic Descriptions and Physical Impacts: Southern did not propose any additional measures or controls</u>
	<u>5.12-11</u>	<u>FEIS says:</u> <u>Cooling System Impacts-Aquatic Ecosystems: Southern did not propose any additional measures or controls</u>
	<u>5.12-12</u>	<u>FEIS says:</u> <u>Cooling System Impacts-Discharge System: Southern did not propose any additional measures or controls</u>
	<u>5.12-13</u>	<u>FEIS says:</u> <u>Cooling System Impacts-Thermal Description and Other Physical Impacts: Southern did not propose any additional measures or controls</u>
	<u>5.12-14</u>	<u>FEIS says:</u> <u>Cooling System Impacts-Terrestrial Ecosystems: Southern did not propose any additional measures or controls</u>
	<u>5.12-15</u>	<u>FEIS says:</u> <u>Cooling System Impacts-Impacts to Members of the Public: Southern did not propose any additional measures or controls</u>

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Section 5.12 Summary of Operational Impacts

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EIS Section	Input Number	Key Input or Assumption
	<u>5.12-16</u>	<u>FEIS says:</u> Radiological Impacts of Normal Operation- Exposure Pathways: Releases of radiation would be within all regulatory limits.
	<u>5.12-17</u>	<u>FEIS says:</u> Radiological Impacts of Normal Operation- Radiation Doses to Members of the Public: Southern did not propose any additional measures or controls
	<u>5.12-18</u>	<u>FEIS says:</u> Radiological Impacts of Normal Operation- Impacts to Members of the Public: Southern did not propose any additional measures or controls
	<u>5.12-19</u>	<u>FEIS says:</u> Radiological Impacts of Normal Operation- Impacts to Biota Other than Members of the Public: Southern did not propose any additional measures or controls
	<u>5.12-20</u>	<u>FEIS says:</u> Environmental Impact of Waste- Nonradioactive Waste System Impacts: All discharges would comply with Georgia NPDES permit and applicable water-quality standards.
	<u>5.12-21</u>	<u>FEIS says:</u> Environmental Impact of Waste- Nonradioactive Waste System Impacts: Revise the existing VEGP Stormwater Pollution Prevention Plan or prepare and implement a new one to avoid/minimize releases of contaminated stormwater.
	<u>5.12-22</u>	<u>FEIS says:</u> Environmental Impact of Waste- Nonradioactive Waste System Impacts: Revise the existing Spill Prevention Countermeasures and Control Plan or prepare and implement a new one to avoid/minimize contamination from spills.
	<u>5.12-23</u>	<u>FEIS says:</u> Environmental Impact of Waste- Nonradioactive Waste System Impacts: Use approved

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EIS Section	Input Number	Key Input or Assumption
		<u>transporters and offsite landfills for disposal of solid wastes.</u>
	<u>5.12-24</u>	<u>FEIS says:</u> <u>Environmental Impact of Waste- Nonradioactive Waste System Impacts: Continue the existing program of waste minimization reuse and recycling.</u>
	<u>5.12-25</u>	<u>FEIS says:</u> <u>Environmental Impact of Waste- Nonradioactive Waste System Impacts: Operate minor air emission sources in accordance with applicable regulations and certificates.</u>
	<u>5.12-26</u>	<u>FEIS says:</u> <u>Environmental Impact of Waste- Nonradioactive Waste System Impacts: If necessary, modify the existing sanitary waste treatment system to accommodate increased volume.</u>
	<u>5.12-27</u>	<u>FEIS says:</u> <u>Environmental Impact of Waste- Mixed Waste Impacts: Limit mixed waste generation through source reduction, recycling, and treatment options.</u>
	<u>5.12-28</u>	<u>FEIS says:</u> <u>Environmental Impact of Waste- Mixed Waste Impacts: Develop a Waste Minimization Program to address mixed waste inventory management, equipment maintenance, recycling and reuse, segregation, treatment (decay in storage), work planning, waste tracking, and awareness training.</u>
	<u>5.12-29</u>	<u>FEIS says:</u> <u>Environmental Impact of Waste- Mixed Waste Impacts: Revise the existing Spill Prevention Countermeasures and Control Plan or prepare and implement a new one to avoid/minimize contamination from spills.</u>
	<u>5.12-30</u>	<u>FEIS says:</u> <u>Environmental Impact of Waste- Waste Minimization: Develop a Waste Minimization Program to address mixed waste inventory management, equipment maintenance, recycling</u>

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EIS Section	Input Number	Key Input or Assumption
		<u>and reuse, segregation, treatment (decay in storage), work planning, waste tracking, and awareness training.</u>
	<u>5.12-31</u>	<u>FEIS says:</u> <u>Environmental Impact of Waste- Radioactive Waste: Develop a Waste Minimization Program to address mixed waste inventory management, equipment maintenance, recycling and reuse, segregation, treatment (decay in storage), work planning, waste tracking, and awareness training.</u>
	<u>5.12-32</u>	<u>FEIS says:</u> <u>Transmission System Impacts- Terrestrial Ecosystems: Maintenance practices would protect sensitive habitats and protected species, including wetland and water crossings.</u>
	<u>5.12-33</u>	<u>FEIS says:</u> <u>Transmission System Impacts- Aquatic Ecosystems: Southern did not propose any additional measures or controls.</u>
	<u>5.12-34</u>	<u>FEIS says:</u> <u>Transmission System Impacts- Impacts to Members of the Public: Southern did not propose any additional measures or controls.</u>
	<u>5.12-35</u>	<u>FEIS says:</u> <u>Uranium Fuel Cycle Impacts- Uranium Fuel cycle Impacts Relative to Westinghouse AP1000 Reactor: Select mining techniques that minimize potential impacts.</u>
	<u>5.12-36</u>	<u>FEIS says:</u>

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EIS Section	Input Number	Key Input or Assumption
		<u>Uranium Fuel Cycle Impacts- Uranium Fuel cycle Impacts Relative to Westinghouse AP1000 Reactor: Consider use of new technology that requires less uranium hexafluoride.</u>
	<u>5.12-37</u>	<u>FEIS says:</u> <u>Uranium Fuel Cycle Impacts- Uranium Fuel cycle Impacts Relative to Westinghouse AP1000 Reactor: Consider use of centrifuge process over gaseous diffusion process, which could significantly reduce energy requirements and environmental impacts.</u>
	<u>5.12-38</u>	<u>FEIS says:</u> <u>Uranium Fuel Cycle Impacts- Uranium Fuel cycle Impacts Relative to Westinghouse AP1000 Reactor: Consider use of new technologies with less fuel loading to reduce energy, emissions and water usage.</u>
	<u>5.12-39</u>	<u>FEIS says:</u> <u>Socioeconomic Impacts- Physical Impacts of Proposed Units: Comply with permit limits and regulations for installing and operating air emission sources.</u>
	<u>5.12-40</u>	<u>FEIS says:</u> <u>Socioeconomic Impacts- Physical Impacts of Proposed Units: Perform view scape study for new structures onsite, including cooling towers, as part of final design.</u>
	<u>5.12-41</u>	<u>FEIS says:</u> <u>Socioeconomic Impacts- Physical Impacts of Proposed Units: Consider staggering outage shifts to reduce plant-associated traffic on local roads during shift changes.</u>
	<u>5.12-42</u>	<u>FEIS says:</u> <u>Socioeconomic Impacts- Social and Economic Impacts of Proposed Units: Lead time would allow developers to construct new homes.</u>
	<u>5.12-43</u>	<u>FEIS says:</u> <u>Socioeconomic Impacts- Environmental Justice: Southern did not propose any additional measures or controls; traffic volume would not exceed road capacities.</u>

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EIS Section	Input Number	Key Input or Assumption
	<u>5.12-44</u>	<u>FEIS says:</u> <u>Decommissioning- Decommissioning: Southern did not propose any additional measures or controls.</u>
	<u>5.12-45</u>	<u>FEIS says:</u> <u>Transportation of Radioactive Waste- Transportation of Radioactive Waste: Southern did not propose any additional measures or controls.</u>
	<u>5.12-46</u>	<u>FEIS says:</u> <u>Nonradiological Health Impacts- Nonradiological Health Impacts: Southern did not propose any additional measures or controls.</u>
	<u>5.12-47</u>	<u>FEIS says:</u> <u>Land-Use Impacts- The Site and Vicinity: Operation of 2 new units within existing site. Possible new housing and retail space added in vicinity because of potential growth.</u>
	<u>5.12-48</u>	<u>FEIS says:</u> <u>Land-Use Impacts- Transmission Line Rights-of Way: Most land-use impacts occur during construction.</u>
	<u>5.12-49</u>	<u>FEIS says:</u> <u>Air Quality Impacts – Cooling tower, meteorological, and transmission line impacts are expected to be negligible. Pollutants emitted during operations considered insignificant and limits could be incorporated under existing permits.</u>
	<u>5.12-50</u>	<u>FEIS says:</u> <u>Water-Related Impacts- Water Use: During normal and drought years, the impact would be SMALL.</u>
	<u>5.12-51</u>	<u>FEIS says:</u> <u>Water-Related Impacts- Water Quality: Water effluents would be regulated by the GDNR and the NPDES permit.</u>

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EIS Section	Input Number	Key Input or Assumption
	<u>5.12-52</u>	<u>FEIS says:</u> <u>Ecological Impacts- Terrestrial Ecosystems: Impacts from operation of a new nuclear unit, including the associated heat dissipation system, transmission lines, and right-of-way maintenance would be negligible.</u>
	<u>5.12-53</u>	<u>FEIS says:</u> <u>Ecological Impacts- Aquatic Ecosystems: Southern's adherence to the NPDES permit and EPA's intake structure design requirements would likely result in the maintenance of balanced aquatic populations.</u>
	<u>5.12-54</u>	<u>FEIS says:</u> <u>Ecological Impacts- Threatened and Endangered Species: The American alligator and the shortnose sturgeon are the only threatened or endangered animal species known to inhabit the area; other species are transient and would not be affected.</u>
	<u>5.12-55</u>	<u>FEIS says:</u> <u>Socioeconomic Impacts- Physical Impacts, workers/public: Workers would use protective equipment and receive training to mitigate any possible impact. The VEGP site location is relatively remote, so the public would not be affected.</u>
	<u>5.12-56</u>	<u>FEIS says:</u> <u>Socioeconomic Impacts- Physical Impacts, buildings: No anticipated impact to onsite or offsite buildings.</u>
	<u>5.12-57</u>	<u>FEIS says:</u> <u>Socioeconomic Impacts- Physical Impacts, Roads: Upgrades before or during construction would cover the lesser impact of operational workforces.</u>
	<u>5.12-58</u>	<u>FEIS says:</u> <u>Socioeconomic Impacts- Physical Impacts, Aesthetics: Visual impact would be minimal because of remote location and sparse population. Visual impacts of operation at the VEGP site would be SMALL and similar to existing conditions. Aesthetic Impact along new</u>

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KEY INPUTS OR ASSUMPTIONS
Section 5.12 Summary of Operational Impacts

Key Input numbers are not sequential because some input statements marked in the DEIS were ascertained by SMEs not to be key to the conclusions of the NRC and therefore were dropped from this table. Underlined text is new since evaluation based on DEIS.

EIS Section	Input Number	Key Input or Assumption
		<u>transmission line right-of-way would be MODERATE.</u>
	<u>5.12-59</u>	<u>FEIS says:</u> <u>Socioeconomic Impacts- Physical Impacts, Demography: Number of new employees would be small in proportion to population base in the region if inmigrating population settles according to current patterns for VEGP Units 1 and 2.</u>
	<u>5.12-60</u>	<u>FEIS says:</u> <u>Socioeconomic Impacts- Impacts to Community, Economy: Increased jobs would benefit the area economically, up to a moderate beneficial impact (Burke County) is possible.</u>
	<u>5.12-61</u>	<u>FEIS says:</u> <u>Socioeconomic Impacts- Impacts to Community, Taxes: Degree of impact depends on distribution of revenues to county or state; generally impact is beneficial especially for property taxes. Under current tax law, the beneficial impact of additional taxes would be LARGE for Burke County, and SMALL elsewhere.</u>
	<u>5.12-62</u>	<u>FEIS says:</u> <u>Socioeconomic Impacts- Infrastructure and Community Services, Transportation: Improvements made for construction would be sufficient to cover any adverse impact from additional operational workers.</u>
	<u>5.12-63</u>	<u>FEIS says:</u> <u>Socioeconomic Impacts- Recreation: Overall impacts on recreation near the VEGP site would be minimal because of the remote location and fact that the facility would be operating in an area with an existing nuclear power facility.</u>
	<u>5.12-64</u>	<u>FEIS says:</u> <u>Socioeconomic Impacts- Housing: Adequate housing is available in the region to handle operational workers.</u>
	<u>5.12-65</u>	<u>FEIS says:</u>

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Section 5.12 Summary of Operational Impacts

Key Input numbers are not sequential because some input statements marked in the DEIS were ascertained by SMEs not to be key to the conclusions of the NRC and therefore were dropped from this table. Underlined text is new since evaluation based on DEIS.

EIS Section	Input Number	Key Input or Assumption
		<u>Socioeconomic Impacts- Public Services: Adequate in all counties for any population increase because of the operation workforce.</u>
	<u>5.12-66</u>	<u>FEIS says:</u> <u>Socioeconomic Impacts- Education: Current schools and planned additions would handle additional students.</u>
	<u>5.12-67</u>	<u>FEIS says:</u> <u>Historic and Cultural Resources – A cultural resource procedure is in place for minimizing impacts from routine land disturbances.</u>
	<u>5.12-68</u>	<u>FEIS says:</u> <u>Environmental Justice – Physical impacts would be SMALL. Economic impacts would be beneficial under existing tax law.</u>
	<u>5.12-69</u>	<u>FEIS says:</u> <u>Nonradiological Health Impacts – Small estimated river temperature increase would not significantly increase abundance of thermophilic microorganisms. Health impacts of noise, EMFs, and occupational injuries would be monitored and controlled in accordance with OSHA regulations.</u>
	<u>5.12-70</u>	<u>FEIS says:</u> <u>Radiological Health Impacts - Doses to the public and occupational workers would be monitored and controlled in accordance with NRC limits.</u>
	<u>5.12-71</u>	<u>FEIS says:</u> <u>Impacts of Postulated Accidents – Design-Basis Accidents: Doses for a Westinghouse AP1000 reactor are expected to be a small fraction of the regulatory dose limits.</u>
	<u>5.12-72</u>	<u>FEIS says:</u> <u>Impacts of Postulated Accidents – Severe Accidents: Risks would be small compared to the current-generation nuclear power facilities.</u>

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KEY INPUTS OR ASSUMPTIONS

Section 5.12 Summary of Operational Impacts

Key Input numbers are not sequential because some input statements marked in the DEIS were ascertained by SMEs not to be key to the conclusions of the NRC and therefore were dropped from this table. Underlined text is new since evaluation based on DEIS.

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS**

Section 6.1 Fuel Cycle Impacts and Solid Waste Management

Key Input numbers are not sequential because some input statements marked in the DEIS were ascertained by SMEs not to be key to the conclusions of the NRC and therefore were dropped from this table. Underlined text is new since evaluation based on DEIS.

EIS Section	Input Number	Key Input or Assumption
6.0	S6.0-1	<p>Southern Nuclear Operating Company, Inc. (Southern) used the Westinghouse AP1000 advanced light water reactor (LWR) design, assuming a capacity factor of 93 percent. The capacity factor reported by Westinghouse Electric Company, LLC (2005) for the Westinghouse AP1000 reactor design is 95 percent. The results reported here assume two units with a capacity factor of 95 percent.</p> <p><u>FEIS is identical</u></p>
6.1	S.6.1-1	<p>The power rating for the VEGP site is 6800 megawatts thermal (MW[t]), assuming that two Westinghouse AP1000 reactors would be located on the VEGP site (Southern 2007). With a capacity factor of 95 percent, this corresponds to 2185 MW(e).</p> <p><u>FEIS says:</u> <u>The power rating for the VEGP site is 6800 megawatts thermal (MW[t]), assuming that two Westinghouse AP1000 reactors would be located on the VEGP site (Southern 2008). With a capacity factor of 95 percent, this corresponds to 2185 MW(e).</u></p>
	S6.1-2	<p>the staff considered the capacity factor of 95 percent with a total net electric output of 2185 MW(e) for the proposed two new units at the VEGP site (Southern 2007)</p> <p><u>FEIS says:</u> <u>the staff considered the capacity factor of 95 percent with a total net electric output of 2185 MW(e) for the proposed two new units at the VEGP site (Southern 2008)</u></p>
	S6.1-3	<p>Based on data in the <i>Seventh Annual Report of the Council on Environmental Quality</i> (CEQ 1976), these emissions constitute a small additional atmospheric loading in comparison with emissions from the stationary fuel combustion and transportation sectors in the United States, which is about 0.06 percent of the annual national releases for each of these effluents.</p>

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KEY INPUTS OR ASSUMPTIONS

Section 6.1 Fuel Cycle Impacts and Solid Waste Management

Key Input numbers are not sequential because some input statements marked in the DEIS were ascertained by SMEs not to be key to the conclusions of the NRC and therefore were dropped from this table. Underlined text is new since evaluation based on DEIS.

EIS Section	Input Number	Key Input or Assumption
		<u>FEIS is identical</u>
	S6.1-4	<p>Southern provided an assessment of radon-222 and technetium-99 in its Environmental Report (ER) (Southern 2007). This evaluation relied on the information discussed in NUREG-1437 (NRC 1996).</p> <p><u>FEIS says:</u> <u>Southern provided an assessment of radon-222 and technetium-99 in its Environmental Report (ER) (Southern 2008). This evaluation relied on the information discussed in NUREG-1437 (NRC 1996a,b).</u></p>
	S6.1-5	<p>In the review and evaluation of the environmental impacts of the fuel cycle, the staff considered a capacity factor of 95 percent with a total net electric output of 2185 MW(e) for two new units at the VEGP site (Southern 2007).</p> <p><u>FEIS says:</u> <u>In the review and evaluation of the environmental impacts of the fuel cycle, the staff considered a capacity factor of 95 percent with a total net electric output of 2185 MW(e) for two new units at the VEGP site (Southern 2008).</u></p>
	S6.1-6	<p>For comparative purposes, the estimated collective dose from natural background radiation to the population within 80 km (50 mi) of the VEGP site is 2300 person-Sv/yr (230,000 person-rem/yr) (Southern 2007).</p> <p><u>FEIS says:</u> <u>For comparative purposes, the estimated collective dose from natural background radiation to the population within 80 km (50 mi) of the VEGP site is 2.43×10^3 person-Sv/yr (2.43×10^5 person-rem/yr) (Southern 2008).</u></p>

VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 6.2 Transportation Impacts

Key Input numbers are not sequential because some input statements marked in the DEIS were ascertained by SMEs not to be key to the conclusions of the NRC and therefore were dropped from this table. Underlined text is new since evaluation based on DEIS.

EIS Section	Input Number	Key Input or Assumption
6.2	S6.2-1	<p>In its application, Southern requested an ESP for two additional reactors at its VEGP site in Burke County, Georgia.</p> <p><u>FEIS is identical</u></p>
	S6.2-2	<p>Both proposed new reactors would be Westinghouse AP1000 advanced LWRs.</p> <p><u>FEIS is identical</u></p>
	S6.2-3	<p>The Westinghouse AP1000 reactor has a thermal power rating of 3400 MW(t), with a minimum net electrical output of 1117 MW(e).</p> <p><u>FEIS says:</u> <u>The Westinghouse AP1000 reactor has a thermal power rating of 3400 MW(t), with a minimum net electrical output of 1115 MW(e).</u></p>
	S6.2-4	<p>The Westinghouse AP1000 reactors are expected to operate with a 93 percent capacity factor, so the net electrical output (annualized) is about 1039 MW(e) (Southern 2007).</p> <p><u>FEIS says:</u> <u>The Westinghouse AP1000 reactors are expected to operate with a 93 percent capacity factor, so the net electrical output (annualized) is about 1037 MW(e) (Southern 2008).</u></p>
	S6.2-5	<p>Fuel for the plants would be enriched up to about 4.5 weight percent U-235, which exceeds the 10 CFR 51.52(a) condition.</p>

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KEY INPUTS OR ASSUMPTIONS
Section 6.2 Transportation Impacts

Key Input numbers are not sequential because some input statements marked in the DEIS were ascertained by SMEs not to be key to the conclusions of the NRC and therefore were dropped from this table. Underlined text is new since evaluation based on DEIS.

EIS Section	Input Number	Key Input or Assumption
		<u>FEIS says:</u> <u>Fuel for the plants would be enriched up to about 4.5 weight percent U-235 (Southern 2008), which exceeds the 10 CFR 51.52(a) condition.</u>
	S6.2-6	In addition, the expected irradiation level of about 48,700 MWd/MTU exceeds the 10 CFR 51.52(a) condition. <u>FEIS says:</u> <u>In addition, the expected irradiation level of about 48,700 MWd/MTU (Southern 2008) exceeds the 10 CFR 51.52(a) condition.</u>
	S6.2-7	In its ER (Southern 2007), Southern provided a full description and detailed analyses of transportation impacts that was based primarily on previous EISs for proposed ESP sites at North Anna, Clinton, and Grand Gulf (NRC 2004, 2005, and 2006, respectively). In these analyses, radiological impacts of transporting fuel and waste to/from the VEGP and alternative sites were calculated using the RADTRAN 5 computer code (Neuhauser et al. 2003). Since that time, a new version of RADTRAN 5 has been released (Weiner et al. 2006). Therefore, for this EIS, radiological impacts are calculated using the new version of RADTRAN 5. <u>FEIS says:</u> <u>In its ER (Southern 2008), Southern provided a full description and detailed analyses of transportation impacts that was based primarily on previous EISs for proposed ESP sites at North Anna, Clinton, and Grand Gulf (NRC 2006a, 2006b, and 2006c, respectively). In these analyses, radiological impacts of transporting fuel and waste to/from the VEGP and alternative sites were calculated using the RADTRAN 5 computer code (Neuhauser et al. 2003). Since that time, a new version of RADTRAN 5 has been released (Weiner et al. 2006). Therefore, for this EIS, radiological impacts are calculated using the new version of RADTRAN 5.</u>
	S6.2-8	Table 6-3 provides an estimate of the number of truck shipments of unirradiated fuel for the Westinghouse AP1000 advanced reactor design compared to those of the reference 1100-

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 6.2 Transportation Impacts**

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EIS Section	Input Number	Key Input or Assumption
		MW(e) reactor specified in WASH-1238 (AEC 1972) operating at 80-percent capacity(880 MW[e]). <u>FEIS is identical</u>
	S6.2-9	Southern specifies that unirradiated fuel would be shipped to the reactor site by truck. <u>FEIS is identical</u>
	S6.2-10	Southern states in its ER that the unirradiated fuel shipments to the proposed VEGP site would comply with applicable weight restrictions (Southern 2007). <u>FEIS says: Southern states in its ER that the unirradiated fuel shipments to the proposed VEGP site would comply with applicable weight restrictions (Southern 2008).</u>
	S6.2-11	One of the key assumptions in WASH-1238 (AEC 1972) for the reference LWR unirradiated fuel shipments is that the radiation dose rate at 1 m (3.3 ft) from the transport vehicle is about 0.001 mSv/hr (0.1 mrem/hr). This assumption was also used in the analysis of the Westinghouse AP1000 reactor unirradiated fuel shipments. <u>FEIS is identical</u>
	S6.2-12	Other key input parameters used in the radiation dose analysis for unirradiated fuel are shown in Table 6-4.

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KEY INPUTS OR ASSUMPTIONS
Section 6.2 Transportation Impacts**

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EIS Section	Input Number	Key Input or Assumption

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KEY INPUTS OR ASSUMPTIONS
Section 6.2 Transportation Impacts**

Key Input numbers are not sequential because some input statements marked in the DEIS were ascertained by SMEs not to be key to the conclusions of the NRC and therefore were dropped from this table. Underlined text is new since evaluation based on DEIS.

EIS Section	Input Number	Key Input or Assumption
		<u>FEIS is identical</u>
	S6.2-13	Accident frequencies for transportation of unirradiated fuel to the VEGP site are expected to be lower than those used in the analysis in WASH-1238 (AEC 1972), which forms the basis for Table S-4 of 10 CFR 51.52, because of improvements in highway safety and security, and an overall reduction in traffic accident, injury, and fatality rates since WASH-1238 was published. <u>FEIS is identical</u>
	S6.2-14	It was assumed that the destination for the spent fuel shipments is the proposed Yucca Mountain disposal facility in Nevada. <u>FEIS is identical</u>
	S6.2-15	The assumed capacity of a truck shipment of Westinghouse AP1000 reactor spent fuel was 0.5 MTU/shipment, the same capacity as that used in WASH-1238 (AEC 1972). <u>FEIS is identical</u>
	S6.2-16	Radiation doses are a function of many parameters, including vehicle speed, traffic count, dose rate, packaging dimensions, number in the truck crew, stop time, and population density at stops. A listing of the values for these and other parameters and the sources of the information is provided in Table 6-8. <u>FEIS is identical</u>
	S6.2-17	Annual doses were calculated assuming the annual number of spent fuel shipments is equivalent to the annual refueling requirements. <u>FEIS is identical</u>

VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 6.2 Transportation Impacts

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EIS Section	Input Number	Key Input or Assumption
	S6.2-18	<p>Southern described the results of a RADTRAN 5 analysis of the impacts of incident-free transport of spent fuel to a spent fuel disposal facility. The assumed transport of spent fuel originated from the Savannah River Site (a distance approximately equal to the VEGP site) and terminated at the proposed repository at Yucca Mountain, Nevada. Dose estimates per shipment were taken from three previous ESP EISs (NRC 2004, 2005, 2006) that used an earlier version of RADTRAN 5 than is available today. The results are similar to those calculated by the staff in this EIS</p> <p><u>FEIS says:</u> <u>Southern described the results of a RADTRAN 5 analysis of the impacts of incident-free transport of spent fuel to a spent fuel disposal facility. The assumed transport of spent fuel originated from the Savannah River Site (a distance approximately equal to the VEGP site) and terminated at the proposed repository at Yucca Mountain, Nevada. Dose estimates per shipment were taken from three previous ESP EISs (NRC 2006a, 2006b, 2006c) that used an earlier version of RADTRAN 5 than is available today. The results are similar to those calculated by the staff in this EIS.</u></p>
	S6.2-19	<p>The radionuclide inventories used in this analysis were from <i>Early Site Permit Environmental Report Sections and Supporting Documentation</i> (INEEL 2003) and are the same as those presented in Southern's ER.</p> <p><u>FEIS is identical</u></p>
	S6.2-20	<p>Spent fuel inventories used in the staff analysis are presented in Table 6-10.</p> <p><u>FEIS is identical</u></p>
	S6.2-21	<p>The VEGP Westinghouse AP1000 reactor spent fuel transportation accident impacts were calculated assuming the cobalt-60 inventory in the form of crud is 4.4 TBq/MTU (120 Ci/MTU), based on information in Sprung et al. (2000).</p> <p><u>FEIS is identical</u></p>

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 6.2 Transportation Impacts**

Key Input numbers are not sequential because some input statements marked in the DEIS were ascertained by SMEs not to be key to the conclusions of the NRC and therefore were dropped from this table. Underlined text is new since evaluation based on DEIS.

EIS Section	Input Number	Key Input or Assumption
	S6.2-22	The staff assumed that shipping casks for Westinghouse AP1000 reactor spent fuel would provide equivalent mechanical and thermal protection of the spent fuel cargo. <u>FEIS is identical</u>
	S6.2-23	As was done for routine exposures, the staff assumed that the numbers of shipments of spent fuel per year are equivalent to the annual discharge quantities. <u>FEIS is identical</u>
	S6.2-24	For this assessment, release fractions for current-generation LWR fuel designs (Sprung et al. 2000) were used to approximate the impacts from the Westinghouse AP1000 reactor spent fuel shipments. This assumes that the fuel materials and containment systems (i.e., cladding, fuel coatings) behave similarly to current LWR fuel under applied mechanical and thermal conditions <u>FEIS is identical</u>
	S6.2-25	State-by-state shipping distances were obtained from the TRAGIS output file and combined with the annual number of shipments and accident, injury, and fatality rates by state from Saricks and Tompkins (1999) to calculate nonradiological impacts. <u>FEIS is identical</u>
	S6.2-26	Radioactive waste from the Westinghouse AP1000 reactor is expected to be capable of being shipped in compliance with Federal or State weight restrictions <u>FEIS is identical</u>
	S6.2-27	Table 6-13 presents estimates of annual waste volumes and annual waste shipment numbers for a Westinghouse AP1000 reactor at the VEGP site normalized to the reference 1100-MW(e) LWR defined in WASH-1238 (AEC 1972).

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 6.2 Transportation Impacts**

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EIS Section	Input Number	Key Input or Assumption
		<u>FEIS is identical</u>
	S6.2-28	<p>Maximum projected waste generation rates for the VEGP ESP reactor could exceed the reference LWR waste generation rate. However, waste generation rate projections are uncertain and are a function of Southern's radioactive waste management practices. Therefore, waste generation rates for the VEGP reactor are anticipated to be much closer to the expected rate than the maximum rate.</p> <p><u>FEIS is identical</u></p>
	S6.2-29	<p>For this EIS, the shipping distance was assumed to be 800 km (500 mi) one way (AEC 1972).</p> <p><u>FEIS is identical</u></p>
	S6.2-30	<p>Because the actual destination is uncertain, national median accident, injury, and fatality rates were used in the calculations (Saricks and Tompkins 1999).</p> <p><u>FEIS is identical</u></p>

VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 6.3 Decommissioning Impacts

Key Input numbers are not sequential because some input statements marked in the DEIS were ascertained by SMEs not to be key to the conclusions of the NRC and therefore were dropped from this table. Underlined text is new since evaluation based on DEIS.

EIS Section	Input Number	Key Input or Assumption
6.3	S6.3-1	Southern did not provide this information in its application; however, it did provide a decommissioning cost analysis summary. <u>FEIS is identical</u>

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 7.0 Cumulative Impacts**

Key Input numbers are not sequential because some input statements marked in the DEIS were ascertained by SMEs not to be key to the conclusions of the NRC and therefore were dropped from this table. Underlined text is new since evaluation based on DEIS.

EIS Section	Input Number	Key Input or Assumption
<u>7.0</u>	<u>7.0-1</u>	<p><u>FEIS says:</u> <u>...the staff considered potential cumulative impacts that could occur because of the construction and operation of two Westinghouse Electric Company, LLC (Westinghouse) AP1000 advanced light-water reactors at the VEGP site. For purposes of this analysis, past actions include those related to the existing VEGP Units 1 and 2. Present actions are those related to resources at the time of the ESP application until the start of construction including the start of requested limited work authorization activities. Future actions are those that are reasonably foreseeable during construction and operation of the proposed VEGP Units 3 and 4, including decommissioning.</u></p>
	<u>S7.0-2</u>	<p><u>FEIS says:</u> <u>A draft supplemental environmental impact statement (EIS) for license renewal of VEGP Units 1 and 2 was published in April 2008 (NRC 2008).</u></p>
	<u>S7.0-3</u>	<p><u>FEIS says:</u> <u>The staff considered cumulative effects of the proposed VEGP Units 3 and 4 with current operations at the Savannah River Site, and proposed new facilities at the Savannah River Site such as the proposed mixed oxide (MOX) fuel fabrication facility (NRC 2005).</u></p>

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 7.1 Land Use**

Key Input numbers are not sequential because some input statements marked in the DEIS were ascertained by SMEs not to be key to the conclusions of the NRC and therefore were dropped from this table. Underlined text is new since evaluation based on DEIS.

EIS Section	Input Number	Key Input or Assumption
7.1	S7.1-1	the construction and the operations workforces are expected to be drawn from an area wider than Burke County, Georgia. <u>FEIS is identical</u>
	S7.1-2	Georgia Power Company (GPC) generally provides easements for agricultural activities under transmission lines. <u>FEIS is identical</u>

VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 7.2 Air Quality – Cumulative Impacts

Key Input numbers are not sequential because some input statements marked in the DEIS were ascertained by SMEs not to be key to the conclusions of the NRC and therefore were dropped from this table. Underlined text is new since evaluation based on DEIS.

EIS Section	Input Number	Key Input or Assumption
7.2	S7.2-1	<p>Permitted air emission sources nearby the VEGP site include the Allen B. Wilson Combustion Turbine Plant (Plant Wilson) and the Savannah River Site.</p> <p><u>FEIS is identical</u></p>
7.2	S7.2-2	<p>Plant Wilson has six combustion turbines and one black start diesel generator, all of which are listed as significant emission units in the facility's Title V Clean Air Act operating permit 4911-033-0008-V-02.0</p> <p><u>FEIS is identical</u></p>
7.2	S7.2-3	<p>Air emissions from Savannah River Site are permitted under DOE's operating permit (TV-0090-0041) and include radioactive, nonradioactive toxic, and criteria pollutants from approximately 47 nonexempt emission units, with each emission unit having specific emission limits, operating conditions, and monitoring and reporting requirements</p> <p><u>FEIS is identical</u></p>
7.2	S7.2-4	<p>A MOX facility has been proposed for development on the Savannah River Site.</p>

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 7.2 Air Quality – Cumulative Impacts**

Key Input numbers are not sequential because some input statements marked in the DEIS were ascertained by SMEs not to be key to the conclusions of the NRC and therefore were dropped from this table. Underlined text is new since evaluation based on DEIS.

EIS Section	Input Number	Key Input or Assumption
		<u>FEIS is identical</u>
7.2	S7.2-5	Emissions of criteria pollutants primarily include dust during construction and NO2 and particulates from processing during operation. <u>FEIS is identical</u>
7.2	S7.2-6	Limited air emissions would also result from emergency and standby diesel-power generators and fuel storage <u>FEIS is identical</u>
7.2	S7.2-7	VEGP site is located in an area that is in attainment for all criteria pollutants for which National Ambient Air Quality Standards (NAAQS) have been established. <u>FEIS is identical</u>
7.2	S7.2-8	Air-quality impacts associated with construction; emissions would be predominately dust from construction activities and exhaust from equipment and vehicles. <u>FEIS is identical</u>

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 7.2 Air Quality – Cumulative Impacts**

Key Input numbers are not sequential because some input statements marked in the DEIS were ascertained by SMEs not to be key to the conclusions of the NRC and therefore were dropped from this table. Underlined text is new since evaluation based on DEIS.

EIS Section	Input Number	Key Input or Assumption
7.2	S7.2-9	<p>Natural draft cooling towers proposed for VEGP Units 3 and 4 would not release emissions regulated under the NAAQS.</p> <p><u>FEIS is identical</u></p>
7.2	S7.2-10	<p>Air emissions from operations would be primarily from diesel generators and auxiliary power supplies.</p> <p><u>FEIS is identical</u></p>
7.2	S7.2-11	<p>These systems would be permitted and operated in accordance with State and Federal regulatory requirements</p> <p><u>FEIS is identical</u></p>
NA	NA	<p>On February 28, 2008, the NRC issued amendments to the operating licenses of VEGP Units 1 and 2, for measurement uncertainty recapture power uprates. The uprates increase the licensed core power level for each reactor from 3565 MW(t) to 3625.6 MW(t) (NRC 2008).</p> <p>FEIS: This statement or similar statement it does not appear in the FEIS.</p>

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 7.3 Water Use and Quality**

Key Input numbers are not sequential because some input statements marked in the DEIS were ascertained by SMEs not to be key to the conclusions of the NRC and therefore were dropped from this table. Underlined text is new since evaluation based on DEIS.

EIS Section	Input Number	Key Input or Assumption
7.3.1.1	S7.3-1	<p>As shown in Table 7-1, during periods of average discharge conditions, surface-water withdrawals amount to 2 percent of the [river] discharge.</p> <p><u>FEIS is identical</u></p>
	<u>S7.3-1a</u>	<p><u>FEIS says:</u> <u>Other past, present, and reasonably foreseeable future actions in the vicinity of the proposed site include (1) the cumulative impact from operation of the existing VEGP Units 1 and 2, (2) saltwater intrusion issues in the State of Georgia, (3) observed tritium in the unconfined aquifer, and (4) contamination in the environment surrounding the Savannah River Site.</u></p>
.	S7.3-2	<p>During periods of drought, the withdrawal percentage increases, finally reaching 4.6 percent when the river discharge has declined to Drought Level 3.</p> <p><u>FEIS is identical</u></p>
	S7.3-4	<p>At a [river] discharge rate of 424.85 m³/s (15,000 cfs), the combined withdrawal represents 1.2 percent of the total river discharge.</p> <p><u>FEIS is identical</u></p>

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Section 7.3 Water Use and Quality

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EIS Section	Input Number	Key Input or Assumption
	S7.3-6	<p>Assuming the river was at Drought Level 3 conditions, a further reduction of discharge resulting from the combined withdrawals of VEGP Units 1 through 4 resulted in a net lowering of the water surface elevation by 5 cm (2 in.).</p> <p><u>FEIS is identical</u></p>
	S7.3-7	<p>Under normal operating conditions, the consumptive use of the plants would be 1.90 m³/s (67 cfs) for VEGP Units 1 and 2 (Southern 2007a) and 1.76 m³/s (62 cfs) for the proposed VEGP Units 3 and 4 (Southern 2007a).</p> <p><u>FEIS is identical</u></p>
	S7.3-8	<p>The combined consumptive use is approximately 1.5 percent of the average river discharge and 3.4 percent of the discharge during Drought Level 3 conditions.</p> <p><u>FEIS is identical</u></p>

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EIS Section	Input Number	Key Input or Assumption
	S7.3-8a	<p>nearby water users to the proposed VEGP Units 3 and 4 include the existing VEGP Units 1 and 2, the South Carolina Electric and Gas (SCE&G) D-Area Powerhouse, and the SCE&G Urquhart Station.</p> <p><u>FEIS says:</u> <u>nearby water users to the proposed VEGP Units 3 and 4 include the existing VEGP Units 1 and 2 at rkm 243 (RM151), the South Carolina Electric and Gas (SCE&G) D-Area Powerhouse at rkm 249 (RM155), and the SCE&G Urquhart Station at rkm 314 (RM 195).</u></p>
	S7.3-9	<p>Of these, the D-Area Powerhouse consumptive use (1.89 m³/s [68.4 cfs]) and the Urquhart Station consumptive use (3.52 m³/s [127.5 cfs]) were the largest water users outside the VEGP site.</p> <p><u>FEIS says:</u> <u>Of these, the D-Area Powerhouse consumptive use (1.94 m³/s [68.4 cfs]) and the Urquhart Station consumptive use (3.61 m³/s [127.5 cfs]) were the largest water users outside the VEGP site.</u></p>
	<u>S7.3-9a</u>	<p><u>FEIS says:</u> <u>At a distance of 123.14 m (404 ft) downstream from the existing outfall, the expected increase in water temperature was computed to be less than 0.5°C (0.9°F) (Southern 2008a).</u></p>

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EIS Section	Input Number	Key Input or Assumption
	S7.3-10	Assuming maximum consumption from both the proposed VEGP Units 3 and 4, the maximum water withdrawal would be 4.77 m ³ /s (173 cfs), making the VEGP site the largest water consumer in the region. <u>This statement was not found in the FEIS.</u>
<u>7.3.1.1</u>	<u>S7.3-10a</u>	<u>FEIS says:</u> <u>The percentage of streamflow reduction in the Savannah River due to the operation of VEGP Units 1 through 4 would be 4.3 percent at 3000 cfs and 6.5 percent at 2000 cfs</u>
<u>7.3.1.1</u>	<u>S7.3-10b</u>	<u>FEIS says:</u> <u>The staff determined that the cumulative normal water consumptive use of all four VEGP units at the flows of 3000 and 2000 cfs will reduce the streamflow in the Savannah River further. However, these extreme low flow conditions will be very rare, temporary and not destabilizing to the water supply resource.</u>
<u>7.3.1.1</u>	<u>S7.3-10c</u>	<u>FEIS says:</u> <u>Based on changes between Revision 15 and Revision 16 of the AP1000 DCD, the normal surface water consumptive use for Vogtle Units 1 through 4 would increase approximately 3 cfs)</u>
<u>7.3.1.2</u>	<u>S7.3-11a</u>	<u>FEIS says:</u> <u>normal operation of VEGP Units 1 and 2, requiring 46.1 L/s (730 gpm)</u>
7.3.1.2	S7.3-11	the proposed VEGP Units 3 and 4, requiring 47.44 L/s (752 gpm) [of groundwater under normal conditions] <u>FEIS is identical</u>

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EIS Section	Input Number	Key Input or Assumption
7.3.1.2	<u>S7.3-11b</u>	<u>FEIS says:</u> Maximum rate for the operation of VEGP Units 3 and 4 is 198.1 L/s (2300 gpm)
	S7.3-12	the proposed VEGP Units 3 and 4 is 198.1 L/s (3140 gpm) [of groundwater under maximum withdrawal]. <u>FEIS is identical</u>
	<u>S7.3-12a</u>	<u>FEIS says:</u> <u>Data on the hydraulic properties of the Cretaceous aquifer are published in the Final Safety Analysis Report for VEGP Units 1 and 2 (Southern 2003) and were gathered during the installation and testing of the deep production wells. The transmissivity of 0.0227 m²/s (158,000 g/d/f) is identified by Southern (2008a) as a mid-range value for use in analyses. The storativity value of 3.1E-04 (dimensionless) is the arithmetic mean of values reported in the Final Safety Analysis Report (Southern 2003).</u>
	S7.3-13	The cumulative drawdown resulting from normal operation at the nearest offsite location is approximately 3.7 m (12 ft) in 2045 (i.e., after 59 years operation of VEGP Units 1 and 2 and 31 years operation of the proposed VEGP Units 3 and 4). <u>FEIS is identical</u>
	S7.3-14	Although the drawdown associated with a short-term (i.e., 2 days) maximum operational level

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		<p>is approximately 2.7 m (9 ft), a longer period response (i.e., 30 days) is approximately 6 m (20 ft).</p> <p><u>FEIS says:</u> <u>Although the drawdown associated with a short-term (i.e., 2 days) maximum operational level is approximately 2.75 m (9.0 ft), a longer period response (i.e., 30 days) is approximately 5.9 m (19.4 ft).</u></p>
	S7.3-15	<p>If either the proposed VEGP Unit 3 or 4 were to require maximum off-normal groundwater withdrawal, the incremental in drawdown after 30 days would be approximately 1.4 m (4.5 ft).</p> <p><u>FEIS says:</u> <u>If either of the proposed VEGP Unit 3 or 4 were to require maximum off-normal groundwater withdrawal, the incremental in drawdown after 30 days would be approximately 1.3 m (4.3 ft).</u></p>
	S7.3-15a	<p>Are within the operational tolerance of pumps installed to recover groundwater from confined aquifers</p> <p><u>FEIS is identical</u></p>
	S7.3-16	<p>The staff estimated the distance from the VEGP property line to the nearest proposed well location as 1070 m (3500 ft).</p> <p><u>FEIS is identical</u></p>

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EIS Section	Input Number	Key Input or Assumption
	S7.3-17	<p>The closest users of the Cretaceous aquifer are a municipal well 23.3 km (14.5 mi) away, an industrial well 13.7 km (8.5 mi) away, and wells located in the Savannah River Site D-Area 6.4 km (4 mi) away.</p> <p><u>FEIS is identical</u></p>
	<u>S7.3-17b</u>	<p><u>FEIS says:</u> <u>Based on permitted and reported groundwater usage in the region (Southern 2008a), approximately 60 MGD,...</u></p>
<u>7.3.1.2</u>	<u>S7.3-17a</u>	<p><u>FEIS says:</u> <u>Based on changes between Revision 15 and Revision 16 of the AP1000 DCD, the maximum groundwater demand for proposed Vogtle Units 3 and 4 would be expected to decrease by about 11 percent.</u></p>
	<u>S7.3-17c</u>	<p><u>FEIS says:</u> <u>The plan issued by Georgia (GDNR 2006)</u></p>
	<u>S7.3-17d</u>	<p><u>FEIS says:</u> <u>The South Carolina Water Plan (Badr et al. 2004)</u></p>
7.3.2.1	S7.3-18	<p>The effluent discharge from the proposed VEGP Units 3 and 4 was set at the maximum design discharge of 1939.7 L/s (68.5 cfs)</p> <p><u>FEIS is identical</u></p>

VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
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EIS Section	Input Number	Key Input or Assumption
	S7.3-19	Southern states in its ER that the two discharge locations would be 123.14 m (404 ft) apart <u>FEIS is identical</u>
	S7.3-20	At a distance of 123.14 m (404 ft) downstream from the existing outfall, the [cumulative] expected increase in water temperature was computed to be less than 0.5°C (0.9°F) <u>FEIS says:</u> <u>At this distance downstream from the existing discharge, the increase in water temperature above ambient was computed by staff to be 0.8°C (1.4°F).</u>
7.3.2.2	S7.3-21	Burke County is identified in that plan as one of 19 counties that do not contribute substantially to the development or extent of saltwater intrusion in coastal areas. <u>FEIS is identical</u>
	S7.3-22	Southern notes in its ER that groundwater wells would be-completed in the Cretaceous aquifer to supply groundwater for operation of the proposed VEGP Units 3 and 4, and that Southern would request a modification of the existing groundwater-use permit (Southern 2007a). <u>FEIS is identical</u>

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Section 7.3 Water Use and Quality**

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EIS Section	Input Number	Key Input or Assumption
	S7.3-23	<p>Transriver flow has been studied by the USGS (Clarke and West 1997, 1998; Cherry 2006) and found to be an unlikely source for the broadly observed tritium found in the unconfined aquifer in Georgia.</p> <p><u>FEIS is identical</u></p>
	<u>S7.3-23a</u>	<p><u>FEIS says:</u> <u>The source of the tritium has been resolved and does not involve VEGP operation</u></p>
NA	NA	<p>On February 28, 2008, the NRC issued amendments to the operating licenses of VEGP Units 1 and 2, for measurement uncertainty recapture power uprates. The uprates increase the licensed core power level for each reactor from 3565 MW(t) to 3625.6 MW(t) (NRC 2008).</p> <p>FEIS: This statement or a similar statement does not appear in the FEIS.</p>

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KEY INPUTS OR ASSUMPTIONS
Section 7.4 Terrestrial Ecosystem**

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EIS Section	Input Number	Key Input or Assumption
7.4	S7.4-1	<p>Approximately 200 ha (500 ac) of land would be disturbed by construction of the proposed VEGP Units 3 and 4.</p> <p><u>FEIS says:</u> <u>Approximately 225 ha (556 ac) of land would be disturbed by construction of the proposed VEGP Units 3 and 4 (Southern 2007b, 2008b).</u></p>
	S7.4-2	<p>An estimated 9.11 ha (22.5 ac) of wetlands habitat on the site would be disturbed with construction of the proposed VEGP Units 3 and 4.</p> <p><u>FEIS says:</u> <u>An estimated 8.5 ha (21 ac) of wetlands habitat on the site would be disturbed (Southern 2008b).</u></p>
	<u>S7.4-2a</u>	<p><u>FEIS says:</u> <u>Of the 8.5 ha (21 ac) that would be disturbed, only a small portion would be permanently lost (Southern 2007b).</u></p>
	S7.4-3	<p>The amount of acreage that would be disturbed represents about 13 percent of the total 69 ha (170 ac) of wetlands currently available onsite and less than 0.03 percent of available wetlands associated with the Savannah River floodplain in the vicinity of VEGP (i.e., within 16</p>

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EIS Section	Input Number	Key Input or Assumption
		<p>km [10 mi] from midpoint of VEGP).</p> <p><u>FEIS says:</u> <u>The amount of acreage that would be disturbed represents about 12.5 percent of the total 69 ha (170 ac) of wetlands currently available onsite and less than 0.03 percent of available wetlands associated with the Savannah River floodplain in the vicinity of the VEGP site (i.e., within 16 km [10 mi] from midpoint of VEGP).</u></p>
	S7.4-4	<p>Approximately 0.57 ha (1.4 ac) of land composed of pond and bottomland hardwood would be within the onsite portion of the new transmission line right-of-way.</p> <p><u>FEIS is identical</u></p>
	S7.4-5	<p>An estimated 113 ha (279 ac) of upland habitat including planted pines, previously disturbed areas, and open fields would be lost to permanent structures and facilities (including the onsite portion of the new transmission line), representing about 16 percent of the total 700 ha (1730 ac) of pine forests and open areas currently available onsite.</p> <p><u>FEIS says:</u> <u>An estimated 120 ha (297 ac) of upland habitat including planted pines, previously disturbed areas, and open fields would be lost to permanent structures and facilities (including the onsite portion of the new transmission line), representing about 17 percent of the total 700 ha (1730 ac) of pine forests and open areas currently available onsite.</u></p>
	S7.4-6	<p>The amount of upland habitat that would be disturbed is less than 0.05 percent of the available forested habitat (23,788 ha [58,781 ac]) in the vicinity of the VEGP site</p> <p><u>FEIS is identical</u></p>
	S7.4-7	<p>An estimated 1.6 ha (4 ac) of mixed hardwood and pine habitat would be lost to permanent structures and facilities, representing less than 1 percent of the total 248 ha (612 ac) of hardwood habitat available onsite and less than 0.5 percent of hardwoods (25,887 ha [63,966 ac]) in the vicinity of the site</p>

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EIS Section	Input Number	Key Input or Assumption
		<u>FEIS is identical</u>
	S7.4-8	The habitats that would be disturbed at VEGP are common in the region, and are not considered to be critical for the survival of any species including those Federally protected. <u>FEIS is identical</u>
	<u>S7.4-8a</u>	<u>FEIS says:</u> <u>There are four generating stations within 90 mi (145 km) of the VEGP site: the SCE&G Urquhart station, 21 m (34 km) from the VEGP site; the SCE&G D area powerhouse station, 20 mi (32 km) from the VEGP site; the GPC plant McIntosh, 83 mi (134 km) from the VEGP site; and the GPC Port Wentworth, 77 mi (124 km) from the VEGP site.</u>
	<u>S7.4-8b</u>	<u>FEIS says:</u> <u>There are three non-power generating plants that are on the Savannah River within the geographic area: the International Paper Corporation, the Savannah Industrial and Domestic Water plant, and the Beaufort-Jasper Water and Sewer authority wastewater treatment plant. Chemical discharges and the resulting bioaccumulation from these plants have the potential to have impacts on the surrounding area, including vegetation, wildlife, and wetlands (NRC 2008).</u>
	<u>S7.4-8c</u>	<u>FEIS says:</u> <u>...no other past, present, or future actions in the region were identified that could significantly affect wildlife and wildlife habitat in ways similar to those associated with the proposed VEGP Units 3 and 4 site cooling tower operation (cooling tower noise, drift from cooling towers, and birds colliding with cooling towers).</u>
	S7.4-9	Southern estimates that a single plume from the proposed VEGP Units 3 and 4 cooling towers would have a maximum deposition rate of only 4.0 kg/ha/mo (3.6 lbs/ac/mo). <u>FEIS is identical</u>

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KEY INPUTS OR ASSUMPTIONS
Section 7.4 Terrestrial Ecosystem**

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EIS Section	Input Number	Key Input or Assumption
	S7.4-10	Southern estimates that maximum deposition would occur approximately 490 m (1600 ft) from each tower. <u>FEIS is identical</u>
	S7.4-11	The maximum estimated cumulative deposition rate is about 8 kg/ac/mo (7 lbs/ac/mo) at 490 m (1600 ft) from the proposed VEGP Units 3 and 4 towers (4.0 kg/ac [3.6 lbs/ac] per tower). <u>FEIS is identical</u>
	S7.4-12	The existing pair of cooling towers for VEGP Units 1 and 2 are located approximately 1200 m (4000 ft) to the east-northeast of the proposed cooling towers <u>FEIS is identical</u>
	<u>S7.4-12a</u>	<u>FEIS says:</u> <u>The extent and type of wildlife habitat within the proposed new transmission line right-of-way is not known at this time because Southern and the GPC are evaluating rights-of-way alternatives within a larger Representative Delineated Corridor (RDC).</u>
	S7.4-14	It is anticipated that the transmission line would cross Burke, Jefferson, McDuffie, and Warren Counties and would be 45 m (150 ft) wide and 97 km (60 mi) long <u>FEIS is identical</u>
	S7.4-15	Based on the GPC analysis, habitats within the right-of-way could include approximately 97 ha (240 ac) of forested habitat, 133.1 ha (329 ac) of planted pine, 2.6 ha (6.4 ac) of open water, and 63.9 ha (158 ac) of open land <u>FEIS is identical</u>

**FEIS
KEY INPUTS OR ASSUMPTIONS
Section 7.4 Terrestrial Ecosystem**

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EIS Section	Input Number	Key Input or Assumption
	S7.4-16	<p>In the region surrounding the proposed transmission line right-of- way, there are approximately 18,085 ha (44,688 ac) of forest, 1354 ha (3346 ac) of open water, and 17,262 ha (42,656 ac) of open land</p> <p><u>FEIS is identical</u></p>
	S7.4-17	<p>There are no known occurrences of Federally listed threatened and endangered species within the RDC.</p> <p><u>FEIS is identical</u></p>
	<u>S7.4-17a</u>	<p><u>FEIS says:</u> <u>...no other past, present, or future actions in the region were identified that could significantly affect wildlife and wildlife habitat in ways similar to those associated with transmission line operation and right-of-way maintenance (i.e., birds colliding with transmission lines, flora and fauna affected by electromagnetic fields and right-of-way maintenance, and floodplains and wetlands affected by right-of-way maintenance).</u></p>

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EIS Section	Input Number	Key Input or Assumption
	S7.5-1	<p>Likewise, activities related to construction of the intake and discharge structures and the barge slip to support the proposed VEGP Units 3 and 4 would have minimal and temporary impacts on the aquatic ecosystem that can largely be mitigated, as discussed in Section 4.4.2.</p> <p><u>FEIS is identical</u></p>
	S7.5-2	<p>No species of special interest or Federally or State-listed threatened and endangered species are expected to be affected by construction activities (including the shortnose sturgeon [<i>Acipenser brevirostrum</i>]).</p> <p><u>FEIS says:</u> <u>No species of special interest or Federally or State-listed threatened and endangered species are expected to be affected by construction activities (including the shortnose sturgeon [<i>Acipenser brevirostrum</i>] occurring at, or adjacent to, the VEGP site).</u></p>
	<u>S7.5-2a</u>	<p><u>FEIS says:</u> <u>The U.S. Army Corps of Engineers (USACE), as authorized by the Rivers and Harbors Act, has the responsibility for maintaining a 27.4-m-wide by 2.74-m-deep (90-ft wide by 9-ft deep) channel in the Savannah River for navigational purposes.</u></p>
	<u>S7.5-2b</u>	<p><u>FEIS says:</u> <u>At the present time the dredging project is incompletely defined, the amount of material to be removed is unknown, and the locations of the dredged material disposal areas have not been identified.</u></p>

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 7.5 Aquatic Ecosystems**

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EIS Section	Input Number	Key Input or Assumption
	S7.5-3	Water consumed for operation of the proposed VEGP Units 3 and 4 would be less than 1 percent of the total river discharge during normal water periods and up to 1.7 percent during periods of relative water scarcity (Drought Level 3). <u>FEIS statement is identical.</u>
	S7.5-4	Including the consumptive use of VEGP Units 1, 2, 3, and 4, cumulative water use for the entire VEGP site, expressed as a percentage of Savannah River discharge, would range from 1.7 to 3.4 percent, as discussed in Section 7.3.2.1. <u>FEIS says:</u> <u>Including the consumptive use of VEGP Units 1, 2, 3, and 4, cumulative water use for the entire VEGP site, expressed as a percentage of Savannah River discharge, would range from 1.5 to 3.4 percent, as discussed in Section 7.3.2.1.</u>
	<u>S7.5-4a</u>	<u>FEIS says:</u> <u>The other facilities that withdraw large amounts of water in the vicinity of VEGP Units 3 and 4 include, VEGP Units 1 and 2 and the Savannah River site.</u>
	S7.5-5	In addition, a trip report from NRC staff (NRC 2007) including an investigation of the existing VEGP Units 1 and 2 intake, discussions with Southern staff, and examination of the traveling screens, wash system, and debris trough and basket, indicated that there was no evidence of any significant impingement of fish. <u>FEIS says:</u> <u>Preliminary data collected from the first few months of an impingement study indicate that the impingement losses from VEGP Units 1 and 2 are minor.</u>
	S7.5-6	As discussed in Section 5.4.2.2, the proposed closed-cycle cooling system (with cooling towers) for the proposed VEGP Units 3 and 4 would not be expected to result in measurable impingement or entrainment-related impacts.

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Section 7.5 Aquatic Ecosystems**

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EIS Section	Input Number	Key Input or Assumption
		<u>No comparable statement in the FEIS</u>
	S7.5-7	<p>Monitoring of two locations above and below the VEGP site by the Academy of Natural Sciences of Philadelphia (ANSP) has not reported any evidence of impacts from the existing VEGP Units 1 and 2 (ANSP 2003).</p> <p><u>No comparable statement in the FEIS</u></p>
	S7.5-8	<p>The maximum size, computed by the staff, of the area that would result in a 2.8°C (5°F) temperature increase above ambient mixing zone was approximately 29.6 m (97 ft) long (downstream) and 4.6 m (15 ft) wide. The size of the plume is small in comparison to the width of the Savannah River near the VEGP site.</p> <p><u>FEIS is identical</u></p>
	S7.5-9	<p>The effluent discharge from VEGP Units 1 and 2 at the proposed location for the VEGP Unit 3 and 4 discharge (123 m [404 ft]) downstream of the discharge for VEGP Units 1 and 2, resulted in an average increase of less than 0.5°C (0.9°F) (Southern 2007a).</p> <p><u>FEIS is identical</u></p>
	S7.5-10	<p>VEGP Units 1 and 2 are in compliance with the Clean Water Act Section 316(a) (thermal discharges) impacts from cooling water systems. Chemical releases from the existing units currently comply with the State of Georgia's National Pollutant Discharge Elimination System permit requirements and would continue to be monitored in the future.</p> <p><u>FEIS says:</u> <u>VEGP Units 1 and 2 are in compliance with the Clean Water Act Section 316(a) (thermal discharges) impacts from cooling water systems. Chemical releases from the existing units</u></p>

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EIS Section	Input Number	Key Input or Assumption
		<u>currently comply with the State of Georgia's National Pollutant Discharge Elimination System permit requirements and would continue to be monitored in the future and are expected to result in no detectable impacts to aquatic organisms.</u>
	S7.5-11	<p>Current and past activities at the DOE Savannah River Site have been well monitored, and studies by the ANSP have not reported any evidence of a Savannah River Site impact on the fish assemblages in the Savannah River (ANSP 2005).</p> <p><u>FEIS says:</u> <u>DOE Savannah River Site (SRS) conducted an ichthyoplankton study in the 1980s and concluded that operation of the SRS was not having an adverse impact on fish populations despite entrainment losses to the ichthyoplankton of 8.3 and 12.3 percent (Paller et al. 1986).</u></p>
	<u>S7.5-11a</u>	<p><u>FEIS says:</u> <u>Following publication of the draft EIS, Southern advised the NRC staff (Southern 2007f) that based on changes between Revision 15 and Revision 16 of the AP1000 DCD, the normal surface water withdrawal for Vogtle Units 1 through 4 would increase by approximately 3.5 cfs.</u></p>
	<u>S7.5-11b</u>	<p><u>FEIS says:</u> <u>...an increase in the normal water withdrawal to approximately 4.6 percent of the 3800 cfs river flow at Drought Level 3.</u></p>
	<u>S7.5-11c</u>	<p><u>FEIS says:</u> <u>At a river flow rate of 3000 cfs, the revised withdrawal rate would be 5.9 percent, and for 2000 cfs it would be 8.8 percent. Accordingly, because the change identified by Southern would result in only a minor increase in consumptive water use under Drought Level 3 conditions,...</u></p>
	<u>S7.5-11d</u>	<p><u>FEIS says:</u> <u>...determined that the cumulative normal water withdrawals of all four VEGP units at the low</u></p>

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 7.5 Aquatic Ecosystems**

Key Input numbers are not sequential because some input statements marked in the DEIS were ascertained by SMEs not to be key to the conclusions of the NRC and therefore were dropped from this table. Underlined text is new since evaluation based on DEIS.

EIS Section	Input Number	Key Input or Assumption
		<u>flows of 3000 and 2000 cfs may result in adverse impact to the fishery, primarily due to entrainment.</u>
	S7.5-12	<p>Anthropogenic stressors not directly associated with the VEGP site activities may contribute to the cumulative impacts to the river. These impacts include habitat loss and non-point pollution related to increased urbanization along the shores of the river and increased recreational use of the Savannah River. Although the potential for long-term development in this area exists, its interactions with plant operations is not expected to result in significant adverse impacts to the river downstream of the VEGP site.</p> <p><u>FEIS is identical; however the first sentence is the opening sentence of one paragraph and the next two sentences are in their own separate paragraph.</u></p>
	<u>S7.5-12a</u>	<p><u>FEIS says: These issues were identified in a report entitled Savannah River Basin Comprehensive Reconnaissance Study issued by the U.S. Army Corps of Engineers in July 1999 (USACE 1999) and are being addressed by both the States of Georgia and South Carolina (Southern 2007a).</u></p>

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS**

Section 7.6 Cumulative Impacts: Socioeconomics, Historic and Cultural Resources

Key Input numbers are not sequential because some input statements marked in the DEIS were ascertained by SMEs not to be key to the conclusions of the NRC and therefore were dropped from this table. Underlined text is new since evaluation based on DEIS.

EIS Section	Input Number	Key Input or Assumption
7.6	S7.6-3	The staff concludes that construction impacts would generally be SMALL, but there are exceptions if more workers than expected settle in Burke County, in which case a MODERATE impact level may be reached for the impacts on roads, housing, and some public services. <u>FEIS is identical</u>

**VEGP FEIS
KEY INPUTS OR ASSUMPTIONS**

Section 7.6 Socioeconomics, Historic And Cultural Resources, Environmental Justice

Key Input numbers are not sequential because some input statements marked in the DEIS were ascertained by SMEs not to be key to the conclusions of the NRC and therefore were dropped from this table. Underlined text is new since evaluation based on DEIS.

EIS Section	Input Number	Key Input or Assumption
7.6	S7.6-1	<p>The construction and operation of one or more additional units at the VEGP site would likely add significantly to cumulative cultural resource impacts. Cultural resources are non-renewable; therefore, the impact of destruction of cultural resources is cumulative. Because impacts to important resources from construction of the proposed VEGP Units 3 and 4 are moderate, the cumulative environmental impacts related to cultural resources would be MODERATE. <u>FEIS is identical</u></p>
	<u>S7.6-1a</u>	<p><u>FEIS says:</u> <u>The staff did not identify other past, present, or future actions with adverse cultural resource implications.</u></p>
7.6	S7.6-2	<p>The staff found no unusual resource dependencies or practices or environmental pathways through which minority and low-income populations would be disproportionately affected. <u>FEIS is identical</u></p>

VEGP FEIS
KEY INPUTS OR ASSUMPTIONS
Section 7.7 Nonradiological Health

Key Input numbers are not sequential because some input statements marked in the DEIS were ascertained by SMEs not to be key to the conclusions of the NRC and therefore were dropped from this table. Underlined text is new since evaluation based on DEIS.

EIS Section	Input Number	Key Input or Assumption
7.7	None <u>None</u>	

VEGP FEIS

KEY INPUTS OR ASSUMPTIONS

Section 7.8 Radiological Impacts of Normal Operations

Key Input numbers are not sequential because some input statements marked in the DEIS were ascertained by SMEs not to be key to the conclusions of the NRC and therefore were dropped from this table. Underlined text is new since evaluation based on DEIS.

EIS Section	Input Number	Key Input or Assumption
7.8	S 7.8-2	The annual release of tritium from the Savannah River Site has decreased from about 140,000 Ci in the mid 1960s to the present level below 5000 Ci. <u>FEIS is identical</u>
	S 7.8-3	The Savannah River Site (2006) reports mean tritium concentrations in the Savannah River (based on weekly sampling results) of 79.4 pCi/L upstream of the VEGP site (River Mile 160.0), 984 pCi/L at the VEGP site outfall (River Mile 150.4), and 546 pCi/L downstream of the VEGP site (River Mile 118.8). <u>FEIS is identical</u>

VEGP FEIS

KEY INPUTS OR ASSUMPTIONS

Section 7.8 Radiological Impacts of Normal Operations

Key Input numbers are not sequential because some input statements marked in the DEIS were ascertained by SMEs not to be key to the conclusions of the NRC and therefore were dropped from this table. Underlined text is new since evaluation based on DEIS.

EIS Section	Input Number	Key Input or Assumption
	S 7.8-4	<p>The Savannah River Site (2006) reports the population dose to be about 5.0 person-rem/yr for a population of 713,500.</p> <p><u>FEIS is identical</u></p>
	S 7.8-5	<p>Nine additional activities at the Savannah River Site, with the most significant contributor to dose being salt processing, have a combined MEI dose of 0.41 mrem/yr and a population dose of 21.6 person-rem/yr (NRC 2005).</p> <p><u>FEIS is identical</u></p>
	S 7.8-6	<p>The operations of Chem-Nuclear, Inc. and Starmet CMI, Inc. are reported not to noticeably affect radiation levels in air or water pathways near the Savannah River Site and would be expected to have an even lower effect near the VEGP site, which is more distant from these facilities.</p> <p><u>The FEIS says:</u> <u>The operations of Chem-Nuclear, Inc. and cleanup at Starmet CMI, Inc. are reported not to noticeably affect radiation levels in air or water pathways near the Savannah River Site and would be expected to have an even lower effect near the VEGP site, which is more distant from these facilities.</u></p>
	S 7.8-7	<p>Combining these results yields an estimate of cumulative impacts of about 2.9 mrem/yr for the MEI and about 30 person-rem/yr for the population dose.</p> <p><u>FEIS is identical</u></p>
	Additional information	<p>On February 28, 2008, the NRC issued amendments to the operating licenses of VEGP Units 1 and 2, for measurement uncertainty recapture power uprates. The uprates increase the licensed core power level for each reactor from 3565 MW(t) to 3625.6 MW(t) (NRC 2008).</p>

VEGP FEIS

KEY INPUTS OR ASSUMPTIONS

Section 7.8 Radiological Impacts of Normal Operations

Key Input numbers are not sequential because some input statements marked in the DEIS were ascertained by SMEs not to be key to the conclusions of the NRC and therefore were dropped from this table. Underlined text is new since evaluation based on DEIS.