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U.S.NRC
United States Nuclear Regulatory Commission
Protecting People and the Environment

NUREG-1872, Vol. 2

Final Environmental Impact Statement for an Early Site Permit (ESP) at the Vogtle Electric Generating Plant Site

Final Report

Appendices A through J

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Abstract

This environmental impact statement (EIS) has been prepared pursuant to the review by the U.S. Nuclear Regulatory Commission (NRC) of an application submitted by Southern Nuclear Operating Company, Inc. (Southern) for an early site permit (ESP). The proposed action requested in Southern's application is for the NRC to (1) approve a site within the existing Vogtle Electric Generating Plant (VEGP) boundaries as suitable for the construction and operation of a new nuclear power generating facility and (2) issue an ESP for the proposed location at the VEGP site, adjacent to the existing VEGP Units 1 and 2.

In its application, Southern proposes a plan for redressing the environmental effects of certain construction activities performed by an ESP holder under the additional authorization (in a limited work authorization) that may be sought pursuant to Title 10 of the Code of Federal Regulations (CFR) Section 52.25. These construction activities are defined by 10 CFR 50.10(a). In accordance with the plan, the construction activities would be redressed if the NRC issues the requested ESP (including the site redress plan), the ESP holder performs these construction activities, the ESP is not referenced in an application for a construction permit or combined operating license, and no alternative use is found for the site.

This EIS includes the NRC staff's analysis that considers and weighs the environmental impacts of constructing and operating new units at the VEGP site or at alternative sites, and mitigation measures available for reducing or avoiding adverse impacts. It also includes the staff's recommendation to the Commission regarding the proposed action. The NRC staff's recommendation to the Commission related to the environmental aspects of the proposed action is that the ESP should be issued as proposed. The staff's evaluation of the site safety and emergency preparedness aspects of the proposed action will be addressed in the staff's safety evaluation report and supporting documentation that is anticipated to be published in February 2009. This recommendation is based on (1) the application, including the Environmental Report (ER), submitted by Southern; (2) consultation with Federal, State, Tribal, and local agencies; (3) the staff's independent review; (4) the staff's consideration of comments related to the environmental review that were received during the public scoping process and the draft EIS; and (5) the assessments summarized in this EIS, including the potential mitigation measures identified in the ER and this EIS. In addition, in making its recommendation, the staff determined that there are no environmentally preferable or obviously superior sites. Finally, the staff has concluded that the construction activities defined by 10 CFR 50.10(a)(1) requested by Southern in its application will not result in any significant adverse environmental impact that cannot be redressed.

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Executive Summary

On August 14, 2006, Southern Nuclear Operating Company, Inc. (Southern) submitted to the U.S. Nuclear Regulatory Commission (NRC) an application for an early site permit (ESP) for a site within the Vogtle Electric Generating Plant (VEGP) site, adjacent to the existing VEGP Units 1 and 2. The site is located in Burke County, Georgia, approximately 42 km (26 mi) southeast of Augusta, Georgia. An ESP is a Commission approval of a site for one or more nuclear power facilities and is a separate action from the filing of an application for a construction permit (CP) or combined license (COL) for such a facility. An ESP is not a license to build a nuclear power plant; rather, the application for an ESP initiates a process undertaken to assess whether a proposed site is suitable should Southern decide to pursue a CP or COL.

Section 102 of the National Environmental Policy Act of 1969 (NEPA) (42 USC 4321) directs that an environmental impact statement (EIS) be prepared for major Federal actions that significantly affect the quality of the human environment. The NRC has implemented Section 102 of NEPA in Title 10 of the Code of Federal Regulations (CFR) Part 51. Subpart A of 10 CFR Part 52 contains the NRC regulations related to ESPs. As set forth in 10 CFR 52.18, the Commission has determined that an EIS will be prepared during the review of an application for an ESP. The purpose of Southern's requested action, issuance of the ESP, is for the NRC to determine whether the VEGP site is suitable for the proposed two new units (VEGP Units 3 and 4) by resolving certain safety and environmental issues before Southern incurs the substantial additional time and expense of designing and seeking approval to construct such a facility at the site. Part 52 of CFR Title 10 describes the ESP as a "partial construction permit." An applicant for a CP or COL for a nuclear power plant or plants to be located at the site for which an ESP was issued can reference the ESP, thus eliminating the review of siting issues at that stage of the licensing process. However, granting a CP or COL to construct and operate a nuclear power plant is a major Federal action and would require an EIS be issued in accordance with 10 CFR Part 51.

Three primary issues – site safety, environmental impacts, and emergency planning – must be addressed in the ESP application. In its review of the application, the NRC assesses Southern's proposal in relation to these issues and determines if the application meets the requirements of the Atomic Energy Act of 1954 and the NRC regulations. This EIS addresses the potential environmental impacts resulting from the construction and operation of two new units at the VEGP site.

An ESP application may refer to a plant parameter envelope, which is a set of postulated design parameters that bound the characteristics of one or more reactor designs that might be built at a selected site; alternatively, an ESP application may refer to a detailed reactor design. In its ESP application, Southern has specified the Westinghouse AP1000 as the proposed detailed reactor design.

In its application, Southern requested authorization to perform certain construction activities if an ESP is issued. The application, therefore, includes a site redress plan that specifies how Southern would stabilize and restore the portion of the site associated with construction

activities to its preconstruction condition (or conditions consistent with an alternative use) in the event a nuclear power plant is not constructed on the approved site. In addition, Southern addressed the benefits of the proposed action (e.g., the need for power). In accordance with 10 CFR 52.18, the EIS is focused on the environmental effects of construction and operation of a reactor, or reactors, that have characteristics that fall within the postulated site parameters.

Upon acceptance of the Southern application, the NRC began the environmental review process described in 10 CFR Part 51 by publishing in the *Federal Register* a Notice of Intent (71 FR 58882) to prepare an EIS and conduct scoping. The staff held a public scoping meeting in Waynesboro, Georgia, on October 19, 2006, and visited the VEGP site in October 2006. Subsequent to the scoping meeting and the site visit, and in accordance with the provisions of NEPA and 10 CFR Part 51, the staff determined and evaluated the potential environmental impacts of constructing and operating new units at the VEGP site. Included in this EIS are (1) the results of the NRC staff's analyses, which consider and weigh the environmental effects of the proposed action (i.e., issuance of the ESP) and of constructing and operating two additional nuclear units at the ESP site; (2) mitigation measures for reducing or avoiding adverse effects; (3) the environmental impacts of alternatives to the proposed action; and (4) the staff's recommendation regarding the proposed action.

During the course of preparing this EIS, the staff reviewed the application, including the Environmental Report (ER) submitted by Southern; consulted with Federal, State, Tribal, and local agencies; and followed the guidance set forth in NRC review standard RS-002, *Processing Applications for Early Site Permits*, to conduct an independent review of the issues. The review standard draws from the previously published NUREG-0800, *Standard Review Plan for the Review of Safety Analysis for Nuclear Power Plants*, and NUREG-1555, *Environmental Standard Review Plan* (ESRP). In addition, the staff considered the public comments related to the environmental review received during the scoping process. These comments are provided in Appendix D of this EIS.

The results of this evaluation were documented in a draft EIS issued for public comment in September 2007. During the comment period, the staff conducted a public meeting on October 4, 2007, in Waynesboro, Georgia, to describe the results of the NRC environmental review, answer questions, and provide members of the public with information to assist them in formulating comments on the draft EIS. After the comment period closed, the staff considered and dispositioned all the comments received. These comments are addressed in Appendix E of this EIS.

To guide its assessment of environmental impacts of a proposed action or alternative actions, the NRC has established a standard of significance for impacts using Council on Environmental Quality guidance (40 CFR 1508.27). Using this approach, the NRC established three significance levels – SMALL, MODERATE, or LARGE. The definitions of the three significance levels are as follows:

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

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

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

Mitigation measures were considered for each environmental issue and are discussed in the appropriate sections.

The staff's recommendation to the Commission related to the environmental aspects of the proposed action is that the ESP should be issued as proposed. The staff's evaluation of the site safety and emergency preparedness aspects of the proposed action will be addressed in the staff's safety evaluation report anticipated to be published in February 2009.

This recommendation is based on (1) the application and supporting documentation, including the ER submitted by Southern; (2) consultation with other Federal, State, Tribal, and local agencies; (3) the staff's independent review; (4) the staff's consideration of public comments related to the environmental review that were received during the scoping process and the draft EIS public comment period; and (5) the assessments summarized in the EIS, including the potential mitigation measures identified in the ER and this EIS. In addition, in making its recommendation to the Commission, the staff has determined that there are no environmentally preferable or obviously superior sites among the alternative sites considered. Finally, the staff has concluded that the construction activities requested by Southern (as defined under 10 CFR 50.10(a)) would not result in any significant adverse environmental impact that cannot be redressed.

Abbreviations/Acronyms

AADT	Average Annual Daily Traffic
ac	acre(s)
ac-ft	acre-feet
ADAMS	Agencywide Document Access and Management System
ADCNR	Alabama Department of Conservation and Natural Resources
ADEM	Alabama Department of Environmental Management
AEC	Atomic Energy Commission
ALARA	as low as reasonably achievable
ALNHP	Alabama Natural Heritage Program
ANSP	(The) Academy of Natural Sciences of Philadelphia
APE	Area of Potential Effect
AQCR	Air Quality Control Region
AQI	Air Quality Index
ASMFC	Atlantic States Marine Fisheries Commission
AWEA	American Wind Energy Association
BEIR	Biological Effects of Ionizing Radiation
BMP	best management practices
Bq	becquerel
Bq/yr	becquerel per year
BTS	Bureau of Transportation Statistics
Btu	British thermal unit(s)
Btu/hr	British thermal units per hour
BWR	boiling water reactor
°C	degree Celsius
CAA	Clean Air Act
CDC	U.S. Centers for Disease Control and Prevention
CDF	core damage frequency
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
cfs	cubic feet per second (water flow)
Ci	curies
Ci/yr	curies per year
Ci/MTU	curies per metric ton uranium
cm	centimeter(s)
cm/s	centimeters per second
cm/yr	centimeters per year
CO	carbon monoxide
CO_2	carbon dioxide
COL	combined license
CORMIX	Cornell Mixing Zone Expert System
CP	construction permit
CSSI	Coastal Sound Science Initiative

CWA	Clean Water Act
CWIS	cooling water intake structure
CWS	circulating water system
CSX	CSX Transportation, Inc.
d	day
dBA	decibel(s)
DBA	design basis accident(s)
DOE	U.S. Department of Energy
DOT	U.S. Department of Transportation
EAB	exclusion area boundary
ECHD	East Central Health District
EIA	Energy Information Administration
EIS	environmental impact statement
ELF	extremely low frequency
EMC	Electric Membership Corporation
EMF	electromagnetic field(s)
EPA	U.S. Environmental Protection Agency
EPD	Environmental Protection Division
EPRI	Electric Power Research Institute
ER	Environmental Report
ESA	Endangered Species Act
ESP	early site permit
ESRP	Environmental Standard Review Plan
°F	degree Fahrenheit
FAA	Federal Aviation Administration
Farley	Joseph M Farley Nuclear Plant
FCWA	Federal Clean Water Act (also known as the Clean Water Act)
FERC	Federal Energy Regulatory Commission
FES	Final Environmental Statement
FR	Federal Register
FSAR	Final Safety Analysis Report
FSER	Final Safety Evaluation Report
ft	foot/feet
ft/s	feet per second
ft^3/yr	cubic feet per year
FWS	U.S. Fish and Wildlife Service
gal	gallon(s)
gal/d/ft	gallon(s) per day per foot
gal/yr	gallon(s) per year
GBq	gigabecquarel
GDHR	Georgia Department of Human Resources
GDNR	Georgia Department of Natural Resources
GDOT	Georgia Department of Transportation
GEIS	generic environmental impact statement
GOPBP	Georgia Office of Planning and Budget Policy
GOSA	Governor's Office of Student Achievement

GPC	Georgia Power Company
gpd	gallons per day
gpm	gallons per minute
GPSC	Georgia Public Service Commission
GTC	Georgia Transmission Corporation
ha	hectare(s)
Hatch	Edwin I Hatch Nuclear Plant
HLW	high-level waste
hr	hour
hz	hertz
IAEA	International Atomic Energy Agency
ICRP	International Commission on Radiological Protection
IGCC	integrated gasification combined cycle
in.	inch(es)
in./s	inch(es) per second
in./yr	inch(es) per year
Inc.	Incorporated
INEEL	Idaho National Engineering and Environmental Laboratory
IRP	Integrated Resource Plan
ISFSI	Independent Spent Fuel Storage Installation
ISWA	Integrated Waste Services Association
kg	kilogram(s)
kg/ac	kilogram(s) per acre
kg/ha/mo	kilogram(s) per hectare per month
km	kilometer(s)
km^2	square kilometer(s)
kV	kilovolt
kVh	kilovolt hour
L	liter(s)
lb	pound(s)
LC50	Lethal Concentration 50 (i.e., the concentration of a chemical that kills 50 percent of the sample population)
L/d	liter(s) per day
L/d/m	liter(s) per day per meter
L/s	liter(s) per second
lbs/ac/mo	pounds per acre per month
lbs/acre	pounds per acre
LLC	limited liability company
LPZ	low population zone
LWA	limited work authorization
LWR	light-water reactor
m	meter(s)
m/s	meter(s) per second
m^2/s	square meter(s) per second
m^3/d	cubic meter(s) per day
m^3/s	cubic meter(s) per second

m^3/yr	cubic meter(s) per year
MACC2	MELCOR Accident Consequence Code System Version 2
MBq	million Becquerel(s)
MCL	maximum concentration limit
MEAG	Municipal Electric Authority of Georgia
MEI	maximally exposed individual
mg/l	milligram(s) per liter
MGD	million gallons per day
mGy/yr	milligray per year
mi	mile(s)
mi^2	square mile(s)
MIT	Massachusetts Institute of Technology
mL	milliliter(s)
MOX	mixed oxide fuel
mph	miles per hour
mR	milliroentgen(s)
mrad	millirad(s)
mrem	millirem(s)
mrem/hr	millirem(s) per hour
mrem/yr	millirem(s) per year
MSL	mean sea level
mSv	millisievert(s)
mSv/yr	millisievert(s) per year
MT	metric ton(s) (or tonne[s])
MTBE	methyl tert-butyl ether
MTU	metric ton(s)-uranium
MTU/yr	metric ton(s)-uranium/per year
MW	megawatt(s)
MWd/MTU	megawatt-days per metric ton of uranium
MW(e)	megawatts electric
MWh	megawatt hour(s)
MW(t)	megawatts thermal
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act of 1990
NAS	National Academy of Sciences
NAVD	North American Vertical Datum
NCDC	National Climatic Data Center
NCES	National Center for Education Statistics
NCI	National Cancer Institute
NCRP	National Council on Radiation Protection and Measurements
NEPA	National Environmental Policy Act of 1969
NESC	National Electrical Safety Code
NHPA	National Historic Preservation Act of 1966
NIEHS	National Institute of Environmental Health Sciences
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration

NOAA-CSC	National Oceanic and Atmospheric Administration's Coastal Service Center
NO_x	nitrogen oxide
NPCC	Northwest Power and Conservation Council
NPDES	National Pollutant Discharge Elimination System
NPF	Nuclear Power Facility
NRC	U.S. Nuclear Regulatory Commission
NRCS	Natural Resources Conservation Service
NRSAL	Natural Resource Spatial Analysis Laboratory
NSA	New South Associates
NSC	National Safety Council
NSPS	new source performance standards
OCGA	Official Code of Georgia
OECD	Organization for Economic Co-operation and Development
OPC	Oglethorpe Power Corporation
OSHA	Occupational Safety and Health Administration
PAM	primary amoebic meningoencephalitis
PARS	Publicly Available Records System
pCi/L	picocuries per liter
PM	particulate matter
$PM_{2.5}$	particulate matter smaller than 2.5 micrometers
PM_{10}	particulate matter smaller than 10 micrometers
PNNL	Pacific Northwest National Laboratory
POR	period of record
PPE	plant parameter envelope
ppm	parts per million
PRA	probabilistic risk assessment
PSD	prevention significant deterioration
PWR	pressurized water reactor
RAI	Request(s) for Additional Information
RCRA	Resource Conservation and Recovery Act
RDC	Representative Delineated Corridor
REMP	radiological environmental monitoring program
rkm	River Kilometers
RM	River Mile
ROI	region of interest
RRCC	Robust Redhorse Conservation Committee
RSICC	Radiation Safety Information Computational Center
Ryr	per reactor year
SACTI	Seasonal and Annual Cooling Tower Impacts
SAMA	severe accident mitigation alternative
SAMDA	severe accident mitigation design alternative
SC DHEC	South Carolina Department of Health and Environmental Control
SC DNR	South Carolina Department of Natural Resources
SCE&G	South Carolina Electric and Gas
SCR	selective catalytic reduction
SDWIS	Safe Drinking Water Information System

SEARPDC	Southeast Alabama Regional Planning and Development Commission
SERC	South Eastern Reliability Council
SER	safety evaluation report
SHPO	State Historic Preservation Office/Officer
SO_2	sulfur dioxide
SO_x	sulfur oxide
Southern	Southern Nuclear Operating Company, Inc.
SPCC	Spill Prevention Control and Countermeasure Plan
SSAR	Site Safety Analysis Report
SSURGO	Soil Survey Geographic
Sv	sievert
Sv/yr	sievert per year
SWPPP	Stormwater Pollution Prevention Plan
SWS	service water system
TBq	terabecquerel
TBq/MTU	terabecquerel per metric ton(s)-uranium
TDS	total dissolved solids
TEDE	total effective dose equivalent
THPO	Tribal Historic Preservation Offices/Officers
TLD	thermoluminescent dosimeter
tpy	tons per year
TRC	Third Rock Consultants, LLC
TRU	transuranic (waste)
UHS	ultimate heat sink
USACE	U.S. Army Corps of Engineers
USBEA	U.S. Bureau of Economic Analysis
USBLS	U.S. Bureau of Labor Statistics
USC	United States Code
USCB	U.S. Census Bureau
USGS	U.S. Geological Survey
VEGP	Vogtle Electric Generating Plant
VOC	volatile organic compound
Westinghouse	Westinghouse Electric Company, LLC
WMA	Wildlife Management Area
WNA	World Nuclear Association
WSRC	Westinghouse Savannah River Company
χ/Q	dispersion values
yr	year(s)

Appendix A

Contributors to the Environmental Impact Statement

Appendix A

Contributors to the Environmental Impact Statement

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

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Kenneth See	Office of New Reactors	Water Use, Hydrology, Geology
Alan Bjornsen	Office of New Reactors	Water Use, Hydrology, Geology
Christopher Cook	Office of New Reactors	Water Use, Hydrology, Plant System Alternatives
Dan Mussatti	Office of New Reactors	Socioeconomics, Environmental Justice, Cost of Power
Nancy Kuntzleman	Office of New Reactors	Ecology
Jennifer Davis	Nuclear Reactor Regulation	Cultural Resources
Michael Dusaniwskyj	Nuclear Reactor Regulation	Need for Power
Michael Masnik	Office of New Reactors	Ecology
Steven Schaffer	Office of New Reactors	Radiological Impacts
Tom Kenyon	Office of New Reactors	Land Use, Alternatives, Noise, Non-Radiological Impacts
Paul Kallan	Office of New Reactors	Land Use, Alternatives, Noise, Non-Radiological Impacts
Michael Willingham	Office of New Reactors	Land Use, Ecology
Irene Yu	Office of New Reactors	Project Management Support, Ecology
Laura Quinn	Office of New Reactors	Project Management Support
Linda Tello	Office of New Reactors	Project Management Support
Tomeka Terry	Office of New Reactors	Project Management Support
Jonathan Rund	Office of General Counsel	Attorney
Patrick Moulding	Office of General Counsel	Attorney
Robert Weisman	Office of General Counsel	Attorney
Ann Hodgdon	Office of General Counsel	Attorney
James Park	Office of Nuclear Material Safety and Safeguards	Fuel Cycle Impacts, Severe Accidents
Robert Schaaf	Office of New Reactors	Transportation of Radioactive Materials
John Fringer	Office of New Reactors	Deputy Project Manager

Name	Affiliation	Function or Expertise
Peyton Doub	Office of New Reactors	Ecology
Jill Caverly	Office of New Reactors	Hydrologist
	PACIFIC NORTHWEST NATIONAL LABORATORY[a]	
Michael Sackschewsky		Task Leader
Kimberly Leigh		Deputy Task Leader
Beverly Miller		Deputy Task Leader
Amanda Stegen		Terrestrial Ecology
James V. Ramsdell, Jr.		Meteorology and Air Quality, Design Basis and Severe Accidents, Nonradiological Health
Jeremy Rishel		Meteorology and Air Quality
Katherine Cort		Socioeconomics, Environmental Justice, Need for Power, Benefit-Cost Balance
Corey Duberstein		Terrestrial Ecology
Tom Carlson		Terrestrial Ecology (Noise)
Rebekah Krieg		Aquatic Ecology
Nona Diediker		Aquatic Ecology
Michelle Chamness		Aquatic Ecology
Tim Hanrahan		Aquatic Ecology
Paul Hendrickson		Land Use, Energy and Site Alternatives
Michael Smith		Radiation Protection
Richard Barry		Non-Radiological Health
Philip Daling		Transportation
Darby Stapp		Cultural Resources
Eva Eckert Hickey		Radiation Protection
Douglas Elliott		Socioeconomics, Environmental Justice
Charles Kincaid		Water Use, Hydrology, Plant System Alternatives
Lance Vail		Water Use, Hydrology, Plant System Alternatives
Cary Counts		Technical Editing
Denice Carrothers		Technical Editing
Dave Payson		Technical Editing
Barbara Wilson		Publications Assistant
Sharon Johnson		Reference Coordinator
Meredith Willingham		Reference Coordinator Assistant
Michael Parker		Document Design
Kathy Neiderhiser		Document Design
Stacy Larsen		Document Design

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

Appendix B

Organizations Contacted

Appendix B

Organizations Contacted

The following Federal, State, regional, Tribal, and local organizations were contacted during the course of the U.S. Nuclear Regulatory Commission staff's independent review of potential environmental impacts from the siting of two new nuclear units (Units 3 and 4) at the Vogtle Electric Generating Plant in Burke County, Georgia:

Absentee-Shawnee Tribe of Oklahoma, Shawnee, Oklahoma. Director of the Cultural/Historical Preservation Department, Karen Kaniatobe

Advisory Council on Historic Preservation, Washington, D.C. Director, Don Klima

Alabama-Coushatta Tribe of Texas, Livingston, Texas. Tribal Historic Preservation Officer, Debbie Thomas

Alabama Department of Conservation and Natural Resources, State Lands Division Natural Heritage Section, Montgomery, Alabama.

- Gregory M. Lein, Assistant Director
- Jo Lewis, Database Manager
- Penny Ragland, Database Manager

Alabama Historical Commission, Montgomery, Alabama. State Historic Preservation Officer, Dr. Ed Bridges

Alabama-Quassarte Tribal Town, Wetumka, Oklahoma. Chief, Tarpie Yargee

Augusta Planning and Zoning Commission, Augusta, Georgia. Executive Director of Planning and Zoning, George Patty

Augusta Planning and Zoning Commission, Augusta, Georgia. Planning Director, Paul De Camp

Bethel Apostolic Church and Burke County Citizens Hunger Action Committee, Waynesboro, Georgia. Pastor, the Reverend Robert Lynch and head of Burke Country Citizens Action Committee

Burke County, Waynesboro, Georgia.

- Merv Waldrop, County Administrator
- Jerry Long, Executive Director, Development Authority of Burke County
- Bill Owens, Building Official, Department of Planning, Permits, and Inspections
- Patricia May, Chief Appraiser, Tax Assessors Office.
- Cynthia McManis, Tax Assessors Office

Burke County Board of Education, Waynesboro, Georgia. Assistant Superintendent, Wilbert Roberts

Burke County Chamber of Commerce, Waynesboro, Georgia. Executive Director, Ashley Long

Burke County Department of Family and Children Services, Waynesboro, Georgia. Director, Alane Hickman

Burke County Habitat for Humanity, Waynesboro, Georgia. Edwin Stephens

Carpenters and Millwrights Local Union No. 283, Augusta, Georgia. Business Representative, Tom Jenkins

Catawba Indian Tribe, Catawba, South Carolina. Chairperson, Gilbert Blue

Cherokee Nation of Oklahoma, Tahlequa, Oklahoma.

- Richard L. Allen, Native American Graves Protection and Repatriation Act (NAGPRA) Contact
- Chadwick Smith, Principal Chief

Chickasaw Nation of Oklahoma, Ada, Oklahoma.

- Gingy (Virginia) Nail, NAGPRA Contact
- Bill Anoatubby, Governor

Columbia County Development Services, Evans, Georgia. Planning Director, Jeff Browning

Coushatta Tribe of Louisiana, Elton, Louisiana. John Zachary

Cox Real Estate, Waynesboro, Georgia. Realtor, Cathy Hawkins

Eastern Band of Cherokee Indians, Cherokee, North Carolina.

- Kathy McCoy, NAGPRA Contact
- Michell Hicks, Principal Chief

Georgia Department of Health, Atlanta, Georgia. Syndromic Surveillance Epidemiologist, Wendy Cameron

Georgia Environmental Protection Division, Atlanta, Georgia. Geologist, E. Allison Keefer

Georgia Department of Natural Resources, Atlanta, Georgia.

- I.B. Parnell, Senior Wildlife Biologist
- Jim Kennedy, State Geologist
- Tom Patrick, Botanist
- Greg Krakow, Data Manager
- Matt Elliott, Program Manager
- John Biagi, Assistant Chief
- Ray Luce, Deputy State Historic Preservation Officer.
- Sabrina Glenn, Environmental Engineer
- Renee Hurson Goodley, Program Manager
- Ted V. Jackson, Radiation Program Manager
- Jeffrey Larson, Water Protection Branch Chief
- Joseph Kane, Principal Environmental Engineer
- Earl Shapiro, Advanced Geologist
- Christine Voudy, Geologist
- Tim Barnett, Sport Fish Division
- Elizabeth Shirk, Environmental Review Coordinator
- David Crass, State Archaeologist
- Robert Entorf, Compliance Archaeologist
- Karen Anderson-Cordova, Unit Manager

Georgia Tribe of Eastern Cherokee, Clayton, Georgia. NAGPRA Contact, Charles Thurmond

International Brotherhood of Electrical Workers Local 1579, Augusta, Georgia. Business Representative and Political Coordinator, Johnny Hutcheson

Kialegee Tribal Town, Wetumka, Oklahoma. Town King, Evelyn Bucktrot

Miccosukee Tribe of Indians of Florida, Miami, Florida. Land Resources Manager, Steven Terry

Mississippi Band of Choctaw Indians, Choctaw, Mississippi. Tribal Historic Preservation Officer/Tribal Archaeologist, Kenneth H. Carleton

Muscogee (Creek) Nation of Oklahoma, Okmulgee, Oklahoma.

- Joyce A. Bear, NAGPRA Contact
- A.D. Ellis, Principal Chief

Plumbers and Steamfitters Union Local 150, Augusta, Georgia. Business Manager, Charles Hardigree

Poarch Band of Creek Indians, Atmore, Alabama.

- Stephanie Rolin, NAGPRA Contact
- Eddie Tullis, Chairperson
- Gale Thrower, NAGPRA Contact

Savannah River Site, Aiken, South Carolina.

- Bob Hiergesell, Hydrologist
- Jim Heffner, Hydrologist
- Donald Pagett, Principal Scientist

Screven County Family Services, Sylvania, Georgia. Director, Bill Hillis

Seminole Nation of Oklahoma, Wewoka, Oklahoma. Pare Bowlegs

South Carolina Department of Health and Environmental Control, Columbia, South Carolina. Data Manager, Claire Youngblood.

South Carolina Department of Natural Resources, Columbia, South Carolina.

- Julie Holling, Data Manager
- Jennifer Price, Biologist
- Robert Perry, Special Projects Manager

Seminole Tribe of Florida, Clewiston, Florida. Deputy Tribal Historic Preservation Officer, Willard Steele

Thlopthlocco Tribal Town, Okema, Oklahoma. Town King, Louis McGertt

Tri-Counties Real Estate, Sylvania, Georgia. Broker, Stan Sheppard

United Keetoowah Band of Cherokee Indians, Tahlequah, Oklahoma.

- Emma Sue Holland, NAGPRA Contact
- Dallas Proctor, Chief

University of Georgia Laboratory of Archaeology, Georgia Archaeological Site File, Athens, Georgia. Assistant Research Scientist, Dr. Mark Williams

University of Massachusetts, Amherst. Dr. Erika Parker

U.S. Army Corps of Engineers, Savannah River District, Savannah, Georgia.

- William Lynch, Civil Works Program Manager
- Stanley Simpson, Water Control Manager
- Jason Ward, Hydrologist
- Leroy Crosby, Planning Manager
- Mark Padgett, Biologist
- Dan Parrott, Chief of Civil Works Project Management
- Larry Olliff, Biologist

U.S. Department of Agriculture, Rural Utility Service

- Mark Plank, Director of Water and Environmental Programs

U.S. Fish and Wildlife Service, Daphne Ecological Field Office, Daphne, Alabama.

- Bill Pearson, Field Supervisor
- Elaine Snyder-Conn, Acting Field Supervisor

U.S. Fish and Wildlife Service, Brunswick, Georgia.

- Strant Colwell, Assistant Field Supervisor
- Rebecca Schapansky, Biologist
- Robert Brooks, Biologist

U.S. Geological Survey, Water Science Center, Atlanta, Georgia.

- John Clarke
- Gregory Cherry

U.S. National Marine Fisheries Service, St. Petersburg, Florida.

- David Bernhard, Assistant Regional Administrator
- Prescott Brownell, Biologist
- Stephania Bolden, Biologist

Appendix C

Chronology of NRC Staff Environmental Review Correspondence Related to Southern Nuclear Operating Company, Inc., Application for Early Site Permit at the VEGP Site

Appendix C

Chronology of NRC Staff Environmental Review Correspondence Related to Southern Nuclear Operating Company, Inc., Application for Early Site Permit at the VEGP Site

This appendix contains a chronological listing of correspondence between the U.S. Nuclear Regulatory Commission (NRC) and Southern Nuclear Operating Company, Inc. (Southern), and other correspondence related to the NRC staff's environmental review, under Title 10 of the Code of Federal Regulations (CFR) Part 51, for Southern's application for an early site permit (ESP) at the Vogtle Electric Generating Plant site (Vogtle) in Burke County, Georgia. All documents, with the exception of those containing proprietary information, have been placed in the Commission's Public Document Room, at One White Flint North, 11555 Rockville Pike (first floor), Rockville, MD, and are available electronically from the Public Electronic Reading Room found on the Internet at the following web address: http://www.nrc.gov/reading-rm.html. From this site, the public can gain access to the NRC's Agencywide Document Access and Management System (ADAMS), which provides text and image files of NRC's public documents in the component of ADAMS. The ADAMS accession numbers for each document are included below.

October 3, 2005	Letter from Ms. Sandra S. Tucker, Field Supervisor, U.S. Fish and Wildlife Service (FWS), to Mr. Michael Abernathy, Georgia Power Company (GPC) Environmental Laboratory submitting both terrestrial and aquatic Federally listed species. (Accession No. ML071090173)
April 12, 2006	Letter from Mr. Michael R. Sackschewsky, Pacific Northwest National Laboratory (PNNL), to NRC submitting initial scouting trip summary report. (Accession No. ML071020306)
April 14, 2006	Letter from Mr. Michael R. Sackschewsky, PNNL, to NRC submitting a revised Initial Scouting Trip Summary Report. (Accession No. ML071020300)
May 2, 2006	Letter from Mr. Michael R. Sackschewsky, PNNL, to NRC submitting Farley-Barton alternate sites scouting trip summary report. (Accession No. ML061380621)

May 22, 2006	Letter from Mr. Michael R. Sackschewsky, PNNL, to NRC submitting Government and Public Meetings Trip Summary Report at VEGP. (Accession No. ML071020304)
June 12, 2006	Letter from NRC to Southern regarding summary of public meetings to discuss review of the VEGP ESP application. (Accession No. ML061380600)
August 9, 2006	Letter from NRC to Ms. Gwen Jackson, Burke County Library, regarding maintenance of documents at the Burke County Library related to the application by Southern for an ESP at the VEGP site. (Accession No. ML062220548)
August 14, 2006	Letter from Mr. J. A. "Buzz" Miller, Senior Vice President, Nuclear Development, Southern, to NRC submitting VEGP ESP application. (Accession No. ML062290246)
September 14, 2006	Letter from NRC to Southern regarding a summary of briefing by Southern to the NRC staff on the VEGP ESP application. (Accession No. ML062360292)
September 19, 2006	Letter from NRC to Mr. J. A. "Buzz" Miller, Senior Vice President, Nuclear Development, Southern, regarding acceptance of the Southern application for an ESP for the VEGP site. (Accession No. ML062570460)
September 19, 2006	Letter from NRC to Southern regarding summary of a public meeting on April 14, 2006, to discuss Southern's seismic plan in an ESP application. (Accession No. ML062260230)
September 22, 2006	Letter from Mr. J. A. "Buzz" Miller, Senior Vice President, Nuclear Development, Southern, to NRC submitting VEGP ESP application additional meteorological data transmittal. (Accession No. ML062700066)
September 26, 2006	Letter from Mr. J. A. "Buzz" Miller, Senior Vice President, Nuclear Development, Southern, to NRC submitting VEGP ESP application 10 CFR 2.101 Affidavit. (Accession No. ML062720158)

October 2, 2006	Letter from NRC to Mr. Raymond A. Mosley, Director, Office of the Federal Register, National Archives and Records Administration, regarding emergency publication of the Southern VEGP ESP Notice of Intent to Prepare an environmental impact statement and conduct scoping. (Accession No. ML062750225)
October 2, 2006	Letter from NRC to Mr. J.A. "Buzz" Miller, Senior Vice President, Nuclear Development, Southern, regarding Notice of Intent to prepare an EIS and conduct scoping related to the ESP for the VEGP site. (Accession No. ML062610238)
October 4, 2006	Letter from Mr. J. A. "Buzz" Miller, Senior Vice President, Nuclear Development, Southern, to NRC submitting VEGP ESP Application Supplemental Emergency Planning Information in electronic format. (Accession No. ML062790292)
October 4, 2006	Letter from NRC to Ms. Gwen Jackson, Burke County Library, regarding application by Southern for an ESP for the VEGP site. (Accession No. ML062720273)
October 6, 2006	Note-to-File: Notice of Public Meeting to discuss environmental scoping process for the VEGP ESP review. (Accession No. ML062760263)
October 12, 2006	Letter from NRC to Ms. Stephanie Rolin, Native American Graves Protection and Repatriation (NAGPRA) Contact, Poarch Band of Creek Indians, regarding the ESP review for the VEGP site. (Accession No. ML062850101)
October 12, 2006	Letter from NRC to Ms. Emma Sue Holland, NAGPRA Contact, United Keetoowah Band of Cherokee Indians, regarding ESP review for the VEGP site. (Accession No. ML062850355)
October 12, 2006	Letter from NRC to Mr. Eddie Tullis, Chairperson, Poarch Band of Creek Indians, regarding ESP review for the VEGP site. (Accession No. ML062850078)
October 12, 2006	Letter from NRC to Ms. Kathy McCoy, NAGPRA Contact, Eastern Band of Cherokee Indian, regarding ESP review for the VEGP site. (Accession No. ML062850120)

October 12, 2006	Letter from NRC to Mr. John Zachary, Attorney at Law, Coushatta Tribe of Louisiana, regarding ESP review for the VEGP site. (Accession No. ML062850129)
October 12, 2006	Letter from NRC to Ms. Evelyn Bucktrot, Town King, Kialegee Tribal Town, regarding ESP review for the VEGP site. (Accession No. ML062850060)
October 12, 2006	Letter from NRC to Mr. Steven Terry, Land Resources Manager, Miccosukee Tribe of Indians of Florida, regarding ESP review for the VEGP site. (Accession No. ML062850139)
October 12, 2006	Letter from NRC to Ms. Gale Thrower, NAGPRA Contact, Poarch Band of Creek Indians, regarding ESP review for the VEGP site. (Accession No. ML062850067)
October 12, 2006	Letter from NRC to Mr. Louis McGertt, Town King, Thlopthlocco Tribal Town, regarding ESP review for the VEGP site. (Accession No. ML062850233)
October 12, 2006	Letter from NRC to Mr. A.D. Ellis, Principal Chief, Muscogee (Creek) Nation, regarding ESP review for the VEGP site. (Accession No. ML062850224)
October 12, 2006	Letter from NRC to Mr. Richard L. Allen, NAGPRA Contact, Cherokee Nation of Oklahoma, regarding ESP review for the VEGP site. (Accession No. ML062850126)
October 12, 2006	Letter from NRC to Ms. Gingy (Virginia) Nail, NAGPRA Contact, Chickasaw Nation, regarding ESP review for the VEGP site. (Accession No. ML062850196)
October 12, 2006	Letter from NRC to Mr. Bill Anoatubby, Governor, Chickasaw Nation of Oklahoma, regarding ESP review for the VEGP site. (Accession No. ML062850211)
October 12, 2006	Letter from NRC to Mr. Charles Thurmond, NAGPRA Contact, Georgia Tribe of Eastern Cherokee, regarding ESP review for the VEGP site. (Accession No. ML062850107)

October 12, 2006	Letter from NRC to Mr. Tarpie Yargee, Chief, Alabama-Quassarte Tribal Town, regarding ESP review for the VEGP site. (Accession No. ML062850151)
October 12, 2006	Letter from NRC to Mr. David Bernhart, Assistant Regional Administrator, National Marine Fisheries Service, regarding application for an ESP for the VEGP ESP site. (Accession No. ML062850057)
October 12, 2006	Letter from NRC to Ms. Elaine Snyder-Conn, Acting Field Supervisor, FWS, Daphne Ecological Services, regarding application for an ESP for the VEGP ESP site. (Accession No. ML062850048)
October 12, 2006	Letter from NRC to Mr. Strant Colwell, Assistant Field Supervisor, FWS, regarding application for an ESP for the VEGP ESP site. (Accession No. ML062850034)
October 12, 2006	Letter from NRC to Mr. Don Klima, Director, Office of Federal Agency Programs, Advisory Council on Historic Preservation, regarding ESP review for the VEGP site. (Accession No. ML062850019)
October 12, 2006	Letter from NRC to Mr. Pare Bowlegs, Seminole Nation of Oklahoma, regarding ESP review for the VEGP site. (Accession No. ML062850252)
October 12, 2006	Letter from NRC to Mr. Michell Hicks, Principal Chief, Eastern Band of Cherokee Indians, regarding ESP review for the VEGP site. (Accession No. ML062850244)
October 12, 2006	Letter from NRC to Dr. W. Ray Luce, Division Director and Deputy State Historic Preservation Officer (SHPO), regarding ESP review for the VEGP ESP site. (Accession No. ML062850020)
October 12, 2006	Letter from NRC to Dr. Ed Bridges, Interim SHPO, Alabama Historical Commission, regarding ESP review for the VEGP ESP site. (Accession No. ML062850030)
October 12, 2006	Letter from NRC to Mr. Dallas Proctor, Chief, United Keetoowah Band of Cherokee Indians, regarding ESP review for the VEGP site. (Accession No. ML062850239)

October 12, 2006	Letter from NRC to Ms. Karen Kaniatobe, Director of the Cultural/ Historical Preservation Department, Absentee-Shawnee Tribe of Oklahoma, regarding ESP review. (Accession No. ML062850345)
October 12, 2006	Letter from NRC to Ms. Debbie Thomas, Tribal Historic Preservation Officer, NAGPRA Coordinator, regarding ESP review for the VEGP site. (Accession No. ML062850260)
October 12, 2006	Letter from NRC to Mrs. Joyce A. Bear, NAGPRA Contact, Muscogee (Creek) Nation of Oklahoma, regarding ESP review for the VEGP site. (Accession No. ML062850114)
October 12, 2006	Letter from NRC to Mr. Chadwick Smith, Principal Chief, Cherokee Nation of Oklahoma, regarding ESP review for the VEGP site. (Accession No. ML062850187)
October 12, 2006	Letter from NRC to Mr. Gilbert Blue, Chairperson, Catawba Indian Tribe, regarding ESP review for the VEGP site. (Accession No. ML062840610)
October 12, 2006	Letter from NRC to Mr. Willard Steele, Deputy Tribal Historic Preservation Officer, Seminole Tribe of Florida, regarding ESP review for the VEGP site. (Accession No. ML062850266)
October 12, 2006	Letter from NRC to Mr. Kenneth H. Carleton, Tribal Historic Preservation Officer/Tribal Archeologist, Mississippi Band of Choctaw Indians, regarding ESP review for the VEGP site. (Accession No. ML062850347)
October 20, 2006	Letter from Colonel (Ret.) John A. Neubauer, Alabama Historical Commission, to NRC regarding the receipt for review of VEGP ESP site, Plant Farley, Dothan, Barton Site, Clanton and Houston Counties, Alabama. (Accession No. ML063200118)
October 24, 2006	Letter from Mr. Walt Wilson, National Marine Fisheries Service (NMFS), to NRC submitting a list of Federally protected species under the jurisdiction of NMFS for the States of Alabama and Georgia. (Accession No. ML063200127)
November 13, 2006	Letter from Mr. J.A. "Buzz" Miller, Senior Vice President, Nuclear Development, Southern, to NRC submitting a VEGP ESP application, Revision 1. (Accession No. ML063210521)

November 16, 2006	Letter from Mr. J.A. "Buzz" Miller, Senior Vice President, Nuclear Development, Southern, to NRC submitting a VEGP ESP application safety review site audit information needs. (Accession No. ML063240171)
December 11, 2006	Letter from Mr. J.A. "Buzz" Miller, Senior Vice President, Nuclear Development, Southern, to NRC, submitting Vogtle Early Site Permit Application Environmental Site Audit Information Needs. (Accession No. ML063520382)
December 12, 2006	Letter from Mr. Michael R. Sackschewsky, PNNL, to NRC submitting VEGP ESP site audit trip report. (Accession No. ML071020317)
December 12, 2006	Letter from Mr. Michael R. Sackschewsky, PNNL, to NRC submitting VEGP ESP alternatives sites trip report. (Accession No. ML071020310)
December 15, 2006	Letter from Mr. J.A. "Buzz" Miller, Senior Vice President, Nuclear Development, Southern, to NRC submitting VEGP ESP application response to requests for additional information on quality assurance. (Accession No. ML063540102)
December 15, 2006	Letter from Mr. J.A. "Buzz" Miller, Senior Vice President, Nuclear Development, Southern, to NRC submitting VEGP ESP safety review audit site hazard analysis information needs. (Accession No. ML063540098)
December 27, 2006	Letter from Mr. J.A. "Buzz" Miller, Senior Vice President, Nuclear Development, Southern, to NRC submitting VEGP ESP response to request for additional information on hydrology. (Accession No. ML071020260)
December 29, 2006	Letter from NRC to Mr. J.A. "Buzz" Miller, Senior Vice President, Nuclear Development, Southern, requesting additional information regarding the environmental portion of the ESP application for the VEGP site. (Accession No. ML063540072)
January 10, 2007	Letter from NRC to Southern regarding the summary of Public Scoping Meetings to support review of VEGP ESP application. (Accession No. ML063610044)

January 19, 2007	Letter from Mr. J.A. "Buzz" Miller, Senior Vice President, Nuclear Development, Southern, to NRC submitting VEGP ESP response to request for additional information on vibratory ground motion. (Accession No. ML070260264)
January 30, 2007	Letter from Mr. J.A. (Buzz) Miller, Senior Vice President, Nuclear Development, Southern, to NRC submitting Response to Requests for Additional Information on the Environmental Report. (Accession No. ML070460323)
January 31, 2007	Note-to-File: Trip Report. November 6-9, 2006, tour of the Plant Hatch, Plant Farley, and Barton alternative sites. (Accession No. ML080110487)
January 31, 2007	Note-to-File: Trip Report. October 17-19, 2006, VEGP ESP, Units 3 and 4 Site Environmental Audit. (Accession No. ML070110460)
February 13, 2007	Letter from Mr. J.A. "Buzz" Miller, Senior Vice President, Nuclear Development, Southern, to NRC submitting VEGP ESP application safety review audit hydrology information needs. (Accession No. ML070470008)
February 13, 2007	Letter from Mr. J.A. "Buzz" Miller, Senior Vice President, Nuclear Development, Southern, to NRC submitting VEGP ESP supplemental information for response to requests for additional information on hydrology. (Accession No. ML070570036)
March 6, 2007	Letter from NRC to Mr. J.A. "Buzz" Miller, Senior Vice President, Nuclear Development, Southern, requesting withholding of information from public disclosure. (Accession No. ML070370019)
March 16, 2007	Letter from Mr. J.A. "Buzz" Miller, Senior Vice President, Nuclear Development, Southern, to NRC submitting VEGP ESP application response to request for additional information Letter No. 3. (Accession No. ML070810213)
April 3, 2007	Note-to-File: Trip report of March 7-9, 2007, tour of VEGP Units 1 and 2. (Accession No. ML070740099)

April 18, 2007	E-mail from Julie Holling, South Carolina Department of Natural Resources, to Amanda Stegen, PNNL, Federal Threatened and Endangered Species in the Vicinity of Vogtle Electric Generating Plant. (Accession No. ML071230462)
April 19, 2007	Letter from NRC to Mr. J.A. "Buzz" Miller, Senior Vice President, Nuclear Development, Southern, requesting additional information Letter No. 7. (Accession No. ML071030338)
April 20, 2007	Letter from NRC to Mr. J.A. "Buzz" Miller, Senior Vice President, Nuclear Development, Southern, requesting additional information regarding the environmental portion of the ESP application for the VEGP site and possible schedule revision. (Accession No. ML0708105070)
April 20, 2007	Letter from Mr. J.A. "Buzz" Miller, Senior Vice President, Nuclear Development, Southern, to NRC submitting VEGP ESP application SACTI and MACCS2 code input/output files. (Accession No. ML0711401960)
April 27, 2007	Note-to-File: Report of conversation with Southern and PhotoScience concerning the VEGP ESP Environmental Report Corridor Study. (Accession No. ML071160417)
April 26, 2007	E-mail from Michael Abney, Southern, to Brett Albanese, Georgia Department of Natural Resources, concerning the *Elassoma okatie* (blue-barred pygmy sunfish). (Accession No. ML072140748)
May 3, 2007	Letter from Mr. J.A. "Buzz" Miller, Senior Vice President, Nuclear Development, Southern, to NRC, submitting VEGP ESP Application Revision 2. (Accession No. ML071710562)
May 10, 2007	Letter from Mr. J.A. "Buzz" Miller, Senior Vice President, Nuclear Development, Southern, to NRC submitting VEGP ESP application response to followup requests for additional information on Environmental Report. (Accession No. ML0717007670)
May 10, 2007	Letter from Mr. J.A. "Buzz" Miller, Senior Vice President, Nuclear Development, Southern, to NRC submitting VEGP ESP application response to followup requests for additional information on Environmental Report. (Accession No. ML071510350)

May 21, 2007	Letter from NRC to Mr. J.A. "Buzz" Miller, Senior Vice President, Nuclear Development, Southern, regarding revision to schedule for the ESP application for the VEGP site. (Accession No. ML071290669)
May 21, 2007	Letter from Mr. J.A. "Buzz" Miller, Senior Vice President, Nuclear Development, Southern, to NRC submitting VEGP ESP application response to requests for additional information Letter No. 7. (Accession No. ML071420463)
May 21, 2007	Letter from Mr. J.A. "Buzz" Miller, Senior Vice President, Nuclear Development, Southern, to NRC regarding the VEGP ESP application Limited Work Authorization. (Accession No. ML071420475)
May 29, 2007	Note-to-File: Report of conversation with Southern regarding ESP application for the VEGP ESP site. (Accession No. ML071350557)
May 30, 2007	Letter from Mr. J.A. "Buzz" Miller, Senior Vice President, Nuclear Development, Southern, to NRC regarding the VEGP ESP application response to Regulatory Issue Summary 2007-2008. (Accession No. ML071520072)
June 4, 2007	Letter from Mr. J.A. (Buzz) Miller, Senior Vice President, Nuclear Development, Southern, to NRC submitting VEGP Early Site Permit application revised MACCS2 Code analysis results. (Accession No. ML071570026)
June 4, 2007	Letter from Mr. J.A. "Buzz" Miller, Senior Vice President, Nuclear Development, Southern, to NRC regarding the VEGP ESP application submittal of revised MACCS2 code analysis results. (Accession No. ML071570026)
June 13, 2007	E-mail from Tom Moorer, Southern, to Mark Notich, NRC, transmitting alternate site comparison spreadsheet. (Accession No. ML071860149)
June 14, 2007	Letter from Tom Patrick, Georgia Department of Natural Resources, to Southern, transmitting the Plant VEGP Rare Plant Survey (Rellict trillium). (Accession No. ML072080264)

June 14, 2007	Note-to-File: Report of conversation with Southern regarding the severe accidents portion of the VEGP ESP Environmental Report. (Accession No. ML071560280)
June 14, 2007	Letter from Tom Moorer, Southern, to Mark Notich, NRC transmitting the Georgia Department of Natural Resources VEGP Rare Plant Survey (Rellict trillium). (Accession No. ML072080264)
June 20, 2007	SERC Reliability Corporation Brochure entitled "Information Summary for July 2006." (Accession No. ML072080257)
July 18, 2007	E-mail from Tom Moorer, Southern, to Mark Notich, NRC transmitting input and output files for the MACCS2 run. (Accession No. ML072140315)
July 20, 2007	E-mail from Tom Moorer, Southern, to Mark Notich, NRC transmitting supplemental information on water treatment chemical residuals in the VEGP Unit 3 and 4 final discharge. (Accession No. ML072080259)
July 24, 2007	E-mail from Jennifer Price, South Carolina Department of Natural Resources to Rebekah Krieg, PNNL, Federal Threatened and Endangered Species in the Vicinity of Vogtle Electric Generating Station. (Accession No. ML0721400380)
July 31, 2007	Letter from Mr. J.A. (Buzz) Miller, Senior Vice President, Nuclear Development, Southern, to NRC submitting VEGP ESP application environmental computer code input and output files. (Accession No. ML072150222)
August 2, 2007	Conference Call Summary – June 20, 2007; Discussion with Southern Nuclear Operating Company concerning inconsistencies between request for additional information responses and the environmental report for the Plant Vogtle Early Site Permit. (Accession No. ML071840243)
August 15, 2007	Letter from Mr. J.A. "Buzz" Miller, Senior Vice President, Nuclear Development, Southern, to NRC, submitting VEGP ESP Application Revision 2S-1. Supplement to Include Limited Work Authorization 2 Activities. (Accession No. ML072330245)

August 29, 2007	Letter to Mr. Charles Hardigree, Business Manager, Local Union 150, Plumbers and Steamfitters from NRC staff, regarding helpful information in estimating the impact of construction on the local economy if and when Southern Nuclear Operating Company receives approval to construct new reactors at the Vogtle Nuclear Power Plant Site. (Accession No. ML070350413)
September 4, 2007	Letter to Mr. J.A. "Buzz" Miller,Senior Vice President, Southern Nuclear Operating Company, from NRC staff, regarding Notice of Availability of The Draft Environmental Impact Statement for an Early Site Permit (ESP) at the Vogtle ESP Site. (Accession No. ML072470612)
September 4, 2007	Letter to Dr. W. Ray Luce, Division Director and Deputy SHPO, Department of Natural Resources, from NRC staff, regarding the Early Site Permit Review for the Vogtle Electric Generating Plant Site. (Accession No. ML072470645)
September 7, 2007	Letter to Ms. Gwen Jackson, Burke County Library, from the NRC staff, concerning Issuance of the Draft Environmental Impact Statement (DEIS) for the Vogtle Early Site Permit (ESP) Application at the Vogtle ESP Site. (Accession No. ML072430009)
September 7, 2007	Letter to U.S. Environmental Protection Agency, NEPA Compliance Division, from NRC staff, concerning the official filing with the U.S. Environmental Protection Agency for an Early Site Permit at the Vogtle Electric Generating Plant. (Accession No. ML072250383)
September 10, 2007	Letter to Mr. John S. Clarke, Assistant Director, U.S. Geological Survey, from NRC staff, concerning NRC staff review of "Simulation and Particle-Tracking Analysis of selected Ground-Water Pumping scenarios at Plant Vogtle, Burke County, Georgia", Task order 2, Contract Q-4109/J-3332, Plant Vogtle Groundwater Pumping Analysis. (Accession No. ML072430133)
September 10, 2007	Letter to Ms. Ramona McConney, USEPA Region 4, from NRC staff, regarding issuance of The Draft Environmental Impact Statement (DEIS) for an Early Site Permit (ESP) at The Vogtle Electric Generating Plant Site. (Accession No. ML072430671)

September 20, 2007	Conference Call Summary – July 9, 2007; Discussion with Southern Nuclear Operating Company (SNC) concerning inconsistencies between request for additional information responses and the environmental report for the Plant Vogtle Early Site Permit in the areas of groundwater and hydrogeology. (Accession No. ML072140004)
September 20, 2007	Conference Call Summary – July 13, 2007; Discussion with Southern Nuclear Operating Company (SNC) concerning the Input and Output files for the MACCS-2 Code Runs for the Early Site Permit for the Plant Vogtle Site. (Accession No. ML072180214)
September 20, 2007	Conference Call Summary – July 18, 2007; Discussion with Southern Nuclear Operating Company (SNC) concerning staff questions for the Early Site Permit for the Plant Vogtle Site. (Accession No. ML072180315)
September 20, 2007	Conference Call Summary – August 6, 2007; Discussion with Southern Nuclear Operating Company (SNC) concerning the Output Files for the MACCS-2 Code Runs for the Early Site Permit for the Plant Vogtle Site submitted to the NRC on JULY 18, 2007. (Accession No. ML072200030)
November 30, 2007	Letter from Mr. J.A. "Buzz" Miller, Senior Vice President, Nuclear Development, Southern, to NRC, submitting VEGP ESP Application Revision 3. (Accession No. ML073470851)
December 12, 2007	Letter to Ms. Mary Olson, Southeast Regional Coordinator, Nuclear Information and Resource Service, from NRC staff, regarding the extension of Public Comment Period for the Draft Environmental Impact Statement for an Early Site Permit at the Vogtle Electric Generating Plant Site, NUREG-1872. (Accession No. ML073380675)
December 26, 2007	Letter from Joseph A. "Buzz" Miller, Senior Vice President Nuclear Development, to NRC, Southern Nuclear Operating Company Vogtle Early Site Permit Application Comments on Draft Environmental Impact Statement. (Accession No. ML073620401)
December 27, 2007	Letter from Ms. Karen Anderson-Cordova, Manager, Georgia Department of Natural Resource, to NRC staff, concerning comments for the Early Site Permit – Draft EIS Vogtle Electric Generating Plant. (Accession No. ML080070095)

January 25, 2008	Letter to Ms. Sandra Tucker, Field Supervisor, U.S. Fish and Wildlife Service, from NRC staff, regarding the Biological Assessment for Threatened and Endangered Species and Designated Critical Habitat for the Vogtle Electric Generating Plant Early Site Permit Application. (Accession No. ML080070534)
January 25, 2008	Letter to Mr. David Bernhart, Assistant Regional Administrator, National Marine Fisheries Service, from NRC staff, concerning the Biological Assessment for the Shortnose Sturgeon for the Vogtle Electric Generating Plant Early Site Permit Application. (Accession No. ML080070538)
February 20, 2008	Letter to Mr. Robert D. Perry, Special Projects Manager, South Carolina Department of Natural Resources, from NRC Staff, concerning South Carolina Department of Natural Resources Comments Concerning the Draft Environmental Impact Statement for an Early Site Permit for the Vogtle Electric Generating Plant. (Accession No. ML08300336)
March 5, 2008	Letter to Mr. J.A. "Buzz" Miller, Senior Vice President, Southern Nuclear Operating Company, Inc, from NRC staff, concerning the Revision to the Schedule for the Issuance of the Final Environmental Impact Statement for an Early Site Permit at the Vogtle Electric Generating Plant. (Accession No. ML080580137)
March 6, 2008	Letter to Mr. J.A. "Buzz" Miller, Senior Vice President, Southern Nuclear Operating Company, Inc, from NRC staff, the Request for Additional Information regarding the New Information provided in comments on the Draft Environmental Impact Statement for an Early Site Permit at the Vogtle Electric Generating Plant. (Accession No. ML080520333)
March 28, 2008	Letter from Mr. J.A. "Buzz" Miller, Senior Vice President, Southern Nuclear Operating Company, Inc., to NRC submitting VESP ESP Application Revision 4 of the Site Safety Analysis Report. (Accession No. ML081020073)
April 4, 2008	Letter from Mr. J.A. "Buzz" Miller, Senior Vice President, Southern Nuclear Operating Company, Inc, to NRC submitting VEGP ESP Application Response to Request for Additional Information regarding Comments Provided on Draft Environmental Impact Statement. (Accession No. ML080990410)

June 26, 2008	Letter from Moanica Caston, Vice President and General Counsel, Southern Nuclear Operating Company, Inc. to NRC Submitting Response to NRC Questions from April 23, 2008 Environmental Conference Call (Accession No. ML081790598)
July 3, 2008	Letter from Ms. Karen Anderson-Cordova, Manager, Georgia Department of Natural Resource, to NRC staff, concerning Addendum to the Archaeological Survey Report for the Vogtle Electric Generating Plant. (Accession No. ML082000378)

Appendix D

Scoping Meeting Comments and Responses

Appendix D

Scoping Meeting Comments and Responses

On August 14, 2006, the U.S. Nuclear Regulatory Commission (NRC) published a Notice of Intent in the *Federal Register* (71 FR 58882) to notify the public of the staff's intent to prepare an environmental impact statement (EIS) to support the early site permit (ESP) application received from Southern Nuclear Operating Company, Inc. (Southern) for an ESP for a location identified as the Vogtle ESP site, adjacent to the Vogtle Electric Generating Plant, Units 1 and 2 (Plant Vogtle). This EIS has been prepared in accordance with provisions of the National Environmental Policy Act of 1969 (NEPA), Council on Environmental Quality guidelines, and Title 10 of the Code of Federal Regulations (CFR) Parts 51 and 52. As outlined by NEPA, the NRC initiated the scoping process with the issuance of the *Federal Register* Notice. The NRC invited the applicant; Federal, Tribal, State, and local government agencies; local organizations; and individuals to participate in the scoping process by providing oral comments at the scheduled public meeting and/or submitting written suggestions and comments no later than December 4, 2006.

The scoping process included a public scoping meeting, which was held at the Augusta Technical College, Waynesboro Campus Auditorium, Waynesboro, Georgia, on October 19, 2006. Approximately 175 members of the public attended the meeting. The session began with NRC staff members providing a brief overview of the ESP process and the NEPA process. Following the NRC's prepared statements, the meeting was open for public comments. Fifty-two attendees provided either oral comments or written statements that were recorded and transcribed by a certified court reporter. The transcript of the meeting can be found as an attachment to the Scoping Meeting Summary, which was issued on January 10, 2007. The meeting summary is available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS) under accession number ML063530196. ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room). Note: the URL is case-sensitive. Additional comments received later are also available.

The scoping process provides an opportunity for public participants to identify issues to be addressed in the EIS and highlight public concerns and issues. The Notice of Intent identified the following objectives of the scoping process:

- define the proposed action which is to be the subject of the EIS
- determine the scope of the EIS and identify significant issues to be analyzed in depth
- identify and eliminate from detailed study those issues that are peripheral or that are not significant
- identify any environmental assessments and other EISs that are being prepared or will be prepared that are related to, but not part of, the scope of the EIS being considered
- identify other environmental review and consultation requirements related to the proposed action
- indicate the relationship between the timing of the preparation of the environmental analyses and the Commission's tentative planning and decision-making schedule
- identify any cooperating agencies and, as appropriate, allocate assignments for preparation and schedules for completing the EIS to the NRC and any cooperating agencies
- describe how the EIS will be prepared and include any contractor assistance to be used.

At the conclusion of the scoping period, the NRC staff reviewed the transcripts and all written material received and identified individual comments. Sixty-five letters and e-mail messages containing comments were received during the scoping period. All comments and suggestions received orally during the scoping meeting or in writing were considered. Each set of comments from a given commenter was given a unique alpha identifier (commenter ID letter), allowing each set of comments from a commenter to be traced back to the transcript, letter, or e-mail in which the comments were submitted.

Table D-1 identifies the individuals providing comments and the commenter ID letter associated with each person's set(s) of comments. The Commenter ID letter is preceded by V-ESP-SC- or V-ESP-SW- (i.e., the abbreviation for Vogtle Early Site Permit scoping comment or Vogtle Early Site Permit scoping written). For oral comments, the individuals are listed in the order in which they spoke at the public meeting. Accession numbers indicate the location of the written comments in ADAMS.

Comments were consolidated and categorized according to the topic within the proposed EIS or according to the general topic if outside the scope of the EIS. Comments with similar specific objectives were combined to capture the common essential issues that had been raised in the source comments. Once comments were grouped according to subject area, the staff and contractor determined the appropriate action for the comment. The staff made a determination on each comment that it was one of the following:

- A comment that was actually a question and introduced no new information.
- A comment that was either related to support or opposition of early site permitting in general (or specifically the Vogtle ESP) or that made a general statement about the ESP process. In addition, it provided no new information and did not pertain to 10 CFR Part 52.
- A comment about an environmental issue that
  - provided new information that would require evaluation during the review
  - provided no new information.
- A comment that was outside the scope of the ESP, which included, but was not limited to
  - a comment on the safety of the existing units.

The comments that are considered in the evaluation of environmental impacts in this EIS are summarized in the following pages. All comments received during scoping are included in Table D-1. For reference, the unique identifier for each comment (commenter ID letter listed in Table D-1 plus the comment number) is provided.

Preparation of the EIS will take into account all the relevant issues raised during the scoping process. The EIS will be made available for public comment. The comment period for the EIS will offer the next opportunity for the applicant; interested Federal, Tribal, State, and local government agencies; local organizations; and members of the public to provide input to the NRC's environmental review process. The comments received on the draft EIS will be considered in the preparation of the final EIS. The final EIS, along with the staff's Safety Evaluation Report (SER), will provide much of the basis for the NRC's decision on whether to grant the Vogtle ESP.

Table D-1. Individuals Providing Comments During Scoping Comment Period

Commenter ID	Commenter	Affiliation (if stated)	Comment Source and ADAMS Accession #
V-ESP-SC-01	Walter Dukes	Regional Vice President of Georgia Power	10/19/06 Scoping Meeting Transcript (ML063610007)
V-ESP-SC-02	Jesse Stone	Mayor of Waynesboro	10/19/06 Scoping Meeting Transcript (ML063610007)
V-ESP-SC-03	J.B. Powell	Senator	10/19/06 Scoping Meeting Transcript (ML063610007)
V-ESP-SC-04	Jim Hussey	Representative of Senator Chambliss	10/19/06 Scoping Meeting Transcript (ML063610007)

Table D-1. (contd)

Commenter ID	Commenter	Affiliation (if stated)	Comment Source and ADAMS Accession #
V-ESP-SC-05	Marian Vine		10/19/06 Scoping Meeting Transcript (ML063610007)
V-ESP-SC-06	Susan Wood	Citizens of Nuclear Technology Awareness	10/19/06 Scoping Meeting Transcript (ML063610007)
V-ESP-SC-07	Sara Barczak	Southern Alliance for Clean Energy	10/19/06 Scoping Meeting Transcript (ML063610007)
V-ESP-SC-08	Clinton Stanford	Past employee at a nuclear plant	10/19/06 Scoping Meeting Transcript (ML063610007)
V-ESP-SC-09	Merv Waldrop	Burke County Board of Commissioners	10/19/06 Scoping Meeting Transcript (ML063610007)
V-ESP-SC-10	Ashley Long	Burke County Chamber of Commerce	10/19/06 Scoping Meeting Transcript (ML063610007)
V-ESP-SC-11	Carrie Phillips	U.S. Women in Nuclear	10/19/06 Scoping Meeting Transcript (ML063610007)
V-ESP-SC-12	Richard Vine	City Council member	10/19/06 Scoping Meeting Transcript (ML063610007)
V-ESP-SC-13	Jerry Coalson	City Administrator for the City of Waynesboro	10/19/06 Scoping Meeting Transcript (ML063610007)
V-ESP-SC-14	Rusty Sanders		10/19/06 Scoping Meeting Transcript (ML063610007)
V-ESP-SC-15	Sue Parr	Augusta Metro Chamber of Commerce	10/19/06 Scoping Meeting Transcript (ML063610007)
V-ESP-SC-16	Frank Bove	Environmental Community Action	10/19/06 Scoping Meeting Transcript (ML063610007)
V-ESP-SC-17	Delisa Pournaras	North American Young Generation in Nuclear	10/19/06 Scoping Meeting Transcript (ML063610007)
V-ESP-SC-18	Ed Grunewald	Mayor of Girard	10/19/06 Scoping Meeting Transcript (ML063610007)
V-ESP-SC-19	Jerry Long	Development Authority of Burke County	10/19/06 Scoping Meeting Transcript (ML063610007)
V-ESP-SC-20	Reverend Smith	President of the Black Church, Inc.	10/19/06 Scoping Meeting Transcript (ML063610007)
V-ESP-SC-21	Mary McLean Asbill	Emory University School of Law	10/19/06 Scoping Meeting Transcript (ML063610007)
V-ESP-SC-22	Larry Sanders	Emory University School of Law	10/19/06 Scoping Meeting Transcript (ML063610007)

Table D-1. (contd)

Commenter ID	Commenter	Affiliation (if stated)	Comment Source and ADAMS Accession #
V-ESP-SC-23	Chip Barefield	Native of Burke County	10/19/06 Scoping Meeting Transcript (ML063610007)
V-ESP-SC-24	Betsey Miklethun	Women's Actions for New Directions	10/19/06 Scoping Meeting Transcript (ML063610007)
V-ESP-SC-25	Krista Brewer	Women's Actions for New Directions	10/19/06 Scoping Meeting Transcript (ML063610007)
V-ESP-SC-26	Elizabeth Baldwin		10/19/06 Scoping Meeting Transcript (ML063610007)
V-ESP-SC-27	Judith Gordon	Savannah River Group of the Sierra Club	10/19/06 Scoping Meeting Transcript (ML063610007)
V-ESP-SC-28	Dianne Valentine		10/19/06 Scoping Meeting Transcript (ML063610007)
V-ESP-SC-29	Charles Sexton	Beaufort-Jasper Water and Sewer Authority	10/19/06 Scoping Meeting Transcript (ML063610007)
V-ESP-SC-30	Glenn Carroll	Nuclear Watch South	10/19/06 Scoping Meeting Transcript (ML063610007)
V-ESP-SC-31	Natalie Garber	Savannah College of Art and Design	10/19/06 Scoping Meeting Transcript (ML063610007)
V-ESP-SC-32	Bill Harrell		10/19/06 Scoping Meeting Transcript (ML063610007)
V-ESP-SC-33	Bill Hatcher		10/19/06 Scoping Meeting Transcript (ML063610007)
V-ESP-SC-34	Sam Booher		10/19/06 Scoping Meeting Transcript (ML063610007)
V-ESP-SC-35	Lou Zeller	Blue Ridge Environmental Defense League	10/19/06 Scoping Meeting Transcript (ML063610007)
V-ESP-SC-36	Mary Olson	Nuclear Information and Resource Service	10/19/06 Scoping Meeting Transcript (ML063610007)
V-ESP-SC-37	Marci Culley		10/19/06 Scoping Meeting Transcript (ML063610007)
V-ESP-SC-38	Emma Oliver	Georgia State University	10/19/06 Scoping Meeting Transcript (ML063610007)
V-ESP-SC-39	Roderick Sams	Local Elementary School	10/19/06 Scoping Meeting Transcript (ML063610007)

Table D-1. (contd)

Commenter ID	Commenter	Affiliation (if stated)	Comment Source and ADAMS Accession #
V-ESP-SC-40	Johnny Jenkins	Board of Education in Burke County	10/19/06 Scoping Meeting Transcript (ML063610007)
V-ESP-SC-41	Al Rutledge		10/19/06 Scoping Meeting Transcript (ML063610007)
V-ESP-SC-42	Eugene Tanzymore	Board of Directors for Jefferson Energy	10/19/06 Scoping Meeting Transcript (ML063610007)
V-ESP-SC-43	Brad Bennett	Clean and Safe Energy Coalition	10/19/06 Scoping Meeting Transcript (ML063610007)
V-ESP-SC-44	Tom Hinton		10/19/06 Scoping Meeting Transcript (ML063610007)
V-ESP-SC-45	Henry Tinley		10/19/06 Scoping Meeting Transcript (ML063610007)
V-ESP-SC-46	Gerald Murray	Burke County Hospital Authority	10/19/06 Scoping Meeting Transcript (ML063610007)
V-ESP-SC-47	Jennifer Royal	Burke Medical Center	10/19/06 Scoping Meeting Transcript (ML063610007)
V-ESP-SC-48	Howard Davis		10/19/06 Scoping Meeting Transcript (ML063610007)
V-ESP-SC-49	Tom Reynolds		10/19/06 Scoping Meeting Transcript (ML063610007)
V-ESP-SC-50	Doug Rhodes		10/19/06 Scoping Meeting Transcript (ML063610007)
V-ESP-SC-51	James Cleary		10/19/06 Scoping Meeting Transcript (ML063610007)
V-ESP-SC-52	William Mizell		10/19/06 Scoping Meeting Transcript (ML063610007)
V-ESP-SW-53	Dr. Thomas Hinton		Letter (ML063200040)
V-ESP-SW-54	Unknown Name		Letter (ML063030336)
V-ESP-SW-55	M.H. Churney		Letter (ML063130397)
V-ESP-SW-56	Don Cope	Dalton Utilities	Letter (ML063200041)
V-ESP-SW-57	Don R. Thomas	Senator	Letter (ML063200044)
V-ESP-SW-58	Roger Williams	State Representative	Letter (ML063200045)
V-ESP-SW-59	Vance D. Bell	Shaw Industries	Letter (ML063200046)
V-ESP-SW-60	Jeff Lorberbaum	Mowhawk Industries	Letter (ML063200047)
V-ESP-SW-61	Ralph J. Boe	Beaulieu Group	Letter (ML063200048)

Table D-1. (contd)

Commenter ID	Commenter	Affiliation (if stated)	Comment Source and ADAMS Accession #
V-ESP-SW-62	Jim Bethel	J & J/ Invision	Letter (ML063200066)
V-ESP-SW-63	Kenneth and James Boring, and Kathryn West	JKB&B Limited, Inc.	Letter (ML063200067)
V-ESP-SW-64	Werner H. Braun	The Carpet and Rug Institute	Letter (ML063200070)
V-ESP-SW-65	Dr. Susan Wood	Citizens of Nuclear Technology Awareness	Letter (ML063200071)
V-ESP-SW-66	Frank J. Bove	Environmental Community Action	Letter (ML063200072)
V-ESP-SW-67	Sam Booher		Letter (ML063200074)
V-ESP-SW-70	George Duehring	Columbia County Chamber of Commerce	Letter (ML063240186)
V-ESP-SW-71	Ashley Long	Burke County Chamber of Commerce	Letter (ML063240189)
V-ESP-SW-72	Elizabeth Clermont		E-mail (ML063240190)
V-ESP-SW-73	Suzanne Struble		E-mail (ML063240170)
V-ESP-SW-74	Bruce Fabrick		E-mail (ML063240184)
V-ESP-SW-75	Joe Whetstone		E-mail (ML063240188)
V-ESP-SW-76	Judith E. Gordon	Savannah River Group of the Georgia Sierra Club	Letter (ML063240191)
V-ESP-SW-77	Sara Barczak	Southern Alliance for Clean Energy	Letter (ML063240194)
V-ESP-SW-78	William N. Freeling		Letter (ML063260375)
V-ESP-SW-79	Allison E. Bosworth		E-mail (ML063240196)
V-ESP-SW-80	Walter Coles	Cadence Investment Partners	E-mail (ML063240199)
V-ESP-SW-81	Frank J. Bove	Environmental Community Action	E-mail (ML063240201)
V-ESP-SW-82	Carol Hatcher		E-mail (ML063240238)
V-ESP-SW-83	Eve Ray		E-mail (ML063240250)
V-ESP-SW-84	Paul Wolff		Letter (ML063240254)
V-ESP-SW-85	Natalie Garber		Letter (ML063240256)
V-ESP-SW-86	Anthony Jernigan		Letter (ML063240257)

Table D-1. (contd)

Commenter ID	Commenter	Affiliation (if stated)	Comment Source and ADAMS Accession #
V-ESP-SW-87	Chad Harrod		Letter (ML063240265)
V-ESP-SW-88	R. Madson		Letter (ML063240273)
V-ESP-SW-89	C. Claugherty		Letter (ML063240275)
V-ESP-SW-90	Leon Tomlinson		Letter (ML063240277)
V-ESP-SW-91	Rebecca Bodonyi		Letter (ML063260462)
V-ESP-SW-92	Barbara Krull		E-mail (ML063340344)
V-ESP-SW-93	William N. Freeling		Letter (ML063340346)
V-ESP-SW-94	Reba Stone		Letter (ML063340354)
V-ESP-SW-95	K Russell		Letter (ML063470348)
V-ESP-SW-96	Patricia Mullenix		E-mail (ML063470350)
V-ESP-SW-97	Darius dela Cruz		E-mail (ML063470352)
V-ESP-SW-98	Ann C. Tate		E-mail (ML063470353)
V-ESP-SW-99	Paul Shumacher		E-mail (ML063470355)
V-ESP-SW-100	Lynne Moody		E-mail (ML063470357)
V-ESP-SW-101	Lawrence Turk		E-mail (ML063470358)
V-ESP-SW-102	Tina Pippin	Agnes Scott College	E-mail (ML063470346)
V-ESP-SW-103	Jim Chapman		E-mail (ML063470360)
V-ESP-SW-104	Joseph Parko		E-mail (ML063470361)
V-ESP-SW-105	Michael Maffeo		E-mail (ML063470363)
V-ESP-SW-106	Alida C. Silverman		Letter (ML063470367)
V-ESP-SW-107	Donna L. Antonucci	Citizen's Advisory Board-Savannah River Site	E-mail (ML063470369)
V-ESP-SW-108	Bob Goodman		E-mail (ML063470371)
V-ESP-SW-109	Patricia W. Walsh		E-mail (ML063470373)
V-ESP-SW-110	Midge Sweet		E-mail (ML063470374)
V-ESP-SW-111	Steven Wingeier		E-mail (ML063470377)
V-ESP-SW-112	Bobbie Paul	Women's Action for New Directions	E-mail (ML063470378)
V-ESP-SW-113	Robert E. & Constance A. Fletcher		E-mail (ML063470380)
V-ESP-SW-114	David C. Kyler	Center for a Sustainable Coast	E-mail (ML063470354)

Table D-1. (contd)

Commenter ID	Commenter	Affiliation (if stated)	Comment Source and ADAMS Accession #
V-ESP-SW-115	Sara Barczak	Southern Alliance for Clean Energy	Letter (ML063560016)
V-ESP-SW-116	Christopher Adams	Emory School of Law	Letter (ML063470420)
V-ESP-SW-117	Kate Hayes		Letter (ML063560017)
V-ESP-SW-119	Ronald S. Ellison		Letter (ML070430121)
V-ESP-SW-120	William Freeling		Letter (ML063340351)

D.1 Comments and Responses

This section summarizes the in-scope comments and suggestions received as part of the scoping process, and discusses their disposition. Parenthetical numbers after each comment refer to the commenter's ID letter and the comment number. Comments can be tracked to the commenter and the source document through the ID letter and comment number listed in Table D-1.

Comments are grouped by the following categories:

D.1.1. Specific Concerns Related to the Early Site Permit Process
D.1.2. Comments Expressing Support for the NRC's Early Site Permit Process
D.1.3. Comments Expressing Opposition to the NRC's Early Site Permit Process
D.1.4. Comments Expressing Support for Vogtle's Early Site Permit
D.1.5. Comments Expressing Opposition to Vogtle's Early Site Permit
D.1.6. Comments Concerning National Environmental Policy Act Compliance
D.1.7. Comments Concerning Air Quality
D.1.8. Comments Concerning Surface-Water Use and Quality
D.1.9. Comments Concerning Groundwater Use and Quality
D.1.10. Comments Concerning Aquatic Ecology
D.1.11. Comments Concerning Socioeconomic Issues
D.1.12. Comments Concerning Environmental Justice
D.1.13. Comments Concerning Human Health Issues
D.1.14. Comments Concerning the Uranium Fuel Cycle and Waste Management Issues
D.1.15. Comments Concerning Postulated Accidents
D.1.16. Comments Concerning Alternatives and Alternative Sites
D.1.17. Comments Concerning the Cost of Power
D.1.18. Comments Concerning the Need for Power
D.1.19. Comments Concerning Cumulative Impacts

D.1.20. Comments Concerning the Safety Review for the Early Site Permit
D.1.21. Comments Concerning Safeguard and Security Issues
D.1.22. Comments Concerning Emergency Preparedness Issues
D.1.23. Comments Concerning Decommissioning
D.1.24. Comments Concerning Operational Safety Issues
D.1.25. Comments Concerning Aging Management
D.1.26. Comments Concerning Other Issues
D.1.27. Comments Concerning Other Project Specific Issues
D.1.28. Comments Concerning NRC's Administrative Process
D.1.29. Comments Expressing Support for Nuclear Power
D.1.30. Comments Expressing Opposition to Nuclear Power

D.1.1 Specific Concerns Related to the Early Site Permit Process

Comment: How do you analyze a for-profit company, how do you compare a project largely underwritten -- completely underwritten by taxpayers and ratepayers; how do you compare a project that will be funded by ratepayers and taxpayers, being done by a for-profit company that has zero motivation not to make and sell electricity? (V-ESP-SC-30-2)

Comment: So how do you analyze a for-profit company taking tax dollars as an enticement to look into nuclear and the risk to the environment from that and the pressure on that company that's designed to make a profit? How can they resist? (V-ESP-SC-30-9)

***Response**: It is not under NRC's purview or mission to analyze the company itself. The NRC's mission is to regulate the nation's civilian use of by-product, source, and special nuclear materials to ensure adequate protection of public health and safety, to promote the common defense and security, and to protect the environment. This issue will not be addressed further in the EIS.*

Comment: NRC is well-advised to take such opinions seriously in light of a recent report by the Government Accountability Office that reveals fundamental flaws in project analysis by another federal government agency that evaluates massive projects, the Corps of Engineers. (See GAO-06-529T, March 2006.) We strongly suspect that NRC, like the Corps and other politically vulnerable governmental institutions, is at risk of drifting dangerously far from its mission due to various forces that cause a pre-determined outcome to be falsely substantiated by incomplete and subjective analysis. (V-ESP-SW-114-2)

***Response**: The comment provides no information that is germane to the evaluation of environmental impacts and will not be addressed further in the EIS.*

Comment: And given that the early site permit is valid for 20 years with a possible 20-year extension, we believe the NRC needs to evaluate not only the Georgia of today, but the Georgia we need to be living in 20 to 40 years from now. (V-ESP-SC-07-5)

Comment: This analysis of water issues must take into consideration the length of this permit, which could be 20 years and even longer. The growth today is already causing the seeking of more of the Savannah River, not to mention how much of it will be sought 20 years from now. (V-ESP-SC-21-4)

Comment: I'm also concerned that the permitting process that we're starting right now will allow a potential two new reactors in this area to be built sometime in the next 20 years and possibly another 40 years. The state of Georgia, our energy needs, the water, the population could change really dramatically in the next 20 or 40 years and I think that that's a test that the NRC really needs to look at. (V-ESP-SC-25-4)

Comment: Regarding the Vogtle permit application and the Early Site Permit (ESP) process which allows a company to potentially 'bank' a site for up to 40 years (the 20 year ESP could get a 20 year extension), the NRC should have to look not only at Georgia "today," but the Georgia we are likely to live in 40 years from now. (V-ESP-SW-74-1)

Comment: And given that the early site permit is valid for 20 years with a possible 20-year extension, we believe the NRC needs to evaluate not only the Georgia of today, but the Georgia we may be living in 20 to 40 years from now. (V-ESP-SW-77-4)

Comment: Since the Early Site Permit (ESP) process allows a company to potentially "bank" a site for up to 40 years, I would like to request that the Nuclear Regulatory Commission consider not only Georgia as it is "today," but the Georgia we are likely to live in 40 years from now. (V-ESP-SW-91-2)

Comment: The fact that this permit would allow Southern Company to use the permit for up to 20 years with a possible 20 year extension in future applications with the NRC, is not reasonable. In 20 years the energy policy in this country will be very different, hopefully using many choices of safer energy sources, including wind, solar, biopower and most of all improving our energy efficiency. (V-ESP-SW-98-2)

Comment: If I understand correctly, the "early site permit" being sought can actually be used up to 20 years from the time of granting, with an additional 20 year extension if requested. Predicting conditions as far as forty years in the future seems unrealistic at best, but this arrangement constitutes an effective carte blanche, should the builders and promoters so desire. (V-ESP-SW-100-2)

Comment: Since the Early Site Permit (ESP) process allows a company to potentially "bank" a site for up to 40 years (the 20 year ESP could get a 20 year extension), the NRC should have to look not only at Georgia "today," but the Georgia we are likely to live in 40 years from now. (V-ESP-SW-103-3) (V-ESP-SW-110-2)

Comment: Given that the early site permit is valid for 20 years with a possible 20-year extension, we believe the NRC needs to evaluate not only the Georgia of today but the Georgia we may be living in 20 to 40 years from now, and certainly the Savannah River basin of today and 20 years from now. (V-ESP-SW-115-21)

***Response**: The ESP does not authorize construction or operation of a nuclear power plant. An early site permit is a Commission approval of a site or sites for one or more nuclear power facilities. However, as will be discussed in Chapter 4 of the EIS, certain site-preparation activities and preliminary construction activities are allowed provided that a site redress plan is submitted by the applicant and the final ESP EIS concludes that the activities will not result in any significant adverse environmental impacts that cannot be addressed. The filing of an application for an ESP is a process that is separate from the filing of an application for a construction permit (CP) and operating license (OL) or a combined license (COL) for such a facility. The ESP application makes it possible to evaluate and resolve safety and environmental issues related to siting before the applicant makes large commitments of resources. If the ESP is approved, the applicant can "bank" the site for up to 20 years for future reactor siting. Under 10 CFR 52.29, the applicant may request an extension to the ESP for a specific time period. It is up to the NRC staff to approve such a request. If an ESP holder decides to pursue construction of a nuclear power plant beyond any approved limited activities that will be identified in Chapter 4 of the EIS, it must obtain a CP or a COL, the issuance of which would be a major Federal action requiring preparation of an EIS under 10 CFR 51.20.*

Comment: The NRC needs to improve its public outreach process. For instance, there was no simple way for the general public to easily know about or provide comment on the ESP process. Visiting the NRC's Vogtle ESP page for instance, http://www.nrc.izov/reactors/newlicensing/esp/vogtle.html, provides some information on the timetable, such as the "Scoping Period Ends on 12/4/06" but it does not clearly show 1) that the deadline for the public to actually comment is also 12/4; 2) how the public can comment; or 3) a description on what to comment on. The NRC should make the page more easily understood on when and how a public citizen can engage in the process, especially in advance of the eventual release of a the draft EIS. (V-ESP-SW-115-45)

***Response**: The NRC staff makes an effort to inform the public and local officials of the public meetings using a variety of media. The public notification process included publication of several notices in the Federal Register, multiple advertisements in newspapers, press releases, meeting notices, and flyers. Contacts were also made with interest groups and elected officials. This issue is not within the scope of the EIS and will not be addressed further.*

Comment: We especially want to emphasize that the NRC explore a wide range of alternatives to the proposed Vogtle nuclear plants. How one frames a problem, and the types of questions we ask, have a great impact on the way a problem is addressed. For example, the Environmental Review Process could limit its focus to determining the extent of the risk of the proposed nuclear plants and whether that risk can be managed and is "acceptable" (of course, one can always ask the question, acceptable to whom?). Alternatively, the Environmental Review Process can have a much broader and fundamental focus, asking questions such as:

- Is the proposed nuclear plant needed?
- Are there safer and less expensive alternatives?
- Can risks be prevented rather than managed?

An Alternatives Assessment guided by the Precautionary Principle is a flexible, holistic analysis of alternatives to prevent impacts from potentially harmful activities or technologies. It considers the need for the proposed technology. It focuses on what a proponent of a technology could or should be doing rather than focusing on the "acceptability" of the proposed, potentially harmful technology. It focuses attention away from questions such as "How risky is the technology?" and instead focuses attention on what kinds of solutions are needed and are beneficial to the public health and welfare. (V-ESP-SW-81-4)

***Response**: The NRC staff will prepare an EIS in accordance with the requirements of 10 CFR 52.18 and 10 CFR Part 51. In its review, the staff will focus on the environmental effects of construction and operation of reactors.*

D.1.2 Comments Expressing Support for the NRC's Early Site Permit Process

Comment: I want to thank particularly the Nuclear Regulatory Commission for the thoroughness and the openness of the process that they have gone through to take into account all views with respect to the decision to site the expanded nuclear generating units in Burke County. (V-ESP-SC-02-1)

Comment: The new processes that will be in place, the new procedures I should say, that will be in place for the reactors will expedite this project and get it on line even more rapidly. (V-ESP-SC-03-3)

Comment: On behalf of the 200 members of the Southern Nuclear Chapter of U.S. WIN, we support the early site permit for Vogtle Units 3 and 4. (V-ESP-SC-11-3)

Comment: Again, I want to second the support from those here and thank the NRC for their activities. (V-ESP-SC-13-2)

Comment: I would encourage the permit process to move along as quickly as possible and let's get the thing moving and build the units. (V-ESP-SC-18-5)

Comment: And we are excited that the New Reactor Office is coming to Atlanta, we'll try to welcome you and try to be good neighbors. (V-ESP-SC-25-1)

Comment: I have absolute confidence in the Nuclear Regulatory Commission, I've had experience with them in the past in my business. I'm totally comfortable. (V-ESP-SC-33-5)

Comment: I think this forum tonight has been very good. I think a lot of patience has been shown by those that are in charge of the meeting. (V-ESP-SC-33-6)

Comment: I do thank you for this opportunity from the Nuclear Regulatory Commission, we do thank all of our leaders for being here. (V-ESP-SC-39-3)

Comment: I thank you for this time to express how we the citizens of Burke County feel about Georgia Power, Plant Vogtle and the Southern Nuclear Company. (V-ESP-SC-45-3)

Comment: And we have to put trust in the NRC to do their job. And when they do the site survey, if the site survey comes out clean, which I believe it will -- the place was designed to have four reactors, the community supports four reactors -- bring it on. (V-ESP-SC-52-7)

***Response**: These comments provide general information in support of NRC's ESP process and will not be assessed further.*

D.1.3 Comments Expressing Opposition to the NRC's Early Site Permit Process

Comment: We've asked that the NRC take precautionary principle into consideration in evaluating this permit, which we oppose. (V-ESP-SC-16-1)

Comment: I came down here today because I'm concerned that the health and safety issues regarding the construction of new nuclear reactors are not being taken seriously. (V-ESP-SC-38-1)

Comment: There are a few who would profit greatly from this nuclear resurgence. I hope they are soon short circuited by bold and visionary truth tellers at the NRC. To do anything less would be negligent, in my mind, and would send a message to all future generations that we simply don't care about them or their welfare. (V-ESP-SW-112-9)

***Response**: These comments provide general information in opposition to the NRC's ESP process and will not be assessed further. The NRC will carefully review the application against its regulations that are intended to protect public health and safety and the environment.*

D.1.4 Comments Expressing Support for Vogtle's Early Site Permit

Comment: Therefore, be it resolved by the Mayor and Council, by unanimous vote held at the regular Council meeting of October 16, 2006, that the Waynesboro City Council announces its support of the expansion proposed at the Alvin W. Vogtle Nuclear Generating Plant, and encourages the Waynesboro and Burke County community to continue its support throughout the licensing and construction period. (V-ESP-SC-02-5)

Comment: We can't think of a better site in Georgia or in the southeast for this expansion to occur in, considering all the factors that go into the environmental process. (V-ESP-SC-02-7)

Comment: I'm here in support of the expansion of Plant Vogtle... (V-ESP-SC-03-1)

Comment: I want to go on record saying that the State Senate is in favor of this project, the Georgia legislature is in favor of this project, and we changed the rules a little bit to expedite the new type of reactor that will be put in place here, so it will expedite this project. (V-ESP-SC-03-8)

Comment: We are writing to voice our strong support for the Southern Nuclear Operating Company's application for an Early Site Permit for two additional reactors on the site of the Alvin W. Vogtle Electric Generating Plant near Waynesboro, Georgia. (V-ESP-SC-04-4)

Comment: We are very supportive of these applications and ask that following the appropriate permitting review process, you grant Southern Nuclear Company the Early Site Permit requested for the Vogtle site. (V-ESP-SC-04-7)

Comment: The people in this area are very knowledgeable and because they are, they are supportive of Georgia Power's plans to add two more reactors to Plant Vogtle. Frankly, we can't conceive of a more favorable environment. The citizens here know from experience that Georgia Power can be trusted to have safe and well managed plants. (V-ESP-SC-06-6)

Comment: I controlled all materials that went into that plant down there and you fellows with the NRC, you know what I'm talking about, we had to be ready for the NRC at all times, and I didn't mind it because I lived it, I welcomed them to come in. We always had good working relationship with the NRC. (V-ESP-SC-08-2)

Comment: [B]e it resolved that the Board of Commissioners of Burke County fully supports the idea of constructing two new reactors at Plant Vogtle. (V-ESP-SC-09-4)

Comment: The Burke County Chamber of Commerce supports Georgia Power in its proposed expansion of Plant Vogtle to include additional reactors. The Chamber feels this is a positive development for our community and region in several ways. We believe this expansion will

allow us to continue to receive clean, cost-effective and reliable electric energy to serve our community. The addition at Plant Vogtle will further enhance recognition of the Central Savannah River Area as the nation's hub for the resurgent nuclear energy industry. (V-ESP-SC-10-1)

Comment: The Burke County Chamber of Commerce supports the expansion project throughout its licensing, construction and eventual operation. (V-ESP-SC-10-3) (V-ESP-SW-71-3)

Comment: I can assure you that we as community leaders, we live here, we have children that live here, some of us have grandchildren and I can assure you that we would not support something that we did not feel was very safe and in the best interest of our community. (V-ESP-SC-10-8)

Comment: I appreciate the opportunity to speak to the Nuclear Regulatory Commission tonight in support of the early site permit for Vogtle Units 3 and 4. (V-ESP-SC-11-1)

Comment: The staff is very capable and I have been impressed with the way they handle themselves in this community. They're all professionals, they're the cream of the crop. (V-ESP-SC-12-1)

Comment: I feel very comfortable with Southern Nuclear adding two new reactors to the current plant. (V-ESP-SC-12-2)

Comment: I wanted to say I second anyone who supports Plant Vogtle, the activities of Georgia Power. (V-ESP-SC-13-1)

Comment: I'd like to go on record as a citizen of Burke County and also as Director of the Burke County Emergency Management in support of the early site permit and future construction and operation of the two new units. (V-ESP-SC-14-2)

Comment: The Augusta Metro Chamber of Commerce supports the continued development of Plant Vogtle. It is the right answer to today's energy needs. (V-ESP-SC-15-5)

Comment: We believe that the safe, clean, reliable power that will be generated by Units 3 and 4 at Vogtle is critical to the economic and environmental interests of Burke County and the surrounding areas. Because of this, we ask that the NRC grant the application for the Vogtle early site permit. (V-ESP-SC-17-10)

Comment: I'm here tonight to give my support for the early site permit for Vogtle's Units 3 and 4. (V-ESP-SC-17-2)

Comment: I just wanted to let the folks here know that our community actively supports the plant as it is and supports expansion of the plant. (V-ESP-SC-18-1)

Comment: The Development Authority of Burke County supports Georgia Power and Southern Nuclear in the proposed expansion of Plant Vogtle in Burke County. That would include two additional reactors. (V-ESP-SC-19-1)

Comment: The Development Authority of Burke County is 100 percent behind Plant Vogtle and the proposed new construction. We are proud and blessed to have Plant Vogtle, the people working there and Georgia Power that operates Vogtle in our community. We are very excited at the prospect of its expansion. The Development Authority supports the proposed expansion of the project throughout its licensing, construction and eventual operation. (V-ESP-SC-19-4)

Comment: If we had a choice, the Development Authority, of one industrial project, power plant or utility project, then I think what we would choose for Burke County would be Plant Vogtle and its expansion. The plant is going to stay here, it will be here and will not be going to Mexico or China. The American jobs will stay here in America... (V-ESP-SC-19-5)

Comment: Burke County needs and we want the expansion at Plant Vogtle. (V-ESP-SC-19-7)

Comment: We as the black churches of Burke County, we do support you, Georgia Power, and your good judgment to bring two more reactors to Burke County. Georgia Power, we will do whatever we can to support your decision to come to Burke County, the bird dog capital of the world, we need you. (V-ESP-SC-20-1)

Comment: [T]onight we open our arms to you, Plant Vogtle, Georgia Power, come on into Burke County, we need you. (V-ESP-SC-20-3)

Comment: So I have a peace of mind about this and I truly support Plant Vogtle and I do hope the permit process can move forward so we can have them build these two units. (V-ESP-SC-23-7)

Comment: I just wanted to endorse the expansion of Vogtle--and this is based on experience, this is not based on something coming from out of town. (V-ESP-SC-33-7)

Comment: And just simply to say that Plant Vogtle has been a tremendous asset, it continues to be. If we are able to benefit from the additional reactors, then that means of course that the children and everybody else in this community will continue to benefit. (V-ESP-SC-39-2)

Comment: We just thank God for Plant Vogtle and we ask you to bring your reactors on because we're ready for them. (V-ESP-SC-40-2)

Comment: [Y]es, I am for this. Do I like it? No. But I'm not going to let some activist come in here and rule this floor and say okay, let's go against this for all these different reasons. I think they're good reasons, but what is the risk? What is the real risk factor. That's really what I'm against. So I want you to understand I am for going forward with this. I think the risk of all the negative things that we hear is very low, and I think that with the impact of the community, it's going to be phenomenal. (V-ESP-SC-41-1)

Comment: We are for it. (V-ESP-SC-42-2)

Comment: Building new nuclear power plants enables us to generate electricity with a clean, safe and reliable source of power. (V-ESP-SC-43-6)

Comment: I fully support the expansion of the Plant Vogtle facility. My support stems from knowledge of contaminants in the environment. (V-ESP-SC-44-2)

Comment: From an environmental standpoint, nuclear power is good for this country and thus I fully support the expansion of the Plant Vogtle facility. (V-ESP-SC-44-4)

Comment: We want to continue this partnership support and this expansion of Plant Vogtle will be greatly appreciated by the community. (V-ESP-SC-45-2)

Comment: My original intent was to come up here tonight and support Plant Vogtle. After what I've heard tonight, my support has not changed, I am still in support of Burke County. (V-ESP-SC-46-1)

Comment: I just want to say that I am here to support Vogtle in any way. I support Georgia Power, Southern Nuclear and anything I can do, I'll be glad to help. (V-ESP-SC-46-2)

Comment: I'm voicing my support of the new reactors at Plant Vogtle because I do believe it's a safe venture. (V-ESP-SC-47-3)

Comment: I fully support the expansion of the Plant Vogtle facility. (V-ESP-SW-53-2)

Comment: From an environmental standpoint, nuclear power is good for this country, and thus I fully support the expansion of the Plant Vogtle facility. (V-ESP-SW-53-4)

Comment: I am writing this letter to indicate Dalton Utilities' enthusiastic support of Southern Nuclear Operating Company's application for an Early Site Permit for two additional reactors on the site of the Alvin W. Vogtle Electric Generating plant near Waynesboro, Georgia. (V-ESP-SW-56-1)

Comment: Support of this project comes from our community and industry leaders, as well. (V-ESP-SW-56-5)

Comment: On the basis of all of this information, we ask as Dalton Utilities and the Dalton community that you grant Southern Nuclear Company the Early Site Permit requested for the Plant Vogtle site. (V-ESP-SW-56-7)

Comment: I am writing this letter to indicate my support of Southern Nuclear Operating Company's application for an Early Site Permit for two additional reactors on the site of the Alvin W. Vogtle Electric Generating plant near Waynesboro, Georgia. (V-ESP-SW-57-1) (V-ESP-SW-59-1) (V-ESP-SW-60-1) (V-ESP-SW-61-1) (V-ESP-SW-62-1) (V-ESP-SW-63-1)

Comment: I ask that you grant Southern Nuclear Company the Early Site Permit request for the Plant Vogtle Site. (V-ESP-SW-57-7)

Comment: This letter is written expressing my support of Southern Nuclear Operating Company's application for an Early Site Permit for two additional reactors on the site of the Plant Vogtle Electric generating plant near Waynesboro, Georgia. (V-ESP-SW-58-1)

Comment: I strongly encourage that you grant Southern Nuclear Company the Early Site Permit requested for the Plant Vogtle Site. (V-ESP-SW-58-9)

Comment: I ask that you grant Southern Nuclear Company the Early Site Permit requested for the Plant Vogtle site. (V-ESP-SW-59-7) (V-ESP-SW-60-7) (V-ESP-SW-61-7) (V-ESP-SW-62-7) (V-ESP-SW-63-7)

Comment: We are writing this letter to indicate our support of Southern Nuclear Operating Company's application for an Early Site Permit for two additional reactors on the site of the Alvin W. Vogtle Electric Generating plant near Waynesboro, Georgia. (V-ESP-SW-64-1)

Comment: [W]e ask that you grant Southern Nuclear Company the Early Site Permit requested for the Plant Vogtle site. (V-ESP-SW-64-7)

Comment: The people in this area are very knowledgeable, and because they are, they are supportive of Georgia Power's plans to add two more reactors at Vogtle. Frankly, we can't conceive of a more favorable environment. The citizens here know from experience that Georgia Power can be trusted to have safe and well-managed plants. (V-ESP-SW-65-6)

Comment: The Columbia County Chamber of Commerce supports Georgia Power's proposed expansion of Plant Vogtle near Waynesboro and the construction of additional reactors. The Chamber feels this is a positive development for Columbia County, our business community, Metro Augusta and the Central Savannah River Area (CSRA). (V-ESP-SW-70-1)

Comment: The Columbia County Chamber of Commerce is proud to have Plant Vogtle in our community. We are excited at the prospect of its expansion. The Columbia County Chamber of Commerce supports the expansion project throughout its licensing. (V-ESP-SW-70-6)

Comment: The Burke County Chamber of Commerce supports Georgia Power in its proposed expansion of Plant Vogtle to include additional reactors. The Chamber feels this is a positive development for our community and region in several ways. We believe this expansion will allow us to continue to receive clean, cost-effective and reliable electric energy to serve our community. The addition at Plant Vogtle will further enhance recognition of the Central Savannah River Area as the nation's hub for th (V-ESP-SW-71-1)

Comment: The speedy approval of two new reactors at Plant Vogtle in Burke County, Georgia, is small, but important step in the right direction for our country. (V-ESP-SW-80-3)

Comment: This letter is in support of the planned expansion of Plant Vogtle in Burke County, GA. (V-ESP-SW-107-1)

***Response**: These comments provide general information in support of the Southern's ESP and will not be assessed further.*

D.1.5 Comments Expressing Opposition to Vogtle's Early Site Permit

Comment: I'm here today to say no thank you to nuclear power, more nuclear reactors at Plant Vogtle. (V-ESP-SC-31-1)

Comment: I think we all want to bring energy to the southeast that creates the greatest good for now and the future and we can do far better than nuclear. (V-ESP-SC-31-5)

Comment: I don't know that more reactors at the Vogtle site is really the answer for looking at and addressing some of those long-term impacts. (V-ESP-SC-37-4)

Comment: I am very concerned with Southern Nuclear's ESP application to build up to two more nuclear reactors at Plant Vogtle. (V-ESP-SW-78-1) (V-ESP-SW-84-1) (V-ESP-SW-85-1) (V-ESP-SW-86-1) (V-ESP-SW-87-1) (V-ESP-SW-88-1) (V-ESP-SW-89-1) (V-ESP-SW-90-1) (V-ESP-SW-93-1) (V-ESP-SW-94-1) (V-ESP-SW-95-1) (V-ESP-SW-117-1) (V-ESP-SW-119-1) (V-ESP-SW-120-1)

Comment: Please do not support this expansion. (V-ESP-SW-73-3)

Comment: We oppose Southern Nuclear's application for an early site permit for Plant Vogtle and request that the NRC reject the application. (V-ESP-SW-81-1)

Comment: I urge the NRC to refuse the early site permit for Plant Vogtle for all of Georgia's citizens - present and future. (V-ESP-SW-91-8)

Comment: I am writing to oppose the expansion of Plant Vogtle to four nuclear reactors. (V-ESP-SW-92-1)

Comment: I would like to express my concern over the application by Southern Company to obtain an early site permit to place 2 more nuclear reactors at the Vogtle power plant. (V-ESP-SW-96-1)

Comment: We do not want the Southern Company to be issued a early site permit. (V-ESP-SW-97-3)

Comment: I am completely OPPOSED to the construction of new nuclear reactors at Plant Vogtle. (V-ESP-SW-99-1)

Comment: As a public health physician, I want to express my opposition to this proposal. (V-ESP-SW-100-1)

Comment: I urge you to oppose the granting of a permit for additional nuclear power plants near the Savannah River Site. (V-ESP-SW-100-9)

Comment: I want to express my concern over the construction of two new nuclear reactors at Plant Vogtle. (V-ESP-SW-102-1)

Comment: I oppose the expansion of nuclear plants in Georgia. (V-ESP-SW-104-1)

Comment: I urge the NRC to hold off on consideration of a permit to expand Plant Vogtle (especially under what appear to be a carte blanche scenario) until all viable alternatives have been explored. (V-ESP-SW-106-1)

Comment: Please drop the idea of meeting our energy deficit with this expensive, dangerous, dead end technology and begin focusing on energy conservation instead. (V-ESP-111-8)

Comment: I urge the NRC to look critically at this proposed development and its impact on the entire region, including the area that includes the Savannah River Site. (V-ESP-SW-112-2)

Comment: I write to express disappointment and dismay over the proposed additional nuclear reactors planned for Plant Vogtle in Burke County, Georgia. (V-ESP-SW-112-1)

Comment: [W]e strenuously object to issuance of an Early Site Permit (ESP) for an additional two nuclear reactors at the existing Vogtle nuclear power plant in Burke County, GA. (V-ESP-SW-113-1)

Comment: [W]e urge the NRC to deny the Early Site Permit application for two additional nuclear reactors at Plant Vogtle. (V-ESP-SW-113-17)

Comment: For all of these reasons, the Center for a Sustainable Coast is unconditionally opposed to the approval of nuclear reactors at Plant Vogtle or anywhere else in Georgia's coastal watersheds. (V-ESP-SW-114-15)

Comment: We are extremely concerned about the proposed expansion of nuclear plant Vogtle as outlined in the early site permit (ESP) application submitted by Southern Nuclear Operating Company (SNC). (V-ESP-SW-115-1)

***Response**: These comments provide general information in opposition to Southern's ESP and will not be assessed further. The NRC will carefully review the ESP application against its regulations that are intended to protect public health and safety and the environment.*

D.1.6 Comments Concerning National Environmental Policy Act Compliance

Comment: I encourage the NRC to please work with our state environmental experts at the Environmental Protection Division and the Wildlife Resources Division. (V-ESP-SC-21-9)

***Response**: The NRC will consult with the appropriate State agencies in accordance with 10 CFR Part 51.*

Comment: Before this decision is made, NRC must thoroughly study...climate change in Georgia with all the trends and projections including consideration of our next long-term drought. We all need to see this needed factual information. (V-ESP-SC-34-4)

Comment: Before this decision is made NRC must thoroughly study... Climate Change in Georgia, all with trends and projections including consideration of our next long term drought. We all need to see all the needed factual information. (V-ESP-SW-67-5)

***Response**: A study on climate change in Georgia is beyond NRC's mission and purview. The NRC's mission is to regulate the nation's civilian use of by-product, source, and special nuclear materials to ensure adequate protection of public health and safety, to promote the common defense and security, and to protect the environment.*

Comment: [B]ack to the issue at hand, National Environmental Policy Act. You know what, we have a mess. Everything is changing, all the rules are changing. One of the biggest changes that I've not heard mentioned except in passing is that there is federal money involved in this program. (V-ESP-SC-36-1)

***Response**: Potential changes in the National Environmental Policy Act of 1969 (NEPA) are not within the purview of the EIS or NRC's agency mission. The NRC's mission is to regulate the nation's civilian use of by-product, source, and special nuclear materials to ensure adequate protection of public health and safety, to promote the common defense and security, and to protect the environment.*

Comment: The EIS should also address why we have not -- why Southern Company, Georgia Power and others haven't adequately explained how renewable, sustainable energy sources and efficiency, conservation alternatives would be looked at. These have been abandoned and the EIS should address that. (V-ESP-SC-37-8)

Comment: In summary, SACE has sincere concerns about the SNC ESP application to expand Plant Vogtle, and we urge the NRC to carefully review our concerns and those of others as they develop the draft EIS. (V-ESP-SW-115-46)

Comment: SNC's Environmental Report does not comprehensively and objectively assess alternatives. Nor can it be expected to be given its own incentives to keep energy demand high. But this should not keep NRC from conducting its own "objective" evaluation of reasonable conservation and energy alternatives. The NRC needs to evaluate the current and projected renewable energy opportunities in Georgia, such as wind, solar (both photovoltaic-PV and solar thermal), and bioenergy using up-to-date information. For instance, the wind data used in Chapter 9 of SNC's Environmental Report is outdated; new, certified wind maps of Georgia, which include off shore wind supplies, were just released by the National Renewable Energy Laboratory. (V-ESP-SW-116-16)

***Response**: Section 102 of NEPA directs that an EIS be prepared for major Federal actions that significantly affect the quality of the human environment. The NRC has implemented Section 102 of NEPA in 10 CFR Part 51. Subpart A of 10 CFR Part 52 contains the NRC regulations related to ESPs. It is the NRC EIS rather than the applicant's Environmental Report (ER) that is used as the basis for the decision on the ESP application. As set forth in 10 CFR 52.17, the ESP applicant must submit a complete ER focusing on the environmental effects of construction and operation of a reactor or reactors. The ER is intended to assist the Commission in complying with Section 102 of NEPA. The ER may be used extensively by the NRC staff as a starting point in its review. However, the Commission staff independently evaluates information contained in the ER and develops its own bases and analyses. Ultimately, the NRC staff is responsible for the reliability of any information used. As set forth in 10 CFR 52.18, the Commission has determined that an EIS will be prepared during the review of an application for*

an ESP. An applicant for a CP or COL for a nuclear power plant or plants to be located at the site for which an ESP was issued can reference the ESP. A CP or COL to construct and operate a nuclear power plant is a major Federal action that requires its own environmental review in accordance with 10 CFR Part 51. To guide its assessment of environmental impacts for a proposed action or alternative actions, the NRC has established a standard of significance for impacts based on Council on Environmental Quality (CEQ) guidance (40 CFR 1508.27). Using this approach, NRC has established three significance levels - SMALL, MODERATE, or LARGE - which are defined below:

- *SMALL - Environmental effects are not detectable or are so minor that they will neither destabilize nor noticeably alter any important attribute of the resource.*
- *MODERATE - Environmental effects are sufficient to alter noticeably, but not to destabilize, important attributes of the resource.*
- *LARGE - Environmental effects are clearly noticeable and are sufficient to destabilize important attributes of the resource.*

Among the areas included in the EIS, the NRC staff will consider the No-Action Alternative or denial of the ESP, mitigation measures to further reduce environmental impacts, alternative sites, alternative energy sources including wind, solar, geothermal, fuel cells, biomass, etc., conservation and demand-side management, unavoidable adverse environmental impacts, irreversible and irretrievable commitments of resources, the relationship between short-term uses and long-term productivity, cumulative impacts, construction impacts, and the impacts of operation. In summary, the staff will comply with the requirements of NEPA by following the NRC's implementing regulations (10 CFR Parts 51 and 52) and related review guidance.

Comment: I urge the NRC to consider how the state energy plan addresses the topic of new water loss for electricity production and all these impacts before making a decision to allow the expansion. (V-ESP-SC-34-5)

Comment: I urge the NRC to consider how the State Energy Plan addresses the topic of new water lost for electricity production and all of these impacts before making a decision to allow the expansion of the Vogtle site. (V-ESP-SW-67-6)

***Response**: Southern must gain permits from a variety of Federal, State, and local government agencies, before it can build and operate a nuclear power plant. This requirement includes the Georgia Department of Natural Resources, which is responsible for the control of water resources in Georgia. The NRC staff will assess consumptive water use impacts in the EIS.*

Comment: The issue of building more nuclear reactors at Plant Vogtle will affect not just this local community, but Georgia as a whole and our region overall. I hope the NRC staff understands that we need to do what will benefit all. (V-ESP-SC-07-1)

Comment: The issue of building more nuclear reactors at Plant Vogtle will affect not just this local community, but Georgia as a whole and our region overall. I hope the NRC staff understands that we need to do what will benefit all of us. (V-ESP-SW-77-1)

Comment: I'd like to request and in fact even demand that the NRC complete a thorough and full environmental impact statement regarding Plant Vogtle's ESP. (V-ESP-SC-21-1)

Comment: [T]his agency should take the bull by the horns and be doing a programmatic EIS on source term, not piecemeal, site-by-site-by-site. (V-ESP-SC-36-4)

Comment: I would like to request that there is a full EIS. (V-ESP-SC-37-2)

***Response**: The NRC staff will prepare an EIS in accordance with the requirements of 10 CFR 52.18 and 10 CFR Part 51. In its review, the staff will focus on the environmental effects of construction and operation of reactors.*

Comment: Vogtle is already special given its juxtaposition to the Savannah River Site. God forbid anything were ever -- I would never want to see this happen -- but God forbid, what's going on at Savannah River Site is very much linked to what we're talking about in terms of North Korea, Iran and so on. People that we hope are not using so-called peaceful atoms for weapons. Are we doing that here? This is a special area and the juxtaposition of the Savannah River Site is problematic, the EIS should address this. (V-ESP-SC-37-12)

***Response**: The NRC staff will prepare an EIS in accordance with the requirements of 10 CFR 52.18 and 10 CFR Part 51. In its review, the staff will focus on the environmental effects of construction and operation of reactors. The assessment of cumulative impacts will be included in Chapter 7 of the EIS.*

Comment: This [nuclear power] is not a green energy, not a solution to our energy problems or climate change and there are many environmental and public health impacts, many of which were talked about tonight, that the EIS should address very carefully. (V-ESP-SC-37-7)

Comment: EIS should contemplate the implications of self-monitoring versus independent monitoring. We have been cut in Georgia tremendously, the folks at our state regulatory agencies have had major cuts. This is a problem for existing reactors, let alone wanting to bring more on line. And monitoring the releases that are routine, because there are routine releases, should be looked at in addition to the accidental releases. The EIS should address and should contemplate the implications of self versus independent monitoring. Already, we are depending

largely on Georgia Power data for this, this is incredibly problematic and the region is already burdened with releases, including radioactive tritium from Savannah River Site and Vogtle. But the EIS should absolutely address and discuss the plans for monitoring in the EIS. (V-ESP-SC-37-13)

Comment: We request that the NRC consider the precautionary principle in its deliberations on the early site permit application for Plant Vogtle. The four central tenets of the precautionary principle are:

- Heed early warnings: Take preventive action in the face of uncertainty (but with credible evidence of potential harm)
- Shift the burden of proof to the proponents of the activity or technology (in this case, Southern Nuclear)
- Explore a wide range of alternatives to possibly harmful actions or technology
- Increase public participation in decision-making. (V-ESP-SW-81-3)

Comment: We resolutely join SACE in recommending that the Nuclear Regulatory Commission (NRC) prepare a comprehensive and objective Environmental Impact Statement (EIS) for the new facilities proposed at Vogtle that includes an appropriately broad range of effects that building and operating two more nuclear reactors at that location will impose on Georgia's communities, economy, and environment - defined as broadly as needed to serve the long-term public interest. As stated by SACE staff in their submitted statement, such an analysis must include careful evaluation of the potential for improving the efficiency of energy use by all sectors and the implications of such advancements for Georgia's future. (V-ESP-SW-114-16)

Comment: We urge the Nuclear Regulatory Commission (NRC) staff to develop a comprehensive, and up-to-date draft Environmental Impact Statement (EIS) for the Vogtle early site permit that steps back and looks at the multiple effects that building two more nuclear reactors at Plant Vogtle will have on Georgia's communities, economy, and environment. (V-ESP-SW-115-2)

***Response**: The NRC staff will prepare an EIS in accordance with the requirements of 10 CFR 52.18 and 10 CFR Part 51. In its review, the staff will focus on the environmental effects of construction and operation of reactors.*

D.1.7 Comments Concerning Air Quality

Comment: The NRC needs to evaluate the increased water vapor that is projected with the addition of two new reactors, not only in terms of water lost from the supply source, but also in terms of global warming. Water vapor has been identified as a contributor to global warming. (V-ESP-SC-07-6) (V-ESP-SW-77-5)

Comment: Something else that has to be analyzed here is that the thermal efficiency of nuclear power is 33 percent. A 1000-megawatt power plant that's generating 3000 megawatts of heat, 2000 megawatts of heat are going out into the environment. That's seven million BTUs per hour of waste heat going into Burke County. So, you know, maybe we can get a little ding on global warming overall over the planet with a little nuclear power, but you're eating heat here in Burke County, and that needs to be analyzed. (V-ESP-SC-30-7)

Comment: The NRC needs to evaluate predicted effects of global warming on this region, specifically on the Savannah River basin, and how the existing or proposed reactors at Vogtle may be negatively impacted or unable to generate electricity. This was demonstrated by the heat wave this past summer in Europe when nuclear power plants from Sweden to France had to shut down because the lake or river water temperatures were too high to allow for safe operation of the plants. (V-ESP-SW-115-31) (V-ESP-SC-07-7) (V-ESP-SW-77-6)

Comment: A large amount of water that is lost from Plant Vogtle currently is evaporative loss from the cooling towers. The NRC needs to evaluate the increased water vapor loss that is projected with the addition of two new reactors--not only in terms of water lost from the supply source (the Savannah River), but also in terms of global warming. Water vapor has been identified as a contributor to global warming. (V-ESP-SW-115-32)

***Response**: The environmental impacts associated with the operation of nuclear plants and the fuel cycle will be addressed in Chapters 5 and 6 of the EIS.*

Comment: We also believe it's a very low environmental impact. We think that there are no greenhouse gases associated with it. (V-ESP-SC-01-7)

Comment: It's been environmentally friendly. There have been no episodes that I know of for Plant Vogtle that has endangered our environment in any way. (V-ESP-SC-03-6)

Comment: [T]oday's reactors are not only safe, but do not pollute the ground, streams or the atmosphere. For example, they don't contribute to acid rain, smog, heavy metal contamination, ozone depletion or global warming. (V-ESP-SC-06-4)

Comment: Whereas, Plant Vogtle has provided...safe, clean energy for our state. (V-ESP-SC-09-3)

Comment: Plant Vogtle creates no significant impact on the quality of our air. (V-ESP-SC-15-3)

Comment: Nuclear power plants produce no emissions and no greenhouse gases. Nuclear power is a source of clean, emission-free energy and clearly it has already had a positive impact on Georgia's environment. (V-ESP-SC-17-6)

Comment: [A] lot of people are saying that nuclear power is the answer to global warming. It is true that each plant does not emit -- does not contribute to greenhouse -- to global warming. But we would need a whole lot of nuclear power plants coming on line to actually affect global warming in any way. It's really not a very good short-term solution to global warming. (V-ESP-SC-25-9)

Comment: "Building more nuclear power plants...will not reduce CO2 emissions as much as other quicker, safer and cheaper alternatives." (V-ESP-SC-27-3)

Comment: Nuclear energy is clean, it is the only large-scale emission-free source of electricity that we can readily expand to meet our growing energy demand. (V-ESP-SC-43-4)

Comment: We have clean air here, unlike the City of Atlanta, I know because I moved here from there. (V-ESP-SC-52-8)

Comment: The Dalton community is filled with businessmen who also understand the importance of additional, "clean" electrical energy for our state. (V-ESP-SW-56-6)

Comment: Aside from economics, the positive environmental impact is undeniable. Nuclear power doesn't emit any carbon or greenhouse gases, accounting for about 75% of all emissions in electricity in the U.S. Recent studies indicate that 70% of Americans support nuclear energy because they can see the value of this "clean" energy. (V-ESP-SW-57-5)

Comment: The positive environmental impact is evident: Nuclear power does not emit any carbon or greenhouse gasses and accounts for 75 percent of all emission-free electricity in the United States. (V-ESP-SW-58-6)

Comment: Aside from the economics, the positive environmental impact is undeniable. Nuclear power doesn't emit any carbon or greenhouse gasses, accounting for 75 percent of all emission-free electricity in the U.S. Recent studies indicate that 70 percent of Americans support nuclear energy. Why? Because they can see the value of this "clean" energy. (V-ESP-SW-59-5) (V-ESP-SW-60-5) (V-ESP-SW-61-5) (V-ESP-SW-63-5)

Comment: Aside from the economics, the environmental advantage of nuclear power generation is undeniable. Nuclear power doesn't emit any carbon or greenhouse gasses. (V-ESP-SW-62-5)

Comment: The positive environmental impact is also undeniable. Nuclear power does not emit any carbon or greenhouse gasses, accounting for 75 percent of all emission-free electricity in the U.S. Why do 70 percent of Americans support nuclear energy as indicated in recent studies? Because they can see the value of this "clean" energy. (V-ESP-SW-64-5)

Comment: [T]oday's reactors are not only safe, but do not pollute the ground, streams or the atmosphere. For example, they don't contribute to acid rain, smog, heavy metal contamination, ozone depletion, or global warming. (V-ESP-SW-65-4)

Comment: This expansion will allow us to continue to receive clean, ...and reliable energy to serve the CSRA. (V-ESP-SW-70-3)

Comment: Politics being what it is, you will not be able to regulate burning coal cleanly enough. You can't do it. It just won't happen. (V-ESP-SW-105-2)

Comment: Nuclear power is not a viable solution to global warming... If they are even built, they are not expected to be online before 2015 as nuclear power plants require much longer lead times than other technologies, resulting in a marked delay in contributing to reducing carbon dioxide emissions. (V-ESP-SW-115-29)

***Response**: This information will be considered in the staff's evaluation of air quality impacts in the EIS. The result of this analysis will be presented in Chapter 5 of the EIS.*

D.1.8 Comments Concerning Surface-Water Use and Quality

Comment: I have not heard anyone tonight talk about the historic decrease in flow of the Savannah River...I encourage the NRC and others of you here in the room to look them up for yourself and study this further. My whole point is, do not make permanent decisions based on today's flow, because your decisions will be wrong. (V-ESP-SC-34-1)

***Response**: The NRC staff will assess consumptive water use impacts on the Savannah River from operation of the facility. The results will be presented in Chapter 5 of the EIS.*

Comment: Talking about the water flow, I think y'all need to look at the Corps of Engineers up in Augusta, they control the flow of the Savannah River, that's where it comes from, the guys at the switch. (V-ESP-SC-50-1)

***Response**: The comment is noted, the staff has contacted the U.S. Corps of Engineers regarding water flow in the Savannah River.*

Comment: Faced with salt water intrusion of the Floridian Aquifer both Beaufort and Jasper counties in S.C. and the Savannah area will become more dependent on the Savannah River for drinking water. (V-ESP-SW-75-1)

Comment: Nuclear facilities also place additional stress on Georgia's already limited water resources and expansion of plants such as Vogtle will certainly place increased demands on the water available from the Savannah River. Surface waters such as the Savannah River are

variously used and re-used for multiple purposes, usually without regard to environmental degradation and ultimately the health of both the human and non-human species that depend on safe and sufficient water. (V-ESP-SW-76-2)

Comment: Power plants have a tremendous impact on our water resources. Our future energy choices make a big difference on the future of the river basins and the communities and businesses reliant on those water sources....Most people are not aware that the nuclear plants in Georgia have larger water permits than most municipalities, including nearby Augusta. Plant Vogtle has an average withdrawal of 64 million gallons per day from the Savannah River and an average water consumption of 43 million gallons per day. That shows that Vogtle is returning only about one-third of what it withdraws from the Savannah River. The plant is actually permitted for a daily maximum withdrawal of 127 mgd, which is nearly double that of both of the City of Augusta/Richmond County's permits to pull from the Savannah River and Augusta Canal (daily maximum is 71 million gallon per day with a monthly average withdrawal of 60 mgd). Yet, we're here today talking about a significant expansion of that site which will have an incredible impact on the Savannah River. (V-ESP-SW-77-3)

Comment: Plant Vogtle's two existing reactors require huge amounts of water with only 1/3 of what is withdrawn being returned to the Savannah River [about 64 million gallons per day (mgd) withdrawal with consumption of about 43 mgd]. That's more water than many towns and cities in Georgia use! Doubling the number of reactors on the site will only make this worse. This excess use of water threatens municipalities, industries, agriculture, recreation, and aquatic species. If there is an extended drought - even a drought 20 or 40 years from now, severe consequences could occur within the Savannah River basin. (V-ESP-SW-91-3)

***Response**: The NRC staff will assess consumptive water use impacts on the Savannah River from operation of the facility. The results will be presented in Chapter 5 of the EIS. Cumulative impacts will be presented in Chapter 7.*

Comment: Additionally, please address the following items as NRC staff develops the draft EIS: water conservation. (V-ESP-SW-87-5)

***Response**: The comment is not within scope of the EIS and will not be addressed further.*

Comment: Included, but not limited to, I would like for the EIS to consider impacts on water supply and water quality, particularly temperature. The two new towers will increase water withdrawals by 100 percent. (V-ESP-SC-21-2)

Comment: To give permission on this magnitude to build reactors that use huge amounts of water, increase the temperature of the water endangering aquatic life, and only returning 1/3 of the water to the Savannah River is unwise. (V-ESP-SW-98-3)

***Response**: The NRC staff will assess consumptive use and water-quality impacts (including the thermal impacts of discharge to the Savannah River) on the Savannah River from operation of the facility. The results will be presented in Chapter 5 of the EIS.*

Comment: Water Use & Supply: Vogtle's 2 existing reactors require huge amounts of water with only 1/3 of what was withdrawn being returned to the Savannah River. That's more water than many towns and cities in Georgia use! Doubling the number of reactors on site will only make this worse. This excess use of water threatens municipalities, industries, agriculture, recreation, and aquatic species. If there is an extended drought -even a drought 20 or 40 years from now, severe consequences could occur within the Savannah River basin. (V-ESP-SW-110-3)

***Response**: The NRC staff will assess consumptive water use impacts, including during periods of water scarcity, from operation of the facility. The results will be presented in Chapter 5 of the EIS. Cumulative impacts will be presented in Chapter 7.*

Comment: NRC must consider the impact that the proposed expansion at Plant Vogtle will have upon water supply, water quality, and water temperature in the Savannah River over the duration of the twenty-year permit. The expansion will significantly impact water supply. While Southern Nuclear Operating Company (SNC) emphasizes that no more than 1-2% of the Savannah River's flows will be lost, this loss of river flow is hardly insignificant. Expected growth along the Savannah River over the next twenty years suggests water supplies will be at a premium. While demand for drinking water is increasing, saltwater intrusion into coastal area aquifers is expected to make the Savannah River even more important as a source of drinking water for downstream users in Augusta, Savannah, Hilton Head, and Beaufort. Therefore, NRC must address the impacts that this additional withdrawal will have upon the River -particularly during times of drought. (V-ESP-SW-116-1)

***Response**: The NRC staff will assess future consumptive use impacts on the Savannah River from operation of the facility. The NRC will also evaluate the impacts of groundwater withdrawals associated with the proposed units on the groundwater resource including the potential impact from saltwater intrusion. The results will be presented in Chapter 5 of the EIS. Cumulative impacts will be presented in Chapter 7.*

Comment: There will likely be a loss to South Carolina and Georgia coastal new drinking water needs and impacts to the ships coming 20 miles up the Savannah River into the Savannah harbor. The NRC needs to evaluate these issues and not assume some other state or federal agency will. (V-ESP-SW-67-4)

Comment: Vogtle's 2 existing reactors require huge amounts of water with only 1/3 of what was withdrawn being returned to the Savannah River [-64 million gallons per day (mgd) withdrawal with consumption of -43 mgd]. That's more water than many towns and cities in

Georgia use! Doubling the number of reactors on site will only make this worse. This excess use of water threatens municipalities, industries, agriculture, recreation, and aquatic species. If there is an extended drought -even a drought 20 or 40 years from now, severe consequences could occur within the Savannah River basin. The water discharged from nuclear Plant Vogtle is already hotter than what is withdrawn; more reactors will only make this situation worse. Temperature changes negatively affect the fish, plant, and animal life that depend on the river. (V-ESP-SW-74-5)

Response: *The NRC staff will assess consumptive use and water quality impacts (including the thermal impacts of discharge to the Savannah River) on the Savannah River from operation of the facility. The results will be presented in Chapter 5 of the EIS. Cumulative impacts will be presented in Chapter 7.*

Comment: Nuclear power wastes water. Nuclear power causes the water returned to the river to be too hot, causing the river to be unhealthy (or dead, which is pretty unhealthy). (V-ESP-SW-83-3)

Comment: Additionally, please address the following items as NRC staff develops the draft EIS: ...low dissolved oxygen in Savannah harbor. (V-ESP-SW-86-6)

Response: *The NRC staff will assess consumptive use and water quality impacts on the Savannah River from operation of the facility. The results will be presented in Chapter 5 of the EIS.*

Comment: [Plant Vogtle] uses a proportionally minor amount of our water resources. The benefits of this facility clearly outweigh the costs. (V-ESP-SC-15-4)

Comment: So where is their new water coming from to support four million new Atlanta people and the new coastal residents? Coastal Georgia already has water problems. As people continue to move there, water is going to be an even greater concern than electricity. (V-ESP-SC-34-2)

Comment: Some have expressed concern that two more reactors at Plant Vogtle would consume too much water from the Savannah River. That criticism is without merit. Plant Vogtle currently consumes only 0.6% of the river flow under normal conditions. The water taken from the Savannah River to cool the reactors is itself cooled in the cooling towers, then returned to the river. The only water actually removed is the small amount of water vapor that goes into the atmosphere. Also, the water returned to the river is only one degree Celsius higher than when it was withdrawn, and that increases the river water temperature by only 0.008 degrees Celsius–not a significant effect. (V-ESP-SW-65-5)(V-ESP-06-05)

Comment: I urge you to thoroughly evaluate the water and security issues that new reactors would pose to the Savannah River basin and surrounding communities. (V-ESP-SW-78-2) (V-ESP-SW-84-2) (V-ESP-SW-85-2) (V-ESP-SW-86-2) (V-ESP-SW-87-2) (V-ESP-SW-88-2) (V-ESP-SW-89-2) (V-ESP-SW-90-2) (V-ESP-SW-93-2) (V-ESP-SW-94-2) (V-ESP-SW-95-2) (V-ESP-SW-117-2) (V-ESP-SW-119-2) (V-ESP-SW-120-3)

Comment: Additionally, please address the following items as NRC staff develops the draft EIS: ...wasting precious water. (V-ESP-SW-90-6)

Comment: The licensing of two nuclear power reactors, with enormous commitments of water needed for cooling, being proposed at the same time Georgia policies are advocating prudent improvements in water-using efficiencies, is in direct conflict with public interest as strongly supported initiatives in state water management. Nuclear is the most water-intensive of all power sources per kilowatt hour. (V-ESP-SW-114-3)

***Response**: The NRC staff will assess consumptive water use impacts from operation of the facility. The results will be presented in Chapter 5 of the EIS.*

Comment: With two new power plants built, the current water loss of 41 million gallons will nearly double. How will 80 million gallons lost as a result of steam impact Georgia? There will likely be a loss to South Carolina and Georgia coastal regions new drinking water needs and there may be an impact to the ships coming 20 miles up the Savannah River into what we continue to call that whole thing, the Savannah harbor. The NRS (sic) needs to evaluate these issues and not assume some other state or federal agency will. (V-ESP-SC-34-3)

Comment: My next concern primarily addresses the water used to cool the reactors. While I agree that the steam produced from the water in the reactors is far cleaner than that produced from coal, it seems that the water supply in that area in insufficient in sustaining the reactors. Water for the Vogtle reactors primarily comes from the Savannah River basin, only about one third of this water is returned to the river. Currently, the two reactors use about 64 million gallons of water per day, which is more water than many towns and cities in Georgia use per day. This is especially important in the summer months when there are water shortages. (V-ESP-SW-54-4)

Comment: Vogtle's 2 existing reactors require huge amounts of water with only 1/3 of what was withdrawn being returned to the Savannah River [64 million gallons per day (mgd) withdrawal with consumption of 43 mgd]. That's more water than many towns and cities in Georgia use! Doubling the number of reactors on site will only make this worse. This excess use of water threatens municipalities, industries, agriculture, recreation, and aquatic species. If there is an extended drought -even a drought 20 or 40 years from now, severe consequences could occur within the Savannah River basin. (V-ESP-SW-103-4)

Comment: The two existing reactors at Vogtle require huge amounts of cooling water with only about 1/3 being returned to the Savannah River. 63 million gallons per day are withdrawn and, of this, consumptive use is 43 million gallons which is then eliminated from possible downstream use. To put this in perspective, 43 million gallons per day is enough to supply about 150,000 households. Obviously, two additional reactors will roughly double the consumptive use requirement to about 80 million gallons per day. (V-ESP-SW-113-8) (V-ESP-SW-55-4)

Comment: What is true generally is even more applicable along the Savannah River, which is already burdened by conflicting demands in both Georgia and South Carolina, areas having severe water quality problems,...Squandering water resources on cooling for nuclear-based power production is irresponsible, especially in light of the potential for increasing energy efficiency and the use of alternative technologies such as solar, wind, and tide power. (V-ESP-SW-114-10)

***Response**: The NRC staff will assess consumptive water-use impacts from operation of the facility. The results will be presented in Chapter 5 of the EIS. Cumulative impacts will be presented in Chapter 7.*

Comment: What would the affect on the water supply in a drought be? (V-ESP-SW-95-6)

Comment: Pertaining to this specific site, our disregard for increasingly scarce water resources is ominous. Water use by the SRS reactors currently in operation is 64 million gallons per day, with 43 million returned to the Savannah River (a net "loss" of 19 million gallons a day)--this in an area of the country that has been in drought conditions for 5 years. (V-ESP-SW-100-3)

Comment: Anyone who has lived through a serious drought is terrified at the thought of increasing the number of nuclear reactors we now have. The huge amount of water they require could devastate our area should we have another long term drought. This is but one of the many reasons to go no further with nuclear plans. (V-ESP-SW-109-1)

Comment: Consideration should be given to current and future energy production in terms of limited water availability (e.g., in times of drought). (V-ESP-SW-115-22)

***Response**: The NRC staff will assess consumptive water-use impacts, including during periods of water scarcity, from operation of the facility. The results will be presented in Chapter 5 of the EIS.*

Comment: I have not heard anyone talk to the historical decreases in flow of the Savannah River. I encourage the NRC and others to look them up yourselves and study this further. My whole point is: do not make permanent decisions based on today flow is wrong. (V-ESP-SW-67-1)

Comment: NRC must consider each of these impacts in conjunction with the anticipated growth along the Savannah River over the next twenty years and the additional health risks that will be presented by additional citizens' use of the river for drinking water. (V-ESP-SW-116-6)

***Response**: The NRC staff will assess future consumptive-use impacts on the Savannah River* from operation of the facility. The results will be presented in Chapter 5 of the EIS.

Comment: The NRC needs to evaluate the current and projected water supply needs of the Savannah River basin, and during drought conditions, and assess the far-ranging social, economical and environmental implications of Plant Vogtle's expansion on this water resource. (V-ESP-SW-115-24)

Comment: Electricity generation in GA consumes more water daily than Atlanta. (V-ESP-SW-67-2)

Comment: So where is their new water going to come from to support 42 million "new" Atlanta people and the new Coastal residents? Coastal Georgia already has water problems. As people continue to move there, water is going to be an even greater concern than electricity. How will an 80 million gallon loss a day impact GA? (V-ESP-SW-67-3)

***Response**: The NRC staff will assess future consumptive water-use impacts from operation of the facility. The results will be presented in Chapter 5 of the EIS.*

Comment: Plant Vogtle currently has larger water permits than many Georgia municipalities, including nearby Augusta....Building up to two new reactors will have an incredible impact on the Savannah River and the future growth of the region in terms of available water supply. (V-ESP-SW-115-23)

Comment: The NRC should also study the assimilative capacity of the Savannah River, which has become an increasingly important issue for both Georgia and South Carolina in terms of the future use and health of the Savannah River basin. Demands for additional assimilative capacity are expected as population and employment growth continue, which may therefore require that more aggressive steps will be needed to reduce the amount of water withdrawn and to more thoroughly treat the water being discharged back to the river. (V-ESP-SW-115-27)

***Response**: The NRC staff will assess future consumptive water-use impacts on the Savannah River from operation of the facility. The results will be presented in Chapter 5 of the EIS.*

Comment: Power plants have a tremendous impact on our water resources. Our future energy choices make a big difference on the future of the river basins and the communities and businesses reliant on those water resources...Most people are not aware that the nuclear plants in Georgia have larger water permits than most municipalities, yet we're here today talking

about a significant expansion of that site, which will have an incredible impact on the Savannah River. Right now this plant is only returning a third of what it's withdrawing from the Savannah River. (V-ESP-SC-07-4)

***Response**: The NRC staff will assess impacts on the Savannah River from operation of the facility. The results will be presented in Chapter 5 of the EIS. Cumulative impacts will be presented in Chapter 7.*

Comment: We have never on any single occasion had any problem with pollution of the water or with animals that were infected. (V-ESP-SC-33-3)

Comment: The NRC should also study the dissolved oxygen (DO) levels throughout the Savannah River basin, especially the already grave DO situation in the lower Savannah, downstream of Plant Vogtle. A final, revised total maximum daily load (TMDL) for DO in the lower Savannah was just issued by the EPA in November 2006 and the NRC needs to conduct its evaluation using this new standard. (V-ESP-SW-115-28)

***Response**: The NRC staff will assess water-quality impacts on the Savannah River from operation of the facility. The results will be presented in Chapter 5 of the EIS.*

Comment: [T]hermal discharges from the plant [need to be looked at]. (V-ESP-SC-22-3)

***Response**: The NRC staff will assess water quality, including thermal, impacts on the Savannah River from operation of the facility. The results will be presented in Chapter 5 of the EIS.*

Comment: I am sceptical about the local impact on the Savannah River/basin; (V-ESP-SW-106-3)

***Response**: The NRC staff will assess water-use impacts on the Savannah River from operation of the facility. The results will be presented in Chapter 5 of the EIS.*

Comment: The Savannah River basin is already in trouble. Vogtle's existing reactors require huge amounts of water, (V-ESP-SW-108-2)

***Response**: The NRC staff will assess water-use impacts on the Savannah River from operation of the facility. The results will be presented in Chapter 5 of the EIS. Cumulative impacts will be presented in Chapter 7.*

D.1.9 Comments Concerning Groundwater Use and Quality

Comment: Additionally, please address the following items as NRC staff develops the draft EIS: water issues are already critical here in S.E. Georgia. Over drafts on the Floridian Aquifer GSP. The Savannah River needs protecting, not further stressing. (V-ESP-SW-120-5)

***Response**: The NRC staff will evaluate the impact of groundwater withdrawals associated with the proposed units on the groundwater resource in the region. Results of the assessment will be provided in Chapter 5 of the EIS.*

Comment: We're already having water issues on the Savannah River, including saltwater intrusion from the Floridian Aquifer. (V-ESP-SC-21-3)

***Response**: The NRC will evaluate the impact of groundwater withdrawals associated with the proposed units on the groundwater resource, including the potential impact from saltwater intrusion. Results of the assessment will be provided in Chapter 5 of the EIS.*

Comment: One thing that wasn't brought up I don't think tonight in terms of some of the long-term impacts, the uniqueness of this area because of the Tuscaloosa Aquifer. It's unique as the major freshwater recharge aquifer in North America and provides drinking water for multiple states. Vogtle 1 and 2 already is using more water per day than most of the towns in Georgia,...And new reactors would actually worsen this. The EIS should absolutely address this. (V-ESP-SC-37-11)

***Response**: The NRC will evaluate the impact of groundwater withdrawals associated with the proposed units on the groundwater resource in the region. Results of the assessment will be provided in Chapter 5 of the EIS.*

D.1.10 Comments Concerning Aquatic Ecology

Comment: The first is fish and wildlife impact...particularly entrainment of fish in the water intakes. That's a major concern of mine and anyone who is interested in fisheries, fishing, eating fish. That's just something that needs to be looked at. (V-ESP-SC-22-2)

***Response**: The NRC staff will assess potential impacts from the cooling system (including impingement and entrainment from the intake structure) and the resulting aquatic impacts during its evaluation of the ESP application. The results of the analysis will be presented in Chapter 5 in the EIS.*

Comment: Also, the water returned back to the river is hotter than when it is taken out. Such temperature change negatively affects fish; plants and other life-forms that live in and around the water. (V-ESP-SW-54-5)

***Response**: The NRC staff will assess potential impacts from the cooling system (including thermal discharges to the river) and the resulting impacts to aquatic and terrestrial organisms, during its evaluation of the ESP application. The results of the analysis will be presented in Chapter 5 in the EIS.*

Comment: Additionally, please address the following items as NRC staff develops the draft EIS: impacts on fish species. (V-ESP-SW-86-5)

***Response**: The NRC staff will assess potential impacts to fish species from the proposed reactor facility during its evaluation of the ESP application. The results of the analysis will be presented in Chapters 4 and 5 of the EIS.*

Comment: [T]he use of river water for cooling is destructive to river ecosystems and wasteful of a resource that is even more essential than energy. (V-ESP-SW-111-6)

Comment: What is true generally is even more applicable along the Savannah River, which is already burdened by conflicting demands in both Georgia and South Carolina,...and pre-existing proposals that further threaten the ecosystem functions, including those of the estuary, one of the most essential fish habitats on the planet. (V-ESP-SW-114-9)

***Response**: The NRC staff will assess potential impacts on the Savannah River from operation of the facility. The results will be presented in Chapters 4 and 5 of the EIS. The cumulative impacts on the Savannah River will also be evaluated and the results presented in Chapter 7 of the EIS.*

Comment: The additional intake is also likely to have significant impacts on water quality and aquatic life. (V-ESP-SW-116-2)

***Response**: The NRC staff will assess potential impacts from the cooling system (including impingement and entrainment from the intake structure) and the resulting aquatic impacts during its evaluation of the ESP application. The results of the analysis will be presented in Chapters 4 and 5 in the EIS.*

Comment: [T]he increase in effluent discharge will lead to higher water temperatures that could negatively impact aquatic life. The impacts of this increased water temperature was not thoroughly explored by the SNC Environmental Report, and needs to be explored by NRC. (V-ESP-SW-116-4)

***Response**: The NRC staff will assess potential impacts from the cooling system (including thermal discharges to the river) and the resulting impacts to aquatic organisms, during its evaluation of the ESP application. The results of the analysis will be presented in Chapter 5 in the EIS.*

Comment: As a result of releases from Savannah River Site (SRS) and Vogtle, the lower Savannah River is already the most tritium-contaminated environment in the nation. (V-ESP-SW-116-18)

***Response**: The NRC staff will assess effects on human health and biota related to radioactive effluent releases from the proposed nuclear plants. The results of these analyses will be presented in Chapter 5 of the EIS. In addition, NRC staff will consider other past, present, and reasonably foreseeable future actions in the vicinity of the Vogtle ESP site, which likely will include radiological releases from the U.S. Department of Energy's Savannah River Site in South Carolina. The results of the analysis of cumulative impacts will be presented in Chapter 7 of the EIS.*

Comment: The water discharged from nuclear Plant Vogtle is already hotter than what is withdrawn; more reactors will only make this situation worse. Temperature changes negatively affect the fish, plant, and animal life that depend on the river. The water intake systems at nuclear power plants can kill fish and fish larvae, among other organisms; having more reactors on site will only make this worse. (V-ESP-SW-103-5) (V-ESP-SW-110-4)

Comment: The water discharged back into the river is hotter than before, endangering fish, plant, and animal life that depend on the river. (V-ESP-SW-108-3)

Comment: Plants, fish, and other aquatic life can live and reproduce in water with temperatures within certain safe ranges, depending on species. Adding two more reactors at Vogtle will increase the heat output to the Savannah River, thereby placing additional aquatic species at risk. (V-ESP-SW-113-9)

***Response**: The NRC staff will assess potential impacts from the cooling system (including thermal discharges to the river) and the resulting impacts to aquatic and terrestrial organisms, during its evaluation of the ESP application. The results of the analysis will be presented in Chapter 5 in the EIS. The cumulative impacts of having additional nuclear power units at the site will also be evaluated and the results presented in Chapter 7 of the EIS.*

Comment: The water discharged from nuclear Plant Vogtle is already hotter than what is withdrawn; more reactors will make this situation worse. Temperature changes negatively affect fish, plant, and animal life that depend on the river. The water intake systems at nuclear power plants kill fish and fish larvae, among other organisms; more reactors on site will make this worse. (V-ESP-SW-55-5)

Comment: The water intake systems at nuclear power plants can kill fish and fish larvae, among other organisms; having more reactors on site will only make this worse. (V-ESP-SW-74-6)

Comment: The water discharged from nuclear Plant Vogtle is hotter than what is withdrawn. These temperature changes negatively affect the fish, plant, and animal life that depend on the river while the water intake systems a nuclear power plants can kill fish and fish larvae, among other organisms. All of this contributes to declining "diversity" in the Savannah River ecosystem. (V-ESP-SW-91-4)

***Response**: The NRC staff will assess potential impacts from the cooling system (including thermal discharges to the river) and the resulting impacts to aquatic and terrestrial organisms, during its evaluation of the ESP application. The results of the analysis will be presented in Chapter 5 in the EIS. The cumulative impacts of having additional nuclear power units at the site will also be evaluated and the results presented in Chapter 7 of the EIS.*

D.1.11 Comments Concerning Socioeconomic Issues

Comment: And also, a lot of the economic issues were addressed. That's not why we're here really. But I come from a place originally in Maryland, we were a Naval facility, and when the plant was going to close, we changed our tack. Rather than go after something that was a dinosaur, we looked forward. There's a lot of technology in that area now. And I think maybe the civic leaders here probably need to start looking forward. We have nano-technology, we have a lot of things that can take us out of the muck and mire of nuclear waste. (V-ESP-SC-28-3)

***Response**: Socioeconomic impacts on the region related to the eventual closure of nuclear plants are included in Appendix J of the Decommissioning Generic Environmental Impact Statement, NUREG-0587. This issue is out of scope and will not be addressed further in the EIS.*

Comment: I want to thank the Southern Company and all the partners that have worked with the Southern Company over the years to make Plant Vogtle a safe and reliable partner in our community's economic growth and the economy of our state. (V-ESP-SC-02-2)

Comment: [T]he expansion of Plant Vogtle will bring...an increase in employment, property tax base, and growth to our community. (V-ESP-SC-02-4)

Comment: Economic development for this community -- and I don't mean just for Burke County, I mean regionally -- this is a good project. It comes very, very highly recommended. (V-ESP-SC-03-2)

Comment: Plant Vogtle has been a good neighbor, a good neighbor for Burke County, a good neighbor for the Carolinas across the river, a good neighbor for the region. (V-ESP-SC-03-5)

Comment: [T]he positive impact that this will mean for this area and this region. (V-ESP-SC-04-3)

Comment: The people of this area know that Georgia Power has been a good and responsible neighbor, a valued friend of Burke County. They employ several hundred people and pay good salaries. They make a major contribution to the tax base and have made generous contributions to worthy community causes. (V-ESP-SC-06-2)

Comment: Whereas, Plant Vogtle has been an outstanding corporate citizen through the years,...and jobs for our community,...Whereas, the proposed expansion of Plant Vogtle will bring even more jobs and be a boost to the economy of our county; (V-ESP-SC-09-2)

Comment: Finally, the jobs and economic activity created by the construction and continuing operation of Plant Vogtle will boost our area's economy. (V-ESP-SC-10-2)

Comment: The addition of two more units at the Vogtle site will be good for Georgia and good for Dalton Utilities' ratepayers. (V-ESP-SC-10-6)

Comment: [I]t's very obvious the economic impact that Vogtle contributes to our community, but what I think maybe some of the people don't realize that may not live here is the important contributions that they make as a corporate citizens. Out of my 13 years of living and working in the Chamber here in Burke County, I don't know of any other company that provides so much corporate citizenship as Georgia Power and Plant Vogtle. There's probably not any activities, civic or charitable, that they're not involved with in some way. They have extremely fine employees, the leadership is outstanding and I think we're really blessed to have them in our community. (V-ESP-SC-10-7)

Comment: Additional units at Plant Vogtle would create new job opportunities at the Vogtle site for many different occupations for local residents, technical school and college graduates, as well as to spur the economic growth in surrounding communities. (V-ESP-SC-11-2)

Comment: We believe that the region and local economy will benefits from the additional units. (V-ESP-SC-11-4)

Comment: [T]he addition of two nuclear plants in the area will increase the quality of life in Burke County and surrounding areas through increased job opportunities and economic growth...the new nuclear construction will attract new businesses and generate thousands of local jobs and better opportunities for young people in the area. With the addition of Vogtle Units 3 and 4, many young people won't have to make the difficult decision I did, between my career and my family. Southern Nuclear anticipates the need for over 3400 long-term employees for construction and operation. These newly created jobs are estimated to add about 2400 service and housing jobs in the local community due to the influx of construction

workers. These new opportunities would retain Burke County's young people, the community's valuable assets, and increase the overall quality of life in Burke County. The economic impact of these new jobs over an estimated seven years of construction and 40 to 60 years of nuclear operation could easily boost the regional economy by millions upon millions of dollars. (V-ESP-SC-17-7)

Comment: The first reason is obviously the economic impact it has on our county and the positive influence it has on the infrastructure of our county...And by that I mean the areas around the plant, the hundreds and hundreds of acres that surround the plant and the access that the public has to that area. They are involved in our community, in the city of Girard, in the general Burke County community in a huge way. (V-ESP-SC-18-2)

Comment: [T]he economy of our region will receive a much needed boost because of the many jobs and economic activity created by the new construction and continued operation of Plant Vogtle. (V-ESP-SC-19-3)

Comment: The people that work at Plant Vogtle -- and a lot of people have talked about this -- and Georgia Power that operates the plant -- they bring a lot to the community, always have and always will. They're very professional and very ethical. They are mentors in the community, they support the United Way and any other projects, they serve on boards, banks, schools, development authorities, and others. They are involved in community development, they are involved in economic development. Any resource you need, all you have to do is call Georgia Power and they've got someone that will help you with a project or help you to advance your community. So we are very blessed to have them also and we appreciate this. (V-ESP-SC-19-6)

Comment: Georgia Power, you have been already a blessing to Burke County and with two more units, Burke County will even be blessed more. Businesses will benefit if you come. It will help solve many of our problems, economically, socially. It will benefit our schools, our churches, we who are trying to spread the good news, it will benefit us. (V-ESP-SC-20-2)

Comment: I'm sure the Southern Company is a fine corporate citizen. I'm sure that Plant Vogtle, Georgia Power, its employees are wonderful to have here in your community, and I don't for a minute want to be critical of them. (V-ESP-SC-22-1)

Comment: Georgia Power has, as was mentioned before, been one of the most generous and steadfast corporate contributors in Burke County. They are here when there's something going on, but also companies have two things in the resources they have. They have the monetary side and they have their people. Georgia Power has always let their people get involved here. (V-ESP-SC-23-6)

Comment: It is not sustainable to have a small town entirely dependent on one economic form, especially when nuclear reactors are only supposed to operate for 20 to 40 years. What then will sustain the town after the nuclear plant shuts down? (V-ESP-SC-31-3)

Comment: [T]hey've told what the jobs would do and particularly for a county I think that's in the probably top two, three or four in unemployment in the state. (V-ESP-SC-33-1)

Comment: I have zero problem with Plant Vogtle, they are great neighbors. (V-ESP-SC-33-4)

Comment: But I'm not going to speak about the school where I currently am because of course any of you who have had an opportunity to see our facilities, you know they're fantastic and again, that relationship with Plant Vogtle has definitely paid dividends for us here in Burke County...There was a strong partnership between SGA Elementary School and Plant Vogtle from the standpoint of employees and them serving vital roles in supporting the students at the school. Many of them served as volunteers, served as mentors, served in other capacities that have truly impacted our school...you can't talk about a company without talking about how they foster relationships with the communities that they serve. And I can honestly say that Georgia Power, Southern Company, Southern Nuclear, they definitely believe in fostering those community relationships because I lived it and I saw it first-hand. (V-ESP-SC-39-1)

Comment: Before Plant Vogtle got here, we had old schools, no air conditioning. Now we have the finest facilities in the state of Georgia. We had old school buses, broke down a lot. Now we have air conditioned school buses to take our kids to school. We had a shortage of teachers. Now we can pick and choose the teachers we want. We had an old boarding house that we used to meet in, that's where the central office was. Now we have a new central office. (V-ESP-SC-40-1)

Comment: I think this is a great community and I really thank Plant Vogtle for that. (V-ESP-SC-41-2)

Comment: Nuclear energy boosts economic growth and supports high-paying jobs. For each construction, manufacturing or operations job created in a nuclear power plant, four new jobs are created to provide goods and services to that plant and the surrounding community...Nuclear plants make good neighbors. (V-ESP-SC-43-5)

Comment: One of the things I would like to say about Plant Vogtle and Georgia Power and Southern Nuclear is that we've had a great working relationship with them. They have been an asset to the community and they have helped develop strong growth of our community, they've helped with leadership of the people in our community and they have helped the city and county government with the relative goals for growth and other development of our people in the county. Many of the infrastructure needs of the county have been met because of Plant Vogtle. We've had many other things brought into the county because of Plant Vogtle, you're sitting in one right now. (V-ESP-SC-45-1)

Comment: I haven't been involved in anything in the community that Southern Nuclear was not. (V-ESP-SC-47-2)

Comment: [W]hen you look at the manufacturing impact that these units will do for Westinghouse and for this nation, you know, as far as I know, they'll probably be built in Chattanooga, plus all the suppliers will be all over the United States and the world, for that matter. So all in all, I think just on the economic aspect, which I think is of great importance to this nation in the balance of payment problem the U.S. has right now, I just urge that this ESP be expedited and issued. (V-ESP-SC-48-4)

Comment: As far as environmental, the people next door are just fine, so I come down here to put a good word in for my neighbors. I think it'd be a good thing, I've never had a problem with them. (V-ESP-SC-50-2)

Comment: We talked about how good a corporate citizen and employer Georgia Power, Southern Nuclear is. (V-ESP-SC-52-3)

Comment: [I]t was talked about how large in the economy that Southern Nuclear was of our industries. And make no bones about it, they are the big dog around here. But this county also has a little over half a dozen industries, it's very big in agriculture and businesses that support agriculture and with the four-lane going through, I think it will help that industry grow. So we're not dependent totally on one industry, though they are the big dog. (V-ESP-SC-52-6)

Comment: The addition of two more units at the Vogtle site will be good for Georgia and good for Dalton Utilities' rate payers. (V-ESP-SW-56-4)

Comment: Additionally, the new nuclear units will positively impact the local economy in the Waynesboro, GA, area. (V-ESP-SW-57-6) (V-ESP-SW-59-6) (V-ESP-SW-60-6) (V-ESP-SW-61-6) (V-ESP-SW-63-6) (V-ESP-SW-64-6)

Comment: The citizens of Waynesboro, GA area will certainly benefit from the positive impact this will have. (V-ESP-SW-58-8)

Comment: The people of this area know that Georgia Power has been a good and responsible neighbor, and a valued friend of Burke County. They employ several hundred people and pay good salaries. They make a major contribution to the tax base and have made generous contributions to worthy community causes. (V-ESP-SW-65-2)

Comment: As well, the jobs and economic activity created by the construction and continuing operation of Plant Vogtle will boost our area's economy. (V-ESP-SW-70-5)

Comment: Finally, the jobs, and economic activity created by the construction and continuing operation of Plant Vogtle will boost our area's economy. (V-ESP-SW-71-2)

***Response**: The NRC staff will evaluate the regional socioeconomic impacts of the proposed action in Chapters 4 and 5 of the EIS, including impacts related to the local economy, taxes, transportation, aesthetics and recreation, housing, education, community infrastructure, and social services.*

D.1.12 Comments Concerning Environmental Justice

Comment: The NRC needs to understand the larger picture that the communities, many low-income and minority, around Plant Vogtle have been burdened with decades of nuclear contamination and adding to this burden is unacceptable. (V-ESP-SW-115-37)

Comment: While the Environmental Report does address the occurrence of minority and low-income households around the Plant Vogtle site, it fails to take accurate account of the particularly severe impact that two new nuclear reactors will have on the low-income and minority populations in the area based on a number of factors specific to those populations. In particular, the NRC should consider the impact of the increase in radioactive material in the Savannah River system on those populations engaging in subsistence fishing along the Savannah River. Subsistence fishing is common on the Savannah River, particularly among minority and low-income populations, who rely on the Savannah River for food. These populations, already subject to high levels of radiocesium from their consumption of fish, will be particularly susceptible to increases in hazardous material, such as tritium, in the Savannah River from the addition of two new nuclear power generators. (V-ESP-SW-116-12)

***Response**: The NRC staff will specifically address the potential impacts of the proposed action on low-income and minority populations in Chapters 4 and 5 of the EIS. In order to assess these impacts, the EIS will first identify the existence and location of minority and low-income block groups within a 50-mile radius region of the plant and then an assessment will be made regarding whether or not the proposed action produces any disproportionately high and adverse impacts on human health or environmental effects on minority or low-income populations. The staff supplements its analysis with field inquires to county planning departments, social service agencies and local residents, and attempts to identify any subsistence agriculture, fishing, and hunting practices taking place in the region.*

D.1.13 Comments Concerning Human Health Issues

Comment: The Blue Ridge Environmental Defense League will soon issue a report on public health impacts in Burke County. What we are finding is that infant mortality before and after the Vogtle reactors 1 and 2 began operating in 1987 and 1989, compared with infant mortality after that period have increased by a large margin. Before the reactor started, Burke County was

actually below the statewide rate. So Burke County has suffered more in infant mortality. Also, local cancer rates are higher for children, young adults and the elderly. Our report will be based on public health statistics. (V-ESP-SC-35-7)

***Response**: Regarding health effects to populations around nuclear power plants, NRC relies on the studies performed by the National Cancer Institute (NCI). NCI conducted a study in 1990, "Cancer in Populations Living Near Nuclear Facilities," to look at cancer mortality rates around 52 nuclear power plants, nine U.S. Department of Energy facilities, and one former commercial fuel reprocessing facility. The NCI study concluded from the evidence available that there is no suggestion that nuclear facilities may be linked causally with excess deaths from leukemia or from other cancers in populations living nearby. Additionally, the American Cancer Society has concluded that although reports about cancer case clusters in such communities have raised public concern, studies show that clusters do not occur more often near nuclear plants than they do by chance elsewhere in the population. The NRC staff remain current on issues related to radiological impacts on health and, in so doing, will likely review the mentioned Blue Ridge Environmental Defense League report on public health impacts in Burke County. The issue of radioactive effluents and their impacts on human health will be assessed in Chapter 5 of the EIS.*

Comment: My second question is are there studies that compare the incidents of cancer here in Burke County and birth defects with a comparable county in another state where there isn't nuclear energy, and what are the results. I have no idea. There should be these kind of studies going on for your sake and for mine. (V-ESP-SC-24-3)

Comment: Nuclear reactors, even under normal operations, without an accident scenario, routinely emit radioactivity into the air and water including Strontium-90, Iodine-30, 131 and Cesium-137. These have known predictable impacts on not only cancer but the immune system. We suspect that these radionuclides are contributing to large negative health consequences in Burke County. (V-ESP-SC-35-8)

Comment: [T]he NRC should consider the evidence of a higher than average instance of ovarian cancer in the Burke County area, and the impact that the addition of two new nuclear power plants will have on the health of a population that is already suffering from higher than-average rates of cancer. In addition to this, there are significant issues relating to provision and adequacy of heath care for minority and low-income populations in the area, and those issues should be considered in conjunction with the threat of increased heath risks associated with the addition of two new reactors. (V-ESP-SW-116-13)

***Response**: Regarding health effects to populations around nuclear power plants, NRC relies on the studies performed by the National Cancer Institute (NCI). NCI conducted a study in 1990, "Cancer in Populations Living Near Nuclear Facilities," to look at cancer mortality rates around 52 nuclear power plants, nine U.S. Department of Energy facilities, and one former commercial fuel reprocessing facility. The NCI study concluded from the evidence available that there is no suggestion that nuclear facilities may be linked causally with excess deaths from leukemia or from other cancers in populations living nearby. Additionally, the American Cancer Society has concluded that although reports about cancer case clusters in such communities have raised public concern, studies show that clusters do not occur more often near nuclear plants than they do by chance elsewhere in the population. The issue of radioactive effluents and their impacts on human health will be assessed in Chapter 5 of the EIS.*

Comment: A 1982 Congressional report estimated that if a meltdown occurred at just one of Vogtle's reactors it could cause 39,000 peak early injuries, 4000 peak cancer deaths, and 200 peak early fatalities with costs over $60 billion; building more reactors will only worsen these terrible impacts and put more people's lives and health at risk.

Peak means highest calculated value from the study - it does not necessarily mean worst case. It is clear that nuclear generation facilities will without fail have accidental releases and handling loss of radioactive materials; why would we want to risk environmental degradation and possible human genetic mutation when there are more benign energy sources available? (V-ESP-SW-74-4)

***Response**: The environmental impacts of postulated accidents will be assessed, and the results of this analysis will be presented in Chapter 5 of the EIS.*

Comment: Please consider the terrorist implications - not only of an attack - but of a release into the environment that would directly affect the most vulnerable among us. The EPA standards that continue to use the 180-pound standard man as a guide disrespect those who are female, pregnant, infirm, of a young age, or elderly. (V-ESP-SW-112-5)

***Response**: The environmental impacts of postulated accidents will be assessed, and the results of this analysis will be presented in Chapter 5 of the EIS. In addition, the staff will review information regarding physical security and will document in the Safety Evaluation Report its determination as to whether the site characteristics are such that adequate security plans and measures can be developed (see 10 CFR 100.21). However, the staff will not be evaluating a detailed security plan at this time. If Southern applies for a combined license, it would have to supply a series of plans for NRC staff review, in accordance with 10 CFR 50.34, including a safeguards contingency plan, a physical security plan, and a guard training and qualifications plan. Additional information about the NRC staff's actions regarding physical security since September 11, 2001, can be found on the NRC's public website (www.nrc.gov). Because*

safeguards and security issues are outside the scope of the EIS, these aspects of the comment will not be assessed as part of the environmental review.

Comment: I heard a lot of comments from them when they came up about how safe it was and it stopped me in my tracks because I know families who have suffered deaths, who have been workers in plants. (V-ESP-SC-28-2)

Comment: Radioactivity is not too bad, we've been living with radioactivity for years, it's a very important element, which is called potassium which is essential for life. If you have too little in your body, you're dead. If you have too much, you're dead. Potassium happens to be the very nature of radioactive element. (V-ESP-SC-51-1)

Comment: Nuclear power risks many human and animal lives, unnecessarily. (V-ESP-SW-83-5)

Comment: I have friends that worked at the old SRS plant even after it went out of production. A disproportional number of those people have developed serious health problems most of which include cancer. Even though the plant may bring jobs to the area people's health and safety is more important to their family and friends in the end. (V-ESP-SW-73-2)

Comment: As a student of nuclear issues (power and weapons) since the 1970s, I have become increasingly alarmed by the environmental and health risks associated with nuclear materials. (V-ESP-SW-102-2)

***Response**: The NRC staff will assess effects on human health and biota related to radioactive effluent releases from the proposed nuclear plants. The results of these analyses will be presented in Chapter 5 of the EIS.*

Comment: As a downstream resident, I'm very concerned about tritium, a radioactive form of hydrogen that can impact our health, especially that of a developing fetus. Faced with saltwater intrusion of the Floridian Aquifer, both Beaufort and Jasper Counties in South Carolina and the Savannah area will become more dependent on the Savannah River for drinking water. Plant Vogtle already contributes to the tritium in the river and building more reactors will increase this. The NRC needs to study tritium in the river, future projections, especially given SRS's already large contribution to the tritium pollution, and to analyze this with droughts and future population growth in mind. (V-ESP-SC-07-9) (V-ESP-77-8)

Comment: The environmental report gives the tritium level based on the yearly average.. We only ask that you evaluate the tritium level in an instantaneous historical average and not on a yearly average based on an environmental report. (V-ESP-SC-29-1)

Comment: Plant Vogtle already contributes tritium to the Savannah River. The current flow of the Savannah River dilutes the radioactive tritium added to the river by Plant Vogtle, the Barnwell nuclear waste dump, and the Savannah River Site (SRS) enough to meet the EPA's maximum contaminant level for tritium. Given the likelihood Atlanta will draw water from the Savannah in the future and the strong possibility of recurring draughts, a reduced river flow will surely increase the tritium level. Although currently, the EPA maximum contamination level for tritium is 20,000 pCi/L, in March of 2006 the California Office of Environmental Health Hazard Assessment (OEHHA) established a Public Health Goal (PHG) of 400 pCi/L for tritium in drinking water. This goal was set using the EPA document "Cancer Risk Coefficients for Environmental Exposure to Radionuclides: Federal Guidance Report 13". (3) The Beaufort Jasper Water and Sewer Authority reported the average level of tritium for 2005 was 547 pCi/L. (V-ESP-SW-75-2)

Comment: Additionally, please address the following items as NRC staff develops the draft EIS: ...multiple tritium sources. (V-ESP-SW-86-7)

Comment: In terms of water quality, tritium, a radioactive form of hydrogen that can negatively impact our health, especially that of a developing fetus, is of particular concern in the Savannah River basin....Plant Vogtle already contributes to the tritium in the river and building more reactors will increase these levels. Elevated levels of tritium have been found in the Savannah River and in groundwater in Burke County, GA. (V-ESP-SW-115-25)

Comment: As a result of releases from Savannah River Site (SRS) and Vogtle, the lower Savannah River is already the most tritium-contaminated environment in the nation. NRC must examine to what extent the addition of two reactors will add to that contamination. In addition, saltwater intrusion of the River itself has been a major concern, which could be exacerbated by the expansion and must be further examined by NRC. (V-ESP-SW-116-3)

Comment: As a result of releases from Savannah River Site (SRS) and Vogtle, the lower Savannah River is already the most tritium-contaminated environment in the nation. (V-ESP-SW-116-7)

***Response**: The NRC staff will assess effects on human health and biota related to radioactive effluent releases from the proposed nuclear plants. The results of these analyses will be presented in Chapter 5 of the EIS. In addition, NRC staff will consider other past, present, and reasonably foreseeable future actions in the vicinity of the Vogtle ESP site, which likely will include radiological releases from the Savannah River Site as well as tritium in the Savannah River and groundwater. The results of the analysis of cumulative impacts will be presented in Chapter 7 of the EIS.*

D.1.14 Comments Concerning the Uranium Fuel Cycle and Waste Management Issues

Comment: We urge the NRC in this ESP application process to consider all of the radioactive waste, fuel and the processing that is in this whole area, it all needs to be taken into consideration. My position is that no radiation is really safe and we need to protect not only the citizens and the unborn children of Burke County and this area, but really all of Georgia. (V-ESP-SC-25-2)

***Response**: The NRC staff will assess effects on human health and biota related to the uranium fuel cycle as well as radioactive effluent releases from the proposed nuclear plants. The results of these analyses will be presented in Chapter 6 of the EIS. In addition, NRC staff will consider other past, present, and reasonably foreseeable future actions in the vicinity of the Vogtle ESP site, which likely will include radiological releases from the Savannah River Site. The results of the analysis of cumulative impacts will be presented in Chapter 7 of the EIS.*

Comment: Nuclear is being praised as an environmentally safe form of energy, and it is simply not true. Nothing that produces deadly levels of radioactive waste for the next 250,000 years, waste that must be carefully monitored, delicately transported and buried away from all forms of life, just can't be designated as safe. Heaven forbid, a single accident, and over that amount of time, there's a good chance that accidents possibly could happen. (V-ESP-SC-31-2)

***Response**: The NRC staff will assess the environmental impacts of the uranium fuel cycle, including the impacts of fuel manufacturing, transportation, and the onsite storage and eventual disposal of spent fuel. Results of this analysis will be presented in Chapter 6 of the EIS. The environmental impacts of postulated accidents will be assessed, and the results of this analysis will be presented in Chapter 5 of the EIS.*

Comment: I really appreciate people talking about the CO2 from the fuel cycle because over time we will get to the point where it will take more energy to actually burn the fossil fuels used to process uranium to make power than to process the uranium. In other words, over time, nuclear power is a black hole. (V-ESP-SC-36-12)

***Response**: The NRC staff will assess the environmental impacts of the uranium fuel cycle, including the impacts of fuel manufacturing, transportation, and the onsite storage and eventual disposal of spent fuel. Results of this analysis will be presented in Chapter 6 of the EIS. The comment on the viability of nuclear power provides general information not related to environmental impacts related to the Vogtle ESP, and will not be assessed further.*

Comment: The United States is the only country that doesn't reprocess the nuclear waste. It's insanity to go and put it into Yucca Mountain. It has uranium, it has plutonium, a mixture they call MOX, stick it back in the reactor. The other byproducts you can use for other things. If

there's cobalt-60 in that, you can use it, and it's going to really reduce the amount of nuclear waste that has to be buried somewhere. (V-ESP-SC-51-2)

***Response**: Parts of this comment provide general information not related to environmental impacts related to the Vogtle ESP, and will not be assessed further. The NRC staff will assess the environmental impacts of the uranium fuel cycle, including the impacts of fuel manufacturing, transportation, and the onsite storage and eventual disposal of spent fuel. Results of this analysis will be presented in Chapter 6 of the EIS.*

Comment: A third problem which local officials do not want to acknowledge is what to do with the dangerous waste generated by nuclear facilities. Those advocating for nuclear power generation should be willing to keep the resulting waste where it is generated. Why should this waste be shipped elsewhere to become another state's problem? Why should we expose citizens to this dangerous material on poorly maintained railroads or congested highways? Why would we give terrorists the opportunity to turn either stored or transported waste into a weapon directed against us? (V-ESP-SW-76-4)

***Response**: The NRC staff will assess the environmental impacts of the uranium fuel cycle, including the impacts of fuel manufacturing, transportation, and the onsite storage and eventual disposal of spent fuel. Results of this analysis will be presented in Chapter 6 of the EIS. In addition, the staff will review information regarding physical security and will document in the Safety Evaluation Report its determination as to whether the site characteristics are such that adequate security plans and measures can be developed (see 10 CFR 100.21). However, the staff will not be evaluating a detailed security plan at this time. If Southern applies for a combined license, it would have to supply a series of plans for NRC staff review, in accordance with 10 CFR 50.34, including a safeguards contingency plan, a physical security plan, and a guard training and qualifications plan. Additional information about the NRC staff's actions regarding physical security since September 11, 2001, can be found on the NRC's public website (www.nrc.gov). Because safeguards and security issues are outside the scope of the EIS, these aspects of the comment will not be assessed as part of the environmental review.*

Comment: [T]he EIS must consider thoroughly the disposal of the waste and the related environmental impact. Is this waste going to be disposed of in Georgia? Is it going to be dumped on our neighbors? (V-ESP-SC-21-8)

Comment: Public health and environmental impacts, including impacts from mining and enrichment of uranium, storage and disposal of highly radioactive nuclear waste [need to be looked at]. (V-ESP-SC-22-6)

Comment: One problem is the problem of waste. The nuclear industry has really not figured out how to deal with their waste...and there's the problems with Yucca Mountain, there's the problems of transporting waste to whatever storage dump they could eventually figure out, if

they can. But I do think that until the nuclear industry can really figure out this waste problem, it's unwise to create more waste and more reactors are going to create more waste. (V-ESP-SC-25-3)

Comment: I just wanted to address the stewardship, since it was brought up. Nuclear power -- there's no place to put waste that lasts tens of thousands of years and all containment strategies fall apart over time...A lot of that waste is sitting in cooling pools around the country because nobody wants it permanently stored in their state. (V-ESP-SC-26-1)

Comment: Nuclear plants themselves are not emitters of carbon dioxide, but the nuclear fuel cycle is – a fact that is rarely mentioned by the nuclear industry or by the press. Now the key word, folks, here is cycle, because it's not just the power plant generating, it is the mining of uranium, its enrichment, disposal of waste as well as decommissioning the plant when its service is over. (V-ESP-SC-27-4)

Comment: And I would like to add that if you are a nuclear advocate, then you must also be willing to accept the responsibility of dealing with the waste. It is not something that you have a right to ship off to another state. (V-ESP-SC-27-6)

Comment: One of the things that I wanted to comment on is that I don't think nuclear waste is either safe nor environmentally friendly. (V-ESP-SC-28-1)

Comment: So we really need to think about safety and nuclear waste needs to be dealt with. (V-ESP-SC-28-4)

Comment: [L]et's not add to the nuclear waste burden. We have to consider, we have over 400 tons of nuclear waste at Plant Vogtle now. It's not going anywhere. Thirty tons of high-level nuclear waste per year per reactor and it's not going anywhere. Low-level waste, you've got one dump across the river, it's closing in 2008. What are we going to do with the low-level waste? (V-ESP-SC-30-4)

Comment: My first concern is with the nuclear waste. The rods used to produce the energy are highly radioactive and know to cause a myriad of negative health problems. It will be thousands of years before the rods can no longer be considered a threat to the public health. During that time, nuclear facilities are left with scarce options to store or dispose of these rods. (V-ESP-SW-54-3)

Comment: What in the world are we going to do with all of our waste? Bury it, so it just may leak into our natural environment, causing a whole chain effect of problems: no more natural food, no more farms, no more breathing the air, which would be full of pollutants and chemicals, having to stay inside when it rains because the rain is so toxic that it would take your skin right off, future children born mutated/deformed/messed up.. .you get the picture. (V-ESP-SW-79-2)

Comment: Nuclear power creates waste that is deadly and cannot be safely stored. (V-ESP-SW-83-4)

Comment: Additionally, please address the following items as NRC staff develops the draft EIS: nuclear waste!? Horrible. (V-ESP-SW-85-5)

Comment: Additionally, please address the following items as NRC staff develops the draft EIS: ...building up atomic material and disposal. (V-ESP-SW-90-7)

Comment: I am a resident of Atlanta and am concerned about the disposal of the nuclear waste. (V-ESP-SW-92-2)

Comment: Additionally, please address the following items as NRC staff develops the draft EIS: ...there is NO storage space for nuclear waste. (V-ESP-SW-94-6)

Comment: Nuclear waste disposal is currently a huge problem and since it is radioactive for thousands of years we are making choices here for many generations to follow. I don't see "the government" wisely addressing what to do with the current waste and certainly don't want to increase the amount! (V-ESP-SW-96-4)

Comment: More generally, nuclear power simply has too many dangerous and unresolved issues surrounding it to warrant resurrecting it: the waste disposal problem has never been resolved. (V-ESP-SW-100-4)

Comment: I am sceptical about the local impact on...handling of waste. (V-ESP-SW-106-4)

Comment: [T]he high-level radioactive waste that is virtually impossible to dispose of. (V-ESP-SW-109-4)

Comment: Fifty years after the nuclear power industry began, there is still no viable way to dispose of nuclear waste, and the non-viable methods that have been seriously proposed endanger us all -- even transporting this waste is dangerous. (V-ESP-SW-111-4)

Comment: Even without a major meltdown or accident, the routine production of nuclear energy poisons the environment, particularly in the mining of uranium. (V-ESP-SW-111-5)

Comment: The supply of raw materials for nuclear fuels is limited, even if we sacrifice the natural areas where they are found, making them a poor replacement for fossil fuels; production of nuclear fuels from nuclear wastes requires transporting them through populated areas, making a radioactive accident more likely. (V-ESP-SW-111-7)

Comment: [P]roper consideration should be given to risks surrounding the entire nuclear fuel cycle. Storage, transportation, and reprocessing of spent fuel introduces additional risks to human health and the environment that approach those of reactor accidents. We think that permanent disposal of spent nuclear fuel must be solved and implemented in a totally effective, scientifically-sound, and safe manner before any new programs to increase nuclear power generating capacity are undertaken in the United States. The hope has been that the Yucca Mountain site in Nevada will provide permanent geological storage for spent nuclear fuel (protective for tens of thousands of years). However, we understand that there are significant scientific problems associated with the Yucca Mountain site and that no license application has actually been filed. This is in spite of 20 years of study and expenditure of taxpayer money to the tune of $9 billion. If the problems with Yucca Mountain were magically solved, spent nuclear fuel already temporarily stored on site at nuclear plants around the country would almost equal the regulatory limit of the Yucca Mountain repository (70,000 metric tons). As far as we know, there are no operating permanent geologic repositories for spent nuclear waste anywhere in the world. This is in spite of the fact that the first commercial reactor was brought online (and started generating spent fuel) 50 years ago. Considering the lack of progress in providing a safe geological repository for spent nuclear fuel in the United States, it is reasonable to assume that spent fuel generated by Vogtle will continue to be stored onsite for generations. Spent fuel from the proposed additional reactors will magnify the scope of this problem. This "temporary storage" will continue to threaten the health of people in the nearby communities and the environment. If a safe permanent repository is eventually provided, safety problems will then arise relative to the transportation of the spent nuclear material from all over the country to the repository site. This, in turn, will place people in the general vicinity of the selected transportation routes at considerable risk. (V-ESP-SW-113-7)

Comment: Nuclear...poses virtually permanent threats to public health and safety - due to handling and storage of radioactive materials. (V-ESP-SW-114-5)

Comment: Additionally, nuclear power plants ultimately require large land areas for both high-level and low-level radioactive waste storage. (V-ESP-SW-115-34)

Comment: The NRC should evaluate what effects long term, onsite storage of used spent fuel will have on the Plant Vogtle site and surrounding environment, especially in terms of an expanded facility. (V-ESP-SW-115-35)

Comment: the NRC should take into consideration the serious problems posed by disposal of nuclear waste, as well as the specific problem posed by disposal of the additional nuclear waste generated by two more reactors at the Plant Vogtle site. Currently, the Plant Vogtle site has no place to send their generated nuclear waste, instead storing their spent fuel rods in underground cooling chambers. The spent fuel rods, which are highly radioactive, will therefore likely remain on site in these cooling chambers for significantly long periods of time, posing even greater risks to the Savannah River. In fact, the natural decrease in these radioactive

materials can take up to thousands of years. The threats posed to the surrounding areas in Burke County, as well as to the Savannah River, in relation to the onsite storage of this nuclear waste, including threats posed in the event of a leak, must be taken into consideration in evaluating the Plant Vogtle ESP application. (V-ESP-SW-116-17)

Comment: The existing storage of radioactive waste at SRS and Vogtle already creates a tremendous risk to the river. With no place to send the waste, Plant Vogtle currently stores spent fuel rods on site, in subterranean cooling chambers where they are likely to stay for the foreseeable future. As long as these spent rods are stored on site, this highly radioactive waste will threaten the Savannah River for hundreds or even thousands of years to come. (V-ESP-SW-116-8)

***Response**: The NRC staff will assess the environmental impacts of the uranium fuel cycle, including the impacts of fuel manufacturing, transportation, and the onsite storage and eventual disposal of spent fuel. Results of this analysis will be presented in Chapter 6 of the EIS.*

Comment: When you license a new reactor, you are licensing a nuclear waste factory. We heard it from many people tonight, waste is the issue. Why? Because the electricity is used by this generation, and the waste is forever more. Your true impact of having Vogtle here in this community is not this electric power, it is the waste...By 2011, there will be 1080 metric tons of high level waste and by 2046 when it winds down, there's 2450 metric tons. Now maybe some of it is going to get moved to Yucca Mountain if it ever opens, but you've still got 980 metric tons of high level nuclear waste left over...what about low level waste? Barnwell. No, Barnwell is closing in 2008 to Georgia, you've got nowhere for that waste to go. (V-ESP-SC-36-3)

Comment: The waste has been talked about over and over again tonight. There's no solution in sight. More reactors means more waste. And one question that resonates with me is, you know, if you are building a house, you or I, would you be able to get a building permit if you had no plan for your sewage or wastewater? No way, not a chance. Why should we even consider or allow that Vogtle 3 and 4 will be able to be built without that taken into consideration. I think that should be addressed. (V-ESP-SC-37-6)

Comment: [H]igh level radioactive waste created, or spent fuel, has no place to be stored or disposed of. It is not likely that we will have a solution in our lifetime. Building more nuclear reactors will only make the situation worse. (V-ESP-SC-38-4)

Comment: High-level radioactive waste (used nuclear fuel) has no place to store or dispose of, nor is it likely a "solution" will be found in our lifetime; building more nuclear reactors makes this situation worse. Existing and future waste will remain onsite at Plant Vogtle for generations and generations, threatening indefinitely the health of nearby communities and the environment. Yet the NRC in previous cases has refused to even address or consider this important issue!

(V-ESP-SW-55-6) (V-ESP-SW-74-2) (V-ESP-SW-103-6) (V-ESP-SW-104-2) (V-ESP-SW-110-5)

Comment: Nuclear "power" has lasting consequences for surrounding communities. High-level. radioactive waste has no place to be stored or disposed, nor is it likely that a "solution" will be found in our lifetimes. Existing and future projected waste will remain onsite at Plant Vogtle for generations, threatening indefinitely the health of nearby communities and the environment. (V-ESP-SW-91-5)

Comment: This, along with other potential problems such as...inadequate monitoring of the facilities and the big problem of high-level radioactive waste with no place to be stored or disposed, make the granting of an early site permit wrong. (V-ESP-SW-98-5)

Comment: However safe the reactors themselves may be--highly questionable--there is still absolutely no good way to store high-level or low-level radioactive waste. Some of this waste has a lethal half life of thousands of years--far longer than all known civilizations. The history of waste storage so far (only about 50 years) is a tale of failure and contamination and death. To suppose we can store it safely for hundreds and hundreds of times this long is foolhardy, and inflicts unconscionable danger on posterity. (V-ESP-SW-99-2)

Comment: Furthermore, there still is no plan for storing or disposing of the additional radioactive nuclear waste, which would threaten the health of Georgians for generations to come. (V-ESP-SW-108-4)

***Response**: The safety and environmental effects of long-term storage of spent fuel onsite have been assessed by the NRC, and, as set forth in the Waste Confidence Rule (10 CFR 51.23), the Commission generically determined that such storage could be accomplished without significant environmental impact. In the Waste Confidence Rule, the Commission determined that spent fuel can be stored onsite for at least 30 years beyond the license operating life, which may include the term of a renewed license. At or before the end of that period, the fuel would be removed to a permanent repository. In its Statement of Consideration for the 1990 update of the Waste Confidence Rule (55 FR 38472), the Commission addressed the impacts of both license renewal and potential new reactors. Therefore, the current rule can be used in the staff's review of an early site permit application. In its most recent review of the Waste Confidence Rule on December 6, 1999 (64 FR 68005), the Commission reaffirmed the findings in the rule. In addition to the conclusion regarding safe onsite storage of spent fuel, the Commission states in the rule that there is reasonable assurance that at least one geologic repository will be available within the first quarter of the 21st century, and sufficient repository capacity for the spent fuel will be available within 30 years beyond the licensed life for operation of any reactor. The NRC staff will assess the environmental impacts of the uranium fuel cycle, including the impacts of fuel manufacturing, transportation, and the onsite storage and eventual disposal of spent fuel. Results of this analysis will be presented in Chapter 6 of the EIS.*

D.1.15 Comments Concerning Postulated Accidents

Comment: My highest concern is simply that of human health. A 1982 Congressional report estimated that if a meltdown occurred at just one of Vogtle's reactors, it could cause 39,000 early injuries, 4000 cancer deaths, and 200 early fatalities costing over $60 billion. This report is over 20 years old, which would historically make the estimated rates for today much higher. I realize that the technology exists to prevent such an atrocity, but my findings confirm that most nuclear reactors do not always receive the proper inspections for preventing a meltdown. (V-ESP-SW-54-6)

Comment: A 1982 Congressional report estimated that if a meltdown occurred at just one of Vogtle's reactors it could cause 39,000 peak early injuries, 4000 peak cancer deaths, and 200 peak early fatalities with costs over $60 billion; building more reactors will worsen these stats and put more people's lives and health at risk. (Peak means highest calculated value from the study - it does not necessarily mean worst case.) (V-ESP-SW-55-8) (V-ESP-SW-103-8) (V-ESP-SW-91-7) (V-ESP-SW-110-7)

Comment: Additionally, please address the following items as NRC staff develops the draft EIS: a meltdown could cause 9,000 injuries and 4,000 deaths. (V-ESP-SW-94-5)

Comment: More significantly, the 1981 government report "Calculation of Reactor Accident Consequences for U.S. Nuclear Power Plants (CRAC-2)" indicates that a worst case accident at any U.S. nuclear plant could result in tens of thousands of deaths from near-term radiation effects and long-term fatal cancers, and cause hundreds of billions of dollars in damage. Specifically, a 1982 Congressional report estimated that a meltdown at just one of Vogtle's reactors could cause 39,000 peak early injuries, 4,000 peak cancer deaths, and 200 peak early fatalities with costs over $60 billion. Of course, the human population in the vulnerable area around Plant Vogtle has grown in the 24 years since the report was compiled, thereby increasing human exposure proportionately. (V-ESP-SW-113-3)

Comment: Nuclear power is viewed to have the greatest adverse impact on land compared to all other energy generation technologies....The NRC should evaluate the potential land impacts from an accident at an expanded Plant Vogtle. (V-ESP-SW-115-33)

***Response**: The environmental (health) impacts of a full range of potential accidents will be addressed in Chapter 5 of the EIS.*

D.1.16 Comments Concerning Alternatives and Alternative Sites

Comment: The NRC needs to fully research other energy choices, including energy efficiency and conservation. Renewable energy supplies are available here in Georgia, such as biopower, solar, and wind. These energy supplies should be supported due in part because they do keep

dollars here at home. The NRC should be aware that new, certified wind maps of Georgia will be released by the National Renewable Energy Laboratory later this month. Additionally, the potential to use Georgia's plentiful agriculture and forestry resources must be evaluated. A conservative estimate from a University of Georgia study showed that as much as 12 percent of Georgia's total electricity demand could be generated from biomass. The benefits to Georgia include increased self-sufficiency, improved water resource quality and long-term environmental and rural development benefits. Energy efficiency and conservation represent the quickest, safest, cheapest way to provide more power and to best protect our air and water resources... (V-ESP-SC-07-2)

Comment: The NRC needs to evaluate both Georgia's actual need for power and how conservation and efficiency could reduce this supposed need. (V-ESP-SC-07-3)

Comment: There are alternatives, there are plenty of alternatives that haven't been explored in this state or in the country that can be explored. For example, Georgia is near the bottom in spending on energy efficiency. (V-ESP-SC-16-4)

Comment: But if we let the market do its thing, solar and thermal actually is comparable to nuclear power right now. And wind is one-third to one-half less -- right now. In ten years, photovoltaics will be competitive with nuclear power and the good thing about photovoltaics is you build them modularly when you need them and they go on line immediately, you don't have to wait years for them to produce electricity. (V-ESP-SC-16-7)

Comment: [T]he EIS must contain a full alternatives analysis, including sources of renewable energy resources and energy efficiency, especially conservation. (V-ESP-SC-21-7)

Comment: Full consideration of alternatives, including clean energy alternatives such as bioenergy, solar, wind, clean coal and others. Diversity of energy mix must include these things, not just nuclear, coal and the standard ones. (V-ESP-SC-22-5)

Comment: Wind and the hydro, I don't think suit this part of the country that well, and the coal and natural gas, the price uncertainties just are not there (V-ESP-SC-23-2)

Comment: Let's take those same good minds and put them to work to discover how to best use the clean alternative technologies. We can solve our energy problems while being good stewards of the environment. (V-ESP-SC-26-2)

Comment: We can't compare nuclear to coal, that is over, just a waste of energy. What we want to do is think outside the box. Southern Company is determined to make a profit and here's one suggestion. They are buying and leasing equipment to us, house-by-house, business-by-business, then I suggest that we start in Burke County as a pilot project. But how

many houses would it take -- let's compare that, look at the cost of that. Let's give them a profit but let's not add to the global warming (V-ESP-SC-30-3)

Comment: Wouldn't it be more sane to devote our time, money, energy, jobs and everything to safe, clean, renewable forms of energy? (V-ESP-SC-31-4)

Comment: The consortium that proposes this new plant is doing virtually nothing in the field of energy conservation. I suggest that if the money they propose to spend on these plants were spent to encourage energy conservation, the ratepayers of the state of Georgia would be better off. There are megawatts of megawatts available in conservation that would not add to the nuclear waste burden, the mercury burden or the CO2 burden of our current short-sighted electrical generation system. (V-ESP-SC-32-1)

Comment: Others before me have pointed out that the alternatives, including wind and energy efficiency, are cheaper. A Massachusetts Institute of Technology study a few years ago, among others, showed that the alternatives are cheaper than new nuclear power. (V-ESP-SC-35-4)

Comment: [I would also like to see the demonstration of] why nuclear is something that would be much more advisable than these renewable, sustainable efficiency or conservation options. (V-ESP-SC-37-10)

Comment: Based on our experiences from Three Mile Island, I would hope that we could look into sustainable options, clean and safe energy options, not nuclear power. (V-ESP-SC-38-2)

Comment: [A] 1982 Congressional report estimated that if a meltdown occurred at just one of Vogtle's reactors, it could cause at least 39,000 early injuries, 4000 cancer deaths and 200 early fatalities with costs of over $60 billion. Considering this information, we must produce electricity that we need through less dangerous energy supplies such as energy efficiency, solar, wind and fire power. (V-ESP-SC-38-6)

Comment: Conservation and greater efficiencies in the production of natural gas, oil, coal and hydro power will help, and a deeper commitment to renewable resources such as wind and geothermal will be needed. But they won't be enough. (V-ESP-SC-43-2)

Comment: [A] baseload unit like we're talking about, you know, you need a baseload unit like when these industries start up in the morning, you know, there's a load that's put on the system right then and how are you going to sustain and carry that load when all these 2, 3, 4000 horsepower motors kick in, you know, with a windmill. I just don't know if that's possible. (V-ESP-SC-48-2)

Comment: The Idaho Power Company has a technology that is now licensed to the Germans and this technology is a hydrogen technology and a generator about the size of this room will generate enough electricity for a town of 10,000 people...So I would say that the future technology is going to be in hydrogen power and the SRS will be a major player in hydrogen power. (V-ESP-SC-49-1)

Comment: But if the SRS does build a hydrogen generator at that plant across the river, we are going to see a power that produces water when it's through. It's not going to be a technology that's going to pollute the atmosphere or anything like that. (V-ESP-SC-49-3)

Comment: [T]here have been peak times that we have even been asked to conserve and America basically is not a country that's going to conserve, you know, it's just not our nature. (V-ESP-SC-52-2)

Comment: I realize that at this point, nuclear appears to be a better alternative to coal, but I would much rather see a cleaner, safer energy available for Georgia's residents. Wind, solar, and hydro power are just a few options. Each of these options show incredible potential to provide for the energy needs and are becoming much more economic and available. (V-ESP-SW-54-7)

Comment: We need and want clean, safe energy choices such as energy efficiency, wind, solar, and biopower and do not need any more dangerous nuclear reactors forced on us. (V-ESP-SW-55-2)

Comment: We must produce electricity through less dangerous sources; energy efficiency, solar, wind, and biopower! (V-ESP-SW-55-9)

Comment: many energy utilities and public agencies have made strong and sustained efforts to promote energy efficiency through programs and standards. These efforts have brought significant economic benefits to energy customers and have contributed to ongoing initiatives to enhance the environment and improve public health nationwide....For this reason, there is now great opportunity to seize energy efficiency as a large untapped source of economic and environmental benefits for the state of Georgia. Building upon the successes and failures of a wide range of other energy efficiency efforts, Georgia is in an excellent position to stimulate greater investment in energy efficiency. (V-ESP-SW-66-1)

Comment: I would prefer for any available government and private funds to be used to increase our use of solar, wind and tidal sources of energy. (V-ESP-SW-72-2)

Comment: Maybe we could shift the focus to conservation. (V-ESP-SW-73-4)

Comment: [W]e must produce electricity needed through less dangerous energy supplies such as energy efficiency, solar, wind, and biopower. (V-ESP-SW-74-7)

Comment: The NRC needs to fully research other energy choices, including energy efficiency and conservation. Renewable energy supplies are available here in Georgia, such as biopower, solar, and wind. These energy supplies should be supported due in part, because they keep dollars here at home. The NRC should be aware that new, certified wind maps of Georgia will be released by the National Renewable Energy Laboratory later this month. Additionally, the potential to use Georgia's plentiful agriculture and forestry resources must be evaluated. A conservative estimate from a University of Georgia study showed that as much as 12% of Georgia's total electricity demand could be generated from biomass. The benefits to Georgia include increased self-sufficiency, improved water resource quality, and long-term environmental and rural development benefits. Energy efficiency and conservation represent the quickest, safest, cheapest way to provide more power and to best protect our air and water resources....The NRC needs to evaluate both Georgia's actual need for power and how conservation and efficiency could reduce this supposed need. (V-ESP-SW-77-2)

Comment: We must produce electricity through less dangerous energy supplies such as energy efficiency & conservation, solar, wind, and biopower. (V-ESP-SW-83-6)

Comment: Additionally, please address the following items as NRC staff develops the draft EIS: Georgia lags the country in conservation efforts, yet this is the quickest and cheapest way to "add" one or two more power plants. Please consider. (V-ESP-SW-78-5)

Comment: I honestly would love to see the people in charge just sit back and really think: consider the damage that will be created, and how they could come up with much more efficient/better solutions, like giant wind turbines or solar energy plants. (V-ESP-SW-79-4)

Comment: In recent decades, many energy utilities and public agencies have made strong and sustained efforts to promote energy efficiency through programs and standards. These efforts have brought significant economic benefits to energy customers and have contributed to ongoing initiatives to enhance the environment and improve public health nationwide....For this reason, there is now great opportunity to seize energy efficiency as a large untapped source of economic and environmental benefits for the state of Georgia. Building upon the successes and failures of a wide range of other energy efficiency efforts, Georgia is in an excellent position to stimulate greater investment in energy efficiency. (V-ESP-SW-81-9)

Comment: In addition to energy efficiency measures, GA utilities should be transitioning to safe, clean, and affordable renewable energy sources such as wind power, solar power, and hydrogen fuel cells. (V-ESP-SW-81-11)

Comment: A thorough alternatives assessment would show without a doubt that there are safer, cleaner, and cheaper alternatives to building a new nuclear plant at Vogtle. We ask the NRC to take seriously the precautionary principle, undertake a thorough alternatives assessment, and reject Southern Nuclear's application. (V-ESP-SW-81-14)

Comment: We are requesting that the NRC broaden the scope of its Environmental Review Process and explore a wide range of alternatives to the proposed nuclear power plants, including energy efficiency measures, wind technology, solar power technology, biomass, and hydrogen fuel cells. In particular, we are requesting that the NRC consider what Southern Nuclear and its parent company and associated companies should and could be doing to promote energy efficiency and the use of clean, safe, and economical renewable energy sources. (V-ESP-SW-81-5)

Comment: there is no debate that energy efficiency measures are the cheapest, quickest, and safest way to meet electricity demand. (V-ESP-SW-81-8)

Comment: With all the scientific knowledge in existence today, why is there not more development and use of SOLAR POWER. (V-ESP-SW-82-1)

Comment: Wind, sun, coal, oil, natural gas, water. These resources for energy are of nature--let's try to stay away form nuclear energy! (V-ESP-SW-82-3)

Comment: Energy efficiency and renewable energy supplies must also be reviewed as possible alternatives. (V-ESP-SW-78-4) (V-ESP-SW-84-4) (V-ESP-SW-85-4) (V-ESP-SW-86-4) (V-ESP-SW-87-4) (V-ESP-SW-88-4) (V-ESP-SW-89-4) (V-ESP-SW-90-4) (V-ESP-SW-94-4) (V-ESP-SW-95-4) (V-ESP-SW-117-4) (V-ESP-SW-119-4) (V-ESP-SW-120-4)

Comment: Additionally, please address the following items as NRC staff develops the draft EIS: offshore wind turbines, community solar, energy conservation at state, county, and city level by example. (V-ESP-SW-84-5)

Comment: Additionally, please address the following items as NRC staff develops the draft EIS: ...energy conservation. (V-ESP-SW-87-6)

Comment: Additionally, please address the following items as NRC staff develops the draft EIS: investing in renewable, sustainable energy sources (sun, wind), incentives to build energy efficient buildings, incentives to use alternative auto-fuels. (V-ESP-SW-88-5)

Comment: Additionally, please address the following items as NRC staff develops the draft EIS: ...energy conservation and conservation of natural resources. (V-ESP-SW-89-6)

Comment: Energy, efficiency and renewable energy supplies must also be reviewed as possible alternatives. Additionally, please address the following items as NRC staff develops the draft EIS: Why not conservation? Georgia's energy use is 25% above national average. (V-ESP-SW-93-4)

Comment: Alternative energy sources can and must be found: solar, wind, synthetic fuels, natural gas, biomass. (V-ESP-SW-99-3)

Comment: Only the most die-hard ostriches haven't figured out that our future lies in producing electricity through less dangerous energy supplies such as energy efficiency & conservation, solar, wind, and biopower. (V-ESP-SW-101-2)

Comment: I support other, alternative energy forms that do not produce so much dangerous waste, increase the chances of a major accident, and provide terrorists with opportunities of sabotage. (V-ESP-SW-102-3)

Comment: I support addressing our future energy needs through less dangerous and centralized means such as energy efficiency & conservation, solar, wind, and biopower. (V-ESP-SW-103-9)

Comment: We must produce electricity through less dangerous energy supplies such as energy efficiency & conservation, solar, wind, and biopower. Public safety must take precedence over the desires of public utility companies. (V-ESP-SW-104-4)

Comment: We need as a nation to find energy sources that are manageable in terms of the environment - human and natural. (V-ESP-SW-106-2)

Comment: The development of multiple energy sources is the prudent solution to the current environmental and political challenges of our current energy dependence of oil and coal. (V-ESP-SW-107-4)

Comment: We need clean, safe energy sources -- wind, solar, biopower, and greater energy efficiency -- NOT more nuclear reactors. (V-ESP-SW-108-5)

Comment: that it is essential we give greater attention to wind, solar and water power, all of which are presently used with great success in other areas. (V-ESP-SW-109-5)

Comment: Conservation has created more energy than nuclear and has the potential to create much more, as other nations have already proven. (V-ESP-SW-111-9)

Comment: Greater energy efficiency and conservation will reduce the demand for power generation and lessen the need for additional power plants. There is considerable potential for

these beneficial measures in the United States because our per capita consumption of energy is about twice that of other industrial nations having comparable qualities of life. (V-ESP-SW-113-12)

Comment: We are especially troubled by the inevitably adverse effects that any expansion of conventional types of power-generating capacity will have on renewable, safe energy technologies that capture the enormous potential of wind, solar, and tide power sources. Wind technology with generating capacity comparable to the proposed reactors, for example, could be implemented well within the period required to permit and construct the new facilities at Plant Vogtle. Wind mapping off of Georgia's coast clearly indicates that harvesting wind energy would be practical, and the proven experience in other nations strongly suggests that this could be accomplished within a 5-year period. (V-ESP-SW-114-11)

Comment: Chapter 9 of the SNC ESP application did a remarkable job of outlining all the supposed negatives associated with wind energy while overlooking nearly all the benefits. For instance, it mentions how many acres are needed for wind development and came to the conclusion that "the wind alternative would require a large green field site, which would result in a LARGE environmental impact."...farmers can both lease out land for wind production and work their crops....Off shore wind farms have shown to be beneficial to local fish populations due to the forming of artificial reefs - providing a special benefit to sports fishing. There is substantial wind potential off Georgia's coast that if developed could meet new power demands. The technology of off shore wind has been successfully deployed in Europe and could provide a great opportunity for Georgia. (V-ESP-SW-115-10)

Comment: The NRC should be aware that the National Renewable Energy Laboratory recently released new wind maps of Georgia. Much of SNC's very brief review of wind energy is out of date and would now be considered inaccurate. (V-ESP-SW-115-11)

Comment: Class 3 and above wind speeds in Georgia could provide up to 4700 MW of wind energy potential while offshore Class 4 wind speeds and above could provide over 10,000 MW of wind energy potential. (V-ESP-SW-115-12)

Comment: The potential to use Georgia's plentiful agriculture and forestry resources must be more thoroughly evaluated by the NRC. The SNC application was very limited in its discussion or research on opportunities for biopower in Georgia and failed to acknowledge the contribution biomass-based energy production can provide in terms of mitigating the effects of global warming, especially in comparison to other forms of fossil-fuel electricity generated. (V-ESP-SW-115-13)

Comment: The ESP application failed to mention that Georgia's abundant existing crop and forestry residues can be used for energy production, not just "new" energy crops such as switchgrass. A conservative estimate from a University of Georgia study showed that as much

as 12% of Georgia's total electricity demand could be generated from biomass (*The Economic Feasibility of Generating Electricity from Biomass Fuel Sources*, 2003, available at http://www.agzecon.ugza.edu/-caed/Feasibility%20Study603.pdf). (V-ESP-SW-115-14)

Comment: New biopower projects are being pursued in Georgia. Earth Resources Inc. is developing a 20MW poultry litter gasification facility in Carnesville, GA, just 70 miles to the northeast of Atlanta....The NRC should study these biopower projects as an alternative to building more nuclear reactors at Vogtle. Small, distributed energy production facilities such as this poultry litter to energy facility can provide significant benefits to Georgia's economy, agricultural sector, energy security and the environment. (V-ESP-SW-115-15)

Comment: Chapter 9 of the SNC application does not properly evaluate the potential solar technologies can provide in Georgia. In a report by Navigant Consulting titled PV Grid Connected Market Potential under a Cost Breakthrough Scenario in September 2004, Georgia was listed as the fifth most attractive state for solar photovoltaic (PV) market potential in the nation....The PV systems would have positive environmental, economic, and public health benefits for several reasons: PV systems do not use the water that traditional electric generating units use; there are no emissions of NOx, SOx, HC, C02, heavy metals, and radio active contaminants; or generation of long-lived nuclear waste. (V-ESP-SW-115-16)

Comment: A benefit of solar energy is that the energy produced can be used right at the point of generation. Additionally, solar energy offers a great benefit in the southeast as it can produce power on hot sunny days when the utilities need electricity the most. (V-ESP-SW-115-17)

Comment: We strongly object to the ESP application's statement that, "solar energy offers a distinct environmental disadvantage, relative to nuclear energy due to its LARGE land use impacts." Anyone familiar with solar technology knows that all large scale solar is going up on flat roofs. (V-ESP-SW-115-18)

Comment: The SNC application compared a nuclear power plant with large scale, centralized solar to meet actual power demand. The proper comparison should have looked at the use of the same amount of money not to build a large-scale solar power plant, but to incentive solar installations on commercial and residential rooftops....The NRC should evaluate, for example, how much solar thermal generation for solar hot water heating or how much solar PV could be installed in Georgia for the estimated cost of building two new reactors at Plant Vogtle. (V-ESP-SW-115-19)

Comment: Then it should be compared not to the amount of MW that it produces but to solar energy's ability to meet power demands with its production during peak demand times when utilities actually need the power. (V-ESP-SW-115-20)

Comment: Energy efficiency and conservation represent the quickest, safest, cheapest way to provide more power and to best protect our air and water resources while mitigating the energy sector's contributions to global warming. (V-ESP-SW-115-3)

Comment: The NRC needs to study how global warming pollution, specifically CO2, could be reduced if the same money spent on expanding Plant Vogtle were instead used by other technologies, such as energy efficiency and conservation and renewable energy supplies including wind, solar, and biopower. (V-ESP-SW-115-30)

Comment: The NRC should evaluate what the impacts would be if the same amount of money estimated to build up to two new reactors at Vogtle were instead spent on energy efficiency and conservation measures. (V-ESP-SW-115-5)

Comment: The NRC should also study the benefits that energy efficiency and conservation provide to our water resources, in comparison to nuclear power, which is highly water intensive. (V-ESP-SW-115-6)

Comment: The NRC needs to fully research safe, clean renewable energy resources in Georgia, such as biopower, solar, and wind. Chapter 9 of SNC's early site permit (ESP) application is disappointing at best. Additionally, Chapter 9 completely disregards the effectiveness that a diverse portfolio of energy efficiency and renewable energy options can provide for citizens of Georgia. The NRC needs to study these combined potentials. (V-ESP-SW-115-9)

Comment: NRC is specifically required to develop and explore "appropriate alternatives to recommended courses of action in any proposal, which involves, unresolved conflicts concerning alternative uses of available resources." 10 C.F.R. 51.45. Utilizing energy efficiency and renewable energy clearly qualify as "appropriate alternatives" to expanding Plant Vogtle, and must be "rigorously explored" and "objectively evaluated" as part of the EIS. Although the SNC Environmental Report addresses alternatives, it can hardly be considered "objective." The Report concludes that conservation measures including Demand Side Management (DSM) could not meet future demand. See Environmental Report at 9-2.4. But SNC's DSM efforts thus far have been minimal compared with major utilities in other parts of the country. Of course, SNC has no incentive to increase DSM, which would reduce electricity sales, and thus, its own revenues. In particular, the Environmental Report fails to consider conservation and renewable energy sources as part of a multi-part solution. While the report acknowledges that alternatives that might not be viable on their own could still be viable in combination with other sources, it only considers one such combination (coal and natural gas) without addressing a myriad of other permutations. See Environmental Report 9-2.17. Most notably, the Environmental Report fails to explore whether conservation and renewable energy together might provide a reasonable alternative. (V-ESP-SW-116-15)

Comment: Nuclear power is dangerous and unnecessary when we have sources like the sun and wind on hand. (V-ESP-SW-117-6)

***Response**: Energy alternatives to the proposed action will be considered in Chapter 9 of the EIS. Chapter 9 will consider energy alternatives that require new generating capacity, such as building a coal plant, and alternatives that do not require new generating capacity, such as conservation.*

Comment: [M]ore efficient natural gas and integrated gasification combined cycle (IGCC) coal plants can help in the transition from fossil fuels. (V-ESP-SW-113-15)

Comment: The NRC needs to thoroughly evaluate new advanced coal technology (IGGC) as an alternative to building more nuclear reactors in Georgia....IGCC offers the ability to reduce air emissions, with up to 90% removal of sulfur dioxide, nitrogen oxide and mercury, and has the potential to capture carbon dioxide, a key global warming pollutant. Further, IGCC appears to be less water intensive than nuclear power. (V-ESP-SW-115-44)

***Response**: IGCC (Integrated Gasification Combined Cycle) plants will be considered in Chapter 9 of the EIS.*

D.1.17 Comments Concerning the Cost of Power

Comment: However, it's interesting to me that insurance companies refuse to insure the plants and that the United States government, I believe, has had to develop a consortium of insurance companies that will insure the various plants because they are so difficult to guarantee, as far as safety goes. I would like to ask some questions tonight, just three of them. One question is how are those insurance companies paid, by our taxes? I don't know but I suspect so if the government, the U.S. government, is the one that organized them. (V-ESP-SC-24-2)

***Response**: Whether nuclear power should be subsidized or insured is outside the scope of the EIS. The comment will not be addressed further.*

Comment: Harvesting wind energy could be practical...with little chance of cost-overruns that have been all too typical of nuclear facilities, which also often take as long as eight to ten years to be made operational. (V-ESP-SW-114-12)

***Response**: The cost of power produced by the proposed facilities as well as the overall benefits and costs of the facilities will be considered in Chapter 11 of the EIS. Chapter 9 of the EIS will consider alternatives. The categories of alternatives considered will be energy alternatives, plant design alternatives, and siting alternatives. Issues related to the applicant's financial viability will not be considered in the EIS. NRC has requirements for licensees at 10 CFR 50.75 to provide reasonable assurance that funds will be available for the decommissioning process.*

Comment: Bradford shows that wind power today produces electricity at half the cost of nuclear power. Currently, centralized solar thermal plants produce electricity at a cost competitive with nuclear power...Nuclear power has received the most subsidies of any energy technology. Even so, with all these taxpayer subsidies, nuclear power is more costly than wind power. Of course, if instead of being heavily subsidized by taxpayer money, nuclear power had to rely solely on market forces, we would not be here tonight having this meeting! Moreover, if only a tiny portion of the subsidies larded on nuclear power had been provided for solar and wind power technologies, we would not be meeting here tonight! (V-ESP-SW-81-12)

Comment: Moreover, federal funds that might be used to provide justifiable incentives for investing in renewable energy technologies would instead be devoted to perpetuating the substantial subsidy of nuclear energy, which has used about 60% of all U.S. federal energy spending for the past 50 years. (V-ESP-SW-114-14)

Comment: There are alternatives to nuclear power generation that are less expensive and which are significantly less risky. In evaluating cost per kilowatt-hour it must be remembered that nuclear power is heavily subsidized in a number of ways. This subsidization must be factored in when making cost comparisons with alternative generating systems. (V-ESP-SW-113-11)

***Response**: Chapter 9 of the EIS will consider alternatives. The categories of alternatives considered will be energy alternatives, plant design alternatives, and siting alternatives. The mission of the NRC is to license and regulate the nation's civilian use of by-product, source, and special nuclear materials to ensure adequate protection of public health and safety, promote the common defense and security, and protect the environment. Issues related to the subsidization of nuclear power are outside of NRC's mission and authority and will not be considered in the EIS.*

Comment: Another problem is the NRC really needs to look at the problem of cost overruns. I know that Plant Vogtle had huge, tremendous cost overruns and maybe Georgia Power, Southern Company is saying that's not going to happen again. But somehow, we, the ratepayers of Georgia, need to be assured that that's not going to happen again. (V-ESP-SC-25-5)

Comment: It [Plant Vogtle] was a boondoggle. It took 20 years. Georgia Power started construction and in ten short weeks filed for bankruptcy. Now what's different? Oh, that's right, they're not using their money -- they're using ours. And so analyze that. (V-ESP-SC-30-1)

Comment: Regarding economics, Standard & Poor's rating services found that "An electric utility with a nuclear exposure" -- that is, a nuclear plant -- "has weaker credit than one without and can expect to pay more on the margin for credit. Federal support for construction costs will

do little to change that reality. Therefore, were a utility to embark on a new or expanded nuclear endeavor, Standard & Poor's would likely revisit its rating on the utility." (V-ESP-SC-35-3)

Comment: Building a nuclear plant is an uncertain gamble. Many attribute this to the response to the accident at Three Mile Island in 1979, but nuclear power plants canceled before 1979, before the Three Mile Island partial meltdown, numbered 50. So the economic meltdown was underway long before Three Mile Island accident. Among the reactors canceled before that accident were Vogtle 3 and 4, in 1974. No evidence has been found to support the statements that citizen opposition and regulatory changes have been the primary cause for rising costs and construction delays. To the contrary, statistics show that management is more a detriment than regulatory changes and citizen opposition. This is from the U.S. House Committee on Government Operations. (V-ESP-SC-35-5)

Comment: I really think you [Southern Company] ought to be thinking very, very carefully about investing in any more reactors because the Price-Anderson Act excludes acts of war, by definition. And our President has said we are at war. There is no way that if someone had the incredible gall to actually do what I've been talking about and attack a reactor -- believe me, I never want to live to see that -- it would be an act of war on this country. That means there is no liability cap and there are no other corporations that would be called in to help Southern Company. (V-ESP-SC-36-7)

***Response**: Issues related to the applicant's financial viability will not be considered in the EIS. NRC has requirements for licensees at 10 CFR 50.75 to provide reasonable assurance that funds will be available for the decommissioning process.*

Comment: Generation using nuclear power allows the creation of stable, cost-effective electricity while minimizing the impact on the environment. (V-ESP-SC-15-2)

Comment: Nuclear power has the lowest production cost as compared to other fuels, and nuclear fuel prices are more stable than other fuel options. (V-ESP-SW-60-4) (V-ESP-SW-61-4) (V-ESP-SW-57-4) (V-ESP-SW-59-4) (V-ESP-SW-63-4)

Comment: Nuclear power has the lowest production cost, as compared to other fuels, and nuclear fuel prices are more stable than other fuel options. (V-ESP-SW-62-4)

Comment: This expansion will allow us to continue to receive... cost-effective and reliable energy to serve the CSRA. (V-ESP-SW-70-4)

Comment: Additionally, please address the following items as NRC staff develops the draft EIS: cost (V-ESP-SW-85-6)

Comment: Additionally, please address the following items as NRC staff develops the draft EIS: long term costs. (V-ESP-SW-89-5)

Comment: Additionally, please address the following items as NRC staff develops the draft EIS: impact on my wallet, the cost is unbelievable. (V-ESP-SW-90-5)

Comment: We believe we need to have a good, diverse generation mix and we believe that nuclear will come in at a very competitive cost, we think that's a good reason to go with nuclear. (V-ESP-SC-01-3)

Comment: [I]t's costly technology. (V-ESP-SC-16-3)

Comment: [N]uclear energy has proven, and I think will continue to prove, that it can generate electricity very efficiently. (V-ESP-SC-23-3)

Comment: We just need to think about long-term versus short-term costs. Short-term, yes, nuclear power may be cost-effective, but I think it's very important to look at the long-term cost. We need to look to the future and not be complacent with short-term economic gains. (V-ESP-SC-38-8)

Comment: Nuclear power has tremendous advantages over other fuels; lowest production costs. (V-ESP-SW-58-4)

Comment: Nuclear fuel prices are more stable than other fuel options, and nuclear power has the lowest production cost as compared to other fuels. (V-ESP-SW-64-4)

***Response**: The cost of power produced by the proposed facilities as well as the overall benefits and costs of the facilities will be considered in Chapter 11 of the EIS.*

Comment: [A] myth that nuclear power plants incur no fossil fuel cost: their construction is extraordinarily expensive and dependent entirely on fossil fuels. (V-ESP-SW-100-8)

Comment: Studies have shown that nuclear electric power is considerably more expensive than that currently produced in fossil fuel plants. (V-ESP-SW-113-13)

Comment: Renewable energy sources such as windpower, solar power, and biomass have become or are becoming cost competitive with electric power generation using fossil fuels, and should play an increasing role in electric power generation. (V-ESP-SW-113-16)

Comment: We strongly urge the NRC to consider its obligation to the public by expansively analyzing the true costs, benefits, and impacts of the proposed new reactors in terms of long-

term, large-scale public interest, not artificially narrow criteria that are better suited to private sector business decisions. (V-ESP-SW-114-1)

***Response**: The cost of power produced by the proposed facilities as well as the overall benefits and costs of the facilities will be considered in Chapter 11 of the EIS. Chapter 9 of the EIS will consider alternatives. The categories of alternatives considered will be energy alternatives, plant design alternatives, and siting alternatives.*

Comment: And they say let's let the market do its thing. We've never let nuclear power do that, we've always subsidized nuclear power because if we let the market do its thing, we wouldn't be sitting here tonight. (V-ESP-SC-16-6)

Comment: Even with massive government subsidies, using the nuclear fuel cycle to generate electricity costs more than burning coal or natural gas or using wind power to produce electricity. (V-ESP-SC-27-1)

Comment: Though utility companies have pocketed millions in profits, nuclear energy has cost taxpayers billions in public subsidies, and shows no sign of becoming self-supporting in the future. (V-ESP-SW-111-2)

Comment: The costs are enormous for nuclear and it is all subsidized by our federal tax dollars. Vogtle was to cost 666 million for four reactors back in the 1970s and 1980s. Two reactors ended up costing over $8 billion. This is organized crime and should be stopped in its tracks. (V-ESP-SW-112-8)

Comment: Nuclear...is extravagantly subsidized by federal funding. (V-ESP-SW-114-4)

***Response**: The mission of the NRC is to license and regulate the nation's civilian use of by-product, source, and special nuclear materials to ensure adequate protection of public health and safety, promote the common defense and security, and protect the environment. Issues related to the subsidization of nuclear power are outside of NRC's mission and authority and will not be considered in the EIS.*

D.1.18 Comments Concerning the Need for Power

Comment: The fact of the matter is, and I'm sure you've seen it in the media, we're about to be approaching that 300 million persons in the United States of America, and closer to that in the southeast, the population is growing like you would not believe and we believe by 2040 about 40 percent of the people will actually live in the southeast, and even more specific than that, four million people will be moving to Georgia by the year 2030 and that's significant. And in order to supply energy to those individuals, we must increase our demand (sic), we must increase our generation, because there's a huge demand for electricity. (V-ESP-SC-01-1)

Comment: Both Senators...support it because of the current projected demand for energy and power not only in the nation and the world, but in this area. Of course, we all look at gas prices and everything else and our dependency. The Senator of course is on the Intel, the Armed Forces Committee, and we see what it is doing in the Middle East and it can get us off that dependence. (V-ESP-SC-04-1)

Comment: Stakeholders in Plant Vogtle have told us they estimate they will need additional baseload power supplies by the year 2015 to accommodate the demand for power in our state for the coming decades. (V-ESP-SC-04-5)

Comment: As a municipal utility, we also know that more electric power is needed to meet the growing demands of our state. (V-ESP-SC-10-5) (V-ESP-SW-56-3)

Comment: The Augusta Metro Chamber of Commerce supports the expansion of Plant Vogtle to meet our region's energy needs. The Chamber believes that the expansion represents a safe, dependable and environmentally responsible solution to our demand for electricity. (V-ESP-SC-15-1)

Comment: We heard from the Vice President of Georgia Power tonight that we have to increase demand. I think he misspoke, (V-ESP-SC-16-5)

Comment: I and the 2200 members of NA-YGN believe that Vogtle Units 3 and 4 are an important step toward our nation's energy independence. (V-ESP-SC-17-9)

Comment: So I think there's a need for it [nuclear power]. (V-ESP-SC-23-4)

Comment: Building more nuclear power plants will not lessen dependence on imported oil. (V-ESP-SC-27-2)

Comment: Most of the nation's uranium comes from overseas, so the energy independence is a chimera until and unless more uranium is discovered within our borders. (V-ESP-SC-35-2)

Comment: I would also like to see the demonstration of the increase in demand, that this actually exists. (V-ESP-SC-37-9)

Comment: You must know that Georgia is one of the fastest growing states in our America. And one of the things--it's growing so fast, that we've got to have at least 400 megawatts of energy on a yearly basis just to keep up with the present growth. And if it starts to growing faster, I don't know what we're going to do. (V-ESP-SC-42-1)

Comment: I hope that when 2030 year comes around that my daughters, my son, and my granddaughters won't be walking around in the dark because there was not enough generation

of electricity so we could turn the lights on like other parts of our great country is going through now. (V-ESP-SC-42-3)

Comment: I think it's worth reiterating that demand is only increasing. When today's children become tomorrow's adults, America will need 45 percent more power than we currently use. How will we handle this enormous increase? (V-ESP-SC-43-1)

Comment: The reality is we will require more from these sources [renewable sources] and all others to meet the electricity needs of tomorrow. We should continue to seek diversity in our energy sources and nuclear energy has an important role to play. (V-ESP-SC-43-3)

Comment: Georgia Power is not the only one to say we need more power. I read in the Wall Street Journal and the New York Times last week talking about the shortage of power in this nation. We've been lucky in the south that we've not had our power grids to go out like they have in the north. (V-ESP-SC-52-1)

Comment: More and more electricity will be needed to meet the need for power in our state during the coming decades. Nuclear power is a safe, reliable and cost effective source of electricity and will be critical to meeting that end. (V-ESP-SW-57-2)

Comment: More and more electricity will be needed to meet the requirements for power during the coming decades. We know that nuclear power is safe, reliable and cost-effective and this source of electricity will be critical in meeting this need. (V-ESP-SW-58-2)

Comment: More and more electricity will be needed to meet the demand for power in our state during the coming decades. Nuclear power is a safe, reliable, and cost-effective source of electricity and will be critical to meeting that need. (V-ESP-SW-59-2) (V-ESP-SW-60-2) (V-ESP-SW-61-2) (V-ESP-SW-63-2)

Comment: [M]ore cost efficient and environmentally sensitive electricity will be needed to meet the demand for electrical power. Nuclear power is a safe, reliable and cost-effective source of electricity and will be critical to meeting that need. (V-ESP-SW-62-2)

Comment: Georgia's thriving economy will require more and more electricity to meet the demand for power in the future. It will be critical to have a safe, reliable, and cost-effective source of electricity to meet those future needs. (V-ESP-SW-64-2)

Comment: The United States needs to move forward to aggressively diversify our power generation portfolio. We cannot continue to rely on unstable regions of the world such as the Middle East, or Russia or Venezuela that currently feed our fossil fuel addiction. (V-ESP-SW-80-1)

Comment: Given the lack of energy efficiency programs in Georgia, and the resulting waste of vast quantities of electricity, it is more than a little disingenuous for the V.P. of Georgia Power to claim at tonight's public scoping meeting that there is a need for more generating power. Simply by promoting reasonable measures to improve the efficiency of electricity usage in the state, Georgia Power could meet the needs of a growing population over the next several decades without building new nuclear or coal plants. (V-ESP-SW-81-10)

Comment: There is a real need to reduce our reliance on fossil fuels. (V-ESP-SW-113-14)

Comment: By permitting the construction and operation of the proposed new reactors, future demand for power that could be met by using alternative sources will be unwisely eliminated. (V-ESP-SW-114-13)

Comment: The NRC needs to evaluate both Georgia's actual need for power and how conservation and efficiency could reduce this demand. (V-ESP-SW-115-4)

Comment: We question whether expanding Plant Vogtle is actually needed...The NRC needs to evaluate Southern Company's subsidiaries' future growth plans, such as Georgia Power, to better determine whether two new nuclear reactors at Plant Vogtle are even needed. The 2007 Integrated Resource Plan (IRP) is a long-term energy planning process that is required for regulated utilities to undergo every three years by the Georgia Public Service Commission (PSC). The PSC will receive Georgia Power's plan in January 2007. The NRC should track the IRP process in order to glean necessary information (visit the PSC's website at http://www..psc.state.ga.us) (V-ESP-SW-115-7)

Comment: The NRC should also be aware that the State of Georgia is undergoing the development of its first energy strategy, overseen by the Georgia Environmental Facilities Authority (GEFA). A wealth of information on various energy issues specific to Georgia can be found at www.georgiaenergyplan.org. (V-ESP-SW-115-8)

Response: *This information will be considered in the staff's evaluation of need for power impacts in the EIS. The results of the analysis will be presented in Chapter 8 of the EIS.*

D.1.19 Comments Concerning Cumulative Impacts

Comment: Before you give Southern Nuclear their license, please think about what is best for the people in our community. (V-ESP-SC-05-1)

Comment: [T]he environmental impact statement must consider cumulative impacts including the existing towers at Plant Vogtle, the Savannah River Site, and all of the other nuclear facilities that have been listed tonight. (V-ESP-SC-21-6)

Comment: [C]umulative impacts, particularly the impacts of water withdrawal from this plant combined with all of the other withdrawals in the Savannah River Basin and also exposure to radionuclides associates from the Savannah River Site and other nuclear facilities in the area. (V-ESP-SC-22-8)

Comment: There is at the Savannah River Site plutonium storage, low level waste storage, low level waste burial, low level waste incineration, tritium storage, tritium processing, high level waste storage, high level waste processing, high level waste disposal thanks to Lindsey Graham. There is going to be, if approved, pit disassembly, MOX fuel production, pit production proposed and now we hear high level nuclear waste reprocessing. All of those indicate exposures to the public on multiple pathways from both routine and potentially accident conditions and they must be considered dedicated exposures when considering adding two new Vogtle units. I think everything within a 50-mile radius should be considered as a very conservative thing. The NRC says there's 100 millirems a year to the general public. Well, that should mean that Vogtle can only contribute whatever is left over to make up 100 millirems. (V-ESP-SC-36-8)

Comment: I would also like to say that cumulative effects from all of the sources in the area should be addressed. (V-ESP-SC-37-3)

Comment: The Savannah River Basin is already suffering. Building more nuclear reactors will only make the situation worse. (V-ESP-SC-38-3)(V-ESP-SW-110-1)(V-ESP-SW-83-1) (V-ESP-SW-91-1) (V-ESP-SW-103-2) (V-ESP-SW-55-3)

Comment: And the Kimberly-Clark Company is now building in Beech Island their biggest installation in the United States of America and that installation already has the water permits for the Savannah River. Now lower South Carolina is very much up in arms about the fact that the water going down the Savannah River is not very usable and their wells are drying up over there because of irrigation and so forth, they're getting saltwater in their wells. This is Hilton Head I'm talking about, Bluffton and that area. And the City of Savannah is also having trouble with their water. (V-ESP-SC-49-2)

Comment: Most people know nothing about the extensive damage already done to the Savannah River basin. (V-ESP-SW-109-2)

Comment: Burke County and its residents receive a possible double dose of dangerous radionuclide releases by being directly across the river from SRS and also the home of Vogtle. I urge you to consider this reactor development NOT in isolation but in relation to Vogtle's position to SRS. Nowhere else in the country are new nuclear reactors being introduced so close to such a major nuclear weapons complex. But, although the DOE/NRC and many of the workers are not to consider the ties that bind these installations, it is imperative that citizens consider the close proximity that threatens health and safety. (V-ESP-SW-112-3)

Comment: The NRC needs to study the impacts of tritium in the Savannah River, including future projections, especially given the Department of Energy's Savannah River Site's (SRS) already large contribution to tritium pollution and its plans to expand. The NRC should analyze the impact of tritium with droughts and future population growth in mind. (V-ESP-SW-115-26)

Comment: The NRC needs to study the existing impacts SRS already has on the area and how the expansion of Plant Vogtle will add to these impacts. The NRC should also study how future projects at SRS, such as the GNEP reprocessing initiative, will further burden this area. (V-ESP-SW-115-36)

Comment: In addition, Congress has approved the construction of a mixed-oxide (MOX) fuel production plant for SRS. MOX fuel is a mixture of uranium-oxide (current fuel for most civilian U.S. nuclear power plants) and plutonium oxide. The plutonium oxide would come from stockpiles of weapons grade plutonium from dismantled nuclear bombs. SRS now serves as host to weapons grade plutonium in the powdered oxide form, which is highly dispersible. While Plutonium is not a particularly dangerous radioactive element to be in close proximity to, ingestion or inhalation of plutonium turns it into one of the most potent toxins known to mankind. With a half-life of 24,000 years, the possibility of a plutonium accident poses a tremendous risk to drinking water supplies in Savannah, Hilton Head, and Beaufort. (V-ESP-SW-116-10)

Comment: At SRS, many nuclear wastes including tritium, organic solvents, heavy metals and other wastes remain precariously buried at the Radioactive Waste Burial Ground, where waste was originally stored until 1972. This unlined pit is over a mile long and 500 yards wide. Little care was taken in packaging the waste, often using only a cardboard box or no container at all. Today, these wastes present a major threat to water. Waste plumes have formed on all four comers of the burial ground. Tritium forms the leading edge of three of the plumes because it gets incorporated into the water molecule. But close behind is trichloroethylene, a degreasing solvent used in large volumes in early nuclear production. Whether the 50 tons of lead, the 12 tons of mercury and the 3,500 pounds of cadmium buried here will stay in place is anybody's guess. These issues must be addressed by NRC as it considers the Vogtle ESP. (V-ESP-SW-116-19)

Comment: NRC must consider the proposed expansion in light of the already dangerous environmental conditions caused by the current operations at Plant Vogtle and at the Savannah River Site (SRS). (V-ESP-SW-116-5)

Comment: The tritium from the southwest plume reached Four Mile Creek about eight years ago. Because tritium would pose a severe hazard to surface waters, the Department of Energy has frantically tried to address the threat with wind and time. It constructed an underground dam to block the flow of the plume. The blockage of groundwater has resulted in a surface

pond from which water is sprayed back onto the trees on the property, allowing toxins to evaporate and be carried away by the breezes. (V-ESP-SW-116-9)

***Response**: The cumulative impact associated with the construction and operation of the proposed nuclear power plants, including interactions with the Savannah River Site, will be evaluated in Chapter 7 of the EIS.*

D.1.20 Comments Concerning the Safety Review for the Early Site Permit

Comment: [W]hat about earthquakes? Got to really focus in on this because there's major stuff going on in that area in this region. (V-ESP-SC-36-10)

***Response**: As part of the NRC's site safety review, the staff will consider whether the site is suitable based on seismic considerations. The results of this review will be found in the site Safety Evaluation Report. This issue is not within the scope of the environmental review.*

Comment: We talk about climate change and nuclear power is the solution, but we have not talked about how vulnerable nuclear power is to turbulent weather. It is now documented that the hurricanes are increasing in force, strength and number due to climate change. Maybe not every year, but over time. This site is definitely impacted by hurricanes. I've been here, I've been through it. So we've got to look at the potential for increased station blackout hazard. (V-ESP-SC-36-11)

***Response**: Nuclear power plants are extremely robust structures that are designed to survive hurricanes and tornadoes. Should an extreme weather event cause a nuclear power plant to be shut down (i.e., reactor is shut down as a hurricane is approaching, rather than the reactor being shut down by the hurricane), the reactor can be maintained in a safe condition by the reactor's ultimate heat sink. Ultimate heat sinks are designed to withstand extreme weather events such as hurricanes and tornadoes. The likelihood of the maximum wind speed in a tornado exceeding the design wind speed for the ultimate heat sink is typically less than 1 in 10 million years. There is no evidence that the frequency of the most violent tornadoes is increasing.*

Comment: [W]e're looking at this AP-1000 from Westinghouse which is proposed for Plant Vogtle. These units will be I think a lot safer even than the units that are there now. (V-ESP-SC-48-3)

***Response:** This comment provides general information regarding safety issues of a Westinghouse AP1000 design reactor, provided to support Southern's application. Because these comments do not relate to the environmental effects of the proposed action, they will not be assessed further.*

D.1.21 Comments Concerning Safeguard and Security Issues

Comment: I was made aware of an 800-page report done in 1980, NUREG/CR-1345, by a panel of industry experts to make future reactor designs more secure. A number of feasible, low-cost design changes to make nuclear plants less vulnerable to sabotage and acts of terror were offered and apparently not one, none, of these low-cost changes appear in the so-called advanced reactor designs. Will the NRC please refer to this report and make sure that the new reactors proposed for Vogtle take these low-cost changes into account? The future safety of not only this community, but many, many others such as the one that I live in are at stake. (V-ESP-SC-07-10)(V-ESP-SW-77-9)

Comment: [T]he EIS needs to consider the environmental consequences of terrorist actions. (V-ESP-SC-21-5)

Comment: Next one is environmental impacts of a terrorist attack. After 9/11, that's one that NRC just must take into consideration before they license any new plant. (V-ESP-SC-22-4)

Comment: As far as the safety and security of it, I have been privileged to go to Plant Vogtle several times. My last time was last fall and if you go in there and see how hard it is to get in, to start with, and then to go to the control room and see how these men and women do their jobs in security, you just leave there with a peace about what these folks are doing out there. (V-ESP-SC-23-5)

Comment: [S]ince 9/11, the possibility of terrorist attacks. We never dreamed that a plane would run into a skyscraper and we do need to consider the impact that might happen if a plane crashed into Plant Vogtle or into another reactor, and what would happen then. (V-ESP-SC-25-6)

Comment: We also need to consider that the nuclear reactors coming on line are going to create a lot more nuclear fuel and nuclear waste that could get in the hands of terrorists around the world. And this is a huge problem that we're seeing right now with North Korea. (V-ESP-SC-25-8)

Comment: But a 2002 study by the Nuclear Control Institute found that the plants were not designed to withstand the crash of a large jet traveling at the impact speed of the two hijacked airliners that hit the World Trade Center. This is not surprising because in 1982, the U.S. Nuclear Regulatory Commission ruled that owners of nuclear power plants did not have to design the plants to survive threats such as suicidal airline crashes. According to the NRC, requiring such construction would make nuclear electricity too expensive to be competitive. (V-ESP-SC-27-7)

Comment: Security -- since 9/11, no change. We are for Plant Vogtle, we're for securing it, we're for dealing with the nuclear waste, we're for dealing with it. (V-ESP-SC-30-5)

Comment: Security -- it's a glaring hole you can fly a jumbo jet airplane through. Since 9/11, NRC has done nothing to increase security at nuclear plants, including here. The California Ninth Circuit has decided that all nuclear plants in California will have this considered. It's a brand new decision that's being appealed and it will take awhile. The NRC is promulgating a rule -- I don't know how you're going to crunch this, but it's time to start analyzing the effects of this. (V-ESP-SC-30-8)

Comment: Let's take for one moment the idea that the Supreme Court does uphold the decision that the environmental impacts of the Terrorist Act should be analyzed in the EIS. Y'all are going to yell safeguards, safeguards, you can't go there...Vogtle is not just a power plant, it's a target, okay? So it changed everything, and Mohammad El-Fareda (ph.) said that if there was a direct hit by a jumbo jet, you would have a Chernobyl. So you have to take it down the case, you have to take a Chernobyl and you have to analyze it for Georgia and South Carolina and the rest of the world since it's a global impact. (V-ESP-SC-36-6)

Comment: [N]uclear plants are vulnerable to terrorist attacks and sabotage. (V-ESP-SC-38-5)

Comment: If anyone has ever tried to get into Plant Vogtle, I can't see how someone could say they need to increase security out there. It's always been a fence around it and other kinds of monitors around the site, plus the security personnel is there. And also, it's been mentioned about a terrorist event using aircraft. That containment there is like three foot thick concrete filled with rebar two to three inches thick. A passenger plane, what it actually is an aluminum tube meant to carry people, it's not any kind of a battering ram even at speeds that would be involved in any kind of crash. (V-ESP-SC-48-1)

Comment: They talked about security. Anything can happen. (V-ESP-SC-52-4)

Comment: Nuclear plants are vulnerable to terrorist attack and sabotage; building more nuclear reactors will only make this situation worse by providing more targets. Plant Vogtle is very close to the Department of Energy Savannah River Site, which stores a large portion of the nation's weapons grade plutonium and other dangerous materials. An accident or successful terrorist attack would have a horrific impact on human health and environment in the region for years to come. (V-ESP-SW-55-7)

Comment: Nuclear plants are vulnerable to terrorist attack and sabotage; building more nuclear reactors will only make this situation worse by providing more targets. Plant Vogtle is also very close to the Department of Energy's Savannah River Site, which stores a large portion of the nation's weapons-grade plutonium and other dangerous materials. If an accident or successful terrorist attack occurred, the full impacts to human health and the environment in this

region would be immense. Why make it worse? (V-ESP-SW-74-3) (V-ESP-SW-91-6) (V-ESP-W-110-6) (V-ESP-SW-103-7)(V-ESP-SW-104-3).

Comment: I urge you to thoroughly evaluate the water and security issues that new reactors would pose to the Savannah River basin and surrounding communities. (V-ESP-SW-78-3) (V-ESP-SW-84-3) (V-ESP-SW-85-3) (V-ESP-SW-86-3) (V-ESP-SW-87-3) (V-ESP-SW-88-3) (V-ESP-SW-89-3) (V-ESP-SW-90-3) (V-ESP-SW-93-3) (V-ESP-SW-94-3) (V-ESP-SW-95-3) (V-ESP-SW-117-3) (V-ESP-SW-119-3) (V-ESP-SW-120-2)

Comment: What if a plane were to crash into a nuclear site? What would happen then? (V-ESP-SW-79-3)

Comment: Additionally, please address the following items as NRC staff develops the draft EIS: Plant Vogtle is vulnerable to terrorist attack and sabotage. (V-ESP-SW-94-7)

Comment: In this time of yellow and orange security threats I feel it is extremely unwise to add more nuclear plants that are very vulnerable to attack. While the politicians worry about Iran and Korea having nuclear power, I don't feel we are safer right here in my backyard, especially with our open borders. (V-ESP-SW-96-5)

Comment: This, along with other potential problems such as vulnerability to terrorist attacks..., make the granting of an early site permit wrong. (V-ESP-SW-98-4)

Comment: [I]n our world, a terrorist attack is a real and serious possibility. The proximity of the proposed reactors to on-site storage of plutonium at Savannah River would make it one of many desirable terrorist targets. (V-ESP-SW-100-5)

Comment: We do not seem to have addressed adequately the security of chemical plants and powerwater infrastructure in the wake of September 11 and creation of a huge Homeland Security Department. (V-ESP-SW-106-6)

Comment: [T]he terrible security risks that would increase due to both human error at plants. (V-ESP-SW-109-3)

Comment: Homeland Security and the "War on Terror" have done almost nothing to protect vulnerable nuclear power plants from terrorist attack -- and in fact, very little can be done. (V-ESP-SW-111-3)

Comment: I encourage the NRC to consider the terrorist implications of an attack on Vogtle and the likelihood that such an attack would be accompanied by an attack on SRS. If terrorists are clever, they are thinking way beyond those who are only interested in their own little piece of the nuclear pie. They are thinking big and they know that Vogtle and SRS would make a jolly

little bundle of hell on earth should there be an attack on either, but especially on both, installations. How can we tell the rest of the world that they cannot develop nuclear power - or weapons -when we are pursuing this with gusto. (V-ESP-SW-112-4)

Comment: The NRC should revisit their claims that all this is being developed in the name of security and look seriously at how further nuclear development threatens all security or ALL human, animal and plant life. (V-ESP-SW-112-6)

Comment: The terrorist threat to nuclear plants has recently come to the fore and represents a new and substantial concern over safety. Beyond a doubt, the actual "risk index" for nuclear power plants in the U.S. has gone up considerably as a result. (V-ESP-SW-113-6)

Comment: Nuclear...and poses virtually permanent threats to public health and safety - due to...acts of terrorism. (V-ESP-SW-114-7)

Comment: [D]ue to the proximity of SRS, building more reactors at Plant Vogtle makes the site more vulnerable by providing more terrorist targets. (V-ESP-SW-115-38)

Comment: An 800-page report was done in 1980, NUREG/CR-1345, by a panel of industry experts to make future reactor designs more secure. A number of feasible, low-cost design changes to make nuclear plants less vulnerable to sabotage and acts of terror were offered and apparently not one of these low-cost changes appears in the so-called advanced reactor designs. (V-ESP-SW-115-40)

Comment: Nuclear power plants have been recognized as posing extremely serious risks in regards to potential terrorist activity. As noted in a 2005 report to Congress, "Protection of nuclear power plants from land-based assaults, deliberate aircraft crashes, and other terrorist acts has been a heightened national priority since the attacks of September 11, 2001." Further, the former Chair of the NRC Richard Meserve, has stated that the design basis for currently operating nuclear power plants is not sufficient to survive the impact of large commercial aircrafts such as a fully-loaded Boeing 757 or 767. Significant changes in safety requirements for nuclear power plants have been made since September 11. For example, there has been a heightened standard for security officer training, stricter access requirements at nuclear power plants, and "increase[s] in the 'design basis threat' that nuclear security must be able to defeat." Although the Plant Vogtle application does address the existence of airports and aircrafts in the area, it fails to address the issue of potential terrorist threats or the adequacy of the design basis in light of this threat. These factors, as well as the potential impact of such a terrorist attack, must be extensively assessed by the NRC in their review of the Plant Vogtle ESP application. (V-ESP-SW-116-11)

***Response**: The staff will review information regarding physical security and will document in the Safety Evaluation Report its determination as to whether the site characteristics are such*

that adequate security plans and measures can be developed (see 10 CFR 100.21). However, the staff will not be evaluating a detailed security plan at this time. If Southern applies for a combined license, it would have to supply a series of plans for NRC staff review, in accordance with 10 CFR 50.34, including a safeguards contingency plan, a physical security plan, and a guard training and qualifications plan. Additional information about the NRC staff's actions regarding physical security since September 11, 2001, can be found on the NRC's public website (www.nrc.gov). Because safeguards and security issues are outside the scope of the EIS, these comments will not be assessed as part of the environmental review.

D.1.22 Comments Concerning Emergency Preparedness Issues

Comment: Over those years, I have directly been involved with many evacuated and non-evacuated exercises. I've had many opportunities to tour Plant Vogtle, I have participated in emergency planning at Plant Vogtle, participated in table top exercises, and it has all been a pleasure. The Southern Nuclear staff has always been willing to assist in any way they can. They've always answered our questions very rapidly and appropriately and rendered any assistance that they could lend. (V-ESP-SC-14-1)

Comment: The third question I would ask is are there plans for the development of an evacuation system in case of an incident. After Katrina, we know the importance of evacuation plans. (V-ESP-SC-24-4)

Comment: I can attest to Southern Nuclear's commitment to the safety of our community. I've had the privilege of participating in many drills with Vogtle and I'm also grateful for their willingness to participate in the hospital's hazardous materials analysis. (V-ESP-SC-47-1)

Comment: Emergency evacuation and planning measures need to be studied for the entire region given the high number of sensitive facilities in the area. (V-ESP-SW-115-39)

Comment: [T]he NRC should consider the impacts on the minority and low-income populations in the event of a nuclear emergency. The ability of those populations to evacuate in the event of such emergency in of particular concern, and the plans and policies that are in place within the Burke County area to evacuate such individuals, should be taken into consideration. (V-ESP-SW-116-14)

***Response**: As part of its site safety review, the NRC staff will determine, after consultation with the Department of Homeland Security/Federal Emergency Management Agency (DHS/FEMA), whether there are any significant impediments to the development of emergency plans and whether the proposed complete integrated emergency plans submitted by Southern are acceptable (see 10 CFR 52.18). The currently operating units (Vogtle Units 1 and 2) have an emergency plan in place that has been reviewed and approved by both the NRC and FEMA.*

D.1.23 Comments Concerning Decommissioning

Comment: [D]ecommissioning of the project [needs to be looked at]. (V-ESP-SC-22-7)

Comment: Experience indicates that dismantling a plant and storing the resulting radioactive wastes costs two to ten times more than the building of the plant in the first place. (V-ESP-SC-27-5)

Response: *The environmental impact from decommissioning a permanently shutdown commercial nuclear power reactor is discussed in Supplement 1 to NUREG-0586, Generic Environmental Impact Statement on Decommissioning of Nuclear Facilities, which was published in 2002. For most environmental issues, the impact from decommissioning activities is considered small. The NRC requirements establish a framework to ensure that decommissioning of all nuclear reactor facilities will be accomplished in a safe and timely manner, and that funding will be available for this purpose. NRC regulations regarding the methods used to ensure that funds will be available to cover the decommissioning process are in 10 CFR 50.75. These comments do not relate to the environmental impacts of the Vogtle ESP application, and will not be assessed further.*

D.1.24 Comments Concerning Operational Safety Issues

Comment: This is a personal issue to me, the safety and security issues are. I've had two brothers die of cancer and last month my third and last brother went on chemotherapy. So I'm very concerned about safety and I'm delighted to hear your reports tonight about how good the safety is from these plants. (V-ESP-SC-24-1)

Comment: I do have a lot of faith and sympathy really for the workers of Georgia Power and how it has impacted the economics of this area. I'm sure they are very well-meaning. But I'm also -- we just have to look at the fact, I'm sure that the people, the workers at Three Mile Island were very safety conscious and very sincere in what they did and here was a major meltdown that had very severe health impact on the people in the immediate area and still long-lasting effects of that meltdown at Three Mile Island. And also with Chernobyl also. (V-ESP-SC-25-7)

Comment: A whistleblower came forward, a top-level guy from Plant Vogtle, validating our concern, and together we made -- we forced Southern Company to fix their emergency generators so that we would never be without power to keep water cooling that reactor core. We do care about this community, we do care about Plant Vogtle. (V-ESP-SC-30-6)

Comment: I've brought with me here today a copy of the violation which was issued in its final form on September 18, 2006 to Vogtle Electric Generating Plant. This violation is regarding a site variant emergency planning drill. The report states that the Nuclear Regulatory Commission has determined that Southern Nuclear Company's failure to identify the above

weakness during this exercise is a violation of three federal regulations,...The exercise was designed to uncover weaknesses but Southern Nuclear Company did not discover the weaknesses and when they did their review did not catch the weakness again. This is more than one incident, this is a series of incidents...The disturbing thing that I find is that Southern Nuclear Company has persisted and continues to persist in this error, arguing that no, they made no mistake. I only hope that the Nuclear Regulatory Commission will continue to hold Southern Nuclear Company's feet to the fire. (V-ESP-SC-35-6)

Comment: However, I do not feel as though the technology exists to feasibly use nuclear as a safe alternative to coal. (V-ESP-SW-54-2)

Comment: [I]f we're looking to support a nuclear power infrastructure, we need to make sure we're able to support the needs to oversee it properly for the public-right now, the NRC must be aware that we've got a shortfall in terms of funding and capacity in Georgia to properly monitor the nuclear facilities we already have, let alone more that could be brought online in the future. (V-ESP-SW-77-7)

Comment: I am a resident of Atlanta and am concerned...also the long-term safety of operating nuclear reactors. Please do not expand it. (V-ESP-SW-92-3)

Comment: As a citizen of Savannah, Georgia I expect safer energy choices. (V-ESP-SW-96-2)

Comment: Human error happens and this is one place where ANY error is intolerable. The consequences would be huge and felt for many, many years. (V-ESP-SW-96-7)

Comment: I support the exploration of safer energy choices. (V-ESP-SW-97-2)

Comment: I am sceptical about the local impact on...safety issues. (V-ESP-SW-106-5)

Comment: Nuclear...poses virtually permanent threats to public health and safety--due to...human error, operation or equipment failure. (V-ESP-SW-114-6)

Comment: Nuclear-generated electricity poses unique risks and Georgians deserve to know that their safety and their environment are being protected to the maximum extent needed. Monitoring programs need to be strengthened, not further compromised, to be able to deal with existing nuclear reactors. (V-ESP-SW-115-42)

Comment: The NRC should study the State of Georgia's ability to adequately provide proper environmental radiation monitoring and emergency preparedness measures now and in the future if new reactors become a reality. (V-ESP-SW-115-43)

***Response**: The issues raised in the comments are outside the scope of the environmental review and are not addressed in the EIS. That said, the following are examples of how NRC addresses operational safety issues. NRC maintains resident inspectors at each reactor site. These inspectors monitor the day-to-day operations of the plant and perform inspections to ensure compliance with NRC requirements. In addition, the NRC has an operational experience program that ensures that the safety issues that are found at one plant are properly addressed at the others, as appropriate. Finally, the design of any new reactors or storage facility will have already benefitted from lessons learned at existing reactors and incorporate new safety features that would be impracticable to retrofit onto existing plants. The NRC will only issue a license or permit if it can conclude that there is reasonable assurance that (1) the activities authorized by the license or permit can be conducted without endangering the health and safety of the public, and (2) such activities will be conducted in compliance with the rules and regulations of the Commission.*

Comment: The Southern Company safety record is an astronomical record. They are steady maintaining and striving and training their employees to do a better job for safety. (V-ESP-SC-03-4)

Comment: The other thing, of course, the past safety record of the current caretaker of Vogtle. (V-ESP-SC-04-2)

Comment: The owners of the Vogtle plant -- Georgia Power Company, Oglethorpe Power Corporation, Municipal Electric Authority of Georgia (MEAG) and Dalton Utilities -- have a proven record for safe operation of nuclear facilities and operate the existing Vogtle plant in a safe and environmentally friendly manner. (V-ESP-SC-04-6)

Comment: Southern Nuclear Operating Company and Georgia Power operate two nuclear reactors. They have done it safely and efficiently, providing much needed electricity for Georgians. (V-ESP-SC-06-1)

Comment: Whereas, Plant Vogtle has had an excellent safety record for the life of its operation. (V-ESP-SC-09-1)

Comment: As a co-owner of the existing Vogtle Plant, Dalton Utilities knows well Southern Nuclear Operating Company's proven track record for safety and excellence. (V-ESP-SC-10-4) (V-ESP-SW-56-2)

Comment: Nuclear power has matured into an industry that makes safety its highest priority. It has proven itself to operate safely and reliably over the past 25 years. (V-ESP-SC-17-3)

Comment: When I first began working in nuclear, I was amazed to learn that nuclear companies actually share their operating experience with their competitors. What other

industries do you know of that actually allow their competition to see what they've learned? This is only part of a strong and open safety culture that has allowed the entire industry to improve equipment and technology, its techniques and organizational practices over the years. As young professionals working in nuclear, we know that safety will always be the highest priority for this industry. (V-ESP-SC-17-4)

Comment: I have the same concerns that everyone else has about safety and the record in our country with regard to oversight with different kinds of industries. But in this case, we have reached the point where we have absolute, absolute comfort with the oversight provided by the company itself. The folks that work there are our friends and neighbors and we know them and we know how seriously they take their job. We know the construction that happened and how it happened and the regulation and the oversight and there is absolutely no doubt in my mind and my neighbors' minds and my family's mind -- I have a lot of family in the area - that Southern Company has done a fine job with regard to taking care of the safety aspect, taking care of the public involvement aspect, and also taking care of looking to the future and trying to make sure that this plant will impact us in a positive way in the future. (V-ESP-SC-18-3)

Comment: But the people, they do the best they can. I know the drills that they go through. I know how serious they take their jobs, I know how seriously the operators take their jobs. (V-ESP-SC-52-5)

Comment: While theoretical physics is undoubtedly difficult for most of us to comprehend, I am confident the design, construction, and operation will proceed with the utmost care for public safety. It behooves those involved to include risk management and public involvement in all their decisions. (V-ESP-SW-107-2)

Comment: There is an outstanding record of the safe operation of nuclear facilities by the owners, Georgia Power Company, Oglethorpe Power Corporation, Municipal Electric Authority of Georgia (MEAG) and Dalton Utilities and is reflected in the operation of the Vogtle plant. In fact, rigorous procedures and regulations have been developed and implemented to ensure the highest level of safety at the Vogtle facility. (V-ESP-SW-58-3)

Comment: Nuclear power has tremendous advantages over other fuels;...safer and is more stable than other fuel options. (V-ESP-SW-58-5)

Comment: The owners of the Vogtle plant - Georgia Power Company, Oglethorpe Power Corporation, Municipal Electric Authority of Georgia (MEAG) and Dalton Utilities - have a proven track record for the safe operation of nuclear facilities and operate the existing Vogtle plant in a safe and environmentally -friendly manner. In fact, rigorous procedures and regulations have been developed and implemented to ensure the highest level of safety at the Vogtle facility. (V-ESP-SW-59-3) (V-ESP-SW-60-3) (V-ESP-SW-62-3) (V-ESP-SW-63-3) V-ESP-SW-61-3) (V-ESP-SW-57-3)

Comment: Georgia Power Company, Oglethorpe Power Corporation, Municipal Electric Authority of Georgia (MEAG) and Dalton Utilities - owners of the Vogtle plant - have a proven track record for the safe operation of nuclear facilities and operate the existing Vogtle plant in a safe and environmentally-friendly manner. Rigorous procedures and regulations have been developed and implemented to ensure the highest level of safety at the Vogtle facility. (V-ESP-SW-64-3)

Comment: Southern Nuclear Operating Company and Georgia Power operate two nuclear reactors, and they have done it safely and efficiently, providing much needed electricity for Georgians. (V-ESP-SW-65-1)

***Response**: These comments provide general information regarding safety issues at the currently operating Vogtle facility. Because these comments do not relate to the environmental effects of the proposed action, they will not be assessed further.*

D.1.25 Comments Concerning Aging Management

Comment: [T]here are aging reactors on the site. You've got to consider all of the impacts of an accident at the existing reactors on the new reactors and on the environmental impacts. You know, this includes everything like fire and so on. (V-ESP-SC-36-9)

***Response**: The current application is for an ESP for postulated new reactors. It does not contain detailed design information and is not directly related to the existing Units 1 and 2 at Vogtle. Therefore, consideration of reactor aging is outside the scope of the EIS and will not be analyzed further.*

D.1.26 Comments Concerning Other Issues

Comment: What the NRC does, the world follows. And at some point, I really hope you take a cold, cold look at the success and failure of Atoms for Peace and all the projects that are on your current plate from that perspective, and remember Pakistan, India, Iraq, Iran, North Korea --are we now talking Japan? (V-ESP-SC-36-2)

***Response**: The success and failure of Atoms for Peace is beyond the scope of the EIS and is not within NRC's mission. This comment will not be addressed further.*

Comment: Our second biggest environmental problem is lack of state and federal leadership to educate Americans on the connection between growth and environmental degradation. (V-ESP-SW-76-3)

***Response**: The education of Americans on the connection between growth and degradation is beyond the scope of the EIS and NRC's mission. This comment will not be addressed further.*

Comment: Additionally, please address the following items as NRC staff develops the draft EIS: How the funding may take away from research on alternative energy sources? (V-ESP-SW-95-5)

***Response**: The level of funding for research on alternative energy sources is outside the scope of the EIS and beyond NRC's purview. The comment will not be addressed further.*

Comment: And reactor technology is inevitably tied to nuclear weapons proliferation. (V-ESP-SW-100-6)

***Response**: Nuclear weapons proliferation is beyond the scope of the EIS. The comment will not be addressed further.*

Comment: [I]f we're looking to support a nuclear power infrastructure, we need to make sure we're able to support the needs to oversee it properly for the public. Right now, the NRC must be aware that we've got a shortfall in terms of funding and capacity in Georgia to properly monitor the nuclear facilities we already have, let alone more that could be brought on line in the future. (V-ESP-SC-07-8)

Comment: Supporting an expansion of Georgia's nuclear power infrastructure requires that it is overseen properly for the public. The NRC should be aware that Georgia has a shortfall in terms of funding and capacity in Georgia to properly monitor the nuclear facilities we already have, let alone more that could be brought online in the future. (V-ESP-SW-115-41)

***Response**: The shortfall in funding of Georgia's budget is beyond the scope of the EIS. That said, the following are examples of how NRC addresses operational safety issues. NRC maintains resident inspectors at each reactor site. These inspectors monitor the day-to-day operations of the plant and perform inspections to ensure compliance with NRC requirements. In addition, the NRC has an operational experience program that ensures that the safety issues that are found at one plant are properly addressed at the others, as appropriate. Finally, the design of any new reactors or storage facility will have already benefitted from lessons learned at existing reactors and incorporate new safety features that would be impracticable to retrofit onto existing plants. The NRC will only issue a license or permit if it can conclude that there is reasonable assurance that (1) the activities authorized by the license or permit can be conducted without endangering the health and safety of the public and (2) such activities will be conducted in compliance with the rules and regulations of the Commission.*

D.1.27 Comments Concerning Other Project Specific Issues

Comment: Accidents and near-accidents have occurred at nuclear plants in the past. The best known incident in the U.S. is the partial core meltdown at Three Mile Island in Pennsylvania. As Peter Bradford, former commissioner of the NRC said: "The abiding lesson that Three Mile

Island taught Wall Street was that a group of N.R.C.-licensed reactor operators, as good as any others, could turn a $2 billion asset into a $1 billion cleanup job in about 90 minutes." (V-ESP-SW-113-2)

Comment: What about accidental "near misses" at nuclear plants? A couple of examples will suffice. The Davis-Besse plant, a pressure water reactor (PWR) near Toledo, Ohio, was brought on line in 1977. In 2002 during a prescribed inspection, the operator found that boric acid leaking inside the core had corroded a large hole (4 X5 inches) completely through the steel top of the reactor vessel. Amazingly, the only material left to contain the superheated cooling water at 2,180 psi was a stainless steel liner 1/8 inch thick. Although this potentially serious situation was finally detected in 2002, the problem with boric acid corrosion in reactors had been known by NRC for decades. Moreover, three years before this "near miss," a violation had been issued by NRC to Davis-Besse for its inadequate boric acid corrosion control program. (V-ESP-SW-113-4)

Comment: Serious system shortcomings at nuclear plants can continue uncorrected for a long time. For example, in 1998, the operators of the Big Rock Point nuclear plant informed NRC that the vital Standby Liquid Control System had been completely inoperative for somewhere between 13 and 18 years. (V-ESP-SW-113-5)

***Response**: The issues raised in the comments are outside the scope of the environmental review, and will not be addressed in the EIS. That said, the following are examples of how NRC addresses operational safety issues. NRC maintains resident inspectors at each reactor site. These inspectors monitor the day-to-day operations of the plant and perform inspections to ensure compliance with NRC requirements. In addition, the NRC has an operational experience program that ensures that safety issues that are found at one plant are properly addressed at the others, as appropriate. Finally, the design of any new reactors or storage facility will have already benefitted from lessons learned at existing reactors and incorporate new safety features that would be impracticable to retrofit onto existing plants. The NRC will only issue a license or permit if it can conclude that there is reasonable assurance that (1) the activities authorized by the license or permit can be conducted without endangering the health and safety of the public and (2) such activities will be conducted in compliance with the rules and regulations of the Commission.*

D.1.28 Comments Concerning NRC's Administrative Process

Comment: [A]re you [NRC] independent of the industry? We don't know. The next question is are you independent of Congress? We really don't know. Now, there's an even bigger question, are you independent of the White House? (V-ESP-SC-36-5)

***Response**: The NRC takes seriously its responsibility under the Atomic Energy Act to protect the health and safety of the public and the environment in regulating the U.S. nuclear power*

industry. More information on NRC's roles and responsibilities is available on the NRC's website at http://www.nrc.gov/about-NRC.html. The NRC was created by the Congress and designed so that it would not report to the same part of the government that was in charge of setting energy policy (i.e., any current Administration). The comments did not provide new information relevant to the EIS and will not be evaluated further.

D.1.29 Comments Expressing Support for Nuclear Power

Comment: That requires us to start planning right now and in order for us to be able to supply the energy, especially by 2015, we must start planning right now. (V-ESP-SC-01-2)

Comment: We also think that nuclear is very reliable and very safe. (V-ESP-SC-01-4)

Comment: We have great community support for those plants [nuclear power plants in Burke County] as well. (V-ESP-SC-01-5)

Comment: We need to not be depending on one source of energy and that's an option, nuclear, that helps us into having that diverse energy mix. (V-ESP-SC-01-6)

Comment: A Resolution in Support for Expansion of Plant Vogtle...Whereas, Waynesboro and Burke County are proud of our neighbors, Georgia Power and Plant Vogtle, for their record and history of producing safe, clean, reliable and affordable electricity for almost 20 years. (V-ESP-SC-02-3)

Comment: [W]e have seen the good things that Plant Vogtle has brought to our community. (V-ESP-SC-02-6)

Comment: Nuclear power is very clean, it is the most clean way of producing electricity for our future needs that there is known to man at this time. (V-ESP-SC-03-7)

Comment: Surveys made here and throughout the country show that 84 to 85 percent of people who live near existing nuclear plants fully support the building of additional nuclear plants near them or elsewhere. (V-ESP-SC-06-3)

Comment: I can tell you now that these are two of the safest nuclear power plants I think in the whole United States and I wouldn't be scared to live next door to one of them. (V-ESP-SC-08-1)

Comment: We believe that nuclear energy is a safe, reliable and cost-effective source of electricity that helps to improve the environment by not emitting carbon dioxide and other greenhouse gas emissions. Clean, affordable nuclear energy means that you will have clean air for your children and a bustling economy in the southeast providing more jobs for your families. (V-ESP-SC-11-5)

Comment: Just as we nurture our children, we need to support the nuclear power industry. Both are important to our country's future and that's a win-win for everybody. (V-ESP-SC-11-6)

Comment: We support nuclear power because it's safe, it's clean, it's reliable and an important part of a balanced energy mix. (V-ESP-SC-17-1)

Comment: Nuclear is clean energy that has very small impact on water, land, habitat, species, and air resources within our environment. (V-ESP-SC-17-5)

Comment: What I've experienced since my career began in nuclear power has only encouraged me to support nuclear power with more resolve. I'm excited about the future of nuclear power and I'm sure there are many more professionals in the room that feel the same way I do. (V-ESP-SC-17-8)

Comment: I can imagine it before Plant Vogtle and from my perspective, living in Girard and from the Girard community, the prospects of it in the future is better with Plant Vogtle and Southern Company than it would be without them. (V-ESP-SC-18-4)

Comment: Our Development Authority believes that this expansion will allow us to continue to benefit from clean, cost-effective and reliable electric energy that will serve our community, the state of Georgia, and several southern states. (V-ESP-SC-19-2)

Comment: I do think there's a need for this nuclear power to move forward, not just here but for the whole country. (V-ESP-SC-23-1)

Comment: [I]f I thought for a minute that Plant Vogtle was a threat to a big part of what I own or what I'm paying for, that it was a threat, I would be up in arms. But I've been here since '70 (V-ESP-SC-33-2)

Comment: [W]e have 500 cows that graze on pasture that is a mile and a half, two miles, from Plant Vogtle. We get the highest per pound for our cattle of anybody in the entire area. I have zero concern about my cattle, I have zero concern about my children, my grandchildren, or my great grandchildren. (V-ESP-SC-33-8)

Comment: I fully support nuclear energy for commercial power use. (V-ESP-SC-44-1) (V-ESP-SW-53-1)

Comment: Humans are masters at combining chemicals in magical ways to produce goods that truly enrich our lives. The price we pay, however, is that complex mixtures of metals, nicotine and benzene are found in our blood. PCBs, PAHs and POPs settle in our fat. Pesticides cling to our house dust. Endocrine disrupters are excreted in our urine. Infants begin life with detectible PCBs and DBTs from their mother's milk. All of this occurs while the

ice melts in our polar regions from global warming. These are the things that threaten our environment, our existence -- not the emissions from nuclear power plants. (V-ESP-SC-44-3)

Comment: And I've never had a glass of water to glow in the night. When we moved here, I have never felt for the safety or health concerns of my family, not then, not now, nor in the future. (V-ESP-SC-52-9)

Comment: Humans are masters at combining chemicals in magical ways to produce goods that truly enrich our lives. The price we pay, however, is that complex mixtures of metals, nicotine, and benzene are found in our blood; PCBs, PAHs and POPs settle in our fat; we inhale pesticides that cling to our house dust; endocrine disruptors are excreted in our urine. Infants BEGIN life with detectable levels of PCBs and DDT in their veins.... laced from mothers' breast milk. All of this occurs while the ice melts in the arctic from global warming. These are the things that threatened our environment, our existence,...not the emissions from nuclear power plants. (V-ESP-SW-53-3)

Comment: I first want to state my position on nuclear power. I see it as a potentially safe solution to the use of coal-powered energy plants. (V-ESP-SW-54-1)

Comment: An overwhelming majority, 70 percent, support nuclear energy primarily because they see the value of this clean energy and appreciate that it is safe and is environmentally friendly. (V-ESP-SW-58-7)

Comment: Recent studies indicate that 70 percent of Americans support nuclear energy. America understands that to be globally competitive and provide an alternative to our dependence on fossil fuels, our country must initiate a reconsideration of nuclear power generation. (V-ESP-SW-62-6)

Comment: Surveys made here and throughout the country show that 84 to 85% of people who live near existing nuclear plants fully support the building of additional nuclear plants near them or elsewhere. (V-ESP-SW-65-3)

Comment: The addition at Plant Vogtle will further enhance recognition of the CSRA as the nation's hub for the resurgent nuclear energy industry. (V-ESP-SW-70-2)

Comment: Nuclear energy is safe, emission free, and a cost-effective solution. (V-ESP-SW-80-2)

Comment: We need to face reality; the only choices we are going to have over the next fifty years are coal or nuclear. (V-ESP-SW-105-1)

Comment: Accordingly, we need more nuclear capacity. (V-ESP-SW-105-3)

Comment: The modernization of the commercial nuclear industry is vital to our economy and security. (V-ESP-SW-107-3)

***Response**: These comments provide general information in support of nuclear power and will not be assessed further.*

D.1.30 Comments Expressing Opposition to Nuclear Power

Comment: [T]here's plenty written about the hazards of nuclear power. I could get up here and talk about the hazards of nuclear power all day long. (V-ESP-SC-16-2)

Comment: [T]here's a reason why there hasn't been any nuclear power plants built in this country for many years. They're dangerous, they're costly and they're totally unnecessary. (V-ESP-SC-16-8)

Comment: I ask the Southern Company to phase out what I think is a dirty energy and step into the path of the future to create jobs in the field of clean, sustainable energy. (V-ESP-SC-26-3)

Comment: Over this period of time, we have come to be opposed to nuclear power...Among the other reasons besides nuclear waste are the economics of it and the public health impacts. (V-ESP-SC-35-1)

Comment: And I thought until the last second, Mary, that I was going to be the one to talk about the southeast as being the focus with 30 proposed and all but two in the southeast, and that is a disproportionate burden for this region. (V-ESP-SC-37-1)

Comment: I think that in many ways, we are looking backward instead of forward and we're using unsustainable means to move forward. (V-ESP-SC-37-5)

Comment: All I can say is that the people from my home were bamboozled into thinking that nuclear energy was a good thing. I don't want this community, my new community, to be bamboozled into thinking that this is a viable option. (V-ESP-SC-38-7)

Comment: We need to provide a safe community and a safe world for our children. (V-ESP-SC-38-9)

Comment: STOP Nuclear Power Expansion in Georgia! (V-ESP-SW-55-1)

Comment: I am vehemently against any further use of nuclear power (and would like to see the current two nuclear plants disassembled) in Georgia. (V-ESP-SW-72-1)

Comment: Please take into consideration my opinion that it would not be in Georgia's best interest to expand nuclear power plants and/or production. (V-ESP-SW-73-1)

Comment: Our biggest environmental problem is over-population, something no one wants to address but until we do, we have no long-term hope of curbing greenhouse gasses or curbing the equally dangerous build up of nuclear waste if additional nuclear plants are constructed. (V-ESP-SW-76-1)

Comment: My dear friend and fellow classmate Natalie Garber sent me a letter talking about how there is all of a sudden a need for nuclear energy, and how it has been labeled a "safe" alternative for our future power supply. This is really disturbing to me, because that's just it: nuclear and safe do not go together... (V-ESP-SW-79-1)

Comment: Nuclear power seems all great for now, but why risk it? Why not do something that will save lives and save money? (V-ESP-SW-79-5)

Comment: Nuclear power is a dangerous technology, an expensive technology, and an unnecessary technology. (V-ESP-SW-81-13)

Comment: Nuclear power is a dangerous technology that provides high-cost electricity and is unnecessary given the availability of clean and low-cost energy efficiency measures and renewable energy sources such as solar power and wind. (V-ESP-SW-81-2)

Comment: I can speak all night about the dangers of nuclear power:

- the hazards to workers, communities and the environment over the entire nuclear fuel cycle,
- the possibility of a catastrophic accident that could make inhabitable an area the size of the state of GA and kill tens of thousands,
- the increased rates of specific cancers that occurred as a result of the TMI near catastrophic accident (i.e., non-Hodgkin's lymphoma, leukemia, and lung cancer, that were related to the estimated doses from the plant), as well as the increased levels of stress to the population and the economic costs of the accident to the community
- the risk of a terrorist attack on the plant itself and on its "interim" on-site storage of nuclear fuel rods
- the failure to solve the problem of long-term nuclear waste storage
- the inadequacy of evacuation plans in the event of a serious accident

- the enormous water consumption of these plants at a time when the state has drought problems and there is an ongoing, 3-state dispute about water, and
- the "mobile Chernobyl" hazards of nuclear waste transport. (V-ESP-SW-81-6)

Comment: I will simply say that nuclear power is a dangerous, costly, and totally unnecessary technology. (V-ESP-SW-81-7)

Comment: It seems that the Creator of this universe provided everything we need in order to survive as individuals and as a planet in the solar system without the use of nuclear energy. (V-ESP-SW-82-2)

Comment: Georgia and the rest of the country want clean, safe, renewable energy. Nuclear power does not fit the bill. (V-ESP-SW-83-2)

Comment: In the face of alternative energy sources, more-nuclear reactors in Georgia is just not worth the risk to our communities. (V-ESP-SW-91-9)

Comment: I would prefer to see the plant closed totally. (V-ESP-SW-96-3)

Comment: I am solidly opposed to nuclear energy and it's expansion seems an invitation to disaster. (V-ESP-SW-96-6)

Comment: If this permit is approved, please send me information on what areas of the country have the least nuclear disaster potential from nuclear reactors. (V-ESP-SW-96-8)

Comment: We live in the Savannah area and I am opposed to expanding nuclear power plants on the Savannah River. (V-ESP-SW-97-1)

Comment: My comments are in opposition to your ever granting an early site permit for nuclear reactors. (V-ESP-SW-98-1)

Comment: Our son's family lives in Georgia and our concern for their well-being and that of us in Southeast gives us reason to object strongly to even proceeding with the first step toward early site permits. (V-ESP-SW-98-6)

Comment: The United States should be setting an example for the world by moving us toward a nuclear-free future, not by amplifying the costs and risks. (V-ESP-SW-100-7)

Comment: Please continue your efforts to build a nuclear power plant in GA or elsewhere. Of course none will ever be built. The public won't allow it and the water, safety, terrorism and waste issues are insurmountable, and the economics just aren't there. (V-ESP-SW-101-1)

Comment: However, by trying to build a new nuke the Southern Company and NRC will certainly re-energize the nonviolent anti-nuclear movement. This will then lead to the permanent shut down the nation's existing nukes far sooner than would have happened otherwise. (V-ESP-SW-101-3)

Comment: I am deeply opposed to additional nuclear reactors being built anywhere, including at Plant Vogtle. (V-ESP-SW-103-1)

Comment: Nuclear power and its ancillary issues should be handled with extreme caution. (V-ESP-SW-106-7)

Comment: Georgians do not need any more dangerous nuclear reactors forced down our throats. (V-ESP-SW-108-1)

Comment: Please do not subject present and future generations to the terrible consequences of even the slightest mistake in dealing with the production of nuclear energy. (V-ESP-SW-109-6)

Comment: I am a Georgia resident who has been concerned for a long time about the risks of nuclear power. The history of this industry shows clearly that it is a dead end road. (V-ESP-SW-111-1)

Comment: It is a dinosaur industry but one that will constantly be reinvented as long as there are those who love nuclear engineering. But there must be precaution when dealing with anything nuclear. With anything that has such long-lasting and potentially deadly consequences. I witness no such caution coming from the DOE, the NRC, the EPA, or the current administration. (V-ESP-SW-112-7)

Comment: Nuclear power has substantial disadvantages with respect to safety, spent fuel disposal, cost, security, proliferation of bomb-making materials, and environmental impacts. (V-ESP-SW-113-10)

Comment: Such energy sources are simply not suited to sustainable and wise use of our natural resources in meeting human needs. (V-ESP-SW-114-8)

Comment: Additionally, please address the following items as NRC staff develops the draft EIS: human beings/Americans/Georgians need clean, safe, sustainable sources of energy. Our water and ecosystems are precious and irreplaceable. Please do willfully damage them. (V-ESP-SW-117-5)

***Response**: These comments provide general information in opposition to nuclear power and will not be assessed further.*

Appendix E

Comments on the Draft Environmental Impact Statement and Responses

Appendix E

Comments on the Draft Environmental Impact Statement and Responses

This environmental impact statement (EIS) has been prepared in response to an application submitted to the U.S. Nuclear Regulatory Commission (NRC) by Southern Nuclear Operating Company, Inc. (Southern) for an early site permit (ESP). The proposed action requested in Southern's application is for the NRC (1) to approve a site within the existing Vogtle Electric Generating Plant (VEGP) boundaries as suitable for the construction and operation of two new nuclear reactors, (2) to issue an ESP for the proposed location at the VEGP site, adjacent to the existing VEGP Units 1 and 2, and (3) to authorize early construction activities as described in the site redress plan. This EIS includes the NRC staff's analysis that considers and weighs the environmental impacts of constructing and operating new nuclear units at the VEGP site or at alternative sites, and mitigation measures available for reducing or avoiding adverse impacts. It also includes the staff's recommendation to the Commission regarding the proposed action.

As part of the NRC review of the application, the NRC solicited comments from the public on a draft of this EIS. A 75-day comment period began on September 14, 2007, when the NRC issued a Notice of Availability (72 FR 52586) of the draft EIS to allow members of the public to comment on the results of the NRC staff's review. A request for 30-day extension of the comment period was granted, and the scoping period officially ended on December 28, 2007 (72 FR 71702). On October 4, 2007, a public meeting was held in Waynesboro, Georgia. At the meeting, the staff described the results of the NRC environmental review, answered questions related to the review, and provided members of the public with information to assist them in formulating their comments.

As part of the process to solicit public comments on the draft EIS, the staff:

- Placed a copy of the draft EIS at the Burke County Library
- Made the draft EIS available in the NRC's Public Document Room in Rockville, Maryland
- Placed a copy of the draft EIS on the NRC website at www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1872/index.html
- Provided a copy of the draft EIS to any member of the public who requested one
- Sent copies of the draft EIS to certain Federal, State, Tribal, and local agencies

- Published a notice of availability of the draft EIS in the *Federal Register* on September 14, 2007 (72 FR 52586)
- Filed the draft EIS with the U.S. Environmental Protection Agency (EPA)
- Announced and held a public meeting on October 4, 2007, in Waynesboro, Georgia, to describe the results of the environmental review, answer any related questions, and take public comments.

Approximately 250 people attended the public meeting and 44 attendees provided oral comments. A certified court reporter recorded these oral comments and prepared written transcripts of the meeting. The transcripts of the public meetings, published on January 15, 2008, are part of the public record for the proposed project and were used to establish correspondence between comments contained in this volume of the EIS to oral comments received at the public meeting. In addition to the comments received at the public meeting, the NRC received 128 letters and e-mail messages with comments. The comment period closed on December 28, 2007; however, the NRC did, to the degree permitted by the schedule, consider comments submitted after the comment period ended.

The comment letters, e-mail messages, and transcripts of the public meeting are available from the Publicly Available Records component of NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible at http://www.nrc.gov/reading-rm/adams.html, which provides access through the NRC's Public Electronic Reading Room link. Persons who do not have access to ADAMS or who encounter problems in accessing the documents located in ADAMS should contact the NRC's Public Document Room reference staff at 1-800-397-4209 or 301-415-4737, or by e-mail at pdr@nrc.gov. The ADAMS accession numbers for the letters and e-mail messages are provided in Table E-1. The NRC staff has reviewed each written comment and the transcript of the public meeting.

E.1 Disposition of Comments

This appendix contains all of the comments abstracted from the comment letters and e-mail messages provided to the staff during the comment period as well as the comments from the transcripts.

Each set of comments from a given commenter was given a unique alpha identifier (commenter ID letter), allowing each set of comments from a commenter to be traced back to the transcript, letter, or e-mail in which the comments were submitted.

After the comment period, the staff considered and dispositioned all comments received. To identify each individual comment, the NRC staff reviewed the transcript of the public meeting and each letter and e-mail received related to the draft EIS. As part of the review, the staff identified statements that it believed were related to the proposed action and recorded the

statements as comments. Each comment was assigned to a specific subject area, and similar comments were grouped together. Finally, responses were prepared for each comment or group of comments. For each comment, the staff determined whether a comment:

- Related to the VEGP ESP and discussed a specific environmental impact
- Related to an issue considered outside the scope of this environmental review (emergency response, operational safety, safeguards and security related to terrorism)
- Opposed or supported nuclear power
- Opposed or supported the VEGP ESP
- Discussed NRC's ESP process
- Discussed National Environmental Policy Act (NEPA) requirements.

This appendix presents the comments and the NRC responses to them grouped by similar issues as follows:

- Comments Concerning Process – ESP
- Comments Concerning Process – NEPA
- Comments Concerning Land Use – Site Vicinity and Transmission Lines
- Comments Concerning Meteorology and Air Quality
- Comments Concerning Hydrology – Surface Water
- Comments Concerning Hydrology – Groundwater
- Comments Concerning Ecology – Terrestrial
- Comments Concerning Ecology – Aquatic
- Comments Concerning Socioeconomics
- Comments Concerning Historic and Cultural Resources
- Comments Concerning Environmental Justice
- Comments Concerning Health – Radiological
- Comments Concerning Accidents – Design Basis
- Comments Concerning Accidents – Severe Accidents
- Comments Concerning the Uranium Fuel Cycle
- Comments Concerning Transportation
- Comments Concerning Decommissioning
- Comments Concerning Site Redress Plan
- Comments Concerning Cumulative Impacts
- Comments Concerning the Need for Power
- Comments Concerning Alternatives – No-Action Alternatives

- Comments Concerning Alternatives – Energy
- Comments Concerning Alternatives – Sites
- Comments Concerning Alternatives – System Design
- Comments Concerning Benefit-Cost Balance
- General Comments in Support of the Licensing Action
- General Comments in Support of the Licensing Process
- General Comments of Support of Nuclear Power
- General Comments in Support of the Existing Plant
- General Comments in Opposition to the Licensing Action
- General Comments in Opposition to the Licensing Process
- General Comments in Opposition to Nuclear Power
- Comments Concerning Issues Outside Scope – Emergency Preparedness
- Comments Concerning Issues Outside Scope – Miscellaneous
- Comments Concerning Issues Outside Scope – NRC Oversight
- Comments Concerning Issues Outside Scope – Safety
- Comments Concerning Issues Outside Scope – Security and Terrorism
- General Editorial Comments

When the comments resulted in a change in the text of the draft EIS, the corresponding response refers the reader to the appropriate Section of the report where the change was made. Throughout this final EIS, revisions to the text from the draft EIS are indicated by vertical lines beside the text. Table E-1 provides a list of commenters identified by name, affiliation (if given), comment number, and the source of the comment. A petition which contained multiple signatures was submitted by Bobbie Paul. The petition is listed in Table E-1 under the name Bobbie Paul due to the fact that not all signatures on the petition were legible. Many comments addressed topics and issues that are not part of the environmental review for this proposed action. These comments included questions about the NRC's safety review, general statements of support or opposition to nuclear power, observations regarding national nuclear waste management policies, comments on the NRC regulatory process in general, and comments on NRC regulations. These comments are included, but detailed responses to such comments are not provided because they addressed issues that do not directly relate to the environmental effects of this proposed action and are thus outside the scope of the NEPA review of this proposed action. Many comments specifically addressed the scope of the environmental review, analyses, and issues contained in the draft EIS, including comments about potential impacts, proposed mitigation, the agency review process, and the public comment period. Detailed responses to each of these comments are provided in this appendix.

Table E-1. Individuals Providing Comments During the Comment Period

Comment ID	Comment Numbers	Commenter	Affiliation (if stated)	Comment Source and ADAMS Accession Number
0001	1-4	Bill Heath	U.S. Government	Letter (ML072841158)
0002	1-6	Jim Marshall	Georgia House of Representatives	Letter (ML072841153)
0003	1-7	Paul Broun	Georgia House of Representatives	Letter (ML072820510)
0004	1-9	Glenn Richardson	Georgia House of Representatives	Letter (ML072820279)
0005	1-9	Jacqueline A Murray	Self	E-mail (ML072670027)
0006	1-8	Roger Cone	Southern Energy Solutions	E-mail (ML072740019)
0007	1-4	Robert Wagner	Self	E-mail (ML072740021)
0008		Jim Marshall	Self	E-mail (ML072840077)
0009	1	Don Richardson	--	E-mail (ML072950277)
0010	1-2	Peter Peteet	Self	E-mail (ML073110375)
0011	1-5	Rina Rosenberg	Self	E-mail (ML073110376)
0012	1-2	Anonymous	Self	E-mail (ML073110377)
0013	1, 160- 164	Frank Bove	Eco-Action	Meeting Transcript (ML073060040)
0013	2-5	Jesse Stone	City of Waynesboro	Meeting Transcript (ML073060040)
0013	6-12	Dick Byne	Waynesboro City Council	Meeting Transcript (ML073060040)
0013	13-14	Alphonso Andrews	Burke County	Meeting Transcript (ML073060040)
0013	15-18	Margaret Evans	City of Sylvania	Meeting Transcript (ML073060040)
0013	19-28	Sara Barczak	Southern Alliance for Clean Energy	Meeting Transcript (ML073060040)
0013	30-32	A.K. Hasan	Self	Meeting Transcript (ML073060040)
0013	33-42	Yomi Noibi	Environment Community Action	Meeting Transcript (ML073060040)
0013	43-48	Susan Bloomfield	Self	Meeting Transcript (ML073060040)
0013	49-53	William Mareska	Self	Meeting Transcript (ML073060040)
0013	54-56	Bill Johnson	Self	Meeting Transcript (ML073060040)
0013	57-67	Glenn Carroll	Nuclear Watch South	Meeting Transcript (ML073060040)
0013	68-72	Merv Waldrop	Burke County	Meeting Transcript (ML073060040)
0013	73	Roland Stubbs	Director of Commissioners, Screven County	Meeting Transcript (ML073060040)

Table E 1. (contd)

Comment ID	Comment Numbers	Commenter	Affiliation (if stated)	Comment Source and ADAMS Accession Number
0013	74-76	Ashley Roberts	Burke County Chamber of Commerce	Meeting Transcript (ML073060040)
0013	77-79	James Hendrix	SRS Community Reuse Organization	Meeting Transcript (ML073060040)
0013	80-81	Andrea Stein	City of Waynesboro	Meeting Transcript (ML073060040)
0013	82-83	Billy Hopper	Self	Meeting Transcript (ML073060040)
0013	84	Linda Bailey	Burke County School System	Meeting Transcript (ML073060040)
0013	85-90	Annie Spears	North American Young Generation in Nuclear	Meeting Transcript (ML073060040)
0013	91-92	Walter Dukes	Georgia Power	Meeting Transcript (ML073060040)
0013	93-102	Ryan Patterson	Greenpeace	Meeting Transcript (ML073060040)
0013	103-111	Mary Olsen	Nuclear Information and Resource Service	Meeting Transcript (ML073060040)
0013	112-114	Peter Sipp	Self	Meeting Transcript (ML073060040)
0013	115-117	Mal McKibben	Citizens for Nuclear Technology Director	Meeting Transcript (ML073060040)
0013	118-125	Mel Buckner	University of South Carolina	Meeting Transcript (ML073060040)
0013	126-132	Becky Waters	U.S. Women In Nuclear	Meeting Transcript (ML073060040)
0013	133-142	Brad Bennett	Clean and Safe Energy Coalition	Meeting Transcript (ML073060040)
0013	143	Teresa Carter	American Cancer Society	Meeting Transcript (ML073060040)
0013	144-145	Janet Marsh	Blue Ridge Environmental Defense League	Meeting Transcript (ML073060040)
0013	147-153	Dr. Marci Culley	Self	Meeting Transcript (ML073060040)
0013	154-159	Sue Parr	Augusta Metro Chamber of Commerce	Meeting Transcript (ML073060040)
0013	165-168	Tom Ferguson	Self	Meeting Transcript (ML073060040)
0013	169-173	Betsy Rivard	Self	Meeting Transcript (ML073060040)
0013	174-176	Joanne Steele	Action for a Clean Environment	Meeting Transcript (ML073060040)
0013	177-179	Charles Utley	Self	Meeting Transcript (ML073060040)

Table E 1. (contd)

Comment ID	Comment Numbers	Commenter	Affiliation (if stated)	Comment Source and ADAMS Accession Number
0013	180-181	Kristin Russell	Self	Meeting Transcript (ML073060040)
0013	182-183	Colleen Schwarz	Georgia Southern University	Meeting Transcript (ML073060040)
0013	184	Beth Bird	Georgia Southern University	Meeting Transcript (ML073060040)
0013	185-186	Terrence Dicks	Self	Meeting Transcript (ML073060040)
0013	187-188	Ramsey Eden	Georgia Southern University	Meeting Transcript (ML073060040)
0013	189-195	Seth Gunning	Southern Alliance for Clean Energy	Meeting Transcript (ML073060040)
0013	196-200	Tray Gunning	Georgia Southern University	Meeting Transcript (ML073060040)
0013	201-203	Jessica Sparrow	Georgia Southern University	Meeting Transcript (ML073060040)
0013	204-208	Nicholas Seward	Greenpeace	Meeting Transcript (ML073060040)
0013	209-212	Judith Stocker	Self	Meeting Transcript (ML073060040)
0013	213-215	Brittany Weinstein	Georgia Southern University	Meeting Transcript (ML073060040)
0013	216	Jerry Merz	Self	Meeting Transcript (ML073060040)
0014	1-7	Betsey Miklethun	Self	E-mail (ML073321064)
0015	1-2	Daniel MacIntyre	Self	E-mail (ML073321065)
0016	1-3	Harry Jue	City of Savannah Water & Sewer Bureau	E-mail (ML073321066)
0017	1-4	Anne Craig	Self	E-mail (ML073321067)
0018	1-2	Joyce Stanley	Department of the Interior	E-mail (ML073321069)
0019	1-2	R. W. Horrisberger	Self	E-mail (ML073321070)
0020	1	Linda Woodworth	Self	E-mail (ML073321071)
0021	1-8	Gilbert Rogers	Southern Environmental Law Center	E-mail (ML073321072)
0022	1-3	Robert Quinn	Self	E-mail (ML073321076)
0023	1-4	Jim Shumard	Self	E-mail (ML073321078)
0024	1-13	Jeannine Honicker	Self	E-mail (ML073321079)
0025	1-7	Frances Lamberts	Self	E-mail (ML073321080)
0026	1-12	Marvin Lewis	Self	E-mail (ML073321083)

Table E 1. (contd)

Comment ID	Comment Numbers	Commenter	Affiliation (if stated)	Comment Source and ADAMS Accession Number
0027	1-5	Adele Kushner	Action for a Clean Environment	E-mail (ML073321084)
0028	1-10	John Zientowski	Self	E-mail (ML073321085)
0029	1-2	Gale Crow	Self	E-mail (ML073321086)
0030	1-6	Arthur Wolters	Self	E-mail (ML073321087)
0031	1-7	Amanda Meadows	The Nature Conservancy	E-mail (ML073321092)
0032	1-5	Paula Gordon	Self	E-mail (ML073321093)
0033	1-4	Jessie Loving Carr	Self	E-mail (ML073321096)
0034	1-18	Tom Clements	Self	E-mail (ML073330903)
0035	1-10	Mary Jane Mahan	Self	E-mail (ML073330906)
0036	1-2	Robert Slagel	Self	E-mail (ML073330907)
0037	1-25	Yomi Nolbi	Environmental Community Action	E-mail (ML073330909)
0038	1-6	Don Richardson	Self	E-mail (ML073330912)
0039	1-2	Jason Ward	U.S. Army Corps of Engineers	E-mail (ML073330916)
0040	1-7	Ryan Patterson	Greenpeace	E-mail (ML073330917)
0041	1-8	Bob Perry	South Carolina Department of Natural Resources	E-mail (ML073331017)
0042	1-3	Betsy Miklethum	Self	E-mail (ML073331026)
0043	1-2	Russell Honicker	Self	E-mail (ML073331027)
0044	1-2	Joan O. King	Self	E-mail (ML073331029)
0045	1-10	Gregory Hogue	United States Department of the Interior	E-mail (ML073370768)
0046	1-3	Jeremy Scheinbart	Self	E-mail (ML073440420)
0047	1-3	Rebecca Beal	Self	E-mail (ML073440423)
0048	1-6	Sandi Timson	Self	E-mail (ML073440424)
0049	1-2	John McFadden	Tennessee Environmental Council	E-mail (ML073440426)
0050	1-25	Sara Barczak	Southern Alliance for Clean Energy	E-mail (ML0733408491)
0051	1	William McLemore	Self	E-mail (ML073540043)
0052	1-4	Sam Booher	Self	E-mail (ML073540045)
0053	1-3	Al Mc Kibben	Citizens for Nuclear Technology	Letter (ML073050431
0054	1-8	Glenn Carroll	Nuclear Watch South	Letter (ML073050436)
0055	1-3	G.C. Warren	Screven County Commissioner	Letter (ML073050437)
0056	1-3	Magaret Evans	City of Sylvania	Letter (ML073050440)
0057	1-10	Michele Boyd	Public Citizens	Letter (ML073050490)
0058	1-4	Jim Marshall	Georgia House of Representatives	Letter (ML073050494)
0059	1-9	Ron Stevens	Self	Letter (ML073050498)

Table E 1. (contd)

Comment ID	Comment Numbers	Commenter	Affiliation (if stated)	Comment Source and ADAMS Accession Number
0060	1-13	Jeff Lewis	Self	Letter (ML073050504)
0061	1-7	Eric Johnson	Self	Letter (ML073060097)
0062	1-7	Ross Tolleson	Self	Letter (ML073060095)
0063	1-4	Tommie Williams	Self	Letter (ML073060100)
0064	1-7	Jerry Keen	Self	Letter (ML073060102)
0065	1	Gary Zimmerman	Nuclear Watch South	Letter (ML073060362)
0066	1-8	Glen Richardson	Georgia House of Representatives	Letter (ML073060104)
0067	1-7	Paul Broun	Georgia House of Representatives	Letter (ML073060106)
0068	1-10	William Mareska	Self	Letter (ML073060365)
0069	1-4	Jerry Kingston	Self	Letter (ML073060109)
0070	1-2	Ray Center	Savannah River Site Community Reuse Organization	Letter (ML073060110)
0071	1-5	James Dixon	Burke County Board of Commissioners	Letter (ML073060111)
0072	1-3	Johnny Isakson	Self	Letter (ML073060361)
0073	1-7	Susan Bloomfield	Self	Letter (ML070360363)
0074	1	Patricia Keffer	The Borough	Letter (ML073060364)
0075	1-4	Jess Stone	City of Waynesboro	Letter (ML073060366)
0076	1-2	James Hendrix	Savannah River Site Community Reuse Organization	Letter (ML073060367)
0077	1	Mark Barlos	Center for Nuclear Technology Awareness	Letter (ML073060368)
0078	1-2	Greg Coursey	Burke County	Letter (ML073060370)
0079	1-2	George DeLoach	Self	Letter (ML073060371)
0081	1-2	Amanda Hill	Self	E-mail (ML080020239)
0082	1-2	Martin McConaughy	Self	E-mail (ML080020240)
0083	1-3	Robert Quinn	Self	E-mail (ML080020242)
0084	1-9	Bruce Fabrick	Self	E-mail (ML080020247)
0085	1	Elizabeth Sully	Self	E-mail (ML080020249)
0086	1	Patty --	Self	E-mail (ML080020251)
0087	1-16	Patty Durand	Georgia Chapter of the Sierra Club	E-mail (ML080020264)
0088	1-8	Dick Timmerberg	West Point Lake Coalition	E-mail (ML080020265)
0089	1-3	Frank Carl	Savannah Riverkeeper	E-mail (ML080020267)
0090	1-16	Hartmut Ramm	Young Harris College	E-mail (ML080020268)
0091	1-24	Mary Olson	Southeast Office of Nuclear	E-mail (ML080020275)

Table E 1. (contd)

Comment ID	Comment Numbers	Commenter	Affiliation (if stated)	Comment Source and ADAMS Accession Number
			Information and Resource Service	
0092	1-6	Amanda Meadows	The Nature Conservancy	E-mail (ML080020609)
0093	1-4	Krista Brewer	Self	E-mail (ML080020611)
0094	1-9	Nicole Hayler	Chattooga Conservancy	E-mail (ML080020617)
0095	1-143	Joseph A. (Buzz) Miller	Southern Nuclear Operating Company	Letter (ML073620401)
0096	1-6	Bob Perry	South Carolina Department of Natural Resources	E-Mail (ML080020625)
0097	1-5	Lewis E. Patrie	Western N. C. Physicians for Social Responsibility	E-mail (ML080020632)
0098	1-15	Gene Stilp	Self	E-mail (ML080020652)
0099	1-3	Joseph J. Mangano	Radiation and Public Health Project	E-mail (ML080020656)
0100	1-7	Susan Michetti	Self	E-mail (ML080040018)
0101	1-4	Katherine Meyers	Self	E-mail (ML080040019)
0102	1-6	Adrian Bernal	Self	E-mail (ML080040020)
0103	1-8	Ann Karp	Self	E-mail (ML080040021)
0104	1	Barbara Antonoplos	Self	E-mail (ML080040023)
0105	1	Don Richardson	Self	E-mail (ML080040027)
0106	1-4	Jon Kunz	Self	E-mail (ML080040028)
0107	1-11	Louis Zeller	Blue Ridge Environmental Defense League	E-mail (ML080040034)
0108	1	Marvin Lewis	Self	E-mail (ML080040037)
0109	1-6	Ed Arnold	Physicians for Social Responsibility/Atlanta	E-mail (ML080040048)
0110	1-5	Stacey Kronquest	Savannah Riverkeeper	E-mail (MLML080040060)
0111	1-8	Stephen Wingeier	Self	E-mail (ML080040062)
0112	1-8	Anonymous --	Self	E-mail (ML080040065)
0113	1-5	Jeannine Honicker	Self	E-mail (ML080040070)
0114	1-6	Jim Moylan	Self	E-mail (ML080040126)
0116	2-3	Mary Davis	Yggdrasil, a Project of Earth Island Institute	E-mail (ML080040134)
0117	1	Karen Anderson-Cordova	Georgia Department of Natural Resources, Historic Preservation Division	Letter (ML063000219)
0118	1-5	Carol Couch	Georgia Department of Natural Resources	Letter (ML073600860)

Table E 1. (contd)

Comment ID	Comment Numbers	Commenter	Affiliation (if stated)	Comment Source and ADAMS Accession Number
0119	1	William Douglas Klare	Self	Letter (ML073600900)
0120	1-7	Jody Lanier	Self	Letter (ML073600895)
0121	1-5	Sandra Tucker	U.S. Fish and Wildlife Service	Letter (ML073600891)
0122	1-9	Bobbie Paul	Women's Action for New Directions	Letter (ML073600861)
0123	1	Paul Meisner	Self	E-mail (ML073450445)
0124	1-6	Cyndia Hunnicutt	Self	E-mail (ML073340072)
0125	1-2	Lee Alexander	Self	Letter (ML073600855)
0126	1-5	Heinz J. Mueller	National Environmental Policy Act Program Office, U.S. Environmental Protection Agency	Letter (ML073450448)
0127	1	Joseph Mangano	Radiation and Public Health Project	Letter (ML073330046)
0128	1-2	Joe Whetstone	Self	E-mail (ML073470652)
0131	1	Charles Gorman	Bureau of Water South Carolina Department of Health and Environmental Control	Letter (ML0801405490)
0132	1	Peter Sipp	Self	Letter (ML0801405520)
0133	1-2	Dan Forster	Georgia Department of Natural Resources	Letter (ML0801405500)

E.2 Comments and Responses

Table E-2 presents the categories in the order in which they are presented in this appendix.

Table E-3, which is an index to the comment categories, arranges the categories alphabetically and provides the commentor ID for each category.

The comments that are considered in the evaluation of the environmental impact in this EIS are summarized in the following pages. Parenthetical notations after each comment refer to the commenter's ID letters and the comment number. Comments can be tracked to the commenter and the source document through the ID letter and comment number listed in Table E-1.

Table E-2. Comment Categories

E.2.1 Comments Concerning Process – ESP
E.2.2 Comments Concerning Process – NEPA
E.2.3 Comments Concerning Land Use – Site Vicinity and Transmission Lines
E.2.4 Comments Concerning Meteorology and Air Quality
E.2.5 Comments Concerning Hydrology – Surface Water
E.2.6 Comments Concerning Hydrology – Groundwater
E.2.7 Comments Concerning Ecology – Terrestrial
E.2.8 Comments Concerning Ecology – Aquatic
E.2.9 Comments Concerning Socioeconomics
E.2.10 Comments Concerning Historic and Cultural Resources
E.2.11 Comments Concerning Environmental Justice
E.2.12 Comments Concerning Health – Radiological
E.2.13 Comments Concerning Accidents – Design Basis
E.2.14 Comments Concerning Accidents – Severe Accidents
E.2.15 Comments Concerning the Uranium Fuel Cycle
E.2.16 Comments Concerning Transportation
E.2.17 Comments Concerning Decommissioning
E.2.18 Comments Concerning Site Redress Plan
E.2.19 Comments Concerning Cumulative Impacts
E.2.20 Comments Concerning the Need for Power
E.2.21 Comments Concerning Alternatives – No-Action
E.2.22 Comments Concerning Alternatives – Energy
E.2.23 Comments Concerning Alternatives – Sites
E.2.24 Comments Concerning Alternatives – System Design
E.2.25 Comments Concerning Benefit-Cost Balance
E.2.26 General Comments in Support of the Licensing Action
E.2.27 General Comments in Support of the Licensing Process
E.2.28 General Comments of Support of Nuclear Power
E.2.29 General Comments in Support of the Existing Plant
E.2.30 General Comments in Opposition to the Licensing Action
E.2.31 General Comments in Opposition to the Licensing Process
E.2.32 General Comments in Opposition to Nuclear Power
E.2.33 Comments Concerning Issues Outside Scope – Emergency Preparedness
E.2.34 Comments Concerning Issues Outside Scope – Miscellaneous
E.2.35 Comments Concerning Issues Outside Scope – NRC Oversight
E.2.36 Comments Concerning Issues Outside Scope – Safety
E.2.37 Comments Concerning Issues Outside Scope – Security and Terrorism
E.2.38 General Editorial Comments

Table E-3. Comment Categories

Comment Category	Comment ID
Accidents – Design Basis	0095
Accidents – Severe	0006, 0013, 0028, 0037, 0048, 0091, 0095, 0107, 0109
Alternatives – Energy	0002, 0003, 0005, 0007, 0009, 0011, 0013, 0014, 0017, 0021, 0023, 0025, 0027, 0028, 0032, 0033, 0034, 0035, 0037, 0038, 0042, 0046, 0047, 0048, 0050, 0052, 0054, 0067, 0081, 0082, 0084, 0087, 0089, 0090, 0091, 0094, 0095, 0097, 0098, 0100, 0101, 0102, 0103, 0106, 0112, 0114, 0120, 0122, 0128
Alternatives – No-Action	0024, 0026
Alternatives – Sites	0013
Alternatives – System Design	0089
Benefit–Cost Balance	0002, 0003, 0004, 0007, 0009, 0013, 0014, 0019, 0023, 0024, 0025, 0026, 0027, 0030, 0034, 0035, 0042, 0050, 0052, 0054, 0059, 0060, 0061, 0066, 0067, 0068, 0073, 0084, 0087, 0090, 0095, 0097, 0098, 0100, 0101, 0102, 0103, 0106, 0111, 0114, 0120, 0122, 0124
Cumulative Impacts	0013, 0013, 0037, 0088
Decommissioning	0084,
Ecology – Aquatic	0006, 0007, 0031, 0041, 0045, 0087, 0090, 0091, 0092, 0095, 0095, 0096, 0109, 0121, 0124, 0133
Ecology – Terrestrial	0018, 0045, 0095, 0121, 0126
Editorial Comments	0050, 0095
Environmental Justice	0013, 0095, 0110, 0126
Health – Radiological	0005, 0013, 0024, 0026, 0034, 0035, 0037, 0054, 0073, 0087, 0090, 0094, 0095, 0098, 0099, 0103, 0107, 0110, 0112, 0118, 0120, 0122, 0127
Historic and Cultural Resources	0095, 0117
Hydrology – Groundwater	0013, 0018, 0034, 0035, 0041, 0054, 0094, 0095, 0096, 0098, 0102, 0103, 0112
Hydrology – Surface Water	0006, 0011, 0013, 0014, 0016, 0021, 0024, 0026, 0027, 0029, 0031, 0032, 0034, 0037, 0040, 0045, 0050, 0052, 0087, 0091, 0092, 0096, 0098, 0100, 0101, 0110, 0113, 0118, 0120, 0121, 0124, 0128, 0131, 0133
Land Use – Transmission Lines	0013, 0095, 0098
Meteorology and Air Quality	0004, 0005, 0013, 0028, 0033, 0034, 0035, 0037, 0038, 0040, 0044, 0049, 0054, 0059, 0060, 0061, 0062, 0064, 0066, 0094, 0095, 0097, 0098, 0103, 0109, 0111, 0112, 0114, 0116, 0118, 0124
Need for Power	0001, 0002, 0003, 0004, 0011, 0012, 0013, 0058, 0059, 0060, 0061, 0062, 0063, 0064, 0066, 0067, 0088, 0095

Table E-3. (contd)

Comment Category	Comment ID
Opposition – Licensing Action	0010, 0011, 0013, 0014, 0017, 0020, 0025, 0027, 0029, 0032, 0037, 0038, 0040, 0046, 0048, 0050, 0073, 0084, 0088, 0094, 0106, 0111, 0114, 0125
Opposition – Licensing Process	0013, 0035, 0037, 0050, 0068, 0091, 0110, 0114, 0120, 0122
Opposition – Nuclear Power	0005, 0006, 0007, 0009, 0013, 0014, 0022, 0023, 0028, 0032, 0038, 0044, 0047, 0081, 0082, 0083, 0084, 0086, 0087, 0090, 0100, 0104, 0105, 0122
Outside Scope – Emergency Preparedness	0013, 0024, 0026, 0034, 0087, 0090, 0093
Outside Scope – Miscellaneous	0013, 0043, 0047, 0058, 0088, 0098
Outside Scope – NRC Oversight	0013, 0050
Outside Scope – Safety	0011, 0013, 0019, 0057, 0060, 0061, 0091, 0107, 0122
Outside Scope – Security and Terrorism	0006, 0013, 0023, 0024, 0026, 0034, 0035, 0048, 0049, 0050, 0054, 0057, 0068, 0073, 0084, 0087, 0090, 0091, 0093, 0094, 0098, 0100, 0102, 0103, 0106, 0108, 0109, 0111, 0112, 0113, 0116, 0124
Process – ESP	0006, 0007, 0013, 0024, 0026, 0034, 0035, 0037, 0050, 0054, 0088, 0091, 0094, 0098, 0103, 0107, 0112, 0118
Process – NEPA	0013, 0034, 0041, 0050, 0096, 0109, 0113, 0120
Socioeconomics	0003, 0004, 0013, 0053, 0055, 0056, 0059, 0060, 0062, 0064, 0066, 0067, 0069, 0071, 0075, 0094, 0095, 0112
Support – Licensing Action	0001, 0002, 0003, 0004, 0008, 0013, 0036, 0051, 0053, 0055, 0056, 0058, 0059, 0060, 0061, 0062, 0063, 0064, 0066, 0067, 0069, 0070, 0071, 0072, 0074, 0075, 0076, 0077, 0078, 0079
Support – Licensing Process	0013, 0030, 0031
Support – Nuclear Power	0001, 0002, 0004, 0012, 0013, 0013, 0015, 0030, 0030, 0036, 0055, 0056, 0059, 0059, 0060, 0060, 0062, 0063, 0064, 0066, 0069, 0072, 0079, 0123
Support – Existing Plant	0013, 0053, 0060, 0071, 0075, 0078
Transportation	0013, 0095, 0098, 0100, 0111
Uranium Fuel Cycle	0005, 0006, 0007, 0013, 0014, 0022, 0024, 0026, 0028, 0034, 0035, 0037, 0040, 0042, 0043, 0048, 0050, 0057, 0065, 0068, 0073, 0083, 0085, 0087, 0090, 0091, 0093, 0094, 0095, 0098, 0100, 0101, 0102, 0103, 0109, 0111, 0112, 0114, 0122, 0126

E.2.1 Comments Concerning Process – ESP

Comment: Please clarify in the EIS what type of reactors Georgia Power plans to build as the reactor type will be key in determining environmental impacts. (0034-1)

Response: *Southern is proposing the AP1000 certified reactor design in the VEGP ESP application. This is indicated in the Executive Summary, Chapter 1, and numerous other locations in the DEIS. Additional information about the AP1000 reactor design can be found in the VEGP ESP Safety Analysis Report which was included as part of the ESP application, available at http://www.nrc.gov/reactors/new-licensing/esp/vogtle.html#application. Because the comment provided no new information, no change was made to the EIS.*

Comment: Since the Early Site Permit (ESP) process allows a company to potentially 'bank' a site for up to 20 years, the NRC should have to look not only at Georgia 'today,' but the Georgia we are likely to live in several decades from now. (0006-2)

Comment: Since banking the site, being able to predict 20 years later is something that is concerning. (0013-149)

Comment: [N]owhere in this document does it appear that the NRC has evaluated how the Savannah river is going to be able to handle the Georgia and South Carolina that we will live in, decades from now. That by the NRC's own statements, appears to be a future in which the Savannah river is going to see extreme increases in demand. (0013-27)

Comment: Once this site is approved there will be no further opportunity for public imput. This license will give the utility the right to build and operate any preapproved design of any nuclear reactor. (0024-7) (0026-12)

Comment: FATAL FLAW IN VOGTLE EIS PROCESS This EIS attempts to cover all conceivable environmental impacts from Vogtle 3 & 4 in a brand-new NRC process to give an "early site permit" that would be good for 20 years. This means that if Southern Co. begins construction on Vogtle in 2027, the EIS we are discussing now is supposed to cover it. It is ridiculous to claim to be able to anticipate local and regional conditions 20 years down the road especially in this era of rampant development. Additional EISs should be performed as part of the actual reactor license review process. (0034-17) (0035-10) (0054-8) (0094-9) (0098-14) (0103-8) (0112-8)

Comment: Nowhere in this document does it appear that the NRC has evaluated how the Savannah River is going to be able to handle the Georgia and South Carolina that we will live in decades from now, that by the NRC's own statements appears to be a future in which the Savannah River is going to see extreme increases in demand. The NRC does not acknowledge

that the Savannah River appears to already be over-allocated today, let alone several decades in the future. This needs to be studied before the final EIS is issued. (0050-3)

Comment: It is unconscionable, in our opinion, to grant an Early Site Permit which would be approved for 20 years and cannot be re-visited during that time frame. Any Early Site Permit should be subject to annual reviews and a final review before any construction is initiated. (0088-4)

Comment: [T]here are far too many unknowns to grant an Early Site Permit which will be good for the next 20 years. (0088-7)

Comment: Nuclear Information and Resource service objects to the concept of an environmental impact statement that supposedly addresses site concerns for two decades -- plus the period of any license granted -- and would exclude further consideration of concerns about water, land, public health, and safety, even if new information comes to light. This concept is flawed at any time in history, but particularly in this period of time, when the entire global scientific community is in consensus that the coming decades will be -- no matter what -- a period of exceptional environmental flux due to change in the global climate. (0091-1)

Comment: The assertion by the US Nuclear Regulatory Commission that issues such as water usage cannot be revisited or reopened in the licensing or operations of two new huge thermal facilities when it is known that this period will be one of flux and change must not stand. (0091-14)

Comment: Since the Early Site Permit (ESP) process allows a company to potentially 'bank' a site for up to 20 years, the NRC should have to look not only at Georgia 'today,' but the Georgia we are likely to live in several decades from now. (0091-16)

Comment: SNC proposes to install two Westinghouse AP-1000 pressurized water reactors at the Vogtle plant site. However, no AP-1000 has ever been built. On September 13,2004, the U.S. NRC granted a Final Design Approval (FDA) to Westinghouse for the AP1000 advanced reactor design. The approval is good for five years. The Westinghouse AP1000 standard plant design is the first Generation III+ reactor to receive FDA from the NRC. [http://www.ap1000.westinghousenuclear.com/A4.asp, downloaded 7 December 2006] Westinghouse makes a further claim, "no demonstration plant is required." This is a remarkable assertion for a company seeking to build its "first Generation III+ reactor" in Burke County, Georgia. The consequence of this is that one cannot verify the impacts of the new reactor. This is a failure of omission which prevents the NRC, the petitioners, and the general public from properly assessing the impact of new reactors at Vogtle and ascertaining the accuracy of SNC's analyses. (0107-4)

Comment: The ESP process itself encourages judgment which is inherently flawed. The Supreme Court addressed a similar two-step regulatory process in 1961 regarding the Atomic Energy Commission's permit for the Fermi reactor. Though the court approved the process, Justices William O. Douglas and Hugo Black dissented in writing: "When millions have been invested, the momentum is on the side of the applicant, not on the side of the public." Douglas and Black further criticized the Commission's approval of the reactor permit before resolution of safety issues as "a lighthearted approach to the most awesome, the most deadly, the most dangerous process ever created." [Power Reactor Development Company v. International Union of Electrical, Radio and Machine Workers, AFL-CIO et al, 367 US 396 (1961)] The Supreme Court Justices' dissent was prescient: Five years later an accident at the Fermi reactor caused an emergency shut-down, and by 1972 the reactor was shut down for good. The term "China Syndrome" was coined to describe what engineers feared following the partial melt-down at Fermi. (0107-7)

Response: *An Early Site Permit (ESP) is not an authorization to construct and/or operate a nuclear power plant. The purpose of the early site permit regulations in 10 Part CFR 52 is, in part, to make it possible to resolve safety and environmental issues related to siting before an applicant needs to make large commitments of resources. Having obtained an early site permit, an applicant for a construction permit (CP) or combined license (COL) for a nuclear power plant or plants can then reference it in a CP or COL application. If the Commission issues the requested ESP and it is later referenced in a CP or COL application, that application must identify whether there is new and significant information on any issue resolved in the ESP proceeding. Issuance of either a CP or a COL is a major Federal action. Therefore, 10 CFR 51.75(c) requires the preparation of a supplement to the ESP EIS for an application for such a proposed action referencing an ESP. (The regulation in 10 CFR 52.26(c) explicitly permits a COL applicant to reference, at its own risk, an application for an ESP that has been docketed but not granted.) In its review of such a CP or COL application, the staff will consider whether any new and significant information has been identified concerning matters resolved in the ESP proceedings. The VEGP final ESP EIS analyzes the impacts from two AP1000 reactors and is specific to that reactor design. If it represents new and significant information, a change in the stated reactor design would entail an additional review in connection with the COL application. Otherwise, issues resolved in an ESP proceeding need not be reconsidered at the COL stage even though the ESP is valid for a 20-year period. To the extent these comments criticize the NRC's processes for certifying new reactor designs; they are outside the scope of the environmental review. Because these comments did not provide new information, no changes were made to the EIS.*

Comment: The folks at the NRC want the taxpayers to foot the bill (with our tax money, and our health) for two more reactors. (0007-2)

Comment: So I agree with Yomi who says that this whole process is not really fair and equitable. It is what is called institutional racism, and classism, and it does exclude folks who are impacted by the decisions that are made in this process. (0013-174)

Comment: There are grave concerns about the adequacy of the NRC permit process for the proposed Plant Vogtle nuclear expansion. Can the NRC permit process truly put human health/environment before profit? (0037-17)

Response: *The NRC's environmental review is confined to environmental matters relevant to this ESP licensing action. These comments oppose new reactor licensing and its processes in general, but do not provide new information within the scope of the staff's review. Therefore, these comments were not evaluated further.*

Comment: EPD [Environmental Protection Division of the Georgia Department of Natural Resources] fully supports the work of the Southern Company and it's local operating subsidiaries - Georgia Power Company and Southern Nuclear Operating Company - in providing reliable electrical power to the citizens of Georgia. However, we are keenly aware of and concerned with the impacts of energy production and use on Georgia's environment through consumption of natural resources, generation of waste, and potential degradation of ecosystems and loss of their services. We do appreciate the Southern Company for sharing these concerns and for working in partnership with us to address them. (0118-1)

Comment: Topics that we will work with you to address are some site-specific potential impacts, including those related to water withdrawal from the Savannah River and discharge of treated sanitary waste and tritium-contaminated liquid effluent back to the river. We therefore reserve final comment until we have received and reviewed more detailed information from Southern Nuclear's permit applications for surface water withdrawal and wastewater discharge and from NRC's draft Final Safety Evaluation Report. (0118-2)

Response: *The NRC takes seriously its statutory responsibility to protect the health and safety of the public and the environment in regulating the U.S. nuclear power industry. During its review, the staff has coordinated with numerous Federal and State agencies, including the Georgia Department of Natural Resources. More information on NRC's roles and responsibilities is available on the NRC's Internet website at http://www.nrc.gov/about-NRC.html. The comments did not provide new information relevant to this EIS and were not evaluated further. No change was made to the EIS as a result of these comments.*

E.2.2 Comments Concerning Process – NEPA

Comment: The second one is to avoid paralysis by analysis. By acting to reduce potential harm, mitigation. Yes, mitigation there, it doesn't prevent the harm. So we should avoid paralysis, and when there are reasonable grounds for concerns. And, friends, there are

numerous grounds for concerns that adding two more nuclear reactors is not in our best interest. (0013-39)

Comment: We strongly believe that the NRC must conduct a comprehensive review of the Vogtle expansion proposal. That has not happened in the draft EIS. We are observing serious, notable gaps in review of the Vogtle proposal at the level of the Georgia Public Service Commission, at the level of the Georgia Environmental Protection Division, at the level of the Governor's office and at the level of the federal NRC. It is the NRC's responsibility to ensure that a full environmental impact review is done. (0050-15)

Response: *Section 102 of the National Environmental Policy Act (NEPA) directs that an EIS be prepared for major Federal actions that significantly affect the quality of the human environment. The NRC has implemented Section 102 of NEPA in 10 CFR Part 51. Subpart A of 10 CFR Part 52 contains the NRC regulations related to ESPs. As set forth in 10 CFR 52.18, the Commission has determined that an EIS will be prepared during the review of an application for an ESP. As set forth in 10 CFR 52.17, the ESP applicant must submit a complete environmental report (ER) focusing on the environmental effects of construction and operation of a reactor or reactors. While the ER is the starting point for the NRC staff's review, the staff has the ultimate responsibility in its EIS to make the NEPA findings that support the agency determination on the application. It is the NRC EIS rather than the applicant's ER that is used as the basis for the decision on the ESP application. The ER is intended to assist the Commission in complying with Section 102 of NEPA. However, the Commission staff independently evaluates information contained in the ER and develops its own bases and analyses. Ultimately, the NRC staff is responsible for the reliability of any information used. An applicant for a CP or COL for a nuclear power plant or plants to be located at the site for which an ESP was issued can reference the ESP. A CP or COL to construct and operate a nuclear power plant is a major Federal action that requires its own environmental review in accordance with 10 CFR Part 51. Among the areas included in the EIS, the NRC staff considered the No-Action Alternative or denial of the ESP, mitigation measures to further reduce environmental impacts, alternative sites, unavoidable adverse environmental impacts, irreversible and irretrievable commitments of resources, the relationship between short-term uses and long-term productivity, cumulative impacts, construction impacts, and the impacts of operation. In summary, the staff has complied with the requirements of NEPA by following the NRC's implementing regulations (10 CFR Parts 51 and 52) and related review guidance. No change was made to the EIS as a result of these comments.*

Comment: The Draft Environmental Impact Statement (DEIS) for an Early Site Permit for the Vogtle Electric Generating Plant Site came to our attention today by way of incidental contact. Staff of the South Carolina Department of Natural Resources (SCDNR) have reviewed a very small portion of the extensive DEIS. It is noted comments on the DEIS are due today. Our review of the DEIS has been limited in time and scope as a result of failure of the project sponsor and preparers of the DEIS to coordinate with SCDNR as defined by the Fish and

Wildlife Coordination Act (FWCA) (16 U.S.C. 661-667e; the Act of March 10, 1934; Ch. 55; 48 Stat. 401), as amended by the Act of June 24, 1936, Ch. 764, 49 Stat. 913; the Act of August 14, 1946, Ch. 965, 60 Stat. 1080; the Act of August 5, 1947, Ch. 489, 61 Stat. 770; the Act of May 19, 1948, Ch. 310, 62 Stat. 240; P.L. 325, October 6, 1949, 63 Stat. 708; P.L. 85-624, August 12, 1958, 72 Stat. 563; and P.L. 89-72, 79 Stat. 216, July 9, 1965; and the National Environmental Policy Act (NEPA), the Environmental Quality Improvement Act of 1970, as amended (42 U.S.C. 4371 et seq.), sec. 309 of the Clean Air Act, as amended (42 U.S.C. 7609), and E.O. 11514 (Mar. 5, 1970, as amended by E.O. 11991, May 24, 1977. (0041-1)

Comment: The Vogtle Electric Generating Plant Site including planned additions of Units 3 and 4 are located in the state of Georgia on the Savannah River. The Savannah River is the border for most of the length of the boundary between Georgia and South Carolina. The Savannah River is a shared river, in boundary, as well as with respect to fish and wildlife and other natural resources, and as such SCDNR submits NEPA and FWCA require full consultation and coordination with resource agencies in South Carolina. A review of the Appendices of the DEIS clearly indicates such consultation and coordination with SCDNR has not occurred. (0041-2)

Comment: SCDNR must stress our review of the DEIS is incomplete and not the fault of this agency. In view of the lack of consultation and coordination with SCDNR by the project sponsor and DEIS preparers, I am requesting an extension of the comment period to specifically allow appropriate review of the document by SCDNR staff in order to properly evaluate potential impacts and provide comments to the Nuclear Regulatory Commission. The project sponsor and DEIS preparers are required under NEPA and FWCA to coordinate and consult with appropriate natural resource agencies and, as of today, have not. SCDNR respectfully requests an extension until December 31, 2007 for the purposes of having time for an appropriate review of the DEIS and submission of comments. (0041-8)

Comment: The project sponsor and DEIS preparers are required under NEPA and FWCA to coordinate and consult with SCDNR and, as of today, have not. (0096-5)

Comment: In view of the lack of consultation and coordination with SCDNR by the project sponsor and DEIS preparers, and the magnitude of potential impacts, SCDNR urges diligence and additional documentation/consultation with respect to these potential project impacts: (1) water use and loss, (2) aquifer and groundwater reserves, (3) water quality impacts, and (4) fish and wildlife impacts - particularly associated with low and very low flow conditions in the Savannah River. (0096-6)

Response: *During the initial environmental review for the VEGP ESP, individual reviewers contacted staff members from SCDNR, including Jennifer Price and Julie Holling, as referenced in Chapters 4 and 5 of the draft EIS. Further consultation was initiated with the SCDNR (NRC 2008).*

Comment: I am aware that other groups and individuals have provided comments on the draft EIS. Will your consideration of all comments made to the NRC become public? Please provide me with your responses. (0109-5)

Comment: Please send me a link that allow me to access all of the comments on this proposed permit. When the NRC response to these comments is concluded, I would also appreciate a link to that as well. (0113-5)

Response: *Public involvement and comments are invited and encouraged throughout the environmental review for a particular site, and the NRC formally solicits both written and oral comments from members of the public at two different times during the review. The first period of time is during the scoping process, which is conducted to define the proposed action, to determine the scope of the environmental impact statement, and to identify significant issues to be analyzed in depth. Public scoping meetings are held near the proposed site that is the subject of the requested ESP or a combined license. Members of the public are invited to provide comments orally or in writing during these meetings. The NRC staff publishes a Federal Register notice that provides the times and locations. The notice is also placed in newspapers in communities near the plant and is posted on the NRC's website for the specific plant undergoing review. It provides addresses for written comments to be submitted in person, by mail, or electronically. The deadline for comments is usually 60 days following the publication in the Federal Register of the notice of intent to conduct scoping.*

The NRC also solicits written comments from members of the public following publication of the draft EIS. The NRC staff places a notice in the Federal Register and on the NRC website that the draft EIS has been issued with instructions for the public and other interested parties on how to obtain copies. Copies of the draft EIS are also available on the NRC website. A copy of the notice and the draft EIS is also sent to those people from the first meeting who requested a copy. The notice requests comments on the draft EIS and provides addresses for delivering or sending the comments to the appropriate NRC staff member. Usually, a 75-day period is allotted for the public's review and the receipt of comments. The NRC then holds a second set of public meetings in the vicinity of the proposed site to present the results of the draft EIS to the public and to obtain comments, both oral and written, from the public.

The comments received during the VEGP scoping period were published in the Scoping Summary Report which is available on ADAMS at ML073440432 and in the draft EIS (ML072410045 and ML072410049) in Appendix E. The comments received on the draft EIS and the NRC responses to those comments are included in Appendix E of this EIS. Because the comments provided no new information, no changes were made to the EIS.

Comment: Thank you for extending the deadline for comments on this draft EIS to December 28. However, the Commission should have held hearings on it in Savannah and other

downstream communities, not just in Waynesboro. This still sends the clear signal that it just does not care for how we feel about this project. (0120-7)

Response: *While NEPA requires agencies to inform and involve the public in the decision-making process, the manner by which public input will be sought is left to the discretion of the agencies. While public meetings are not required by NEPA, the NRC has elected to conduct public meetings as part of the scoping and review process. To facilitate public participation most effectively for ESP licensing actions, the meetings are held in the vicinity of the site that is being considered. The public is invited to the meetings to provide its insights on the environmental assessment. This comment provided no new information; therefore, no changes were made to the EIS. .*

Comment: Thanks for considering these comments and responding to each point. Please include me on an e-mail list to receive further information about the EIS and licensing process. (0034-18)

Response: *Your e-mail address has been added to the distribution list for the VEGP ESP process. No change was made to the EIS as a result of this comment.*

E.2.3 Comments Concerning Land Use – Site Vicinity and Transmission Lines

Comment: That could have a major impact on transmission lines, which I was really shocked that the impact of putting those transmission lines on, that is really a heavy impact of this. (0013-63)

Comment: Destination of the power produced must also be a consideration and the transportation corridors for that power and the corridors impact. (0098-7)

Response: *A new transmission line to serve the proposed units is planned. The potential impacts of constructing the planned transmission line are discussed in Chapter 4 of the EIS. No change was made to the EIS as a result of these comments.*

Comment: Section 3.3, pg 3-14 states "No changes to the existing system would occur." Statement in DEIS is inaccurate, there is a planned change to the existing onsite transmission system planned. (0095-46)

Response: *Section 3.3 was modified to state "Changes to the existing onsite transmission system are anticipated."*

Comment: Appendix J, Table J-2, pJ-4, line 6 states "Less than 50 acres of mixed and bottom land hardwoods will be lost." Values stated in the DEIS differ from those stated in SNC ER. (0095-141)

Response: *The amount of acreage associated with mixed and bottomland hardwoods listed in Appendix J was updated to be consistent with the values in the most recent version of Southern's ER.*

E.2.4 Comments Concerning Meteorology and Air Quality

Comment: Section 11.2.1 states "Air Quality: Adverse impacts based on Southern's application = Yes;" p. DEIS 11-6. SNC ER describes the potential adverse impacts more specifically than the DEIS. (0095-128)

Comment: Section 11.2.1 states "Air Quality: Actions to Mitigate Impacts: Implement actions to reduce fugitive dust." DEIS p. 11-6. SNC ER describes the potential mitigation measures more specifically than the DEIS. (0095-129)

Comment: Section 11.2.1 states "Air Quality: Unavoidable Adverse Impacts â€" Equipment emissions and fugitive dust from operation of earth-moving equipment are sources of air pollution." DEIS p. 11-6. Conclusions stated in the DEIS differ from those stated in SNC ER. (0095-130)

Response: *The draft EIS was prepared by NRC staff using its independent analysis and judgement. Conclusions in the draft EIS do not necessarily have to be consistent with Southern's conclusions in its ER. No change was made to the EIS as a result of these comments.*

Comment: Nuclear energy does not contribute to air pollution. (0004-6)

Comment: [N]uclear reactors play a role in keeping air emissions low. (0013-85)

Comment: Nuclear energy does not contribute to air pollution. (0059-6)

Response: *Air quality impacts from operations are addressed in Section 5.2 of the EIS. These comments present no new information. Accordingly, no change was made to the EIS as a result of these comments.*

Comment: Nuclear power also emits large amounts of water vapor into the atmosphere which acts as a huge contributor to global warming by trapping the heat. (0005-5)

Comment: Water vapor, greenhouse gas, guys. When are you going to start talking about it? Two-thirds is evaporated. Water vapor is a greenhouse gas. You have to put that in there, it is an impact, huge. (0013-107)

Comment: The third important fact is there is a growing awareness of the environmental benefits of nuclear energy. Nuclear plants have little or no releases of green house gases, which are a major contributor to global warming that was spoken of earlier. (0013-122)

Comment: We believe that nuclear energy is a safe, reliable, and cost effective source of electricity, that helps to improve the environment by not emitting carbon dioxide, or other greenhouse gas emissions. (0013-130)

Comment: The fact that water vapor has not been addressed is concerning, particularly since the amount of water that Vogtle 1 and 2 are using, (0013-148)

Comment: I want to reiterate that water vapor is a greenhouse gas, and needs to be addressed as such, in this EIS. (0013-189)

Comment: Water vapor... is classified by the Clean Air Act, as an air pollutant. And it didn't get analyzed. So you need to be looking at this water vapor as not only -- well, as an air pollution, because it is hot, and that is where our water is, not going back in the river, it is floating around up here, and that needs to be looked at. (0013-60)

Comment: [W]e recognize the devastating impacts that global warming is already having on Georgia. We are seeing more intense heat waves, and drought, both of which lend themselves to forest fires and crop failures. Our farmers, here, are being affected by this issue. People who live near the coast are being affected by rising sea levels. And scientists have shown that warmer conditions intensify hurricanes, and predict that a Katrina sized hurricane will eventually make landfall in Georgia. Nuclear power will never, ever, solve global warming. (0013-94)

Comment: Is the nuclear power industry correct in its claims or is it hiding and sweeping under the rug certain aspects of nuclear power generation that make it very unsuitable for meeting our energy needs for combating global warming? (0028-3)

Comment: I am very concerned about nuclear reactors exacerbating the atmospheric warming already occurring due to greenhouse gas concentrations. (0033-1)

Comment: Just because the nuclear reaction does not release CO2, does not mean that reactors have a net zero impacts on climate change. (0033-3)

Comment: Other aspects of the proposed expansion that would also have water implications along the Savannah River which have NOT been analyzed in the draft EIS include:...Large impacts from water vapor (classified as greenhouse gas by EPA). (0037-8)

Comment: Real studies, done by engineers and scientists with no vested interest in being the recipients of massive welfare, have done an audit of THE ENTIRE NUCLEAR FUEL CYCLE,

not just the years of operation, and have concluded THAT NUKES PRODUCE MORE GREENHOUSE GASES THAT CONVENTIONAL COAL AND GAS PLANTS. (0038-2)

Comment: The carbon pollution affiliated with mining, refining and processing contributes to global warming, an event that is fueling sea-level rise, hurricane intensification, and contributing to severe drought in the Southeast. (0040-5)

Comment: 2) the draft Vogtle EIS fails to analyze for large impacts from water vapor (classified as greenhouse gas by EPA). (0049-2)

Comment: Nuclear Energy has been proven that it has a low environmental impact. It doesn't emit any carbon or greenhouse gasses, accounting for 75 % of all emission-free electricity in the U.S. (0060-9)

Comment: Nuclear power accounts for 75 percent of all emission-free generation in the country. It emits absolutely zero carbon or greenhouse gasses into the atmosphere. (0061-5)

Comment: Nuclear power plants have a minimal impact on the environment. They do not emit greenhouse gasses or carbon into the environment and are one of the lowest environmental impacts of any electricity fuel source. (0062-4) (0064-4)

Comment: Nuclear energy also has a minimal impact on the environment. In fact, nuclear plants have one of the lowest environmental impacts of any electricity fuel source. Nuclear energy does not contribute to air pollution. (0066-5)

Comment: We oppose construction of the proposed two new nuclear reactors at Southern Company's nuclear power plant Vogtle for failing to address the climate crisis. (0097-5)

Comment: Water vapor emissions from the site would be increased dramatically. Considering the threat of global climate change from green house gas emissions, including water vapor, what are the environmental impacts of these increases? (0109-2)

Comment: [T]he draft Vogtle EIS fails to analyze for large impacts from water vapor (classified as greenhouse gas by EPA). (0111-3)

Comment: It does not address the impact of the water vapor from the plant, which is a contributor to the greenhouse effect that is bringing about climate change. (0116-3)

Comment: The water that is lost, 2/3, as vapor is a global warming gas. (0124-5)

Response: *Air quality impacts from operations are addressed in Section 5.2 of the EIS. The greenhouse effect is a naturally occurring process, whereby certain gases, such as water*

vapor, carbon dioxide, methane, and other trace gases in the atmosphere absorb and emit infrared radiation back to the earth's surface. Without these so-called greenhouse gases, the earth's atmosphere would be significantly colder and the planet would be uninhabitable. When discussing global warming, increases in carbon dioxide are generally of primary concern, because carbon dioxide has a long lifetime in the atmosphere and it is very effective at absorbing in an infrared band (12 μm to 16 μm) that would otherwise be transparent to this energy. Human activity over the past century has been increasing carbon dioxide concentrations in the atmosphere and the concern is that the additional carbon dioxide is enhancing the greenhouse effect and causing the earth's atmosphere to warm. Although water vapor is also an important greenhouse gas, the lifetime for water vapor in the atmosphere is just a few days. This rapid turnover means that even if human activity is directly adding or removing water vapor to the atmosphere, there would be no slow build-up of water vapor as is happening with carbon dioxide. Water vapor concentration in the atmosphere is mainly a function of temperature and any additional increase in concentration, for example, from a cooling tower, is rapidly lost. The amount of carbon dioxide in the atmosphere, however, is determined by a balance between sources and sinks and any increase in concentration from human activity can take hundreds of year for levels to return to pre-industrial levels even if all future carbon emissions ceased.

Increased carbon dioxide emissions to the environment are generally attributed to the consumption of fossil fuels, whether for industrial use, such as an energy-intensive manufacturing facility, or personal use, such as for the automobile. Nuclear power plants do not emit carbon dioxide in large quantities during the operation of the facility for the production of electricity. Emissions are principally from auxiliary boiler operation and standby diesel generator testing. However, fossil fuels are often used as part of the infrastructure needed to operate a nuclear power facility, primarily for the manufacture of the fuel that is used in the facility. A high percentage of the energy used in the uranium fuel cycle is consumed in the enrichment stage of the fuel cycle. The estimate of future nuclear fuel needs, current feedstock supplies, and the quality of uranium ore will have a direct bearing on the mining stage through the enrichment stage of the fuel cycle.

Accounting for the uranium fuel cycle, the NRC estimates that the energy needed for the fuel's life cycle for one year of operation of a 1000 MWe light-water reactor would be about 5 percent of the net output of the reactor (see 10 CFR 51.51, Table S–3, and Table 6-1 of this EIS). The U. S. Department of Energy (DOE) estimated that the carbon emissions that would be displaced if nuclear power plants replaced coal-based electricity generation would be about 2.1 million metric tons per year for every unit of approximately 1000 MW(e) (Hagen et al. *2001). Therefore, using the DOE estimate and the 5 percent factor, approximately 105,000 metric tons of carbon would be produced for every 1000 MWe assuming a nuclear power plant was operating for the entire year. If the equivalent electricity were generated by alternative or renewable energy sources, then this quantity could be reduced, and if a combination of conservation and alternative energy sources were considered, then the amounts could be*

reduced even further. The NRC has evaluated energy alternatives and their associated impacts in Chapter 9.

With the increasing interest in the nuclear power program in the U.S., advancements in power reactor technology and uranium enrichment technology, the total carbon emissions that may result from the fuel cycle may differ from those described above. Depending upon the number of nuclear power units that are considered for license renewal and the number of new nuclear power plant units that are contemplated, the need for new fuel resources is likely to be an important variable in this assessment. Accordingly, no changes were made to this EIS as a result of these comments.

Comment: Section 5.2.2, p.5-3, Line 41 states "Table S-3 in 10 CFR 51.51 indicates that the oxides of nitrogen emitted in the fuel cycle are approximately 5 percent of the oxides of nitrogen emitted by a coal-fired plant." Neither Table S-3 nor its footnotes contain these values. SNC cannot determine how this inference might have been made using the information provided. (0095-62)

Response: *Environmental impacts of the uranium fuel cycle are discussed in Section 6.1 of the EIS. Table 6.1 of the EIS, which is a reproduction of Table S–3 in 10 CFR 51.51, provides a list of environmental considerations for the uranium fuel cycle normalized to model 1000 MWe LWR annual fuel requirements. The table lists the oxides of nitrogen from a 1000 MWe LWR as being "equivalent to emissions from 45 MWe coal-fired plant" for a year, or approximately 5 percent of the oxides of nitrogen emissions. No change was made to the EIS as a result of this comment.*

Comment: WATER (local impacts): Neither the water vapor (classified as air pollution under Clean Water Act) nor the heat vented into the local environment has been considered in the EIS. Of the enormous heat generated by Vogtle (and all) reactors, only 1/3 is used for energy, the other 2/3 is vented into the local environment as steam and heated water. This local impact must be considered. (0034-3) (0035-3) (0054-2) (0094-3) (0098-9) (0103-2) (0112-2)

Comment: Nuclear power is not a solution to global warming. Every reactor consumes a huge amount of water to keep it from overheating. A nuclear reactor doesn't produce greenhouse gasses, but it does produce HEAT, just the thing we don't want. They public is beginning to understand this. Why can't you? (0044-2)

Comment: Neither water vapor (classified as air pollution under Clean Water Act) nor heat vented into the local environment have been considered in the EIS. Of the enormous heat generated by reactors, only 1/3 is used for energy, the other 2/3 is vented into the local environment as steam and heated water. This local impact must be considered. (0097-2)

Comment: Neither the water vapor (classified as air pollution under Clean Water Act) nor the heat vented into the local environment have been considered in the EIS. Of the enormous heat generated by Vogtle (and all) reactors, only 1/3 is used for energy, the other 2/3 is vented into the local environment as steam and heated water. This local impact must be considered. (0114-5)

Response: *Water vapor is not a regulated air pollutant under the Clean Water Act (CWA) or the Clean Air Act (CAA). However, local air quality impacts due to water vapor from cooling towers associated with Units 3 and 4 are considered in Section 5.2.1 of the EIS. The SACTI computer code was used to estimate local aesthetic impacts from the visible plume as well as land-use impacts from cloud shadowing, fogging, icing, increased humidity, and drift from dissolved salts; these results are presented in Section 5.2.1 of the EIS. Because the proposed cooling towers will be approximately 600 feet tall and the released plume is also likely to be buoyant, local heating of ground-level air would be small because the plume would remain elevated for a considerable distance downwind of the release. By the time any air associated with the plume would reach ground-level, considerable mixing will have occurred with the ambient air and any increase in temperature due to the plume would not be significant. The amount of energy discharged to the atmosphere from a cooling tower can be compared to the amount of energy from incoming solar radiation received at the earth's surface to quantify its potential significance. From Section 3.2 of the EIS, an AP1000 reactor rejects 2208 MW of energy to the air, which is apportioned between both sensible (heating of the air) and latent (evaporating water) heat. On an annual, globally-averaged basis, the amount of incoming solar radiation reaching the earth's surface is approximately 1.76×10^8 W/km^2. Therefore, the amount energy released from a cooling tower is comparable to the amount of solar energy received over a 12.6 km^2 area. From the U.S. Census, the area of Burke County is approximately 2162.6 km^2. So, the fractional increase in energy from a cooling tower is approximately 5.8×10^{-3} of what is naturally received by Burke County due to incoming solar radiation. From a global energy balance perspective, the fractional energy gain is even less, approximately 2.4×10^{-8} the amount of incoming solar radiation reaching the earth's surface (assuming the earth is a sphere with a radius of 6.37×10^3 km). Because the incremental increase in energy to the earth's atmosphere from a cooling tower is small compared to ambient conditions, no change was made to the EIS as a result of these comments.*

Comment: 5.2.2 Air-Quality Impacts. Three additional diesel generators (2 on the fire protection system and 1 on the CSC) have been added to the plant design. The additional generators are relatively small. The two fire protection diesels are Caterpillar 1-6 4 stroke diesels rated at 225 bhp (168 kW). The Security diesel is also manufactured by Caterpillar and rated at 2155 bhp (1500 kW). The small size of these additional generators and their infrequent use continues to support the staff's conclusions that environmental impacts of pollutants from diesel generators would be small. (0095-17)

Response: *Section 5.2.1 and 5.2.2 of the EIS discuss emissions from standby diesel generators. The inclusion of three additional diesel generators that would be used on an infrequent basis and used in accordance with State and Federal regulatory requirements does not provide any new information that would change conclusions made in Section 5.2.1 or 5.2.2 of the EIS. No change was made to the EIS as a result of this comment.*

Comment: Section 2.3.1.1 p.2.9 states "During winter ... prevailing wind from west-southwest." SNC ER states that greatest winter wind frequency is west-northwest. (0095-25)

Response: *Figure 2.7-3 of Southern's ER is a windrose plot of wintertime wind frequencies that is based off a 5-year period (1998-2002) of onsite meteorological data. The plot shows the most frequent wintertime wind direction is from the west, followed by the west-southwest. Discussion of the prevailing wintertime wind direction was corrected to state from the west in Section 2.3.1.1 of the EIS.*

Comment: 2.3.1 .4 p.2-10 states "The 5-year period (1998 through 2002) used in the analysis provided in the ER was an abnormally dry period in the southeast (Southern 2007a)". The statement was not found in the ESP ER as referenced. However, a reference to drought of 1999-2002 was referred to in the Vogtle ER for License Renewal on p. 4.1-2, Section 4.1 (0095-26)

Response: *The purpose of the citation was to reference the 5-year period (1998 through 2002) of meteorology being used in the ER. The citation has been clarified in Section 2.3.1.4 of the EIS.*

Comment: Air Quality Impacts The DEIS addresses impacts to air quality from both construction and operations activities at the Vogtle site. Construction-related emissions include fugitive dust from ground-clearing, grading and excavation activities and exhaust emissions from construction vehicles and equipment. While Southern has stated in its Environmental Report that it will develop a dust control plan to mitigate fugitive dust emissions, it does not propose mitigation of exhaust emissions from construction vehicles and equipment. Nor does Southern propose to mitigate exhaust emissions from emergency and standby diesel power generators used during plant operations. EPD encourages Southern to limit these exhaust emissions and protect the health of on-site workers and nearby residents by using new, retrofitted or re-powered construction equipment and power generators that meet applicable federal non-road engine emission standards, as well as adopting anti-idling measures and using "clean" diesel fuel, e.g., ultra-low sulfur diesel or biodiesel. (0118-3)

Response: *Section 4.2 of the EIS examines air quality impacts associated with construction; emissions would be predominately dust from construction activities and exhaust from equipment and vehicles. As noted in Section 4.2 of the EIS, Southern has committed in its ER to develop a fugitive dust control plan and a construction management traffic plan to limit emissions. Section*

5.2 of the EIS addresses air quality impacts from operations. Natural draft cooling towers proposed for Units 3 and 4 would not release emissions regulated under the NAAQS. Air emissions from operations would be primarily from diesel generators and auxiliary power supplies. These systems would be permitted and operated in accordance with State and Federal regulatory requirements and emissions would be infrequent. The staff concluded in Chapters 4 and 5 that the air quality impacts would be SMALL. No change was made to the EIS as a result of this comment.

E.2.5 Comments Concerning Hydrology – Surface Water

Comment: Water Use & Supply: -Vogtle's two existing reactors require huge amounts of water with only 1/3 of what was withdrawn being returned to the Savannah River [~64 million gallons per day (mgd) withdrawal with consumption of ~43 mgd]. That's more water than many towns and cities in Georgia use! -Doubling the number of reactors on site will only make this worse. This excess use of water threatens municipalities, industries, agriculture, recreation, and aquatic species. If there is an extended drought-even a drought 20 or 40 years from now, severe consequences could occur within the Savannah River basin. (0006-3)

Comment: Considering the massive amount of water they would need,...only a fool or a lapdog for the nuclear industry would dare propose its continued use. (0007-3)

Comment: My chief concern is that the rainfall in Georgia has been decreasing steadily over the last 100 years-and precipitously over the last year. Giving final approval for such a giant consumer of water at this time is not wise. (0010-2)

Comment: [T]he lack of water due to periodic drought conditions cannot be ignored, given the extreme demand more plants would create. (0011-4)

Comment: You are sucking more [water] than is being produced. So I'm saying look around you and make sure, whatever you are doing, save some water for the next generation. Our children deserve to be able to go down the river and then have, at least, some form of recreation in a God-given area, where there is a natural flow that we can fish and enjoy what is there. (0013-179)

Comment: I'm also a resident of the downstream community of Savannah, which stands to lose, especially from added water problems, if more nuclear reactors are built at Plant Vogtle. (0013-19)

Comment: [W]e do want to talk about water. We have strong concerns about the analysis on the impacts of Vogtle's proposed expansion would have on our water resources. Vogtle is the largest water user in the Savannah river basin, and its expansion essentially doubles that water use, and water loss. We would suggest, to the NRC, that water use should be reported in

different ways to help people actually understand the numbers. For instance, in section 7.3, water consumption is reported in cubic feet per second. Though I did the math, I don't think most people have the time to convert all of those figures to gallons per day, which is what most of our surface water withdrawals permits, in Georgia, are licensed under. When you do the math it shows that the current reactors are losing 43 million gallons of water per day and that the new reactors will lose about 40 million gallons per day. This means that more water will be lost from the two existing, and two proposed reactors, at Plant Vogtle, than is currently used by all residents of Atlanta, Augusta, and Savannah, combined. And on page 2-3.4, the Draft Environmental Impact Statement says that Burke County is predicted to have a 50 percent increase in water demand by 3 and that neighboring South Carolina's water demand will also increase by 50 percent between now and 45. And it acknowledges that people will be shifting off of the Floridan aquifer, to the Savannah river, and simply states that all of this would also increase demands for the Savannah river water downstream of Vogtle. But, in the end, because the NRC calculated that the two new reactors would not decrease the Savannah river flow of today by more than five percent, it acts as though all is good. (0013-26)

Comment: These new reactors will requires tons of millions of gallons of water above the huge amount Vogtle is already pulling from our Savannah river... The state of Georgia is under severe water restrictions. Water shortages are now, and will continue, to be a problem in the future. (0013-43)

Comment: A review of water resources needs to be done. I do not agree with the small footprint conclusion... Georgia is under drought restrictions. It is obvious climate change is occurring, and is volatile. The EPD, water planning for the future growth of Georgia, and energy production, ought to be working together, not in isolation. (0013-50)

Comment: Over the last 100 years the flow of the Savannah river has decreased from 15,000 cubic feet, per second, and today 6,000 cubic feet per second. And with growth, and climate change, I anticipate that flow rate will decrease even further. The footprint that Vogtle makes, on the state of Georgia will be -- well, let me put it this way, it will be the tail that wags the economic growth of Georgia, because Vogtle will absolutely mandate its water supply, at the expense of the rest of the state. (0013-51)

Comment: WATER...We cannot afford in Georgia to use our water cooling Nuclear reactors! The existing two reactors use about 64 million gallons per day from the Savannah River with only 1/3rd of that returned to the river. Georgia is in a drought which could last for years or happen again at any time. We cannot afford this excessive use of water. (0014-3)

Comment: This is not, however, the right time to be issuing water withdrawal permits to anyone in Georgia. We have been engaged for the past two years in an extensive government and public development process which is mandated by statute to lead to the adoption of a new Statewide Water Plan in the 2008 session of the Georgia General Assembly. Please let us

finalize and conduct the research and planning that is to be mandated by that plan before approving a massive water withdrawal such as will be required to operate two now generators at Plant Vogtle. (0015-2)

Comment: [T]he water analysis is not adequate. The recent drought has exacerbated the problem as flows in the Savannah River have been reduced to 3600 cfs and there are further discussions to reduce the flows below 3600 cfs to maintain water levels in upstream reservoirs. It is disconcerting to note that water lost to steam and unavailable for return to the Savannah River amounts to in excess of 75,000,000 gpd from operation of the existing and proposed new reactors. (0016-1)

Comment: [A] water supply and demand model should be developed for the entire Savannah River Basin that takes into account variable drought intervals, lengths, and severity along with increasing water demand from population growth and economic development. In addition to water supply and demand, future increased demand for more assimilative capacity in the Savannah River should be included which will address water quality of downstream users. Changes in assimilative capacity will, of course, affect acceptable levels for minimal flows. In turn, energy technology choices and growth management decisions should be tailored accordingly to accommodate projected constraints in the Savannah River Basin. (0016-3)

Comment: In our previously filed scoping comments, we asked that the Nuclear Regulatory Commission ("NRC") conduct a thorough environmental review of the direct, indirect and cumulative impacts of the proposed expansion on the Savannah River's ecology and on the local economies of downstream communities. Cumulative impacts should include the incremental impacts of the new units combined with impacts from the existing units and other current and proposed water withdrawals from and discharges into the Savannah River Basin. The DEIS has not done this. Several proposals such as the harbor deepening in Savannah and the proposed Georgia/South Carolina port facility were not part of the cumulative analysis. The DEIS only mentions a few aspects of the proposed expansion at the Savannah River Site. (0021-1)

Comment: [T]hough the DEIS demonstrates that the demand for water from the Savannah River will increase over the coming decades, it does not evaluate how the proposed expansion of Vogtle will affect these future water allocation concerns. Vogtle is currently the largest water user in the basin with over a sixty percent water consumption rate. The proposed expansion will only increase Plant Vogtle's impact on the basin. We are aware that if the ESP is granted, Southern Company can reference this permit in subsequent licensing processes for up to twenty years. Therefore, the NRC must at least evaluate the cumulative impacts from all projects, including increased withdrawals to accommodate population increases, within the next twenty years. (0021-2)

Comment: The DEIS fails to address the maximum cumulative withdrawal of existing Units 1 and 2 combined with proposed Units 3 and 4. Table 7-1 of the DEIS presents the combined normal withdrawal of all four units as a percentage of Savannah River flow under normal and low-flow conditions. Under normal operating conditions, Plant Vogtle will withdraw 4.6% of the Drought Level 3 minimum river flow. The DEIS concludes that the impacts of adding new Units 3 and 4 are likely to be small because the total combined withdrawals will be less than 5% of the total river flow; however, the DEIS does not disclose the percentage of river flow withdrawn under maximum withdrawal conditions, which will be 6.7% of the Drought Level 3 minimum flow. In other words, four units operating at maximum withdrawal under Drought Level 3 conditions will exceed the 5% threshold of significance identified in the DEIS. At Drought Level 4 conditions, maximum withdrawal will approach 8% of the total flow of the Savannah River. These increased impacts on the river's ability to meet downstream needs and sustain aquatic systems must be evaluated. (0021-4)

Comment: The DEIS uses questionable methods to estimate Savannah River flows, especially during low flow periods and drought. Rather than using actual data from the Plant Vogtle site, or the USGS Jackson gage (6 miles upstream from plant Vogtle), the DEIS assumes that the flow at Plant Vogtle will be equal to the amount discharged from Thurmond Dam (70 miles upstream). Thus, the DEIS fails to consider both the natural increase in flow as the river progresses downstream, and the impacts of municipal and industrial withdrawals and discharges occurring between Thurmond Dam and Plant Vogtle. The flow of the Savannah River at the Plant Vogtle site is a function of the release from Thurmond Dam and natural and human-induced increases and depletions. It is unreasonable to assume that the flow at Plant Vogtle will be equal to the discharge for Thurmon Dam, especially during dry periods. (0021-5)

Comment: In estimating impacts, the DEIS ignores minimum Savannah River flows that are reasonably likely to occur, especially given the ongoing drought in Georgia and South Carolina. The DEIS bases its analysis of flow-related impacts on the Corps of Engineers' Savannah River Drought Contingency Plan, which prescribes minimum discharge from Thurmond Dam during a drought. The Drought Contingency Plan defines four levels of drought, with progressively lower minimum discharge to the Savannah River. The DEIS calculates impacts on the Savannah River at Drought Level, 2, and 3, but entirely disregards Drought Level 4, which is the most severe drought condition when the river flow at Plant Vogtle will be at its minimum. As a result, the DEIS underestimates the percentage of the total river flow that will be withdrawn and discharged from the proposed new Units 3 and 4 during reasonably foreseeable flow conditions. The final EIS must address impacts of the proposed increase in withdrawal and discharge at all Savannah River flows that are likely to occur, including Drought Level 4. (0021-6)

Comment: We have serious concerns about the implications of the expansion of Plant Vogtle on the water quality and stream flow of the Savannah River and its tributaries and believe that the DEIS is deficient in adequately addressing those concerns. (0021-8)

Comment: As a person dependent on water from the Savannah River basin, I feel we should carefully evaluate the water needed to cool this extension and determine if this usage, will exacerbate the current water shortage in Georgia. (0022-3)

Comment: (1) The Vogtle EIS is deficient in only considering drought level 3. Georgia is currently in drought level 4, so droughts of this severity must be considered and corrected in your final EIS. (0024-1)

Comment: The enormous demands on water in nuclear-power generation, for cooling, coupled with thermal and radiation-pollutant impacts on watersheds and drinking-water supply bodies argues against nuclear power expansion, at this time. (0025-1)

Comment: The Vogtle EIS is deficient in only considering drought level 3. Georgia is currently in drought level 4, so droughts of this severity must be considered and corrected in your final EIS. Addition: Considering the vaguaries of weather of late, both a drought level consistent with a 100 year time period and a flood level consistent with global warming is more appropriate. I would suggest that the licensee look at what has already happened to this Earth rather than looking at previous regulation. (0026-1)

Comment: The effect on our environment is seen through the necessary use of water to cool the process. The Savannah River, the source, is already under pressure because of its use in irrigation during a time of severe drought throughout the state and region. As the river temperature rises, its use as a coolant becomes less effective. Then evaporation takes its toll. The net effect is to reduce the effectiveness of using the river as a coolant. The end of the drought is not in sight at this time. (0027-5)

Comment: I am concerned. I live in Savannah, by the Savannah River, and am very concerned about the increased water usage required for the expansion of the Plant Vogtle. Two additional reactors would raise the plants usage to 2% of the annual river flow. We are in drought conditions and an increase in water usage could potentially create a hazardous situation. (0029-1)

Comment: It is fatuous to fault Plant Vogtle (or any other nuclear facility) for using some water for cooling. Every industrial plant "uses" water, but most return it to the natural world clean and perhaps a few degrees warmer. (0030-5)

Comment: We suggest that the EIS calculates impacts on the Savannah River at Drought Level Drought Level 4, the most severe drought condition outlined by the USACE. As a result, the EIS will be better able to estimate the percentage of the total riverflow that will be withdrawn and discharged from the proposed new Units 3 and 4.The final EIS should address impacts of the proposed increase in withdrawal and discharge at all Savannah River flows that are likely to occur, including Drought Level 4. Increasing consumptive use of water in the Savannah River

Basin during low flow periods could contribute to cumulative environmental risks downstream including saltwater intrusion to the Savannah Wildlife Refuge and impacts on the productivity of the Savannah River estuary. (0031-1)

Comment: TNC encourages the Nuclear Regulatory Commission to look at these issues and to use the critical information that will be available after the completion of the USACE Comprehensive basin study (currently between Phase I and Phase II) and the state of Georgia's Comprehensive Statewide Water Management Plan. The Statewide Management Plan is currently within its final review process and upon acceptance, will include comprehensive basin wide analysis of water allocation including the Savannah River basin. Environmental impacts of the total water consumption by Plant Vogtle expansion should be considered in context with other consumptive uses within the basin. The amount of water consumed by the expansion of Vogtle needs to be assessed along with future water uses and increasing water demands basin wide. (0031-4)

Comment: Since the last drought that occurred in the basin (1998-2002), the Savannah District of the USAGE have been working on a study to examine the current and projected water resource uses and needs of the Savannah River. Early studies indicate that existing and future demands and needs (50 years out) cannot be met with current water management practices, storage allocations, and flow requirements from the USAGE projects on the Savannah. These demands include municipal and industrial water uses, recreation, and enough water to support ecologically healthy habitats downstream. Recent drought management activities and public meetings have highlighted the need for completion of a comprehensive wide basin study, in order to bring on-line needed modeling tools and analyses to aid in operation and management of the Savannah River Basin. (0031-7)

Comment: [Y]ou know that nuclear power plants demand enormous amounts of water, of particular concern as the State struggles with what is predicted to be a long-term, severe drought, and Southern Company consistently understates the risks and overlooks the tremendous down-side of electricity generated by nuclear power plants. (0032-3)

Comment: The Vogtle reactors withdraw millions of gallons of water daily from the Savannah River and much of this is lost trough evaporation. Given the potential for drought impacting the river in a serious way, please analyze in an in-depth way the impacts of water withdrawal during drought. (0034-5)

Comment: Several years ago, a drought in Georgia caused Georgia power to request permission to dam up the Altamaha River in order to protect water intake pipes. Please discuss impacts of such action by Georgia Power on the Savannah River. (0034-6)

Comment: Other aspects of the proposed expansion that would also have water implications along the Savannah River which have NOT been analyzed in the draft EIS include:...The cumulative impacts on water quality and quantity. (0037-10)

Comment: Other aspects of the proposed expansion that would also have water implications along the Savannah River which have NOT been analyzed in the draft EIS include:...Inadequate evaluation of the full impacts of a severe, long-lasting drought on the Savannah River basin. (0037-11)

Comment: [S]ection 2.12.3 of Southern's license renewal application states that the NRC will do a cumulative water analysis in this draft EIS for the early site permit. From our review, the cumulative impacts on water quality and quantity have not been satisfactorily evaluated in the draft EIS for the early site permit. That [an unsatisfactory cumulative water quality and quantity review] is a problem not only for the ESP but also for the license renewal. (0037-19)

Comment: The existing two reactors in Plant Vogtle are currently consuming more water than many towns and cities in Georgia use. Doubling the number of reactors on site will only make this worse. This excess use of water is a threat to municipalities, industries, agriculture, recreation, aquatic species, and local economies. (0037-2)

Comment: The current reactors are losing approximately 43 million gallons of water per day (mgd) and the new reactors will lose approximately 40 mgd. With average per capita daily water use in Georgia at 75 gpd, this means that more water will be lost from the two existing and two proposed reactors at Plant Vogtle than is currently used by all residents of Atlanta, Augusta, and Savannah combined. On page 2-34, the draft EIS says that Burke County is projected to have a 50% increase in water demand by 2035 and that neighboring South Carolina's water demand will also increase by 50% from 2000-2045 and acknowledges that people will be shifting off of the Floridan Aquifer to the Savannah River and simply states that all of this would also increase demands for Savannah River water downstream of Vogtle. But the NRC does not consider this a problem because the NRC calculated that the two new reactors would not decrease the Savannah River flow of today by more than 5%. Nowhere in this document does it appear that the NRC has evaluated how the Savannah River is going to be able to handle the Georgia and South Carolina that we will live in decades from now, that by the NRC's own statements appears to be a future in which the Savannah River is going to see extreme increases in demand. The NRC does not acknowledge that the Savannah River appears to already be over-allocated today, let alone several decades in the future. This needs to be studied and the expected results should be considered in the issuance of the final EIS. (0037-3)

Comment: Other aspects of the proposed expansion that would also have water implications along the Savannah River which have NOT been analyzed in the draft EIS include:...Severe draught that has pitted municipalities, businesses, and citizens against each other. (0037-9)

Comment: The reactors are expected to use at least 1% of the average annual river flow, with many groups saying that it will use much more. Planning to use so much water during a time when Georgia is facing historic drought is neither prudent nor advisable. (0040-2)

Comment: SCDNR has a number of concerns regarding natural resource impacts of the planned facility expansion to include at least the following: 1. Water use and consumptive loss in a heavily impacted surface water body, the Savannah River. This river currently is under low flow conditions to include flows lower than presently approved Stage 3 flow release protocols from the J. Strom Thurmond Dam. While projected water use and loss is small it must be considered in the cumulative context requiring careful examination of further use and loss. (0041-3)

Comment: Please, do not do this. None of the essential problems concerning nuclear power have been solved. However, we now have a new one: WATER! (0044-1)

Comment: Page 5-6. The USACE Savannah River drought plan only specifies a maximum discharge. In other words, Level 1 specifies a maximum weekly average of 4,200 cfs and Level 2 a maximum weekly average of 4,000 cfs. The only minimum discharge requirement is the daily average of 3,800 cfs, which applies in drought or non-drought. Therefore, the weekly average discharge can frequently be about 3,800 cfs during levels 1 and 2, depending on hydropower needs. Furthermore, the USACE has implemented a modification to the drought plan which reduces the daily average to 3,600 cfs during severe drought and is currently considering further flow reductions. The drought plan discussion needs to be modified to clarify the flow requirements and the withdrawal percentages need to be recalculated. In addition, Drought Level 4 needs to be evaluated using information on reservoir inflow which is available at the USACE web site. (0045-4)

Comment: AND with water consumption/situation the way it is, how can an expansion of an energy plant that uses so much water be smart??? (0046-3)

Comment: I am against it [expansion of the Vogtle nuclear plant] because of the water situation (0048-2)

Comment: Water Concerns We have strong concerns about the NRC's analysis on the impacts Vogtle's proposed expansion would have on our water resources. Businesses, municipalities, and citizens both Georgia and South Carolina, especially downstream stakeholders such as the communities of Savannah and Beaufort/Jasper counties, stand to lose from added water problems if more nuclear reactors are built at Plant Vogtle. Our energy choices make a big difference on the future of the river basins and the communities and businesses reliant on those water sources. Vogtle is the largest water user in the Savannah River basin and its expansion essentially doubles that water use and water loss. The current reactors are losing approximately 43 million gallons of water per day (mgd) and the new

reactors will lose approximately40 mgd. With average per capita daily water use in Georgia at 75 gpd, this means that more water will be lost from the two existing and two proposed reactors at Plant Vogtle than is currently used by all residents of Atlanta, Augusta, and Savannah combined. On page 2-34, the draft EIS says that Burke County is projected to have a 50% increase in water demand by 2035 and that neighboring South Carolina's water demand will also increase by 50% from 2000-2045 and acknowledges that people will be shifting off of the Floridan Aquifer to the Savannah River and simply states that all of this would also increase demands for Savannah River water downstream of Vogtle. But the NRC does not consider this a problem because the NRC calculated that the two new reactors would not decrease the Savannah River flow of today by more than 5%. (0050-2)

Comment: For instance, section 2.12.3 of Southern's license renewal application states that the NRC will do a cumulative water analysis in this draft EIS for the early site permit. Form our review, the cumulative impacts on water quality and quantity have not been satisfactorily evaluated in the draft EIS for the early site permit. That is a problem not only for the ESP but also for the license renewal. (0050-25)

Comment: A review of water resources: Additionally impacts on the Savannah estuary, water dynamics, and the fisheries habitat need to be included. This facility, Vogtle, will be discharging into the atmosphere twice the daily water needs of the city of Augusta while the rest of Georgia is subject to having their water shut off, reconnection fees, and penalties for failing to conserve. The flow of the Savannah has decreased froml 5,000 cfs in 1884 to 6,000 cfs today. (0068-7)

Comment: These new reactors will require tons of millions of gallons of water above the huge amount plant Vogtle is already pulling in from our Savannah River. Augusta is located on the banks of the Savannah River across from another nuclear plant the Savannah River Site. The State of GA is under severe water restrictions. Water shortages are now and will continue to be a problem in the future. (0073-2)

Comment: As a person dependent on water from the Savannah River basin, I feel we should carefully evaluate the water needed to cool this extension and determine if this usage, will exacerbate the current water shortage in Georgia. (0083-3)

Comment: Since these units will be added to the existing two units, the total maximum water usage should these two units be approved would be double that amount, for a total maximum usage of 181,395,532.8 gallons of water per day. Approximately one third of that would be returned to the river up to 50 degrees hotter than when it was withdrawn and contaminated with chemicals and radioactive toxins. Two thirds will be evaporated, or consumed. (0087-1)

Comment: We are currently in the worst drought in history, vast sections of the state are at level 4 drought, yet the NRC's analysis only considers drought to level 3. Page 5-6, lines 40-41 state "Comparable levels for drought level 4 are not shown in Table 5-1 since they cannot be

calculated because the river discharge is not specified." And on page 5- 7, lines 24-25, state: "As in Table 5-1 comparable levels for drought level 4 are not shown in Table 5-2." Therefore, the Vogtle EIS is deficient in only considering drought level 3. With Georgia now in a persisting and intensifying drought, I, it is only prudent to consider Vogtle's expansion in relation to drought level 4. (0087-2)

Comment: The state of Georgia has not finalized a statewide water plan and therefore has no idea of Georgia's water needs in the next 20 years. (0088-1)

Comment: We are currently in the worst drought in history, level 4, yet your EIS only considers droughts to level 3. Page 5-6, lines 40-41. "Comparable levels for drought level 4 are not shown in Table 5-1 since they cannot be calculated because the river discharge is not specified." On page 5-7, lines 24-25, states: "As in Table 5-1 comparable levels for drought level 4 are not shown in Table 5-2." Therefore, the Vogtle EIS is deficient in only considering drought level 3. With Georgia now in drought level 4, this severity must be considered and corrected in your final EIS. (0090-2)

Comment: Vogtle's 2 existing reactors require huge amounts of water with only 1/3 of what was withdrawn being returned to the Savannah River [~64 million gallons per day (mgd) withdrawal with consumption of ~43 mgd]. That's more water than many towns and cities in Georgia use! -Doubling the number of reactors on site will only make this worse. This excess use of water threatens municipalities, industries, agriculture, recreation, and aquatic species. If there is an extended drought—even a drought 20 or 40 years from now, severe consequences could occur within the Savannah River basin. (0091-17)

Comment: We suggest that the EIS examine impacts on the Savannah River at Drought Level 4 with all four reactors operating (existing 1 & 2 and proposed 3 &4), the most severe drought condition outlined by the USACE. As a result, the EIS will be better able to estimate the percentage of the total river flow that will be withdrawn and discharged from the proposed new Units 3 and 4 along with an assessment of having four reactors operating. The final EIS should address impacts of the proposed increase in withdrawal and discharge at all Savannah River flows that are likely to occur, including Drought Level 4. Increasing consumptive use of water in the Savannah River Basin during low flow periods could contribute to cumulative environmental risks downstream including saltwater intrusion to the Savannah Wildlife Refuge and impacts on the productivity of the Savannah River estuary. (0092-2)

Comment: Environmental impacts of the total water consumption from all four reactors by Plant Vogtle expansion should be considered in context with other consumptive uses within the basin, existing uses and those proposed in the future. The amount of water consumed by the expansion of Vogtle needs to be assessed along with future water uses and increasing water demands basin wide. (0092-5)

Comment: Another concern is the amount of water that reactors use. The draft EIS does not adequately consider the impact of the amount of water, the effect of the water vapor and the impact of the water that the reactor withdraws on the health of the river downstream. (0093-3)

Comment: Water use and consumptive loss - We have justified concerns over water use and consumptive loss in a heavily impacted surface water body, the Savannah River. This river currently is under low flow conditions to include flows lower than presently approved Stage 3 flow release protocols from the J. Strom Thurmond Dam. While projected water use and loss from a potential plant expansion is small it must be considered in both the cumulative and also the drought contexts requiring careful examination of further use and loss. SCDNR recently has requested the US Army Corps of Engineers to initiate an environmental assessment for further flow reductions of the Savannah River from the Thurmond Dam due to the deepening of the drought of record during 2007. Currently net inflow to Lake Thurmond is approximately 500 cfs and releases are approximately 3600 cfs. If the current drought persists Lake Thurmond outflow will be reduced to 500 cfs. Operation of the proposed reactor units 3 and 4 would result in an unprecedented percentage withdrawal of water from the Savannah River for the Vogtle facility during such flows. This level of withdrawal would result in catastrophic natural resource and human impacts. Additional withdrawal should not be permitted under low and very low flow protocols, and other sources of water will have to supplement water withdrawn from the Savannah River. The project sponsors should develop a contingency plan to describe where additional water for the Vogtle plant will come from should such a scenario occur. (0096-1)

Comment: Furthermore, the massive consumption of surface water required for operating new nuclear reactors is unacceptable considering the extreme shortage of this increasingly endangered commodity. Allowing Vogtle 3& 4 to exacerbate saltwater intrusion at the mouth of the Savannah River is unacceptable. (0097-3)

Comment: The one hundred year forecast, fifty year forecast and twenty year for regional drought must be part of this EIS. Water usage priorities for the region must be considered under federal law agoring to established need. (0098-6)

Comment: Particularly in Georgia, with our major drought and need for ongoing water usage control, building more nuclear plants that require a tremendous amount of water that is just dissipated as steam into the atmosphere, would be a grave mistake. (0101-3)

Comment: As a resident of Atlanta I am very much aware of the problem that mismanaged water resources can have on a population of 5 million. Let's not shoot ourselves in the foot by creating a water guzzling, water pulluting monster. (0102-5)

Comment: Given that much of Georgia is in a Level 4 drought, and the Savannah River Basin is hovering between a Level 2 and 3 drought, it is imperative that NRC conduct an analysis of the effects of VEGP 3 and 4 in a Level 4 drought. "Unfortunately, we expect the reservoirs to

continue to fall until precipitation patterns change," said Jason Ward, a hydrologist with the Army Corps of Engineers. "Most streams in the Savannah River Basin with long term records are below five percentile flow levels and some gages are setting new all time lows." A Level 4 Drought is probable and needs to be analyzed by the NRC before granting the largest water user in the basin permission to double its take. A Level 4 Drought will have substantial effects on the river's ability to assimilate and dilute both thermal pollution and chemical waste. The downstream users must know what those effects will be before an Early Site Permit is granted to Southern Company. (0110-2)

Comment: Additionally, it is becoming increasingly clear that an inter-basin transfer from the Savannah River to Atlanta is in the future. This coupled with record-setting droughts must be analyzed in The Cumulative Impacts on users downstream who are, as saltwater intrudes the Upper Floridan Aquifer, looking to the Savannah River for water needs. The decreased flow from an inter-basin transfer and a level 4 Drought would concentrate the radioactive waste discharged into the river. This must be analyzed in the Cumulative Impacts as well. (0110-5)

Comment: The... article in the Dec. 25 Baltimore Sun alerted me to a new cooling system that will reduce the intake of cooling water for nuclear power plants, and should be considered for the two proposed Vogtle reactors. The article estimated that water use would be reduced by 98 % for the reactors at Calvert Cliffs. How much would this new improved cooling system reduce the intake of water from the Savannah River for the two proposed reactors at Vogtle? (0113-1)

Comment: It is imperative that you look at this in light of the high intake of up to 57,784 gallons of water per minute that the two proposed new reactors will take from the Savannah river, according to Draft EIS 1872. This translates to a maximum of 83,208,960 gallons of water a day to cool these reactors, plus another 9 %, or a maximum of 7,488,806.4 gallons a day from groundwater for additional plant operations. This is in addition to the water that is currently being used to cool and operate units 1 and 2 at Vogtle. (0113-2)

Comment: In the past, when technical improvements have been made, you have ruled that they be retrofitted onto existing reactors. Since we are experiencing the worst drought in history, level 4, which is not even considered in your Draft EIS 1872, it would be prudent for you to insist that all new reactors incorporate this new technology, and that all existing reactors be retrofitted with this new cooling system. (0113-3)

Comment: The extreme waste of 43 million gallons a day at Plant Vogtle and the "Western Water Law" which allows water to be owned, bought and sold will not enhance the quality of life for all citizens, destroys natural systems and public health, and does not support the states economy by managing water resources in a sustainable manner. Also, approval of an "early site permit" for Georgia Utilities will supply thier new reactors with tens of millians of gallons of water, above and beyond the tens of millions, Plant Vogtle is all ready pulling from the Savannah River. There is no excuse for this type of environmental and social abuse. Please

consider the Georgia Water Coalitions plan for a true Statewide Water Management Plan. A plan that unites the everyone in the State of Georgia with one vision, and one set of principles. The draft plan can be found at www.georgiawaterplan.org. (0119-1)

Comment: As you may know, in the time since the last comment period on this permit most of Georgia, especially the northern half, has been hit hard by a historic drought. Northern Georgia is under a total watering ban and many cities could run dry by next spring. It has been reported that Atlanta and other North Georgia cities may try to tap the Savannah River and other sources in South Georgia to meet their needs. The draft EIS makes no mention of the proposed reactors' projected water use, especially in light of this drought. It is irresponsible for Southern Nuclear Operating Company to want to build more nuclear reactors that consume copious amounts of water at this time. At the very least the company must address the new reactors' water use and put it in context of this and any future drought. Absent this, their request for, an Early Site Permit deserves nothing less than a categorical denial. (0120-1)

Comment: I strongly urge the Commission to, at the very least, force Southern Nuclear to go back to the drawing board and have it account for the proposed reactors' increased use of Savannah River water and put it in context with the ongoing drought. This should be thoroughly explained in a new draft EIS. When it is released the Commission should hold hearings on it in Savannah, Atlanta and Georgia's other major cities in addition to Waynesboro. This is because this plan has serious ramifications' for the entire state. If the company fails to do this or simply states there is a negligible impact then the ESP should be denied on the spot, end of story. (0120-5)

Comment: Page 5-6. The USACE Savannah River drought plan only specifies a maximum discharge. In other words, Level 1 specifies a maximum weekly average of 4,200 cfs and Level 2 a maximum weekly average of 4,000 cfs. The only minimum discharge requirement is the daily average of 3,800 cfs,-which applies in drought.or.non-drought. Therefore, the weekiy average discharge can frequently be about 3800 cfs during levels 1 and 2, depending on hydropower needs. Furthermore, the USACE has implemented a modification to the drought plan which reduces the daily average to3,600 cfs during severe drought and is currently considering further flow reductions. The. drought plan discussion needs to be modified to clarify the flow requirements and the withdrawal percentages need to be recalculated. In addition, Drought Level 4 needs to be evaluated using information on reservoir inflow which is available at the USACE web site. (0121-2)

Comment: We oppose new nuclear reactors based on... the strain and threat to our water resources. (0122-7)

Comment: The two new reactors contemplated at Plant Vogtle would use the equivalent of the residential water use of Savannah, Augusta and Atlanta, an impact the NRC, during a time of severe drought, incredibly labels "small". (0124-3)

Comment: It will also cause desperate harm to the already serious water deficiency afflicting the entire area in question. (0125-2)

Comment: In particular, EPA suggests that the Final EIS include additional information about potential surface water withdrawal impacts... (0126-1)

Comment: The NRC has not done proper analysis of the impact new reactors at Plant Vogtle will have on our drinking water supplies down stream. Our water is provided by the Beaufort Jasper Water and Sewer Authority and comes from the Savannah River. Considering the current consumptive use of more than 40 millions gallons per day by the existing reactors, the acknowledged consumptive use of new reactors, the population growth down stream, the draught conditions we are currently facing and the potential for future draughts the NRC needs to perform a more comprehensive study of the water supply issue...Please examine the water supply issue more thoroughly. (0128-1)

Comment: As presented in the document the environmental impact related to the proposed withdrawals is largely based on an estimate of the net withdrawal amount as a percentage of total river discharge near the proposed withdrawal location. In the absence of a proximally located active' flow gaging station the authors have used the discharge data from the upstream J. Strom Thurmond dam as a surrogate for the flow at the downstream Vogtle site. The authors present four stream discharge scenarios for the purpose of assessing environmental risks: "average" discharge and the three progressively lower discharge regimes that would exist under Drought Level I through Drought Level III conditions. They explicitly exclude analysis of discharge regimes under Drought Level IV on the basis that the discharge would not be predictable under the discharge parameters dictated by Drought Level IV status. However, the average discharge from the dam has been below Drought Level III levels (3800 cfs) for the (0131-1)

Comment: We are concerned about water withdrawals during drought flows. The DEIS calculates the percent of the river's discharge withdrawn as a function of water released from Thurmond dam under three levels of drought severity. The consumptive water use under these scenarios appears to be small (<1.8% of the river's volume under drought level 3). Although the exact discharges from Thurmond Dam cannot be predicted for a level four drought (release = inflow to reservoir), it is possible to calculate the percentage of flow withdrawn under some hypothetical releases that might occur during a level four drought. These could be based upon actual inflow levels measured during the 2007 drought. Such calculations will help better gauge impacts to the flow regime, temperature profile, and water quality of the Savannah River. (0133-2)

Response: *A number of comments were general in nature and expressed concern over the availability of sufficient water in the Savannah River to support the needs of downstream users and fish and wildlife. The staff, in its analysis, considered the impacts associated with*

construction and operation of two additional units and provided the analysis in Chapters 4 and 5 of the EIS. The staff believes that sufficient water is available in the Savannah River Basin to support two additional closed cycle cooling nuclear plants at the Vogtle site.

The staff acknowledges that operation of the proposed VEGP Units 3 and 4 will result in a reduction in the amount of water downstream of the VEGP site. This reduction in downstream flow is primarily the result of the evaporation of water to transfer reject heat from the plant into the atmosphere. The reduction in downstream flow will be proportionately greater during periods of drought such as the one the Savannah River Basin is experiencing at the time of the preparation of this EIS. The flow in the Savannah River at the VEGP site is highly regulated by a series of dams upstream of the VEGP site. The U.S. Army Corps of Engineers (Corps) manages the reservoirs in an attempt to balance multiple objectives of the Savannah River including: flood control, municipal needs, industrial needs, recreation, navigation, and the aquatic ecosystem.

In 2006, the Corps released a draft Drought Contingency Plan (USACE 2006). The draft plan proposed releases under four drought levels. The Drought Contingency Plan has not been finalized at the time of the writing this EIS. However, the staff has presented the reservoir release policies described in the draft Drought Plan in this EIS, as it represents the most current understanding of future operation. The Savannah River Basin is currently in a severe and multiple-year drought. The Corps is presently operating in a manner similar to the draft Drought Plan except that the Thurmond Dam discharge has been at 3600 cfs and not the 3800 cfs minimum currently prescribed in the draft plan. Based on the draft plan, the Savannah River Basin is at Drought Level 2 and has never reached Drought Level 3 or 4. 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 3100 cfs.

The implementation of Drought Level 4 in the draft Drought Contingency Plan currently does not provide the explicit flows that would be needed for an impact analysis. The Corps, the State of Georgia and the State of South Carolina are presently clarifying the operational implementation of Drought Level 4. Without explicit flow levels (and given the likelihood that any such flow levels would likely change based on the ongoing development of the Draft Drought Contingency Plan) and because a Drought Level 4 would be an extremely rare event, the staff determined that it was still conservative to base its analysis in this EIS on Drought Level 3. However, the staff did revise the EIS to reflect potential impacts at flow rates of 3000 and 2000 cfs in addition to the 3800 cfs minimum for Drought Level 1, 2, and 3 from the current draft Drought Contingency Plan. Nevertheless, the staff does not believe that the current drought conditions represent a new baseline condition for the Savannah River Basin. Furthermore, if flows decline to a level that the consumptive use of water by the plant's cooling system or the discharge of blowdown to the Savannah River represent a significant impact, the plant may be required by

relevant State water permitting authorities (e.g., GDNR) to derate or stop operation. Based on the comments above, changes have been made to Section 5.3.2.1 of the EIS to clarify the draft Drought Management Plan and impacts at flows less than 3800 cfs. Also, based on the comments above, changes have been made to Chapter 7 to address the significance of lower flows for the staff's analysis of cumulative impacts.

A comment requested that the staff perform a very detailed water budget model of the Savannah River Basin. Based on the determination that there would be only a small fractional withdrawal of the Savannah River at the VEGP site, the staff determined that such a detailed model analysis was not merited for this impact assessment.

A comment mentioned the difference between flows at the VEGP site and the Thurmond Dam release point. Between the Thurmond Dam and the VEGP site, discharges to the river and withdrawals from the river will change the flows reaching the VEGP site. The two largest water withdrawals upstream of the VEGP site are Urquhart Station at RM 195, which uses 3.61 m^3/s (127.5 cfs), and the D-Area Powerhouse at RM 155, which uses 1.94 m^3/s (68.4 cfs). Both are operated by South Carolina Electric and Gas. Upstream of the VEGP site, primary discharges of groundwater and surface water (including from Butler Creek, Spirit Creek, Hollow Creek, McBean Creek, Upper Three Runs Creek, Four Mile Branch, and Pen Branch) into the river increase the streamflow. The U.S. Geological Survey (USGS) estimated groundwater discharge over the reach of the river from just below Thurmond Dam to just above the VEGP site to be approximately 223 cfs during low flow conditions (i.e., river flow of 3800 cfs) (USGS 1987). Furthermore, the groundwater discharges to the river would likely increase at extremely low stream flows, while the withdrawals would not. For these reasons, the staff considers it likely that the groundwater discharges to the river are approximately equivalent to the consumptive loss from the upstream users (even under lower flow conditions). In any event, whatever the potential difference between the upstream withdrawals and discharges, that difference would be very small compared to the total river flow. The staff also notes that the Jackson gage mentioned by the comment was taken out of service in 2002 and is not available to measure streamflow near the VEGP site. Moreover, the staff notes that the accuracy of the Savannah River stream gages ranges from 5 to 10 percent of true. Accordingly, given the likelihood that upstream withdrawals from and discharges to the Savannah River are approximately equivalent, and considering the reliability of the flow estimates at the Thurmond Dam release point, the staff considers it appropriate to base analysis of the flow past the VEGP site on the Thurmond Dam estimated releases.

Several comments requested that the EIS discuss cumulative impacts of water use of the existing unit and the proposed Units 3 and 4. The cumulative impact on water use is discussed in Section 7.3 of this EIS.

Several comments referred to the potential movement of salt water due to reduced flow in the Savannah River. The staff determined that the movement of the salt water wedge around Savannah, Georgia is dominated by the seasonal variations in the discharge of the Savannah River near Savannah, Georgia. These seasonal variations are controlled primarily by reservoir operations and seasonal climate patterns and not by the relatively small incremental withdrawal for VEGP.

A comment requested that impacts of water vapor be considered. The staff acknowledges that water vapor can act as a greenhouse gas. However, the amount that would be added to the atmosphere from two additional units at the VEGP would be inconsequential in comparison to the amount water vapor in the atmosphere in the vicinity of the plant.

Several comments requested that the EIS consider alternative cooling systems. Cooling system alternatives are addressed in Section 9.3 of the EIS.

Comment: Water Quality -The water discharged from nuclear Plant Vogtle is already hotter than what is withdrawn; more reactors will only make this situation worse. Temperature changes negatively affect the fish, plant, and animal life that depend on the river. (0006-4)

Comment: Also, related to the drought there has been, in the news lately, some accounts of plants, nuclear plants in particularly, not being able to operate at full capacity, or sometimes operate at all, because of some of the compromising situations that drought has put them in for their cooling systems, how this might be addressed. (0013-151)

Comment: [T]he experiences even this year by the TVA (nuclear generation problems when river water temperature too high) and in recent years during a heat wave, by France (many reactors haveing to be shut down). (0025-4)

Comment: Neither the water vapor (classified as air pollution under Clean Water Act) nor the heat vented into the local environment have been considered in the EIS. Of the enormous heat generated by Vogtle (and all) reactors, only 1/3 is used for energy, the other 2/3 is vented into the local environment as steam and heated water. This local impact must be considered. (0033-2)

Comment: SCDNR has a number of concerns regarding natural resource impacts of the planned facility expansion to include at least the following: 3. Further potential water quality impacts associated with thermal pollution, and consumptive water loss. (0041-5)

Comment: Currently the GA Port Authority is spending millions of dollars pumping oxygen into the Savannah River in the vicinity of the City of Savannah due to the low oxygen content that will not support aquatic life in the river. Everyone seems to think it is pollution that is causing the

problem. No one but you and I are looking to the current 62 million gallons a day of cool water Plant Vogtle takes from the river and then returns 21 million gallons of hot water. This hot water does not hold oxygen and thus is one of the primary reasons for the sub par level of oxygen. So now what is Southern Company want to do? Take twice as much water and return then twice as much hot water to a river that is already in violation of DO (dissolved oxygen) levels to support aquatic life. I understand Southern Company says they are not taking a significant amount of water from the Savannah River then they say they return all but 7% in South East. That is not turn of the Savannah River. In 1184 the savannah River flowed (according to USGS) at 15,000 cubic feet per second. Today it flows at 6,000 cubic feet per sec. There has been a straight line decrease form 1884 till today. Once this permit to lose 80 million gallons a day (remove 121 million and only return 41 million gallons per day) is approved, it will never be changed. Even as the flow continues to drop. Today with the drought only 3,600 cubic feet per second is being releases from Clark Hill/ Thurmond dam. Much of that is water lost into Columbia County, Augusta, and SRS (Savannah River Site). I offer during drought periods, 80 million is a significant amount. Until Southern Company can come up with a way to return an adequate amount of river water and return it at a reasonably cool river temperature, this plant should not be expanded. If approved a restriction to NOT run the third and fourth Reactor during low flow conditions should be written into the approval process. (0052-1)

Comment: Section 5.3.3, lines 30-33 state: "The GDNR classified the Savannah River at the VEGP (Vogtle Nuclear Power Plant) site for fishing water use (GDNR 2007a). The water-quality standards for temperature are not to exceed 32.2 degrees C. (90 degrees F) and at no time is the temperature of the receiving waters to be increased more than 2.8 degrees C (5 degrees F) above the intake temperature. ...Page 5-14, lines 6-7 state: "The independent assessment performed by the staff assumed Drought Level 3 conditions were in effect." Page 5-15, lines 1-2 state: "The temperature difference between the ambient river and the discharge effluent were therefore calculated to be 28 degrees C (50 degrees F).["] So, even at Drought level 3, the maximum effluent discharges are calculated to be 10 times hotter than the maximum allowed. (0087-3)

Comment: Two thirds of the water currently withdrawn by Plant Vogtle is consumed and only one third is returned to the system; the one third returned is hot water and increasing the discharge will create "hot spots" causing damage to the environment, fish, and wildlife. (0088-3)

Comment: The water entering the river should be within 3°C of the temperature of the river upstream and dissolved oxygen in the water should be about 80% saturated when it enters the river. (0089-2)

Comment: Since these units will be added to the existing two units, the total maximum water usage should these two units be approved would be double that amount, for a total maximum usage of 181,395,532.8 gallons of water per day. Approximately one third of that would be

returned to the river up to 50 degrees hotter than when it was withdrawn and contaminated with chemicals and radioactive toxins. Two thirds will be evaporated, or consumed. (0090-1)

Comment: Section 5.3.3, Water-Quality Impacts, on page 5-13, lines 23-26 state: "Surface-water impacts include thermal and chemical changes in the Savannah River resulting from effluents discharged by the plant. Groundwater impacts include changes in water quality of the surrounding environment because of plant withdrawals, primarily from the Cretaceous aquifers." Section 5.3.3, lines 30-33 state: "The GDNR classified the Savannah River at the VEGP (Vogtle Nuclear Power Plant) site for fishing water use (GDNR 2007a). The water-quality standards for temperature are not to exceed 32.2 degrees C. (90 degrees F) and at no time is the temperature of the receiving waters to be increased more than 2.8 degrees C (5 degrees F) above the the intake temperature...Page 5-14, lines 6-7 state: "The independent assessment performed by the staff assumed Drought Level 3 conditions were in effect." Page 5-15, lines 1-2 state: "The temperature difference between the ambient river and the discharge effluent were therefore calculated to be 28 degrees C (50 degrees F). So, even at Drought level 3, while we are currently in Drought level 4, the maximum effluent discharges are calculated to be 10 times hotter than the maximum allowed. (0090-3)

Comment: We suggest that the following issues should be considered: Impact of the warming of water by reactor operations when added to a warmer river. (0091-4)

Comment: We suggest that the following issues should be considered: Impact of cooling -- including the condenser using water that will be warmer due to climate change. (0091-5)

Response: *A number of comments on thermal water quality impacts of effluents were general in nature expressing concern over the addition of heat to the Savannah River. The staff, in its analysis, considered the impacts associated with the discharge of effluents associated with the operation of two additional units on the downstream users and biota of the Savannah River. The staff's analysis is provided in Chapter 5 of the EIS. The staff believes that impacts of the discharge will not adversely impact either downstream users or biota.*

The effects of thermal discharges from the proposed Units 3 and 4 (primarily cooling system blowdown) were evaluated in Section 5.3.3.1, and the cumulative thermal effects of the proposed new units with the existing Units 1 and 2 were evaluated in Section 7.3.2.1. As described in these sections, the staff found that the thermal plume, even at low river flow rates was small compared to the size of the Savannah River, and any increases in water temperature would not likely be detectable beyond the plant boundary.

Several comments mentioned the potential need to derate plants due to elevated stream temperatures. In the US, such derating has been limited to nuclear plants with once through cooling systems experiencing high inlet river water temperatures. The cooling capacity of closed cycle cooling systems is not significantly impacted by the temperature of the makeup

water. Therefore, the closed cycle cooling systems for VEGP Units 3 and 4 would not likely be derated during warm weather.

A comment requested that impacts of water vapor from the additional cooling towers be evaluated. The staff acknowledges that water vapor can act as a greenhouse gas. However, the amount that would be added to the atmosphere from additional of two additional units would be inconsequential in comparison to the amount water vapor in the atmosphere in the vicinity of the plant.

One comment mentioned the problem of low dissolved oxygen in the Savannah River. The staff determined that the impact of the thermal discharge on stream temperature would be limited to a small area in the river and would not be detectable beyond the extent of the plant boundary. Therefore, the indirect impact of stream temperature on dissolved oxygen would not extend beyond the plant boundary. Water exiting the cooling towers is typically supersaturated with oxygen. Dissolved oxygen levels in the discharge would likely be higher than river levels. Additionally, the staff determined that the VEGP plant would not contribute significantly to the nutrient load in the river, which also impacts dissolved oxygen.

Two comments discussed differences between the ambient river and discharge temperatures. The State of Georgia regulates the thermal releases based on a mixing zone. Within the mixing zone, temperatures exceed 5 degrees F greater than ambient. Outside the mixing zone, temperatures are less than 5 degrees F greater than ambient. The extent of this mixing zone is the basis for Georgia's regulation of thermal discharges.

No change was made to the EIS as a result of these comments.

Comment: Further, that the Draft Environmental Impact Statement has no analysis of climate change predictions on our water systems, such as the prospects for severe, long-lasting, mega droughts, of which Georgia may encounter as global warming impacts are realized. (0013-28)

Comment: Our climate is changing and I believe that the NRC and Southern Company have failed to look at the impact of climate change on water needs and availability. (0017-1)

Comment: Our planet is warming and all thermal energy production. coal, nuclear and gas.discharge large amounts of heat into our environment and us a disproportionate share of a fragile and vital resource - water! (0017-2)

Comment: I urge serious consideration be given to the likely, further stresses on our water systems as climate warming progresses. (0025-3)

Comment: Yet, these realities never seem to appear when nuclear power is promoted as the solution to our energy needs and also as a solution to global warming. (0028-6)

Comment: Other aspects of the proposed expansion that would also have water implications along the Savannah River which have NOT been analyzed in the draft EIS include:...Climate change predictions on our water systems, such as the prospects for severe, long-lasting mega-droughts, of which Georgia may encounter as global warming impacts are realized. (0037-7)

Comment: Since we are discussing the prospects of these reactors operating for many decades from now, the NRC needs to evaluate predicted effects of global warming on this region and how nuclear power plants may be negatively impacted or unable to generate electricity: This was demonstrated by the heat waves over the past summers in Europe-when nuclear power plants from Sweden to France, and even here in the U.S. at Browns Ferry, had to shut down because the lake or river water temperatures were too high to allow for continued operation of their nuclear power plants. (0050-14)

Comment: [T]he draft EIS has no analysis of climate change predictions on our water systems, such as the prospects for severe, long-lasting mega-droughts, of which Georgia may encounter as global warming impacts are realized... The Vogtle draft EIS does not evaluate the full impacts of a severe, long-lasting drought on the Savannah River basin. (0050-7)

Comment: A review of water resources: For Georgia the mentality of "Load the cart, the mule will pull it." may be a thing of the past for a number of reasons. Georgia is under drought restrictions. It is obvious climate change is occurring and is volatile. The EPD, water planning for the future growth of Georgia and energy production ought to be working together, not in isolation. (0068-6)

Comment: We suggest that the following issues should be considered: Impact of climate change on drought patterns. Impact of drought patterns during a changing climate on the Savannah River and ground water that is planned for use. (0091-10)

Comment: We suggest that the following issues should be considered: Impact of drought patterns during a changing climate on the drinking water needs of Georgia and South Carolina - - since the deep aquifer that Southern Company plans to tap underlies both GA and SC. (0091-11)

Comment: [I]t is not credible that nuclear power -- particularly the proposed units at Vogtle -- will do ANYTHING to reverse this situation. Even a global doubling of nuclear energy generation by 2050 (not likely) -- would only reduce Green House Gases by 5% - - or less than 1/10th of the required goal for climate stabilization. (0091-13)

Comment: NIRS also finds the silence by the US NRC staff on the potential environmental impact of climate change to be incredible. (0091-2)

Comment: We suggest that the following issues should be considered: Impact of warming weather on the ambient temperature of the water in the Savannah River. (0091-3)

Comment: We suggest that the following issues should be considered: Impact of warmer water in the oceans of the region on hurricane intensity and on hurricane frequency. (0091-6)

Comment: We suggest that the following issues should be considered: Impact of turbulent weather -- including but not limited to hurricanes on site operations. (0091-7)

Comment: Global warming is here bringing drought to Georgia, Alabama, and Florida. The drought of 2007 was so severe that drinking water for the population was jeapardized. Water was estimated to run out in January 2008. Residents were not allowed to water gardens with hoses. Residents were required to conserve water and fines were levied for violations. The compromise had to be made for water for residential use or for Alabama nuclear reactor use. This shows that the nuclear plants must have water to run safely, and that global warming conditions bringing drought to the area must be considered...People should have access to the water they need first. (0100-2)

Comment: Why is there no zero figure for the total amount of water in the aquifer ya'll want to take water from? Note even one syllable about climate change. I want ya'll to recognize that the drier (less amount of rain) the atmosphere, the more water will be pumped from the underground aquifer. I want an indepth study on this point please. (0132-1)

Response: *In preparing this EIS, the staff did consider the potential impact of climate change on water supply. The staff considered both the United States Global Change Research Program National Assessment (UCGCRP 2000) and the Intergovernmental Panel on Climate Change AR4 Synthesis Report (IPCC 2007). Both studies agree on predicted increases in temperature. However, precipitation estimates in the climate models suggest either an increase in precipitation or precipitation remaining about the same as present. While there is general agreement in the scientific community that some change in climate is occurring, considerable uncertainty remains in the magnitude and direction of some of the changes. In light of these uncertainties, balancing society's need for electricity and water under an altered climate is not now feasible and would amount to speculation.*

One comment stated that the doubling of nuclear generation would only reduce greenhouse gases by 5%. The NRC does not promote any particular form of energy generation, including nuclear generation, and does not take a position on any particular generation technology as mitigation for global climate change.

Several comments mentioned climate impacts on extreme events. Consideration of extreme winds, extreme precipitation, and storm surge would be addressed in the staff's safety review process, which is separate from the NEPA review in this EIS. The staff's review of the applicant's Final Safety Analysis Report will be described in the Safety Evaluation Report. No change was made to the EIS as a result of these comments.

Comment: Increasing consumptive use of water in the Savannah River Basin during low flow periods could contribute to other water quality risk. Of particular concern to Savannah's water supply is the flow of saltwater moving upriver as river flows decrease. This situation will also be exacerbated by the proposed deepening of the Savannah Harbor from 42 feet to 48 feet. This saltwater conduit, low flows from reservoirs, consumptive use upstream, extreme astronomical tides and northeast winds could virtually shut down Savannah's raw water intakes located at Mile 29 on the Savannah River. Low flows will also affect the river's ability to disperse contaminants present in the river. Savannah's water supply is already at risk due to operations of the Savannah River Plant and existing operations at Plant Vogtle. Concentration of these contaminants due to low flows places public safety at risk due to the unavailability of water treatment technology to address these problems. (0016-2)

Comment: [T]he DEIS did not mention potential interbasin transfers of water from the Savannah River for water supply for cities such as Atlanta, which have been outlined in a preliminary draft of the state water plan. The GWC objects to interbasin transfers on the premise that they can degrade water quality and/or availability in the basins of origin and receipt. The EIS should include in its cumulative impacts study the issue of how communities that currently draw from the Savannah River basin would be affected if water users outside the basin were to implement interbasin transfers in the future. Since the river harbors a large array of aquatic species, including several endangered species, evaluating both the direct impacts of the project (species entrainment, changes in local water quality, thermal pollution) and cumulative impacts (water availability, changes in streamflow and assimilative capacity throughout the basin) over the longer term is paramount and must be done before the final EIS is issued. (0021-3)

Comment: (3) The environmental impact of the chemical pollutants that will be emitted with the cooling water is not specified, although your EIS states that the returned cooling water will be up to 50 degrees hotter than the ambient temperature of the river water, and contain chemical pollutants. The specific chemicals and their concentration are not identified. This deficiency must be corrected. (0024-4)

Comment: The environmental impact of the chemical pollutants that will be emitted with the cooling water is not specified, although your EIS states that the returned cooling water will be up to 50 degrees hotter than the ambient temperature of the river water, and contain chemical pollutants. The specific chemicals and their concentration are not identified. This deficiency must be corrected. Addition: I suggest that all water contamination be included. there have been

leaks from spent fuel storage, unexplained contamination at several sites, and just plain mistakes. How about including them all? (0026-3)

Comment: Additional consumptive use may reduce waste load assimilative capacity thereby reducing the dissolved oxygen in Savannah Harbor where EPA issued a zero discharge TMDL in November 2006. Lower DO in the harbor would cause USACE dredging operations to shutdown more frequently to comply with the water quality certification with the State of Georgia. How have downstream water quality implications for salinity and/or dissolved oxygen been addressed in this document? (0039-2)

Comment: Page 5-16 lines 35 and 36 state: "The staff extended its thermal impact assessment using the CORMIX model to consider the potential impacts of chemical pollutants in the discharge to the Savannah River." No mention is made of the specific chemicals or their radiotoxicity. Dilution is the only consideration. (0087-4) (0090-4)

Comment: Water quality impacts - The DEIS describes some potential water quality impacts associated with thermal pollution, and consumptive water loss including water quality impacts associated with construction activities related to planned dredging of the Savannah River at the plant site as well as potential dredging of the navigation channel. SCDNR is concerned the DEIS minimizes potential water quality impacts associated with these activities; supplementary information on potential water quality impacts, particularly during low and very low flow conditions is needed to adequately assess potential water quality impacts to the Savannah River. (0096-3)

Comment: Water-Related Impacts EPD is currently completing a comprehensive state-wide water plan, which the Georgia General Assembly will adopt during its 2008 legislative session. The plan is expected "to improve decisions about water management, to plan for water resource quality and quantity on a regional level, and to provide flexibility for best meeting water quality and quantity goals suited to a given region of the state." The Savannah River Basin is one of those given regions. It is within the context of this water management planning effort that EPD makes the following comments on water-related impacts. We note that the DEIS does not consider an exceptional drought scenario, i.e., Drought Level 4, which is currently impacting neatly half of Georgia and a significant portion of the southeastern United States. Until such time as Southern has submitted the required water supply/withdrawal and National Pollutant Discharge Elimination System (NPDES) permit applications for the facility and we have an opportunity to review it in the context of current water planning efforts, consumptive water losses, and any contingencies necessary to manage future droughts, we are unable to provide any final determinations on applicable environmental permitting issues. We reserve the right to make those determinations and comment on those issues at that time. However, it is important to note that NPDES permit No. GA0026786 has been extended effective 5/21/2004. The permit was extended in response to a Total Maximum Daily Load (TMDL) for dissolved oxygen in the Savannah Harbor. The TMDL mandates that no increase in oxygen- demanding loads can be

permitted between Thurmond Dam and the Savannah Harbor. In fact, the TMDL states that the assimilative capacity in the harbor is already exceeded by the current discharges and must be addressed. The proposed expansion of Plant Vogtle will ultimately result in an increased discharge of cooling tower blowdown to the Savannah River, but these waste streams are not coveted under the TMDL, due to the lack of any oxygen demanding constituents. The concern at this time is the handling of sanitary wastewaters at the facility and how this will potentially contribute to an increase in effluent Biochemical Oxygen Demand (BOD). The facility needs to anticipate and plan for the additional sanitary wastewater being generated through both the construction phase, and ultimate operation of the plant. At this time, any expansion of the sanitary sewer treatment facility, or new discharge of oxygen demanding constituents, will have to be handled through a no discharge system. As the USEPA, Georgia EPD, and South Carolina DHEC are currently discussing the Georgia dissolved oxygen standard and the applicable November 2006 TMDL, EPD suggests that the parties to this ESP application communicate with EPD regarding any developments with these issues. (0118-5)

Response: *A number of comments on discharge water quality were general in nature. The staff, in its analysis, considered the impacts associated with the discharge of effluents associated with the construction and operation of two additional units on the downstream users and biota of the Savannah River. The staff's analysis is provided in Chapters 4 and 5 of the EIS. The staff believes that impacts of the effluents will not adversely impact either downstream users or biota.*

A comment referred to the potential upstream migration of salt water due to reduced flow in the Savannah River. The staff determined that the movement of the salt water wedge is dominated by the seasonal variations in the discharge of the Savannah River near Savannah, Georgia. These seasonal variations are controlled primarily by reservoir operations and seasonal climate patterns and not by the relatively small incremental withdrawal for VEGP.

A comment mentioned the potential impacts of interbasin transfers. The staff does not believe that interbasin transfers from the Savannah River Basin are reasonably foreseeable at this time and, therefore, did not address such transfers in its analysis of potential impacts. If any interbasin transfers were to occur in the future, the staff believes they would be implemented in a manner that would not results in lower flows than the staff considered in its analysis.

A comment stated that chemicals discharged are not provided. These chemicals are discussed in Section 5.4.2.4 of the EIS.

One comment mentioned the impact of low dissolved oxygen in the Savannah River. The staff determined that the impact of the thermal discharge on stream temperature would be limited to a small area in the river and would not be detectable beyond the extent of the plant boundary. Therefore, the indirect impact of stream temperature on dissolved oxygen would not extend

beyond the plant boundary. Water exiting the cooling towers is typically supersaturated with oxygen. Dissolved oxygen levels in the discharge are likely to be higher than river levels. Additionally, the staff determined that the VEGP plant would not contribute significantly to the nutrient load in the river, which also impacts dissolved oxygen levels.

Another comment stated that the staff did not consider thermal impacts, consumptive water use, and dredging at low and very low flows. The staff's analysis of thermal impacts, which is set forth in Chapter 5 has been supplemented in response to comments regarding low flow conditions, and considers a low flow under very conservative conditions. In Section 5.3.2, the staff considered a range of low and very flow conditions based on the Draft Drought Contingency Plan to estimate the fractional consumptive withdrawal for the proposed Units 3 and 4. In sections 4.3.1 and 4.4.2.1, the staff discusses impacts of dredging the navigation channel in Chapter 7 and Savannah River in the vicinity of the site; in Chapter 7, the staff discusses potential impacts of dredging the Savannah River navigation channel.

The issuance of an ESP by the NRC would not alter the applicant's obligation to obtain various water related permits and certifications prior to construction or operation. For instance, the State of Georgia has authority to require a no discharge system for the plant's sanitary effluents to ensure that increased BOD in the Savannah River does not jeopardize downstream water users. Expected chemical discharges, including the types and expected concentrations of chemicals in the Unit 3 and 4 discharge are listed in Table 5-4 of the EIS. Radiological effluents are evaluated in Section 5.9 of the EIS. To comply with the Clean Water Act, Southern would be required to obtain a new NPDES permit, or modify an existing permit to account for the expected chemical and radiological contaminants in the plant effluent. No change was made to the EIS as a result of these comments.

Comment: The dredging of the Savannah River that would be needed to allow for delivery of the necessary construction materials, reactor components, etc. was not fully analyzed, especially in light of the drought conditions that exist and may worsen; (0037-4)

Comment: Other aspects of the proposed expansion that would also have water implications along the Savannah River which have NOT been analyzed in the draft EIS include:...How lower river flows downstream of Vogtle would impact possible navigation upstream to the plant nor what the then required dredging would do to water quality, sensitive species, etc. (0037-5)

Comment: Transportation of construction materials by barge was not mentioned in the EIS. The Savannah River Below Augusta (SRBA) is not maintained for navigation therefore dredging would likely be required to provide viable commercial navigation for the construction of units 3 and 4. Existing channel depths are not adequate to provide adequate draft depths for barges carrying heavy construction components. Has Southern considered the environmental impact of dredging the reach to restore adequate draft depths for navigation? (0039-1)

Comment: SCDNR has a number of concerns regarding natural resource impacts of the planned facility expansion to include at least the following: 4. Water quality impacts associated with construction activities including planned dredging of the Savannah River at the plant site as well as potential dredging of the navigation channel. (0041-6)

Comment: Channel Dredging. The document does not address dredging of the Savannah River channel that is likely needed to move required construction material up the river from Savannah harbor to the site. The U.S. Corps of Engineers, Savannah District (USACE) has not maintained the Savannah River below Augusta, Georgia for navigation since the late 1970's. According to the USACE, previous barge shipments to Barnwell for reactor disposal required a discharge of between 10,000 cfs and 15,000 cfs in December of 2004. Vogtle construction will likely require many shipments (15-30) and it would be impossible to plan and provide that many shipment windows with releases that are incidental to flood control or pulse flow releases; therefore, it appears dredging of the Federal navigation channel would be required. (0045-1)

Comment: The dredging of the Savannah River that would be needed to allow for delivery of the necessary construction materials, reactor components, etc. was not fully analyzed especially in light of the drought conditions that exist and may worsen. (0050-4)

Comment: The NRC did not look at how lower river flows downstream of Vogtle would impact possible navigation upstream to the plant nor what the then required dredging would do to water quality, sensitive species, etc. This needs to be done before the final EIS is issued. (0050-5)

Comment: We would also like to encourage that this draft EIS to address the significant dredging needs of the entire river that may be needed for the construction phase of the additional two reactors. Since the 1980's commercial navigation of the channel above the Savannah Harbor has virtually ceased. The navigation channel of the Savannah River has not been maintained by the USACE for over 27 years. Since the last time that the river was dredged to support navigation, information about endangered and globally rare species that depend on habitats within and surrounding the river channel has significantly increased. For example: approximately 39 species of freshwater mussels have been recorded in the Savannah River. Eleven of which have been Globally ranked as imperiled or critically imperiled, 13 of which as listed by the State of Georgia Non-Game Heritage Conservation Program as imperiled or critically imperiled in the State of Georgia. Although we understand it to be the responsibility of the USACE to examine the environmental impacts of maintaining the channel for navigation, the negative environmental impacts may be severe to endangered and rare species. We suggest that the environmental impacts of this action should also be addressed by this EIS for a comprehensive look at the full impacts of this expansion project. We would like to see this EIS consider alternatives to dredging the channel for barge transport of construction materials. (0092-3)

Comment: We also recommend that any EIS for the expansion of Plant Vogtle should include the environmental impacts associated with all dredging for the construction phase of the project including the navigation channel. (0092-6)

Comment: Channel Dredging The document does not address dredging of the Savannah River channel that is likely needed to move required construction material up the river from Savannah Harbor to the site. The U. S. Corps of Engineers, Savannah District (USACE) has not maintained the Savannah River below Augusta, Georgia for navigation since the late 1970's. According to the USACE, previous barge shipments to Barnwell for reactor disposal required a discharge of between 10,000 cfs and 15,000 cfs in December of 2004. Vogtle construction will likely require many shipments (15-30) and it would be impossible to plan and provide that many shipment windows with releases that are incidental to flood control or pulse flow releases; therefore, :it appears dredging Of the federal navigation channel would be required. The channel dredging would be a major impact of the project and, if it is necessary for construction, needs to be disclosed and thoroughly evaluated in the DEIS. Channel dredging would impact mussel beds because the beds are found in the sediment deposition areas where there is some protection from scouring flows occurring in the main channel. Habitat for fish and other aquatic organisms would also be impacted. Dredging the river will have direct impacts on freshwater mussels by: (1) physical removal of the animals with the dredge spoil, (2) alteration of habitat, including eliminating sediment bars and removal of debris and other in-stream structures that provide refugia from scouring high-water flow, (3) alteration of habitat for fish spawning, potentially reducing numbers of host fish available for successful mussel reproduction, and (4) depending on the site selection for spoil disposal, potential degradation of backwater slough or oxbow habitat, which supports a variety of mussel species. (0121-1)

Response: *Impacts to Savannah River associated with the construction of the barge slip and the intake and discharge structures are addressed in section 4.3.1 and 4.4.2.1 of the EIS. The staff anticipates that the possible need for dredging the Federal navigation channel in the Savannah River downstream of the VEGP site would have the potential for adverse impact to water quality. The U.S. Army Corps of Engineers (USACE), as authorized by Section 107 of the Rivers and Harbor Act, has the responsibility for maintaining a 90-ft by 9-ft channel in the Savannah River for navigational purposes. The river was last used for a commercial shipment in 1979, and has not been maintained since that time. Recent measurements by the USACE indicate that, depending on the level of water flow, most areas of the navigation channel above RM 35 would likely need to be dredged to allow barge traffic during normal river flow as discussed in Section 4.4.2. Prior to any authorization of dredging of Savannah River navigation channel, the Corps of Engineers would be required by NEPA to assess the environmental impact of such dredging on the river.*

A detailed assessment of impact of dredging by the NRC staff is not possible at this time. Presently, the dredging project, if it should occur, is incompletely defined, the amount of material

to be removed is unknown, and the location of the dredge spoils area has not been identified. Specifics of the project would be provided in the USACE assessment to fulfill the NEPA requirement. Nevertheless, the staff has provided additional analysis in Section 7.2 "Aquatic Ecosystem" to address potential impacts from dredging of the Savannah River navigation channel.

Comment: 2.3.2 Plant Description. The estimated waste heat has increased to 7.63E9 BTU/hr per unit. The cooling tower cooling water flow rate has increased from 600,000 gpm to 631,000 gpm. The current estimated waste heat (based on very conservative meteorology) has increased by approximately 1 percent and the cooling tower water flow rate has increased by approximately 5 percent. The corresponding increase in evaporation and drift associated with the change is small (1200 gpm and 1 gpm, respectively). The corresponding increase in makeup is estimated at 1600 gpm. However, this information is theoretical and represents a maximum increase. The actual increase will likely be smaller. The specific cooling tower design that will be constructed at Vogtle has not been determined, and therefore, the flow rates specific to those towers have not been determined. SNC is conducting a cooling tower optimization study, exploring different cooling tower designs to ensure that the minimum flow rate and maximum efficiency are achieved. (0095-1)

Comment: Section 9.5.2.2 states "For the calendar years 1976 through 2005, the average annual-mean discharge at the gage was 308.60 m3/s (10,898 cfs), and the minimum annual-mean discharge was 140.17 m3/s (4950 cfs)." DEIS pg 9-49. SNC ER and DEIS utilized different water years to calculate minimum annual mean discharge yet both values are identical. Please verify accuracy of DEIS calculation. (0095-102)

Comment: Section 9.5.2.2 states "The net consumptive water loss for the wet towers proposed at the VEGP site would be 1.76 m3/s (62 cfs)." DEIS pg. 9-49. SNC ER assumes cooling tower evaporation rate at 64 cfs. (0095-103)

Comment: Section 9.5.3.2 states "For the calendar years 1975 through 2005, the average annual mean discharge at the gage was 464.68 m3/s (16,410 cfs), and the minimum annual mean discharge was 152.97 m3/s (5402 cfs)." DEIS pg 9-69. SNC ER and DEIS utilized different water years to calculate minimum annual mean discharge yet both values are identical. Please verify accuracy of DEIS calculation. (0095-116)

Comment: 3.2.2.1 Circulating Water System. The Circulating Water System water balance has been revised and is as follows: Normal Ops (gpm) Maximum Ops (gpm) ESP ER New Change ESP ER New ChangeCT Flow Rate 600,000 631,000 +5% CT evaporation 27,900 29,100 +4% 28,880 30,560 +6%CT Drift (0.002%) 24 25 24 25 CT Blowdown 9,300 9,700 +4% 28,880 30,560 +6%Total make-up 37,224 38,825 +4% 57,784 61,145 +6%Discussion of Significance For the following reasons, SNC does not consider this new information to be significant: The

increases in makeup, blowdown, evaporation and drift (consumptive use) are not expected to exceed 4 % and are likely to be substantially less. In addition, the specific cooling tower that will be constructed at Vogtle has not been determined, and therefore, the flow rates specific to those towers could and likely will change. SNC is conducting a cooling tower optimization study, exploring different cooling tower designs to ensure that the minimum flow rate and maximum efficiency is achieved. These values are also based on very conservative meteorology. (0095-3)

Comment: 3.2.2.1 Service Water System. Maximum makeup flow from groundwater: 1,600 gpm. Maximum blowdown rate: 500 gpm. Groundwater for Power Plant Makeup/Use: 1,197 gpm. The maximum makeup flow from groundwater and maximum blowdown rate has decreased. Groundwater requirements for Power Plant makeup/use has gone up to 1,197 gpm (due primarily to increase in demineralized water system from 600 to 1,080 gpm) The DEIS evaluated the maximum groundwater use and determined that withdrawals would not significantly adversely affect the wells of any offsite users and the impact was considered SMALL. This reduction further increases the margin to ensure that the aquifer drawdown is less than evaluated in the DEIS. (0095-4)

Comment: Section 3.2.2 states "Water from the blowdown sump would be retained for a period of time to allow suspended solids to settle before the water is discharged to the Savannah River (Southern 2007a)." No discrepancy between ER and DEIS, however, the conceptual blowdown sump is modeled after the existing Unit 1 and 2 sump and does not provide any settling capacity, only enough holdup for dechlorination (a few seconds with a relatively fast, turbulent flow). Based on the proposed 4 cycles of concentrations, no significant TSS impact from blowdown is expected. (0095-48)

Comment: In section 3.2.2.2 under subheading "Cooling Water Treatment System" DEIS states "Biocides would be injected at the intake structure, and other chemicals may be added to the cooling water basins." There is no discrepancy between the ER and the DEIS with regard to ER 3.3.2 and DEIS 3.2.2.2, However ER 3.4.1.3.4 is a more accurate depiction of the conceptual design. No biocide injection is expected to be performed at the intake, only at the CWS cooling tower basin. The option to inject at the intake is there (mainly by providing sufficient space to install an injection system). This is something of a discrepancy between ER 3.3.2 and ER 3.4.1 .3.4. (0095-49)

Comment: 3.2.2.2 Discharge System. Final effluent discharge to river, maximum case: 30,015 gpm. The estimated final effluent discharged to the river has been reduced by several hundred gpm, thus reducing associated impacts. The reduction provides additional margin and will not alter NRC's original conclusions (0095-5)

Comment: Section 4.3.1 states "Southern has proposed construction of a 73-m (240-ft) long and 52-m (170-ft)-wide intake structure." The DEIS applies the dimensions of the intake canal to the intake structure. (0095-50)

Comment: In section 4.3.2 the applicant stated that Mallard Pond continued to flow throughout the dewatering activity for VEGP Units 1 and 2, which lasted from mid-1976 until mid-1983 (Southern 2007a). Response to RAI E.4.2-1 (b), dated 5.10.2007 alludes to the fact that dewatering during Units 1 and 2 construction did not affect Mallard Pond, but the exact discussion presented in DEIS is not in SNC ER or RAIs. (0095-51)

Comment: Section 4.3.3 states that 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). The ER does not specify which construction structures would be connected to the existing wastewater system and does not specify the use of portable toilets as the only supplemental sanitary wastewater provisions. (0095-52)

Comment: Section 5.3.2.1, p.5-7, Line 36 states "Table 5-1 states that the maximum water withdrawals during average conditions as a percent of the is 1.4%." The correct value as stated in the SNC ER and in DEIS Table 7-2, p.7-4 is 1.5%. (0095-63)

Comment: Section 5.3.3.1, p.5-19, Line 12 states "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)." SNC ER lists the maximum depth at 11.5 ft. (0095-70)

Comment: Section 5.3.3.1, p.5-14, Line 35 states"...staff made an assumption that all waste issuing from the outfall was at the cooling water system maximum blowdown temperature of 32.8 C (91 F)." SNC ER lists the maximum expected blowdown temperature at 91.5°F. (0095-71)

Comment: 5.3.3.1 p.5-16 Line 22 states "Southern assumed that the outfall pipe for the proposed VEGP Units 3 and 4 was located 123m (404 ft) upstream of the existing VEGP Units 1 and 2 outfal.1 pipe..." The DEIS incorrectly states that the Unit 3 and 4 discharge pipe is located upstream of existing discharge. The proposed Units 3 and 4 discharge pipe is located 123m downstream of existing discharge pipe. (0095-72)

Comment: Section 9.5.1.2 states "For the calendar years 1971 through 2006, the average annual-mean discharge at the gauge was 319.56 m3/s (11,285 cfs) and the minimum annual mean discharge was 106.5 m3/s (3,762 cfs) ...." DEIS pg 9.32. SNC ER and DEIS utilized different water years to calculate minimum annual mean discharge yet both values are identical. Please verify accuracy of DEIS calculation. (0095-89)

Comment: Section 9.5.1.2 states "Based on the requirements of the NPDES permit and the above analysis, the staff concludes that the water-use and water-quality impacts of two additional units at Plant Hatch would be SMALL." DEIS pg 9-32. SNC ER notes groundwater withdrawal and the groundwater availability as bases for concluding that impacts as a result of operation would be SMALL. The DEIS does not discuss either of these. (0095-90)

Response: *These comments were provided by the applicant and are meant to provide additional details regarding plant design and water use parameters, or to point out instances where Southern's analysis did not agree with the staff's analysis. The staff considered the new information as appropriate, and modified the text of the EIS to account for the new information as needed. The staff considered the comments concerning the differences in analysis, results, and conclusions; however, the EIS was prepared by NRC staff using its independent analysis and judgment. Conclusions in the draft EIS do not necessarily have to be consistent with Southern's conclusions in its ER.*

E.2.6 Comments Concerning Hydrology – Groundwater

Comment: While the EIS acknowledges saltwater intrusion into the groundwater serving downstream communities such as Bluffton and Hilton Head, South Carolina, due to heavy upstream use of the Savannah River, it states that the communities will just have to switch to river water. This is unacceptable. To sign off on letting Vogtle 3 & 4 exacerbate saltwater intrusion at the mouth of the Savannah River is an unacceptable position. (0034-4) (0035-4) (0054-4) (0094-4) (0098-10) (0112-3)

Comment: While the EIS acknowledges saltwater intrusion into the groundwater serving downstream communities such as Bluffton and Hilton Head, South Carolina, due to heavy upstream use of the Savannah River, it states that the communities will just have to switch to river water! (0103-3)

Response: *Salt water intrusion is an issue for several coastal communities in the states of Georgia and South Carolina, (e.g., Savannah and Hilton Head Island). Both states have worked cooperatively with the USGS to develop an understanding of the salt water intrusion issue in the region. In 2006, South Carolina in cooperation with the U.S. Geological Survey issued Technical Publication No. 011-06, which is an evaluation of the downward migration of saltwater into the Upper Floridan Aquifer (Ransom et al. 2006). In 2006, Georgia issued its plan for managing salt water intrusion (Georgia Department of Natural Resources [GDNR] 2006). Strategies for managing saltwater intrusion in both states are resulting in the reduction of groundwater withdrawals in the Savannah River and Hilton Head areas. Both states are promoting conservation and the use of alternative water supplies. Information on the Georgia and South Carolina studies and management strategies has been added to Section 2.6.3.2, and options for reducing groundwater demand in addition to the transition to surface-water resources are included in Section 7.3.2.1.*

Comment: And when you start going into the aquifers I'm even more concerned...And we have to find some way of reserving our water because, as I said, when the water is gone, ladies and gentlemen, it is gone. (0013-178)

Comment: SCDNR has a number of concerns regarding natural resource impacts of the planned facility expansion to include at least the following: 2. Potential impacts to ground water reserves and aquifers. (0041-4)

Comment: Potential impacts to ground water reserves and aquifers - We do not believe the DEIS adequately describes potential impacts to groundwater reserves and aquifers during low and very low flow Savannah River conditions. The contingency plan recommended above should address potential impacts to groundwater reserves and aquifers. (0096-2)

Response: *As part of the NRC effort to prepare this environmental impact statement, the staff has reviewed estimates of the water budget for the deep aquifer from which the proposed facilities would withdraw groundwater. As a result of those studies and in response to these comments, the text in Sections 2.6.1.2, 2.6.2.2, 4.3.2, 5.3.2.2, and 7.3.1.2 has been changed to incorporate the water budget or base flow information, and comparisons to the proposed groundwater use quantities. Sufficient groundwater resource exists to meet the demand during both construction and operation of the proposed facilities. [Aucott et al. 1987; Clarke and West 1997; Clarke and West 1998; Cherry 2006; Cherry and Clarke 2007. Simulation and particle-tracking analysis of selected ground-water pumping scenarios at Vogtle Electric Generating Plant, Burke County, Georgia: U.S. Geological Survey Open-File Report 2007-1363, 51 p. web-only publication at http://pubs.usgs.gov/of/2007/1363.]*

Comment: Ground-water flow in this area is complex and 3-dimensional. A new Geological Survey (USGS) study (Cherry and Clarke, 2007) has refined the characterization of ground-water flow in the study area. An earlier study (Clarke and West, 1998) concluded that some water from the Savannah River Site can cross beneath the Savannah River and discharge into the floodplain on the Georgia side. Cherry and Clarke (2007) did a particle-tracking analysis of the Plant Vogtle wells. This study simulated the source of water to those wells under 2002 and potential future pumping conditions. Results of that evaluation concluded that the source of water to those wells under current and most future pumping scenarios was derived in Georgia; with the exception of one scenario that showed a small portion of the water was from South Carolina. None of the scenarios showed any water originated on the Savannah River Site. Cherry and Clarke (2007) state in their abstract that, "The source of ground water to production wells at Vogtle Electric Generation Plant (VEGP), a nuclear power plant in Burke County, Georgia, was simulated under existing (2002) and potential future pumping conditions using an existing U.S. Geological Survey (USGS) MODFLOW ground-water flow model of a 4,455-square-mile area in the Coastal Plain of Georgia and South Carolina. Simulation results for three steady-state pumping scenarios were compared to each other and to a 2002 Base Case condition. The pumping scenarios focused on pumping increases at VEGP resulting from projected future demands and the addition of two electrical-generating reactor units. Scenarios simulated pumping increases at VEGP ranging from 1.09 to 3.42 million gallons per day (Mgal/d), with one of the scenarios simulating the elimination of 5.3 Mgal/d of pumping at the

Savannah River Site (SRS), a U.S. Department of Energy facility located across the Savannah River from VEGP. The largest simulated water-level changes at VEGP were for the scenario whereby pumping at the facility was more than tripled, resulting in drawdown exceeding 4-8 feet (ft) in the aquifers screened in the production wells. For the scenario that eliminated pumping at SRS, water-level rises of as much as 4-8 ft were simulated in the same aquifers at SRS. Results of MODFLOW simulations were analyzed using the USGS particle-tracking code MODPATH to determine the source of water and associated time of travel to VEGP production wells. For each of the scenarios, most of the recharge to VEGP wells originated in an upland area near the county line between Burke and Jefferson Counties, Georgia, with none of the recharge originating on SRS or elsewhere in South Carolina. An exception occurs for the scenario whereby pumping at VEGP was more than tripled. For this scenario, some of the recharge originates in an upland area in eastern Barnwell County, South Carolina. Simulated mean time of travel from recharge areas to VEGP wells for the Base Case and the three other pumping scenarios was between about 2,700 and 3,800 years, with some variation related to changes in head gradients because of pumping changes." (0018-2)

Response: *The United States Geological Survey (USGS) report by Cherry and Clarke (2007) described in the comment was an analysis prepared by the USGS in cooperation with the NRC. This recent work resulted in changes to the text in Sections 2.6.2.2, 5.3.2.2, and 7.3.2.2. The reference is Cherry, G.S., and Clarke, J.S., 2007, Simulation and particle-tracking analysis of selected ground-water pumping scenarios at Vogtle Electric Generating Plant, Burke County, Georgia: U.S. Geological Survey Open-File Report 2007-1363, 51 p. web-only publication at http://pubs.usgs.gov/of/2007/1363/.*

Comment: Section 5.3.2.2, p.5-8, Line 23 states "Records for 2005 (Southern 2007a) indicate that only 0.30 L/s (4gpm) was withdrawn from the Tertiary aquifer...." SNC ER calculation result is 0.2452 L/s rather than 0.30 L/s as provided in the DEIS. (0095-64)

Response: *The difference observed is a result of rounding 3.89 to 4 gpm, and then converting to liters per sec and rounding the conversion from 0.25 to 0.3 L/s. The text in Section 5.3.2.2 has been edited to reflect the ER values of 3.89 gpm and 0.245 L/s.*

Comment: Section 3.2.1.2 states "Groundwater supplying the fire protection system would be filtered via a system of strainers to prevent system fouling." ER states filtration will be as needed. DEIS implies a system of strainers. As of now we do not anticipate any straining of well water supplied to the fire water system will be required based on Unit 1 and 2 system design. Note that some straining of well water is performed via the gravelbed and mesh at the suction of the well water pump, but there is no specific system of strainers. (0095-47)

Response: *The EIS text in Section 3.2.1.2 has been revised based on information provided by the applicant in the comment.*

Comment: Sections 2.6.1.2 p.2-31 states "Recharge to the aquifers underlying the VEGP site is from recharge." SNC suggests revising, sentence meaning is unclear. (0095-30)

Response: *The subject sentence introduces a paragraph on the aquifer water budget. Section 2.6.1.2 was rewritten to more clearly and completely describe the recharge, water budget, and quantity of groundwater resource.*

Comment: Section 2.6.1 .2 p.2-30 states "Thus, groundwater flow could be downward into the tertiary aquifer at this point." Statement contradicts DEIS 2.6.3.2 p.2~43 Line 1 "This ensures the continued existence of an upward hydraulic head gradient over most of the site between the deep aquifers and overlying aquifers that may be contaminated. This management effort preserves the natural barrier to downward migration of contaminants, and maintains the .water quality of the deep aquifer." SNC ER indicates that recharge to the Water Table aquifer is from local rainfall events; 'recharge to the deeper aquifers through outcroppings located 20-30 miles north of VEGP site. (0095-29)

Response: *The statement in EIS Section 2.6.1.2 was not changed in response to this comment. The statement in the EIS Section 2.6.3.2 has been changed to clearly indicate that the management practice described refers to a DOE groundwater management practice in South Carolina, and not a Southern groundwater management practice in Georgia.*

Comment: I am concerned about the safety of the ground water. (0102-2)

Response: *The NRC is also concerned about protecting the groundwater. As part of the NRC effort to prepare this environmental impact statement, the impact of the proposed facility on the groundwater resource has been studied. Analysis has shown there is adequate groundwater for the construction and operation of the proposed plants. The analysis is described in Section 2.6.1.2 under the topic of interactions between site surface and groundwater, and between aquifers. The discussion of water use impacts during construction appearing in Section 4.3.2 has been changed to include a comparison of facility water use to the groundwater resource. Similar changes have been included in Section 5.3.2.2 on groundwater use during operation, and Section 7.3.1.2 on cumulative impacts on groundwater use.*

Comment: Section 2.6.1.2 p.2-29 states "Southern presents ... (Southern 2003b) for the Barnwell sands, silts, and clays ranging from 1.3x1 0-6 to 2.6X1 0-6 m/s(130 to 267 ft/yr) for well tests ...". The reference provided in the EIS is from the VEGP Units 1 and 2 FSAR, however the values for the hydraulic conductivity values provided in the ER are different. (0095-28)

Response: *The draft EIS cited values with a range of 130 to 267 ft/yr include Barnwell formation and river alluvium data. Section 2.6.1.2 of the EIS was revised to show the Barnwell formation range only, 1.9×10^{-6} to 2.6×10^{-6} (200 to 267 ft/yr).*

Comment: Section 5.3.2.2, p.5-10, Line 25 states "...The storativity value of 3.1 ...". SNC ER calculates storative value for the average of the five test well values is 3.9 x 10^{-4}. If including the one additional value for the makeup wells, the average is 3.4 x 10^{-4}. SNC ER calculates storative value for the average of the five test wells values is 3.9 x 10^{-4}. If including the one additional value for the makeup wells, the average is 3.5 and 10^{-4}. (0095-65)

Response: *An independent review and calculation of the average storativity value yields an arithmetic mean of 3.097x10^{-4}, or 3.1x10^{-4} when all six values are employed. The values averaged are taken from VEGP FSAR Units 1 and 2, Table 2.4.12-8. No change was made to the EIS as a result of this comment.*

Comment: Section 5.3.2.2, page 5-12, line 15 states "The Water Table aquifer appears to be hydraulically isolated from the underlying confined Tertiary aquifer by the Blue Bluff Marl." Statement conflicts with previous statement in DEIS regarding isolation of Water Table aquifer. See Section 2.6.1.2 p.2-30 line 24. (0095-66)

Response: *The text in Section 5.3.2.2 describing hydraulic isolation was rewritten to note the potential for groundwater movement downward at the OW-1001 well location.*

Comment: Section 5.3.2.2, p.5-12, Line 17 states "...from 50.3 to 43 m (165 to 140 ft) above MSL..." SNC ER lists values at 133 to 165ft. (0095-67)

Response: *The range of values presented in the EIS apply, as stated, in the vicinity of the power block (e.g., see ER Figure 2.3.1-17). The range of values presented in the ER in Section 2.3.1 represent the entire VEGP site. No change was made to the EIS as a result of this comment.*

Comment: Section 5.3.2.2, p.5-12, Line 18 states "...from 38.1 to 32 m (125 to 105 ft) above MSL." SNC ER lists values at 82 to 128ft. (0095-68)

Response: *The range of values presented in the EIS apply, as stated, in the vicinity of the power block (e.g., see ER Figure 2.3.1-23). The range of values presented in the ER on page 2.3.1-27 represent the entire VEGP site. No change was made to the EIS as result of this comment.*

Comment: Section 5.3.2.2, p.5-12, Line 36 states "...all changes appear to be less than 0.9 m (3 ft) in magnitude..." SNC ER lists value at 5 to 8 feet (1.5 to 2.5m). (0095-69)

Response: *The "...less than 0.9 m (3 ft) in magnitude..." derives from a visual estimation from a figure in the ER Rev.0. Table 2.3.1-29 appears in later revisions of the ER (e.g., Rev.2). The ER Table 2.3.1-29 values of minimum and maximum water levels is a more precise statement of change. The statement in EIS Section 5.3.2.2 was changed to reflect the 5 to 8 ft range.*

E.2.7 Comments Concerning Ecology – Terrestrial

Comment: Page 4-29 & 4-30. No red-cockaded woodpeckers (RCW) were located on the plant site. The closest active RCW group is located on the DOE Savannah River Site approximately ten miles from the Vogtle site. However, the DEIS mentions a Red-Cockaded Woodpecker Safe Harbor Agreement signed in June of 2007 in cooperation with the Georgia Department of Natural Resources and Georgia Power/Southern Nuclear. This agreement includes the Plant Vogtle site and will in the future maintain and enhance habitat for the RCW at this location. (0045-10) (0121-5)

Response: *Georgia Power and Southern Nuclear have signed a Safe Harbor Agreement with the Georgia Department of Natural Resources. Under the agreement, two large tracts surrounding VEGP will be managed to benefit endangered red-cockaded woodpeckers with a goal of establishing a population in the vicinity of the VEGP site. All areas that will be affected by construction and operation of the two new units at VEGP were excluded from the Safe Harbor Agreement. No change was made to the EIS as a result of these comments.*

Comment: Section 9.5.2.3 states "Based on the lack of available information regarding the habitats that would be removed during construction onsite and for the new transmission line right-of-way, information provided by Southern, and NRC's own independent review, the staff concludes that the impacts on terrestrial resources from construction of two new nuclear units at the Plant Farley site would be MODERATE and construction associated with the new transmission line right-of-way could be SMALL to MODERATE." DEIS pg 9-52. Conclusions stated in the DEIS differ from those stated in SNC ER. (0095-104)

Comment: Section 9.5.3.3 states "Based on the information provided by Southern and NRC's own independent review, the staff concludes that he impacts to terrestrial resources from construction of two new nuclear units at the Barton site would be MODERATE and the construction associated with the creation of a new transmission line right-if-way impacts could be MODERATE." DEIS pg 9-70. Conclusions stated in the DEIS differ from those stated in SNC ER. (0095-117)

Comment: Section 9.5.3.3 states "Based on the information provided by Southern and NRC's own independent review, the staff concludes that the impacts to threatened and endangered species from construction of two new nuclear units at the Barton site and construction associated with addition of a new transmission line right-of way could be SMALL to MODERATE." DEIS pg 9-71,72. Conclusions stated in the DEIS differ from those stated in SNC ER. (0095-118)

Comment: Table 11-1: Unavoidable Adverse Environmental Impacts from Construction of VEGP Units 3 & 4 "Ecological (Terrestrial): Adverse impacts based on Southern's application = Yes;" DEIS 11-6 "Ecological (Terrestrial): Actions to Mitigate Impacts -- Observed SMP. Obtain

CWA Section 404 permit, if applicable, prior to site preparation activities." DEIS 11-6 "Ecological (Terrestrial): Unavoidable Adverse, Impacts -- 9 ha (22.5 ac) of wetlands, 113 ha (279 ac) of upland and 1.6 ha (4 ac) of hardwood disturbed on a long-term basis on the VEGP site; new transmission line right-of-way would disturb additional terrestrial habitats." DEIS p. 11-6 Conclusions stated in the DEIS differ from those stated in SNC ER (0095-127)

Response: *The draft EIS was prepared by NRC staff using its independent analysis and judgment. Conclusions in the draft EIS do not necessarily have to be consistent with Southern's conclusions in its ER. No change was made to the EIS as a result of these comments.*

Comment: In particular, EPA suggests that the Final EIS include additional information about potenential...impacts to wetlands. (0126-2)

Response: *Likely construction-related impacts to wetlands are described in detail in Sections 4.4.1.1 and 4.4.2.2. Operations-related impacts to wetlands are discussed in Sections 5.4.1.4 and 5.4.1.8. No change was made to the EIS as a result of this comment.*

Comment: 4.1.1 The Site and Vicinity. Permanent facilities would occupy approximately 320 acres and temporary facilities will occupy approximately 200 acres. The additional 10 acres now planned for permanent facilities represents only 3% of the original acreage planned for permanent facilities and less than 1% of the total VEGP property. Because the projected total acreage (520 acres for permanent and temporary facilities) remains small relative to the VEGP property, this small increase would not alter the NRC's conclusions relative to land use. Land use will be SMALL. (0095-9)

Response: *Section 4.1.1 was changed to reflect the additional acreage associated with the permanent and temporary facilities.*

Comment: Section 2.7.1.3p.2-70 states "The wood stork is known to occur within 3.2 km (2 mi) of the VEGP site in the Savannah River Swamp on the DOE Savannah River Site. Surveys were conducted for the wood stork throughout the period from 2002 to 2005 in areas harvested for timber and on 675 ha (1669 ac) of the site (TRC 2006; Southern 2007e)." Neither reference cited in this DEIS statement discusses wood stork surveys conducted in areas harvested for timber or on the VEGP site. (0095-32)

Response: *Section 2.7.1.3 was modified to state "The wood stork is known to occur within 3.2 km (2 mi) of the VEGP site in the Savannah River Swamp on the Savannah River Site. Surveys were conducted for the wood stork in 2005 on 675.4 ha (1669 ac) of the site (TRC 2006)."*

Comment: 4.1.1 The Site and Vicinity. 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. The acreage for the borrow pit in the northern portion of the site is approximately 31

acres, or about 1% of the VEGP site. Most of the 31 acre area consists of previously disturbed area that has been planted in pine. No impact will occur unless original borrow estimates prove to be low. If partial or full use of these borrow pits is required, the resulting land use impacts will continue to be SMALL. No threatened and endangered species are known to utilize these areas. (0095-10)

Response: *The text in Section 4.1.1 was changed to be consistent with the additional acreage associated with the borrow pits described in the comment.*

Comment: Section 4.4. states "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 2007b, 2007c)." DEIS statement does not appear in the sources referenced (Southern 2007b, 2007c). (0095-53)

Response: *The reference was changed to Southern 2008a.*

Comment: The discussion in Section 4 is focused on construction noise that would generally be short-term. Wildlife also would be exposed to chronic, long-term noise levels from the proposed cooling tower operation and diesel generators. The DEIS states that while the "...noise levels from cooling tower operation and diesel generators are anticipated at 55 decibels (dBA) at 300 m (1000 ft)...this noise level is well below the 80-to-85 dBA threshold at which birds and small mammals are startled or frightened (Golden et al. 1980)." This last statement appears to be generalized addressing potential impacts on terrestrial wildlife based on short-term noise only and not on chronic noise. It is suggested that a literature search be conducted to determine if more recent scientific references are available that document studies on chronic, long-term noise impacts on wildlife and aquatic species and that the findings from these studies be incorporated into the assessment. (0018-1)

Response: *Text was added to Section 5.4.1.3 of the EIS to address the issues of exposure of wildlife to chronic noise associated with plant operations at the VEGP site.*

E.2.8 Comments Concerning Ecology – Aquatic

Comment: The water intake systems at nuclear power plants can kill fish and fish larvae, among other organisms; having more reactors on site will only make this worse. (0006-5)

Response: *Water intake systems have the potential to impinge or entrain fish and fish larvae. However, nationwide, experience with similar operating cooling-tower-based systems has shown that "the relatively small volumes of makeup and blowdown water needed for closed-cycle cooling systems result in concomitantly low entrainment, impingement, and discharge effects" (NRC 1996). Studies of intake effects of closed-cycle cooling systems have generally judged the impacts to be insignificant (NRC 1996). EPA's Phase I new facilities regulations (66*

FR 65256) establish national performance standards for intake structures to assure adequate protection of fish and shellfish in the river. The intake structure for VEGP Units will be designed to meet these national performance standards. No change was made to the EIS as a result of this comment.

Comment: We would also like to encourage that this draft EIS to address the significant dredging needs of the entire river that would be needed for the construction phase of the additional two reactors. Since the 1980's commercial navigation of the channel above the Savannah Harbor has virtually ceased. The navigation channel of the Savannah River has not been maintained by the USAGE for over 27 years. There have been no recent requests to dredge the channel and since the request to the USAGE for dredging of the navigation channel above the harbor would be exclusively for the expansion of Plant Vogtle, we believe that the environmental impacts of this action should be addressed by this EIS and consider alternatives to dredging the channel for barge transport of construction materials. (0031-2)

Comment: We also recommend that any EIS for the expansion of Plant Vogtle should include the environmental impacts associated with all dredging for the construction phase of the project (including the navigation channel), since dredging of the navigation channel would mostly be for the benefit of this specific project. (0031-5)

Comment: SCDNR has a number of concerns regarding natural resource impacts of the planned facility expansion to include at least the following: 5. *Undetermined fish and wildlife impacts over the length of the Savannah River from the plant site to the Savannah Harbor and Savannah River estuary.* (0041-7)

Comment: The channel dredging would be a major impact of the project and, if it is necessary for construction, needs to be disclosed and thoroughly evaluated in the DEIS. Channel dredging would likely impact mussel beds because the beds are found in the sediment deposition areas where there is some protection from scouring flows occurring in the main channel. Habitat for fish and other aquatic organisms would also be impacted. (0045-2)

Comment: Dredging the river will have direct impacts on freshwater mussels by: (1) physical removal of the animals with the dredge spoil, (2) alteration of habitat, including eliminating sediment bars and removal of debris and other in-stream structures that provide refugia from scouring high- water flow, (3) alteration of habitat for fish spawning, potentially reducing numbers of host fish available for successful mussel reproduction, and (4) depending on the site selection for spoil disposal, potential degradation of backwater slough or oxbow habitat, which supports a variety of mussel species. (0045-3)

Comment: There will be a host of undetermined fish and wildlife impacts over the length of the Savannah River from the plant site to the Savannah Harbor and Savannah River estuary related to construction activities as described in the DEIS. We do not believe the DEIS adequately

describes the range of fish and wildlife impacts, and we recommend development of supplementary information in consultation with required agencies as defined by the Fish and Wildlife Coordination Act (FWCA) (16 U.S.C. 661-667e; the Act of March 10, 1934; Ch. 55; 48 Stat. 401), as amended by the Act of June 24, 1936, Ch. 764, 49 Stat. 913; the Act of August 14, 1946, Ch. 965, 60 Stat. 1080; the Act of August 5, 1947, Ch. 489, 61 Stat. 770; the Act of May 19, 1948, Ch. 310, 62 Stat. 240; P.L. 325, October 6, 1949, 63 Stat. 708; P.L. 85-624, August 12, 1958, 72 Stat. 563; and P.L. 89-72, 79 Stat. 216, July 9, 1965; and the National Environmental Policy Act (NEPA), the Environmental Quality Improvement Act of 1970, as amended (42 U.S.C. 4371 et seq.), sec. 309 of the Clean Air Act, as amended (42 U.S.C. 7609), and E.O. 11514 (Mar. 5, 1970, as amended by E.O. 11991, May 24, 1977. (0096-4)

Response: *Impacts to biota inhabiting the Savannah River due to the construction and operation of Units 3 and 4, exclusive of dredging the Federal navigation channel, are provided in sections 4.4.2 and 5.4.2 of the FEIS. The staff anticipates that the possible need for dredging the Federal navigation channel in the Savannah River downstream of the VEGP site would have the potential for adverse impact to aquatic organisms. The U.S. Army Corps of Engineers (USACE), as authorized by Section 107 of the Rivers and Harbor Act, has the responsibility for maintaining a 90-ft by 9-ft channel in the Savannah River for navigational purposes. The river was last used for a commercial shipment in 1979, and has not been maintained since that time. Recent measurements by the USACE indicate that, depending on the level of water flow, most areas of the navigation channel above RM 35 would likely need to be dredged to allow barge traffic during normal river flow as discussed in Section 4.4.2. Prior to any authorization of dredging of the Savannah River navigation channel, the Corps of Engineers would be required by NEPA to assess the impact of such dredging on the river biota. A detailed assessment of impact to river biota by the NRC staff is not possible at this time. Presently, the dredging project, if it should occur, is incompletely defined, the amount of material to be removed is unknown, and the location of the dredge spoils area has not been identified. Specifics of the project would be provided in the USACE assessment to fulfill the NEPA requirement. Nevertheless, the staff has provided additional analysis in Section 7.2 "Aquatic Ecosystem" to address potential cumulative impacts to aquatic biota from dredging of the Savannah River navigation channel.*

Comment: Considering...the warming of the water they release (killing the fish in that waterway)... only a fool or a lapdog for the nuclear industry would dare propose its continued use. (0007-4)

Comment: The water that is returned to the river will be at high temperatures, negatively impacting river habitat. (0124-4)

Response: *As discussed in Section 5.4.2.3 of the EIS, the impacts from the thermal discharges are considered to be SMALL and localized. The maximum temperature of the water at the discharge was determined to be 91 degrees F (maximum blowdown temperature).*

Modeling of the thermal plume assumed Drought level 3 river flows (108 L/s [3800 cfs]), the minimum river temperature (which would result in the largest thermal plume), maximum discharge temperature and conservatively combining the effluent from VEGP Units 1 through 4 through the proposed VEGP Units 3 and 4 discharge pipe. The maximum 5 degree isotherm above ambient river temperature extended 97 feet downstream of the discharge and was 15 feet wide. This is a very small percentage of the river area, which at the location of the intake is 312 feet wide. Fish would likely avoid the thermal plume by swimming around it. The staff does not anticipate any detrimental effects to fish as a result of the thermal discharge. No change was made to the EIS as a result of these comments.

Comment: Temperature changes negatively affect fish, mussel, plant, and animal life which are indicators of riverine ecological function downstream. We would like to see ecological modeling of the effects of thermal discharge from the additional 2 units along with the cumulative effects of decreasing flows due to drought and increasing water demands in the basin on species of special concern. (0031-3)

Comment: The water discharged from nuclear Plant Vogtle is already hotter than what is withdrawn; more reactors will only make this situation worse. Temperature changes negatively affect the fish, plant, and animal life that depend on the river. The water intake systems at nuclear power plants can kill fish and fish larvae, among other organisms; having more reactors on site will only make this worse. (0091-18)

Comment: Temperature changes negatively affect fish, mussel, plant, and animal life which are indicators of riverine ecological function downstream. We would like to see not only ecological modeling of the effects of thermal discharge from the additional 2 units and modeling of all 4 units in operation, but ecological modeling with the additional cumulative effects of decreasing flows due to drought and increasing water demands in the basin on species of special concern. Although not lethal, the thermal signature from the plant may change the thermal regime of the river in combination with decreasing flows due to either increased water us upstream, or decreasing flows due to droughts. (0092-4)

Response: *The EIS contains modeling of the thermal discharge from Units 3 and 4 assuming drought conditions (Drought Level 3 conditions) equivalent to a water flow of 3800 cfs. Blowdown from Units 1 and 2 and from the proposed Units 3 and 4 represent 0.8 percent of the maximum average daily flow or 1.8 percent of the Drought Level 3 flow. The calculations of the thermal plume, as defined by the 90°F isotherm, were modeled as if the thermal discharge for the proposed units and the existing units would be through a single discharge pipe. The combined blowdown flows would rapidly mix with the ambient river water. The discharge plume under Drought Level 3 conditions would extend 97 feet downstream of the discharge and would be 15 feet wide. The Savannah River at the location of the discharge at Drought Level 3 is calculated to be 95 m (312 ft) wide with an average depth of 2.5 m (8.2 ft). Based on the small size of the plume as compared to the width of the river, the need for ecological modeling was*

not considered further. Fish would be able to avoid the elevated temperatures and organisms entrained in the plume would be exposed to it for only a few minutes. The staff does not anticipate any detrimental effects to fish as a result of the thermal discharge. Macrophytes are not present in the area of the discharge. Therefore the staff concluded that even under Drought Level 3 conditions thermal impacts to aquatic biota would be undetectable. To provide additional conservatism, the staff analyzed impacts to biota at low flows of 3000 cfs and 2000 cfs and determined that the impacts would not be significantly different from those analyzed for operation at Drought Level 3. No change was made to the EIS as a result of these comments.

Comment: Although dredging is not needed at this time, the DEIS indicates that the main channel of the Savannah River may need to be dredged in the future to maintain access between the barge slip and the navigation channel. According to surveys completed in 2006, this Section of river contains a very important population of the Savannah Lilliput (Toxolasmapullus), a state threatened mussel species. We recommend that mussel surveys be carried immediately before dredging and that any state listed mussel species be relocated to suitable upstream habitat by a qualified-mussel biologist. (0133-1)

Response: *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. Depending on natural or man-induced activities in the river (such as a flood or major releases from the up river dams) sediment may move into the river causing a need for future dredging in this area. The permitting of in-river dredging is the responsibility of the USACE. The USACE is subject to NEPA and would be required to conduct an environmental assessment prior to the approval of a dredging permit for Southern. The presence of any protected species would be considered during this review. Currently, there are no Federally endangered mussels in the river. Changes were made to Section 4.4.2 as a result of this comment to reflect the State's concern for the Savannah lilliput mussel (Toxolasma pullus).*

Comment: Page 4-28. This document discusses mussel fauna in the project area and states the Atlantic pigtoe (*Fusconia masoni*) is not known to occur in the Savannah River. In 2006, the U.S. Fish and Wildlife Service conducted a freshwater mussel survey in the Savannah River to determine species composition and distribution of mussels. This study encompassed the portion of the river from the Augusta Shoals region (RM 203) near the Fall Line downstream to the tidewater region (RM 22.8) near Savannah. The survey evaluated 39 sites using both shallow water (snorkeling and grubbing) and deep water (SCUBA) survey techniques. A total of 26 freshwater mussel species were identified during the survey efforts. (0045-6)

Comment: With the exception of sites within the Augusta Shoals area, mussels were generally unevenly distributed in the surveyed areas, which is reflective of the distribution and quality of microhabitats within a particular river segment. In general, mussels were most abundant in the thalwag habitats at the base of the river bank, and rare to absent in the shifting sand dominated runs in the center of the channel. Atlantic pigtoe and Savannah liliput (*Toxolasma pullus*) were

observed in the 2006 mussel survey. Both of these species are experiencing range-wide declines and are likely to be elevated to candidate status within the next two years. (0045-7)

Comment: The 2006 discovery of four species not previously known to occur in South Carolina demonstrates the gross lack of knowledge regarding the mussel fauna of the Savannah River. The objective of the 2006 mussel survey was to attempt to estimate species composition and distribution in the Savannah River; however, it should be noted that time and funding restrictions allowed surveyors to visit only a small portion of the available habitat in the river. (0045-9)

Comment: Page 4-28. The document discusses mussel fauna in the project area and states that the Atlantic pigtoe is not known to occur in the Savannah River. In 2006, the Fish and Wildlife Service conducted a freshwater mussel survey in the Savannah River to determine species composition and distribution of mussels. This study encompassed the portion of the river from the Augusta Shoals region (RM 203) near the Fall Line downstream to the tidewater region (RM 22.8) near Savannah. This survey evaluated 39 sites using both shallow water (snorkeling and grubbing) and deep water (SCUBA) survey techniques. A total of 26 freshwater mussel species were identified during the survey efforts (Table 1). With the exception of sites within the Augusta Shoals area, mussels were generally unevenly distributed in the surveyed areas, which is reflective of the distribution and quality of microhabitats within a particular river segment. In general, mussels were most abundant in the thalwag habitats at the base of the river bank, and rare to absent in the shifting sand dominated runs in the center of the channel. Atlantic pigtoe (*Fusconia masoni*) and Savannah liliput (*Toxolasmapullus*) were both observed in the 2006 mussel survey. Both of these species are experiencing range-wide declines and are likely to be elevated to candidate status within the next two years. The population of Savannah liliput upstream of Little Hell boat landing (Allendale County, South Carolina) is probably the largest remaining population of this species and impacts to that habitat should be avoided. The 2006 discovery of four species not previously known to occur in South Carolina demonstrates the gross lack of knowledge regarding the mussel fauna of the Savannah River. The objective of the 2006 mussel survey was to attempt to estimate species composition and distribution in the Savannah River; however, it should be noted that time and funding restrictions allowed surveyors to visit only a small portion of the available habitat in the river. Table 1. Mussel Species Located in 2006 Savannah Mussel Survey [See ML073600891 for table]. (0121-3)

Response: *The results of the 2006 Fish and Wildlife Service Savannah River freshwater mussel survey were not available to the NRC staff prior to the publication of the draft EIS. The staff has received a copy of the study, and Section 2.7.2.1 of the EIS has been updated to reflect the information related to mussel fauna in the Savannah River in the area of the VEGP site.*

Comment: The population of Savannah liliput upstream of Little Hell boat landing (Allendale County, South Carolina) is probably the largest remaining population of this species and impacts to that habitat should be avoided. (0045-8)

Response: *The presence of the Savannah lilliput, Toxolasma pullus, in the vicinity of the VEGP site was discussed in the draft EIS in Section 2.7.2.1. The comment, however, refers to a population that is located at rkm 217 (RM 135) approximately 10 miles downstream of the site. The impact to this population related to the construction and operation of Units 3 and 4 would only occur during dredging of the Savannah River navigation channel. The staff recognizes that dredging the Savannah River downstream of the VEGP site has the potential for adverse impact to aquatic organisms such as the Savannah lilliput. The Rivers and Harbors Act assigns the responsibility of maintaining the navigation channel to the USACE. Prior to any authorization for dredging in the Savannah River the USACE would be required by NEPA to assess the impact of dredging on the river biota. Concerns about the status and the impact of the dredging process on the Savannah lilliput population as well as a discussion of the potential for any mitigation activities to be employed to eliminate or reduce potential impacts should occur during the USACE's NEPA evaluation. However, the staff has provided additional analysis in Chapter 7 of potential cumulative impacts to aquatic biota from potential dredging of the Savannah River navigation channel.*

Comment: Page 4-27. The robust redhorse is a state-listed species but not federally-listed. The multi- agency Robust Redhorse Conservation Committee (Georgia Power is a member) was formed in 1995 to determine why the fish had declined and to restore the species to a sustainable level without the need to be listed under the Federal Endangered Species Act. No known spawning occurs within the Vogtle project area; however, there is little doubt that the species moves through this river stretch during spawning. (0045-5) (0121-4)

Response: *A discussion of the occurrence of the robust redhorse in the Savannah River was moved in Section 2.7.2.1 from the subsection "Other Species of Interest" to "State-Listed species." The information on the Robust Redhorse Conservation Committee is included in Section 2.7.2.1.*

Comment: The current Draft EIS used 3800 cfs to define the withdrawal for normal operation of the existing units and the two new units and determine that operation at this level would require approximately 4.8% of the river flow. Consumptive use at this low flow was determined to be 3.4 %. Even though all of these values remain below the 5 % criteria use by EPA to require evaluation of entrainment effects at the annual average river flow value (ref. Vogtle draft EIS, pages 7.3 -7.5), the 5% withdrawal specified by EPA is only related to calculating impacts of waste assimilation and thermal effects. It does not address maintaining adequate water to support aquatic habitats. A consumptive loss of 3.4% of the total river flow during drought conditions may be detrimental to species that are already stressed during low flow conditions and for native and endangered species that are already in historically low population numbers. Our concern is that all users now and in the future have adequate water supply. If a single user in the basin uses 3.7% without the benefit of a watershed water management plan, opportunities for future users are not taken into consideration and healthy aquatic habitats and species may be at risk. (0092-1)

Response: *Aquatic organisms inhabiting rivers and streams flowing into the Atlantic are pre-adapted to tolerate large variations in water flow. Periodic droughts have historically occurred in rivers in the southeastern United States, and species occurring in the river, although periodically stressed, persist. In severe drought conditions, the percentage of water lost as a result of consumptive use of additional VEGP units will increase. However, this would not be expected to have a lasting or measurable effect on the aquatic populations.*

The staff has made changes to Sections 5.3.2.1, 5.4.2, 7.3 and to Section 7.5 related to the drought conditions and a water resource study being conducted by the USACE. The USACE initiated the first phase of a two-phased comprehensive water resource study of the Savannah River. The study is being developed in close partnership with the States of South Carolina and Georgia and is closely coordinated with the Environmental Protection Agency and their ongoing Watershed Project of the Savannah River Basin. The reconnaissance study phase was initiated in February 1998 and completed in July 1999. Initial feasibility study efforts are underway, and the plan is not yet in place.

Comment: Is it true that water used for cooling the reactors will be considerably warmer than existing river water? What will be the impact of this warming of the river? We know that heavy metals and other contaminants are already existent in fish in this body of water. What are the synergistic impacts of other human-induced changes to the natural environment, along with the warming of the water? And, how will the changes to the natural environment effect humans? (0109-3)

Response: *Section 5.3.3 discusses the temperature of the discharge water in comparison to the temperature of the ambient river water. This comment also expresses concern over the possible synergistic effect of thermal discharges, heavy metals and other contaminants that either are discharged to the river or already exist in the river and the fish. A synergistic effect is a biologic response that is greater than the response to each of the substances individually. Thus, the combined effects of substances acting together may be greater than the sum of the effects of substances acting by themselves. However, in the case of VEGP, the thermal and chemical releases would be within the standards set forth by the State of Georgia and EPA. The standards for thermal and chemical exposure are set conservatively, in part to address the potential for synergistic interactions. The comments provide no new and significant information; therefore, no change was made to the EIS as a result of this comment.*

Comment: 4.4.2.1 Impacts of Construction on the Aquatic Ecosystem in the Savannah River The description of the barge slip in this Section differs from the description provided in RAIs related to Section 3.9 of the ER (RAI 3.9.5 submitted by letter AR-07-0061). The barge unloading facility used for Unit 1 and 2 construction consisted of a series of dolphins installed along the West bank of the Savannah River downstream of the intake structure. Barges were moored parallel to the bank and unloaded with a crane. For Units 3 and 4, SNC plans to construct a barge slip on the downstream side of the intake structure. Response to RAI 3.9.5 in

SNC letter AR-07-0061 provides a detailed description of the barge slip design and construction. NRC is requested to revise the DEIS to correct the information on the barge slip in Sections 4.4.2.-14; 16; 17; 18 and in any other areas where barge slip is discussed. (0095-11)

Response: *Changes were made to Section 4.4.2 to appropriately reflect that the existing barge unloading facility is located between the existing VEGP units 1 and 2 intake canal and the ring crane foundation, and also that 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.*

Comment: 4.4.2.4 Impacts to State-Listed Species. DEIS provides a discussion of seven mussels identified as South Carolina Species of Concern and indicates that construction activities at Vogtle could disturb these mussels. Although the NRC concludes that any impact to the mussels from construction would be temporary and minor, SNC requests NRC to revisit the reference and confirm if the mussels are known to be present near the proposed construction areas at Vogtle. SNC is not aware of any mussel species, beyond common river mussels, known to be present in the mainstem of the Savannah River adjacent to the Vogtle site. (0095-12)

Response: *The mussels referred to in the draft EIS are known to be present in the Savannah River near the VEGP site and were identified in the cited reference in Section 2.7.2.1 from the Academy of Natural Sciences of Philadelphia (ANSP 2003). Additional information obtained recently from the U.S. Fish and Wildlife Service as cited in the report, The Catena Group, 2007, confirms the presence of these seven protected mussel species in the vicinity of the VEGP site No change was made to the EIS as a result of this comment.*

Comment: Section 2.7.2.1 p.2-73 states "Starting in 1997, sampling at the stations for the VEGP site was limited to diatom surveys only (ANSP 2003)." DEIS text states that starting in 1997, sampling at the Academy of Natural Sciences stations at the VEGP site was limited to diatoms only. There are two stations in the vicinity of VEGP; Station 2A at river mile 151.2 and Station 2B at river mile 149.8. While sampling was limited to diatoms at Station 2A after 1997 (though a mussel survey was conducted at that site in 1998), the full sampling program (diatoms, non-insect invertebrates, aquatic insects and fish continued to be performed at Station 2B through 2001. (0095-33)

Response: *Starting in 1997, sampling at station 2A (RM 151.2) located adjacent to the VEGP site was limited to diatom surveys (ANSP 2003), although a mussel survey also occurred in 1998. The sampling was also scaled back for Station 2B, approximately 1 mile downstream from the VEGP site at RM 149.8. Diatometer sampling and analysis was included for this station and reported in 2003 (ANSP 2003) and 2005 (ANSP 2005). Non-insect macroinvertebrates, insect macroinvertebrates and fish surveys were conducted into 2001 however, with the exception of the mussel survey which was reported, the results of the other surveys were archived for future reference without being analyzed and reported. Starting in*

2003, only diatom sampling results were reported. A clarification was made to the EIS as a result of this comment.

Comment: Section 2.7.2.1 p.2-80 states "The decline in harvest likely reflects a decline in the population of American Shad." DEIS contradicts previously cited reference, Bailey et al. (2004) that American Shad populations in the Savannah River increased from 2000 to 2001. A decline in the harvest could be due to any number of factors unrelated to population size including decreased consumer demand, decreased (market price or, as is the case of the American Shad, restrictions on commercial harvesting. (0095-34)

Response: *The statement "The decline in the harvest likely reflects a decline in the population of American Shad" has been deleted from Section 2.7.2 as a result of this comment.*

Comment: Section 2.7.2.1 p.2-84 states "No invasive aquatic plant species have been noted in the aquatic environments at the VEGP site (Southern 2007a)." Invasive plant species are not addressed in the VEGP ER (Southern 2007a). However, the information can be found on page 28 of Southern 2006d (ML063520382) as follows: "No invasive species have been noted in the terrestrial or aquatic environments at Vogtle". (0095-35)

Response: *The reference was corrected in Section 2.7.2.1.*

Comment: Section 9.5.2.4 states "Based on the information provided by Southern and NRC's own independent review of additional information, the staff concludes that depending on the method of construction and any need for dredging, the impact on aquatic resources at Plant Farley could be SMALL to MODERATE." DEIS pg 9-55. Conclusions stated in the DEIS differ from those stated in SNC ER. SNC requests NRC revise DEIS to achieve conclusions consistent with ER or provide basis for deviation. (0095-105)

Response: *The impacts on aquatic organisms would be temporary and largely mitigable through the use of best management practices (BMPs). After reconsidering the analysis in Chapter 9 of the EIS, the staff determined that the impact would be more appropriately be characterized as SMALL. Section 9.5.2.4 was changed as a result of this comment.*

Comment: Section 9.5.2.4 states "However, assuming the use of BMP during construction, the staff concludes that the impacts would be SMALL to MODERATE depending on the specific routing of the right-of-way." DEIS pg. 9-55. Conclusions stated in the DEIS differ from those stated in SNC ER. SNC requests NRC revise DEIS to achieve conclusions consistent with ER or provide basis for deviation. (0095-106)

Comment: Section 9.5.3.4 states "Based on this information and NRC's own independent review, the staff concludes that construction impacts to aquatic resources during transmission line construction would be SMALL to MODERATE, depending on the transmission right-of-way

routing." DEIS pg 9-73. Conclusions stated in the DEIS differ from those stated in SNC ER. SNC requests NRC revise DEIS to achieve conclusions consistent with ER or provide basis for deviation. (0095-119)

Response: *The impacts on aquatic organisms would be temporary and largely mitigated through the use of BMPs. However, with the routing of the transmission lines not identified, the staff cannot say with certainty that threatened or endangered species are not present or would not be impacted. Therefore the staff has concluded that the impact could range from SMALL to MODERATE depending on the species, their location and the planned area of disturbance. No change was made to the EIS as a result of these comments.*

Comment: Since the EIS allows for fishing we would expect to see information about the concentration of the chemicals or the radiotoxicity concentration in the fish, and the resultant detrimental health effects on people. Since this information is not included this EIS is deficient, and this should be corrected. (0087-5)

Comment: Fishing is allowed. No mention of the concentration of the chemicals or the radiotoxicity concentration in the fish, and the resultant detrimental health effects on people is included. Therefore, this EIS is deficient, and this must be corrected, or the license denied. (0090-5)

Response: *The concentrations of chemical discharges to the Savannah River are given in Table 5-4. The concentration of chemicals from the discharge into the fish was not calculated because 1) the concentrations were significantly below the LC50 (the concentration of a chemical that kills 50 percent of the sample population) even before accounting for dilution in the river, or 2) the chemical was neutralized before it was discharged, or 3) there are no toxicity studies for the chemical and the product is not listed as a carcinogen. Because of the low concentrations of chemicals and the large amount of dilution in the Savannah River, the calculation of detrimental health effects from the VEGP Units 3 and 4 on people that ate the fish would be insignificant compared to detrimental health effects from other sources of chemicals in the environment (cleaning agents, second hand smoke, etc.). Southern currently conducts a Radiological Monitoring Program at the VEGP site. This monitoring program will continue as long as there are licensed facilities on the site. Part of the monitoring program is a radiological examination of fish and shellfish inhabiting the river in the vicinity of the site. Records of past monitoring can be accessed on-line in the ADAMS document retrieval system. Based on past monitoring, there have been no significant accumulations of radioactive materials in the fish or shellfish as a result of operations at the VEGP site. Health effects to the public from consumption of fish and drinking water are discussed in Section 5.9.2.1 of this EIS. No change was made to the EIS as a result of these comments.*

E.2.9 Comments Concerning Socioeconomics

Comment: Georgia Power has been a very good neighbor, (0013-117)

Comment: A nuclear plant makes a good neighbor. It supports high paying jobs directly, at the plant, generates Additional jobs in the community and contributes by helping to build good schools, roads, and other civic improvements. (0013-139)

Comment: Plant Vogtle has been a dedicated supporter of the American Cancer Society, and the Relay for Life, of Burke County, for several years, raising money and awareness to support lifesaving cancer research, programs, and services. (0013-143)

Comment: We believe that the facility is a good neighbor, supplying a needed commodity, and in an efficient and safe fashion. (0013-159)

Comment: [T]he city of Sylvania is located approximately 30 miles from the Plant Vogtle site, and whereas Plant Vogtle has, during its existence, been beneficial to the local economy, and a good neighbor. (0013-17)

Comment: Plant Vogtle has been an outstanding corporate citizen through the years, (0013-69)

Comment: There was always an excellent working relationship between the owners of Plant Vogtle and the local government. Local government officials were kept informed as to how the project was progressing and, in return, attempted to cooperate in any way possible. By working as closely with the local officials, Georgia Power and its partners gained the respect and trust of the local community. To my knowledge they still have this trust today. Plant Vogtle has been good for Burke County, and Burke County has been good for Plant 9 Vogtle. I see no reason why this excellent relationship between Plant Vogtle and the Burke County community will not exist for many years to come. (0013-82)

Comment: Having the plant located in our county has provided the students of Burke County with experiences and opportunities that could otherwise have been lacking in their lives. From Georgia Power mentors, to Southern Company career and partnership opportunities, the school system has been truly blessed. (0013-84)

Comment: We have been good stewards, and good partners, with the community, (0013-92)

Comment: Georgia Power has been a good neighbor and fully deserves the overwhelming community support they have here. (0053-3)

Comment: Plant Vogtle has been a good corporate neighbor and vital to the surrounding communities through the availability of jobs and other economic opportunities; (0055-2)

Comment: Plant Vogtle has, during its existence, been beneficial to the local economy and a good neighbor; (0056-2)

Comment: Plant Vogtle is a good neighbor, lending support to the United Way, they actively participate in the school partnership program and supporting local charitable efforts. The plant provides about 800 high-paying jobs in the Burke County area. The plant provides a product used every day in homes, businesses, schools, hospitals, etc. (0060-11)

Comment: Additionally, expansion at Plant Vogtle is good for the economy. New units at the site will provide for more job opportunities for the citizens in Burke County and surrounding areas. (0066-6)

Comment: On the subject of Plant Vogtle, the construction of additional nuclear units is good for the region's economy. An expanded Plant Vogtle will create new, better paying jobs. Operation of a U.S. nuclear plant generates 400 to 700 permanent jobs. Additionally, these jobs pay 36 percent more than average salaries in the local areas. (0069-3)

Comment: WHEREAS, Plant Vogtle has been an outstanding corporate citizen through the years; (0071-2)

Response: *These comments express support for the existing Units at VEGP based on the positive socioeconomic impact on the region. Because these comments did not provide new information, no change was made to the EIS.*

Comment: Fourth, an expanded Plant Vogtle will create new, better-paying jobs. Operation of a U.S. nuclear plant generates 400 to 700 permanent jobs. Additionally, these jobs pay 36 percent more than average salaries in the local area. The construction of the units will provide good jobs too, and supporting businesses will flourish. (0003-5)

Comment: Additionally, expansion at Plant Vogtle is good for the economy. New units at the site will provide for more job opportunities for the citizens in Burke County and surrounding areas. (0004-7)

Comment: Additional units at Plant Vogtle would create new job opportunities at the Vogtle site, for many different occupations for local residents, tech school graduates, college graduates, as well as for additional economic growth in the surrounding communities. These opportunities would offer more career choices to local residents, allowing more citizens to remain in your community. (0013-127)

Comment: We believe that the region, and local economy, will benefit from the additional units. (0013-129)

Comment: I'm of the opinion that it is the best thing that could happen to Burke County. We have a lot of people here who depend on the Plant Vogtle, and they are assets to this community. And the people who work with Georgia Power are very friendly to this community, and we are very proud of having Plant Vogtle here. (0013-13)

Comment: [A]nd jobs for our community, and whereas Southern Nuclear is considering expanding the plant by constructing two nuclear reactors at Plant Vogtle, and whereas the proposed expansion of Plant Vogtle will bring even more jobs, and be a boost to the economy of our county; (0013-71)

Comment: [A]s far as the socioeconomic impact, our community stands ready to plan to be ready for the possible expansion, and the growth that our community faces. The Chamber, the City, and the County, and the other community leaders, are working together to make sure that it is in the best interest of our community. (0013-75)

Comment: Georgia Power has a strong positive presence in Burke County, not only as the largest employer, but also as a key community partner working toward making Burke County a great place to live, work, raise children, and enjoy many diverse quality of life activities. Georgia Power's involvement in the community reaches from the schools, to civic clubs, the Chamber of Commerce, and the up and coming Main Street Program in the city of Waynesboro. Their presence and assistance has provided 9 Burke County, and EMA, that is one of the best in the state, and affordable county property taxes. The expansion of Plant Vogtle will bring more people which will, in turn, impact economic development of Burke County for the better. (0013-80)

Comment: New plants will also create stable jobs, (0013-89)

Comment: Additionally, expansion at Plant Vogtle is good for the economy. New units at the site will provide for more job opportunities for the citizens in Burke County and surrounding areas. (0059-7)

Comment: The planned expansion at Plant Vogtle is good for the economy. New units at the site will provide for more job opportunities for the citizens in Burke County and surrounding areas. (0062-5)

Comment: The planned expansion at Plant Vogtle is good for the economy. New units at the site will provide for more job opportunities for the citizens in Burke County and surrounding areas. (0064-5)

Comment: [A]n expanded Plant Vogtle will create new, better-paying jobs. Operation of a U.S. nuclear plant generates 400 to 700 permanent jobs. Additionally, these jobs pay 36 percent more than average salaries in the local area. The construction of the units will provide good jobs too, and supporting businesses will flourish. (0067-5)

Comment: WHEREAS, the proposed expansion of Plant Vogtle will bring even more jobs and be a boost to the economy of our county. (0071-4)

Comment: WHEREAS, the expansion at Plant Vogtle will bring, in addition to increased power, an increase in employment, property tax base and growth to our community. (0075-3)

Response: *These comments generally express support for Southern's plans to add two new units to the VEGP site, based on the potential positive socioeconomic impacts that this expansion would be expected to bring to the region. No change was made to the EIS as result of these comments.*

Comment: It is your job to ensure that a full Environmental Impact Review is done...Georgia ratepayers will be harmed in the future from a negligent NRC review. And there are serious gaps in the review thus far. It is your job to correct this problem. Where is the analysis, in the NRC review, of the cumulative impacts for ratepayers in Georgia, who face serious harm from potential adverse impacts down the road? Isn't that part of the socioeconomic impact on all of us? (0013-21)

Response: *Although the NRC has requirements for licensees (10 CFR 50.75) to provide reasonable assurance that funds would be available for the decommissioning process and to establish financial qualifications (10 CFR 50.33), general issues related to rate setting are outside NRC's mission and authority and are not considered in the EIS. The Georgia Public Service Commission (PSC) oversees electrical power generation and distribution in the State of Georgia with the mission of ensuring that consumers receive safe, reliable and reasonably priced electric services from financially viable and technically competent companies. The determination of whether there is a need for power is not under NRC's regulatory purview, nor is the establishment of electrical rates. When another agency has the regulatory authority over an issue, NRC defers to that agency's decision. The NRC staff reviewed the Need for Power evaluation and determined it was (1) systematic, (2) comprehensive, (3) subject to confirmation, and (4) responsive to forecasting uncertainty, pursuant to Section 8.4 of the NRC's Environmental Standard Review Plan (ESRP) (NRC 2000). If the Need for Power evaluation meets these criteria, no additional independent review by the NRC is needed. The EIS does address regional socioeconomic impacts related to the physical construction of the plant in Chapter 4 and the operation of the plant in Chapter 5. The costs of the proposed expansion as well as the overall benefits are considered in Chapter 11 of the EIS. Because this comment did not provide new information, no change was made to the EIS.*

Comment: This Draft Environmental Impact Statement presents the impacts on people, their health, and that of the environment from the Vogtle expansion would be small. We ask that you move beyond the fact that some of the wallets in Burke County, and those of Southern shareholders, and those companies involved in the expansion, stand to benefit financially, and conduct the proper review on the full socioeconomic impacts for people who have to pay their power bills, and their taxes. (0013-25)

Response: *Although the NRC has requirements for licensees (10 CFR 50.75) to provide reasonable assurance that funds would be available for the decommissioning process and to establish financial qualifications (10 CFR 50.33), general issues related to the applicant's financial viability and rate setting are outside NRC's mission and authority and are not considered in the EIS. The Georgia Public Service Commission (PSC) oversees electrical power generation and distribution in the State of Georgia with the mission of ensuring that consumers receive safe, reliable and reasonably priced electric services from financially viable and technically competent companies. The determination of whether there is a need for power is not under the NRC's regulatory purview, nor is the establishment of electrical rates . When another agency has the regulatory authority over an issue, NRC defers to that agency's decision. The NRC staff reviewed the Need for Power evaluation and determined it was (1) systematic, (2) comprehensive, (3) subject to confirmation, and (4) responsive to forecasting uncertainty, pursuant to Section 8.4 of the NRC's Environmental Standard Review Plan (ESRP) (NRC 2000). If the Need for Power evaluation meets these criteria, no additional independent review by the NRC is needed. The EIS addresses regional socioeconomic impacts, including tax impacts, within a 50-mile radius of the proposed site related to the construction and operation of the plant in Chapters 4 and 5. The costs of the proposed expansion as well as the overall benefits are considered in Chapter 11 of the EIS. Because these comments did not provide new information, no change was made to the EIS.*

Comment: I wish to speak, today, about socioeconomic issues that I think need to be looked into further. Apparently it takes a village to build a nuclear power plant. Apparently it takes a trailer village, here. And, apparently, that involves several thousand people. It involves issues of sanitation, appropriate water supply, and space. And those are things that are going to have to be addressed in this community. (0013-54)

Response: *Section 4.5 of the EIS addresses the socioeconomics of constructing two new units on the VEGP site. These impacts include potential demographic impacts of construction workers migrating into the region and corresponding impacts on housing and public infrastructure (which includes water supply and wastewater treatment facilities). Because this comment did not provide new information, no change was made to the EIS.*

Comment: There is a concern about generating tax revenues, property taxes for schools, and so on. Apparently that has already taken place in Burke County. It is my understanding there is

already excess capacity in your schools, with empty classrooms sitting there waiting for the kids that are expected to come here with the next nuclear power plants. (0013-56)

Response: *Tax revenue impacts and impacts on education in the region are addressed in Chapters 2, 4, and 5 of the EIS. No change was made to the EIS as a result of this comment.*

Comment: [F]inal point is on 9-24, there is a chart. And it says, it has nuclear power and it says, for socioeconomic it says: "large beneficial to moderate adverse." And then for alternatives it has moderate beneficial, to moderate adverse. Now, this, every study I have seen, on the job side of the issue, on nuclear versus alternatives, and there are so many of them, so many of them, have shown that investment in solar, or energy efficiency is at least one and a half to five times, produces one and a half to five times more jobs, per dollar, than nuclear power. There are so many of them. None of them are quoted in this EIS, okay? And I'm not talking about crappy jobs, here, I'm talking about good quality jobs, construction, operation and maintenance jobs, that linger, that don't just disappear when the construction is over. (0013-163)

Response: *Table 9-3 of the EIS summarizes the range of impacts of a combination of power sources and provides a brief explanation regarding how these impact assessments were determined. All impacts are regional impacts. The number of jobs generated both during the construction and the operation of the various assumed energy projects is considered, as is the tax revenue impact. For socioeconomics, the peak MODERATE beneficial impact was based on the determination that these beneficial impacts would be noticeable in the regional economy, based on the expected number of workers employed and the expected property tax revenues generated by these projects. Because no new information was provided by this comment, no change was made to the EIS.*

Comment: [W]e are not here to vilify the folks at Plant Vogtle, they have a job to do. I'm sure they are, and want to be, and will continue to be good neighbors. (0013-209)

Response: *This comment provides general support for the employees of the VEGP. No change was made to the EIS as a result of this comment.*

Comment: The EIS fails to analyze the national impact of underwriting the multi-billion dollar Vogtle proposal with federal public tax money. The EIS must compare the estimated amount of tax money for Vogtle with social programs that would have to go unfunded such as education, health care, poverty and housing. (0094-7) (0112-6)

Response: *The NRC is not involved in establishing national energy policy. Rather it regulates the nuclear industry to protect the public health and safety and common defense and security within existing policy. The environmental impacts of the proposed action, including socioeconomic tax impacts, as well as impacts on education, public services, and housing are*

addressed at a regional level in Chapters 4 and 5 of the EIS. No change was made to the EIS as a result of this comment.

Comment: 4.5.1.1 Workers and the Local Public. An 800-cow commercial dairy is being constructed within 10 miles of VEGP (personal communication between TetraTech NUS and the Burke county director of planning and zoning). The dairy farm would have two permanent residences (assume two families) and non-resident employees. Other changes to the permanent residents within 10 miles of VEGP are likely to occur during the construction period but are currently unknown. The approximate number of permanent residents within 10 miles of VEGP, which is currently 3,500, would remain essentially unchanged. The dairy farm is not the closest residence to the VEGP site. The dairy farm may minimally increase the number of transients in the vicinity, but very slightly. (See S4.5-4). The dairy cows will be included in the existing REMP after construction is complete. Since a four unit REMP is proposed for Units 3 and 4, no significant change to the REMP is anticipated. (0095-13)

Response: *This new information was considered; however, no changes were made to the EIS in Sections 2.2 and 2.8 as a result of this new information.*

Comment: Section 9.2.2.1, DEIS page 9-10 states "Socioeconomic impacts would result from the approximately 200 workers needed to operate the coal-fired facility, demands on housing and public services during construction, and the loss of jobs after construction. Overall, the staff concludes that these impacts would be SMALL to MODERATE, resulting from the mitigating influence of the site's proximity to the surrounding population area and the relatively small number of workers needed to operate the plant. Considering the population and economic condition of the county, the staff concludes that the taxes would have a LARGE beneficial impact on the county." Conclusions stated in the DEIS differ from those stated in SNC ER. (0095-82)

Comment: Section 9.5.1.5 states "There may potentially be MODERATE impacts on the local school system during the construction phase of the project." DEIS pg. 9-45. Conclusions stated in the DEIS differ from those stated in SNC ER. (0095-100)

Comment: Section 9.5.2.5 states "Once the new units are operation, 660 jobs would be added to the local economy; however this would only constitute a small growth rate in jobs relative to the total number of existing jobs in the region, and the economic impacts would be SMALL and beneficial." DEIS pg 9-61. Conclusions stated in the DEIS differ from those stated in SNC ER. (0095-110)

Comment: Section 9.5.2.5 states "The NRC staff concludes that the potential construction would be MODERATE and beneficial. During operation the impacts would be LARGE and beneficial in Houston County and SMALL in the remainder of the 50-mile region; assuming

Alabama tax law remains unchanged." DEIS pg 9-62. Conclusions stated in the DEIS differ from beneficial impacts of taxes collected during those stated in SNC ER. (0095-112)

Comment: Section 9.5.2.5 states "However, it is likely, considering the currently system capacity constraints, that a major influx of construction workers could temporarily strain the systems and impacts could be MODERATE." DEIS 9-64. Conclusions stated in the DEIS differ from those stated in SNC ER. (0095-113)

Comment: Section 9.5.3.5 states "Therefore, the NRC staff concludes that the demographic impacts of constructing two new units at the Barton site would be SMALL." DEIS pg 9-78. Conclusions stated in the DEIS differ from those stated in SNC ER. SNC requests NRC revise DEIS to achieve conclusions consistent with ER or provide basis for deviation. (0095-120)

Comment: Section 9.5.3.5 states "However, considering that the region is relatively economically diverse, with a plentiful job supply, these impacts would be SMALL and beneficial as a result of interacting with a relatively robust economic base in the region." "SNC concludes that the impact of station operation on the economy would be beneficial and small everywhere in the region, except for Elmore and Chilton Counties where the impacts would be beneficially moderate and that mitigation would be warranted." Draft EIS, page 9.3-43. Conclusions stated in the DEIS differ from those stated in SNC ER. (0095-121)

Comment: Section 9.5.3.5 states "Therefore; the NRC staff concludes that the potential beneficial impacts of taxes collected during construction and operation of the proposed project at the Barton site would be MODERATE and beneficial in Chilton and Elmore Counties and SMALL and beneficial in the remainder of the 50-mile region." DEIS pg 9-79. Conclusions stated in the DEIS differ from those stated in SNC ER. SNC requests NRC revise DEIS to achieve conclusions consistent with ER or provide basis for deviation. (0095-122)

Comment: Section 9.5.1.5 states "During construction of the new units, up to 4400 construction workers would be required to build the plant (at the peak construction phase) and most of these would need to in-migrate to the region. The peak construction workforce would represent more than 5 % of the current workforce in the region and NRC staff concludes that the impacts of construction on the economy of the region would be MODERATE and beneficial, but temporary." DEIS 9-41. Conclusions stated in the DEIS differ from those stated in SNC ER. (0095-94)

Comment: Section 9.5.1.5 states "Based on information provided by Southern and NRC's own independent review, the staff concludes that a significant number of construction laborers would need to in-migrate to the area and the number of jobs added to the region during the construction phase would have MODERATE impacts on the local economy. Once the new units are operational, 660 jobs would be added to the local economy; however, this would only constitute a small growth rate in jobs relative to the total number of existing jobs in the region,

and the economic impacts would be SMALL and beneficial." DEIS pg 9-41. Conclusions stated in the DEIS differ from those stated in SNC ER. (0095-95)

Comment: Section 9.5.1.5 states "The NRC staff concludes that the potential beneficial impacts of taxes collected during construction would be MODERATE and beneficial and LARGE and beneficial during the operation in Appling County, and SMALL and beneficial in the remainder of the50-mi region, assuming Georgia tax law remains unchanged." DEIS pg. 9-42. Conclusions stated in the DEIS differ from those stated in SNC ER. (0095-96)

Comment: Section 9.5.1.5 states "Impacts on the operations workforce would be SMALL once the 2 new units are operational." DEIS pg. 9-43. Conclusions stated in the DEIS differ from those stated in SNC ER. (0095-97)

Comment: Section 9.5.1.5 states 'The impact of operating new units on housing is therefore likely to be SMALL." DEIS pg. 9-44. Conclusions stated in the DEIS differ from those stated in SNC ER. (0095-98)

Comment: Table 11-2 Unavoidable Adverse Operations during Operations of VEGP Units 3 and 4. DEIS p. 11-8 Construction and Operations Impacts." ER pg. 10.1-10 "Socioeconomic - Adverse impacts based on Southern's Application =Yes" DEIS pg 11-8. Conclusions stated in the DEIS differ from those stated in SNC ER. (0095-133)

Comment: Table 11-2 Unavoidable Adverse Operations during Operations of VEGP Units 3 and 4. DEIS p. 11-8 Construction and Operations Impacts." ER pg. 10.1-10 "Socioeconomic: Actions to Mitigate- Increased tax revenues would offset impacts." DEIS pg 11-8. Mitigation measures discussed in SNC ER different than those of DEIS. (0095-134)

Comment: Table 11-2 Unavoidable Adverse Operations during Operations of VEGP Units 3 and 4. DEIS p. 11-8 Construction and Operations Impacts." ER pg. 10.1-10 "Socioeconomic: Unavoidable adverse impacts - Increased use of service." DEIS pg. 11-8. Conclusions stated in the DEIS differ from those stated in SNC ER. (0095-135)

Response: *The draft EIS was prepared by NRC staff using its independent analysis and judgment. Conclusions in the draft EIS do not necessarily have to be consistent with Southern's conclusions in its ER. No change was made to the EIS as a result of these comments.*

Comment: Section 4.5.4.1 states "Four construction shifts ...made up of two shifts working 10-hour days Monday through Thursday (day shift and swing shift), and two additional crews working 12-hour days Friday through Sunday (day shift and graveyard shift)." The assumptions regarding numbers of workers per shift do not match those provided in SNC ER. (0095-57)

Response: *The comment indicates there is a discrepancy between the workers per shift assumed in the EIS and Southern's ER. The statement that is referred to, however, refers to the number of shifts and the number of hours in each shift rather than the number of workers, and no discrepancy is apparent. As stated in the EIS, the shift assumptions are based both on Southern's ER and follow-up documents in response to requests for additional information. No change was made to the EIS as a result of this comment.*

Comment: 4.5.2 Demography. A peak construction workforce of 3,500. A revised construction workforce estimate prepared by the construction engineering company anticipates a 20% smaller workforce than analyzed in the EIS (response to RFI AR-01-ADR-100). This information was provided in response to an RAI but was evidently not included in the DEIS. The approximately 900 person reduction occurs at the peak and most of the impacts associated with this change are positive in nature and do not significantly impact the NRC conclusions on socioeconomics and other areas. This estimate does not include SNC and NRC staff that will be assigned to the project and remain in the area for the duration. Therefore the construction engineering company estimate does not affect SNC's original estimate of total workforce, or its socioeconomic impacts, which NRC concludes would be small and temporary. (0095-14)

Response: *This information is new. The EIS has been revised to incorporate this new information.*

Comment: 4.5.3.1 Economy. SNC has revised its planning to allow for delay of starts of operations to as late as 2016 for Unit 3and 2017 for Unit 4 to allow for uncertainties associated with first-of-a-kind projects of such magnitude. SNC has not altered its construction schedule. SNC has revised the planning horizon for Vogtle 3 and 4 to support additional margin for NRC review and other activities with potential for delay. The proposed 7 month addition to the schedule does not warrant revising EIS analyses based on the possibility of construction delays. In addition, a shift in the schedule timing of 7 months should not have significant impact of the socioeconomic or other potential areas normally affected by the schedule length. The revised operating dates are believed to more accurately reflect the construction schedule duration as it is understood at this time. SNC continues to work with their contractors to optimize the construction schedule to minimize cost and maximize efficiency. (0095-15)

Response: *This comment provides new information regarding the construction schedule. This information was incorporated into Section 4.5.3 of the EIS.*

Comment: 5.5.2 Demography. The original estimate of 660 full time workers to support the Vogtle units contained in the ER is believed by SNC to be low. At this time, SNC estimates for training and other purposes that the number of full time workers will be 812. This number will continue to be refined up until the time the units are actually operational. The increase in full time personnel of 212 workers represents an approximately 32 percent increase in the full time plant staff. However, based on the socioeconomic data contained in the DEIS, this increase

represents a very small increase in the populations of the counties that will provide permanent homes, education, and services to these employees. There would be a positive benefit associated with tax revenue from the additional employees. The socioeconomic impacts will be enveloped by the analyses for the construction workforce. In addition, the growth rate projections in the relevant counties are large throughout and following the construction period such that any socioeconomic impacts associated with this increase would not alter the original NRC impact conclusions. (0095-18)

Response: *This comment provides new information regarding the estimated workforce to operate the proposed new units. The EIS (specifically Chapter 5) was revised to incorporate this new information.*

Comment: Section 2.8.1.1 p.2-93 states "On this map, the powerblock for the center of the proposed site is the circle on the map is the proposed site, with concentric circles..." SNC suggests revising, sentence meaning is unclear. (0095-36)

Response: *Section 2.8.1.1 in the EIS was revised to be more clear.*

Comment: Section 2.8.1.1 p. 2-96 states "Augusta, Georgia, is the largest metropolitan area within an 80-km (50-mi) radius of the VEGP site, and most of the current 862 VEGP employees live in Augusta, its suburban communities, or in unincorporated Sections of Columbia and Richmond Counties." DEIS used 862 employees. ER uses 888 employees. See addition information provided in Enclosure 1. (0095-37)

Response: *This employment estimate is based on "Plant Vogtle Zip Code Listing," June 20, 2005, personal communication with Southern Human Resources, ADAMS Accession Number ML063000202. Section 2.8.1.1 of the EIS was revised to explicitly reference this source.*

Comment: 2.8.2.3 p. 2-105 Line 7 states "The VEGP site is equipped with a barge slip downstream of the VEGP Units 1 and 2 intake structure, to support unloading of major equipment." VEGP does not have a barge slip. See addition information provided in Enclosure 1. (0095-38)

Response: *The text in Section 4.8.7.3 of the EIS was revised to reflect that there currently is no barge slip.*

Comment: Section 2.8.2.5 p.2-106 line 13 states "Several new residential areas are currently being developed in Waynesboro in anticipation of new full-time employees at the proposed site (PNNL 2006)." The reference cited in the DEIS does not include information regarding new residential areas being developed in Waynesboro. It is unclear where basis for this statement originates. (0095-39)

Comment: Section 4.5.4.5, p.4-53, Line 21 states "In addition, the Burke County School District plans on expanding school facilities to accommodate any possible construction-related influx of students (PNNL 2006)." The reference cited in the DEIS does not include information regarding expanding school facilities in Burke County. (0095-59)

Response: *Section 4.5.4.5 in the EIS was revised to reflect the appropriate reference.*

Comment: Section 9.5.2.5 states "Assuming a 40-year operation life, property taxes to Houston County could average between $20 million and $29 million annually during the first decade of operation and between $3.5 million and $5 million during the last decade of operation, based on the changing value of the plant (Southern 2007a)." DEIS pg 9-62. The ER assumes between $15M and $21.5M for the first decade and between $3M and $4M for the last decade. The estimate is based on the current tax rate in Alabama, which is different than Georgia's. (0095-111)

Comment: Section 2.8.2.6, Table 2-20 gives the Columbia County Reported Monthly Average water withdrawal, (MGD) as 6.71-17.8. DEIS totaled low side of range values incorrectly by subtracting minimum permit values. Values should be added and range for Columbia county should be 8.35 - 17.78 MGD. (0095-40)

Comment: Section 2.8.2.6, Table 2-21 says the Sardis WWTS average Daily Wastewater Processed MGD is 0.0043. Value provided in DEIS is off by one decimal place (0.0043 MGD for DEIS and 0.043 MGD for ER). Error affects the percent capacity available as calculated by NRC. (0095-41)

Response: *Section 4.8.7.6 of the EIS was revised to be consistent with the Environmental Report.*

Comment: Section 4.5.2 states "Of these, 2700 jobs would last two or more years and the remainder would be for less than two years (Southern 2006a)." The DEIS citation provided is inaccurate and should be Southern 2007a. (0095-55)

Response: *This reference was revised to reflect the correct reference.*

Comment: Section 4.5.3.2 states "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) (Southern 2007a)." The DEIS provides a dollar range of assessed value for taxing purposes different from that provided in SNC ER. The ER gives the range as greater than 9 to less than 100 percent. (0095-56)

Response: *This sentence should be referencing (Southern 2006a), which is a response to "information needs," provided by Southern. This was corrected in Section 4.5.3.2 of the EIS.*

Comment: Section 4.5.4.1 states "The traffic management plan should include such mitigating measures as installing turn lanes at the construction entrance, establishing a centralized parking area away from the site and shuttling construction construction workers to the site in buses or vans, using incentive programs to encourage carpools, and staggering construction shifts so they don't coincide with operational shifts." SNC ER lists potential traffic mitigation measures available to mitigate traffic concerns. SNC has not yet identified specific mitigation measures to implement during construction of VEGP Units 3 and4. (0095-58)

Response: *This sentence was revised to replace the word "should" with "could," to emphasize that these plans have not yet been finalized.*

Comment: Section 9.5.2.5 states "Based on the analysis construction impacts presented in Section 4.5.2 of this EIS, new nuclear units at Plant Farley would increase the population in the 50-mile region during the construction phase by approximately 6700 people (Southern 2007a)." DEIS pg. 9-60. The ER estimates the population increase in the 50-mile regions would increase by 7,200 people. SNC requests NRC revise DEIS to achieve value consistent with ER or provide basis for deviation. (0095-107)

Comment: Section 9.5.2.5 states "Assuming the residential distribution of the construction workforce would resemble the residential distribution of the currently Plant Farley workforce, approximately 5160 people (77 percent of 6700) or 6 percent of the 2000 population would settle in Houston County." DEIS pg 9-6 This discrepancy is a result of the difference in estimated population change. (0095-108)

Comment: Section 9.5.2.5 states "Overall the population increase from in-migration of the construction workers would constitute 1.7 percent of the 2000 population of the 50-mile region." DEIS pg 9-60. This discrepancy is a result of the difference in estimated population change. (0095-109)

Comment: Section 9.5.2.5 states "Based on the analysis in Section 4.5.3.7, new nuclear units at Plant Farley would increase the school-aged population in the 50-mile region by 1500 during the peak of the construction ..." DEIS pg 9-64. SNC assumes that construction of the proposed project at FNP would increase the school-aged population in the 50-mile region by 1900 people. (0095-114)

Comment: Section 9.5.1.5 states "Based on the analysis of the construction impacts presented in Section 4.5.2 of this EIS, construction of new nuclear units at Plant Hatch would increase the population in the 80-km (50-mi) region during the construction phase by approximately 6700 people. (Southern 2007a)" DEIS 9-40. The ER estimates the proposed project would increase the population in the 50-mile region by 7,200 people. (0095-92)

Comment: Section 9.5.1.4 states "Of the total population increase, 2010 people (30 % of 6,700) would settle in Appling County and 2,747 people would settle in Toombs County." This discrepancy is a result of the difference in estimated population change. (0095-93)

Comment: Section 9.5.1.5 states "Based on the analysis in Section 4.5.3.7, new nuclear units at Plant Hatch would increase the school-aged population in a 50-mile region by 1500 during the peak of the construction phase." DEIS pg. 9-45. SNC ER states that the school-aged population in the 50-mile region is 1900 students a HNP. (0095-99)

Response: *As stated in the EIS, this estimate is based on the population estimations developed in Section 4.5.2, which differ from Southern's ER, as they are based on information provided by the applicant after the ER was submitted (response to requests for additional information). The draft EIS was prepared by NRC staff using its independent analysis and judgment. Conclusions in the draft EIS do not necessarily have to be consistent with Southern's conclusions in its ER. The ER reference was eliminated from this sentence in the EIS.*

Comment: But I'm not sure you looked at any of the other socioeconomic other sorts of impacts that you would have by a proliferation of nuclear activities. (0013-109)

Response: *The NRC regulates the nuclear industry to protect the public health and safety. As part of its mission to protect public health and safety and the common defense and security pursuant to the Atomic Energy Act, the NRC staff is conducting vulnerability assessments for the domestic utilization of radioactive material and NRC has recently issued several orders to license holders imposing enhanced security requirements. The socioeconomic impacts of the proposed action, including demographic impacts, regional tax impacts, and impacts on recreation, education, public services, and housing are addressed at a regional level in Chapters 4 and 5 of the EIS. No change was made to the EIS as a result of this comment.*

E.2.10 Comments Concerning Historic and Cultural Resources

Comment: Section 4.10, Table 4-6, p.4-69, Line 6 states SNC will "Conduct cultural resource surveys, including subsurface sampling prior to initiating ground-disturbing activities to identify buried historical or cultural or paleontological resources." SNC conducted onsite cultural resource surveys in support of ER preparation. Additional surveys will be performed as directed by the Georgia SHPO and on a site-specific basis if evidence suggests cultural resources are present. (0095-61)

Response: *The comment provides no new information. No change was made to the EIS as a result of this comment.*

Comment: Regarding structures, HPD [Historic Preservation Division of the Georgia Department of Natural Resources] agrees that the Savannah River Site, which is listed on the

National Register of Historic Places (NRHP), is located in the project's area of potential effects. Furthermore, as previously stated in our letter dated October 4, 2006, we agree that the project as proposed will have no effect to this property. Furthermore, regarding archaeological sties, as previously stated in our October 4, 2006 letter, it is our opinion that archaeological sites 9BK416 and 9BK4232 should be considered eligible for listing in the NRHP. Additionally, though listed as ineligible in Table 2024, it is our opinion that archaeological site 9BK419 and 9BK420 should be considered potentially eligible for listing in the NRHP, but we agree that the project as proposed will have no effect to these sites. Also, site 9BK421 and 9BK422 do not appear to meet the eligibility criteria for listing in the NRHP, though listed as not determined in Table 2-24. However, please note that we are unable to provide an opinion on the eligibility of archaeological sites 9BK459 through 9BK465 because we have not received information on these sites. Please provide HPD with the addendum survey report (New South Associates 2006b) that addresses these seven sites. Finally, effects to site 9BK416 is avoidance is not possible, should be evaluated through additional investigation of the area of the site to be impacted. Please note the HPD recommends that the site boundary for 9BK423 be marked on construction documents and labeled as an environmentally sensitive area. In addition, it is our opinion that "No Trespassing" or "Sensitive Environmental Area" signage should be erected at the river in the area of the site to discourage further looting. (0117-1)

Response: *Southern submitted the requested information. Additional investigation is planned by Southern at 9BK416.*

E.2.11 Comments Concerning Environmental Justice

Comment: I'm not sure exactly what the environmental impact really has been for everybody. There is always a possibility that we may be just increasing the disparity in incomes of the poor and the rich, which is very obvious in this area. (0013-55)

Response: *The environmental justice analysis provided in Chapters 4 and 5 of the EIS addresses disproportionately adverse human health and environmental (including socioeconomic) impacts on low-income and minority communities that could potentially be produced by the construction and operation of two new reactors on the VEGP site. No change was made to the EIS as a result of this comment.*

Comment: But in the document it says, that they assume that jobs in the plant, once it is built, will go to outsiders, quote, unquote. Outsiders, imported into the area. There is a 2004 article in the Augusta Chronicle which said that 13 of the 160 plus managers at Vogtle, are African-American, or other minority; 13 out of 160 plus, 8 percent. Yet Burke County has over 50 percent African-American. So there are minorities working at Vogtle, and they get the riskier, most hazardous jobs. But most of the good jobs are going to come to outsiders. (0013-162)

Response: *The workforce necessary to build and operate a nuclear plant requires a very specific set of skills. Based on past experience from large-scale construction projects as well as interviews with building trade leaders, it was estimated that at least 1000 local construction workers necessary during peak construction would reside within the region (i.e., within commuting distance to the plant). Information on the construction workforce estimates and plant employee estimates is found in Chapters 4 and 5 of the EIS. The environmental justice analysis provided in Chapters 4 and 5 of the EIS addresses disproportionately adverse human health and environmental (including socioeconomic) impacts on low-income and minority communities that could potentially be produced by the construction and operation of two new reactors on the VEGP site. No change was made to the EIS as a result of this comment.*

Comment: Section 2.10.1, p.2-116, Line 20 states "Seventy-two census block groups within an 80-km (50 mi) radius of the proposed site exceed the state average for low-population households by 20 percent or more. Typo - "Low-population" should be low-income population. (0095-42)

Response: *The text in Section 7.10.1 was changed to read "low-income population."*

Comment: And with the EIS, I think we need to look very, very closely, at what we are saying about our environmental justice communities. They are alive, they are well people. And they are the silent ones that you may not see or hear, but they are being impacted. They are impacted by one thing, is the amount of water that is going to be used. (0013-177)

Response: *The environmental justice analysis provided in Chapters 4 and 5 of the EIS addresses disproportionately adverse human health and environmental (including socioeconomic) impacts on low income and minority communities that could potentially be produced by the construction and operation of two new reactors on the VEGP site. No change was made to the EIS as a result of this comment.*

Comment: 4.7.3 Subsistence and Special Conditions. DEIS Section 4.7.3, p. 4-58 beginning on line 37 states, "the presence of a subsistence fishing population along the Savannah River adjacent to the proposed site has been well documented in the literature." (Burger et. al, 1999) This statement is incorrect. The cited study does not use the phrase "subsistence population" and the data that it presents can not be interpreted as identifying a subsistence population. NRC's environmental justice analyses are in response to Executive Order 12898, Section 4-401 of which indicates that Federal agencies, whenever practicable and appropriate, shall collect, maintain, and analyze information on the consumption patterns of populations who principally rely on fish and/or wildlife for subsistence. As indicated by the use of the term "principally," the executive order is focusing on populations that rely on fish and/or wildlife for more than 50 percent of their diet. (0095-16)

Response: *Joanna Burger, et al.'s 1999 study, "Factors in Exposure Assessment: Ethnic and Socioeconomic Differences in Fishing and Consumption of Fish Caught along the Savannah River," specifically addresses the issue of subsistence fishing along the Savannah River, including the study area on which the EIS is based, and addresses the question of whether low income and minority populations may be disproportionately impacted by contaminants in the water (Burger et al. 1999). These issues are directly related to the topics addressed in the environmental justice Section of the EIS, and thus, the conclusions of this study are referenced. The commenter takes issue with the usage of the term "subsistence fishing population" stating that the EIS usage of the word "subsistence" is in conflict with Section 4-401 of Executive Order 12898 (59 FR 7629). As NRC's Environmental Justice Policy Statement (69 FR 52046) explains, while NRC is committed to the goals of the Executive Order, it strives to meet those goals through the traditional National Environmental Policy Act (NEPA) process. Clarifying language will be added to the EIS to distinguish conclusions and terminology used in the Burger study from NRC staff conclusions. The overall conclusions presented in the environmental justice Sections of the EIS were not changed as a result of this comment.*

Comment: In Sect. 5.7.3, the NRC states, "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." There was no analysis in the DEIS of the projected radiological releases from VEGP Units 3 and 4, so it is an assumption only to say, "there were no operations-related disproportionate and adverse impacts on minority or low-income populations related to subsistence." An Institute for Energy and Environmental Research (IEER) report finds that African Americans who rely on the Savannah River as a primary source of protein -- that is, subsistence fishermen -- are disproportionately affected by the consumption of radioactively-contaminated fish." This is an environmental injustice, and further contribution to it from VEGP 3 and 4 must be, at the very least, addressed in an evaluation of the amounts of radioactive material that is likely to bioaccumulate in fish consumed by African American subsistence fishermen. (0110-4)

Response: *Section 4.9 of the EIS discusses the radiological health impacts on the public during construction and Section 5.9 of the EIS discusses radiological impacts on the public during operation of the plant. Section 7.8 addresses all potential cumulative radiological impacts on the public from operation of two new reactors on the VEGP site. The environmental justice analysis provided in Chapters 4 and 5 of the EIS addresses disproportionately adverse human health and environmental (including radiological) impacts on low-income and minority communities that could potentially be produced by the construction and operation of two new reactors on the VEGP site, and Section 7.6 addresses cumulative impacts in terms of environmental justice. No change was made to the EIS as a result of this comment.*

Comment: In particular, EPA suggests that the Final EIS include additional information about potential...minority populations and low-income populations. (0126-3)

Response: *The environmental justice analysis provided in Chapters 4 and 5 of the EIS addresses disproportionately adverse human health and environmental (including socioeconomic) impacts on low-income and minority communities that could potentially be produced by the construction and operation of two new reactors on the VEGP site. Section 2.10 characterizes the low-income and minority populations in the region of interest, and Figures 2-19 and 2-20 provide maps describing the locations of these populations. No change was made to the EIS as a result of this comment.*

Comment: When 90 percent of uranium is mined on native lands, globally. And in our country only about a million people, native people, are left. So they don't have much of a voice without advocates, from the United States citizens, for the justice that needs to happen. (0013-175)

Comment: I also think it is important to address the sociocultural impacts of the mining process. Not only here at home but in foreign regions, which it should be restated that most of the uranium we use comes from, the foreign nations. (0013-194)

Response: *The issues raised in the comments are outside the scope of the environmental review and are not addressed in this EIS. The NRC has no authority to address any potential environmental impacts that would occur outside of the United States. The NRC does not regulate uranium mining, as its regulatory authority begins after the uranium is removed from "its place of deposit in nature" (Section 62 of the Atomic Energy Act). However, mining operations must comply with the regulations of the Federal and/or state agency managing the land. The Federal Clean Water Act and the Clean Air Act apply to all mining operations in the U.S., and matters related to environmental justice may be part of the regulatory policies stemming from these federal acts. Additional state and local environmental laws may also be applicable, depending on the location. With respect to NRC authority, the extraction of uranium in ore at uranium mills falls under NRC's Nuclear Materials program, which follows a separate regulatory process separate from this EIS. More information on the regulation of uranium mill tailings can be found at the following weblinks: http://www.nrc.gov/materials/fuel-cycle-fac/ur-milling.html; http://www.nrc.gov/materials/fuel-cycle-fac.html; and http://www.nrc.gov/reading-rm/doc-collections/fact-sheets/mill-tailings.html. The EIS was not changed as a result of these comments.*

E.2.12 Comments Concerning Health – Radiological

Comment: Table 11-2 Unavoidable Adverse Operations during Operations of VEGP Units 3 and 4. DEIS p. 11-8 Construction and Operations Impacts." ER pg. 10.1-10 "Radiological: Adverse impacts based on Southern's Application =Yes." DEIS pg. 11-8. Conclusions stated in the DEIS differ from those stated in SNC ER. (0095-136)

Comment: Table 11-2 Unavoidable Adverse Operations during Operations of VEGP Units 3 and 4. DEIS p. 11-8 Construction and Operations Impacts." ER pg. 10.1-10 "Radiological: Actions to Mitigate - Use of as low as reasonably achievable principles." DEIS pg. 11-8. Conclusions stated in the DEIS differ from those stated in SNC ER. (0095-137)

Comment: Table 11-2 Unavoidable Adverse Operations during Operations of VEGP Units 3 and 4. DEIS p. 11-8 Construction and Operations Impacts." ER pg. 10.1-10 "Radiological: Unavoidable Adverse Impacts - Dose to workers, the public, and biota.". DEIS pg. 11-8. Conclusions stated in the DEIS differ from those stated in SNC ER. (0095-138)

Response: *The draft EIS was prepared by NRC staff using its independent analysis and judgment. Conclusions in the draft EIS do not necessarily have to be consistent with Southern's conclusions in its ER. No change was made to the EIS as a result of these comments.*

Comment: As the natural cycle of the world works, species including us humans are already coming in contact with this material unknowingly for most. It is closely linked to cancer breakouts and other illnesses. (0005-4)

Comment: Consider the fact that your standards would permit, without very much pushing, and not even talking about fetus, and elders, and the fact that women are more susceptible, and all this is based on the standard man, very significant impacts. Say no. (0013-111)

Comment: And we were pretty startled by the results of this study. We found that for adolescents, and for children of all ages, in the 11 county area, the cancer death rates increased by 58.5 percent, and that compared with 14.1 percent reduction for adolescents and children of all ages nationwide. Burke County's specially riddled with cancer. In the 1980s the cancer death rates in Burke County were lower than the national average. And by the time that this second period of study, 1991 to 2003, when we looked at that we saw that it is an increase of 21.5 percent, if you look at all ages, and all persons, rising from below the national average. And there is a disproportionate cancer death rate for black residents of Burke County. Almost twice as much for black residents of all ages, as far as the increase. There is radionuclide contamination that has occurred during that same period. We looked at beryllium 7, cesium 137, tritium, and other radionuclides; double digit increases in the environment during the same period, of radioactivity in the environment. And this included drinking water, surface water; the river specifically, and also sediment. And so ionizing radiation causes cancer. Adding any kind of additional ionizing radiation in new nuclear plants, a the Vogtle site, would be irresponsible. The Draft Environmental Impact Statement does not address the burden of cancer that already exists, and the disparate burden for black residents. I reject Georgia Power's computerized dose estimate. And I dare the company to do actual dose assessments of Plant Vogtle's neighbors. I don't think that the NRC can claim to be protecting public health when you look at the difference between EPA regulations and NRC regulations. (0013-144)

Comment: I want to make some quick comments about some major omissions in the EIS. One is the published reports on research that has been done at nuclear power plants, operating nuclear power plants, not ones that have had accidents, but operating ones, in the peer review literature. [Commenter submitted three copyrighted reports that NRC is not legally allowed to reproduce.] The first one is a study in Spain at a power plant, nuclear power plant, where they found a 70 percent increase in all tumors, and a doubling of cancers that are linked to radiation, in that study. Another study in Germany they found a cluster of childhood leukemia. And when they looked at those -- that area nearest to the site, they found a three and a half fold increase in childhood leukemia. And I'm going quickly over this, and I have these studies with me, and I will hand them to you at the end. At Pilgrim nuclear power plant in Plymouth, Massachusetts, looking at adult leukemia in this case, residents less than four miles from the site, they had about a four-fold increase in leukemia risks. Then there was an analysis done, just recently. A med analysis looks at a lot of studies, and tries to synthesize them and come up with an overall risk that represents what is going on in all those sites. And this study looked at studies, nuclear power sites, and other nuclear facilities in eight countries, including the U.S. And they found a percent increase in childhood leukemia across the board, in that study. And I will hand that study to you as well. There have been studies of workers at nuclear facilities, lung cancer and leukemia have been found in those studies. I don't have them with me, but I can get those references for you. It was mentioned about Three Mile Island, that there were no health effects. Well, that is not true. There are two studies looking at cancer incidents at Three Mile Island. They don't entirely agree with each other. One was the first study, and then a reanalysis. But they both found increase in lung cancer. They both found increase in leukemia, they both found a 40 to 50 percent increase in all cancers at TMI, okay? And I have -- those studies I don't have with me, but are available. (0013-160)

Comment: [T]he radioactivity, well, it is going to add up. There is going to be an impact over time. It is eventually going to show up. Environmental impact is impact, no matter how minimal. (0013-182)

Comment: I'm concerned about radiation exposure and the possibility of cancer. (0013-45)

Comment: Residents of Burke County environs are already burdened by high infant mortality rates and high rates of cancer mortality, toxic waste sites, discrimination, and poverty, and that there have been studies (Pilgrim 1 in Plymouth MA, TMI, Spain) and a recent meta-analysis of childhood leukemia (studies conducted in US, Canada, Europe, and Japan) indicating increased risk of cancers in the vicinity of nuclear power plants that should be taken seriously in an EIS. The proposed expansion will make matter worse. (0037-12)

Comment: I'm concerned about radiation exposure and the possibility of cancer. Last week the Associated Press reported that federal officials are providing potassium iodide pills to neighborhoods surrounding two Charlotte North Carolina area nuclear power plants. The pills

would help reduce thyroid cancer caused by radiation exposure in the event of a radiation release. Is such a release likely? No. Can it happen? Sure it can. (0073-4)

Comment: From 1987-1990 to 1991-2003, cancer death rates in Burke County rose sharply, compared to declining rates nationwide. In these same periods, local levels of environmental radioactivity near Vogtle also increased sharply. [TABLE IN ORIGINAL COMMENT] Change in Cancer Death Rate, 1987-1990 to 1991-2003, Burke County vs. U.S. Cancer Deaths Deaths/100000 % Change County "87-90" "91-03" "87-90" "91-03" Burke U.S. Age 0-24 1 5 2.8 4.3 +55.5 -14.1 Age 25-54 15 84 48.5 75.2 +55.1 - 2.9 All Races 135 570 185.0 231.5 +25.1 - 4.2 All Whites 73 310 190.3 223.5 +17.5 - 3.7 All Blacks 62 260 185.0 241.7 +30.7 - 5.7 Source: National Center for Health Statistics, http://wonder.cdc.gov, underlying cause of death. ICD-9 cancer codes are 140.0-239.9 (until 1998), and ICD-10 cancer codes are C00-D48.9 (after 1998). Rates for all ages adjusted to the 2000 U.S. population. Increases for all races, whites, and blacks are significant ($p<.00001$, $p<.02$, and $p<.0002$). The parallel between trends in local environmental radioactivity and Burke County cancer mortality, especially in younger persons, is to be taken seriously. Radioactive fission products are carcinogenic, and are especially toxic to the young. While many factors can account for cancer, the data indicate that more detailed study is merited. Moreover, new studies should be done before any decision is made on whether or not to grant approval to operate new nuclear reactors at Vogtle. Any Environmental Impact Statement that does not consider the critical topic of cancer risk through epidemiological analyses like these presented in this letter is deficient, and may endanger local residents unnecessarily. (0099-3)

Comment: The draft EIS fails to account for negative impacts on public health. The DEIS dismisses the mounting evidence of negative impacts on the health of people living around nuclear plants by citing a study done by the National Cancer Institute in 1990 (Jablan 1990) entitled, "Cancer in Populations Living Near Nuclear Facilities." Attached to these remarks are a series of studies done since then which indicate that there are negative impacts on people living near nuclear power plants. A study entitled Health Risks of Adding New Reactors to the Vogtle Nuclear Plant by Joseph Mangano, MPH found: 1) routine releases of airborne radioactive pollution from plant Vogtle, 2) large increases in radioactivity downstream from the plant, and 3) a 58.5% increase in cancer deaths in the eleven county area after the reactors began operation. The study centered on Georgia and South Carolina counties within a 40 mile radius of Vogtle. Adding two new reactors could potentially double the total. (0107-1)

Response: *As stated in the environmental impact statement, the staff accepts the linear, no-threshold dose-response model. In its recent report (entitled "Health Risks from Exposure to Low Levels of Ionizing Radiation: BEIR VII - Phase 2) (National Research Council 2006), the BEIR VII Committee concluded that the current scientific evidence is consistent with the hypothesis that there is a linear, no-threshold dose-response relationship between exposure to ionizing radiation and the development of cancer in humans. Having accepted this model, the staff does feel that this model is conservative when applied to workers and members of the*

public who are exposed to radiation from nuclear power plants. This is based on the fact that numerous epidemiological studies have not shown conclusive evidence of increased incidences of cancer at the low dose rates typical of nuclear power plant operations. Further, routine releases from operating nuclear power plants are far below the level at which regional excess cancer incidences would be expected. These studies include: (1) the National Cancer Institute study (Jablan 1990) of cancer mortality rates around nuclear facilities, including 52 nuclear power plants, (2) the University of Pittsburgh study (Talbott et al. 2003) that found no link between radiation released during the 1979 accident at the Three-Mile Island nuclear power station and cancer deaths among residents, and (3) the Connecticut Academy of Sciences and Engineering study (2001) that found no meaningful associations from exposures to radionuclides around the Connecticut Yankee nuclear power plant, which ceased electricity production in 1996, to the cancers studied. In addition, NRC staff reviewed 3 recent articles and a report submitted by commenters on epidemiological studies conducted near nuclear facilities, including 1 epidemiological study for the area near the VEGP site (Silva-Mato, et al. 2003; Baker and Hoel 2007; Hoffmann, et al. 2007; and Mangano 2007). Although the submitted epidemiological studies add to the body of evidence, they do not provide conclusive evidence of increased incidences of cancer at low dose rates. That is, the studies report an increased rate of cancer near particular nuclear facilities, but cannot and do not demonstrate a causal relationship between nuclear facilities and elevated incidences of cancer. A position statement entitled "Radiation Risk in Perspective" by the Health Physics Society (revised August 2004) made the following points regarding radiological health effects: (1) Radiological health effects (primarily cancer) have been demonstrated in humans through epidemiological studies only at doses exceeding 5 to 10 rem delivered at high dose rates. Below this dose, estimation of adverse effect remains speculative. (2) Epidemiological studies have not demonstrated adverse health effects in individuals exposed to small doses (less than 10 rem delivered in a period of many years). No change was made to the EIS as a result of these comments.

Comment: [Y]ou are being a magnet. We have, already, missions across the river called the MOX fuel factory, which has to have pit disassembly and plutonium processing. You've already got tritium processing over there. Okay, so what else is going to come in? You are going to have the largest nuke site in the state. Wouldn't it make sense if the so-called low level waste being generated here, that all the state's low level waste might come and be here, too, you know? So you've got this magnet effect. So I'm really glad that the radiological consequences of that was looked at. (0013-108)

Comment: As Yomi was saying, there is a huge burden on this population, all of these spots are contaminating your environment. And to add on to it, I think, is foolish. (0013-172)

Comment: These communities are already heavily burdened by pollution in the area...Therefore, we need to apply the precautionary principle in making decision in the best interest of public health and the environment. (0037-15)

Response: *Section 4.9 of the EIS discusses the radiological health impacts on the public during construction and Section 5.9 of the EIS discusses radiological impacts on the public during operation of the plant. Section 7.8 addresses potential cumulative radiological impacts on the public within a 80-km (50-mi) radius, such as from the proposed and existing VEGP reactors, Savannah River Site, Chem-Nuclear, Inc., and Starmet CMI, Inc. No changes were made to the EIS as a result of these comments.*

Comment: We do have leaks in the area, already, into the Savannah River, partially from the Savannah river site. But nuclear power plants do leak tritium. There is more and more information now about tritium leaking from nuclear power plants. There is the Kewaunee nuclear site in Wisconsin, on the shore of lake Michigan, it has contaminated groundwater, contaminated with tritium. Up to one quarter of the U.S. reactors, in the U.S., have leaked tritium. There is an unacceptable number of tritium leaks. There is Missouri, Callaway in Missouri, St. Lucy in Florida, Diablo Canyon in San Onofree, California, and San Onofree California, Braidwood, Dresden and Byron in Illinois. There is just this long, long list of nuclear power plants that have leaked tritium. The groundwater beneath Braidwood, Dresden, Brookhaven, Palo Verde, Indian Point, Diablo Canyon, San Onofree, and Kewaunee sites are all at contamination levels, above EPA and NRC standards. And those standards are not adequate. (0013-171)

Comment: And, as we have heard, it does not take an accident to release radioactive materials in our water, soil, and air, it only takes the daily operation of these reactors. The Government allows radioactive water to be released at permissible levels. And we understand that permissible does not mean safe. (0013-197)

Response: *The NRC takes seriously its statutory responsibilities to protect the health and safety of the public and the environment in regulating the U.S. nuclear power industry and continuously evaluates the latest radiation protection recommendations from international and national scientific bodies to ensure the adequacy of the standards the agency uses.*

The NRC licensing process for nuclear power plants includes a thorough review of all the plant's radioactive, gaseous, liquid, and solid waste systems, components, and programs to ensure that radioactive material is safely controlled in accordance with NRC regulations. The licensing process evaluates the plant's ability to safely handle, store, monitor, and discharge radioactive effluents in accordance with NRC requirements. These requirements include safety limits on radiation dose to plant workers and members of the public. During operation of the plant, the NRC continuously inspects licensee performance through the use of Resident Inspectors stationed at each plant and the use of technical specialist inspectors from the NRC Regional offices. If there is an abnormal situation at a plant, the Resident Inspector and Regional Specialists become involved to assess the licensee's response to the situation to ensure that NRC requirements are met.

As part of NRC requirements for operating a nuclear power plant, licensees must: (1) keep releases of radioactive material to unrestricted areas during normal operation as low as reasonably achievable (as described in the Commission's regulations in 10 CFR 50.36a), and (2) comply with radiation dose limits for the public (10 CFR Part 20). In addition, NRC regulations require licensees to have various effluent and environmental monitoring programs to ensure that the impacts from plant operations are minimized.

The NRC has developed guidance for implementing the monitoring requirements, including the following: Regulatory Guide 1.21, "Measuring, Evaluating, and Reporting Radioactivity in Solid Wastes and Releases of Radioactive Materials in Liquid and Gaseous Effluents from Light-Water-Cooled Nuclear Power Plants" (U.S. Atomic Energy Commission 1974), Regulatory Guide 4.1 "Programs for Monitoring of Nuclear Power Plants" ((U.S. Atomic Energy Commission 1975), Regulatory Guide 4.15, "Quality Assurance for Radiological Monitoring Programs (Inception through Normal Operations to License Termination) -- Effluent Streams and the Environment," (NRC 2007), NUREG-1301, "Offsite Dose Calculation Manual Guidance: Standard Radiological Effluent Controls for Pressurized Water Reactors," and NUREG-1302, "Offsite Dose Calculation Manual Guidance: Standard Radiological Effluent Controls for Boiling Water Reactors."

The NRC requires licensees to report plant discharges and results of environmental monitoring around their plants to ensure that potential impacts are detected and reviewed. Licensees must also participate in an interlaboratory comparison program which provides an independent check of the accuracy and precision of environmental measurements.

In annual reports, licensees identify the amount of liquid and airborne radioactive effluents discharged from plants and the associated doses. Licensees also must report environmental radioactivity levels around their plants annually. These reports, available to the public, cover sampling from TLDs (thermoluminescent dosimeters); airborne radioiodine and particulate samplers; samples of surface, groundwater, and drinking water and downstream shoreline sediment from existing or potential recreational facilities; and samples of ingestion sources such as milk, fish, invertebrates, and broad leaf vegetation.

The NRC conducts periodic onsite inspections of each licensee's effluent and environmental monitoring programs to ensure compliance with NRC requirements. The NRC documents licensee effluent releases and the results of their environmental monitoring and assessment effort in inspection reports that are available to the public.

Over the past 25 years, radioactive effluents released from nuclear power plants have decreased significantly. During the early part of that period, a significant contributor to the reduction was the addition of special systems (augmented offgas systems) to boiling water reactors, which process some of the noncondensible gases formed in the reactor process to limit the radioactive gases released to the environment. In recent years, improved fuel

performance and licensees' improved effluent control programs further contributed to reducing radioactive effluents.

As with any industrial facility, a nuclear power plant may deviate from normal operation with a spill or leak of liquid material. However, the design of the plant and the NRC inspection program provides reasonable assurance that even in abnormal situations, safety limits are met.

The NRC recently evaluated several instances of abnormal releases of liquid tritium from several nuclear power plants, which resulted in groundwater contamination (see http://www.nrc.gov/reactors/operating/ops-experience/grndwtr-contam-tritium.html). The NRC determined that although the releases were unplanned, the levels of tritium were within radiation protection limits and did not pose a threat to public health and safety. Nonetheless, the NRC takes these unanticipated and unmonitored releases very seriously, and reviewed these incidents to ensure that nuclear power plant operators have taken appropriate action.

The NRC established a "lessons learned" task force to address inadvertent, unmonitored releases of radioactive liquids, containing primarily tritium, from U.S. commercial nuclear power plants. The task force included staff from each of the NRC regional offices, as well as the Offices of Nuclear Reactor Regulation, Nuclear Material Safety and Safeguards, Nuclear Regulatory Research, Public Affairs, and Executive Director for Operations. The Illinois Emergency Management Agency also provided a representative to the task force. The task force reviewed a wide range of releases going back to 1996, and even included a substantial release from the Hatch plant in 1986, and none of the events led to appreciable radiation doses to people outside the plants. The task force identified lessons learned from these events and recommended changes in the agency's regulatory program, publishing its findings September 1, 2006, as the "Liquid Radioactive Release Lessons-Learned Task Force Final Report." (NRC 2006) The task force produced 26 recommendations that apply to the NRC, nuclear power plant operators or both. For instance, the task force recommended updating NRC regulations on monitoring radioactive releases and the environment in and around a plant, to take into account state-of-the-art technology and practices. The task force also recommended that nuclear power plant operators work with local and state agencies to voluntarily report information on radioactive liquid releases that otherwise fall below NRC reporting requirements. The NRC revised its inspection procedures for nuclear power plants to evaluate licensees' programs to inspect and assess the equipment and structures that have the potential to leak. The NRC also placed additional emphasis on evaluating the licensees' abilities to analyze for additional discharge pathways, such as groundwater, as a result of a spill or leak. Each of the NRC program offices (e.g., Nuclear Reactor Regulation) is considering the recommendations relevant to their mission.

More information on the NRC roles and responsibilities is available on the NRC Internet website at http://www.nrc.gov/about-NRC.html. The public has been given the opportunity to participate in the rulemaking process that established the regulations that govern its review process. The

comments did not provide new information relevant to this EIS and were not evaluated further. No change was made to the EIS as a result of these comments.

Comment: Fetuses and young children are more radiosensitive than adult men. Internal doses from inhalation and ingestion of radionuclides are far more deadly than external doses. Your calculation method is faulty, in that it only considers adult men, and external doses. This must be remedied and new calculated doses including fetuses, young children and internal doses must be included in your EIS. (0024-2)

Response: *Section 5.9 of the EIS discusses radiological impacts on the public during operation of the existing and proposed plants. The assessment included liquid, gaseous, and direct radiation exposures to the infant, child, teen, and adult age groups. No change was made to the EIS as a result of this comment.*

Comment: Include the calculations and all assumptions, not merely the resulting calculated doses. List the peer reviews the calculation methods have received. (0024-3)

Response: *Section 4.9 of the EIS discusses the radiological health impacts on the public during construction and Section 5.9 of the EIS discusses radiological impacts on the public during operation of the plant. Details of the staff independent dose assessment are provided as Appendix G, Supporting Documentation on Radiological Dose Assessment. The staff used the dose assessment approach specified in Regulatory Guide 1.109 (NRC 1977a). No change was made to the EIS as a result of this comment.*

Comment: Monitoring in all directions, for air, water, and milk, must be included. Monitors must be place in concentric circles, from the fence line, then at no greater than 1/2 mile intervals up to and including out to at least 50 miles in all directions. Real time monitoring results must be available to the public. All milk produced in this 50 mile radius must be monitored for SR 90 on a daily basis, prior to being mixed with unpolluted milk. Dilution is not the solution for radioactive pollution. (0024-11)

Comment: Monitoring in all directions, for air, water, and milk, must be included. Monitors must be place in concentric circles, from the fence line, then at no greater than 1/2 mile intervals up to and including out to at least 50 miles in all directions. Real time monitoring results must be available to the public. All milk produced in this 50 mile radius must be monitored for SR 90 on a daily basis, prior to being mixed with unpolluted milk. Dilution is not the solution for radioactive pollution. Addition: I sure would like to see monitoring for all radioactive isotopes in mild and fish as some isotopes may find original routes to enter the biosphere as has happened in West Valley, NY, and SRS. (0026-10)

Comment: Monitoring in all directions, for air, water, and milk, should be included. Monitors should be placed in concentric circles, from the fence line, then at no greater than 1/2 mile

intervals up to and including out to at least 50 miles in all directions. Real time monitoring results should be available to the public. All milk produced in this 50 mile radius should be monitored for SR 90 on a daily basis, prior to being mixed with unpolluted milk. (0087-13) (0090-13)

Response: *The NRC licensing process for nuclear power plants includes a thorough review of all the plant's radioactive, gaseous, liquid, and solid waste systems, components, and programs to ensure that radioactive material is safely controlled in accordance with NRC regulations. The licensing process evaluates the plant's ability to safely handle, store, monitor, and discharge radioactive effluents in accordance with NRC requirements. These requirements include safety limits on radiation dose to plant workers and members of the public. During operation of the plant, the NRC continuously inspects licensee performance through the use of Resident Inspectors stationed at each plant and the use of technical specialist inspectors from the NRC Regional offices. If there is an abnormal situation at a plant, the Resident Inspector and Regional Specialists become involved to assess the licensee's response to the situation to ensure NRC requirements are met.*

As part of NRC requirements for operating a nuclear power plant, licensees must: (1) keep releases of radioactive material to unrestricted areas during normal operation as low as reasonably achievable (as described in the Commission's regulations in 10 CFR 50.36a), and (2) comply with radiation dose limits for the public (10 CFR Part 20). In addition, NRC regulations require licensees to have various effluent and environmental monitoring programs to ensure that the impacts from plant operations are minimized.

In annual reports, licensees identify the amount of liquid and airborne radioactive effluents discharged from plants and the associated doses. Licensees also must report environmental radioactivity levels around their plants annually. These reports, available to the public, cover sampling from TLDs (thermoluminescent dosimeters); airborne radioiodine and particulate samplers; samples of surface, groundwater, and drinking water and downstream shoreline sediment from existing or potential recreational facilities; and samples of ingestion sources such as milk, fish, invertebrates, and broad leaf vegetation. The NRC monitoring requirements are biased toward the most likely and worst-case locations around the plant, including sources of direct radiation and liquid, gaseous, and solid radioactive effluents. Typically, environmental monitoring occurs in nearby water bodies and in each of 16 compass directions (1) in close proximity to the power plant, (2) at the points of nearest public access, and (3) at other distances out to 50 miles. If radioactivity is not detected at these locations, then it is highly unlikely that any other location would have measurable levels. In addition, NRC bases its annual dose estimates during plant operation on these worst-case measurements. If the worst-case measurements show no concern, then measuring food and water from other locations will not yield higher dose estimates.

Sections 2.5 and 5.9.6 of the EIS describe the ongoing radiological environmental monitoring program (REMP) that has been conducted at VEGP since 1987. Results of the radiological environmental monitoring program are summarized each year in the Annual Environmental Radiological Operating Report. Effluent releases are summarized annually in an annual radioactive effluent release report. In addition, each site must monitor gaseous and liquid effluent in real time. Effluent monitors will alarm if routine release levels are exceeded.

The NRC conducts periodic onsite inspections of each licensee's effluent and environmental monitoring programs to ensure compliance with NRC requirements. The NRC documents licensee effluent releases and the results of their environmental monitoring and assessment effort in inspection reports that are available to the public.

Over the past 25 years, radioactive effluents released from nuclear power plants have decreased significantly. During the early part of that period, a significant contributor to the reduction was the addition of special systems (augmented offgas systems) to boiling water reactors, which process some of the noncondensible gases formed in the reactor process to limit the radioactive gases released to the environment. In recent years, improved fuel performance and licensees' improved effluent control programs further contributed to reducing radioactive effluents.

The staff believes that current regulations regarding environmental monitoring around nuclear power plants are adequate to protect the local public health. The comments did not provide new information relevant to this EIS and was not evaluated further. No change was made to the EIS as a result of these comments.

Comment: Fetuses and young children are more radiosensitive than adult men. Internal doses from inhalation and ingestion of radionuclides are far more deadly than external doses. Your calculation method is faulty, in that it only considers adult men, and external doses. This must be remedied and new calculated doses including fetuses, young children and internal doses must be included in your EIS. Include the calculations and all assumptions, not merely the resulting calculated doses. List the peer reviews the calculation methods have received. Addition: Limiting only to calculated doses really invites some red herrings. I suggest that several independent groups be called in to look at the latest in research for what comes out of the entire fuel cycle including looking at doses for cumulative exposures from other than this power plant only. How about looking at exposures for the other sources in the environment such as recycling of radwaste into everyday objects such as rebar and children's toys? (0026-2)

Response: *Section 5.9 of the EIS addresses radiological impacts on the public during operation of the existing and proposed plants. The assessment included liquid, gaseous, and direct radiation exposures to the infant, child, teen, and adult age groups. Details of the staff independent dose assessment are provided as Appendix G, "Supporting Documentation on Radiological Dose Assessment." The staff used the dose assessment approach specified in*

Regulatory Guide 1.109 (NRC 1977a). The pathway and exposure models in Regulatory Guide 1.109 are industry standards, have withstood the test of time, and form the bases for newer models and codes.

Sections 6.1 and 7.10 of the EIS address the environmental and cumulative impacts of the uranium fuel cycle including the impacts of fuel manufacturing, transportation, and the onsite storage and eventual disposal of spent fuel. Section 7.8 addresses potential cumulative radiological impacts on the public within a 80-km (50-mi) radius, such as those from the proposed and existing VEGP reactors, the Savannah River Site, Chem-Nuclear, Inc., and Starmet CMI, Inc.

The comment does not provide new information and was not evaluated further. No change was made to the EIS as a result of this comment.

Comment: Discuss cumulative impacts of tritium release from all Vogtle reactors and from operations at the Savannah Rover Site, including release from the new Tritium Extraction Facility (TEF, tritium for nuclear bombs). Discuss air an water radiological cumulative impacts from Vogtle and other SRS operations such as the vitrification facility (Defense Waste Processing facility) and reprocessing of various materials, including spent research reactor fuel, in the H-Canyon reprocessing facility. Discuss cumulative radiological and environmental impacts in case of an accident at the waste tank farms, H-Canyon, DWPF, TEF and the proposed plutonium fuel (MOX) plant. (0034-9)

Response: *Section 7.8 of the EIS addresses potential cumulative radiological impacts on the public within a 80-km (50-mi) radius, such as the proposed and existing VEGP reactors, Savannah River Site facilities, Chem-Nuclear, Inc., and cleanup activities at Starmet CMI, Inc. The analyses for the Savannah River Site included actual or projected doses for the Savannah River Site baseline, the mixed oxide fuel fabrication facility, the pit disassembly and conversion facility, the waste solidification building, spent fuel management, highly enriched uranium disposition, the tritium extraction facility, plutonium residue management, the defense waste management facility, salt processing, DOE complex miscellaneous components, tank closure, and the modern pit facility. Projected doses for the tritium extraction facility were used in the staff assessment because they exceeded the actual doses reported during the limited operational history for the facility (operations began in 2006). No change was made to the EIS as a result of this comment.*

Comment: Discuss air and water monitoring of Vogtle operations, especially as related to SRS monitoring (or the absence thereof) on the Georgia and South Carolina sides of the river, done by the Georgia Environmental Protection Division and South Carolina Department of Health and Environmental Control. (0034-11)

Response: *Environmental quality and monitoring in the vicinity of the VEGP ESP site are described in Sections 2.3, 2.5, 2.6, 5.9. Sections 2.5 and 5.9 describe the ongoing radiological environmental monitoring program (REMP) that has been conducted at VEGP since 1987. Cumulative impacts to air and water quality from existing, proposed, and neighboring facilities are addressed in Sections 7.2, 7.3, and 7.8. For its independent evaluation of environmental quality and monitoring, the NRC reviewed reports from the U.S. Geological Survey, U.S. Environmental Protection Agency, Georgia Department of Natural Resources, Georgia Environmental Protection Division, South Carolina Department of Health and Environmental Control, Savannah River Site, and Southern. No change was made to the EIS as a result of this comment.*

Comment: Fetuses and young children are more radiosensitive than adult men. Internal doses from inhalation and ingestion of radionuclides are far more deadly than external doses. In the 1970's guideline 1.42 was replaced by guideline 1.109 that is still in use today. Guideline 1.42, calculated the dose to a 1-year old child drinking milk from a cow that would have grazed near the proposed Hartsville Nuclear Plant to be 335 millirems to the thyroid from I-131. NRC abolished that guideline, and substituted guideline 1.109 that reduced that dose to 1.1 millirems. This calculation method only considers adult men, and external doses.... Consideration of women, young children, and fetuses, plus inhalation and ingestion that contribute to internal doses, should be considered and made a part of your calculation method, which should then be peer reviewed before it is adopted. No additional licenses should be granted until this deficiency is corrected. All licenses that have been granted using guideline 1.109 should be readdressed and the deficiency corrected. The NRC was established to protect the health of the public, therefore, it is your responsibility to uphold that obligation. (0087-7)

Comment: Fetuses and young children are more radiosensitive than adult men. Internal doses from inhalation and ingestion of radionuclides are far more deadly than external doses. In the 1970's guideline 1.42 was replaced by guideline 1.109 that is still in use today. Guideline 1.42, calculated the dose to a 1-year old child drinking milk from a cow that would have grazed near the proposed Hartsville Nuclear Plant to be 335 millirems to the thyroid from I-131. You abolished that guideline, and substitued guideline 1.109 that reduced that dose to 1.1 millirems. This calculation method only considers adult men, and external doses. Consideration of women, young children, and fetuses, plus inhalation and ingestion that contribute to internal doses, must be considered and made a part of your calculation method, which should then be peer reviewed before it is adopted. No additional licenses should be granted until this deficiency is corrected. All licences that have been granted using guideline 1.109 must be readdressed and the deficiency corrected. The NRC was established to protect the health of the public; therefore, it is your responsibility to uphold that obligation. (0090-6)

Response: *Section 5.9 of the EIS addresses radiological impacts on the public during operation of the existing and proposed plants. The assessment included liquid, gaseous, and direct radiation exposures to the infant, child, teen, and adult age groups. Details of the staff*

independent dose assessment are provided as Appendix G, Supporting Documentation on Radiological Dose Assessment. The staff used the dose assessment approach specified in Regulatory Guide 1.109 (NRC 1977a). The pathway and exposure models in Regulatory Guide 1.109 are industry standards, have withstood the test of time, and form the bases for newer models and codes. No change was made to the EIS as a result of this comment.

Comment: 3.2.3 Radioactive Waste-Management System. Section 3.5 of the ER provides A detailed description of the solid, liquid, and gaseous radwaste processing systems and clearly identifies that the descriptions are consistent with information provided in the Westinghouse DCD revision 15. In addition, source terms also obtained from the DCD are evaluated in Section 5.4 of the ER using NRC endorsed LADTAP and GASPAR models for liquid and gaseous waste, respectively. NRC should consider re-examination of the information contained in ER Sections 3.5 and 5.4 and the DCD and revise appropriate Sections (3.2.3 and 5.9) accordingly. SNC has confirmed that no significant changes occur from revision 15 to revision 16 of the DCD. SNC does not plan to provide additional descriptions or analysis of radwaste system at the COL stage. The information provided in the referenced Sections provides the necessary information to support NRC conclusions that radiological impacts to members of the public and biota are SMALL. (0095-6)

Response: *The NRC staff agrees with the commenter that sufficient information was provided for the staff to make its environmental determination on the ESP application, and the text in Section 3.2.3 of the EIS was updated as appropriate. However, the staff does not thereby conclude that the information provided is sufficient to meet the requirements governing a COL application.*

Comment: 3.2.3.3 Solid Radioactive Waste-Management System, 4.9 Radiological Health Impacts. The LLW storage facility will be constructed east of the existing cooling towers, distant from Units 1 and 2, and more distant from Units 3 and 4. Dose to construction workers from this facility would be negligible due to the location of the storage facility near the Unit 1 cooling towers behind intervening structures and a long distance from the construction site. The radwaste facility will be evaluated under 10 CFR 50.59 for the existing units prior to construction. The design of the facility will limit dose at the facility fence to less than regulatory requirements. Due to the distance from the new units, no significant dose impacts to Units 3 and 4 are anticipated. (0095-7)

Response: *A description of the low-level waste storage facility to be constructed east of the existing cooling towers was not included in the ER. Previously, these wastes were to be "temporarily stored in the Auxiliary and Radwaste Buildings until it is shipped offsite." The Auxiliary and Radwaste Buildings are an integral part of the AP1000 design. This change does not impact previous conclusions because the low-level waste would be stored more distant from the construction site. Sections 3.2.3.3 and 4.9 of the EIS were updated to reflect the new information.*

Comment: 3.2.4.3 Other Effluents . The auxiliary boiler will be electric, per Rev 16 of the DCD (previous information was that it would burn No. 2 fuel oil). This change would result in a decrease in air emissions at the site. NRC has already determined that impacts from air emissions would be small. (0095-8)

Response: *Section 3.2.4.3 of the EIS was updated, as appropriate, and the staff's conclusion was not affected.*

Comment: 7.8 Radiological Impacts of Normal Operations. The Starmet, CMI facility is now closed and cleanup is in progress. Since the STARMET facility is now closed and cleanup is in progress, the impact to normal operations would be positive. The language on page 7-19 should be revised, as appropriate to reflect current status of this facility. (0095-22)

Response: *The Starmet CMI, Inc. facility was known to be closed and the EIS evaluation is based on cleanup activities at the closed Starmet (not operations). Section 7.8 of the EIS was clarified.*

Comment: Section 4.9.1, p.4-65, Line 33 states "All these TLDs are read quarterly and measure the contribution." All environmental TLDs are read quarterly, all fenceline TLD are read semi-annually (once every six months). (0095-60)

Response: *Section 4.9.1 of the EIS was corrected, as appropriate.*

Comment: The Nuclear Regulatory Commission assessment on potential environmental risks posed by new reactors at Vogtle does not consider the performance of Vogtle units 1 and 2, which have been operating since the late 1980s. Such consideration should acknowledge that all reactors must release airborne radioactivity, both deliberately and accidentally, and that some of this radioactivity enters the environment (air, water, food) and thus, human bodies. (0099-1)

Response: *Cumulative impacts to air and water quality from existing, proposed, and neighboring facilities are addressed in Sections 7.2, 7.3, and 7.8. The analysis considers nuclear facilities within a 80-km (50-mi) radius, such as the proposed and existing VEGP reactors, Savannah River Site, Chem-Nuclear, Inc., and Starmet CMI, Inc. Sections 6.1 and 7.10 of the EIS address the environmental and cumulative impacts of the uranium fuel cycle including the impacts of fuel manufacturing, transportation, and the onsite storage and eventual disposal of spent fuel. No change was made to the EIS as a result of this comment.*

Comment: Workers' safety, what if there is an accident, at 1 or 2, while the workers are working at 3 and 4? That isn't in there. (0013-66)

Comment: The EIS fails to analyze impacts to construction workers on Vogtle 3 & 4 should a radiological accident occur at Vogtle 1 & 2. (0034-16) (0035-9) (0037-18) (0054-7) (0094-8) (0098-13) (0103-7) (0112-7)

Response: *As a result of the anticipated low dose consequences to construction workers, the construction workers are considered members of the public and, as such, the applicant is required to meet the dose limits and monitoring requirements established at 10 CFR Part 20, Subpart D. An evaluation of these requirements following guidance in Section 4.5 of NUREG-1555 (NRC 2000) is included as Section 4.9 of the EIS. Furthermore, the NRC reactor site criteria in 10 CFR Part 100 require the site to have certain characteristics that reduce the risk to the public and the potential impacts of an accident, and emergency preparedness plans and protective action measures for the site and environs, as set forth in 10 CFR 50.47, 10 CFR Part 50, Appendix E, and NUREG-0654/FEMA-REP-1 (NRC 1980). In the event of a radiological accident at VEGP Units 1 and 2, construction workers would be considered members of the public and would be protected accordingly following the emergency preparedness plan in place for the VEGP site. No change was made to the EIS as a result of these comments.*

Comment: I just want to focus on two that I strongly believe should be a part of the review in this Draft Environmental Impact Statement. One is to provide adequate long-time environmental health monitoring and research into early warning signs of dangers of nuclear emissions. There are early warning signs that we should be yielding to, and that is not here. (0013-38)

Comment: [Note, the below excerpt was taken from a report titled "Health Risks of Adding New Reactors to the Vogtle Nuclear Plant. The entire report can be found at NRC Accession Number ML073330046.] EXECUTIVE SUMMARY The Southern Company has proposed adding two nuclear reactors to the two existing ones at the Alvin Vogtle plant, near Waynesboro GA. Such an action would be potentially harmful for local public health. As a basis for predicting such harm, an changes in levels of environmental radioactivity and local cancer rates since Vogtle began operating were analyzed. The major findings are: 1. The two reactors release airborne radioactivity on a routine basis. Releases are much greater from Vogtle unit 1. 2. From 1987-1990 (as Vogtle began operating) to 1991-2003 (during full operation), average radioactivity levels in drinking water, river water, and sediment downriver or at the Vogtle plant rose: Beta in Raw Drinking Water + 37.1% Beta in Finished Drinking Water + 17.8%, Beryllium-7 in Sediment + 39.5%, Cesium-137 in Sediment + 37.4%, Tritium in River Water + 44.6%. 3. During the same periods, the cancer death rate for children and adolescents in the 11 counties closest to Vogtle rose 58.5%, compared to a 14.1% decline nationally. 4. During the same periods, the death rate in Burke County GA (where Vogtle is located) rose sharply for all cancers, especially for blacks and for children and young/middle age adults (see below), while U.S. rates declined. In the late 1980s, Burke County cancer mortality rates were below the U.S., but are now considerably higher. Change in Mortality Rate, All Cancers, 1987-1990 to 1991-2003 Category Burke County United States, All Ages, All Races +25.1% - 4.2%, All Ages, Whites +17.5% -

3.7%, All Ages, Blacks +30.7% - 5.7%, Age 0-24, All Races ±55.5% - 14.1%, Age 25-54, All Races +55.1% 2.9%. The findings suggest that some factor(s) introduced since the late 1980s has raised cancer risk in the area, particularly in Burke County. Because radioactive chemicals are known to cause cancer, the* startup of Vogtle 1 and 2 should be considered as one contributing factor. Based on the above observations for 1991-2003, over 500 excess cancer deaths in Burke County can be projected over the entire 40 year license period for the two existing Vogtle reactors. Adding two new reactors could potentially double the total. It would be prudent to examine the correlation between radioactivity from Vogtle and local public health risk further before proceeding with any plan to add new nuclear reactors to the site. (0127-1)

Response: *The NRC licensing process for nuclear power plants includes a thorough review of all the plant's radioactive, gaseous, liquid, and solid waste systems, components, and programs to ensure that radioactive material is safely controlled in accordance with NRC regulations. The licensing process evaluates the plant's ability to safely handle, store, monitor, and discharge radioactive effluents in accordance with NRC requirements. These requirements include safety limits on radiation dose to plant workers and members of the public. During operation of the plant, the NRC continuously inspects licensee performance through the use of Resident Inspectors stationed at each plant and the use of technical specialist inspectors from the NRC Regional offices. If there is an abnormal situation at a plant, the Resident Inspector and Regional Specialists become involved to assess the licensee's response to the situation to ensure NRC requirements are met.*

As part of NRC requirements for operating a nuclear power plant, licensees must: (1) keep releases of radioactive material to unrestricted areas during normal operation as low as reasonably achievable (as described in the Commission's regulations in 10 CFR Part 50.36a), and (2) comply with radiation dose limits for the public (10 CFR Part 20). In addition, NRC regulations require licensees to have various effluent and environmental monitoring programs to ensure that the impacts from plant operations are minimized.

In annual reports, licensees identify the amount of liquid and airborne radioactive effluents discharged from plants and the associated doses. Licensees also must report environmental radioactivity levels around their plants annually. These reports, available to the public, cover sampling from TLDs (thermoluminescent dosimeters); airborne radioiodine and particulate samplers; samples of surface, groundwater, and drinking water and downstream shoreline sediment from existing or potential recreational facilities; and samples of ingestion sources such as milk, fish, invertebrates, and broad leaf vegetation. The NRC monitoring requirements are biased toward the most likely and worst-case locations around the plant, including sources of direct radiation and liquid, gaseous, and solid radioactive effluents. Typically, environmental monitoring occurs in nearby water bodies and in each of 16 compass directions (1) in close proximity to the power plant, (2) at the points of nearest public access, and (3) at other distances out to 50 miles. If radioactivity is not detected at these locations, then it is highly unlikely that any other location would have measurable levels. In addition, NRC bases its

annual dose estimates during plant operation on these worst-case measurements. If the worst-case measurements show no concern then measuring food and water from other locations will not yield higher dose estimates.

Sections 2.5 and 5.9.6 of the EIS describe the ongoing radiological environmental monitoring program (REMP) that has been conducted at VEGP since 1987. Results of the radiological environmental monitoring program are summarized each year in the Annual Environmental Radiological Operating Report. Effluent releases are summarized annually in an annual radioactive effluent release report. In addition, each site must monitor gaseous and liquid effluent in real time. Effluent monitors will alarm if routine release levels are exceeded.

The NRC conducts periodic onsite inspections of each licensee's effluent and environmental monitoring programs to ensure compliance with NRC requirements. The NRC documents licensee effluent releases and the results of their environmental monitoring and assessment effort in inspection reports that are available to the public.

Over the past 25 years, radioactive effluents released from nuclear power plants have decreased significantly. During the early part of that period, a significant contributor to the reduction was the addition of special systems (augmented offgas systems) to boiling water reactors, which process some of the noncondensible gases formed in the reactor process to limit the radioactive gases released to the environment. In recent years, improved fuel performance and licensees' improved effluent control programs further contributed to reducing radioactive effluents.

The staff believes that current regulations regarding environmental monitoring around nuclear power plants are adequate to protect the local public health.

As stated in the environmental impact statement, the staff accepts the linear, no-threshold dose-response model. In its recent report (entitled "Health Risks from Exposure to Low Levels of Ionizing Radiation: BEIR VII - Phase 2) (National Research Council 2006), the BEIR VII Committee concluded that the current scientific evidence is consistent with the hypothesis that there is a linear, no-threshold dose-response relationship between exposure to ionizing radiation and the development of cancer in humans. Having accepted this model, the staff does feel that this model is conservative when applied to workers and members of the public who are exposed to radiation from nuclear power plants. This is based on the fact that numerous epidemiological studies have not shown conclusive evidence of increased incidences of cancer at the low dose rates typical of nuclear power plant operations. Further, routine releases from operating nuclear power plants are far below the level at which regional excess cancer incidences would be expected. These studies include: (1) the National Cancer Institute study (Jablan 1990) of cancer mortality rates around nuclear facilities, including 52 nuclear power plants, (2) the University of Pittsburgh study (Talbott, et al. 2003) that found no link between radiation released during the 1979 accident at the Three-Mile Island nuclear power station and

cancer deaths among residents, and (3) the Connecticut Academy of Sciences and Engineering study (2001) that found no meaningful associations from exposures to radionuclides around the Connecticut Yankee Nuclear Power Plant that ceased electricity production in 1996 to the cancers studied. In addition, NRC staff reviewed three recent articles and a report submitted by commenters on epidemiological studies conducted near nuclear facilities, including one epidemiological study for the area near the VEGP site (Silva-Mato, et al. 2003; Baker and Hoel 2007; Hoffmann, et al. 2007; and Mangano 2007). Although the submitted epidemiological studies add to the body of evidence, they do not provide conclusive evidence of increased incidences of cancer at low dose rates. That is, the studies report an increased rate of cancer near particular nuclear facilities, but cannot and do not demonstrate a causal relationship between nuclear facilities and elevated incidences of cancer. A position statement entitled "Radiation Risk in Perspective" by the Health Physics Society (revised August 2004) made the following points regarding radiological health effects: (1) Radiological health effects (primarily cancer) have been demonstrated in humans through epidemiological studies only at doses exceeding 5 to 10 rem delivered at high dose rates. Below this dose, estimation of adverse effect remains speculative. (2) Epidemiological studies have not demonstrated adverse health effects in individuals exposed to small doses (less than 10 rem delivered in a period of many years). No change was made to the EIS as a result of these comments.

Comment: We oppose new nuclear reactors based on...potential health and environmental health impacts. (0122-6)

Response: *The NRC takes seriously its statutory responsibilities to protect the health and safety of the public and the environment in regulating the U.S. nuclear power industry. The staff carefully reviewed the application against its regulations that are intended to protect public health and safety and the environment.*

Section 5.9 of the EIS addresses radiological impacts to members of the public, workers, and biota during operation of the existing and proposed plants. The assessment included liquid, gaseous, and direct radiation exposures to the infant, child, teen, and adult age groups. Details of the staff's independent dose assessment are provided as Appendix G, Supporting Documentation on Radiological Dose Assessment. The staff used the dose assessment approach specified in Regulatory Guide 1.109 (NRC 1977a). The pathway and exposure models in Regulatory Guide 1.109 are industry standards, have withstood the test of time, and form the bases for newer models and codes.

Sections 6.1 and 7.10 of the EIS address the environmental and cumulative impacts of the uranium fuel cycle including the impacts of fuel manufacturing, transportation, and the onsite storage and eventual disposal of spent fuel. Section 7.8 addresses potential cumulative radiological impacts on the public within a 80-km (50-mi) radius, such as the proposed and existing VEGP reactors, DOE's Savannah River Site, Chem-Nuclear, Inc., and Starmet CMI, Inc.

Based on the information provided by Southern and an independent NRC evaluation, the staff concludes there would be no observable health impacts to the public, workers, or biota from normal operation of the new units. The comment does not provide new information and was not evaluated further. No change was made to the EIS as a result of this comment.

Comment: In Sect. 5.9.1 it is reported "Drinking water was not evaluated because the current land-use census showed no drinking water use of the river within 160 km (100 mi) downstream of the site." The NRC has stated that it will assess effects on human health from radioactive effluent releases, and part of doing so is evaluating the drinking water of users downstream. Beaufort-Jasper Water Authority is just 109 miles downstream from Plant Vogtle and serves tens of thousands of customers. Given that radioactive material cannot be remediated from drinking water or dissipate quickly, evaluation should be conducted for the entire downstream drinking water users. The Savannah River is already contaminated with radionuclides by SRS, so a drinking water evaluation should be part of the Cumulative analysis of the effects the Vogtle expansion will have on the water quality. (0110-3)

Comment: Under normal circumstances the new reactors would put Savannah and other downstream communities at risk from increased radioactive emissons in the Savannah River. Now that Atlanta and other North Georgia communites want to draw water from the river they too will be at risk. This is another way the company is being irresponsible because now their plan threatens the entire state. I am sure that North Georigiains do not want radioactive contamination in their drinking water and especially do not want new reactors making the problem even worse. (0120-2)

Response: *The NRC takes seriously its statutory responsibilities to protect the health and safety of the public and the environment in regulating the U.S. nuclear power industry. Acceptance criteria for analyzing the radiological impacts of normal operations with respect to exposure pathways for an early site permit application are based on the relevant requirements of 10 CFR 20.1301(d) and (e) and 10 CFR Part 50, Appendix I. An evaluation considering the requirements following guidance in Section 4.5 of NUREG-1555 (NRC 2000) is included as Section 5.9 of the EIS. Accordingly, the evaluation of population doses considered present and known future drinking water intake locations within 80 km (50 mi) of the plant rad waste discharge. For the VEGP site there are no drinking water intake locations within 160 km (100 mi), so an analysis specific to drinking water is outside the jurisdiction of the NRC. However, the impact of radionuclides released to or already present in the Savannah River was considered in the staff's evaluation of health impacts for activities such as swimming, shoreline recreation, and consumption of fish (see Sections 5.9, 7.8, and Appendix G of the EIS). In addition, the staff's evaluation of environmental and cumulative impacts on surface water and groundwater quality included locations near the proposed VEGP site, and the results of those analyses are described in Sections 2.6.3 and 7.3 of the EIS. For tritium, a common radionuclide of concern, the regulatory standard, 20,000 pCi/L, is the same for drinking water, surface water, and groundwater. As reported in Section 7.8 of the EIS, the tritium concentrations in the*

Savannah River have trended downward from 1960 to the present, and are far below the EPA drinking water standard of 20,000 pCi/L. The staff concluded that the cumulative radiological impacts of operating two new units, along with operating the existing units at the VEGP site and conduct of activities at DOE's Savannah River Site, would be small and that additional mitigation is not warranted. The evaluation of population dose is an annual requirement for operating nuclear power plants and, as such, the radiological health impact of a future water intake located within 80 km (50 mi) of the proposed and existing units would be evaluated. No change was made to the EIS as a result of this comment.

Comment: Radiological Health Impacts EPD finds that the U.S. Nuclear Regulatory Commission (NRC) assessments of radiological concerns from station operation impacts at the Vogtle site are valid and consistent with known and accepted radiological protective protocols. However, we did note the following issues. NRC indicates in the DEIS that Southern Company did not evaluate drinking water doses of radionuclides, because there is no current downstream drinking water use within 160 kilometers (100 miles) of Plant Vogtle (see page 5-54). We would note that the City of Savannah, slightly more than 100 miles downstream, withdraws approximately 30 million gallons per day from the Savannah River for drinking and industrial uses. Also, given the momentum to shift from groundwater to surface water withdrawals along the coast and the expected population and economic growth along the coast over the next few decades, we would assume that at some point during the life of the proposed two new units at Vogtle, somebody within 100 miles downstream will seek use of the Savannah River for drinking water purposes. This potential radiological health impact needs to be addressed, since the operation of new reactors at the site will increase the amount of tritium-contaminated liquid effluent discharged into the Savannah River. The NRC's Safety Evaluation Report, that is scheduled for publication in May 2008, for the two proposed new nuclear reactors at Plant Vogtle will allow for more detailed scrutiny covering emergency preparedness. The DEIS did not conduct a thorough assessment of applicable radiological safety-related issues, since the EIS process does not lend itself to that aim. We reserve the right to make determinations of the adequacy of proposed emergency preparedness measures and comment on those issues at that time. EPD requests that the section on radiological monitoring in the final EIS also acknowledge and describe independent environmental monitoring conducted by EPD's Environmental Radiation Program. Our efforts are an important part of the overall strategy to monitor radioactive releases from Plant Vogtle and protect the public's health. (0118-4)

Response: *The NRC takes seriously its statutory responsibilities to protect the health and safety of the public and the environment in regulating the U.S. nuclear power industry. Acceptance criteria for analyzing the radiological impacts of normal operations with respect to exposure pathways for an early site permit application are based on the relevant requirements of 10 CFR 20.1301(d). An evaluation of these requirements following guidance in Section 4.5 of NUREG-1555 (NRC 2000) is included as Section 5.9 of the EIS. Accordingly, the evaluation of population doses considered present and known future drinking water intake locations within 80*

km (50 mi) of the plant radwaste discharge. For the VEGP site, there are no drinking water intake locations within 160 km (100 mi), so an analysis specific to drinking water is outside the jurisdiction of the NRC. However, the impact of radionuclides released to or already present in the Savannah River was considered in the staff's evaluation of health impacts for activities such as swimming, shoreline recreation, and consumption of fish (see Sections 5.9, 7.8, and Appendix G of the EIS). In addition, the staff's evaluation of environmental and cumulative impacts on surface water and groundwater quality included locations near the proposed VEGP site, and the results of those analyses are described in Sections 2.6.3 and 7.3 of the EIS. For tritium, a common radionuclide of concern, the regulatory standard, 20,000 pCi/L, is the same for drinking water, surface water, and groundwater. As reported in Section 7.8 of the EIS, the tritium concentrations in the Savannah River have trended downward from 1960 to the present, and are far below the EPA drinking water standard of 20,000 pCi/L. The staff concluded that the cumulative radiological impacts of operating two new units, along with operating the existing units at the VEGP site and conduct of activities at DOE's Savannah River Site, would be small and that additional mitigation is not warranted. The evaluation of population dose is an annual requirement for operating nuclear power plants and, as such, the radiological health impact of a future water intake located within 80 km (50 mi) of the proposed and existing units would be evaluated. Section 5.9.6 of the EIS was updated to acknowledge additional environmental monitoring and analyses conducted by the U.S. Geological Survey, U.S. Environmental Protection Agency, Georgia Department of Natural Resources, Georgia Environmental Protection Division, and South Carolina Department of Health and Environmental Control.

Comment: And did you know that highway out there, AKA U.S. I-3 , they are upgrading it. Well, gee, it could be part of that proposed I-3 that goes all the way to Oakridge, Tennessee, port of Savannah being connected by SRS, up to Oakridge. That becomes a nuclear trail. Have you analyzed the magnet effect of Vogtle 5 and 6 on that? (0013-110)

Response: *In its discussion of cumulative impacts, the NRC evaluated the potential impacts of other relevant actions that are reasonably foreseeable. The NRC staff concludes that the potential construction of highway I-3 is not reasonably foreseeable at this time. If the Commission issues the requested ESP and it is later referenced in a CP or COL application, Southern would be required to identify in its CP or COL application whether there is new and significant information on any issue resolved in the ESP proceeding. No change was made to the EIS as a result of this comment.*

Comment: EIS Fails to Consider the High Ratio of Cancer in Burke County The Plant Vogtle Environmental Report fails to adequately consider the impact two new nuclear reactors will have on the minority populations around the Plant Vogtle site already noted to suffer from higher-than-average cancer rates. One study conducted by the University of South Carolina has shown that there is a higher than average instance of cervical cancer in black women, and a higher rate of esophageal cancer in black men, within a fifty mile radius of the Savannah River Site, which lies just across the River from Plant Vogtle. While the study noted that these types of

cancers are not necessarily associated with exposure to radioactive materials, the impact of increased levels of hazardous and radioactive materials into the area, including into the Savannah River, on minority population already suffering from high rates of cancer should be assessed. [1997 Feb 3, Cancer Weekly, via NewsRx.com and NewsRx.net] Recent studies of morbidity and mortality statistics compiled by the U.S. Centers for Disease Control and Prevention compare death rates before and after Plant Vogtle's two reactors went online. Vogtle Unit 1 began commercial operation in May 1987; Unit 2 in May 1989. Each pressurized water reactor has a maximum generating capacity of 1215 megawatts electric power (MWe). One study compared cancer deaths from 1982-1990 with those occurring from 1991 to 2002. During that period, the death rate per 100,000 population from all cancers in Burke County rose 24.2 percent, while the death rate fell 1.4 percent for all of Georgia. [Study ties fatalities to nuclear power site, The Augusta Chronicle, July 30, 2005] A second study examined deaths among infants younger than 1 year old in Burke County. The findings, which compared the 1985-87 period with 1988-90 before and after criticality, indicate a 70.1 percent increase in Burke County infant deaths. The death rate per 100,000 population went from 13.71 to 23.31, reflecting an increase from 16 to 28 deaths. During the same period, the statewide rate across Georgia went from 12.63 deaths per 100,000 population to 12.41 for a decrease of 1.7 percent. [Study ties fatalities to nuclear power site, The Augusta Chronicle, July 30, 2005] These studies focused on cancer and infant death rates. Death rate may be a more sensitive indicator of negative health impacts because of the long latency period associated with most cancers. Radiation affects the human immune system leading to increased infant mortality from otherwise survivable infections. It also affects reproductive cells leading to more stillbirths. Again, it is important to state that what is missing from the forgoing analysis is the actual human radiation exposure data for Burke County residents which would link known morbidity and mortality rates to known Vogtle emissions. The EPD's surveillance is unusual; most federal and state agencies determine regulatory compliance via indirect means: source terms, risk factors and computer predictions. Nevertheless, what is undeniable is that the rise in negative health impacts is found in proximity to and contemporaneously with Vogtle plant operations. In other words, if these negative health effects in Burke County are not caused by the radioactive emissions from Vogtle, then what is causing them? (0107-10)

Response: *The purpose of regulatory limits is to protect workers and the public from the harmful health effects of radiation on humans. The limits, including effluent release limits, are based on the recommendations of standards-setting organizations. Radiation standards reflect extensive ongoing study by national and international organizations (International Commission on Radiological Protection [ICRP], National Council on Radiation Protection and Measurements, and National Academy of Sciences) and are conservative to ensure that the public and workers at nuclear power plants are protected. The NRC radiation exposure standards are presented in 10 CFR Part 20, "Standards for Protection Against Radiation," and are based on the recommendations in ICRP 26 and 30 (ICRP 1977, 1979) . In addition, the U.S. Environmental Protection Agency has established a whole body dose limit of 25 millirem per year (see 40 CFR*

Part 190). Finally, Appendix I in 10 CFR Part 50 provides dose design objectives for exposure of the public to radioactive effluents from nuclear reactors. Numerous scientifically designed, peer-reviewed studies of personnel exposed to occupational levels of radiation (versus life threatening accident doses or medical therapeutic levels) have shown minimal effect to human health, and any effect was from exposures well above the exposure levels of the typical member of the public from normal operation of a nuclear power plant. Regarding health effects to populations around nuclear power plants, NRC relies on the studies performed by the National Cancer Institute (NCI). NCI conducted a study in 1990, "Cancer in Populations Living Near Nuclear Facilities," to look at cancer mortality rates around 52 nuclear power plants, nine U.S. Department of Energy (DOE) facilities, and one former commercial fuel reprocessing facility (Jablan 1990). *The NCI study concluded from the evidence available that there is no suggestion that nuclear facilities may be linked causally with excess deaths from leukemia or from other cancers in populations living nearby. Additionally, the American Cancer Society had concluded that although reports about cancer case clusters in such communities have raised public concern, studies show that clusters do not occur more often near nuclear plants than they do by chance elsewhere in the population. The NRC is always interested in new information and will continue to evaluate such information in terms of public health and safety. No change was made to the EIS as a result of this comment.*

Comment: The NRC fails to note that, according to the 2005 Annual Radiological Environmental Operating Report for Vogtle, concentrations of various fission products have increased from 1987-1990 (the plant began to operate) to 1991-2003 (the plant was operational). [Table in original comment] Annual Avg. Annual Avg. Type of Radioactivity 1987-1990 1991-2003 % Ch Beta in Raw Drinking Water, downriver1 2.583 3.540 + 37.1% Beta in Finished Drinking Water, downriver1 2.205 2.597 + 17.8% Beryllium-7 in Sediment at Vogtle3 930.5 1297.8 + 39.5% Cobalt-60 in Sediment at Vogtle3 51.33 138.3 +169.5% Cesium-137 in Sediment at Vogtle3 192.3 264.2 + 37.4% Tritium in River Water, avg. 6 sites 744.9 1077.3 + 44.6% 1Beaufort/Jasper County Water Treatment Plant, Beaufort SC, 112 mi downriver, plus Cherokee Hill Water Treatment Plant, Port Wentworth SC, 122 mi. downriver. 2Augusta Water Treatment Plant, Augusta GA, 56 mi. upriver. 3Savannah River, 0.8 mi. ENE of Vogtle plant. 4Savannah River, 2.5 mi. N of Vogtle plant. Beta and tritium in picocuries per liter, others in picocuries per kilogram dry. Source: Vogtle Electric Generating Plant Annual Radiological Environmental Operating Report for 2005, www.nrc.gov. The nearest operating nuclear installations to Vogtle are at the Virgil Summer plant in Parr SC (80 miles northeast) and the Edwin Hatch plant in Baxley GA (95 miles southwest). The Savannah River Site in Aiken SC (15 miles northwest) ceased operations since 1992. Thus, it is likely that these elevated levels of radioactivity are a result of environmental emissions from Vogtle. (0099-2)

Comment: Radionuclide Emissions Data Indicates Harm to Public The public record contains evidence that Vogtle has not and, therefore, will not meet the requirements under 10 CFR §100.21 (c)(1). Table 1.2.1-1 details the environmental impacts of Vogtle on the local

environment. Cesium-137 and Cobalt-60emit both beta and gamma radiation. Chronic exposure tofairly low-levels of beta radiation can cause cancer. Internal exposure to beta emitters via inhalation or ingestion can cause tissue damage and increase the risk of cancer. Gamma rays travel great distances and can penetrate most barriers. It is considered the primary hazard to the general population during most radiological emergencies. Table 1.2.1-1.Environmental Levels of Radioactivity Near Vogtle [See ML080040034 for table] A confounding factor in the assessment of Vogtle's impact is the proximity of the nuclear power station to the Department of Energy's Savannah River Site. Vogtle and SRS emissions intermingle, making independent assessment challenging. The principal contractor at the Savannah River Site publishes annual reports which contain the following data. Tritium Transport in Streams [See ML080040034 for another table] The discharge of Tritium (Hydrogen-3, or H-3) in the form of radioactive water pollutes the Savannah River all the way to the ocean. Downstream drinking water wells are contaminated. Does the pollution come from SRS or Vogtle? The answer is "yes." (0107-8)

Comment: Evidence Reveals Radionuclide Contamination is Widespread The Georgia Department of Natural Resources Environmental Protection Division ("EPD") publishes reports on its radiation monitoring program. The program tests samples of air, surface water, groundwater, rain, sediments, fish, soil, vegetation, milk and agricultural crops near facilities which are known to emit ionizing radiation and compares these data to background levels. Below are the EPD test results for Vogtle from 1995 to 2002 which indicate the nuclear power plant is the source of a variety of radionuclides which contaminate sediment, river water, fish and drinking water. The conclusions in column four are taken verbatim from the EPD report. Despite apparent attempts to minimize the impact of their own findings, the state's test results reveal striking elevations of harmful radionuclides in several media expressed in multiples above background level radiation (Bkg). The test results range from 2 times to 50 times above background level (2X to 50X Bkg). Elevated radiation levels are also expressed in picocuries per liter or picocuries per kilogram (pCi/L or pCi/Kg, respectively), depending on the sample type. [See ML080040034 for table] (0107-9)

Response: *The NRC takes seriously its statutory responsibilities to protect the health and safety of the public and the environment in regulating the U.S. nuclear power industry. In doing so, NRC staff review the latest information available from research, national and international organizations, and comments received on the DEIS. Sections 2.5 and 5.9.6 describe the ongoing radiological environmental monitoring program (REMP) that has been conducted at VEGP since 1987. Cumulative impacts to air and water quality from existing, proposed, and neighboring facilities are addressed in Sections 7.2, 7.3, and 7.8. The staff believes that current regulations regarding environmental monitoring around nuclear power plants are adequate to protect the local public health. These regulations require each commercial reactor site to have a radiological environmental monitoring program. The purpose of the radiological environmental monitoring program is to sample, measure, analyze, and monitor the radiological impact of reactor operations on the following pathways - direct radiation, atmospheric, aquatic, and*

terrestrial. Results of the radiological environmental monitoring program are summarized each year in the Annual Environmental Radiological Operating Report. Effluent releases are summarized annually in an annual radioactive effluent release report. In addition to these reports, staff reviewed monitoring data and analyses from the Georgia Department of Natural Resources, U.S. Geological Survey, and Savannah River Site. All monitored releases from VEGP Units 1 and 2 remained below regulatory limits, which are conservatively set to be protective of human health and the environment. No change was made to the EIS as a result of this comment.

Comment: The assessment of radiological releases to the public is fatally flawed According to Southern's calculations which form the basis for the Commission's EIS, radiation emissions are within legal limits. Section 5.9.3.1 of the DEIS states that "Gaseous and liquid effluents from the VEGP site are below the Appendix I design objectives (Southern 2007a). The cumulative effects of both the current operating units and the two new units are also within Appendix I design objectives." However, Southern Nuclear Operating Company has not done a sufficient evaluation of the major structures, systems, and components of the proposed facility that would affect the acceptability of the site and the estimation of radiological consequences (10 CFR 50.34) (10 CFR 52.17). (0107-2)

Response: *The issues raised in the comment are safety issues, and, as such, are outside the scope of the environmental review. Accordingly these issues were not addressed in the EIS. That said, the NRC is in the process of developing a safety evaluation report that analyzes siting-related aspects of reactor and operational safety, including major structures, systems, and components of the proposed facility that would affect the acceptability of the site, as well as the estimation of radiological consequences. No change was made to the EIS as a result of this comment.*

Comment: Standards for Radionuclides in Drinking Water Fail to Protect Public Health National Primary Drinking Water Regulations protect public health by limiting the levels of contaminants in public water supply systems; they are legally enforceable (40 CFR Page 9 December 28, 2007, §141.15). The EPA's Primary standard for radionuclides covers alpha and beta particles and Radium and Uranium as follows: National Primary Drinking Water Regulations for Radionuclides [See ML080040034 for table] Credible experts say that the existing national standards for radionuclides in drinking water are not protective of public health. As can be seen from the EPD tests, if the Colorado state standard for tritium of 500 pCi/L had been applied in Georgia or South Carolina, the test result of 3500 pCi/L at the Vogtle outfall would have been over the limit by 600%. "Nuclear power plants discharge a significant amount of tritium as part of their routine operations; sometimes more is discharged as a result of mishaps and incidents. The current drinking water standard for tritium of 20,000 picocuries per liter does not take non-cancer effects of tritium, such as miscarriages, into account. Given the particular properties and non-cancer risks of tritium (when it is organically bound or in the form of tritiated water), I am of the opinion that the Nuclear Regulatory Commission has not been

vigilant enough in trying make reactor operators reduce their tritium discharges. It is noteworthy in this context that the surface water standard for tritium in the State of Colorado is 500 picocuries per liter, which is 40 times more stringent that the EPA drinking water standard." [Arjun Makhijani, Ph.D., Statement on Tritium, Institute for Energy and Environmental Research, 6 February 2006] The Nuclear Regulatory Commission has the jurisdiction to require SNC to lower the dose of radioactive emissions at Vogtle (10 CFR § 20.1301) and meet a higher, truly protective emission standard. (0107-11)

Response: *The issues raised in the comment are directed toward the National Primary Drinking Water Regulations (40 CFR Part 141), and, as such, are outside the scope of the environmental review. Accordingly these issues will not be addressed in the EIS. The staff carefully reviewed the application against existing NRC regulations that are intended to protect public health and safety and the environment. In response to this comment, the staff review found the State of Colorado drinking water standard for tritium to be 20,000 pCi/L, which matches the EPA standard. However, the State of Colorado has set lower surface-water and groundwater standards of 500 pCi/L (5 CCR 1002-38) for four river basins downstream of the former DOE Rocky Flats facility to ensure that the existing ambient water quality is not impacted. The lower ambient water-quality standards or goals are not enforceable, but they do provide expectations to be met, which is not unlike the NRC's ALARA approach to regulating radionuclides. For example, the State of California has a public health goal for tritium of 400 pCi/L while maintaining an enforceable standard of 20,000 pCi/L. No change was made to the EIS as a result of this comment.*

E.2.13 Comments Concerning Accidents – Design Basis

Comment: 5.10.1 Design Basis Accidents. DCD Rev 16 decreased the release height from the containment. Therefore, the X/Qs calculated for the site and reported in Table 5-13 increased. Westinghouse reduced the source terms to maintain the accident doses at approximately the same magnitude. Due to changes in the AP-1000 design that reduced the release height for gaseous releases, Westinghouse made changes to the source terms to compensate for the height reduction. The source terms were reduced to maintain the "cause and effect" relationship between the release height and source terms. The decreased release height and reduced source terms would change some total effective dose equivalents (TEDE) estimates slightly, but the revised TEDE estimates would remain less than the TEDE estimates used as safety evaluation criteria. The revised estimates would remain bounded by the original source term information contained in the ER. (0095-20)

Response: *AP1000 DCD Revision 16 (Westinghouse 2007) has been accepted by the NRC for review, but it has not been approved. The Southern early site permit application specifically references AP1000 DCD Revision 15. However, Southern's comment has been acknowledged in the text of Section 5.10.*

E.2.14 Comments Concerning Accidents – Severe Accidents

Comment: 5.10.2 Severe Accidents. DEIS Section 5.10.2, pages 5-77 and 5-78, NRC states that the SNC ER does not address consequences from external events, but indicates that the Westinghouse DCD does include discussion of three external events; seismic, fire, and internal flooding. The DEIS indicates that an updated internal fires and internal flooding PRA should be provided at the COL stage and references COL Action items 19.1.5.2.1-1 and 19.1.5.3-1, respectively to document this commitment. The commitments referenced in the NRC discussion relate to SSAR commitments. Since Westinghouse and the NRC reached conclusions relative to these issues in the ER, SNC does not plan to provide additional discussion in the COL ER of this material. There is no information in the ER or the Environmental Assessment (EA) for the DCD that indicates that any additional adverse environmental impacts will result from internal fires or flooding events. (0095-19)

Response: *The staff considers its statements to be an accurate representation of the content of the staff's SER on the certified AP1000 design. No changes have been made in the EIS. Depending on how action items are addressed in Revision 16 of the AP1000 DCD (Westinghouse 2007), the staff will determine the significance of that information for its review of the COL application.*

Comment: Human Health -A 1982 Congressional report estimated that if a meltdown occurred at just one of Vogtle's reactors it could cause 39,000 peak* early injuries, 4000 peak cancer deaths, and 200 peak early fatalities with costs over $60 billion; building more reactors will only worsen these terrible impacts and put more people's lives and health at risk. These communities are already heavily burdened by pollution in the area. (*Peak means highest calculated value from the study - it does not necessarily mean worst case.) (0006-8) (0037-14) (0091-22)

Comment: In 92 Congressional Report estimated that if a meltdown of core, at just one of Vogtle's reactors, it could cause 39,000 peak injuries, 4,000 peak cancer deaths, and 0 peak fertilities would cost 60 billion. Folks, building more reactor, two more reactors would only worsen this terrible impact, and put more people's life and health at risk. Do you want to put your children at risk? (0013-36)

Comment: Keep in mind also, that a nuclear accident could kill tens of millions of people and render hundreds of square miles uninhabitable for billions of years - is that something you want in your backyard? (0028-5)

Comment: I am against it [expansion of the Vogtle nuclear plant] ... because of the possibile outcomes from accidental disasters. (0048-4)

Comment: There is a possibility of serious accidents, and as other people have said, it would, as the number of plants increase around the country, and around the world, the likelihood of a serious accident goes up. That is just probability. And once there is a large accident I do think it will shut everything down. (0013-170)

Response: *The potential consequences of a severe accident (reactor core melt) are large. However, not all severe accidents lead to the large consequences listed above, and the probability of a severe accident is extremely low. As a result, risk, which is the product of probability times consequence, is the measure used to evaluate impacts of severe accidents. Further, given the nature of calculations involved in calculating both probability and consequence, it is more appropriate to evaluate impacts using a best estimate of risk (mean value) rather than an extreme or peak value. Southern has estimated mean consequences for a spectrum of postulated AP1000 severe accidents at the VEGP site using the MACCS2 computer code. Tables 5-15, 5-16, and 5-17 of the EIS present estimates of the risk associated with these accidents. The risks from a severe accident at the postulated reactor are lower than the risk of normal operation of the postulated reactor, lower than the risks of the existing reactors, and far lower than the risk levels set forth in the Commission's Safety Goals Policy statement (*51 FR 30028*). No change was made to the EIS as a result of these comments.*

Comment: SNC's short term and long term diffusion estimates outlined in the ESP Application Sections 2.7.5 and 2.7.6 utilize gaussian dispersion, straight-line models for the estimation of airborne radionuclide pollution impacts. These models are not sufficient to predict actual impacts from an accident or other event causing the release of radioactive materials into the atmosphere. (0107-5)

Response: *The atmospheric dispersion estimates presented in Sections 2.7.5 and 2.7.6 were calculated following long-standing NRC guidance. They are appropriate for estimating potential impacts of design-basis accidents and normal operations. This comment presents an opinion but provides no new information. No change was made to the EIS as a result of this comment.*

Comment: What would be the effects of a construction accident that involved the existing reactors? (0109-6)

Response: *A construction accident would be an external initiating event that could result in activation of the emergency plan for Units 1 and 2. Appropriate actions would be taken under that plan to protect the health and safety of onsite workers and the public. Specific actions would depend upon the initiating event. No change was made to the EIS as a result of this comment.*

Comment: Section 5.10.2, p.5-79, Line 10 states "Table 5-13 gives a total core damage frequency..." The table referenced in the DEIS should be Table 5-15. (0095-75)

Comment: Section 5.10.3, p.5-79, Lines 39 & 40 states "The effectiveness... in Tables 5-14 and 5-15..." The tables referenced in the DEIS should be Tables 5-15 and 5-16. (0095-76)

Response: *The comments correctly state that there are errors in the Table references in Section 5.10.2 and 5.10.3. These table references were corrected in the EIS.*

E.2.15 Comments Concerning the Uranium Fuel Cycle

Comment: Enriching uranium is not safe, and is a health hazard for thousands of years after production. (0005-2)

Comment: Radioactive wasted has not yet been stored safely anywhere. All tanks will inevitably corrode and begin to leak radioactive material into the ground which leads to the waterways. (0005-3)

Comment: [M]any of your fellow citizens are very wary of its byproducts. (0005-9)

Comment: Nuclear Waste -High-level radioactive waste created (used nuclear fuel) has no place to be stored or disposed, nor is it likely that a 'solution' will be found in our lifetimes; building more nuclear reactors will only make this situation worse. -Existing and future projected waste will remain onsite at Plant Vogtle for generations and generations, threatening indefinitely the health of nearby communities and the environment. Yet the NRC in previous cases has refused to even address or consider this very important issue! (0006-6)

Comment: Considering...the toxic and radioactive waste they produce (that no state wants to take, and will unfairly burden our children and grandchildren with its horrific problems),...only a fool or a lapdog for the nuclear industry would dare propose its continued use. (0007-6)

Comment: And then with respect to nuclear waste, again, this is something that was brought up by some of the others this evening. Addressing the impact, in terms of environmental impact, economic impact, and human health impact, of the long-term storage of spent nuclear fuel on sites, for the long haul, particularly since it is unlikely that Yucca Mountain is going to come to be. That should be taken into account. And the potential for the 20 years down the road, what has accumulated over 20 years at this site is banked. (0013-152)

Comment: Unfortunately there is a legacy in the form of radioactive waste already released into the environment. More waste in questionable containment, with nowhere to go. (0013-166)

Comment: [T]he solid waste that is going to be generated, there is no magic mountain to put the stuff in. It is hazardous. (0013-185)

Comment: Furthermore I think that there are some large gaps in the EIS proposal, from what I was able to skim through. And I think that a comprehensive look into these things needs to be undertaken, and the community expects them to be. And those are the environmental devastation and emissions caused from the mining intensive processing, and the extensive transportation of uranium products, as well as the long-term, and extended storage of such materials. (0013-193)

Comment: Also, it is morally irresponsible to put the problem of dealing with massive amounts of radioactive waste on future generations, who can't be here tonight to make efforts to stop this plant. (0013-198)

Comment: And I just wanted to say that we are creating all this waste, this radioactive waste, that we don't know what to do with. We have, in 1980, Congress proposed that Yucca Mountain would be where we are going to have a facility to take all this waste that we are going to transport to them. Twenty-seven years later we are no closer to having that facility there. So how can we suggest to make more reactors, when we have no idea what to do with this waste? (0013-202)

Comment: We cannot afford to continue to stockpile nuclear waste. We are already sitting right in the middle of the most radioactive spot in this country. There is no alleviation in sight. We can't continue to go there. It is irresponsible, it is suicidal, to continue with what we are doing. (0013-211)

Comment: Do whatever is necessary to clean up what needs to be cleaned up. Bring these two more reactors to this area. Because it is a lasting impression. Because if we don't clean up now, it won't be another generation. (0013-217)

Comment: Who is doing any analysis on the implications of the Southern Company proposal included in its application to have the new radioactive waste that it will generate go to a fictitious federal waste repository? A repository that doesn't even exist and that ratepayers have been paying for, over many years, and that states have been forced to sue the federal government on, that translates into ratepayer dollars. The NRC largely ignores this reality in its review of Vogtle's proposal. But you can know that ratepayers and state agencies, and the public, would think that, surely, the NRC as the federal agency charged to oversee or review, would have fully addressed this issue in reviewing a new reactor proposal. (0013-22)

Comment: I'm also concerned about the lack of a workable plan for the 7 disposal of high level radioactive waste that already exists in our area. Two new reactors will produce additional radioactive waste. This waste will remain here, at Plant Vogtle, for generations, posing a threat to our health and environment. If there is no clear safe plan for the disposal of nuclear waste, we should not continue to generate it. (0013-44)

Comment: Another thing I want to say, that we have been working on, is that Yucca Mountain isn't going to 8 open, and everybody knows it. And we do have nuclear waste here. And there are better ways to store it. And we have worked, really hard, on this controversial issue, within our community, to come up with a position, and some guidelines to try and get a dialogue going to help make the waste here be safer, while it is here. (0013-57)

Comment: There is no solution to the waste. The industry has no long term solution for nuclear waste storage in the U.S., or in any other country. And any tank that we can build to hold that waste, right now, will not outlast the radioactive waste that we stick inside of it. (0013-97)

Comment: WASTE...It is unwise to keep producing high-level radioactive waste created by nuclear power plants with no secure long term storage available. The building of new reactors that produce these wastes is not feasible. (0014-4)

Comment: Long term storage, beyond even the life of the plant, and capable of being maintained for the thousands of years that the waste will remain a threat to life on this planet, must be included. (0024-10) (0026-8)

Comment: From start to finish, nuclear power pollutes. Air quality is affected by uranium mining and refining (0040-3)

Comment: From start to finish, nuclear power pollutes. ... while processing and energy production produces between 20 and 30 tons of high-level nuclear waste every year. (0040-4)

Comment: In putting together an environmental impact statement for a nuclear plant in Georgia, it seems to me that there is more that needs to be considered than the design of the plant and how it will operate. Specifically, what is the impact on the environment in delivering the enriched uranium to this plant? (0043-1)

Comment: I've heard that new fuel becomes spent fuel in about a year and a half and then is replaced with more new fuel. Also: I've heard that the spent fuel is about 1000 times more dangerous than the new fuel. I wonder if the public is aware that these plants take fairly dangerous stuff (the new fuel) and make it into 1000 times more dangerous stuff (the spent fuel) every year and a half? (0065-1)

Comment: The complete fuel cycle should be considered. The radon released from the mill tailings produced in the mining and milling of uranium required to fuel a single reactor for 1 year will cause deaths to future generations that will run into the hundreds, according to Dr. Walter P. Jordon, retired assistant director of the Oak Ridge National Lab., in a memorandum to the NRC in 1977. (0087-6)

Comment: The complete fuel cycle must be considered. The radon released from the mill tailings produced in the mining and milling of uranium required to fuel a single reactor for 1 year will cause deaths to future generations that will run into the hundreds, according to Dr. Walter P. Jordon, retired assistant director of the Oak Ridge National Lab., in a memorandum to the NRC in 1977. (0090-7)

Comment: High-level radioactive waste created (used nuclear fuel) has no place to be stored or disposed, nor is it likely that a 'solution' will be found in our lifetimes; building more nuclear reactors will only make this situation worse. -Existing and future projected waste will remain onsite at Plant Vogtle for generations and generations, threatening indefinitely the health of nearby communities and the environment. Yet the NRC in previous cases has refused to even address or consider this very important issue! [waste storage] (0091-19)

Comment: The onsite storage issue is also a critical element in the EIS. (0098-2)

Comment: The continued accumulation and storage of nuclear waste is an ever-present danger to the residents of Georgia and South Carolina. (0111-5)

Comment: We oppose new nuclear reactors based on... the creation of a radioactive waste that has no safe storage, transport or disposal options. (0122-8)

Response: *In Sections 6.1 and 6.2 of the EIS, the NRC staff evaluated the environmental impacts of the uranium fuel cycle including the impacts of fuel manufacturing, transportation, and the onsite storage and eventual disposal of spent fuel. The staff's evaluation accounts for the Commission's "Waste Confidence" decision embodied in 10 CFR 51.23 to the extent that decision applies to such impacts. The comments do not provide new information and were not evaluated further. No change was made to the EIS as a result of these comments.*

Comment: In addition to being expensive, and polluting, reprocessing also increases nuclear weapons proliferation risks. Nuclear power is too dirty. From start to finish it pollutes. Uranium mining and refining pollutes the air and water, while processing an energy production produces between and 30 tons of high level nuclear waste every year, for every single plant. (0013-99)

Comment: And I'm concerned about the expansion of nuclear power. One reason is nuclear proliferation. I think that this sends a message, to the rest of the world, and I think since we are breaking the barrier between weapons, and nuclear power, that other countries will too. And I just think that it is not a good message to send. (0013-169)

Response: *In Sections 6.1 and 6.2 of the EIS, the NRC staff evaluated the environmental impacts of the uranium fuel cycle including the impacts of fuel manufacturing, transportation, and the onsite storage and eventual disposal of spent fuel. The staff's evaluation accounts for the Commission's "Waste Confidence" decision embodied in 10 CFR 51.23 to the extent that*

decision applies to such impacts. Nuclear proliferation is not within the scope of the environmental review. The comment does not provide new information and was not evaluated further. No change was made to the EIS as a result of this comment.

Comment: I want to know where the waste will be stored during the thousands of years it is dangerous. The site in Nevada is located on/near an earthquake fault. (0022-2)

Comment: NUCLEAR WASTE The EIS fails to analyze the likelihood that nuclear waste will remain on the site indefinitely due to the failure of the national repository program (Yucca Mountain). In analyzing long-term storage of high-level spent nuclear fuel, it should utilize the concepts put forth for hardened robust dry cask above-ground storage as put forth in the position paper "Principles for Safeguarding Nuclear Waste at Reactors." (NOTE: This paper was submitted into the record by Nuclear Watch South.) [See ML073050490]. (0034-7) (0035-5) (0094-5) (0098-11) (0103-4) (0112-4) (0114-6)

Comment: Section 6.1 states "In the following review and evaluation of the environmental impacts of the fuel cycle, the staff considered the capacity factor of 95 percent with a total net electric output of 2,185 MW(e) for the proposed two new units at the VEGP site (Southern 2007); this is about three times (i.e., 218/5 MW(e) divided by 800 MW(e) yields 2.73) the impact values in Table S-3 (see Table 6-1)." SNC ER uses 93 percent capacity factor with a gross electric output of 1070 MW(e). (0095-77)

Comment: High-level radioactive waste created (used nuclear fuel) has no place to be stored or disposed, nor is it likely that a "solution" will be found in our lifetimes; building more nuclear reactors will only make this situation worse. Existing and future projected waste will remain onsite at Plant Vogtle for generations and generations, threatening indefinitely the health of nearby communities and the environment. The NRC in previous cases has refused to even address or consider this very important issue. We believe this is a serious issue that must be addressed in the Final EIS! (0037-21)

Comment: Nuclear waste also lacks a long-term storage solution, which negatively impacts the environment. The threat of nuclear waste leaking into ground water or altering ecosystems is of great concern to thousands of members that Greepeace represents in Georgia and across the nation. (0040-6)

Comment: WASTE---As long as the national repository for nuclear waste, Yucca Mountain, remains unavailable, it seems unwise to develop additional reactors that will produce additional wastes to the ones we already don't know how to dispose of or even store safely. (0042-3)

Comment: I am against it [expansion of the Vogtle nuclear plant] ... because of it being so difficult to dispose of the waste. (0048-3)

Comment: The draft EIS does not analyze the implications of the Southern Company proposal included in its application to have the new radioactive waste it will generate go to a fictitious federal waste repository. The proposed Yucca Mountain repository does not even exist even though ratepayers have been paying for it over many years and that states have been forced to sue the federal government on that translates into ratepayer dollars. NRC largely ignores this reality in its review of Vogtle's proposal. Ratepayers, state agencies, and the public are likely to think that the NRC as the federal agency charged to oversee a review would have fully addressed this issue in reviewing a new reactor proposal. (0050-17)

Comment: The United States does not have a near-term solution for the permanent storage of high-level nuclear waste. The proposed Yucca Mountain site is unsafe for geologic storage of nuclear waste and the program remains mired in bad science, mismanagement, and yet another design overhaul. Even if licensed, Yucca. Mountain could not legally contain all of the waste produced by existing reactors. Under the U.S. Department of Energy's unrealistically optimistic scenario, Yucca Mountain is not predicted to begin receiving waste until at least 2017 and transporting waste to the site would take more than 30 years. (0057-1)

Comment: A review of radioactive waste disposition: Over sixty years high level waste disposal and the eventual decommissioning of nuclear facilities has been an elephant in the room and has systematically been excluded. This by itself makes nuclear power prohibitively expensive. It is immoral to create more waste without addressing its end. A major economic disruption by any of several scenarios could forever put an end. to any hope of dealing with what will become sacrificial areas by default. The panacea of a Yucca Mountain repository is again on hold. (0068-8)

Comment: I'm also concerned about the lack of a workable plan for the disposal of high level radioactive waste that already exists in our area. Two new reactors will produce additional radioactive waste. This waste will remain here at plant Vogtle for generations posing a threat to our health and environment. If there is no clear safe plan for the disposal of nuclear waste, we should not continue to generate it. (0073-3)

Comment: I want to know where the waste will be stored during the thousands of years it is dangerous. The site in Nevada is located on/near an earthquake fault. (If I am wrong, Please let me know.) (0083-2)

Comment: Since there is no way of protecting us or the planet from nuclear waste and since no state or nation wants our nuclear waste, I request that there be no new nuclear facilities built. If you find anyone willing to take the nuclear waste and put it in their home for safe keeping, well and good. Until then, no to any nuclear plants. (0085-1)

Comment: Waste is a serious problem with no place safe to go. (0100-5)

Comment: The United States should not be building more nuclear plants until we solve the problem of nuclear waste disposal - and nuclear waste should not just be stuck in the ground to do major harm to future generations, but completely and safely reused or destroyed. (0101-2)

Comment: I am concerned about ... the problems storing nuclear waste (0102-3)

Comment: What are the environmental impacts of spent fuel rods? Is it true that planners have expected the existence of a geological repository for this waste? Is it true that there is no such repository? Do we know for certain that there will be such a repository when spent fuel from these reactors is ready for transfer? What are the environmental impacts of the likelihood that there is no place safely to store the spent fuel? (0109-4)

Comment: Ultimately, long-term radioactive waste disposition will require transportation of wastes to a permitted repository site. The DEIS notes that in the high-level waste and spent fuel disposal component of the fuel cycle, uncertainty exists with respect to regulatory limits for off-site releases of radionuclides for the current candidate repository site. We are aware of ongoing efforts to license a geological repository for long-term disposition within the first quarter of the 21s" century. (0126-4)

Response: *The safety and environmental effects of long-term storage of spent fuel onsite have been assessed by the NRC, and as set forth in the Waste Confidence Rule (10 CFR 51.23), the Commission generically determined that such storage could be accomplished without significant environmental impact. In the Waste Confidence Rule, the Commission determined that spent fuel can be stored onsite for at least 30 years beyond the license operating life, which may include the term of a renewed license. At or before the end of that period, the fuel would be removed to a permanent repository. In its Statement of Consideration for the 1990 update of the Waste Confidence Rule (55 FR 38472), the Commission addressed the impacts of both license renewal and potential new reactors. In its most recent review of the Waste Confidence Rule on December 6, 1999 (64 FR 68005), the Commission reaffirmed the findings in the rule. In addition to the conclusion regarding safe onsite storage of spent fuel, the Commission states in the rule that there is reasonable assurance that at least one geologic repository will be available within the first quarter of the twenty-first century, and sufficient repository capacity for the spent fuel will be available within 30 years beyond the licensed life for operation of any reactor. No change was made to the EIS as a result of these comments.*

Comment: Complete plans for onsite storage of all the nuclear waste, including Spent Nuclear Fuel, and all other nuclear waste, including the decommissioned plant itself, must be included. (0024-8) (0026-6)

Comment: Nuclear waste going to Barnwell, S.C. will cease in 2008. Yucca Mountain is not open and perhaps will never open to accept spent fuel; therefore, complete plans for onsite storage of all of Vogtle's nuclear waste, including the decommissioned plant itself, should be

included. ...Long term storage, beyond even the life of the plant, and capable of being maintained for the thousands of years that the waste will remain a threat to life on this planet, should be included. (0087-11) (0090-11)

Response: *The NRC staff evaluated the environmental impacts of the uranium fuel cycle including the impacts of fuel manufacturing, transportation, and the onsite storage and eventual disposal of spent fuel. The staff's evaluation accounts for the Commission's "Waste Confidence" decision embodied in 10 CFR 51.23 to the extent that decision applies to such impacts. At the ESP stage, applicants are not required to submit information regarding the process of decommissioning. If an applicant for a CP or COL references an ESP, the requirements in 10 CFR 50.33, 50.75, and 52.77 (and any other applicable requirements) would have to be met. The comment does not provide new information and will not be evaluated further. No change was made to the EIS as a result of these comments.*

Comment: The reprocessing of irradiated fuel has not solved the nuclear waste problem in any country, and actually exacerbates it by creating numerous additional waste streams that must be managed. In addition to being expensive and polluting, reprocessing also increases nuclear weapons proliferation threats. (0057-10)

Response: *Federal policy does not prohibit reprocessing; however, reprocessing is unlikely in the foreseeable future (NEPDG 2001). As explained in the EIS, Table S–3 from 10 CFR 51.51 does include impacts from reprocessing. In this EIS, the contributions in Table S–3 for reprocessing, waste management, and transportation of wastes are maximized for either of the two fuel cycles (uranium only and no-recycle); that is, the cycle that results in the greater impact is used. As discussed in this EIS, 10 CFR 51.51(a) allows the applicant to use Table S–3 as the basis for evaluating the contribution of the environmental effects of the uranium fuel cycle, which includes reprocessing. In addition, the issue of nuclear nonproliferation is not within the scope of the environmental review. The comment does not provide new information and was not evaluated further. No change was made to the EIS as a result of this comment.*

Comment: Questions such as the volume of nuclear material, how it is stored, ...the type of construction of the reactor and the storage facilities, all should be carefully considered in any Environmental Impact Statement. (0093-2)

Response: *The NRC's environmental review focuses on environmental impacts relevant to the extended period of operation requested by the applicant. To the extent necessary to complete the environmental review, some aspects of the reactor design and operation are considered. Site safety matters related to reactor design and operation are addressed as part of the NRC's safety review, which is conducted separately, and will be documented in an NRC staff Safety Evaluation Report. The comment provides no new information and was not evaluated further.*

Comment: 3.2 Plant Description. The fuel U-235 weight percent has been revised to 4.54%. This small increase in fuel enrichment is reflected in the most recent Westinghouse Design Control Document (DCD). No substantive impact to radiological effluents or radioactive waste should result from this change. The DEIS defines the fuel enrichment as "about 4.5 weight percent U-235" (Ref. Section 6.2, pp. 6-16). This statement remains correct for the new enrichment value. (0095-2)

Response: *The revised uranium enrichment percent is based on Revision 16 of the AP1000 DCD (Westinghouse 2007). The design parameter values that the staff formally evaluated in its EIS for the VEGP ESP are those drawn from Revision 15 of the AP1000 Design Control Document (DCD) (Westinghouse 2005); these are the values proposed in Southern's application (including the ER) and documented in Appendix I of this EIS. Furthermore, the NRC is currently reviewing the Revision 16 DCD amendment request independently of the Vogtle ESP review. However, the staff has discussed in Section 6.2 of the EIS how the potential change described above by Southern would affect the staff's conclusions.*

Comment: Section 6.1.8 states "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)." SNC ER uses 243,000 person-rem / yr, based on 360 mrem/person/yr and a population of 674,101 (0095-78)

Response: *Section 6.1.8 of the EIS has been updated to reflect the collective dose from natural background radiation to the population within 80 km (50 mi) of the VEGP site reported in the ER and Section 5.9.3.2 of the EIS.*

Comment: Given that the Barnwell "low-level" waste (LLW) dump in South Carolina is to close to Gerogia waste in 2008 and that there is no "Greater-Than-Class-C" (GTCC) waste dump, please discuss what will be done with LLW and GTCC waste. Discuss long-term, on-site storage strategies of these types of waste and regulations that apply. (0034-8)

Response: *In a letter dated December 26, 2007 (Comments on Draft Environmental Impact Statement), Southern indicates its intention to construct a low-level waste storage facility east of the existing cooling towers that would be evaluated separately from the ESP review. Sections 3.2.3.3 and 4.9 of the EIS were updated to include consideration of a low-level waste facility.*

Comment: Since appropriate on-site storage of spent fuel assemblies and other radioactive wastes is necessary to prevent environmental impacts, EPA believes the FEIS should provide a thorough consideration of impacts resulting from such storage. Given the uncertainty regarding ultimate disposal, on-site storage may continue for a longer term than currently expected. (0126-5)

Response: *The safety and environmental effects of long-term storage of spent fuel onsite have been assessed by the NRC, and, as set forth in the Waste Confidence Rule (10 CFR 51.23), the Commission generically determined that such storage could be accomplished without significant environmental impact. In the Waste Confidence Rule, the Commission determined that spent fuel can be stored onsite for at least 30 years beyond the license operating life, which may include the term of a renewed license. At or before the end of that period, the fuel would be removed to a permanent repository. In its Statement of Consideration for the 1990 update of the Waste Confidence Rule (55 FR 38472), the Commission addressed the impacts of both license renewal and potential new reactors. In its most recent review of the Waste Confidence Rule on December 6, 1999 (64 FR 68005), the Commission reaffirmed the findings in the rule. In addition to the conclusion regarding safe onsite storage of spent fuel, the Commission states in the rule that there is reasonable assurance that at least one geologic repository will be available within the first quarter of the twenty-first century, and sufficient repository capacity for the spent fuel will be available within 30 years beyond the licensed life for operation of any reactor. In a letter dated December 26, 2007 (Comments on Draft Environmental Impact Statement), Southern indicates its intention to construct a low-level waste storage facility east of the existing cooling towers that would be evaluated separately from the ESP review. Sections 3.2.3.3 and 4.9 of the EIS were updated to include consideration of a low-level waste facility.*

E.2.16 Comments Concerning Transportation

Comment: Issues that are often raised with regards to nuclear power include transportation and disposal of nuclear waste. From the beginning of the nuclear age, to now, there have been millions of radioactive material shipments around the world. Not one has resulted in death, or serious injury, from release of radioactive material. In addition, stringent testing and regulations are followed in licensing nuclear waste containers to minimize the risk of radioactive exposure, to the public, and the release of radioactive material in the case of a severe accident. (0013-124)

Response: *The staff generally agrees with this comment. No change was made to the EIS as a result of this comment.*

Comment: Section 6.2.1, Table 6.3, VEGP Westinghouse AP1000 # of shipments per reactor Shipments (initial core) 23 Annual reload 5.4 Total 233 MW(e)1117 Capacity factor 0.93 Normalized shipments 198 SNC values in Table 5.11-2 differ slightly from those listed in DEIS Table 6.3. Differences between table values due to differences noted in previous comment regarding gross electric output. (0095-79)

Response: *The values in Table 6.3 were calculated by dividing the number of fuel assemblies (initial core and annual refueling) by the truck shipment capacities provided in the ER (page 5.11-4). The commenter appears to have done the same calculations but used an MTU basis, rather than fuel assemblies. The results agree extremely well and support the staff's*

observation that the Southern ER transportation analysis was comprehensive, thorough, and internally consistent. The EIS was revised to change the gross electrical output to 1,115 MW(e).

Comment: The transportation issue as related to nuclear waste transport must be considered for the life of the plant and also for the license extension period because license extension is a given at the NRC not a debateeable question. (0098-3)

Response: *The scope of the transportation impact analysis is limited to construction and the initial licensing period. As with license extension at current nuclear power plants, additional NEPA analyses are anticipated to be conducted if and when a license holder petitions the NRC for a license extension for an advanced reactor. No change was made to the EIS as a result of this comment.*

Comment: 6.2 Transportation Impacts. The expected fuel irradiation level has been revised to 50,533 MWd/MTU. This small increase in fuel irradiation is not expected to significantly impact radiological effluents or radioactive waste. No impact to the transportation analysis is expected. (0095-21)

Response: *The fuel irradiation level to 50,533 MWd/MTU is based on Revision 16 of the AP1000 DCD (Westinghouse 2007). The design parameter values that the staff formally evaluated in its EIS for the VEGP ESP are those drawn from Revision 15 of the AP1000 Design Control Document (DCD) (Westinghouse 2005); these are the values proposed in Southern's application (including the ER) and documented in Appendix I of this EIS. Furthermore, the NRC is currently reviewing the Revision 16 DCD amendment request independently of the Vogtle ESP review. However, the staff has discussed in Section 6.2 of the EIS how the potential change described above by Southern would affect the staff's conclusions.*

Comment: Transporting it elsewhere by road or rail creates an even more acute hazard. (0111-6)

Response: *The NRC conducted several studies to evaluate the risks associated with the transportation of radioactive material. The NRC issued Final Environmental Statement on the Transportation of Radioactive Material by Air and Other Modes, NUREG-0170 (NRC 1977b), which was published in 1977, to support the 10 CFR Part 71, "Packaging and Transportation of Radioactive Material" rulemaking. Based on the NRC staff's recommendations in NUREG-0170, the Commission concluded that the transportation regulations are adequate to protect the public from the risks associated with the transportation of radioactive materials, including spent fuel. The NRC sponsored another study in the 1980s titled Shipping Container Response to Severe Highway and Railway Accident Conditions, NUREG/CR-4829 (Fischer et al. 1987), which was published in 1987, also known as the "Modal Study." Based on the results of NUREG/CR-4829, the NRC staff concluded that NUREG-0170 overestimated spent fuel*

accident risks by about a factor of three. In the 1990s, the NRC initiated a spent fuel study titled Reexamination of Spent Fuel Shipment Risk Estimates, NUREG/CR-6672, which was published in 2000 (Sprung et al. 2000). NUREG/CR-6672 focused on the risks of a modern spent fuel transport campaign from reactor sites to possible interim storage sites and/or permanent geologic repositories. This study concluded that accident risks were much less than those estimated in NUREG-0170 and that more than 99.99 percent of transportation accidents are not severe enough to cause a release of radioactive material from a NRC-certified spent fuel cask. While very severe accidents could cause cask damage, the studies show that releases of material would be small and pose little risk to the local population/public. The most severe accidents might cause greater releases, but their likelihood is so remote that the NRC considers the risk to public health to be low.

The NRC has sponsored studies to analyze the consequences of specific accident scenarios on rail and truck transportation casks carrying spent fuel. For example, the NRC undertook an investigation of a July 2001 accident that involved a freight train carrying hazardous materials that derailed and caught fire while passing through the Howard Street railroad tunnel in downtown Baltimore, Maryland, to determine the possible regulatory implications of this particular event for the transportation of spent fuel by railroad. NRC assembled a team of experts from the National Institute of Standards (NIST), Center for Nuclear Waste Regulatory Analyses (CNWRA), and the Pacific Northwest National Laboratory (PNNL) to determine the thermal conditions that existed in the Howard Street tunnel fire and to analyze the effects of this fire on various spent fuel transportation cask designs. The staff concluded that the spent fuel transportation casks analyzed would withstand a fire with thermal conditions similar to those that existed in the Baltimore tunnel fire event. No release of radioactive materials would result from exposure of the casks analyzed to such an event. No change was made to the EIS as a result of this comment.

Comment: There are statistics that show that the carbon costs involved in transportation and building a nuclear plant are extremely high. Transporting waste involves high carbon costs for the next million year. (0100-4)

Response: *The staff does not know to what statistics the commenter is referring. However, CO_2 emissions from transporting fuel and waste to and from the VEGP site would not be different than emissions from transporting other commodities by heavy truck or rail. Therefore, since the transportation of fuel and waste represents an insignificant increase in regional traffic volumes, incremental CO_2 emission increases would also be insignificant relative to current emissions. Similarly, CO_2 emissions from constructing new nuclear units would be no different than emissions from constructing other large industrial plants with a similar footprint, including emissions from operating heavy equipment, delivering construction materials, and transporting workers to/from the VEGP site. In addition, constructing alternative baseload electric generation plants, such as coal-, oil-, and natural-gas-fired plants, would have significantly larger air quality impacts than additional nuclear generating capacity (see EIS Section 9.2).*

Other alternative technologies, including wind, solar, and hydro generation, are demonstrated in the Section 9.2.3 of the EIS, to not be viable alternatives for providing baseload electric generating capacity at or in the vicinity of the VEGP site. Even if alternative technologies offered viable base load alternatives, the facility construction and material transport would represent a carbon cost similar to nuclear or fossil fuel options. Therefore, the staff disagrees with the commenter that the "carbon costs" involved in transportation and building a nuclear plant are extremely high; as discussed in Section 9.2, nuclear generation may result in lower overall air quality impacts than other viable baseload electric generating plants. No change was made to the EIS as a result of these comments.

E.2.17 Comments Concerning Decommissioning

Comment: I would like to consider the costs of decommissioning, which have not yet been faced at a single large nuclear power facility. Estimates for safe destruction have been placed as great or greater than the cost of design and construction of the initial facility, costs which are not included in the economic calculations leading to projection of cost for the ratepayer. (0084-7)

Response: *At the ESP stage, applicants are not required to submit information regarding the process of decommissioning, such as the method chosen for decommissioning, the schedule, or any other aspect of planning for decommissioning. If an applicant for a CP or COL references the ESP, the requirements in 10 CFR 50.33, 50.75, and 52.77 (and any other applicable requirements) would have to be met, including submittal of a report containing a certification that financial assurance for radiological decommissioning would be provided. The comment does not provide new information and was not evaluated further. As noted in Section 11.6, decommissioning costs are considered in the planning process. Additionally, the staff notes that a number of large nuclear power facilities have been decommissioned, including Maine Yankee, Trojan, Rancho Seco, Yankee Rowe, Haddam Neck, and Zion. No change was made to the EIS as a result of this comment.*

E.2.18 Comments Concerning Site Redress Plan

Comment: The recent NRC LWA rule change removes the requirement for LWA-1 and, accordingly, SNC has withdrawn its request for an LWA-1 and revised its site redress plan to remove redress for LWA-1 activities. A word search of the draft environmental impact statement (DEIS) for the Vogtle early site permit shows 57 uses of "redress," referring to redress of limited work authorization 1 (LWA-1; non-safety related) and LWA-2 (safety related) activities. In general, NRC relies on the SNC site redress plan in concluding that various impacts would be small and could be mitigated (redressed). NRC should determine whether it needs to revise the DEIS wording to limit reliance on redress to only impacts associated with LWA-2 activities. SNC will implement necessary controls to minimize environmental impacts for all activities conducted

as pre-construction activities under the new LWA rule. The Site Redress Plan will remain in force under the new rule with essentially the same objectives as the orginal Site Redress Plan. (0095-24)

Response: *The text of the EIS was modified throughout the document, as appropriate, to more accurately reflect the limited reliance on redress.*

E.2.19 Comments Concerning Cumulative Impacts

Comment: I think it is important that a comprehensive assessment of the already existing pollution, and the disease burden, in that community, be assessed and conducted, before you start making a case to add to that burden. But yet there is a chart out there [See ML073330909], in the lobby, with 101 sites on it, both landfills, radioactive waste dumps, existing polluters. And this is not a complete list, I might add. And none of that is in this report, nor is there mention about the high disease burden. I mean, there is a high infant mortality rate in these areas, for example. I would expect that if you are going to deal with the environmental justice issue, that you do a comprehensive assessment of the area, both the pollution burden, and the disease burden, before you start trying to make a case of adding to that burden. (0013-1)

Comment: Finally, about health, I just want to reiterate concerns about the disproportionate burden that appears to exist, given some of the health data, in this county, and in this area, and how the cumulative effects don't appear to have been taken into account in the EIS. Again, the EIS process, in some ways, is piecemeal in this regard, and not taking into accounts some of these cumulative or synergistic effects is concerning. (0013-153)

Comment: The proximity of these toxic wastes sites [the commenter submitted a map that showed toxic waste sites in Burke County and surrounding areas] and chemical plants to Plant Vogtle and local community suggest a need to consider these factors before a final EIS is issued. (0037-13)

Comment: There should be complete, professional studies on Georgia's currently available resources and the projected needs in the future to know what strains will be placed on the resources and what availability of resources there will be and where they will be available. (0088-6)

Response: *The staff reviewed cumulative impacts on available resources within the area potentially affected by VEGP operations in Chapter 7 of the EIS. This evaluation includes analyses of the effect of the proposed VEGP operations on water availability, water and air quality, ecological impacts, and human health impacts. The comments provided no new information. No change was made to the EIS as a result of these comments.*

E.2.20 Comments Concerning the Need for Power

Comment: As Georgia continues to grow, we need to be preparing for the state's future energy needs. (0001-2)

Comment: Over the next thirty years, electrical demand is expected to increase by thirty percent. To meet this increasing demand and provide electricity to this rapidly growing population, Georgia will need to add significant new power generating capability. (0002-2)

Comment: First, additional nuclear units will help meet Georgia's growing need for energy. Average residential consumption is up approximately 16 percent in the last 13 years, and our need for baseload generating capacity is expected to increase 30 percent during the next 15 years. (0003-2)

Comment: Nuclear energy is important in meeting the electric power needs of our citizens in Georgia, as well as throughout the nation. (0004-2)

Comment: The state has made no serious attempt at conservation to reduce the need for more power. (0011-3)

Comment: [C]ontinue your efforts. [H]elp us all get power. (0012-2)

Comment: I feel our country is going through a real energy need, and this needs to be addressed. (0013-7)

Comment: I believe in conservation, I believe in organic farming, I believe in recycling. I have everything to lose, and nothing to gain with our decision. I believe in wind power, I believe in solar power, I believe in water power. I also believe in thermal power. But none of these will meet our energy needs in the short run. (0013-8)

Comment: The Georgia PSC has directed Georgia Power who is a large partner in the new Vogtle proposal to put its new capacity needs out to bid in the open market. During Integrated Resource Plan proceedings this past summer, PSC experts and other parties questioned the cost numbers that Georgia Power presented for the proposed Vogtle expansion. The company tried to circumvent the PSC rules on competitive bidding this year and tried to make the case that Vogtle expansion is such a unique situation that it warrants special consideration outside the rules. The Georgia PSC did not yet fall for that argument. Likewise, the NRC shouldn't fall short either by giving the company a pass on crucial issues that will haave long-term, irreversible impacts on Georgians. (0050-22)

Comment: The State of Georgia is growing very quickly and is expected to add 4 million new residents, which is the equivalent of Atlanta's current population. Over the next thirty years,

electrical demand is expected to increase by thirty percent. To meet this increasing demand and provide electricity to this rapidly growing population, Georgia will need to add significant new power generating capability. (0058-2)

Comment: Georgia is currently the 4th fastest growing state in the nation. It is important for us to plan now in order to be certain that the energy needs of our state will be met for the future of Georgia. (0059-1)

Comment: Nuclear energy is important in meeting the electric power needs of our citizens in Georgia, as well as throughout the nation. (0059-3)

Comment: I have read supporting documentation that states by the year 2030, 40 % of the population of the United States is projected to live in the Southeast. By 2030, the population of the stare of Georgia is expected to increase by 4 million residents. This massive growth will be the equivalent of Atlanta's current population. Electrical demand on the Southern Company system is expected to increase 30 percent during the next 15 years. Average residential consumption on our system is up approximately 16 percent in the last 13 years. (0060-13)

Comment: One of the main reasons that they are pursuing nuclear generating options is because of the need for additional baseload generating capacity in our area. (0060-2)

Comment: Georgia continues to be one of the fastest growing states in our nation. By the year 2030. it is projected that 40 percent of the population of the United States will live in the Southeast. By 2030, the popuiation of the state of Georgia is expected to increase by 4 million residents. Southern Southern Company expects the demand on its system to increase 30 percent during the next 15 years. (0061-2)

Comment: It is vitaly important that we plan now to provide for the safe, clean, reliable and cost efficient energy needs for Georgia's Future. (0061-6)

Comment: We must plan now to be certain that the future energy needs for the people of Georgia will be met. Nuclear energy is important in meeting the electric power needs of our citizens in Georgia, as well as throughout the nation. (0062-2)

Comment: [W]e have the need and responsibility to prepare now for the energy needs for Georgia's future. (0063-2)

Comment: We must plan now to be certain that the future energy needs for the people of Georgia will be met. Nuclear energy is important in meeting the electric power needs of our citizens in Georgia, as well as throughout the nation. (0064-2)

Comment: Nuclear energy is important in meeting the electric power needs of our citizens in Georgia, as well as throughout the nation. (0066-2)

Comment: [A]dditional nuclear units will help meet Georgia's growing need for energy. Average residential onsumption is up approximately 16 percent in the last 13 years, and our need for baseload generating capacity is expected to increase 30 percent during the next 15 years. (0067-2)

Comment: I have seen no evidence that new nuclear reactors will be absolutely necessary for Georgia's future energy needs. (0088-2)

Response: *The Georgia Public Service Commission (PSC) oversees electrical power generation and distribution in the State of Georgia and regularly assesses the need for power in its Integrated Resource Plan (IRP) process. The Georgia PSC approved Georgia Power Company's IRP in July 2007. The determination of the need for power is not under NRC's regulatory purview. When another agency has the regulatory authority over an issue, NRC defers to that agency's decision. The NRC staff reviewed the Need for Power evaluation and determined it was (1) systematic, (2) comprehensive, (3) subject to confirmation, and (4) responsive to forecasting uncertainty, pursuant to Section 8.4 of the NRC's Environmental Standard Review Plan (ESRP) (NRC 2000). If the Need for Power evaluation is found to be acceptable, no additional independent review by the NRC is needed. Because these comments did not provide new information, no change was made to the EIS.*

Comment: Certainly there is a big need for Plant Vogtle. Right now we think that 40 percent of the population will be in the southeast by 30. Four million of those people will move to Georgia by 30. The last three years we alone, at Georgia Power Company, have added 7,000 customers. 9 With that kind of growth comes an increase in demand. And we are challenged to meet that demand. (0013-91)

Comment: And as our region grows, which it is, there is little doubt that we need more electrical power. And Plant Vogtle is a source of power that we can all depend on. (0013-157)

Comment: It is never going to be enough. The demand for energy is just going to keep going up, as we keep using all the resources. And so even with the new reactors, we are just going to need to put new ones in, in about five or ten years. So is it really worth it? (0013-183)

Response: *Affected states or regions may prepare a Need for Power evaluation and assessment of the regional power system for planning or regulatory purposes. A Need for Power analysis also may be prepared by a regulated utility and submitted to a regulatory authority, such as a State Public Utility Commission. However, the data may be supplemented by information from other sources. The determination for the need for power is not under the NRC's regulatory purview. When another agency has the regulatory authority over an issue, the*

NRC defers to that agency's decision. The NRC staff reviewed the Need for Power evaluation and determined it was (1) systematic, (2) comprehensive, (3) subject to confirmation, and (4) responsive to forecasting uncertainty, pursuant to Section 8.4 of the NRC's Environmental Standard Review Plan (ESRP) (NRC 2000). If the Need for Power evaluation is found to be acceptable, no additional independent review by the NRC is needed.

The Georgia Public Service Commission (PSC) oversees electrical power generation and distribution in the State of Georgia, and regularly assesses the need for power in its Integrated Resource Plan (IRP) process. This topic is addressed in Chapter 8 of the EIS. Because this comment did not provide new information, no change was made to the EIS.

Comment: [O]our nation is addicted to electricity. And that addiction will only grow in the future. (0013-133)

Response: *This comment expresses concern regarding our nation's usage of electricity in general. Because this comment did not provide new information, no change was made to the EIS.*

Comment: Section 8.1, p. 8-2 states "The MEAG is an electric generation and transmission public corporation, which provides wholesale power to 49 communities in the State of Georgia and other wholesale customers outside the State of Georgia. These communities, in turn, supply electricity to more than 675,000 retail customers, representing approximately 10 percent of Georgia's population, in their respective service areas across the State." SNC ER indicates MEAG provides energy to 600,000 retail customers. (0095-80)

Response: *This comment points out a discrepancy between the number reported in the EIS and the number reported in the referenced source. This discrepancy was corrected in the EIS.*

E.2.21 Comments Concerning Alternatives – No-Action Alternatives

Comment: Alternative uses of the site should be fully addressed. (0024-5) (0026-4)

Response: *The EIS estimates alternatives to the proposed action, including the no-action alternative (i.e., denial of the ESP). Uses of the site unrelated to energy generation are not typically considered other than in the context of the no-action alternative. Alternative uses for the site are under the purview of the site owner. No change was made to the EIS as a result of these comments.*

E.2.22 Comments Concerning Alternatives – Energy

Comment: Second, a diverse and balanced supply of energy sources is the best way to guard against electricity shortages and to ensure our energy security. That diversity and security must include nuclear power... (0003-3)

Comment: We have other sources of power available to us such as wind, solar, geothermal, and hydro. If money is to be invested in a new system then it would be wisest to invest in a long-lasting, system which considers the health of humans, other species, and the Earth that sustains us all. (0005-7)

Comment: We're getting closer all the time to fuel cells, solar panels, and other technologies that will soon make our country totally energy- independent, without poisoning ourselves in the process. (0007-7)

Comment: [T]he same money injected into renewable energies would have a far greater benefit, reducing greenhouse gases by a factor of 7, avoiding the delays inherent in this Rube Goldberg technology, and avoiding the lethal output of heat-- and radioactivity which would be with us forever, with no place to put it. (0009-3)

Comment: [L]ess expensive means of generating power from wind, solar, and waste agricultural byproducts could offer much safer ways of meeting power needs without the extreme expense and danger of nuclear waste. Investment in these alternative enrgy sources makes more economic sense than spending more millions on nuclear plants. (0011-5).

Comment: So what we want you to look at, is you really gotta think out of the side of the megawatt and the box here. What if the power company, for-profit, is putting the stuff out on everybody's businesses, and houses, and on industry, and they are plugging it into the grid. And so the users are generating their own power. And if they don't use it all they get to sell it back to Georgia Power. (0013-62)

Comment: Nuclear energy is an important part of a balanced fuel mix. (0013-86)

Comment: Greenpeace research suggests that we can meet our energy needs here with a combination of energy efficiency and renewable sources of energy, like wind, and solar. By pursuing these goals, aggressively, Georgia can build its economy in the blossoming renewable energy market, and protect its citizens from the threats posed by dirty, dangerous, nuclear energy. (0013-100)

Comment: Energy efficiency, and renewable energy, could not only circumvent the major problems posed by the type of energy you propose but, also, can protect natural resources, like

the water that is required to cool the plants. These approaches result in a safe, reliable, and sustainable energy for Georgia's citizens, and businesses. (0013-101)

Comment: But there are alternatives that are cleaner...And Science for Democratic Action, from the Institute for Energy and Environmental Research, has done a wonderful document on how to become carbon free, and nuclear free, in our energy policies. And I have offered this as a document to submit. [See ML073320844 and ML0733320852.] Obviously the type of data that they have done here is not included in your alternative energy research. (0013-176)

Comment: [S]ustainable energy is the way to go. But for some reason we are incapable of doing it, as Georgians. (0013-188)

Comment: Why can't we use wind energy, solar energy, water generated energy? I mean, there is lots of reusable energy. I mean, nuclear power isn't the best way to go. You give a man a fish, you feed for him a day. You teach a man to fish, you feed him for a lifetime. (0013-206)

Comment: Rather than risky and expensive nuclear power sources we should be producing electricity through cost effective energy efficient alternative energy sources such as wind, solar and biopower. (0014-5)

Comment: Better to invest in green power. (0023-2)

Comment: Taking all these factors into account, it would seem more prudent to invest in safe, renewable sources such as wind, solar, wave, and geothermal processes. All of these are available in many areas, construction takes one tenth the time required to get a nuclear plant up and running safely, the cost is much less, the required investment is not only less it is more attractive to investors, therefore less of a burden on taxpayers. (0027-3)

Comment: A dash for nuclear power will reduce the funds and other resources, and the concentrated focus, needed for developing alternative energy sources that are both clean and sustainable. Our representatives and regulatory commissioners need to resist the siren's call for nuclear energy and make informative decisions that are based on solid scientific and economic facts and not on the slanted and biased views presented by the nuclear power industry. (0028-7)

Comment: The sooner our representatives and commissioners can have the courage to admit that the nuclear power option is no longer viable, the sooner our nation can begin moving down the path to clean and sustainable energy sources that can indeed save our planet. We have no time to lose and we have to get it right on the first try. (0028-10)

Comment: WE HAVE SUCH EXCELLENT ALTERNATIVES. Were Southern Company to get serious about conservation and renewable energy, there would be no need to even have this proposal on the table. (0032-4)

Comment: ENERGY ALTERNATIVES The EIS is required to consider alternatives to the proposed project. The EIS analyzes only conventional, large, centralized power sources, such as coal, oil, hydro. In its analysis of renewables it dismisses wind and solar power as not suitable to 1,000 megawatt power plant use. (0034-12)

Comment: The fair alternative to consider is decentralized renewables leased to individual electricity users: businesses, residents and industries. The power company would establish a profitable program which integrates power production directly with the area being served. Hooked to the grid, the customer who uses less electricity than it generates sells the excess power directly to the power company for other customers to use ... a powerful incentive to conserve which would impact the equation on production/consumption. (0034-13) (0035-7)

Comment: The EIS is required to consider alternatives to the proposed project. The EIS analyzes only conventional, large, centralized power sources, such as coal, oil, hydro. In its analysis of renewables it dismisses wind and solar power as not suitable to 1,000 megawatt power plant use. (0035-6)

Comment: We have credible evidence to show that we must produce electricity needed through less risky energy supplies such as energy efficiency, solar, wind, and biopower. (0037-16)

Comment: The draft EIS failed to fully research other energy choices. The draft EIS analyzed only conventional, large, centralized power sources, such as coal, oil, hydro. In its analysis of renewable energy, it dismissed wind and solar power as not suitable to 1,000-megawatt power plant use. The fair alternative to consider is decentralized renewable energy sources leased to individual electricity users: businesses, residents and industries. The power company would establish a profitable program, which integrates power production directly with the area being served. Hooked to the grid, the customer who uses less electricity than it generates sells the excess power directly to the power company for other customers to use ... a powerful incentive to conserve which would impact the equation on production/consumption. Renewable energy supplies are available here in Georgia, such as biopower, solar, and wind. (0037-22)

Comment: Please look into solar, wind, geothermal and 'hot rock' technology - among others. There are too many alternatives that can create jobs and foster an expansion of the alternative energy industry in Georgia! (0046-2)

Comment: We need to develop solar and wind power alternative. (0047-2)

Comment: I am in favor of clean, renewable energy only!!! (0048-6)

Comment: Solar power is the future source of all electrical power. (0052-3)

Comment: ALTERNATIVES The EIS is required to consider alternatives to the proposed project. The EIS analyzes only conventional, large, centralized power sources, such as coal, oil, hydro. In its analysis of renewables it dismisses wind and solar power as not suitable to 1,000 megawatt power plant use. The fair alternative to consider is decentralized renewables leased to individual electricity users: businesses, residents and industries. The power company would establish a profitable program which integrates power production directly with the area being served. Hooked to the grid, the customer who uses less electricity than it generates sells the excess power directly to the power company for other customers to use ... a powerful incentive to conserve which would impact the equation on production/consumption. (0054-5) (0094-6) (0098-12) (0112-5)

Comment: [A] diverse and balanced supply of energy sources is the best way to guard against electricity shortages and to ensure our energy security. (0067-3)

Comment: [L]et us change wishful thinking into renewable energy sources and production. (0082-2)

Comment: [S]ince nuclear is not the only alternative to oil and coal - there are a fantastic variety of alternative energy sources that must be harnessed with the same investment and brain-power that have been poured into nuclear's sadly failed development. (0084-4)

Comment: There are alternative energy sources of solar and wind...Existing calls for increased energy have not adequately considered the rapidly developing alternative products and technology aimed at countering some effects of global warming. (0100-3)

Comment: Southern Company, with its great political power and wealth, should be concentrating on alternative resources that do not harm our environment. (0101-1)

Comment: Intead we need to look a decentralizing power generation. Wind power turbins can light up whole communities with no polution and minimal cost. They operate 24 hours a day and Solar power works during the 12 to 15 hour of sunshine we have on a routine basis here in the south. (0102-6)

Comment: 5. The EIS analyzes only conventional, large, centralized power sources, such as coal, oil, hydro. In its analysis of renewables it dismisses wind and solar power as not suitable to 1,000 megawatt power plant use. The fair alternative to consider is decentralized renewables leased to individual electricity users: businesses, residents and industries. (0103-5)

Comment: The EIS is required to consider alternatives to the proposed project, but only analyzes conventional, large, centralized power sources, such as coal, oil, hydro as being possible alternatives. One of the U.S. Department of Energy's stated goals "is to ensure that photovoltaic energy systems make an important contribution to the energy needs of our nation and the world". The EIS did not consider the very feasible alternative of a decentralized network of individual electricity users: businesses, residents and industries all utilizing renewable sources (e.g., photovoltaics) hooked to the grid. This solution creates a beneficial & profitable program integrating power production directly with the area being served. Such a program could potentially impact the equation of production vs. consumption by allowing customers who use less electricity than they generate the opportunity to sell the excess power back to the power company -- who in turn sells it to other customers. (0114-3)

Response: *The NRC does not promote any particular form of energy generation, including nuclear. However, the NRC does examine energy alternatives as part of its responsibilities to evaluate environmental impacts of proposed actions. The staff's evaluation of renewable alternative energy sources, including wind, solar, geothermal, fuel cells, and biomass, in Section 9.2 of the EIS describes potential impacts from these sources in comparison with the proposed action. The staff generally concluded in the EIS that these technologies did not represent reasonable alternatives to a large baseload power plant located at the VEGP site. No change was made to the EIS as a result of these comments.*

Comment: There are alternatives to meet our energy needs. (0013-41)

Comment: And the other thing is that it is an incentive to conserve. So that would actually change the production consumption equation. (0013-64)

Comment: you should pursue programs that include a focus on energy efficiency, and renewable energy sources, as a means to combat global warming. (0013-102)

Comment: And we are talking about improving people's homes with energy efficiency. That is what we are talking about. You know, in a region where there is such poverty, and such disparities in wealth, these kinds of approaches can improve people's lives. (0013-164)

Comment: [W]hen did this country get so lazy that we couldn't conserve a little bit, and consider that a viable option? It is immoral, in my opinion, to not seek out the best and cleanest energy, (0013-181)

Comment: The EIS must also conservation and demand-side savings. From lighting to refrigeration to electric motors, conservation can have a huge impact on power demand. (0034-14)

Comment: The analysis of energy efficiency is deficient...Energy efficiency and conservation represent the quickest, safest, cheapest way to provide more power and to best protect our air and water resources. As an added benefit, increased energy efficiency reduces water use and consumption by power plants that compete with local industries and cities for much needed water. (0050-13)

Comment: Are conservation alternatives to energy needs considered by your EIS? (0106-4)

Response: *The NRC does not promote any particular form of energy generation, including nuclear. However, the NRC does examine energy alternatives as part of its responsibilities to evaluate environmental impacts of proposed actions. Alternatives not requiring new generating capacity, including conservation and demand-side management, are discussed in Section 9.2.1 of the EIS. No change was made to the EIS as a result of these comments.*

Comment: Conservation and more efficient electrical appliances help. And a deeper commitment to renewable resources, such as wind, solar, and geothermal, are needed. (0013-134)

Comment: So given the ability of similar sized investments into energy efficiency, and renewables, to meet demands, grow the economy, and more immediately address the dire and urgent challenges of climate change, and given the extreme security, financial, ecological, and health risks, caused by exploration, and the further development of this nuclear plant, it seems irresponsible, and a threat to the health and financial futures, to the youth generation, to invest in anything other than energy efficiency, renewable energy, and a new, clean, safe, energy economy. (0013-195)

Comment: Instead of leaving future generations with the burden of dealing with nuclear waste, let's give them the gift of renewable energy sources that keep on giving. (0013-199)

Comment: So I say let's not get the reactors, get more sustainable practices so that way we can actually have a generation after this, for our children, and children after that, that will actually have renewable energy and that will keep giving back to them. (0013-203)

Comment: The NRC should be aware that the new certified maps of Georgia were released by the National Renewable Energy Laboratory in October 2006, that showed that there is substantial wind power available, especially offshore, with the potential of well over 10,000 megawatts. Go to the Georgia Wind working group website at www.gawwg.org for background. Yet Section 9.2.3.2 on wind power doesn't mention the potential, instead relying on Southern's slant -- (0013-204)

Comment: But the truth of the matter is we can't afford to continue down this slippery slope. We need to start looking, seriously, at renewables, and better energy efficiency. (0013-210)

Comment: I'm wondering if we are fortunate enough to have the technology to create alternative energy uses, why aren't we considering it more seriously? The sun is a renewable source that is free at our use. (0013-213)

Comment: I think if alternative energy sources, such as solar power, were seriously looked at, we would see there is more benefit to solar energy than nuclear power. Like nuclear power, solar power will also provide jobs. Solar energy is much safer. You will save money, and they are less costly to build, and will have no harmful effects on the environment. (0013-215)

Comment: The impacts and costs of electricity generated from nuclear reactors should be weighed against the impacts and costs of alternate generating technologies (such as wind turbines, solar panels and micro-hydro turbines) as well as efficiency improvements to the electricity grid and possible savings through conservation policies. (0033-4)

Comment: [T]he draft EIS does not look at the benefits other energy supplies such as energy efficiency and conservation and ren ewable such as wind, solar, and bio mass would have on ourwater supplies. (0050-6)

Comment: Alternative resources may not be able to solve the entire problem but incorporating conservation regulations and using alternate resources will reduce our overall requirement. There is no one solution, there are many. Lets get them in place. Georgians need and want and DESERVE clean, safe energy choices. That's the future that our goverment should be working towards[.] (0081-2)

Comment: Alternative uses of the site should be fully addressed. New technology is being developed that will be less expensive and safer, not only for the public, but for the utility as well....The potential for wind generated electricity in the west exceeds the total amount of electricity needed for the entire U.S. Energy efficiency and conservation are better buys to combat climate change and they are available now. (0087-8)

Comment: [W]e must produce electricity needed through less dangerous energy supplies such as energy efficiency, solar, wind, and biopower. (0091-23)

Comment: Available renewable energy and energy efficiency technologies are faster, cheaper, safer and cleaner strategies for reducing greenhouse emissions than nuclear power. Increased funding should instead be earmarked for more rapid benefits that would result from from conservation and energy efficiency. (0097-1)

Comment: Viable alternatives to nuclear power exist. We call for Georgia officials and industries to abandon the pursuit of new nuclear facilities and to invest in clean energy through alternative technologies, efficiency and conservation initiatives. (0122-9)

Response: *The NRC does not promote any particular form of energy generation, including nuclear. However, the NRC does examine energy alternatives as part of its responsibilities to evaluate environmental impacts of proposed actions. The staff's evaluation of renewable alternative energy sources, including wind, solar, geothermal, fuel cells, and biomass, in Section 9.2 of the EIS describes potential impacts from these sources in comparison with the proposed action. Alternatives not requiring new generating capacity, including conservation and demand-side management, are discussed in Section 9.2.1 of the EIS. The staff generally concluded in the EIS that these technologies did not represent reasonable alternatives to a large baseload power plant located at the VEGP site. No change was made to the EIS as a result of these comments.*

Comment: NRC should place more value on forms of electric power production which do not require water for operation. (0017-3)

Comment: Given the potentially very serious issues the southeastern US faces in regards to adequacy of water supply, please help re-direct our energy planning toward sustainable technologies and resources that are not water dependent and water consumptive. (0025-6)

Comment: WATER---With the current shortage of water in the Southeastern United States, we cannot continue to plan and build power sources that will continue to drain this very valuable resource. Rather let us develop renewable alternative sources such as wind, solar and geothermal. (0042-1)

Comment: The draft EIS failed to fully research other energy choices, including energy efficiency and conservation. Renewable energy supplies are available here in Georgia, such as biopower, solar, and wind. This is particularly timely given the recent drought. All of these energy supplies are less water intensive than the proposed expansion of Plant Vogtle. (0050-9)

Response: *The NRC does not promote any particular form of energy generation, including nuclear. However, the NRC does examine energy alternatives as part of its responsibilities to evaluate environmental impacts of proposed actions. The staff's evaluation of renewable alternative energy sources, including wind, solar, geothermal, fuel cells, and biomass, in Section 9.2 of the EIS describes potential impacts from these sources in comparison with the proposed action. The staff generally concluded in the EIS that these technologies did not represent reasonable alternatives to a large baseload power plant located at the VEGP site. The water-use impacts of the proposed action are discussed in Sections 4.3 and 5.3 of the EIS. Withdrawal and use of surface water for plant operations is regulated by the Georgia Department of Natural Resources. No change was made to the EIS as a result of these comments.*

Comment: Southern Company has not done an adequate job of encouraging customers to use conservation and energy efficiency strategies to preclude the need for these new reactors. (0128-2)

Response: *The NRC does not promote any particular form of energy generation, including nuclear. However, the NRC does examine energy alternatives as part of its responsibilities to evaluate environmental impacts of proposed actions. Alternatives not requiring new generating capacity, including conservation and demand-side management, are discussed in Section 9.2.1 of the EIS. Energy efficiency and the use of demand-side management are also taken into account in Chapter 8 of the EIS, which addresses Georgia Power Company's Integrated Resource Plan. No change was made to the EIS as a result of this comment.*

Comment: As the NRC contemplates which applications to move to the top of the pile for approval, they should consider those areas that will have the hardest time meeting Renewable Portfolio Standard. Wind and solar are not cost-effective carbon alternatives for Georgia. (0002-4)

Response: *NRC generally reviews applications in the order they are docketed. Energy alternatives, including wind and solar, are discussed in Section 9.2 of the EIS. No change to the EIS was made as a result of this comment.*

Comment: We also requested in our previously filed comments that an objective, scientifically-based analysis of less damaging alternatives should be done. The DEIS failed to fully research other less water-intensive energy choices, including energy efficiency and conservation and renewable energy supplies such as wind, solar, and certain biopower technologies. Given the severe drought that the Southeast is experiencing, especially here in Georgia, it is essential that a more thorough analysis be done on the water quantity and quality implications of the proposed expansion of Vogtle in comparison to other energy supply options combined with demand side management measures. (0021-7)

Response: *The NRC does not promote any particular form of energy generation, including nuclear. However, the NRC does examine energy alternatives as part of its responsibilities to evaluate environmental impacts of proposed actions. The staff's evaluation of renewable alternative energy sources, including wind, solar, geothermal, fuel cells, and biomass, in Section 9.2 of the EIS describes potential impacts from these sources in comparison with the proposed action. Alternatives not requiring new generating capacity, including conservation and demand-side management, are discussed in Section 9.2.1 of the EIS. The water-use impacts of the proposed action are discussed in Sections 4.3 and 5.3 of the EIS. Withdrawal and use of surface water for plant operations is regulated by the Georgia Department of Natural Resources. The staff generally concluded in the EIS that these technologies did not represent reasonable alternatives to a large baseload power plant located at the VEGP site. No change was made to the EIS as a result of these comments.*

Comment: Our country should aggressively and proactively invest in energy generation systems that are NOT critically dependent on water. Long-term investment should, instead, focus on the range of renewable-energy technologies now available but needing market support, as well as investments in conservation, to reduce demand. (0025-5)

Comment: Other aspects of the proposed expansion that would also have water implications along the Savannah River which have NOT been analyzed in the draft EIS include:...Benefits of other energy supplies such as energy efficiency and conservation and renewable such as wind, solar, and biomass would have on our water supplies. (0037-6)

Response: *The NRC does not promote any particular form of energy generation, including nuclear. However, the NRC does examine energy alternatives as part of its responsibilities to evaluate environmental impacts of proposed actions. The staff's evaluation of renewable alternative energy sources, including wind, solar, geothermal, fuel cells, and biomass, in Section 9.2 of the EIS describes potential impacts from these sources in comparison with the proposed action. Alternatives not requiring new generating capacity, including conservation and demand-side management, are discussed in Section 9.2.1 of the EIS. The staff generally concluded in the EIS that these technologies did not represent reasonable alternatives to a large baseload power plant located at the VEGP site. The water-use impacts of the proposed action are discussed in Sections 4.3 and 5.3 of the EIS. Withdrawal and use of surface water for plant operations is regulated by the Georgia Department of Natural Resources. No change was made to the EIS as a result of these comments.*

Comment: What's worse, in your refusal to back your own industry--your failure to refuse those massive subsidies--and Wall Street's canny understanding of the futility of nuclear power--you are foreclosing the real answer to our energy needs, namely the vast array of cheaper, quicker, more benign and more job-rich technologies which are already competitive and just need a green light to solve our needs in a few years, not the 2 to 3 decades needed to build your anachronisms only to find they have failed to fulfill your claims--as they most certainly will. (0038-5)

Comment: Why do you not take an ethical path and retool for our survival? Nuclear people are surely intelligent and just need guidance. Our goal is survival of our species and the millions of others we depend on. Call a meeting and change course. I think you can. (0038-6)

Response: *The NRC is not involved in establishing national energy policy. Rather it regulates the nuclear industry to protect the public health and safety and common defense and security within existing policy. The discussion of alternative energy sources in Section 9.2 of the EIS describes potential impacts from these sources in comparison with the proposed action. No change was made to the EIS as a result of these comments.*

Comment: In this time of historic drought and with the world community having reached consensus that we must start tackling the problems of climate change now, Southern Company is doing its ratepayers, shareholders and the world a disservice by seeking this ESP.U.S. Nuclear Regulatory Commission Instead of using expensive, water-guzzling nuclear reactors that do not lessen the problems of, and are a false solution for, global warming the company should be investing in energy efficiency and power sources such as wind farms, solar panel stations, geothermal energy and certain forms of biomass to meet our energy needs. It goes without saying that this will also lower our risk for a possible terrorist attack, compared to having new nuclear reactors. Efficiency investments alone would be the most cost effective and cut out the need for more nuclear reactors. (0120-4)

Response: *The NRC is not involved in establishing national energy policy. Rather it regulates the nuclear industry to protect the public health and safety and common defense and security within existing policy. The discussion of alternative energy sources, including energy efficiency and renewables, in Section 9.2 of the EIS describes potential impacts from these sources in comparison with the proposed action. The staff generally concluded in the EIS that these technologies would not provide a reasonable alternative to a large baseload power plant located in Georgia. Withdrawal and use of surface water for plant operations is regulated by the Georgia Department of Natural Resources. The NRC is devoting substantial time and attention to terrorism-related matters, including coordination with the Department of Homeland Security.*

As part of its mission to protect public health and safety and the common defense and security pursuant to the Atomic Energy Act, the NRC staff is conducting vulnerability assessments for the domestic utilization of radioactive material. In the time since the horrific events of September 2001, the NRC has identified the need for license holders to implement compensatory measures and has issued several orders to license holders imposing enhanced security requirements. Finally, the NRC has taken actions to ensure that applicants and license holders maintain vigilance and a high degree of security awareness. Consequently, the NRC will continue to consider measures to prevent and mitigate the consequences of acts of terrorism in fulfilling its safety mission. No change was made to the EIS as a result of this comment.

Comment: Since energy generation uses more water in Georgia than all other uses combined, energy generation is important for water conservation. It is essential that Georgians understand that not only does efficient energy use save them money, it saves water as well. I think that approval of the Plant Vogtle expansion should include a plan to educate the public about the use of energy and its effect on our water supplies, i.e. energy efficiency contributes very significantly to water efficiency. Georgia Power should be tasked with the responsibility to get the message to the public as a requirement of their permit to build the additional capacity. (0089-3)

Response: *The NRC has no authority to regulate the use of water in Georgia or to require the owners of the proposed plant to provide information to the public on the relationship between electricity generation and water consumption. No change was made to the EIS as a result of this comment.*

Comment: A wise energy policy recognizes the virtue of diversity and in that diverse plan nuclear energy is a critical component. (0013-136)

Response: *The benefits of fuel diversity are discussed in Section 11.6.1.1 of the EIS. No change to the EIS was made as a result of this comment.*

Comment: The first thing is a quote on page 9-18, on wind power. I want to quote it from the EIS. "Technology limitations and regulatory restrictions will make development of offshore wind projects difficult in the southeast." Now, who did they quote? They quoted Southern Nuclear Operating Company. Now, that inspires confidence in me when I see that they quoted a company that doesn't want to build wind power, that wants to build nuclear power plants. Please find another quote, at least, on wind. Because there is so much research on wind that shows that it is cheaper than nuclear power, and feasible to be used, both here and elsewhere, that I would like to see other quotes besides Southern Nuclear Operating Company in your Section. (0013-161)

Response: *The statement in the first paragraph of Section 9.2.3.2 of the EIS that Class 1 areas are unsuitable for wind energy development is taken directly from the DOE's web site covering "Wind Energy Resource Potential" (DOE 2005). The second paragraph of Section 9.2.3.2 of the EIS was updated to reflect the 2007 report "Southern Winds: A Study of Wind Power Generation Potential off the Georgia Coast" prepared by the Georgia Institute of Technology and Southern Company.*

Comment: The Rocky Mountain Institute says that every dollar spent on energy efficiency brings a reduction on CO2 gases, in carbon dioxide, seven times as great as a similar investment in nuclear energy. Similarly, the National Action Plan for Energy Efficiency states that similar sizable investments in energy efficiency have already proven to reduce state forecast energy demand by 20 percent. And, additionally, the American Council for an Energy Efficient Economy, has called energy efficiency the cheapest, fastest, cleanest, and safest way to meet energy demands and grow the economy. (0013-190)

Response: *Energy efficiency is taken into account in Chapter 8 of the EIS which addresses Georgia Power's Company's Integrated Resource Plan and also in Section 9.2.1 of the EIS. No change to the EIS was made as a result of this comment.*

Comment: We need to start thinking about clean energy sources, and energy efficient programs, that are not going to add to our already large supply of toxic waste, programs that are not going to increase cancer and heart disease, and other health effects. (0013-196)

Response: *Alternative energy sources are discussed in Section 9.2 of the EIS. Nuclear fuel cycle issues are discussed in Chapter 6 of the EIS. Health impacts associated with operation of the proposed nuclear powerplant are discussed in Sections 5.8 and 5.9 of the EIS. No change to the EIS was made as a result of this comment.*

Comment: Section 9.2.3.7 states "Given the small size of the plants, staff concludes that generating electricity from municipal solid waste would not be a reasonable alternative to a 2234-MW(e) nuclear power generation facility operated as a base load plant." (DEIS pg 9-21). SNC ER notes high costs and lack of environmental advantages as bases for concluding that burning municipal solid waste to generate electricity is not a reasonable alternative for baseload power. The DEIS does not discuss either of these. (0095-87)

Response: *Cost aspects of municipal solid waste as a source of electricity are addressed in the first paragraph of Section 9.2.3.7. Environmental aspects are addressed in the second paragraph. No change was made to the EIS as a result of this comment.*

Comment: Section 9.2.3.3 states "For the preceding reasons, the staff concludes that a solar energy facility at or in the vicinity of the VEGP site would not currently be a reasonable alternative to construction of a 2234-MW(e) nuclear power generation facility that would be operated as a base load plant." (DEIS pg 9-19). SNC ER notes that high cost and lack of sufficient incident solar radiation are additional bases for concluding that solar energy is not a reasonable alternative to VEGP Unit 3 and 4. The DEIS does not discuss either of these. SNC suggests revising DEIS to incorporate additional bases. (0095-86)

Response: *Cost aspects of solar power are addressed in the first paragraph of Section 9.2.3.3 of the EIS. The availability of solar resources in Georgia is addressed in the third paragraph of Section 9.2.3.3. No change was made to the EIS as a result of this comment.*

Comment: [T]he potential to use Georgia's plentiful agriculture and forestry resources should be more closely evaluated as the benefits include in creased self-sufficiency, improved water resource quality, and long-term environmental and rural development benefits. A University of Georgia 2003 study that showed that as much as 12% of Georgia's total electricity demand could be generated from biomass was referenced by the NRC in Section 9.2.3.8, but the NRC dismissed biomass as not being economically competitive with existing technologies. Georgia Power's plan filed with the Georgia PSC this year shows there are competitive biomass projects. (0050-11)

Response: *Section 9.2.3.8 of the EIS has been revised to reflect Georgia Power Company's statement concerning biomass at page 15-15 of its 2007 Integrated Resource Plan.*

Comment: According to a 2006 report by the Georgia Environmental Facilities Authority, Georgia has the potential to meet 1518-1618 MW of the state's forecasted electricity demand through new renewable resources from biomass, wind, hydropower, landfill gas, and solar photovoltaics (Meeting Future Electricity Demand, GA Environmental Facilities Authority, 2006). Further, the NRC should be aware that new, certified wind maps of Georgia were released by the National Renewable Energy Laboratory in October 2006 that showthere is substantial wind power available, especially offshore, with a potential of well over 10,000 MW. Go to the Georgia Wind Working Group website at www.Gawwq.orq for background. Yet Section 9.2.3.2 on wind power doesn't mention this potential, instead relying on Southern's slanted wording of a study they did with Georgia Tech that "technology limitations and regulatory restrictions would make development of offshore wind projects difficult in the southeast." Instead of taking Southern's word for it, the NRC should actually review the offshore wind study with Georgia Tech that was released in part earlier this summer and is now finalized ready for release. (0050-10)

Comment: Alternative uses of the site should be fully addressed. New technology is being developed that will be less expensive and safer, not only for the public, but for the utility as well...The potential for wind generated electricity in the west exceeds the total amount of electricity needed for the entire U.S. Energy efficiency and conservation are better buys to combat climate change and they are available now. (0090-8)

Response: *The staff reviewed the Governor's Energy Policy Council Staff Research Brief Meeting Future Energy Demand (State of Georgia 2006). The Brief identifies a cumulative peak demand growth over the period 2007 to 2016. The Brief also states that 1518 to 1618 MW of this growth could potentially be met by renewable energy sources and 1771 MW through energy efficiency programs. Even if these targets could be met, that would still leave approximately 4311 MW to come from other energy sources such as nuclear power. The staff also reviewed (1) the content at the Wind Resource Assessment portion of the National Renewable Energy Laboratory's website (http://www.nrel.gov/wind/resource_assessment.html), (2) the wind power assessment in Georgia Power Company's 2007 IRP, and (3) the content at the Georgia Wind Working Group's website (http://www.gawwg.org/). No information was found that would change the staff's conclusion in Section 9.2.3.2 of the EIS. No changes to the EIS were made as a result of these comments.*

Comment: Furthermore, NRC should seriously consider the following observations (evidences and studies) that were not considered in the draft EIS. According the Georgia Environmental Facilities Authority report (Meeting Future Electricity Demand, GA Environmental Facilities Authority, 2006), Georgia has the potential to meet 1518-1618 MW of the state's forecasted electricity demand through new renewable resources from biomass, wind, hydropower, landfill gas, and solar photovoltaic. Energy efficiency programs can save more electricity in a much

shorter time and at less than half the cost of producing that electricity from a new nuclear or coal power plant. The National Renewable Energy Laboratory released certified wind maps of Georgia in October 2006 that showed there is substantial wind power available, especially offshore, with a potential of well over 10,000 MW. (website at www.gawwg.org for background). Yet Section 9.2.3.2 on wind power doesn't mention this potential, instead relying on Southern's slanted wording of a study they did with Georgia Tech that "technology limitations and regulatory restrictions would make development of offshore wind projects difficult in the southeast." Instead of taking Southern's word for it, the NRC should actually review the offshore wind study with Georgia Tech that was released in part earlier this summer and is now finalized ready for release. The potential to use Georgia's plentiful agriculture and forestry resources should be more closely evaluated as the benefits include increased self-sufficiency, improved water resource quality, and long-term environmental and rural development benefits. A University of Georgia 2003 study that showed that as much as 12% of Georgia's total electricity demand could be generated from biomass was referenced by the NRC in Section 9.2.3.8, but the NRC dismissed biomass as not being economically competitive with existing technologies. Georgia Power's plan filed with the Georgia PSC this year shows there are competitive biomass projects. The analysis of energy efficiency is deficient. This issue is still under review by the Georgia PSC as a result of analytical questions that arose in reviewing Georgia Power's Integrated Resource Plan this year. The PSC has ordered a working group to examine these issues further. Energy efficiency and conservation represent the quickest, safest, cheapest way to provide more power and to best protect our air and water resources. As an added benefit, increased energy efficiency reduces water use and consumption by power plants that compete with local industries and cities for much needed water. The NRC should be aware that in 2001, the Energy Information Administration ranked Georgia 8th in the nation for per capita energy consumption for electricity and 40th in per capita spending on energy efficiency programs and that Georgia is an energy exporting state. (0037-23)

Response: *The staff reviewed the Governor's Energy Policy Council Staff Research Brief Meeting Future Energy Demand (available at http://www.gefa.org/Index.aspx?page=192). The Brief identifies a cumulative peak demand growth over the period 2007 to 2016. The Brief also states that 1518 to 1618 MW of this growth could potentially be met by renewable energy sources and 1771 MW through energy efficiency programs. Even if these targets could be met that would still leave approximately 4311 MW to come from other energy sources such as nuclear power. The staff also reviewed (1) the content at the Wind Resource Assessment portion of the National Renewable Energy Laboratory's web site (http://www.nrel.gov/wind/resource_assessment.html), (2) the wind power assessment in Georgia Power Company's 2007 IRP, and (3) the content at the Georgia Wind Working Group's website (http://www.gawwg.org/). No information was found which would change the staff's conclusion in Section 9.2.3.2 of the EIS. No changes to the EIS were made as a result of these comments.*

Section 9.2.3.8 of the EIS has been revised to reflect Georgia Power Company's statement at page 15-15 of its 2007 IRP that: Biomass (wood, wood waste, agricultural residues) is widely available in the Southeast. A dedicated biomass-fired power plant of 50MW to 100MW in size is feasible. Major consideration is obtaining fuel under a long-term contract at a reasonable (and low) price. The plant may rely on gasification of biomass, followed by a combustion turbine to convert the gas to electricity. Raw biomass tends to have a high transportation cost, due to its low energy-density in raw form. This places an upper limit on the size of a dedicated biomass-consuming power plant.

Energy efficiency is taken into account in Chapter 8 of the EIS, which addresses Georgia Power's Company's Integrated Resource Plan, and also in Section 9.2.1 of the EIS. No change to the EIS was made as a result of this portion of the comment.

Comment: Section 9.2.2.2 states "The impacts of emissions from a natural-gas-fired power generation plant would be clearly noticeable, but would not be sufficient to destabilize air resources. Overall, the staff concludes that air-quality impacts resulting from construction and operation of new natural-gas-fired power generation at the VEGP site would be SMALL to MODERATE." DEIS pg. 9-14. Conclusions stated in the DEIS differ from those stated in SNC ER. (0095-84)

Response: *The draft EIS was prepared by NRC staff using its independent analysis and judgment. Conclusions in the draft EIS do not necessarily have to be consistent with the conclusions stated by Southern in its ER. No change to the EIS was made as a result of these comments.*

E.2.23 Comments Concerning Alternatives – Sites

Comment: [W]e have viewed the site that was selected by Southern Company, and its partners, Oglethorpe Power, City of Dalton, to be perfect for this project. You've heard the alternative sites that were mentioned. They have their negatives, but this is a good site for this kind of project. And this kind of project is good for not only our community, but for our state, and for this part of the country. (0013-4)

Response: *This comment expresses support of the Southern early site permit application. Because the comment did not provide new information, no change was made to the EIS.*

Comment: Section 9.2.2.1, Table 9-1: DEIS page 9-12: Land. Use =MODERATE impact; DEIS page 9-12 Ecology = MODERATE impact; DEIS page 9-12 Socioeconomics = MODERATE impact (adverse); DEIS page 9-12 Historic and cultural resources =MODERATE impact; DEIS page 9-12 Environmental Justice =SMALL to MODERATE impact; Conclusions stated in the DEIS differ from those stated in SNC ER. (0095-83)

Comment: Section 9.2.2.2, Table 9-2: DEIS pg. 9-17 Land Use =MODERATE DEIS pg. 9-17 Air Quality =SMALL to MODERATE DEIS pg. 9-17 Ecology =SMALL to MODERATE DEIS pg. 9-17 Socioeconomics =MODERATE (beneficial) to MODERATE (Adverse) DEIS pg. 9-17 Historic and cultural resources =MODERATE Conclusions stated in the DEIS differ from those stated in SNC ER. (0095-85)

Comment: Section 9.2.4, Table 9-4: Table 9-4 Land Use =MODERATE Table 9-4 Ecology =SMALL to MODERATE Table 9-4 Socioeconomics =MODERATE (Adverse) Table 9-4 Historic and Cultural Resources =MODERATE Conclusions stated in the DEIS differ from those stated in SNC ER. (0095-88)

Comment: Section 9.5.1.3 states "Because of uncertainty concerning the possible routing of the transmission line right-of-way, the staff concludes that the threatened and endangered species impacts associated with construction and operation of the new transmission lines at the Plant hatch site could be SMALL to MODERATE." DEIS pg. 9.35. This Section also states "Because of uncertainty concerning the possible routing of the transmission line right-of-way, the staff concludes that the terrestrial resource impacts associated with construction of the new transmission line at the Plant Hatch Site could be SMALL to MODERATE.", DEIS pg. 9-34. Conclusions stated in the DEIS differ from those stated in SNC ER. (0095-91)

Comment: Section 9.5.2.1 states "Based on the information it has available, the staff concludes that the transmission line right-of-way land-use impacts of constructing two new nuclear reactor units at Plant Farley site would be MODERATE." DEIS, pgs 9-47, 9-49. Conclusions stated in the DEIS differ from those stated in SNC ER. (0095-101)

Comment: Section 9.5.3.1 states "Based on the information provided by Southern and NRC's own independent review, the staff concludes that the land-use impacts of constructing 2 new nuclear units at Barton site would be MODERATE." DEIS pg 9-68. Conclusions stated in the DEIS differ from those stated in SNC ER. (0095-115)

Response: *The draft EIS was prepared by NRC staff using its independent analysis and judgment. Conclusions in the draft EIS do not necessarily have to be consistent with the conclusions stated by Southern in its ER. No change to the EIS was made as a result of these comments.*

E.2.24 Comments Concerning Alternatives – System Design

Comment: First, while dry cooling might not be considered a viable alternative in a relatively wet climate like that of Georgia's, from a natural resource conservation perspective it would certainly be preferable to wet cooling as described in the EIS. But, given that wet cooling is the highly probable choice, I have three recommendations: (1) Install sequential condensers in closed loops until the water temperature is reduced below 50°C. This will evaporate less water

and return more of the water to the river. (2) Install a cooling system for the effluent water that air cools the 50°C water to about 42°C. Then it can be run through a sequence of shaded wetlands to cool it within 2-3°C of ambient temperature. (3) Aerate the outfall water by tumbling it over rocks before it enters the river.

Response: *In issuing a NPDES permit for the proposed units, the State of Georgia may determine to impose limits on the discharge that may require the applicant to incorporate such design features as mentioned. The Clean Water Act clearly designates the responsibility for administering the NPDES program to the EPA. EPA has delegated this responsibility to the State of Georgia. The staff discussed water quality impacts in Sections 4.3.3, 5.3.3, and 7.3.2 of the EIS and concluded that impacts on water quality from the proposed action would be SMALL.*

E.2.25 Comments Concerning Benefit-Cost Balance

Comment: Nuclear power, on the other hand, would be a cost-effective solution. (0002-5)

Comment: Third, nuclear power provides energy at a low, stable cost that Georgians appreciate. New, standardized technology requires fewer parts for the units, reducing construction and maintenance costs. (0003-4)

Comment: Nuclear power plants provide low-cost, predictable power at stable prices. (0004-3)

Comment: We all know that no plant has ever made a nickel on its own. We also know that an energy audit of the entire nuclear cycle shows that nukes can only show a miniscule positive energy output using the highest grade ores, and that they fail to break even using the low grade ores which remain in the earth's crust. (0009-2)

Comment: [N]o investor will ever put a dime into an industry with a long history of financial failure. If you will convert your efforts to renewables, you would be heavily financed by millions of investors who want to leave a clean and beautiful world for their progeny. (0009-4)

Comment: I think you do have to look at taxes. We are in this deficit spending here. The impact of spending on nukes, versus other things, okay Congress already did it, but it is an impact that should be in the EIS. (0013-106)

Comment: First is the industry has become more efficient, and has improved economic competitiveness over the last years... The cost of nuclear generation has been competitive with coal generation, over the last several years, and is now lower than coal generation, and much lower than natural gas or oil. Only hydroelectric generation is cheaper and, certainly, that is in short supply. (0013-119)

Comment: The world market is highly favorable for nuclear energy growth. (0013-123)

Comment: I had the pleasure of meeting, yesterday, with a former commissioner with the Nuclear Regulatory Commission, Peter Bradford. And I found him quite convincing. That may be a surprise, but what he had to say was that nuclear power has never been viable, in any country, with competitive power supply procurement. He went on. In fact, no nuclear plant has won an open competitive power supply auction. But what about climate change? He pointed to a study by Picollo and Zocollo, but Princeton professors several years ago published in scientific journals, that looked at the next 50 years by mid of the 21st century, that 25 billion tons of carbon dioxide must be removed in order for us to continue our way of life. The professors looked at 15 methods of reducing carbon emissions, to achieve that kind of reduction. These were existing methods, such as energy efficiency, conservation, transportation changes, carbon sinks, such as more forests, combined cycle, and nuclear. In that list there were no new types of technologies, such as wind and solar. The professors said that it would take a tripling, with a tripling of nuclear power, at a cost of between two to three trillion dollars, over the next half century, that the world could achieve from 10 to 15 percent reduction of the necessary amount of carbon reduction in the atmosphere, producing climate change world-wide. Nuclear power has never been viable, in any country, with competitive power supply procurement. No nuclear plant has won an open competitive power supply auction. Loan guarantees, direct subsidies, have been the hallmark of nuclear power. The first wave of nuclear energy happened when regulated monopolies, in the United States, ordered utility programs, directed them. For the last three decades there have been no new plants ordered. The deregulation of the electricity markets, in the United States, ended new nuclear power plants. They will not, they did not begin, again, to surface until the last few years, when regulations were changed, loan subsidies, direct subsidies, were introduced by the United States Congress. The question here, today, I believe is why is Georgia Power in Congress, today, lobbying for more loan guarantees, and direct subsidies, at taxpayer expense? If we value free enterprise, and private industry, then nuclear cannot be the answer. And according to what the professors at Princeton say, it does not even contribute significantly to the global climate crisis, because among the 15 methods outlined by the Princeton study, all those methods, nuclear power suffers from one unique vulnerability, that is a large accident which would not, perhaps, shut the plant down, or wipe out a large city, just something on the order of Three Mile Island, would end nuclear investment, and its financial prospects in the United States, and elsewhere. None of the other methods suffer from that vulnerability. The nuclear power resurgence now under way is not based on economy, efficiency, new designs, open competition, or need. Rather, it is the direct result of government subsidies, licensed shortcuts, financial risks, shifted from stockholders to taxpayers, and political influence of powerful corporations. (0013-146)

Comment: In this way I think that nuclear should be considered a great contributor to climate change, because we are moving resources away from things like energy efficiency, and

renewables, that have the capacity to grow the economy, and reduce our dependency on electricity, and reduce our need for these things. (0013-192)

Comment: COST...The cost is prohibitive. All of the Nuclear plants to date have come in late and over cost. We cannot embark on this expensive endeavor at this time in our history when alternative systems prove more cost effective. (0014-2)

Comment: Another factor is the time it takes to erect a nuclear plant, check it out, again guarantee safety, and get it running safely and effectively. Often this takes upwards of ten years or as much as twenty years. In that time period other energy sources put this record to shame, even relatively new ones like wind and solar and wave energy. During this long time period interest must be paid on the capital investment, so costs continue to accumulate. Cost estimates have been extremely optimistic and almost always are exceeded. The same applies to estimated time of completion. (0027-2)

Comment: [N]uclear-generated electricity is our best hope of achieving minimum cost replacement of the importation of oil, which has made us hostage to some of the most hostile dictatorships on Earth. (0030-3)

Comment: Nuclear energy is the most costly of all the forms of electrical generation. The cost of initial building and then the cost of taking down and disposing of a nuclear plant should make nuclear production cost prohibitive. I know with the citizens funding the building and destruction costs, Southern Company prefers nuclear energy. (0052-2)

Comment: I would ask that this permit begin pointing Southern Company is the direction of the future. Some way require Southern to do a cost analysis comparison against solar power. Solar wins if there are any tax breaks. Nuclear wins only because the citizens fund it. (0052-4)

Comment: Nuclear power plants provide low-cost, predictable power at stable prices. (0059-4)

Comment: [N]uclear power has a low production cost compared with other fuel sources. Uranium, which is used as nuclear fuel, has less price volatility than other fuel sources, including coal and natural gas. With all this said, new, standardized technology requires fewer parts, reducing construction and maintenance costs. (0060-5)

Comment: Nuclear power also helps to relieve energy cost uncertainty caused by volatile natural gas prices. (0060-8)

Comment: Nuclear power has a low production cost compared with other fcl sources and Uranium has far less price volatility than other fuel sources, including coal and natural gas. (0061-4)

Comment: Nuclear power plants provide low-cost, predictable power at stable prices. (0066-3)

Comment: [N]uclear power provides energy at a low, stable cost that Georgians appreciate. New, standardized technology requires fewer parts for the units, reducing construction and maintenance costs. (0067-4)

Comment: We oppose new nuclear reactors based on...the high costs involved. (0122-5)

Response: *These comments discuss the cost-effectiveness of the nuclear power relative to alternative power sources. Issues related to taxes, loans, or other governmental incentives for particular types of energy production are outside NRC's mission and authority. The NRC does not promote the use of nuclear power as a preferred energy alternative and it does not regulate alternatives to producing electricity that do not involve nuclear power. The NRC does, however, evaluate energy alternatives as part of its review under NEPA of applications for new nuclear power plants. The discussion of alternative energy sources in Section 9.2 of the EIS describes potential impacts from these sources in comparison with the proposed action. A discussion of the costs of the proposed projects is found in Section 11.6.2 of the EIS. No change was made to the EIS as a result of these comments.*

Comment: The Georgia Public Service Commission has directed Georgia Power, who is a large partner in the new Vogtle proposal, to put its new capacity needs out to bid in the open market. During integrated resource plan proceedings this summer, PSC experts, and other parties, questioned the cost numbers that Georgia Power presented for the proposed Vogtle expansion. The company tried to circumvent the PSC rules on competitive bidding this year, and tried to make the case that Vogtle expansion is such a unique situation that it warrants special consideration outside of the rules. But the Georgia PSC hasn't fallen for that argument yet. The NRC shouldn't fall short by giving the company a pass on crucial issues that will have long term irreversible impacts on Georgians, either. (0013-23)

Response: *The Georgia Public Service Commission (PSC) oversees electrical power generation and distribution in the State of Georgia with the mission of ensuring that consumers receive safe, reliable and reasonably priced electric services from financially viable and technically competent companies. No change was made to the EIS as a result of this comment.*

Comment: They expect the public to be responsible for the liability in case of an accident, via the Price-Anderson Act. (0013-167)

Comment: The construction of nuclear power plants costs billions, and it is subsidized by the Georgia ratepayer. These reactors should not be built. (0013-48)

Comment: I am against the loan guarantees of billions of (or any) dollars for the building of more nuclear power plants. (0019-1)

Comment: If the utility is not financially qualified to build and operate a safe nuclear plant, minus government hand outs, then this license must be disapproved. (0024-13)

Comment: (5) The financial ability of the utility to build this facility without government subsidies must be considered. Considering the fact that future appropriations may delete subsidies, their inclusion is unjustified in deciding the financial qualifications of the utility to build and operate this facility. (0024-6)

Comment: It is hard to believe that a "mature" industry like nuclear energy production would need such expensive and extensive support as guaranteed loans. In other industries investors are willing to put up their capital and take their risks. But in this one the government must guarantee return at the expense of taxpayers. Apparently this is not a safe investment. (0027-1)

Comment: Please realize that nuclear power is not clean, it is not safe, and it certainly is not cheap. The construction of nuclear power plants cost billions and is subsidized by the Georgia ratepayers. (0073-6)

Comment: I am deeply concerned that Vogtle, as part of the nuclear industry is motivated not by profits from the open market but by government subsidies that prop up a sector that is manifestly, incontrovertibly incapable of producing a safe product at a competitive price. I encourage you to deny the expansion permit on these grounds. (0084-1)

Comment: Huge government is a thing of the past, and incidental fine print like the Price-Andersen Act transferring the liability of the unsound nuclear industry from the unwilling private insurance industry to the back of the already staggering taxpayer stands as an arrogant, underhanded taking of personal, constitutionally guaranteed rights. The very notion of indemnifying an inherently noxious industry by forcing the population to carry the risk of their own destruction is astonishing, and remains a burden yet undefined and untested, a burden too great. (0084-5)

Comment: The financial ability of the utility to build this facility without government subsidies should be considered. Considering the fact that future appropriations may delete subsidies, their inclusion is unjustified in deciding the financial qualifications of the utility to build and operate this facility. If the utility is not financially qualified to build and operate a safe nuclear plant, minus government handouts, then this license should be disapproved. (0087-9) (0090-9)

Comment: The use of limited federal funds will again impact the ongoig efforts at all current nuclear plants across the United States because less resources at the Federal level will be spread among the needs of existing plants and new plants including the plant which is the subject of this EIS. (0098-1)

Comment: I wish to express my oposition to the Plant Vogtle project...1. As a taxpayer of Georgia I am opposed to my taxes being used in this way. (0102-1)

Comment: The EIS fails to analyze the opportunity costs and national impact of underwriting the multi-billion dollar Vogtle proposal with federal public tax money. The EIS must compare the estimated amount of tax money for Vogtle with social programs that'd be forced to go unfunded such as education, health care, poverty and housing. (0114-4)

Comment: It is ironic that the ideological sector most loudly worshipping at the alter of the "free market" is calling for taxpayer subsidies for an industry that cannot compete in that market. (0124-6)

Response: *The NRC is not involved in establishing national energy policy. Rather it regulates the nuclear industry to protect the public health and safety and common defense and security within existing policy. Issues related to the subsidization of nuclear power are outside of the NRC's mission and authority and are not addressed in the EIS. No changes were made to the EIS as a result of these comments.*

Comment: Taxes. You didn't cover that this whole project is being used, federal taxes are being used on this whole project. Southern Company is convinced it is in line to get this whole project paid by federal taxes, by the people's money. This is people that won't, maybe, get health care because of it, or maybe they won't get education, or maybe they won't have housing. This has got to be looked at, it is a major omission. (0013-65)

Comment: 6. TAXES The EIS fails to analyze the national impact of underwriting the multi-billion dollar Vogtle proposal with federal public tax money. The EIS must compare the estimated amount of tax money for Vogtle with social programs that would have to go unfunded such as education, health care, poverty and housing. The EIS must review if Georgia Power would be able to underwrite the cost and risk without government-guaranteed loans. (0034-15)

Comment: TAXES The EIS fails to analyze the national impact of underwriting the multi-billion dollar Vogtle proposal with federal public tax money. The EIS must compare the estimated amount of tax money for Vogtle with social programs that would have to go unfunded such as education, health care, poverty and housing. (0035-8) (0054-6) (0098-15) (0103-6)

Comment: COST---With cost overruns on Nuclear plant construction averaging 300% and with the industry asking $50 Billion from the government in start-up funds which would, of course, be paid by tax payers, it is time to draw the line on this type of construction. It is a money drain we can not afford. (0042-2)

Comment: In addition the EIS fails to analyze the national impact of underwriting the multi-billion dollar Vogtle proposal with federal public tax money. The EIS should take into

consideration the estimated amount of tax money for Vogtle as opposed to social programs that would have to go unfunded such as education, health care, poverty and housing. (0097-4)

Comment: What would be the environmental impact of our tax dollars being diverted from legitmate uses to these reactors which are not owned by the government? (0106-3)

Comment: Besides these key omissions, the proposal is a thinly disguised attempt by the nuclear power industry to do what it does best: make a profit at the taxpayer's expense. No nuclear facility has ever made a profit except through massive public subsidies. (0111-4)

Response: *The NRC is not involved in establishing national energy policy. Rather, it regulates the nuclear industry to protect the public health and safety and common defense and security within existing policy. Issues related to the subsidization of nuclear power are outside of the NRC's mission and authority and are not addressed in the EIS. The environmental impacts, including socioeconomic tax impacts, as well as impacts on education, public services, and housing are addressed at a regional level in Chapters 4 and 5 of the EIS. No change was made to the EIS as a result of these comments.*

Comment: And in 87 my light bill went up three times what it was, originally. And I didn't add even so much as a night light in my house. It was because unit 1 was ten percent finished. And so this stuff about it being economical, no. You are not selling me on that. (0013-112)

Comment: I live on a fixed income, as a college student. So I'm really worried about what is going to happen to me and my friends when our power bills go up. (0013-184)

Comment: [N]nuclear energy which has proven, over and over again, to vastly underestimate construction and operation costs, as has been since in the first time Vogtle was proposed, with grossly, which went grossly over budget and resulted in the largest rate hike in Georgia's history. (0013-191)

Comment: And there should be a review of cost analysis. I'm concerned what effect the collapsing dollar, the american dollar, will have on an open-ended construction checkbook, and the true construction costs and, ultimately, what will be passed onto ratepayers. (0013-52)

Comment: Nuclear energy is too expensive, building new nuclear power plants would cost billions of dollars. The new plants that have been built in Japan and Finland, recently, have been grossly over- budget. And it will be here, too, it will be over- budget, mark my words. (0013-95)

Comment: [N]owhere in this draft EIS does it state officially how much these new reactors are going to cost Georgia ratepayers or taxpayers, instead providing estimates on p. 5-38 ranging from $1.2-2.6 billion for each reactor. (0050-12)

Comment: [W]e do not feel that a full assessment of the cumulative impacts related to socioeconomics has been done. On page 7-17 it states,"In terms of beneficial effects including tax revenues benefits, the impacts on Burke County would be large." Where is the analysis and the NRC review of the cumulative impacts for ratepayers in Georgia who face serious harm from potential adverse impacts that could occur as this expansion moves forward (e.g. cost overruns, rate hikes, etc.)? That possible scenario is part of the socioeconomic, impact on the state. (0050-16)

Comment: Our point is that uncertainties-such as having no federal waste repository available, pending future security regulation on reactors, and accident potential that exists with all reactors-all have potential and serious negative impacts on ratepayers as well as taxpayers. The NRC should not ignore these issues or you will be harming the entire ratepayer population in our state wherever local utilities are irresponsible enough to buy into this whole agenda as well as the public at large. We request that the NRC conduct a proper review on the full socioeconomic impacts for people who have to pay power bills and taxes. (0050-21)

Comment: There are new complications before us today that didn't exist during Vogtle 1 and 2 that make building new reactors even mere threatening to ratepayers. (0050-24)

Comment: A review of cost analysis I am concerned what effect the collapsing dollar will have on an open ended checkbook, true construction costs and ultimately what will be passed on to ratepayers. (0068-9)

Comment: Construction of every nuclear plant has caused rates to increase. This is already happening because of the Vogtle proposed expansion. As rates rise, consumers reduce their usage. The orders that are anticipated for the electricity that these units are designed to produce may not materialize. The material to build them will also be more costly than anticipated, and may not be available at all. Most if not all the equipment will have to be imported. Cost have historically exceeded their initial estimates for nuclear reactors, and these Vogtle reactors will be no exceptions to that rule. (0087-10)

Comment: Construction of every nuclear plant has caused rates to increase. This is already happening because of the Vogtle proposed expansion. As rates rise, consumers reduce their usage. The orders that are anticipated for the electricity that these units are designed to produce may not materialize. The material to build them will also be more costly than anticipated, and may not be available at all. Most if not all the equipment must be imported. Cost have historically exceeded their initial estimates for nuclear reactors, and these Vogtle reactors will be no exceptions to that rule. (0090-10)

Comment: I think you will find that Georgia citizens will strongly oppose the huge costs and environmental damage more nuclear power plants will bring. We have not forgotten the huge Vogtle cost overruns of the past. The potential negative environmental effects of these plants, in

addition to other major concerns, have not been fully and carefully considered and should be. (0101-4)

Comment: I have been and still am opposed to Southern Nuclear 0peating Company receiving an Early Site Permit. However, even if Iwere in favor of the company receiving this permit I have no confidence that they will be able to bring the project in under budget. This will cause Georgia Power to raise its rates again. Georgia Power had its largest rate increase when Vogtle became operational. With that track record, how can anyone expect anything different? Here is another way the company is being irresponsible, this timewith rate payers' and their shareholders' money. (0120-3)

Response: *These comments express concerns regarding the cost of building a nuclear power plant and what impact potentially increasing costs may have on the financial viability of the company, regional electric rates, and taxpayers. Although the NRC has requirements for licensees (10 CFR 50.75) to provide reasonable assurance that funds would be available for the decommissioning process and to establish financial qualifications (10 CFR 50.33), general issues related to the applicant's financial viability and rate setting are outside NRC's mission and authority and are not considered in the EIS. The Georgia Public Service Commission (PSC) oversees electrical power generation and distribution in the State of Georgia with the mission of ensuring that consumers receive safe, reliable and reasonably priced electric services from financially viable and technically competent companies. When another agency has the regulatory authority over an issue, NRC defers to that agency's decision. The NRC staff reviewed the Need for Power evaluation and determined it was (1) systematic, (2) comprehensive, (3) subject to confirmation, and (4) responsive to forecasting uncertainty, pursuant to Section 8.4 of the NRC's Environmental Standard Review Plan (ESRP) (NRC 2000). If the Need for Power evaluation meets these criteria, no additional independent review by the NRC is needed. Chapter 11 of the EIS discusses the estimated overall costs and environmental impacts of the proposed project. No change was made to the EIS as a result of these comments.*

Comment: The financial ability of the utility to build this facility without government subsidies must be considered. Considering the fact that future appropriations may delete subsidies, their inclusion is unjustified in deciding the financial qualifications of the utility to build and operate this facility... If the utility is not financially qualified to build and operate a safe nuclear plant, minus government hand outs, then this license must be disapproved. Addition: What of life cycle costs of the entire fuel cycle. People will die of radon for tens of thousands of years from the mining of the uranium for this reactor. Aren't future deaths worth anything? (0026-5)

Response: *Issues related to taxes, loans, or other governmental incentives for particular types of energy production are outside of the NRC's mission and authority and are not addressed in the EIS. The impacts of the nuclear fuel cycle are addressed in Section 6.1 of the EIS. No change was made to the EIS as a result of this comment.*

Comment: 11.6.2.1 Construction Costs. SNC has revised its most representative estimate of overnight capital costs for construction to $2000 to $4000 per kW. Section 11.6.2.1 provided an estimate of overnight capital costs for construction as a range from $100 per kW to $2300 per kW. The most recent estimates now place the capital costs at a range of $2000 per kW to $4000 per kW in the ER analysis. This value is within the new range, but is at the low end of the range. (0095-23)

Response: *This comment provides new information regarding the projected overnight cost estimates of the project. These changes were evaluated and incorporated into Section 11.6 of the EIS.*

Comment: Do you ever hear from the nuclear power industry or from it "well-paid and well-skilled lobbyists" that with current technology, there is only a limited amount of uranium ore in the world that is rich enough to allow more energy to be produced by the whole nuclear process than the process itself consumes. This amount of ore might be enough to supply the world's total current electricity demand for about six years. Think about it; is that something you want to bet the farm on? (0028-4)

Response: *This comment discusses the available uranium-ore supply and associated potential impact on the nuclear industry or national energy policy, which is outside the scope of the environmental review. The comment does not provide new information and was not evaluated further. No change was made to the EIS as a result of this comment.*

Comment: Table 11-3. Summary of Benefits and Costs of the Proposed Action. Conclusions stated in the DEIS differ from those stated in SNC ER. SNC requests NRC revise DEIS to achieve conclusions consistent with ER or provide basis for deviation. (0095-139)

Response: *The draft EIS was prepared by NRC staff using its independent analysis and judgment. Conclusions in the draft EIS do not necessarily have to be consistent with Southern's conclusions in its ER. No change was made to the EIS as a result of this comment.*

Comment: Considering...the risks and health dangers they represent,...only a fool or a lapdog for the nuclear industry would dare propose its continued use. (0007-5)

Comment: The long term danger of nuclear reactors is not worth the immediate rewards. (0023-3)

Response: *The environmental and health risks (both long-term and short-term) of both constructing and operating two new reactors on the VEGP site are discussed in Chapters 4 and 5 of the EIS. In addition the environmental and health impacts from the nuclear fuel cycle, related transportation impacts and decommissioning of the nuclear facility are addressed in Chapter 6 of the EIS. The overall environmental and health costs of the proposed project, as*

well as the expected benefits, are summarized in Chapter 11. No changes were made to the EIS as a result of these comments.

Comment: A drought has had the US southeast in its grip for some years--with TVA unable to utilize its hydro-generation plants, for example. It has shown the inadvisability of making major capital investments in systems for power generation that are so critically dependent on water. (0025-2)

Comment: The money to be invested in nuclear plants in Georgia will be wasted when not enough water exists to run the plants. (0100-1)

Response: *These comments express concerns regarding the availability of an adequate supply of water in the area to support two new reactors on the VEGP site. This topic is addressed in Section 5.3 of the EIS and has been updated accordingly.*

E.2.26 General Comments in Support of the Licensing Action

Comment: I would like to endorse the Southern Company's early site permit. (0001-1)

Comment: Please accept my letter of support for Southern Company and their efforts to add new nuclear units at Plant Vogtle. (0001-4)

Comment: I am writing in support of Georgia Power's application to build new nuclear reactors at Plant Vogtle in Burke County, Georgia. (0002-1)

Comment: I very much support this application and I hope it moves along rapidly. (0002-6)

Comment: I strongly support the Early Site Permit submitted for additional nuclear units at Plant Vogtle in Burke County, Georgia. For several reasons, additional nuclear units at Plant Vogtle will benefit the citizens in my district, the state of Georgia, and the Southeast region and will ultimately improve our quality of life. (0003-1)

Comment: Fifth, the people of Georgia support building these particular new power plants. I have seen opinion surveys indicating that 94 percent of the Georgia residents who were polled support building new nuclear plants. (0003-6)

Comment: I strongly support these additional nuclear units at Vogtle and nuclear power in the United States. (0003-7)

Comment: Please accept this letter as my endorsement of the Early Site Permit submitted for additional nuclear units at Plant Vogtle in Burke County, Georgia. (0004-1)

Comment: I support the addition of new nuclear units at Plant Vogtle and the continued use of nuclear energy. (0004-9)

Comment: This is a letter of support for the construction of new nuclear reactors at Plant Vogtle, in Georgia. (0008-1)

Comment: I feel this would be a good decision to have these two new reactors to come to plant Vogtle, and look forward to coming. (0013-11)

Comment: I strongly endorse the decision that Georgia Power has made to build two nuclear power plants at the Vogtle site. (0013-125)

Comment: I appreciate the opportunity to speak tonight, to the NRC, in support of an Early Site Permit for Vogtle units 3 and 4. (0013-126)

Comment: On behalf of the 200 members of the Southern Nuclear Chapter of U.S. WIN, we support the Early Site Permit for Vogtle units 3 and 4. (0013-128)

Comment: I ask for the speedy issue of the permit to build the two reactors at Plant Vogtle. (0013-14)

Comment: Resolution of the Mayor and Council of the city of Sylvania, Georgia, supporting Plant Vogtle expansion. (0013-15)

Comment: The Augusta Metro Chamber of Commerce is pleased to support the expansion of Plant Vogtle. (0013-158)

Comment: It, therefore, be resolved by the Mayor and Council of the City of Sylvania, it is hereby resolved, by the authority of the same, that the application of Southern Nuclear Operating Company, for an Early Site Permit, has the support of the city of Sylvania, and the city requests that said permit be granted. (0013-18)

Comment: October 16th, '06, the City Council of Waynesboro unanimously adopted a resolution strongly supporting approval of the Early Site Permit for this project. We see it as a very positive project. (0013-3)

Comment: It is very important that we understand that what would be the justifiable reason for not allowing them to go forth in terms of helping us, as a state, meet our nuclear, our energy needs pardon me; helping us as a nation to not be dependent upon foreign sources for fuel. So we have to look at the guidelines. We are a nation that operates by governmental guidelines. When those guidelines are met, we must give people an opportunity to do business, (0013-31)

Comment: [W]e support it, we look forward to this particular project going forth, in terms of the issuing of the Early Site Permit, and we see no justifiable reason for delaying it. If we want to be speculative we can always do that. But we are a nation that operates, again, by rules and by scientific evidence. And there is no such evidence, to our knowledge, that would justify doing anything other than going forward. (0013-32)

Comment: We believe it is a positive for the environment, and we hope that it will go full speed ahead, with all the due considerations taken into account. Nothing has changed our opinion, over the last months. After reviewing all of the materials that have, periodically, been issued in this process, we still stand behind our resolution that this is the right project, at the right place. (0013-5)

Comment: [T]he Board of Commissioners of Burke County fully supports the idea of constructing two nuclear reactors at Plant Vogtle. (0013-72)

Comment: I have a resolution in support of Vogtle 3 and 4, which I would like entered into the record. (0013-73)

Comment: Burke County Chamber of Commerce continues in our full support of Georgia Power in its proposed expansion of two nuclear reactors at Plant Vogtle. We believe this expansion will allow us to continue to receive clean, cost-effective, and reliable electric energy to serve our community. (0013-74)

Comment: This board fully supports the Early Site Permit request for Vogtle generating station. (0013-77)

Comment: Clean, affordable, and abundant electricity correlates directly to the quality of life achieved in every nation on earth. Based on this important fact, and the successful operation of the existing Vogtle operating units, we believe that Vogtle is an excellent host site for additional nuclear power units. (0013-79)

Comment: fully support Georgia Power in the Plant Vogtle expansion, and I'm excited to see the forthcoming positive effects that this expansion will bring to Burke County and the city of Waynesboro. (0013-81)

Comment: I wholeheartedly support the application for the construction of units 3 and 4 at Plant Vogtle. (0013-83)

Comment: thank you for allowing me the opportunity to voice my support of the Early Site Permit submitted by Vogtle. (0013-90)

Comment: I support the expansion of two reactors to Plant Vogtle. (0036-1)

Comment: Based on my understanding of the geology and the hydrology of Georgia and my knowledgle of nuclear power plant siting, there are no reasonable reasons that a properly constructed and properly managed nuclear power plant can not be safely operated at the Vogtle Site. (0051-1)

Comment: We appear today in full support of the conclusion in the draft EIS that two more reactors can be added to the Vogtle site without significant environmental consequences. (0053-1)

Comment: [T]he Screven County Board of Commissioners supports this project and requests that the Nuclear Regulatory Commission consider the application of Southern Nuclear Operating Company favorably. NOW THEREFORE, BE IT RESOLVED that Screven County Board of Commissioners unanimously supports the application of Southern Nuclear Operating Company for an Early Site Permit and requests the Nuclear Regulatory Commission to approve the application for permit. (0055-3)

Comment: [T]he Mayor and Council of the City of Sylvania support this project, and request that the Nuclear Regulatory Commission consider the application of Southern Nuclear Operating Company favorably. NOW THEREFORE, BE IT RESOLVED by the Mayor and Council of the City of Sylvania, and it is hereby resolved by authority of the same, that the application of Southern Nuclear Operating Company for an early site permit has the support of the City of Sylvania, and the City requests that said permit be granted. (0056-3)

Comment: I am writing in support of Georgia Power's application to build new nuclear reactors at Plant Vogtle in Burke County, Georgia. (0058-1)

Comment: I very much support this application and I hope it moves along rapidly. (0058-4)

Comment: Please accept this letter as my endorsement of the Early Site Permit submitted for additional nuclear units at Plant Vogtle in Burke County, Georgia. (0059-2)

Comment: I support the addition of new nuclear units at Plant Vogtle and the continued use of nuclear energy. (0059-9)

Comment: This letter is my written show of support for Southern Company and their quest of the expansion of the nuclear power plant at Plant Vogtle. The Southern Company has clear business drivers for pursuing new nuclear generating options. These options will greatly benefit many people within Southern Companies areas of operation in the southeastern U.S. (0060-1)

Comment: Please accept my letter of support for Southern Company and their request to expand the current nuclear program at Plant Vogtle. (0060-12)

Comment: I am writing today in support of Southern Company's proposal to expand the source of nuclear generation at Georgia Power's Plant Vogtle. (0061-1)

Comment: Please accept my letter of support for Southern Company and their efforts to add to the nuclear generation mix at Plant Vogtle. (0061-7)

Comment: Please accept this letter of support for Southern Company's planned expansion of Plant Vogtle in Waynesboro, Georgia. (0062-1)

Comment: I support the addition of new nuclear units at Plant Vogtle and the continued use of nuclear energy. (0062-7)

Comment: I am writing today in support of Southern Company's plan to expand the nuclear generation at Georgia Power's Plant Vogtle. (0063-1)

Comment: Please accept my letter of support for Southern Company and their efforts to expand the nuclear production capacity at Plant Vogtle. (0063-4)

Comment: Please accept this letter of support for Southern Company's planned expansion of Plant Vogtle in Waynesboro, Georgia. (0064-1)

Comment: I support the addition of new nuclear units at Plant Vogtle and the continued use of nuclear energy. (0064-7)

Comment: Please accept this letter as my endorsement of the Early Site Permit submitted for additional nuclear units at Plant Vogtle in Burke County, Georgia, (0066-1)

Comment: I support the addition of new nuclear units at Plant Vogtle and the continued use of nuclear energy. (0066-8)

Comment: I strongly support the Early Site Permit submitted for additional nuclear units at Plant Vogtle in Burke County, Georgia. (0067-1)

Comment: [T]he people of Georgia support building these particular new power plants. I have seen opinion surveys indicating that 94 percent of the Georgia residents who were polled support building new nuclear plants. (0067-6)

Comment: I strongly support these additional nuclear units at Vogtle and nuclear power in the United States. (0067-7)

Comment: I am writing to express my support for the Early Site Permit submitted for additional nuclear units at plant Votgle in Burke County Georgia. (0069-1)

Comment: The additional units at Voglte will benefit our state, region and country by providing reliable, low-cost, and clean energy to meet the growing demands we face. For these reasons, I support the additional nuclear units at Vogtle as well as the increase of nuclear power in the United States. (0069-4)

Comment: Our diverse Board understands that this region will require an increased electrical supply and a well trained work force if we are to prosper in the decades ahead. We constantly assess attributes which impact our economic development and wish to make it clear that our governmental, business, and educational infrastructure is capable and ready to support the needs of an expanded Vogtle Generating Station. (0070-1)

Comment: We applaud the utility for planning well in advance to assure that our electrical supply is both abundant and clean. We recognize that opposing views exist on expanding the role of nuclear power in our economy and use this occasion to state our full support for this project. The Vogtle site is well suited to host these additional units and we are counting on this added electrical supply to aid our economic growth. (0070-2)

Comment: NOW THEREFORE BE IT RESOLVED, that the Board of Commissioners of Burke County fully supports the idea of constructing two new reactors at Plant Vogtle. (0071-5)

Comment: I am writing to urge you to support the Early Site permit submitted for additional nuclear units at Plant Vogtle in Burke County, Georgia. By 2030, the population of the state of Georgia is expected to increase by 4 million residents, and our state will need the additional base load generating capacity offered by the expansion of Plant Vogtle. (0072-1)

Comment: The scientific data and the public support clearly designate nuclear power as the safe, cost effective and environmentally friendly energy of the future. For these reasons. I strongly support these additional nuclear units at Vogtle, as well as the expansion of nuclear power throughout the United States. (0072-3)

Comment: I think this is a great step for Burke Co. Not only because of the money it will bring in to the county but because of the community growth and job market opportunies. Nuclear power is a clean safe way for making power. I am very happy about the consctruction of the reactors at plant Vogtle and welcome it. (0074-1)

Comment: WHEREAS, the Waynesboro City Council is excited and proud to learn of this announcement and supports Plant Vogtle in their proposed efforts throughout the licensing and construction process; (0075-2)

Comment: [T]he Waynesboro City Council announces its support of the expansion proposed at the Alvin W. Vogtle Nuclear Generating Plant and encourage the Waynesboro-Burke County community to continue its support throughout the licensing and construction period. (0075-4)

Comment: This Board fully supports the Early Site Permit request for the Vogtle Generating Station. Although Vogtle resides in a county adjacent to our service area, our relationship is mutually dependant and beneficial. We depend on Vogtle for clean reliable power and in turn, we provide many of the business services, supplies, human resources, and educational infrastructure which Vogtle needs to meet the regions' fundamental need for electricity. (0076-1)

Comment: Clean, affordable, and abundant electricity correlates directly to the quality of life achieved in every nation on earth. Based on this important fact and the successful operation of the existing Vogtle operating units, we believe that Vogtle is an excellent host site for additional nuclear power units. NRC approval of the Early Site Permit request is in the best interest of the citizens of this region. We want to look to the future and know that electricity will never be in short supply. (0076-2)

Comment: As a local citizen and an expert in nuclear safety with more than 30 years of experience I have a high degree of confidence in the safe operation of the proposed new reactors at Plant Vogtle. As a parent of three children who will be faced with the legacy and insecurity of power generated by fossil fuels I am convinced that nuclear power offers the best option for supplying power for future generations. Therefore I am a strong supporter for granting an ESP at the Vogtle Plant. (0077-1)

Comment: The whole operation at Plant Vogtle is a great asset to Burke Co., CSRA, State of Georgia and the United States of America. I look forward to the construction of the new reactors and future expansion at Plant Vogtle. (0078-2)

Comment: The Southern Company and the GA Power Company have been good stewards of the environment and helped Burke County, GA develop one of the best Emergency Management Agencies in the nation due to making safety its primary goal while producing nuclear energy. They have been a good community neighbor and have helped prepare our local civic leaders for good well balanced economic growth. They have made progress become a reality for our schools, hospital and law enforcement. Thanks for letting me comment on the attributes and success of Plant Vogtle in its plans and licensing for two new units in Burke County, Georgia. (0079-2)

Response: *These comments express support for the Southern early site permit application. Because these comments did not provide new information, no change was made to the EIS.*

E.2.27 General Comments in Support of the Licensing Process

Comment: We appear here today in full support of the conclusion in the Draft Environmental Impact Statement that two more reactors can be added at Plant Vogtle without significant environmental impact, and without any significant effect on public health. We believe that. We think the facts support that. (0013-115)

Comment: Thanks again for the job that you do, and we are looking forward for what you can do for this community. We want these reactors, but not at the expense of going too fast, and overlooking anything that needs to be checked and double checked. (0013-12)

Comment: We support the NRC's preliminary recommendation and a continuation of the Early Site Permit and licensing process that would lead to new construction at Vogtle. (0013-142)

Comment: We support the issuance of the Early Site Permit for the Vogtle electric generating site, by the NRC. We feel that the Environmental Impact Statement is an important step in the process. And we feel that a thorough job has been done considering the appropriate factors, and so forth. We feel that the EIS supports the case for proceeding with the process for permit issuance. (0013-154)

Comment: I want to thank the NRC for all the fine work that has been done, being able to answer the tough questions that are being asked, and for listening to all the concerns of the community, and from people from outside the community. (0013-2)

Comment: The only thing that I would like to do, just because nobody has done it yet, is to thank the NRC staff for a very informative presentation and, more aptly, for the obviously diligent analytical work that went into it. (0013-216)

Comment: In listening to the information in reference to the Early Site Permit, we find that the NRC has done due diligence in terms of trying to address the many problems that have been brought to the NRC's attention, over these many years, in terms of preparation for units 1 and 2, in addition to the renewal of units 1 and 2, and now the Early Site Permit with the anticipation of expanding to units 3 and 4. (0013-30)

Comment: I appreciate the NRC and what they are doing. They are giving us the opportunity to really listen, to address some issues here, and I really do appreciate your coming. And I appreciate the job that you all have done. And I know just the little bit that I have heard so far is very detailed, and I appreciate that. Our future is at stake, and we should never take these meetings for granted. I have been to every single one of them. They serve as a genuine need, and the information we receive is vital to our future. (0013-6)

Comment: I support the least restrictive EIS, Rules and Directives consistent with maintaining the high level of nuclear safety that already exists in the United States. (0030-1)

Comment: We appreciate the opportunity to provide scoping comments that may ensure that the health and diversity of the Savannah River are maintained while continuing to allow for compatible human usage of its resources. (0031-6)

Response: *These comments express support for the NRC ESP process. Because these comments did not provide new information, no change was made to the EIS.*

E.2.28 General Comments in Support of Nuclear Power

Comment: Nuclear energy has been proven to have the lowest environmental impact, while being the most cost effective and reliable source of generation. (0001-3)

Comment: Nuclear power is an extremely safe, reliable and cost-effective source of electricity which emits no carbon dioxide or other greenhouse gases. (0002-3)

Comment: [T]hese plants are essential in maintaining the reliability of the U.S. electric power system. (0004-4)

Comment: Nuclear energy also has a minimal impact on the environment. In fact, nuclear plants have one of the lowest environmental impacts of any electricity fuel source. (0004-5)

Comment: More nuclear energy will help,ensure clean, safe, reliable electricity for our state, our region and the entire U.S. (0004-8)

Comment: We need clean power, nuclear is the best today. (0012-1)

Comment: I would like to say that Georgia Power has made a wise decision in choosing to build more nuclear plants at the Vogtle station, because nuclear energy is and will continue to be a key player in the U.S. energy mix. (0013-118)

Comment: [W]e believe that nuclear power is important, not only right here in Burke County, but important to our nation. (0013-131)

Comment: [W]e need to support the nuclear power industry. Both are important to our country's future, and that is a win-win for everybody. (0013-132)

Comment: But greater conservation, and renewable energy, don't provide the baseload power we require to ensure the lights go on any time we flip the switch. Consider that today all renewable resources produce 2 percent of our electricity while nuclear power accounts for 20 percent, or one out of every five homes and businesses in the U.S. In Georgia, nuclear power provides more than 23 percent of the state's energy needs. The reality is we will require more from these sources, and all others in the years ahead. (0013-135)

Comment: It is clean, it is the only large-scale, emission free source of electricity that we can readily expand to meet our growing energy demand. The environmental impact at nuclear plants is far lower than many other types of power generating plants. (0013-137)

Comment: Now is the time for our country to build more new nuclear power plants to enable us to generate electricity with a clean, safe, and dependable source of power. (0013-140)

Comment: Nuclear power is our best source of dependable, cost effective, low emission energy. (0013-156)

Comment: Whereas the Mayor and Council of the City of Sylvania support the concept of nuclear energy, as a means of supplying a clean and reliable source of energy for the citizens of Georgia (0013-16)

Comment: Plant Vogtle has provided safe, clean energy for our state, (0013-70)

Comment: New nuclear energy plants are important in providing clean, safe, reliable energy for my generation, and for our future. (0013-88)

Comment: We have to be proactive and search for ways that will keep us productive, but also safe, and keep our environment clean. I have listened to both sides of the issues of nuclear power, and I'm more sold on nuclear power than I was two years ago. (0013-9)

Comment: I am a supporter of nuclear energy. I think it is one of the best of our currently limited alternatives for powering the nation. (0015-1)

Comment: I support maximum nuclear energy development in the United States in general. (0030-2)

Comment: [F]or those "environmentalists" who are Warmists, nuclear power should be manna from heaven, because it is the surest way to reduce carbon dioxide without creating Worldwide depression and starvation. (0030-6)

Comment: One of the best options for our ever increasing need for energy is nuclear power. With the improved technology for nuclear power plants, we have one of the most efficient, safe and non polluting forms of energy. Do not let the radical environmentalists deter us from becoming less reliant on fossil fuels. (0036-2)

Comment: [T]he Screven County Board of Commissioners supports the concept of nuclear energy as a means of supplying a clean and reliable source of energyfor the citizens of Georgia and elsewhere; (0055-1)

Comment: [T]he Mayor and Council of the City of Sylvania support the concept of nuclear energy as a means of supplying a clean and reliable source of energyfor the citizens of Georgia and elsewhere; (0056-1)

Comment: And these plants are essential in maintaining the reliability of the U.S. electric power system. Nuclear energy also has a minimal impact on the environment. In fact, nuclear plants have one of the lowest environmental impacts of any electricity fuel source. (0059-5)

Comment: More nuclear energy will help ensure clean, safe, reliable electricity for our state, our region, and the entire U.S. (0059-8)

Comment: There is public support for the use of nuclear energy, 70 % of Americans support nuclear energy. In Georgia alone, 94 % of Georgia Power residents support building new nuclear plants to meet the additional demand for electricity expected during the next 15 - 20 years. In fact, 91 % of the residents within 10 miles of Plant Vogtle believe nuclear power will play art important role in meeting future energy needs; 82 % say that nuclear units definitely should be built. (0060-10)

Comment: Nuclear power is a safe, reliable, cost-effective source of electricity. (0060-3)

Comment: Nuclear power is the second leading source of elecrticity after coal and it increases America's energy independence by decreasing our dependence on foreign oil. (0060-7)

Comment: Today, nuclear energy provides clean, reliable and low-cost electricity to 20 percent of our nation. These plants are essential in maintaining the reliability of the U.S. electric power system. (0062-3)

Comment: More nuclear energy will help ensure clean, safe, reliable electricity for our state, our region and the entire U.S. (0062-6)

Comment: Nuclear energy has a proven track record in Georgia and the United States, providing 20% of our nation's energy with unprecedented level of reliability. Nuclear power offers the safest most cost- effective, environmentally friendly, and reliable source of generation to provide stability in Georgia's energy future. (0063-3)

Comment: Today, nuclear energy provides clean, reliable and low-cost electricity to 20 percent of our nation. These plants are essential in maintaining the reliability of the U.S. electric power system. (0064-3)

Comment: More nuclear energy will help ensure clean, safe, reliable electricity for our state, our region and the entire U.S. (0064-6)

Comment: And these plants [nuclear power plants] are essential in maintaining the reliability of the U.S. electric power system. (0066-4)

Comment: More nuclear energy will help ensure clean, safe, reliable electricity for our state, our region and the entire U.S. (0066-7)

Comment: As we look to the future, nuclear energy will be essential in meeting our electric power needs not only in Georgia, but for the Southeast and our nation. Nuclear energy supplies electricity to one in five American homes and businesses. Moreover, nuclear power is low-cost, reliable and unlike other fuel sources, the cost is stable. One of the most important benefits of nuclear energy is it produces zero emissions, with a minimal impact on the environment. When you consider estimates that by 2030, 40 percent of the population of the United States is projected to live in the Southeast, there is an overwhelming need for base load power--nuclear will be critical to responding to this demand. (0069-2)

Comment: Nuclear power is a safe, reliable, cost-effective source of electricity. Its low production costs are matched only by its price stability, a marked contrast from the volatility of the price of natural gas. In addition, supporting nuclear energy encourages fuel diversity and energy independence. Adding additional nuclear units to plants such as Voglle is one way we can decrease our dependence on foreign oil. (0072-2)

Comment: Being a member of the Governor's Council on Rural Development, I have traveled over the state of Georgia and have witnessed the growth and economic development that abundant and cheap electrical power has produced. Also, it is a fact that our nation must become independent of foreign oil! Construction of nuclear power plants is the quickest and most reliable way to achieve this goal. (0079-1)

Comment: I am very much in favor of Nuclear Energy being, used in our country for generating electricity. (0123-1)

Response: *These comments express support for nuclear power in general. Because these comments did not provide new information, no change was made to the EIS.*

E.2.29 General Comments in Support of the Existing Plant

Comment: The plant that is in existence today has the best management team, that I know of. They have always treated me with respect, and like a professional. I believe in nuclear power because I believe in the men and women who run the plant. They are very capable of running the plant, because I have watched them for 30 years. I know of no other group of employees who are as knowledgeable about what they are doing, about nuclear energy. I appreciate what they are doing. I feel like they have the country, the state, the county, and the city at heart. Their families live with us. (0013-10)

Comment: Georgia Power and their parent company, the Southern Nuclear Operating Company, have a very long and very distinguished record of environmental responsibility and responsibility to the communities in which they are existing. (0013-116)

Comment: The Vogtle plant has been a reliable generator of electricity, for Georgia, for many years. And we hope it will continue to do so for many more in the future. (0013-141)

Comment: Plant Vogtle has a history of environmental stewardship, and safety. (0013-155)

Comment: I can say, on a personal note, as a year resident here, having an eight year old at home, and a five week old baby, that of all the things I worry about for their safety, and their well being,Â having Plant Vogtle in our community, and two nuclear reactors, is not even close to one of them. (0013-76)

Comment: Although Vogtle resides in a county adjacent to our service area, our relationship is mutually dependent and beneficial. We depend on Vogtle for clean, reliable power. (0013-78)

Comment: Georgia Power, and their parent company, Southern Nuclear Operating Company, have a long and distinguished record of environmental responsibility at their sites. Independent surveys have shown that the communities in which their plants are located, including Waynesboro, GA, have very high support and appreciation for their facilities and their company. (0053-2)

Comment: Southern Company wants to expand its current program and will continue to show energy independence through fuel diversity. Nuclear power provides 20 % of the nation's electricity and is a key element in a balanced fuel mix. (0060-6)

Comment: WHEREAS, The Alvin Vogtle Electric Generating Plant has been operating in Burke County for nearly 20 years; and WHEREAS, Plant Vogtle has had an excellent safety record for the life of its operation; (0071-1)

Comment: WHEREAS, Plant Vogtle has provided safe, clean energy for our state and jobs for our community; (0071-3)

Comment: WHEREAS, Waynesboro-Burke County is proud of our neighbors, Georgia Power and Plant Vogtle, for their record and history of producing safe, clean, reliable and affordable electricity for almost 20 years; (0075-1)

Comment: The cooperation between Georgia Power/Plant Vogtle and my office could not have been better. They (Georgia Power/Southern Nuclear) kept me informed of every aspect of the operation from day one! They (G.P/S.N) still keep me informed; updated on everything going on.

Their management team is and always has been the very best. The security department at Plant Vogtle is second to none!!! (0078-1)

Response: *These comments express support for the existing units at VEGP. Because these comments did not provide new information, no change was made to the EIS.*

E.2.30 General Comments in Opposition to the Licensing Action

Comment: I wish to express my opinion that the permitting of another nuclear power plant along the Savannah river would be unwise. (0010-1)

Comment: I strongly object to allowing any consideration of new nuclear reactors at Plant Vogle. (0011-1)

Comment: I stand in absolute, total, and complete opposition to these reactors being brought on line. We don't have solutions for the ones that we already have here... I'm in opposition. Because you can't guarantee the safety of this community. Your job is only to regulate it. (0013-186)

Comment: We already have, like, an International Paper, and the nuclear plant at the Savannah site. I don't think we need another one. And that is about all. (0013-201)

Comment: With so many risks discussed tonight, such as the fact that there is no safe level of radiation, and there has not been a solution of how to effectively handle nuclear waste, I believe it is a very dangerous threat to build two more nuclear plants. It is not worth the risk of the health of people of Georgia. There are so many problems like water loss, vapor, quality and climate change, and radioactive waste. All these issues will negatively impact the community of Waynesboro, and other parts of Georgia. (0013-214)

Comment: I am writing to encourage the Nuclear Regulatory Commission to deny Southern Company's request for permission to build two additional reactors at the Vogtle Nuclear Power Plant in Burke County. (0014-1)

Comment: Please vote to stop these two new reactors from being built. (0014-7)

Comment: Please deny the permit. (0017-4)

Comment: I do not support this permit. (0020-1)

Comment: Please do not issue permits for nuclear-power expansion to the Southern Company, at this time. (0025-7)

Comment: To me it seems that reason is on the side of renewables, not possible catastrophe with a high price tag. (0027-4)

Comment: Please deny the expansion. (0029-2)

Comment: As Georgians and as Americans, we strongly OPPOSE the Southern Company's proposal for two new nuclear reactors for the Vogtle facility in Burke County, GA. (0032-1)

Comment: Please!! Tell the The Southern Company, "No!" to this proposed expansion of nuclear capability. Georgia, the region, and the nation can do better. We must and we CAN, with your help. We're counting on you to act on behalf of us all, to counter the stealth-influence and access now coming to light as the Southern Company forwards their ends at the public's expense. YOU can make a REAL difference on this issue. Be part of a positive, more constructive future! We strongly urge you to reject the Southern Company's proposal to expand at the Vogtle facility. (0032-5)

Comment: In view of the aforementioned concerns and others, the proposed expansion of Plant Vogtle is NOT acceptable as it poses severe hazards to public health and environment and not in the best interest of ratepayers and taxpayers. (0037-25)

Comment: You are putting the greed of your industry ahead of the public good, and in the process are inadvertently writing off your own children, grandchildren, and those of your great-grandchildren who will be dealing with the lethal process of dismantling those dinosaurs--with fossil fuels, if any still exist. (0038-4)

Comment: The addition of two reactors to Plant Vogtle will have a large and unacceptable impact on the environment. (0040-1)

Comment: Let it be very clear- the environmental impact of two new reactors will be immense, and Greenpeace and its members stand in firm opposition to the expansion of Plant Vogtle. (0040-7)

Comment: Do not expand the nuclear power plant! (0046-1)

Comment: I am strongly opposed to an expansion of the Vogtle nuclear plant. (0048-1)

Comment: [T]he proposed expansion of Plant Vogtle is unacceptable as it poses severe risks to the ratepayer, taxpayer, public health and environment. (0050-20)

Comment: I'm here today to voice my concerns regarding the licensing of two new reactors at plant Vogtle. (0073-1)

Comment: THESE REACTORS SHOULD NOT BE BUILT. (0073-7)

Comment: We cannot afford to expand this industry at Vogtle. (0084-8)

Comment: The Southern Company has not demonstrated a strong record of protecting our environment historically; their plans should be highly scrutinized re: their environmental impacts; (0088-5)

Comment: I oppose the proposed construction of the new reactors cited above, (0094-1)

Comment: The proposed nuclear reactors at the Vogtle site are ill advised. (0106-1)

Comment: Please reject the proposal to build more reactor capacity at Plant Vogtle. The impacts considered are years out of date, as if your analysts had never heard of 9/11 or global warming. (0111-1)

Comment: Please reject this proposal for private profiteering at public expense -- a blatant example of "socialized energy," and a shameful attempt to cash in on the global emergency caused by the Greenhouse Effect. (0111-8)

Comment: I'm a resident of Georgia and am 100% opposed to Southern Nuclear Operating Company's (SNC) application for an Early Site Permit for two additional reactors at the VEGP site near Waynesboro, Georgia. (0114-1)

Comment: I do MOST STRENUOUSLY PROTEST the addition of two nuclear reactors to Plant Vogtle. I am convinced that this addition will impact most unfavorably - tragically - on the environment both locally and for the the length of the Savannah River. (0125-1)

Response: *These comments express opposition to the Southern early site permit application. Because these comments did not provide new information, no change was made to the EIS.*

E.2.31 General Comments in Opposition to the Licensing Process

Comment: I'm here representing Nuclear Information and Resource Service, in opposition to this apparent readiness, by the regulators, to grant an Early Site Permit for what we really have to, honestly, call Vogtle 5 and 6. (0013-103)

Comment: Expanding Vogtle will affect not just this local community but Georgia, as a whole, and our region overall. We disagree with the NRC recommendation in the Draft Environmental Impact Statement, that supports approval of the Early Site Permit. (0013-20)

Comment: Here, in Burke County, I see it appears, by this process, that that injustice is going to be perpetuated again. Now, this process appears, to me, to be in the best interest of profit,

and not in the best interest of the people, not in the best interest of public health, not in the best interest of the environment, that is a part of the NRC's mission. (0013-33)

Comment: This Draft Environmental Impact Statement is a process of perpetuating the harm. Listen, it says, small impact. This is some of the community that we work with. They are already burdened, and then you want to add two more. That impact may not show right away. But, guess what? It will eventually show up. By that time you and I will be gone. So what I'm saying to you, saying to myself, is to listen to the voice of caution. (0013-35)

Comment: These communities are already heavily burdened by pollution in the area. You have the power, you have the power of choice to look into this assessment and make a choice not to approve, not to grant this. (0013-37)

Comment: NRC, let us show some change in the interest of preventing harm, and not permitting it. (0013-42)

Comment: I believe the Draft Environmental Impact Statement should be reconsidered, and we should have some solid answers before the Early Site Permit is approved. (0013-53)

Comment: And then I just want to say that closing this EIS down, holy mole, closing this EIS down before you get the reactor license is just wrong, and just don't do it. It is just crazy to think you can look years down the road, in this era of rampant development, and you can predict what environment a plant might be built in, in 27. (0013-67)

Comment: I am a taxpayer in Georgia and I have a deep concern that I am BANKROLLING THE VOGTLE NUCLEAR PROPOSAL in what appears to be a misguided plan. I am asking for this proposal to abandoned. (0035-1)

Comment: ECO-Action is opposed to the Nuclear Regulatory Commission (NRC) recommendation in the draft Environmental Impact Statement (EIS) that supports approval of the early site permit. If Plant Vogtle expansion is permitted, its negative impact will not be limited to the local community in Burke County, but Georgia as a whole and the Southeast region. (0037-1)

Comment: A lack of a comprehensive review of the Vogtle expansion proposal is evident in the draft EIS. We request NRC to conduct a comprehensive review of the Vogtle expansion proposal. It is the NRC's responsibility to ensure that a full environmental impact review is done. In the final analysis, we hope that NRC recommendation in the final EIS will suggest a need to abandon this risky nuclear expansion. (0037-24)

Comment: We disagree with the Nuclear Regulatory Commission (NRC) recommendation in the draft Environmental Impact Statement (EIS) th at supports approval of the early site permit.

Expanding nuclear Plant Vogtle will affect not just this local community in Burke County, but Georgia as a whole and our region overall. (0050-1)

Comment: [W]e do not believe that an adequate review was done by the NRC in the draft EIS. (0050-19)

Comment: The ESP approval should be deferred pending solid answers. (0068-10)

Comment: Without these considerations [impacts of nuclear power on global warming] the claim that this document addresses the next 2 decades is not credible. (0091-12)

Comment: We find ourselves in this bad situation because of the activities of corporations including Southern Company. Rewarding them with a 20-year pass to expand their thermal operations will neither serve the climate crisis -- nor the development of the US-domestic / local based energy base that we so desperately need to be investing in at this juncture. Georgians need and want and DESERVE clean, safe energy choices such as energy efficiency, wind, solar, and biopower and do not need any more dangerous nuclear reactors forced on us. (0091-15)

Comment: The US NRC is participating in a distressing and dangerous delusion on the part of the US Federal government -- that if the Commission simply puts its head in the sand -- the problem of the climate crisis and the potential impacts that it might have on an expansion of operations at the Vogtle site, will simply "go away." ... We would prefer that the US NRC lead -- and hold its head high-- in considering with a level head (not its posterior) what the possible consequences of the climate crisis might be -- and therefore what the potential impacts might be on the operations at the Vogtle site. (0091-24)

Comment: We disagree with the Nuclear Regulatory Commission (NRC) recommendation in the draft Environmental Impact Statement (EIS) that supports approval of the early site permit to expand nuclear Plant Vogtle. (0110-1)

Comment: I request the NRC deny issuing the permit. In it's present form, the ESP does not adequately protect or promote the public good. (0114-2)

Comment: Even if they can satisfactorily explain the increased draw on the Savannah River in light of the drought I urge the Commission to deny the ESP for the other reasons stated above. (0120-6)

Comment: We sincerely hope that you will revisit the permitting application process and deny Southern Company the permit for these reactors. We believe it is the only sensible and precautionary thing to do. (0122-2)

Response: *These comments express opposition to NRC's licensing process. Because these comments did not provide new information, no change was made to the EIS.*

E.2.32 General Comments in Opposition to Nuclear Power

Comment: I am very uncomfortable with nuclear power period. (0005-1)

Comment: Nuclear Power is a stupid way to generate electricity. It is costly, dangerous, and impractical. Nobody in the private sector would ever invest in it because it is not a pragmatic option for electrical generation. (0005-6)

Comment: Please reconsider any further development of a nuclear system. It is a poor option for electrical generation... (0005-8)

Comment: The Savannah River basin and nearby communities are already suffering; building more nuclear reactors will only make this situation worse. (0006-1)

Comment: We the People have no need for more poisonous nuclear reactors in Georgia. (0007-1)

Comment: To continue down a failed path like nuclear energy despite all the negatives associated with it, and to willingly saddle our descendents with the radioactive waste it produces, is morally wrong. It's like spitting in your own grandchildren's faces. (0007-8)

Comment: The greed of the nuclear industry knows no bounds. You are poised to be the largest welfare recipient in the history of Man, apparently have no shame, and clearly don't give a damn about the future of life on this planet, since you now would sacrifice your own children and grandchildren to the god of money. (0009-1)

Comment: Greenpeace stands in very firm opposition to the issuance of the Early Site Permit, and the expansion of nuclear energy, at all, in Georgia or anywhere else. (0013-93)

Comment: We are responsible for the health of our environment, and the future generations. It is time people speak out against nuclear for negatively affected people, and for our future, and not for the health and longevity of corporations in the southeast. (0013-200)

Comment: Five hundred years from now, if we continue using this nuclear power, this is probably just going to be a bunch of wasteland depleted by acid rain, and stuff. (0013-208)

Comment: And good stewardship means that you use what is there, at your disposal, and you leave it in good condition for those who follow. Nuclear energy does not give us an option to do that. (0013-212)

Comment: We have credible evidence that nuclear power plants is dangerous, is costly, and actually the radiation from it kills. (0013-34)

Comment: nuclear power is dangerous, it is costly, and totally unnecessary. (0013-40)

Comment: Please realize that nuclear power is not safe, it is not clean, and it certainly is not cheap. (0013-47)

Comment: To revisit nuclear power after some thirty years appears not by design but by default. (0014-6)

Comment: I am opposed to nuclear power in general. (0022-1)

Comment: Please do not expand nuclear program. (0023-1)

Comment: There should be no nuclear expansion in Georgia - it is time to let go of the assumption that nuclear generated power can be a major energy source. It is not a viable technology that warrants the continued expenditure of time and money, both of which are in short supply. (0028-1)

Comment: David Fleming, founder of The Lean Economy Connection, states, "The nuclear power industry is living on borrowed time in the sense that it has not yet had to find either the money or energy to reinstate its mines, bury its wastes and decommission its reactors." (0028-8)

Comment: Nuclear power generation was an experiment in the 20th century that has failed to live up to its promises - it has no place in the 21st century. (0028-9)

Comment: The Southern Company is ignoring the clear indicators that nuclear is NOT the way to go forward. Permitting this kind of expansion would be terrible step backward at a critical time for life on earth. (0032-2)

Comment: Dear Nookers: You may not have gotten the word: nuclear power is declining everywhere for the obvious reason that it is the worst idea ever concocted by Man. In my view it is already dead and you cannot resuscitate a corpse. (0038-1)

Comment: You cannot do Arthur Anderson/Enron bookkeeping and expect all members of the public to fail to see the dishonesty in it. (0038-3)

Comment: I am opposed to any more nuclear reactors being added to our country. (0047-1)

Comment: It is one of the most irresponsible acts to intentionally harm citizens that you are sworn to represent. Vogtle as well as other nuclear power plants across Georgia have some of the worst enviromental and health records for the surrounding communities. Contamination leaks in waterways, workforce dying of cancer-- what do you need to make the right decision. Drought ridden state and the design is to add two new sites that will drain whatever resources we may have to draw from. Its brilliant and really can only be driven by the desire for the almighty dollar. Disgusting abuse of power or purchase of power anyway. (0081-1)

Comment: No more nuclear power for Georgia (0082-1)

Comment: I am opposed to nuclear power in general. (0083-1)

Comment: Nuclear power is a luxury approach to our energy problems, not to mention an unimaginative one that has been a proven failure in the last three decades of such financial magnitude as to have completely destroyed the trust of the investment community. The industry was essentially dead after the minor accident at Three Mile Island, until those with big investments at risk created legislation to compel the taxpayer to fund the moribund experiment with subsidies. (0084-2)

Comment: We cannot afford ... to continue the attempt to revive this dead thing called the nuclear industry. (0084-9)

Comment: No more nukes in Georgia. (0086-1)

Comment: Nuclear power plants are not an efficient source of energy in terms of global warming and other environmental problems. The costs are too high when the residents nearby could lose their homes and property and health and not be compensated properly. (0100-6)

Comment: The environmental impact is clear--dirty and dangerous. (0104-1)

Comment: Committing suicide is one thing, but mass murder is another. You are being left behind by a burgeoning renewable energy tidal wave. Nuclear energy is already dead. Make a decision now to do something in the public interest instead of your own personal interest. Your mother is watching. (0105-1)

Comment: Enclose please find over 350 signatures from Georgia citizens and others from the Southeast region who oppose a nuclear expansion in Georgia that includes the possible construction of two new nuclear reactors at Plant Vogtle in Burke County, Georgia...Atlanta WAND stands opposed to the construction of new nuclear reactors at Plant Vogtle, or anywhere in Georgia. (0122-1)

Comment: We, citizens of the United States, and residents of Georgia are opposed to the development of any new nuclear power facilities in Georgia. (0122-3)

Response: *These comments express opposition to nuclear power in general. Because these comments did not provide new information, no change was made to the EIS.*

E.2.33 Comments Concerning Issues Outside Scope – Emergency Preparedness

Comment: If there is an environmental impact, and an emergency, how are the emergency people supposed to handle it? We need this analysis. (0013-58)

Comment: 8) Evacuation plans must extend beyond the current 10 mile limit. If sheltering in place is the preferred option, then all residences and schools within a 50 mile radius must be prepared at the expense of the utility, for such an emergency. Since this is not an expense that would be incurred with any other electric generating option, the cost will immediately render moot consideration of this nuclear option. (0024-12) (0087-15) (0090-15)

Comment: Evacuation plans must extend beyond the current 10 mile limit. If sheltering in place is the preferred option, then all residences and schools within a 50 mile radius must be prepared at the expense of the utility, for such an emergency. Since this is not an expense that would be incurred with any other electric generating option, the cost will immediately render moot consideration of this nuclear option. Addition: Some original anwers were elicited after the TMI#2 accident. Some school bus drivers who were supposed to evacuate children stated that they would leave to take care of their own. Have the licensee or NRC asked this of the local school bus drivers? (0026-11)

Comment: Discuss evacuation planning in conjunction with a severe accident at SRS. (0034-10)

Comment: Evacuation plans should extend beyond the current 10-mile limit. If sheltering in place is the preferred option, then all residences and schools within a 50 mile radius should be prepared at the expense of the utility, for such an emergency. (0087-14) (0090-14)

Comment: Questions...evacuation routes,...all should be carefully considered in any Environmental Impact Statement. (0093-4)

Response: *The comments on emergency preparedness are outside the scope of the EIS and will not be considered further in the staff's environmental review. An evaluation of emergency preparedness issues will be part of the safety evaluation report (see 10 CFR 52.18). Because these comments did not provide new information, no change was made to the EIS.*

E.2.34 Comments Concerning Issues Outside Scope – Miscellaneous

Comment: And they are just itching to reprocess nuclear waste, one of the dirtiest aspects of the whole business. They want to build more bombs, and allocate lots of money for the national emission facility, so as to maintain an old and cultivate a new generation of weapons designers. They want to build weapons in space under the guise of missile defense. And to demonstrate their profound regard for future generations, they are willing to divert funds earmarked for cleaning up the mess, to their exciting new projects. What this situation calls for is a little, actually a lot of citizen intervention. (0013-168)

Comment: I understand that at the Homestake mill tailing dump there is 45 square miles of contaminated aquifers. I photographed men who had lost their kidneys and teeth and parts of their lungs, a woman who had lost her sight, children of miners who had lost their health as well. This is nowhere listed in the impact statements of nuclear plants on the books, and I believe that is a grievous mistake. Will this be rectified, or will you continue to be a party to these crimes? I believe it is indeed a crime to work in the government and give the OK for more of the same. People are living wretched lives because of the OK's given by the NRC. (0043-2)

Comment: All governmental support should be in areas that do not use fossil fuels. All oil company lobbyist should find new jobs. (0047-3)

Comment: As the NRC contemplates which applications to move to the top of the pile for approval, they should consider those areas that will have the hardest time meeting Renewable Portfolio Standard. Wind and solar are not cost-effective carbon alternatives for Georgia. Nuclear power, on the other hand, would be a cost-effective solution. (0058-3)

Comment: It is the state's responsibility to be good stewards of our natural resources; ...hopefully the state will embrace this stewardship responsibility now and in the future. (0088-8)

Comment: The possibility of out-of-country ownership (to whatever percentage possible under curent law) is critical to the EIS for many reasons including the ability of the Federal government to enforce necessary impact laws if events that occur affecting the enviroment. The unknown financial resources of whatever future owner must be considered as a possible impact angle in this EIS. (0098-4)

Response: *The comments do not provide information relevant to the EIS and are outside the scope of this environmental review, and thus were not evaluated further. No change was made to the EIS as a result of these comments.*

E.2.35 Comments Concerning Issues Outside Scope – NRC Oversight

Comment: A coal plant can legally kill only one person in a million, but one in 10,000 can die legally from the NRC regulations. So I can't -- I hope that you will eliminate that part in your presentation, because I don't see protection of public health when it is 100 times more deadly to make power in this fashion. (0013-145)

Comment: I think it is interesting to note that the people who are charged with making sure that this is an okay place to put a nuclear facility is the Nuclear Regulatory Commission. And I'm just interested what would happen if you decided, and I'm sure that you all really competent in doing your job. But your job depends on this being a reality in the future. And we are all entrapped in systems in which we wouldn't, you know, the nature of a system is to propagate itself. And so I think that an independent review should maybe be conducted by somebody whose job doesn't depend on nuclear energy being our future. (0013-180)

Comment: But the issue I have is the bureaucracy of the NRC. Because we have to make a choice of what is our limit as far as what are we willing to accept as a risk. And I don't think there should be a risk. I don't think we should have to weigh our options and have a cost benefit analysis of whether our kids will get cancer, or whether our water will be poisoned. (0013-187)

Comment: We have grave concerns that too many permits are occurring at the same time with Plant Vogtle: a license renewal, an early site permit, and an upcoming application for a combined construction and operating license. Can the NRC keep up with all of this in a manner that is truly protective of public health? (0050-18)

Response: *The NRC takes seriously its statutory responsibilities to protect the health and safety of the public and the environment in regulating the U.S. nuclear power industry. More information on NRC's roles and responsibilities is available on the NRC's website at http://www.nrc.gov/about-NRC.html. While the Atomic Energy Act of 1954 previously defined a role for the Atomic Energy Commission in formulating national energy policy, the Act, as amended in 1974 by the Energy Reorganization Act, formed the NRC from the Atomic Energy Commission's regulatory division to regulate the nuclear power industry. The Energy Reorganization Act re-assigned the Atomic Energy Commission's national policy role to the Energy Research and Development Administration, which later became the DOE. The NRC has no role in promoting nuclear power. Rather, the Congress and the President establish the energy policy of the United States, and the DOE implements that policy at the direction of the President. The NRC was created by Congress and designed so that it would not report to the same part of the government that was in charge of setting energy policy (i.e., any current Administration). The NRC's process for early site permit applications is set forth in 10 CFR Part 52 Subpart A. Requirements for the applicant's environmental report are specified in 10 CFR 51.45, 51.50, and 52.17. The NRC staff is required to conduct an independent assessment of the information and conclusions provided in the environmental report as specified by 10 CFR*

51.41 and 52.18. The public has been given the opportunity to participate in the rulemaking process that established the regulations that govern its review process. The comments did not provide new information relevant to this EIS and were not evaluated further. No change was made to the EIS as a result of these comments.

E.2.36 Comments Concerning Issues Outside Scope – Safety

Comment: The Southern Company's questionable safety record (see today's Atlanta Journal and Constitution article about safety issues at the Farley nuclear plant in Alabama) is only one of many reasons that new nuclear plants should not be permitted. (0011-2)

Comment: I would like to see, on the part of the EIS, to where you consider the fact that Charleston fault line, that goes from Charleston, and then it goes west, I want that to be in the EIS. (0013-113)

Comment: And I also want you all to consider that the fuel pools that are over at Plant Vogtle now, could they take an earthquake, if it was to come?... And that would include the fuel pools, also. So in your Environmental Impact Statement please consider, please figure it out about the reactors need to be able to withstand an earthquake of maybe 5, and the fuel pools, also. (0013-114)

Comment: The second important fact is that there have been continuous improvements in safety performance over the last years... And because of Three Mile Island we have an improved safety culture within the industry. Improved regulations, improved training, and improved safety systems. These improvements have contributed to an excellent safety record, which is second to none in industry. (0013-120)

Comment: It is safe. In fact, the U.S. Bureau of Labor Statistics has shown that it is safer to work at a nuclear power plant than in the manufacturing sector and even in real estate, and the financial industries. (0013-138)

Comment: I would like to see the EIS consider, has to do with the newly proposed NRC rule change with respect to reactor vessel requirements, specifically regarding how pressurized water reactors account for aging, the aging of vessels. And how, in particular, I was disturbed by one of the quotes that I saw when this came through. "Increasing the realism of calculations." And what I'm curious about is how this will impact the assessment of risk for reactor vessel cracks during emergency or sudden cooling events. So many of you are familiar with this in terms of pressurized thermal shock, or PTS. So if that could be addressed, with respect to these new reactors. (0013-147)

Comment: This was from 2006, not this last 2007 summer; Minnesota's Monticello and Prairie Island units had to be shut down; Illinois Quad City, Zion, and Dresden unit. There is a whole

long list of reactors that have to deal with water that is hot, in the river, in their water source. It is already hot. And then you are going to take that hot water and put it in hotter, back in the river. (0013-173)

Comment: Why are we teaching our children, today, that nuclear power is safe? It is not safe. (0013-207)

Comment: Plant Vogtle has an excellent safety record for the life of its operation, (0013-68)

Comment: I have first hand knowledge of safety level at a nuclear power plant. Safety is the first priority in operating nuclear plants. Safety was emphasized during plant design and construction, and it is emphasized daily in oversight, training of employees, validation of monitoring instruments and controls, and testing of safety systems. Nuclear plants are among the safest work places in the United States. (0013-87)

Comment: Get serious about the safety of the planet and the people. (0019-2)

Comment: Require a low-density, open-frame layout for fuel pools: Fuel pools were originally designed for temporary storage of a limited number of irradiated fuel assemblies in a low density, open frame configuration. As the amount of waste generated has increased beyond the designed capacity, the pools have been reorganized so that the concentration of fuel in the pools is nearly the same as that in operating reactor cores. If water is lost from a densely packed pool as the result of an attack or an accident, cooling by ambient air would likely be insufficient to prevent a fire, resulting in the release of large quantities of radioactivity to the environment. A low-density, open-frame arrangement within fuel pools could allow enough air circulation-to keep the fuel from catching fire. In order to achieve and maintain this arrangement within the pools, irradiated fuel must be transferred from the pools to dry storage within five years of being discharged from the reactor. (0057-3)

Comment: Establish hardened on-site storage (HOSS): Irradiated fuel must be stored as safely as possible as close to the site of generation as possible. Waste moved from fuel pools must be safeguarded in hardened, on-site storage (HOSS) facilities. Transporting waste to interim away-from-reactor storage should not be done unless the reactor site is unsuitable for a HOSS facility and the move increases the safety and security of the waste. HOSS facilities must not be regarded as a permanent waste solution, and thus should not be constructed deep underground. The waste must be retrievable, and real-time radiation and heat monitoring at the HOSS facility must be implemented for early detection of radiation releases and overheating. The overall objective of HOSS should be that the amount of releases projected in even severe attacks should be low enough that the storage system would be unattractive as a terrorist target. Design criteria that would correspond to the overall objective must include: - Resistance to severe attacks, such as a direct hit by high-explosive or deeply penetrating weapons and munitions or a direct hit by a large aircraft loaded with fuel or a small aircraft loaded with fuel

and/or explosives, without major releases. - Placement of individual canisters that makes detection difficult from outside the site boundary. (0057-6)

Comment: Require periodic review of HOSS facilities and fuel pools: An annual report consisting of the review of each HOSS facility and fuel pool should be prepared with meaningful participation from public stakeholders, regulators, and utility managers at each site. The report must be made publicly available and may include recommendations for actions to be taken. (0057-8)

Comment: Dedicate funding to local and state governments to independently monitor the sites: Funding for monitoring the HOSS facilities at each site must be provided to affected local and state governments. The affected public must have the right to fully participate. (0057-9)

Comment: They [Southern] have been operating nuclear plants safely and reliably for more than 25 years. (0060-4)

Comment: Southern Company has a proven track record of operating three nuclear power plants at very high levels of reliability, with an average three-year fleet capacity factor of more than 90 percent. (0061-3)

Comment: We suggest that the following issues should be considered: Impact of turbulent weather -- on area electric power grids both in terms of frequency of outages = and potential for longer duration of power outages[.] Impact of increased power outages -- both in frequency and duration on 4 reactors at the Vogtle site -- including the impact on the potential for station blackout. Impact of increased potential for station blackout on overall risk associated with reactor operations. (0091-8)

Comment: We suggest that the following issues should be considered: Impact of turbulent weather on all aspects of site operations -- including on-site storage of waste. (0091-9)

Comment: SNC's ESP application for Vogtle contains no safety assessment of the proposed new reactor and, therefore, cannot demonstrate a low probability of accidental releases of fission products. (0107-6)

Comment: We oppose new nuclear reactors based on safety concerns... (0122-4)

Response: *The issues raised in the comments are outside the scope of the environmental review and are not addressed in the EIS. The safety assessment for the proposed licensing action was provided as part of the application. The NRC is in the process of developing a safety evaluation report that analyzes siting-related aspects of reactor and operational safety. The following are examples of how NRC addresses operational safety issues. NRC maintains resident inspectors at each reactor site. These inspectors monitor the day-to-day operations of*

the plant and perform inspections to ensure compliance with NRC requirements. In addition, the NRC has an operational experience program that ensures that the safety issues that are found at one plant are properly addressed at the others, as appropriate. No change was made to the EIS as a result of these comments.

E.2.37 Comments Concerning Issues Outside Scope – Security and Terrorism

Comment: Security -Nuclear plants are vulnerable to terrorist attacks and sabotage; building more nuclear reactors will only make this situation worse by providing more targets. -Plant Vogtle is also very close to the Department of Energy's Savannah River Site, which stores a large portion of the nation's weapons-grade plutonium and other dangerous materials. If an accident or successful terrorist attack occurred, the full impacts to human health and the environment in this region would be immense. (0006-7)

Comment: Vogtle would have 4, even though they are called 5 and 6. So, you know, you are going to be number one in the commercial fleet, in the age of the war on terror, okay? And where is Vogtle? Federal agency please talk to your other federal agencies. I don't particularly like Savannah river site's mission. But there is a national security concern about a loaded gun with two units pointed at Savannah river site, whether it is internal malicious event, accident, hurricane, I don't care. Prepiat could be Savannah river site, Savannah river site could be Prepiat. I think that should be analyzed in this EIS. (0013-104)

Comment: Many folks brought up questions regarding terrorism, inside sabotage potentially, or accident, and how this might come into play, particularly since this is a unique site, that is in the vicinity of the Savannah river, the Barnwell facility and several others. The NRC must consider this in a serious and meaningful way. (0013-150)

Comment: Each nuclear power plant, and its cooling pond, is a pre-placed nuclear bomb to any determined terrorist wishing us harm. As a footnote, spent fuel bursts into flames when it is exposed to air. (0013-165)

Comment: I don't agree with nuclear power. I think it is kind of dangerous considering that we are in the middle of a terror war. And, again, we are only thinking about ourselves, and the money in our pocket that comes from it. It takes the average, typical, eight year old today can hack into the computer system and disable all of our electronic security. It takes one person to infiltrate the faculty and facility, and walk in there with a briefcase with a nuclear bomb. So you are actually having a nuclear attack and, basically, everyone within a 70 mile radius would die instantly, tens of thousands of people would die instantly, hundreds of thousands of people would die later from the aftermath. I mean, what good is energy if we are not alive to use it? (0013-205)

Comment: The PSC review did not address the implications of future security regulations that the federal government is responsible for addressing which, thus far, it appears NRC is also neglecting in this Environmental Impact Statement review. Our point is that these uncertainties all have potential, and serious, negative impacts on ratepayers as well as taxpayers. So don't ignore these, or you will be harming the entire ratepayer population in our state. (0013-24)

Comment: I'm concerned about security. Nuclear power plants present a prime target for terrorists. The effects of a nuclear disaster, intentional or otherwise, would be devastating. (0013-46)

Comment: I have security concerns. The old- fashioned carrying an explosive device, in a backpack, into a sensitive area. I know there are multiple levels. But just this last month we have had six nuclear weapons carried out and loaded in a B-5 bomber, through six levels of security. Additionally it has now been revealed that a high altitude detonation has the ability to defeat electronic controls, and send a power facility out of control. And, as of last week, it was revealed no site is safe from hackers, to override electronic 7 computer controls, and this was demonstrated to result in equipment failure. Last month the Department of Energy moved to transfer this nation's plutonium to the Savannah river site. With four nuclear reactors on our side of the river, and the Department of Energy, and plutonium on the other side, this presents an even larger footprint for a target for terrorists... In the case of a critical event our plutonium across the river may be compromised. And if security fails, unlike September 11th, and the twin towers, the greater Savannah river area will become a sacrificial area forever. I think the Draft Environmental Impact Statement needs to address security concerns (0013-49)

Comment: [I]t was articulated wonderfully, a uniquely hazardous site here, with a concentration of nukes. There is Barnwell 2, and if we have two more reactors, which is what you are looking at, this is really an issue here. (0013-59)

Comment: Nuclear power is dangerous. Everybody has talked, or several people have talked about the fact that every new nuclear power plant is another potential terrorist target. And we don't want any more of those here. We don't any more in Georgia, and we don't want any more anywhere else. And every power plant also increases the likelihood of a Chernobyl sized incident. (0013-96)

Comment: The long term danger of nuclear reactors is not worth ... the temptation of those who would harm us. (0023-4)

Comment: The spent fuel pool must be located in such a hardened facility that it will be impervious to a terrorist attack, including an airplane or rocket attack. (0024-9) (0026-7) (0087-12) (0090-12)

Comment: Has the dept of homeland security offered any comment, help or promise of security? (0026-9)

Comment: TERRORISM AND INSIDER SABOTAGE are not considered in the EIS. This uniquely dangerous location has the whole of Augusta, Aiken, Savannah River Site and Barnwell within the 50-mile Vogtle radiation emergency zone. Even without adding two new reactors the area has a uniquely high concentration of dangerous nuclear facilities. The NRC is under increasing pressure to take up the terrorism issue, having been ordered to by the Ninth Circuit in California. Point of fact, DOE decided in December 2006 to consider terrorism and insider sabotage at all new DOE facilities, both nuclear and non-nuclear. The NRC must consider such impacts in this and all other EISs. (0034-2)

Comment: TERRORISM AND INSIDER SABOTAGE are not considered in the EIS. This uniquely dangerous location has the whole of Augusta, Aiken, Savannah River Site and Barnwell within the 50-mile Vogtle radiation emergency zone. Even without adding two new reactors the area has a uniquely high concentration of dangerous nuclear facilities. The NRC is under increasing pressure to take up the terrorism issue, having been ordered to by the Ninth Circuit in California. Point of fact, DOE decided in December 2006 to consider terrorism and insider sabotage at all new DOE facilities, both nuclear and non-nuclear so it's high time NRC gets on board. (0035-2) (0054-1) (0094-2) (0098-8) (0103-1) (0112-1)

Comment: I am against it [expansion of the Vogtle nuclear plant] ... because of the possibile outcomes from security disasters. (0048-5)

Comment: 1) the draft Vogtle EIS fails to analyze the impacts of a terrorist attack or insider sabotage at a uniquely dangerous reactor site (two reactors already there with large inventories of irradiated fuel in pools ... and across the Savannah River the 300-square-mile nuclear weapons compound, Savannah River Site) (0049-1)

Comment: The PSC review did not address the implications of future security regulations that the federal government is responsible for addressing which thus far it appears NRC is also neglecting in this EIS review. (0050-23)

Comment: [I]rradiated fuel at reactor sites remains vulnerable to accidents and attacks. The undersigned organizations' support for improving the protection of radioactive waste stored at reactor sites is a matter of security and is in no way an indication that we support nuclear power and the generation of more nuclear waste. (0057-2)

Comment: Protect fuel pools: Irradiated fuel must be kept in pools for several years before it can be stored in a dry facility. The pools must be protected to withstand an attack by air, land, or water from a force at least equal in size and coordination to the 9/11 attacks. The security

improvements must be approved by a panel of experts independent of the nuclear, industry and the Nuclear Regulatory Commission. (0057-7)

Comment: A review of security concerns: 1 .)The old fashioned carry an explosive device in a backpack into a sensitive area. (0068-1)

Comment: A review of security concerns:...2.)Additionally it has now been revealed that a high altitude detonation has the ability to defeat electronic controls. (0068-2)

Comment: A review of security concerns:...3.)As of last week it was revealed no site is safe from hackers to override electronic/computer controls, and as was demonstrated result in equipment failure. (0068-3)

Comment: A review of security concerns:...4.) Last month the DOE moved to transfer this nation's plutonium to the SRS. In the case of a critical event our plutonium may be compromised. If security fails, unlike September 11 and the twin towers, the greater Savannah River Area will become a sacrificial area forever. (0068-4)

Comment: I'm concerned about security. Nuclear power plants present a prime target for terrorists. The effects of a nuclear disaster intentional or otherwise would be devastating. Why are we willing to risk such consequences? (0073-5)

Comment: I think we deserve a safer, more defensible power generation system, and suggest that nuclear power generation, and its expansion, are contrary to the President's goals and those of the Department of Homeland Security. Distributed energy sources should be considered a huge benefit rather than a detriment, because they eliminate the centralized plant and extensive distribution infrastructure characterizing nuclear power that are so vulnerable to terrorist attack. Distributed, safe, low-power energy generation provides no targets for bombing or sabotage because the removal of any one node of a distributed network is inconsequential for the country as a whole, unlike the massive disruption that would accompany accompany the crippling of any one large central generating plant that can easily ripple throughout the energy grid with blackouts across the country. (0084-6)

Comment: Finally, terrorists attacks, including that of a fully fueled jetliner, against the control rooms, spent fuel pools and the reactor containment buildings of all 4 Vogtle reactors should be considered. (0087-16) (0090-16)

Comment: Nuclear plants are vulnerable to terrorist attack and sabotage; building more nuclear reactors will only make this situation worse by providing more targets. -Plant Vogtle is also very close to the Department of Energy's Savannah River Site, which stores a large portion of the nation's weapons grade plutonium and other dangerous materials. If an accident or

successful terrorist attack occurred, the full impacts to human health and the environment in this region would be immense. (0091-21)

Comment: One concern I have is that the EIS does not consider the risk of a terrorist attack. If two new reactors are built, added to the two existing reactors, and the large amount of radioactive material at the adjacent Savannah River Site, this means that there will be a very large amount of nuclear material in the same area. This facility is also in close proximity to a large population center. It is critical that any expansion take into account the risk of a terrorist attack. (0093-1)

Comment: The terrorist concern remains extremely high. There is no way to make any nuclear plant safe from a determined terrorist who would commit suicide to harm US citizens. (0100-7)

Comment: I am concerned about ... the potential that it could become a terrorist target. (0102-4)

Comment: Is it true that the spent fuel cooling pools are virtually unprotected from an air attack? What would be the environmental impact of an air plane being flown into a cooling pool? (0106-2)

Comment: I respectfully remind the Commission that there was a repeat of the hijacking of 4 airplanes to do harm first on September 1970 repeated on 9-11-2001. The 1970 hijacking was in Africa of 4 El Al passenger jets by a PLO leader of the name of Arafat since deceased. The 9-11-2001 hijacking ended in 3000 American lives lost and the mastermind still at large.The frequency and inability to cope with this sort of hijacking and subsequent destruction really is not covered in any NRC document that I have come across. Since the Homeland Security Dept has a penchant to put everything in classified status , I cannot say if it is covered by them, but their inability to handle disasters such as Katrina and the Southern California fires recently does not give me a good feeling that they can do much adequately. How about covering this problem in the EIS? (0108-1)

Comment: The Vogtle site is risky due to two existing reactors in operation as well as other nuclear facilities within just a few miles. And, what are the security considerations for the many workers who would be on the site, when employee and contractor monitoring and surveillance could be compromised? Have full considerations to these security risks been evaluated? (0109-1)

Comment: the draft Vogtle EIS fails to analyze the impacts of a terrorist attack or insider sabotage at a uniquely dangerous reactor site (two reactors already there with large inventories of irradiated fuel in pools ... and across the Savannah River the 300-square-mile nuclear weapons compound, Savannah River Site) (0111-2)

Comment: And in the event of a catastrophe, through terrorism or otherwise, our entire region would pay the ultimate price. (0111-7)

Comment: The article [December 25, 2007, Baltimore Sun] also references a technical improvement that will make the containment more robust and deserves incorporation into all new reactor construction and retrofit onto all existing reactors. The article below describes this as a double walled concrete containment that would withstand a terrorist attack by a commercial air- liner. (0113-4)

Comment: It does not take into account the threat of a terrorist attack on the new reactor. The situation is particularly dangerous because there are already two other reactors at the site with their pools of irradiated fuel and because the site is close to the Savanna River Plant belonging to the US Department of Energy, where plutonium is stored. (0116-2)

Comment: the dangers of terrorism and insider sabotage at Nuclear sites: - nuclear power plants have shown lax security in the past with 50% penetration in mock attacks, even when security KNEW the dates & times of infiltration. - Cooling ponds are even more vulnerable than the reactors themselves. The spent fuel in these ponds would burst into flames if exposed to air, dispersing radioactivity widely. - It is very doubtful whether a reactor could withstand impact from a 911 airliner attack - It should be noted that wind and solar panels do not spread extremely long-lived toxins when blown up. (0124-1)

Response: *The NRC is devoting substantial time and attention to terrorism-related matters, including coordination with the Department of Homeland Security. As part of its mission to protect public health and safety and the common defense and security pursuant to the Atomic Energy Act, the NRC staff is conducting vulnerability assessments for the domestic utilization of radioactive material. In the time since the horrific events of September 2001, the NRC has identified the need for license holders to implement compensatory measures and has issued several orders to license holders imposing enhanced security requirements. Finally, the NRC has taken actions to ensure that applicants and license holders maintain vigilance and a high degree of security awareness. Consequently, the NRC will continue to consider measures to prevent and mitigate the consequences of acts of terrorism in fulfilling its safety mission. Major NRC actions include the following: Ordering plant owners to sharply increase physical security programs to defend against a more challenging adversarial threat; Requiring more restrictive site access controls for all personnel; Enhancing communication and liaison with the Intelligence Community; Improving communication among military surveillance activities, NRC, and its licensees to prepare power plants and to effect safe shutdown, should it be necessary; Ordering plant owners to improve their capability to respond to events involving explosions or fires; Enhancing readiness of security organizations by strengthening training and qualifications programs for plant security forces; Requiring vehicle checks at greater stand-off distances; Enhancing force-on-force exercises to provide a more realistic test of plant capabilities to defend against an adversary force; Improving liaison with Federal, State, and local agencies*

responsible for protection of the national critical infrastructure through integrated response training; Working with national experts to predict the realistic consequences of terrorist attacks on nuclear facilities, including one from a large commercial aircraft. For the facilities analyzed, the results confirm that the likelihood of both damaging the reactor core and releasing radioactive material that could affect public health and safety is low. No change was made to the EIS as a result of these comments.

E.2.38 General Editorial Comments

Comment: Section 11.5 states "13,000,000 ft of cable... " DEIS,pg.11-10. Values stated in the DEIS for linear feet of cable used per reactor differ from those stated in SNC ER. (0095-140)

Comment: Appendix J, Table J-2, pJ-12, line 5 states "GPC has procedures for implementing this regulation, which involve data gathering on land uses, environmental issues, existing corridors, and cultural resources in the study area; consultation with USFWS, the GDNR, USACE and evaluation of environmental, cultural and land use issues." The DEIS omits consultation with the SHPO. (0095-142)

Comment: Appendix J, Table J-2, pJ-29, line 4 states "Most equipment will be located inside structures, reducing the outdoor no". Typo, missing last word of sentence "ise level" (0095-143)

Comment: Section 2.7.1.2 p.2-64 states "The closest known wood stork colonies to the VEGP site are located in Jenkins and Screvin Counties, Georgia." Typo - 'Screvin' should be spelled 'Screven'. (0095-31)

Comment: Section 4.4.1.1, p.4-48, Line 6 states "Assuming the actual routing iss similar to the..." Typo, iss should be is. (0095-54)

Comment: Section 5.4.2.1, p.5-23, Line 14 states "... Plan to reflect the addition of new paved areas and facilities and changes in drainage patters (Southern 2007a)." Typo, 'patters' should be 'patterns'. (0095-73)

Comment: Section 5.5.1.2, p.5-34, Line 26 states "...or residential structures would be affected by the operation of Vegp Units 3 and 4." Typo, 'VEGP' should be in all caps. (0095-74)

Comment: Section 9.1, p.9-2, Line 11 states "...construction activities that could be allowed pursuant to 10 CFR 52.17 (c) and ...." Typo - '10 CFR 52.17 ©' should be '10 CFR 52.17 (c)'. (0095-81)

Response: *These corrections have been addressed in the appropriate Sections of the EIS.*

Comment: Table 11-2 Unavoidable Adverse Operations during Operations of VEGP Units 3 and 4. DEIS p. 11-8 Construction and Operations Impacts." ER pg. 10.1-10 "Land Use: Unavoidable Adverse Impacts" Possible new housing and retail space added in vicinity because of potential growth." DEIS p. 11-8. Conclusions stated in the DEIS differ from those stated in SNC ER. (0095-132)

Response: *The draft EIS was prepared by NRC staff using its independent analysis and judgment. Conclusions in the draft EIS do not necessarily have to be consistent with Southern's conclusions in its ER. No change was made to the EIS as a result of these comments.*

Comment: Table 11-2 Unavoidable Adverse Operations during Operations of VEGP Units 3 and 4. DEIS p. 11-8 Construction and Operations Impacts." ER pg. 10.1-10 "Land Use: Actions to Mitigate Impacts- Local Land management plans." DEIS p. 11-8. Mitigation measures discussed in SNC ER different than those of DEIS. (0095-131)

Response: *Text in Table 11-2 of the EIS was added to state that waste minimization practices will be used.*

Comment: Section 2.12, References. Southern Nuclear Operating Company, Inc. (Southern). 2006c. "Wildlife Habitat Council 2006 Recertification Application for Vogtle Electric Generating Plant." Found in Southern Nuclear Operating Company, Vogtle Early Site Permit Application, Response to Requests for Additional Information on the Environmental Report. Letter report from Southern Nuclear Operating Company (Birmingham, Alabama) to the U,S. Nuclear Regulatory Commission (Washington, D.C.). Southern Company, Birmingham, Alabama. Accession number ML0760460323. Accession number provided in DEIS does not match document listed in ADAMS. (0095-43)

Comment: Section 2.12, References. Southern Nuclear Operating Company, Inc. (Southern). 2007b. Southern Nuclear Operating Company, Vogtle Early Site Permit Application, Response to Requests for Additional Information on the Environmental Report, Southern Company, Birmingham, Alabama. Accession No. ML0760460323. Accession number provided in DEIS does not match document listed in ADAMS. (0095-44)

Comment: Section 2.12, References. Southern Nuclear Operating Company, Inc. (Southern). 2007c. July 24, 2007 e-mail concerning intake water pipe route. Southern Company, Birmingham, Alabama. Accession No. ML072050360. Accession number provided in DEIS does not match document listed in ADAMS. (0095-45)

Response: *Modification to the references were made as appropriate.*

Comment: From a technical standpoint, we suggest to the NRC that water use should be reported in different ways to help people actually understand the numbers. For instance, in

Section 7.3, water consumption is reported in cubic feet per second. In addition to using/those units, we recommend that the NRC convert all of those figures to gallons per day, which is what most of our surface water withdrawal permits in Georgia are licensed under. (0050-8)

Response: *The staff used units associated with standard engineering practices. No change to the EIS was made in response to this comment.*

E.3 References

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

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

10 CFR Part 71. Code of Federal Regulations, Title 10, *Energy*, Part 71, "Packaging and Transportation of Radioactive Material."

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40 CFR Part 141. Code of Federal Regulations, Title 40, *Protection of Environment*, Part 190, "National Primary Drinking Water Regulations."

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Appendix F

Key Early Site Permit Consultation Correspondence Regarding the VEGP Early Site Permit

Appendix F

Key Early Site Permit Consultation Correspondence Regarding the VEGP Early Site Permit

Correspondence received during the evaluation process of the early site permit application for the siting of two new nuclear units (Units 3 and 4) at the Vogtle Electric Generating Plant (VEGP) in Burke County, Georgia, is identified in Table F-1. Copies of the correspondence are included at the end of this appendix.

Table F-1. Key Early Site Permit Consultation Correspondence Regarding the VEGP Early Site Permit

Source	Recipient	Date of Letter
U.S. Nuclear Regulatory Commission (NRC) (Christopher Nolan)	Poarch Band of Creek Indians (Stephanie Rolin)	October 12, 2006
NRC (Christopher Nolan)	United Keetoowah Band of Cherokee Indians (Emma Sue Holland)	October 12, 2006
NRC (Christopher Nolan)	Poarch Band of Creek Indians (Eddie Tullis)	October 12, 2006
NRC (Christopher Nolan)	Eastern Band of Cherokee Indians (Kathy McCoy)	October 12, 2006
NRC (Christopher Nolan)	Coushatta Tribe of Louisiana (John Zachary)	October 12, 2006
NRC (Christopher Nolan)	Kialegee Tribal Town (Evelyn Bucktrot)	October 12, 2006
NRC (Christopher Nolan)	Miccosukee Tribe of Indians of Florida (Steven Terry)	October 12, 2006
NRC (Christopher Nolan)	Poarch Band of Creek Indians (Gale Thrower)	October 12, 2006
NRC (Christopher Nolan)	Thlopthlocco Tribal Town (Louis McGertt)	October 12, 2006

Source	Recipient	Date of Letter
NRC (Christopher Nolan)	Muscogee (Creek) Nation (A.D. Ellis)	October 12, 2006
NRC (Christopher Nolan)	Cherokee Nation of Oklahoma (Richard Allen)	October 12, 2006
NRC (Christopher Nolan)	Chickasaw Nation (Gingy [Virginia] Nail)	October 12, 2006
NRC (Christopher Nolan)	Chickasaw Nation of Oklahoma (Bill Anoatubby)	October 12, 2006
NRC (Christopher Nolan)	Georgia Tribe of Eastern Cherokee (Charles Thurmond)	October 12, 2006
NRC (Christopher Nolan)	Alabama-Quassarte Tribal Town (Tarpie Yargee)	October 12, 2006
NRC (Christopher Nolan)	National Marine Fisheries Service (David Bernhart)	October 12, 2006
NRC (Christopher Nolan)	U.S. Fish and Wildlife Service, Daphne Ecological Services (Elaine Snyder-Conn)	October 12, 2006
NRC (Christopher Nolan)	U.S. Fish and Wildlife Service, Georgia Ecological Services (Strant Colwell)	October 12, 2006
NRC (Christopher Nolan)	Advisory Council on Historic Preservation (Don Klima)	October 12, 2006
NRC (Christopher Nolan)	Seminole Nation of Oklahoma (Pare Bowlegs)	October 12, 2006
NRC (Christopher Nolan)	Eastern Band of Cherokee Indians (Michell Hicks)	October 12, 2006
NRC (Christopher Nolan)	Georgia State Historic Preservation Officer (Ray Luce)	October 12, 2006
NRC (Christopher Nolan)	Alabama Historical Commission (Ed Bridges)	October 12, 2006
NRC (Christopher Nolan)	United Keetoowah Band of Cherokee Indians (Dallas Proctor)	October 12, 2006

Source	Recipient	Date of Letter
NRC (Christopher Nolan)	Absentee-Shawnee Tribe of Oklahoma (Karen Kaniatobe)	October 12, 2006
NRC (Christopher Nolan)	Alabama-Coushatta Tribe of Texas (Debbie Thomas)	October 12, 2006
NRC (Christopher Nolan)	Muscogee (Creek) Nation of Oklahoma(Joyce A. Bear)	October 12, 2006
NRC (Christopher Nolan)	Cherokee Nation of Oklahoma (Chadwick Smith)	October 12, 2006
NRC (Christopher Nolan)	Catawba Indian Tribe (Gilbert Blue)	October 12, 2006
NRC (Christopher Nolan)	Seminole Tribe of Florida (Willard Steele)	October 12, 2006
NRC (Christopher Nolan)	Mississippi Band of Choctaw Indians (Kenneth H. Carleton)	October 12, 2006
Miccosukee Tribe of Indians of Florida (Steven Terry)	NRC (e-mail)	October 16, 2006
Alabama Historical Commission (Colonel [Ret.] John A. Neubauer)	NRC (Mark Notich)	October 20, 2006
Walt Wilson, National Marine Fisheries Service (Walt Wilson)	NRC	October 24, 2006
NRC (Mark Notich)	Georgia State Historic Preservation Officer (Ray Luce)	September 4, 2007
Georgia State Historic Preservation Division (Karen Anderson-Cordova)	NRC (Mark Notich)	December 27, 2007
NRC (William Burton)	U.S. Fish and Wildlife Services, Georgia Ecological Services (Sandra Tucker)	January 25, 2008
NRC (William Burton)	National Marine Fisheries Service (David Bernhart)	January 25, 2008
NRC (William Burton)	South Carolina Department of Natural Resources (Robert Perry)	February 20, 2008

Source	Recipient	Date of Letter
Georgia Department of Natural Resources (Karen Anderson-Cordova)	NRC (Mark Notich)	July 3, 2008

Appendix G

Supporting Documentation on Radiological Dose Assessment

Appendix G

Supporting Documentation on Radiological Dose Assessment

The U.S. Nuclear Regulatory Commission (NRC) staff performed an independent dose assessment of the radiological impacts resulting from normal operation of the new and existing nuclear units at and near the Vogtle Electric Generating Plant (VEGP). The results of this assessment are presented in this appendix and are compared to the results from Southern Nuclear Operating Company, Inc. (Southern) found in Section 5.9, Radiological Impacts of Normal Operations. The appendix is divided into four sections: (1) dose estimates to the public from liquid effluents, (2) dose estimates to the public from gaseous effluents, (3) cumulative dose estimates, and (4) dose estimates to the biota from liquid and gaseous effluents.

G.1 Dose Estimates to the Public from Liquid Effluents

The staff used the dose assessment approach specified in Regulatory Guide 1.109 (NRC 1977) and the LADTAP II computer code (Strenge et al. 1986) to estimate doses to the maximally exposed individual and population from the liquid effluent pathway of the proposed VEGP Units 3 and 4. The staff used the annual radioactive effluent release reports for the years 2000 to 2006 to estimate doses to the maximally exposed individual and population from the existing units' liquid effluent releases (Southern 2001, 2002, 2003, 2004, 2005, 2006, 2007).

G.1.1 Scope

Doses from the proposed new units to the maximally exposed individual were calculated and compared to regulatory criteria for the following:

- Total Body – Dose was the total for all pathways (i.e., drinking water, fish consumption, and shoreline usage) with the highest value for either the adult, teen, child, or infant compared to the 0.03 mSv/yr (3 mrem/yr) per reactor design objective in Title 10 of the Code of Federal Regulations (CFR), Part 50, Appendix I.
- Organ – Dose was the total for each organ for all pathways (i.e., drinking water, fish consumption, and shoreline usage) with the highest value for either the adult, teen, child, or infant compared to the 0.1 mSv/yr (10 mrem/yr) per reactor design objective specified in 10 CFR Part 50, Appendix I.

The staff reviewed the assumed exposure pathways and the input parameters and values used by Southern (2008) for appropriateness, including references made to the Westinghouse AP1000 Design Control Document (Westinghouse 2005). Default values from Regulatory Guide 1.109 (NRC 1977) were used when input parameters were not available. The staff concluded that the assumed exposure pathways were conservative in that no drinking water withdrawal of the Savannah River occurs within 160.9 km (100 river mi) downstream of the site. In addition, the input parameters and values used by Southern were appropriate.

G.1.2 Resources Used

To calculate doses to the public from liquid effluents, the staff used a personal computer version of the LADTAP II code entitled NRCDOSE, Version 2.3.8 (Chesapeake Nuclear Services, Inc. 2006) obtained through the Oak Ridge Radiation Safety Information Computational Center (RSICC).

G.1.3 Input Parameters

Table G-1 provides a listing of the major parameters used in calculating dose to the public from liquid effluent releases during normal operation.

G.1.4 Comparison of Results

Table G-2 presents a comparison of Southern's results for a single new unit with those determined by the staff. Doses calculated for the maximally exposed individual were similar.

For calculating the population dose from liquid effluents, the population distribution used by Southern was for year 2000. However, Environmental Standard Review Plan (ESRP) Section 5.4.1 (NRC 2000) requires use of "...projected population for 5 years from the time of the licensing action under consideration." Assuming the ESP licensing action occurs in year 2008 and adding 5 years yields year 2013, so the NRC staff used 2013 in its analysis. Using the population projections from Environmental Report (ER) Table 2.5.1-1 (Southern 2008) (duplicated as Table G-3) and assuming linear population growth from 2010 to 2020 yields a population estimate for the year 2013 of 807,355. This is about a 20-percent increase from the 2000 population of 674,101. The staff's independent calculation for population dose is increased by 20 percent to account for 2013 population (0.222 person-mSv/yr, Table G-2).

The staff concurs with the conclusion documented in the ER (Southern 2008) that 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. The NRC staff reviewed the annual radioactive effluent release reports for the years 2000 to 2006 (Southern 2001, 2002, 2003, 2004, 2005, 2006, 2007) to find the peak occurred in year 2001. The staff review of the 2001 annual report (Southern 2002) yielded results equivalent to those reported in ER Tables 5.4-8 and 5.4-9.

Table G-1. Parameters Used in Calculating Dose to the Public from Liquid Effluent Releases

Parameter	Staff Value		Comments
New unit liquid effluent source term (Ci/yr)[(a)(b)]	H-3	1.01×10^{3}	Values from Westinghouse AP1000 Design Control Document Table 11.2-7 for a single unit (Westinghouse 2005). Except for rounding differences, these values are the same as those reported in ER Table 3.5-1 (Southern 2008).
	Na-24	1.63×10^{-3}	
	Cr-51	1.85×10^{-3}	
	Mn-54	1.30×10^{-3}	
	Fe-55	1.00×10^{-3}	
	Fe-59	2.00×10^{-4}	
	Co-58	3.36×10^{-3}	
	Co-60	4.40×10^{-4}	
	Zn-65	4.10×10^{-4}	
	Br-84	2.00×10^{-5}	
	Rb-88	2.70×10^{-4}	
	Sr-89	1.00×10^{-4}	
	Sr-90	1.00×10^{-5}	
	Sr-91	2.00×10^{-5}	
	Y-91m	1.00×10^{-5}	
	Y-93	9.00×10^{-5}	
	Zr-95	2.30×10^{-4}	
	Nb-95	2.10×10^{-4}	
	Mo-99	5.70×10^{-4}	
	Tc-99m	5.50×10^{-4}	
	Ru-103	4.93×10^{-3}	
	Ru-106	7.352×10^{-2}	
	Ag-110m	1.05×10^{-3}	
	Te-129m	1.20×10^{-4}	
	Te-129	1.50×10^{-4}	
	Te-131m	9.00×10^{-5}	
	Te-131	3.00×10^{-5}	
	Te-132	2.40×10^{-4}	
	I-131	1.413×10^{-2}	
	I-132	1.64×10^{-3}	
	I-133	6.70×10^{-3}	
	I-134	8.10×10^{-4}	
	I-135	4.97×10^{-3}	
	Cs-134	9.93×10^{-3}	
	Cs-136	6.30×10^{-4}	
	Cs-137	1.332×10^{-2}	
	Ba-140	5.52×10^{-3}	
	La-140	7.43×10^{-3}	
	Ce-141	9.00×10^{-5}	
	Ce-143	1.90×10^{-4}	
	Ce-144	3.16×10^{-3}	
	Pr-143	1.30×10^{-4}	
	Pr-144	3.16×10^{-3}	
	W-187	1.30×10^{-4}	
	Np-239	2.40×10^{-4}	

Table G-1. (contd)

Parameter	Staff Value	Comments
Discharge flow rate (ft^3/s)	9229	Site-specific value from Table 5.4-1 of the ER (Southern 2008).
Source term multiplier	2	To convert single-unit source term to two units.
Site type	Fresh water	Discharge is to the freshwater Savannah River.
Reconcentration model	No impoundment	Site-specific value from Table 5.4-1 of the ER (Southern 2008).
Effluent discharge rate from impoundment system to receiving water body (ft^3/s)	9229	Matches discharge flow rate for "no impoundment" model (Strenge et al. 1986).
Impoundment total volume (ft^3)	0	Set to zero for "no impoundment" model (Strenge et al. 1986).
Shore width factor	0.2	Suggested value for river shoreline (NRC 1977; Strenge et al. 1986)
Dilution factors for aquatic food and boating, shoreline and swimming, and drinking water	1	Site-specific value from Table 5.4-1 of the ER (Southern 2008). The value of "1" indicates no dilution.
Transit time (hr)	0.1	Site-specific value from Table 5.4-1 of the ER (Southern 2008). A transit time of 16 hr is used for 50-mile population dose.
Consumption and usage factors for adults, teens, children, and infants	Shoreline usage (hr/yr) 12 (adult) 67 (teen) 14 (child) 0 (infant) Water usage (L/yr) 730 (adult) 510 (teen) 510 (child) 330 (infant) Fish consumption (kg/yr) 21 (adult) 16 (teen) 6.9 (child) 0 (infant)	Site-specific values from Table 5.4-1 of the ER (Southern 2008) and LADTAP II code default values (NRC 1977; Strenge et al. 1986).

Table G-1. (contd)

Parameter	Staff Value	Comments
Total 50-mile population	674,101	Site-specific value from Table 5.4-1 of the ER (Southern 2008). Population distribution used by Southern and the staff was for year 2000. Note that ESRP Section 5.4.1 requires use of "projected population for 5 years from the time of the licensing action under consideration." Assuming the ESP licensing action occurs in year 2008 and adding 5 years yields year 2013. See discussion of population dose in Section G.1.4.
Total 50-mile sport fishing (kg/yr)	35,000	Site-specific value from Table 5.4-1 of the ER (Southern 2008).
Total 50-mile shoreline usage (person-hr/yr)	960,000	Site-specific value from Table 5.4-1 of the ER (Southern 2008).
Total 50-mile swimming usage (person-hr/yr)	160,000	Site-specific value from Table 5.4-1 of the ER (Southern 2008).
Total 50-mile boating usage (person-hr/yr)	1,100,000	Site-specific value from Table 5.4-1 of the ER (Southern 2008).

(a) To convert Ci/yr to Bq/yr, multiply the value by 3.7×10^{10}.
(b) Only radionuclides included in Regulatory Guide 1.109 are considered (NRC 1977).

Table G-2. Comparison of Doses to the Public from Liquid Effluent Releases for a New Unit

Type of Dose[a]	Southern ER (2008)[b]	Staff Calculation	Percent Difference
Total Body (mSv/yr)	0.00017 (adult)	0.00017 (adult)	0
Organ Dose (mSv/yr)	0.00021 (child liver)	0.00021 (child liver)	0
Thyroid (mSv/yr)	0.00015 (infant)	0.00015 (infant)	0
Population dose from liquid pathway (person-mSv/yr)	0.185	0.222	+20

(a) To convert mSv to mrem multiply by 100.
(b) Results from Southern ER Tables 5.4-5 and 5.4-9 (Southern 2008).

Table G-3. Current Populations and Projections to 2090

Sectors		0-1[a]	1-2[b]	2-3[b]	3-4[b]	4-5[b]	5-10[b]	Total 0-10[b]	10-20[b][c]	20-30[b][c]	30-40[c]	40-50[c]	Total 0-50[a]
N	2000	0	50	0	0	0	0	50	4,792	50,620	15,658	11,829	82,949
	2010	0	54	0	0	0	0	54	5,567	58,805	18,245	13,805	96,476
	2020	0	59	0	0	0	0	59	6,467	68,314	21,260	16,122	112,222
	2030	0	63	0	0	0	0	63	7,513	79,360	24,775	18,841	130,552
	2040	0	69	0	0	0	0	69	8,727	92,192	28,873	22,032	151,893
	2050	0	74	0	0	0	0	74	10,139	107,099	33,650	25,780	176,742
	2060	0	81	0	0	0	0	81	11,778	124,416	39,220	30,183	205,678
	2070	0	87	0	0	0	0	87	13,682	144,534	45,714	35,357	239,374
	2080	0	94	0	0	0	0	94	15,895	167,905	53,286	41,440	278,620
	2090	0	102	0	0	0	0	102	18,465	195,054	62,116	48,593	324,330
NNE	2000	0	0	0	0	0	0	0	2,523	7,966	4,245	6,919	21,653
	2010	0	0	0	0	0	0	0	2,931	9,254	4,931	8,166	25,282
	2020	0	0	0	0	0	0	0	3,404	10,750	5,729	9,644	29,527
	2030	0	0	0	0	0	0	0	3,955	12,489	6,655	11,400	34,499
	2040	0	0	0	0	0	0	0	4,594	14,508	7,731	13,488	40,321
	2050	0	0	0	0	0	0	0	5,337	16,854	8,981	15,971	47,143
	2060	0	0	0	0	0	0	0	6,199	19,579	10,434	18,929	55,141
	2070	0	0	0	0	0	0	0	7,201	22,745	12,121	22,455	64,522
	2080	0	0	0	0	0	0	0	8,365	26,423	14,081	26,664	75,533
	2090	0	0	0	0	0	0	0	9,718	30,695	16,357	31,692	88,462
NE	2000	0	0	0	0	0	0	0	0	5,997	3,590	6,904	16,491
	2010	0	0	0	0	0	0	0	0	6,683	3,985	7,672	18,340
	2020	0	0	0	0	0	0	0	0	7,456	4,431	8,558	20,445
	2030	0	0	0	0	0	0	0	0	8,327	4,936	9,581	22,844
	2040	0	0	0	0	0	0	0	0	9,309	5,508	10,769	25,586
	2050	0	0	0	0	0	0	0	0	10,419	6,158	12,151	28,728
	2060	0	0	0	0	0	0	0	0	11,674	6,896	13,765	32,335

Table G-3. (contd)

Sectors		0-1[a]	1-2[b]	2-3[b]	3-4[b]	4-5[b]	5-10[b]	Total 0-10[b]	10-20[b][c]	20-30[b][c]	30-40[c]	40-50[c]	Total 0-50[a]
G ix	2070	0	0	0	0	0	0	0	0	13,094	7,735	15,656	36,485
	2080	0	0	0	0	0	0	0	0	14,703	8,691	17,877	41,271
	2090	0	0	0	0	0	0	0	0	16,528	9,782	20,493	46,803
ENE	2000	0	0	0	0	0	0	0	554	9,612	11,414	10,641	32,221
	2010	0	0	0	0	0	0	0	602	10,449	11,633	10,928	33,612
	2020	0	0	0	0	0	0	0	655	11,359	11,901	11,243	35,158
	2030	0	0	0	0	0	0	0	712	12,348	12,221	11,587	36,868
	2040	0	0	0	0	0	0	0	774	13,423	12,596	11,961	38,754
	2050	0	0	0	0	0	0	0	841	14,591	13,029	12,367	40,828
	2060	0	0	0	0	0	0	0	914	15,862	13,525	12,805	43,106
	2070	0	0	0	0	0	0	0	994	17,242	14,087	13,278	45,601
	2080	0	0	0	0	0	0	0	1,080	18,744	14,721	13,786	48,331
	2090	0	0	0	0	0	0	0	1,174	20,376	15,431	14,331	51,312
E	2000	0	0	0	0	0	9	9	584	2,697	1,888	3,379	8,557
	2010	0	0	0	0	0	10	10	618	2,885	1,861	3,333	8,707
	2020	0	0	0	0	0	11	11	654	3,089	1,838	3,298	8,890
	2030	0	0	0	0	0	12	12	693	3,309	1,820	3,275	9,109
	2040	0	0	0	0	0	13	13	735	3,547	1,805	3,263	9,363
	2050	0	0	0	0	0	14	14	780	3,805	1,794	3,264	9,657
	2060	0	0	0	0	0	15	15	828	4,084	1,787	3,278	9,992
	2070	0	0	0	0	0	16	16	881	4,386	1,785	3,305	10,373
	2080	0	0	0	0	0	18	18	937	4,713	1,787	3,348	10,803
	2090	0	0	0	0	0	19	19	998	5,067	1,793	3,406	11,283
ESE	2000	0	0	0	16	1	257	274	221	5,536	6,348	8,909	21,288
	2010	0	0	0	17	1	277	295	228	5,667	6,685	9,694	22,569
	2020	0	0	0	19	1	298	318	235	5,800	7,046	10,549	23,948
	2030	0	0	0	20	1	321	342	242	5,937	7,433	11,479	25,433
	2040	0	0	0	22	1	346	369	249	6,077	7,848	12,492	27,035
	2050	0	0	0	24	1	373	398	257	6,221	8,293	13,595	28,764
	2060	0	0	0	26	2	401	429	265	6,368	8,771	14,795	30,628
	2070	0	0	0	28	2	433	463	273	6,518	9,284	16,102	32,640
	2080	0	0	0	30	2	466	498	282	6,672	9,835	17,524	34,811
	2090	0	0	0	33	2	503	538	291	6,829	10,428	19,073	37,159

Table G-3. (contd)

Sectors		0-1[a]	1-2[b]	2-3[b]	3-4[b]	4-5[b]	5-10[b]	Total 0-10[b]	10-20[b][c]	20-30[b][c]	30-40[c]	40-50[c]	Total 0-50[a]
SE	2000	0	0	0	14	13	213	240	274	301	692	7,740	9,247
	2010	0	0	0	15	14	228	257	288	311	732	8,468	10,056
	2020	0	0	0	16	15	245	276	303	322	774	9,271	10,946
	2030	0	0	0	17	16	263	296	319	333	820	10,161	11,929
	2040	0	0	0	19	17	281	317	336	344	869	11,149	13,015
	2050	0	0	0	20	18	302	340	353	356	921	12,249	14,219
	2060	0	0	0	21	20	324	365	372	368	978	13,476	15,559
	2070	0	0	0	23	21	347	391	391	380	1,039	14,851	17,052
	2080	0	0	0	24	23	372	419	412	393	1,104	16,399	18,727
	2090	0	0	0	26	24	399	449	434	407	1,174	18,148	20,612
SSE	2000	0	0	26	0	0	750	776	716	6,465	2,713	2,695	13,365
	2010	0	0	28	0	0	804	832	754	6,764	2,841	3,329	14,520
	2020	0	0	30	0	0	862	892	794	7,078	2,975	4,198	15,937
	2030	0	0	32	0	0	924	956	836	7,406	3,116	5,399	17,713
	2040	0	0	34	0	0	991	1,025	881	7,749	3,263	7,071	19,989
	2050	0	0	37	0	0	1,063	1,100	928	8,108	3,417	9,409	22,962
	2060	0	0	39	0	0	1,139	1,178	977	8,483	3,579	12,693	26,910
	2070	0	0	42	0	0	1,222	1,264	1,030	8,876	3,749	17,324	32,243
	2080	0	0	45	0	0	1,310	1,355	1,085	9,287	3,926	23,869	39,522
	2090	0	0	49	0	0	1,404	1,453	1,144	9,717	4,113	33,141	49,568
S	2000	0	0	0	0	19	238	257	1,942	1,660	2,695	29,356	35,910
	2010	0	0	0	0	20	255	275	2,028	1,725	2,973	36,351	43,352
	2020	0	0	0	0	22	274	296	2,119	1,792	3,302	45,084	52,593
	2030	0	0	0	0	23	293	316	2,217	1,864	3,695	55,989	64,081
	2040	0	0	0	0	25	315	340	2,322	1,938	4,168	69,610	78,378
	2050	0	0	0	0	27	337	364	2,433	2,016	4,738	86,627	96,178
	2060	0	0	0	0	29	362	391	2,552	2,099	5,429	107,891	118,362
	2070	0	0	0	0	31	388	419	2,679	2,185	6,272	134,466	146,021
	2080	0	0	0	0	33	416	449	2,815	2,275	7,303	167,684	180,526
	2090	0	0	0	0	36	446	482	2,959	2,369	8,568	209,208	223,586
SSW	2000	0	0	0	0	2	44	46	557	5,673	2,325	5,965	14,566
	2010	0	0	0	0	2	47	49	568	5,587	2,382	6,700	15,286
	2020	0	0	0	0	2	51	53	581	5,502	2,459	7,577	16,172
	2030	0	0	0	0	2	54	56	594	5,419	2,561	8,629	17,259

Table G-3. (contd)

Sectors		0-1[a]	1-2[b]	2-3[b]	3-4[b]	4-5[b]	5-10[b]	Total 0-10[b]	10-20[b][c]	20-30[b][c]	30-40[c]	40-50[c]	Total 0-50[a]
	2040	0	0	0	0	3	58	61	609	5,337	2,694	9,893	18,594
	2050	0	0	0	0	3	62	65	626	5,256	2,865	11,419	20,231
	2060	0	0	0	0	3	67	70	644	5,176	3,083	13,267	22,240
	2070	0	0	0	0	3	72	75	664	5,098	3,362	15,510	24,709
	2080	0	0	0	0	3	77	80	686	5,021	3,714	18,241	27,742
	2090	0	0	0	0	4	82	86	710	4,944	4,160	21,574	31,474
SW	2000	0	5	0	5	1	146	157	660	686	1,781	6,905	10,189
	2010	0	5	0	5	1	157	168	705	697	1,833	7,074	10,477
	2020	0	6	0	6	1	168	181	753	708	1,887	7,247	10,776
	2030	0	6	0	6	1	180	193	804	722	1,945	7,425	11,089
	2040	0	7	0	7	1	193	208	859	737	2,006	7,607	11,417
	2050	0	7	0	7	1	207	222	918	753	2,071	7,793	11,757
	2060	0	8	0	8	2	222	240	982	771	2,139	7,984	12,116
	2070	0	8	0	8	2	238	256	1,050	791	2,211	8,180	12,488
	2080	0	9	0	9	2	255	275	1,123	813	2,288	8,381	12,880
	2090	0	9	0	9	2	273	293	1,201	838	2,368	8,586	13,286
WSW	2000	0	0	14	60	17	577	668	6,970	603	5,480	5,697	19,418
	2010	0	0	15	64	18	619	716	7,473	647	5,492	5,642	19,970
	2020	0	0	16	69	20	663	768	8,013	693	5,518	5,595	20,587
	2030	0	0	17	74	21	711	823	8,591	743	5,556	5,556	21,269
	2040	0	0	19	79	22	763	883	9,211	797	5,609	5,525	22,025
	2050	0	0	20	85	24	818	947	9,876	854	5,675	5,503	22,855
	2060	0	0	21	91	26	877	1,015	10,589	916	5,758	5,489	23,767
	2070	0	0	23	98	28	940	1,089	11,353	982	5,856	5,484	24,764
	2080	0	0	24	105	30	1,008	1,167	12,173	1,053	5,971	5,488	25,852
	2090	0	0	26	112	32	1,080	1,251	13,051	1,129	6,103	5,502	27,035
W	2000	0	0	53	7	3	297	360	3,279	1,250	5,231	3,404	13,524
	2010	0	0	57	8	3	318	386	3,516	1,331	5,080	3,369	13,682
	2020	0	0	61	8	3	341	413	3,769	1,418	4,934	3,339	13,873
	2030	0	0	65	9	4	366	444	4,042	1,512	4,794	3,312	14,104
	2040	0	0	70	9	4	392	475	4,333	1,613	4,660	3,290	14,371
	2050	0	0	75	10	4	421	510	4,646	1,721	4,531	3,271	14,679
	2060	0	0	81	11	5	451	548	4,981	1,837	4,407	3,256	15,029
	2070	0	0	86	11	5	484	586	5,341	1,962	4,288	3,246	15,423

Table G-3. (contd)

Sectors		0-1[a]	1-2[b]	2-3[b]	3-4[b]	4-5[b]	5-10[b]	Total 0-10[b]	10-20[b][c]	20-30[b][c]	30-40[c]	40-50[c]	Total 0-50[a]
	2080	0	0	93	12	5	519	629	5,727	2,097	4,175	3,240	15,868
	2090	0	0	99	13	6	556	674	6,140	2,241	4,067	3,237	16,359
WNW	2000	0	0	68	0	65	171	304	3,328	8,582	6,798	17,503	36,515
	2010	0	0	73	0	70	183	326	3,540	9,060	7,503	18,462	38,891
	2020	0	0	78	0	75	197	350	3,765	9,568	8,503	19,564	41,750
	2030	0	0	84	0	80	211	375	4,006	10,108	9,938	20,853	45,280
	2040	0	0	90	0	86	226	402	4,262	10,681	12,014	22,397	49,756
	2050	0	0	96	0	92	242	430	4,536	11,292	15,041	24,291	55,590
	2060	0	0	103	0	99	260	462	4,827	11,940	19,478	26,679	63,386
	2070	0	0	111	0	106	279	496	5,137	12,630	26,011	29,772	74,046
	2080	0	0	119	0	114	299	532	5,469	13,363	35,664	33,883	88,911
	2090	0	0	127	0	122	320	569	5,822	14,142	49,962	39,478	109,973
NW	2000	0	38	0	118	92	118	366	10,087	117,824	80,353	6,498	215,128
	2010	0	41	0	127	99	126	393	10,613	123,570	114,577	9,176	258,329
	2020	0	44	0	136	106	136	422	11,169	129,596	165,349	13,122	319,658
	2030	0	47	0	145	113	145	450	11,755	135,917	240,788	18,955	407,865
	2040	0	50	0	156	122	156	484	12,373	142,545	353,009	27,595	536,006
	2050	0	54	0	167	130	167	518	13,027	149,497	520,082	40,420	723,544
	2060	0	58	0	179	140	179	556	13,717	156,787	768,966	59,478	999,504
	2070	0	62	0	192	150	192	596	14,447	164,434	1,139,874	87,830	1,407,181
	2080	0	66	0	206	161	206	639	15,219	172,453	1,692,801	130,037	2,011,149
	2090	0	71	0	221	172	221	685	16,035	180,863	2,517,245	192,905	2,907,733
NNW	2000	0	0	0	0	0	53	53	2,809	87,042	27,670	5,506	123,080
	2010	0	0	0	0	0	61	61	3,219	97,706	33,239	6,469	140,694
	2020	0	0	0	0	0	69	69	3,693	109,927	40,177	7,602	161,468
	2030	0	0	0	0	0	80	80	4,241	123,950	48,915	8,937	186,123
	2040	0	0	0	0	0	91	91	4,875	140,058	60,057	10,509	215,590
	2050	0	0	0	0	0	105	105	5,610	158,578	74,445	12,362	251,100
	2060	0	0	0	0	0	121	121	6,461	179,892	93,283	14,545	294,302
	2070	0	0	0	0	0	139	139	7,446	204,441	118,291	17,118	347,435
	2080	0	0	0	0	0	160	160	8,589	232,738	151,953	20,151	413,591
	2090	0	0	0	0	0	184	184	9,912	265,379	197,876	23,728	497,079
TOTAL	2000	0	93	161	220	213	2,873	3,560	39,296	312,514	178,881	139,850	674,101
	2010	0	100	173	236	228	3,085	3,822	42,650	341,141	223,992	158,638	770,243

Table G-3. (contd)

Sectors	0-1[a]	1-2[b]	2-3[b]	3-4[b]	4-5[b]	5-10[b]	Total 0-10[b]	10-20[b][c]	20-30[b][c]	30-40[c]	40-50[c]	Total 0-50[a]
2020	0	109	185	254	245	3,315	4,108	46,374	373,372	288,083	182,013	893,950
2030	0	116	198	271	261	3,560	4,406	50,520	409,744	379,968	211,379	1,056,017
2040	0	126	213	292	281	3,825	4,737	55,140	450,855	512,710	248,651	1,272,093
2050	0	135	228	313	300	4,111	5,087	60,307	497,420	705,691	296,472	1,564,977
2060	0	147	244	336	326	4,418	5,471	66,086	550,252	987,733	358,513	1,968,055
2070	0	157	262	360	348	4,750	5,877	72,569	610,298	1,401,679	439,934	2,530,357
2080	0	169	281	386	373	5,106	6,315	79,857	678,653	2,011,300	548,012	3,324,137
2090	0	182	301	414	400	5,487	6,784	88,054	756,578	2,911,543	693,095	4,456,054

(a) Within the 10-mile radius, the transient population has been deleted from the west, 0–1 mile sector, as the data are not accurate for new units (Southern 2008).

(b) SRS population (all transient in sectors N, NNE, NE, ENE, E, ESE; see ER Figure 2.5.1-1 [Southern 2008]) is not included because SRS has an emergency plan that would be activated in a Vogtle emergency, therefore that transient population is not considered in the VEGP emergency plan.

(c) Does not include transient population (Southern 2008).

G.2 Dose Estimates to the Public from Gaseous Effluents

The staff used the dose assessment approach specified in Regulatory Guide 1.109 (NRC 1977) and the GASPAR II computer code (Strenge et al. 1987) to estimate doses to the maximally exposed individual and to the population within an 80-km (50-mile) radius of the VEGP site from the gaseous effluent pathway for both the proposed and existing units.

G.2.1 Scope

The staff and Southern calculated the maximum gamma air dose, beta air dose, total body dose, and skin dose from noble gases at the exclusion area boundary location 0.8 km (0.5 mi) northeast of the VEGP site. Dose to the maximally exposed individual was calculated at 1071 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. The milk ingestion pathway is not considered because there are no known milk cows within 5 miles of the VEGP site (Southern 2008).

The staff reviewed the input parameters and values used by Southern (2008) for appropriateness, including references made to the Westinghouse AP1000 Design Control Document (Westinghouse 2005). Default values from Regulatory Guide 1.109 (NRC 1977) were used when input parameters were not available. The staff concluded that the assumed exposure pathways and input parameters and values used by Southern were appropriate. These pathways and parameters were used by the staff in its independent calculations using GASPAR II.

Joint frequency distribution data of wind speed and wind direction by atmospheric stability class for the VEGP site provided in Table 2.7-10 of the ER (Southern 2008) were used as input to the XOQDOQ code (Sagendorf et al. 1982) to calculate long-term average χ/Q and D/Q values for routine releases. The staff's independent results compare favorably to those reported by Southern in ER Tables 2.7-17 to 2.7-25 (Southern 2008).

Population doses were calculated for all types of releases (i.e., noble gases, iodines and particulates, and H-3 and C-14) using the GASPAR II code for the following exposure pathways: plume immersion, direct shine from deposited radionuclides, ingestion of vegetables, and ingestion of milk and meat.

G.2.2 Resources Used

To calculate doses to the public from gaseous effluents, the staff used a personal computer version of the XOQDOQ and GASPAR II codes entitled NRCDOSE Version 2.3.8 (Chesapeake Nuclear Services, Inc. 2006) obtained through the Oak Ridge RSICC.

G.2.3 Input Parameters

Table G-4 provides a listing of the major parameters used in calculating dose to the public from gaseous effluent releases during normal operation.

Table G-4. Parameters Used in Calculating Dose to Public from Gaseous Effluent Releases

Parameter	Staff Value		Comments
New unit gaseous effluent source term (Ci/yr)[(a)]	Ar-41	3.4×10^{1}	Values from Westinghouse AP1000 Design Control Document Table 11.3-3 for a single unit (Westinghouse 2005). Except for rounding differences, these values are the same as those reported in ER Table 3.5-2 (Southern 2008).
	Kr-85m	3.6×10^{1}	
	Kr-85	4.093×10^{3}	
	Kr-87	1.5×10^{1}	
	Kr-88	4.6×10^{1}	
	Xe-131m	1.776×10^{3}	
	Xe-133m	8.7×10^{1}	
	Xe-133	4.642×10^{3}	
	Xe-135m	7.0×10^{0}	
	Xe-135	3.34×10^{2}	
	Xe-138	6.0×10^{0}	
	I-131	1.168×10^{-1}	
	I-133	4.017×10^{-1}	
	H-3	3.5×10^{2}	
	C-14	7.3×10^{0}	
	Cr-51	6.06×10^{-4}	
	Mn-54	4.331×10^{-4}	
	Co-57	8.2×10^{-6}	
	Co-58	2.316×10^{-2}	
	Co-60	8.75×10^{-3}	
	Fe-59	7.88×10^{-5}	
	Sr-89	3.024×10^{-3}	
	Sr-90	1.159×10^{-3}	
	Zr-95	1.008×10^{-3}	
	Nb-95	2.452×10^{-3}	
	Ru-103	8.02×10^{-5}	
	Ru-106	7.77×10^{-5}	
	Sb-125	6.09×10^{-5}	
	Cs-134	2.298×10^{-3}	
	Cs-136	8.53×10^{-5}	
	Cs-137	3.552×10^{-3}	
	Ba-140	4.23×10^{-4}	
	Ce-141	4.164×10^{-4}	

Table G-4. (contd)

Parameter	Staff Value		Comments
Existing unit gaseous effluent source term (Ci/yr)[(a)]	H-3	$1.051 \times 10^{+2}$	Values from 2002 annual radioactive effluent release report Tables 2-2C and 2-3C (Southern 2003).
	Ar-41	4.756×10^{-1}	
	Cr-51	3.160×10^{-6}	
	Co-58	5.850×10^{-6}	
	Co-60	6.256×10^{-6}	
	Kr-85m	3.840×10^{-5}	
	Kr-85	$3.272 \times 10^{+0}$	
	Sr-89	4.370×10^{-7}	
	Sr-90	3.730×10^{-9}	
	Nb-95	$6.190 \times 10^{+0}$	
	Xe-131m	1.101×10^{-1}	
	Xe-133m	3.303×10^{-2}	
	Xe-133	$2.211 \times 10^{+1}$	
	Xe-135	4.045×10^{-1}	
	I-133	4.900×10^{-4}	
	I-131	2.068×10^{-2}	
	I-131	3.820×10^{-7}	
Population distribution	Table 2.5.1-1 of the ER (Southern 2008)		Population distribution used by Southern and the NRC staff was for year 2000. Note that ESRP Section 5.4.1 requires use of "projected population for 5 years from the time of the licensing action under consideration." Assuming the ESP licensing action occurs in year 2008 and adding 5 years yields year 2013. See discussion of population dose in Section G.2.5.
Wind speed and direction distribution	Table 2.7-10 of the ER (Southern 2008)		Site-specific data provided by Southern for 5-year period from 1998 to 2002.
Atmospheric dispersion factors (sec/m^3)	Tables 2.7-17 to 2.7-23 of the ER (Southern 2008)		Site-specific data provided by Southern for 5-year period from 1998 to 2002.
Ground deposition factors (m^{-2})	Tables 2.7-24 to 2.7-25 of the ER (Southern 2008)		Site-specific data provided by Southern for 5-year period from 1998 to 2002.

Table G-4. (contd)

Parameter	Staff Value	Comments
Milk production rate within an 80-km (50-mi) radius of the VEGP site (L/yr)	$6.37 \times 10^{+7}$	Site-specific data provided by Southern (2008).
Vegetable/fruit production rate within an 80-km (50-mi) radius of the VEGP site (kg/yr)	$6.57 \times 10^{+7}$	Site-specific data provided by Southern (2008).
Meat production rate within an 80-km (50-mi) radius of the VEGP site (kg/yr)	$1.03 \times 10^{+7}$	Site-specific data provided by Southern (2008).
Pathway receptor locations (direction, distance, and atmospheric dispersion factors) – nearest site boundary, vegetable garden, residence, meat animal	Tables 5.4-4 and 2.7-14 of the ER (Southern 2008)	Site-specific data provided by Southern (2008).
Consumption factors for milk, meat, leafy vegetables, and vegetables	Milk (L/yr) 310 (adult) 400 (teen) 330 (child) 330 (infant) Meat (kg/yr) 110 (adult) 65 (teen) 41 (child) 0 (infant) Leafy vegetables (kg/yr) 64 (adult) 42 (teen) 26 (child) 0 (infant) Vegetables (kg/yr) 520 (adult) 630 (teen) 520 (child) 0 (infant)	Table 5.4-3 of the ER (Southern 2008) and Regulatory Guide 1.109 (NRC 1977).
Fraction of year leafy vegetables are grown	0.58	Site-specific value from Table 5.4-3 of the ER (Southern 2008).

Table G-4. (contd)

Parameter	Staff Value	Comments
Fraction of year that milk cows are on pasture	1	Default value of GASPAR II code (Strenge et al. 1987).
Fraction of MEI vegetable intake from own garden	0.76	Default value of GASPAR II code (Strenge et al. 1987).
Fraction of milk-cow intake that is from pasture while on pasture	1	Default value of GASPAR II code (Strenge et al. 1987).
Average absolute humidity over the growing season (g/m^3)	8.0	Default value of GASPAR II code (Strenge et al. 1987).
Average temperature over the growing season (°F)	None	Default value of GASPAR II code (Strenge et al. 1987).
Fraction of year beef cattle are on pasture	1	Default value of GASPAR II code (Strenge et al. 1987).
Fraction of year beef cattle intake that is from pasture while on pasture	1	Default value of GASPAR II code (Strenge et al. 1987).

(a) To convert Ci/yr to Bq/yr, multiply the value by 3.7×10^{10}.

G.2.4 Comparison of Doses to the Public from Gaseous Effluent Releases

Table G-5 compares results documented in the ER (Southern 2008) for doses from noble gases at the exclusion area boundary with the results calculated by the NRC staff. The doses provided by Southern and those calculated by NRC were similar.

Table G-6 compares doses to the maximally exposed individual calculated by Southern and the staff. Doses to the maximally exposed individual were calculated at the nearest residence, nearest garden, nearest beef cattle, and nearest milk cow. The doses provided by Southern and those calculated by the NRC staff were similar.

Table G-5. Comparison of Doses to the Public from Noble Gas Releases for a New Unit

Type of Dose[a]	Southern ER (2008)[b]	Staff Calculation	Percent Difference
Gamma air dose at exclusion area boundary – noble gases only (mGy/yr)	0.0068	0.0068	0
Beta air dose at exclusion area boundary – noble gases only (mGy/yr)	0.0284	0.0284	0
Total body dose at exclusion area boundary – noble gases only (mSv/yr)	0.0056	0.00564	+0.7
Skin dose at exclusion area boundary – noble gases only (mSv/yr)	0.0230	0.0225	−2.2

(a) To convert from mGy/yr or mSv/yr to mrad/yr or mrem/yr, multiply by 100.
(b) Results from Southern ER Table 5.4-7 (Southern 2008).

Table G-6. Comparison of Doses to the MEI from Gaseous Effluent Releases for a New Unit

Location	Pathway	Total Body Dose (μSv/yr)[a][b]	Skin Dose (μSv/yr)[a][b]	Thyroid Dose (μSv/yr)[a][b]
Nearest residence, 0.67 mi northeast	Plume	2.56 (2.57)	12.8 (12.9)	–
Nearest residence, 0.67 mi northeast	Inhalation			
	Adult	0.280 (0.279)	–	2.60 (2.56)
	Teen	0.283 (0.283)	–	3.24 (3.20)
	Child	0.250 (0.250)	–	3.78 (3.74)
	Infant	0.145 (0.145)	–	3.39 (3.35)
Nearest garden, 0.67 mi northeast	Vegetable			
	Adult	2.05 (2.04)	–	20.0 (19.5)
	Teen	3.04 (3.04)	–	26.9 (26.3)
	Child	6.65 (6.65)	–	52.5 (51.0)
Nearest meat animal, 0.67 mi northeast	Meat			
	Adult	0.625 (0.625)	–	1.54 (1.52)
	Teen	0.500 (0.500)	–	1.17 (1.15)
	Child	0.905 (0.905)	–	1.92 (1.89)

(a) Values in parentheses represent the values that the staff calculated. The Southern values (those not in parentheses) were taken from Table 5.4-6 of Southern (2008).
(b) To convert from μSv/yr to mrem/yr, multiply by 0.1.

G.2.5 Comparison of Results – Population Doses

Table G-7 compares the Southern population dose estimates taken from Table 5.4-9 of the ER (Southern 2008) with the NRC staff estimates for the new units. For calculating the population dose from gaseous effluents, the population distribution used by Southern and the staff was for year 2000. However, ESRP Section 5.4.1 (NRC 2000) requires use of "...projected population for 5 years from the time of the licensing action under consideration." Assuming the ESP licensing action occurs in year 2008 and adding 5 years yields year 2013, so the NRC staff used 2013 in its analysis. Using ER Table 2.5.1-1 (Southern 2008) population projections and assuming linear population growth from 2010 to 2020 yields a population estimate for the year 2013 of 807,355. This is about a 20-percent increase from the 2000 population of 674,101. The staff's independent calculation for population dose using year 2000 population distribution yields results that are comparable to the Southern ER estimates (Southern 2008) for two new units. Scaling these values up by 20 percent to account for 2013 population yields results that are about 20 percent greater than the values provided by Southern in its ER (Southern 2008).

Table G-8 compares the Southern population dose estimates taken from Table 5.4-9 of the ER (Southern 2008) with the staff's estimates for the existing units. The doses calculated using year 2000 population distribution were similar. Scaling these values up by 20 percent to account for 2013 population yields results that are about 20 percent greater than the values provided by Southern in the ER (Southern 2008).

Table G-7. Comparison of Population Total Body Doses from Gaseous Effluent Releases for Two New Units

Pathway	Southern ER (2008) (person-Sv/yr)[(a)(b)]	Staff Estimate with Year 2000 Population (person-Sv/yr)[(a)]	Staff Estimate with Year 2013 Population (person-Sv/yr)[(a)]	Percent Difference
Noble gases	0.0057	0.00574	0.00689	+20
Iodines and particulates	0.0014	0.00139	0.00167	+20
Tritium and C-14	0.0110	0.0110	0.0132	+20
Total	0.0180	0.0181	0.0217	+20

(a) To convert from person-Sv/yr to person-rem/yr, multiply by 100.
(b) Results from Southern ER Table 5.4-9 (Southern 2008).

Table G-8. Comparison of Population Total Body Doses from Gaseous Effluent Releases for Two Existing Units

Pathway	Southern ER (2008) (person-Sv/yr)[(a)(b)]	Staff Estimate with Year 2000 Population (person-Sv/yr)[(a)]	Staff Estimate with Year 2013 Population (person-Sv/yr)[(a)]	Percent Difference
Noble gases	0.00001	0.0000105	0.0000126	+26
Iodines and particulates	0.0016	0.00162	0.00194	+21
Tritium and C-14	0.00049	0.000487	0.000584	+19
Total	0.0021	0.00212	0.00254	+21

(a) To convert from person-Sv/yr to person-rem/yr, multiply by 100.
(b) Results from Southern ER Table 5.4-9 (Southern 2008).

G.3 Cumulative Dose Estimates

Table G-9 compares Southern's results for cumulative dose estimates to the maximally exposed individual with those calculated by the NRC staff. Cumulative dose estimates include doses from all pathways (i.e., external, liquid effluent, and gaseous effluent) for both the proposed Units 3 and 4 and the existing Units 1 and 2 at the VEGP site. Cumulative dose estimates calculated by Southern (2008) and the NRC staff were similar.

Table G-9. Comparison of Cumulative Doses to the Maximally Exposed Individual

Dose	Southern ER (2008)[(a)(b)]	Staff Estimate[(c)]	Percent Difference
Whole body (mSv/yr)(d)	0.0236	0.02443	+3.5
Thyroid dose (mSv/yr)(d)	0.1239	0.1216	−1.9
Dose to other organ – bone (mSv/yr)[(d)]	0.0888	0.08874	−0.1

(a) Doses from direct radiation were determined to be negligible (Southern 2008).
(b) Sum of doses from liquid and gaseous effluent releases for the two existing units and the proposed units are from Table 5.4-8 of the ER (Southern 2008).
(c) The staff calculation included the sum of doses from liquid and gaseous effluent releases from the two existing units and the two proposed units. Doses from liquid effluent for existing units were taken from the 2001 annual radiological effluent report (Southern 2002). Doses from gaseous effluent for existing units were calculated.
(d) To convert from mSv/yr to mrem/yr, multiply by 100.

G.4 Dose Estimates to the Biota from Liquid and Gaseous Effluents

To estimate doses to the biota from the liquid and gaseous effluent pathways, the staff used the LADTAP II code (Strenge et al. 1986), the GASPAR II code (Strenge et al. 1987), and input parameters supplied by Southern in its ER (Southern 2008).

G.4.1 Scope

Doses to both terrestrial and aquatic biota were calculated using the LADTAP II code. Aquatic biota include fish, algae, and invertebrate species. Terrestrial biota include muskrats, raccoons, herons, and ducks. The LADTAP II code calculates an internal dose component and an external dose component and sums them for a total body dose. The staff reviewed the input parameters used by Southern for appropriateness. Default values from Regulatory Guide 1.109 (NRC 1977) were used when input parameters were not available. The staff concluded that all of the input parameters used by Southern were appropriate. These parameters were used by the staff in its independent calculations using LADTAP II.

The LADTAP II code calculates only biota dose from the liquid effluent pathway. Terrestrial biota could also be exposed via the gaseous effluent pathway. These values would be the same as those for the maximally exposed individual calculated using the GASPAR II code. Southern (2008) used the maximally exposed individual doses at the exclusion area boundary (800 m [0.5 mi] from the plant) to estimate these doses. To account for the greater proximity of the main body mass of animals to the ground compared to humans, the maximally exposed individual calculation for the biota assumed a ground deposition factor twice that used in the maximally exposed individual calculation for a member of the public.

G.4.2 Resources Used

To calculate doses to the biota, the staff used a personal computer version of the LADTAP II and GASPAR II computer codes entitled NRCDOSE Version 2.3.8 (Chesapeake Nuclear Services, Inc. 2006). NRCDOSE was obtained through the Oak Ridge RSICC.

G.4.3 Input Parameters

Most of the LADTAP II input parameters are specified in Section G.1.3 to include the source term, the discharge flow rate to the receiving fresh water system, and the shore width factor. These parameters' values are appropriate to use in calculating biota dose.

G.4.4 Comparison of Results

Table G-10 compares Southern's biota dose estimates from liquid and gaseous effluents taken from Table 5.4-10 of the ER (Southern 2008) with the NRC staff's estimates. Dose estimates were similar.

Table G-10. Comparison of Dose Estimates to Biota from Liquid and Gaseous Effluents for Two Units

Biota	Pathway	Southern ER (2008) (mGy/yr)[a][b]	Staff Calculation (mGy/yr)[a][b]	Percent Difference
Fish	Liquid	1.6×10^{-3}	1.6×10^{-3}	0
	Gaseous[c]	0	0	0
Muskrat	Liquid	4.7×10^{-3}	4.7×10^{-3}	0
	Gaseous	1.51×10^{-2}	1.52×10^{-2}	+0.7
Raccoon	Liquid	1.9×10^{-3}	1.9×10^{-3}	0
	Gaseous	2.18×10^{-2}	2.18×10^{-2}	0
Heron	Liquid	2.15×10^{-2}	2.15×10^{-2}	0
	Gaseous	1.51×10^{-2}	1.52×10^{-2}	+0.7
Duck	Liquid	4.5×10^{-3}	4.5×10^{-3}	0
	Gaseous	2.18×10^{-2}	2.18×10^{-2}	0
Algae	Liquid	[d]	1.29×10^{-2}	[d]
	Gaseous[c]	[d]	0	[d]
Invertebrate	Liquid	[d]	4.5×10^{-3}	[d]
	Gaseous[c]	[d]	0	[d]

(a) To convert from mGy/yr to mrad/yr, multiply by 100.
(b) For terrestrial biota, dose equals the sum of the plume immersion, vegetable ingestion, inhalation, and two times the ground deposition doses at 0.8 km (0.5 mi) northeast of the site.
(c) Fish, invertebrate species, and algae would not be exposed to gaseous effluents.
(d) Southern did not report results for these biota.

G.5 References

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

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Appendix H

Authorizations and Consultations

Appendix H

Authorizations and Consultations

This appendix contains a list of the environmental-related authorizations, permits, and certifications potentially required by Federal, State, regional, local, and affected Native American tribal agencies related to the early site permit, pre-construction, site redress, construction, and operation of the proposed new nuclear Units 3 and 4 at the Vogtle ESP site. The table is reproduced from Table 1.3-1 through 1.3-5 of the Environmental Report submitted to the U.S. Nuclear Regulatory Commission by Southern Nuclear Operating Company, Inc.

Table 1.3-1 Authorizations Required for Early Site Permit

Agency	Authority	Requirement	License/ Permit No. (1)	Expiration Date (1)	Activity Covered
USFWS	Endangered Species Act	Consultation regarding potential to adversely impact protected species (non-marine species)	NA	NA	Concurrence with no adverse impact or consultation on appropriate mitigation measures.
NMFS	Endangered Species Act	Consultation regarding potential to adversely impact protected species (marine species)	NA	NA	Concurrence with no adverse impact or consultation on appropriate mitigation measures.
GDNR	National Historic Preservation Act, (36 CFR 800)	Consultation regarding potential to adversely affect historic resources	NA	NA	Confirm site construction or operation would not affect protected historic resources.
South Carolina Department of Archives and History	National Historic Preservation Act, (36 CFR 800)	Consultation regarding potential to adversely affect historic resources	NA	NA	Confirm site construction or operation would not affect protected historic resources.
GDNR	Federal Clean Water Act (FCWA) (33 U.S.C. 1251 et seq.)	Section 401 Certification			Compliance with water quality standards.

USFWS - U.S. Fish and Wildlife Service

NMFS - National Marine Fisheries Service

GDNR - Georgia Department of Natural Resources

[1] No permits have been issued.

Table 1.3-2 Authorizations Required for Pre-Construction Activities

Agency	Authority	Requirement	License/ Permit No. (1)	Expiration Date (1)	Activity Covered
NRC	10 CFR 52.25 or 10 CFR 50.10(e)(1)	Early Site Permit with Site Redress Plan or Limited Work Authorization			Non-nuclear construction, including site preparation.
USACE	Clean Water Act (CWA)	Section 404 Permit			Disturbance or crossing wetland areas or navigable waters. For site and rail corridor upgrade.
USACE	33 CFR 323	Dredge and Fill Discharge Permit			Construction/ modification of intake/ discharge to Savannah River. For site and rail corridor upgrade[2].
USACE	Rivers and Harbors Act	Section 10 Permit			Barge slip modification impacts to navigable waters of the U.S.
USDOT	49 CFR 107, Subpart G	Certificate of Registration			Transportation of hazardous materials.
USFWS	Migratory Bird Treaty Act, 50 CFR 21	Federal Depredation Permit			Adverse impacts on protected species and/or their nests. For site and rail corridor upgrade.
FAA	49 USC 1501 14 CFR 77	Construction Notice			Notice of erection of structures (>200 feet high) potentially impacting air navigation.
GPSC	GA Public Utilities Act (O.C.G.A. Section 46-3-1 et seq.), GA Rules and Regulations 515-3-4-.07	Certificate of Public Convenience and Necessity			Present and future public convenience and necessity require the operation of such equipment or facility.

Table 1.3-2 (cont.) Authorizations Required for Pre-Construction Activities

Agency	Authority	Requirement	License/ Permit No. (1)	Expiration Date (1)	Activity Covered
GDNR	GA Endangered Wildlife Act (O.C.G.A. Section 27-3-130 et seq.), GA Rules and Regulations 391-4-10	Depredation Permit			Adverse impacts on state designated protected species and/or their habitat. For site and rail corridor.
GDNR	Federal Clean Air Act (FCAA), GA Air Quality Act (O.C.G.A. Section 12-9-1 et seq.), GA Rules and Regulations 391-3-1	Part 70 Air Quality Construction Permit			Construction air emission sources.
GDNR	FCWA, GA Water Quality Control Act	Revision of existing National Pollutant Discharge Elimination System Permit			Regulates limits of pollutants in liquid discharge to surface water.
GDNR	FCWA, GA Water Quality Control Act (O.C.G.A. 12-5-20), GA Rules and Regulations 391-3-6	General Permit Registration for Storm Water Discharges Associated with Construction Activity for Common Developments	GAR100003	July 31, 2008	Discharge storm water from site during construction.
GDNR	FCWA, GA Water Quality Control Act (O.C.G.A. 12-5-20), GA Rules and Regulations 391-3-6	General Permit Registration for Storm Water Discharges Associated with Construction Activity for Infrastructure Construction Projects	GAR100002	July 31, 2008	Discharge storm water from linear construction sites (e.g., roadways and rail corridor).
GDNR	GA Safe Drinking Water Act (O.C.G.A. 12-5-170 et seq.), GA Rules and Regulations 391-3-5	Revision of existing permit to operate a public water system			Operate a public, non-transient, non-community water system.
GDNR	GA Safe Drinking Water Act (O.C.G.A. 12-5-170 et seq.), GA	Revision of existing permit to operate a			Operate a public, transient, non-community water system.

Table 1.3-2 (cont.) Authorizations Required for Pre-Construction Activities

Agency	Authority	Requirement	License/ Permit No. (1)	Expiration Date (1)	Activity Covered
GDNR	Federal Clean Air Act (FCAA), GA Air Quality Act (O.C.G.A. Section 12-9-1 et seq.), GA Rules and Regulations 391-3-1	Revision of existing Title V Operating Permit			Operation of air emission sources.
Burke County Building Office	Burke County Code of Ordinances, Article VII, Sec. 26-331	Land Disturbing Activity Permit			All land disturbing activities within the boundaries of Burke County.
Burke County Building Office	Burke County Code of Ordinances, Article VII, Sec. 26-336	Building Permit			Construction, alteration, repair, or demolition of any building or structure within the boundaries of Burke County.

NRC - U.S. Nuclear Regulatory Commission

USACE - U.S. Army Corps of Engineers

USDOT - U.S. Department of Transportation

FAA - Federal Aviation Administration

GPSC - Georgia Public Service Commission

[1] No permits have been issued.

[2] The VEGP rail spur was recently upgraded, and SNC will verify that additional upgrades are not needed. For completeness, this table assumes upgrades to the rail corridor will be made.

Table 1.3-3 Authorizations Required for Redress Activities

Agency	Authority	Requirement	License/Permit No. (1)	Expiration Date (1)	Activity Covered
USACE	Clean Water Act (CWA)	Section 404 Permit			Disturbance or crossing wetland areas or navigable waters.
USACE	33 CFR 323	Dredge and Fill Discharge Permit			Construction / modification of intake / discharge to Savannah River.
USACE	Rivers and Harbors Act	Section 10 Permit			Impacts to navigable waters of the U.S. Barge Slip Modification.
USDOT	49 FR 107, Subpart G	Certificate of Registration			Transportation of hazardous materials.
GDNR	Federal Clean Water Act (FCWA) (33 U.S.C. 1251 et seq.)	Section 401 Certification			Compliance with water quality standards.
GDNR	FCWA, GA Water Quality Control Act (O.C.G.A. 12-5-20), GA Rules and Regulations 391-3-6	General Permit Registration for Storm Water Discharges Associated with Construction Activity for Common Developments	GAR100003	July 31, 2008	Discharge storm water from site during construction (might be covered by existing registration).
GDNR	FCWA, GA Water Quality Control Act (O.C.G.A. 12-5-20), GA Rules and Regulations 391-3-6	General Permit Registration for Storm Water Discharges Associated with Construction Activity for Infrastructure Construction Projects	GAR100002	July 31, 2008	Discharge storm water linear construction sites (e.g., roadways, transmission lines) during construction)(might be covered by existing registration).

Table 1.3-3 (cont.) Authorizations Required for Redress Activities

Agency	Authority	Requirement	License/Permit No. (1)	Expiration Date (1)	Activity Covered
GDNR	GA Erosion and Sedimentation Act (O.C.G.A. Section 12-7-1 et seq.), GA Rules and Regulations 391-3-7	Land Disturbing Activity Permit			Permission to conduct land disturbing activities of one acre or larger, or within 200 feet of the bank of any state waters. For site and rail corridor.
GDNR	Federal Clean Air Act (FCAA), GA Air Quality Act (O.C.G.A. Section 12-9-1 et seq.), GA Rules and Regulations 391-3-1	Part 70 Air Quality Construction Permit			Construction air emission sources.
GDNR	GA Safe Drinking Water Act (O.C.G.A. 12-5-170 et seq.), GA Rules and Regulations 391-3-5	Notice of Termination (NOT) -Permit to operate a Public Water System			Operate a public, non-transient, non-community water system.
GDNR	GA Safe Drinking Water Act (O.C.G.A. 12-5-170 et seq.), GA Rules and Regulations 391-3-5	NOT - Permit to operate a Public Water System			Operate a public, transient, non-community water system.
GDNR	GA Groundwater Use Act (O.C.G.A. 12-5-90 et seq.), GA Rules and Regulations 391-3-2-.03	NOT - Permit to Use Groundwater			Consumptive use of 100,000 gallons per day or more of groundwater.
GDNR	GA Groundwater Use Act (O.C.G.A. 12-5-90 et seq.), GA Rules and Regulations 391-3-2-.09	Permit to Withdraw Groundwater			Dewater for foundation if needed for more than 60 days.
GDNR	GA Groundwater Use Act (O.C.G.A. 12-5-90 et seq.), GA Rules and Regulations 391-3-2-.14	Certification of Abandoned Wells			Abandoned wells have been filled, plugged and sealed.

Table 1.3-3 (cont.) Authorizations Required for Redress Activities

Agency	Authority	Requirement	License/Permit No. (1)	Expiration Date (1)	Activity Covered
GDNR	GA Comprehensive Solid Waste Management Act (O.C.G.A. 12-8-20 et seq.), GA Rules and Regulations 391-3-4-.06	Permit by Rule - Inert Landfill Permit			On-site disposal of solid waste consisting of earth and earth-like products, concrete, cured asphalt, rock, bricks, and land clearing debris.
GDNR	GA Comprehensive Solid Waste Management Act (O.C.G.A. 12-8-20 et seq.), GA Rules and Regulations 391-3-4	Private Industry Landfill Permit			On-site disposal of solid waste consisting of construction and demolition debris.
GDNR	GA Comprehensive Solid Waste Management Act (O.C.G.A. 12-8-20 et seq.), GA Rules and Regulations 391-3-4	Solid Waste Handling Permit			Disposal of industrial solid wastes. Transportation of putrescible waste for disposal in a permitted landfill.
Burke County Building Office	Burke County Code of Ordinances, Article VII, Sec. 26-331	Land Disturbing Activity Permit			All land disturbing activities within the boundaries of Burke County.
Burke County Building Office	Burke County Code of Ordinances, Article VII, Sec. 26-336	Building Permit			Construction, alteration, repair, or demolition of any building or structure within the boundaries of Burke County.

[1] No permits have been issued.

Table 1.3-4 Authorizations Required for Construction Activities[1]

Agency	Authority	Requirement	License/ Permit No. (2)	Expiration Date (2)	Activity Covered
NRC	10 CFR 52, Subpart C or 10 CFR 50.10(e)(3)	Combined Operating License or Limited Work Authorization 2			Safety-related construction for a nuclear power facility.
FAA	49 USC 1501 14 CFR 77	Construction Notice			Notice of erection or structures (>200 feet high) potentially impacting air navigation.
USACE	Clean Water Act (CWA)	Section 404 Permit			Disturbance or crossing wetland areas or navigable waters. For transmission line corridor.
USACE	33 CFR 323	Dredge and Fill Discharge Permit			Construction/ modification of intake/ discharge to Savannah River. For transmission line corridor.
USFWS	Migratory Bird Treaty Act, 50 CFR 21	Federal Depredation Permit			Adverse impacts on protected species and/or their nests. For site transmission line corridor.
GDNR	GA Endangered Wildlife Act (O.C.G.A. Section 27-3-130 et seq.), GA Rules and Regulations 391-4-10	Depredation permit			Adverse impacts on state designated protected species and/or their habitat. For transmission line corridor.
GDNR	Federal Clean Air Act (FCAA), GA Air Quality Act (O.C.G.A. Section 12-9-1 et seq.), GA Rules and Regulations 391-3-1	Part 70 Air Quality Construction Permit			Construction air emission sources.

Table 1.3-4 (cont.) Authorizations Required for Construction Activities[1]

Agency	Authority	Requirement	License/ Permit No. (2)	Expiration Date (2)	Activity Covered
GDNR	FCWA, GA Water Quality Control Act (O.C.G.A. 12-5-20), GA Rules and Regulations 391-3-6	General Permit Registration for Storm Water Discharges Associated with Construction Activity for Infrastructure Construction Projects	GAR100002	July 31, 2008	Discharge storm water linear construction sites (e.g., roadways, transmission lines) during construction.
GDNR	GA Comprehensive Solid Waste Management Act (O.C.G.A. 12-8-20 et seq.), GA Rules and Regulations 391-3-4	Solid Waste Handling Permit			Disposal of industrial solid wastes. Transportation of putrescible waste for disposal in a permitted landfill.
GDNR	GA Erosion and Sedimentation Act (O.C.G.A. Section 12-7-1 et seq.), GA Rules and Regulations 391-3-7	Land Disturbing Activity Permit			Permission to conduct land disturbing activities of one acre or larger, or within 200 feet of the bank of any state waters. For transmission line corridor.
GDNR	FCWA, GA Water Quality Control Act (O.C.G.A. 12-5-20), GA Rules and Regulations 391-3-6	General Permit Registration for Storm Water Discharges Associated with Construction Activity for Infrastructure Construction Projects	GAR100002	July 31, 2008	Discharge storm water linear construction sites. For transmission line corridor.

Table 1.3-4 (cont.) Authorizations Required for Construction Activities[1]

Agency	Authority	Requirement	License/ Permit No. (2)	Expiration Date (2)	Activity Covered
GDOT	23 CFR 1.23	Permit			Utility right-of-way easement.
Burke County Building Office	Burke County Code of Ordinances, Article VII, Sec. 26-331	Land Disturbing Activity Permit			All land disturbing activities within the boundaries of Burke County.
Various county offices responsible for land disturbing activities	Jefferson, Warren, and McDuffie County Ordinances	Land Disturbing Activity Permit.			Land disturbing activities within county boundaries. For transmission line corridor.

GDOT – Georgia Department of Transportation

[1] Assumes that SNC obtained the authorizations that Table 1.3-2 identifies.

[2] No permits have been issued.

Table 1.3-5 Authorizations Required for Operation[1]

Agency	Authority	Requirement	License/ Permit No.	Expiration Date	Activity Covered
GDNR	FCWA, GA Water Quality Control Act	Revision of existing National Pollutant Discharge Elimination System Permit			Regulates limits of pollutants in liquid discharge to surface water.
GDNR	Federal Clean Air Act (FCAA), GA Air Quality Act (O.C.G.A. Section 12-9-1 et seq.), GA Rules and Regulations 391-3-1	Revision of existing Title V Operating Permit			Operation of air emission sources.
GDNR	GA Groundwater Use Act (O.C.G.A. 12-5-90 et seq.), GA Rules and Regulations 391-3-2-.03	Revision of existing Permit to Use Groundwater			Consumptive use of 100,000 gallons per day or more of groundwater.
GDNR	GA Water Quality Control Act (O.C.G.A. 12-5-31 et seq.), GA Rules and Regulations 391-3-6	Revision of existing Surface Water Withdrawal Permit to Withdraw, Divert or Impound Surface Water			Withdraw water from the Savannah River for cooling makeup and in-plant use.
South Carolina Department of Health and Environmental Control – Division of Waste Management	South Carolina Radioactive Waste Transportation and Disposal Act (Act No. 429)	Revision of existing South Carolina Radioactive Waste Transport Permit			Transportation of radioactive waste into the State of South Carolina.

Table 1.3-5 (cont.) Authorizations Required for Operation[1]

Agency	Authority	Requirement	License/ Permit No.	Expiration Date	Activity Covered
State of Tennessee Department of Environment and Conservation Division of Radiological Health	Tennessee Department of Environment and Conservation Rule 1200-2-10.32	Revision of existing Tennessee Radioactive Waste License-for-Delivery			Transportation of radioactive waste into the State of Tennessee.
State of Utah Department of Environmental Quality Division of Radiation Control	R313-26 of the Utah Radiation Control Rules	Revision of existing General Site Access Permit			Transportation of radioactive materials into the State of Utah.
GPSC	GA Radiation Control Act (O.C.G.A. 31-13-1 et seq.), GA Rules and Regulations 391-3-17-.06	Revision of existing General Permit – Transportation of Radioactive Materials			Transportation of radioactive materials in the State of Georgia.

[1] Assumes that SNC obtained the authorizations that Tables 1.3-2 and 1.3-4 identify.

Appendix I

VEGP Site Characteristics, AP1000 Design Parameters and Site Interface Values

Appendix I

VEGP Site Characteristics, AP1000 Design Parameters and Site Interface Values

The AP1000 Design Parameters and Site Interface Values are from the Southern Nuclear Operating Company, Inc. (Southern) Environmental Report (ER) Table 3.0-1 unless otherwise specified (Southern 2008). These characteristics and parameters were used by the Nuclear Regulatory Commission (NRC) staff in its independent evaluation of the environmental impacts of the proposed new units. In some cases, the staff substituted values based on its own analysis.

Additional information is available in Westinghouse (2003).

Table I-1. Southern Site Characteristics, AP1000 Design Parameters and Site Interface Values

Part I Site Characteristic			
Item	**Value**		**Description and Reference**
Airborne Effluent Release Point			
Minimum Distance to EAB	½ mi (~800 m)		The lateral distance from the release point (power block area) to the modeled EAB for dose analysis. Refer to Section 2.7.6, Table 2.7-14
Atmospheric Dispersion (χ/Q) (Accident)	*The atmospheric dispersion coefficients used to estimate dose consequences of accident airborne releases.* *Values used in analyses presented in Section 7.1*		
	Time (hour)	Site χ/Q	Atmospheric dispersion coefficients used to estimate dose consequences of accident airborne releases.
EAB (χ/Q)	0 - 2	6.62E-5 sec/m^3	
LPZ (χ/Q)	0 - 8	1.25E-5 sec/m^3	
	8 - 24	1.10E-5 sec/m^3	
	24 - 96	8.40E-6 sec/m^3	Refer to Section 2.7.5, Tables 2.7-12 and 2.7-13, Section 7.1 and Table 7.1-2
	96 - 720	5.75E-6 sec/m^3	
Gaseous Effluents Dispersion, Deposition (Annual Average)			
Atmospheric Dispersion (χ/Q)	χ/Q values in Table 2.7-15		The atmospheric dispersion coefficients used to estimate dose consequences of normal airborne releases. Refer to Section 2.7.6, Table 2.7-15
Population Density			
Population density over the lifetime of the new units until 2090	Population density meets the guidance of RS-002, Attachment 3		Refer to Section 2.5.1, Figures 2.5.1-1 and 2.5.1-2, Table 2.5.1-1
Exclusion Area Boundary (EAB)	The EAB is as defined on Drawing No. AR01-0000-X2-2002 Refer to Figure 3.1-3		The exclusion area boundary generally follows the plant property line and is defined on Drawing No. AR01-0000-X2-2002. Refer to Section 2.7.5
Low Population Zone (LPZ)	A 2-mile-radius circle from the midpoint between the containment buildings of Units 1 and 2		The LPZ is a 2-mile-radius circle from the midpoint between Unit 1 and Unit 2 containment buildings. Refer to Section 2.7.5

Part II Design Parameters		
Item	**Single Unit [Two Unit] Value**	**Description and Reference**
Facility Characteristics		
Height	234 ft 0 in	The height from finished grade to the top of the tallest power block structure, excluding cooling towers Section 5.3.3.2.5 discusses potential for avian collisions, and Section 5.8.1.3 discusses visual impacts.
Foundation Embedment	39 ft 6 in *to bottom* of basemat from plant grade	The depth from finished grade to the bottom of the basemat for the most deeply embedded power block structure. Sections 4.2.2 and 5.2.2 discuss impacts to groundwater from installing the foundation
Max Inlet Temp Condenser / Heat Exchanger	91°F	The maximum acceptable design circulating water temperature at the inlet to the condenser or cooling water system heat exchangers. Refer to Section 3.4.2.3
Condenser / Heat Exchanger Duty	7.54E9 BTU/hr [1.51E10 BTU/hr]	Design value for the waste heat rejected to the circulating water system across the condensers. Selected value includes part of the service water system heat duty (from turbine equipment heat exchanger). Refer to Sections 3.4.1 and 3.4.2, and Table 3 4-2
Cooling Tower Temperature Range	25.2°F	The temperature difference between the hot water entering the tower and the cold water leaving the tower. Refer to Table 3.4-2
Cooling Tower Cooling Water Flow Rate	600,000 gpm [1,200,000 gpm]	The total nominal cooling water flow rate through the condenser/heat exchangers. Refer to Sections 3.3.1 and 3.4.1, and Table 3.4-2

Part II Design Parameters		
Item	**Single Unit [Two Unit] Value**	**Description and Reference**
Auxiliary Heat Sink		
CCW Heat Exchanger Duty	8.3E7 BTU/hr normal 2.96E8 BTU/hr shutdown [1.66E8 BTU/hr normal 5.92E8 BTU/hr shutdown]	The heat transferred from the CCW heat exchangers to the service water system for rejection to the environment. Refer to Section 3.3.1 and Table 3.4-1
SWS Cooling Tower Cooling Water Flow Rate	9,000 gpm normal 18,000 gpm shutdown [18,000 gpm normal 36,000 gpm shutdown]	The total nominal cooling water flow rate through the SWS. Refer to Section 3.3.1 and Table 3.4-1
Plant Characteristics		
Rated Thermal Power (RTP)	3,400 MWt	The thermal power generated by the core. Refer to Section 3.2
Rated NSSS Thermal Output	3,415 MWt [6,830 MWt]	The thermal power generated by the core plus heat from the reactor coolant pumps. Refer to Section 3.2
Average Fuel Enrichment	2.35 wt % to 4.45 wt % 4.51 wt %	Concentration of U-235 in fuel - Initial load. Refer to Section 3.2. Average concentration, in weight percent, of U-235 in reloads; see Section 5.11.1; used in analysis presented in Section 5.11.2
Fuel Burn-up	60,000 MWd/MTU (design max) 48,700 MWd/MTU (expected)	Value derived by multiplying the reactor thermal power by time of irradiation divided by fuel mass (expressed in megawatt - days per metric ton of uranium fuel). Refer to Section 3.2 and 5.11.1; average discharge burnup used in analysis presented in Section 5.11.2
Normal Releases		
Liquid Source Term	See Table 3.5-1 0.26 curies total nuclides except tritium [0.52 curies]	The annual activity, by isotope, contained in routine liquid effluent streams. Used in analyses presented in Section 5.4

Part II Design Parameters		
Item	**Single Unit [Two Unit] Value**	**Description and Reference**
Tritium (liquid)	1,010 curies [2,020 curies]	The annual activity of tritium contained in routine liquid effluent streams. Section 5.4 analyses account for tritium releases
Gaseous Source Term	See Table 3.5-2 11,000 curies total nuclides except tritium [22,000] [Double values in Table 3.5-2]	The annual activity, by isotope, contained in routine plant airborne effluent streams. Used in analysis presented in Section 5.4
Tritium (gaseous)	See Table 3.5-2 350 curies [700 curies]	The annual activity of tritium contained in routine plant airborne effluent streams. Section 5.4 analyses account for tritium releases
Solid Waste Activity	See Tables 3.5-4 and 3.5-5 1,764 curies [3,528 curies]	The annual activity contained in solid radioactive wastes generated during routine plant operations. Refer to Sections 3.5.3 and 5.5.4
Dry Active ("Solid") Waste Volume	4,994 ft^3 [9,988 ft^3]	The expected volume of solid radioactive wastes generated during routine plant operations. Refer to Section 3.5.3
Accident Releases		
Elevation (Post Accident)	Ground level	The elevation above finished grade of the release point for accident sequence releases. Used to calculate impacts of accidents in Sections 2.7.5, 7.1 and 7.2
Gaseous Source Term (Post-Accident)	See Tables 7.1-4 to 7.1-12	The activity, by isotope, contained in post-accident airborne effluents. Refer to Section 7.1 and Tables 7.1-4 to 7.1-12.

Part III Site Interface Values		
Item	**Single Unit [Two Unit] Value**	**Description and Reference**
Normal Plant Heat Sink (condenser and turbine auxiliary cooling)		
CWS Cooling Tower Acreage	38 acres [69.3 acres]	The land required for CWS natural draft cooling towers, including support facilities such as equipment sheds, basins, or canals. Refer to Sections 3.1.2 and 3.4.2
CWS Cooling Tower Approach Temperature	11°F	The difference between the cold water temperature leaving the tower and the ambient wet bulb temperature. Refer to Section 3.4.2
CWS Cooling Tower Blowdown Temperature	91°F	The design maximum expected blowdown temperature at the point of discharge to the receiving water body. Refer to Section 5.3
CWS Cooling Tower Evaporation Rate	13,950 gpm (14,440 gpm) [27,900 gpm (28,880 gpm)]	The expected (and maximum) rate at which water is lost by evaporation from the cooling water systems. Refer to Section 3.3.1 and Table 3.3-1; used as basis for analyses in Section 5.3.3.1
CWS Cooling Tower Drift Rate	12 gpm [24 gpm]	The maximum rate at which water is lost by drift from the cooling water systems. Refer to Section 3.3.1, and Table 3.3-1; used as basis for analyses in Section 5.3.3.1
CWS Cooling Tower Height	600 ft	The vertical height above finished grade of the natural draft cooling tower. Refer to Table 3.4-2; used as basis for analysis in Section 5.3.3.1
CWS Cooling Tower Make-up Flow Rate	18,612 gpm (28,892 gpm) [37,224 gpm (57,784 gpm)]	The expected (and maximum) design rate of removal of water from the Savannah River to replace water losses from circulating water systems The make-up flow rate is a calculated value based on the sum of the evaporation rate plus the blowdown flow rate plus drift. Refer to Sections 3.3.1, 3.4.1 and 3.4.2 and Table 3.3-1 Used as basis for analysis in Section 5.3.1 and 5.3.2

Part III Site Interface Values		
Item	**Single Unit [Two Unit] Value**	**Description and Reference**
CWS Cooling Tower Offsite Noise Levels	<30 to ≤40 dBa	The maximum expected sound level at the site boundary. Refer to Table 2.7-26.
CWS Cooling Tower Heat Rejection Rate (Blowdown)	4,650 gpm (expected), 14,440 gpm (max) @91°F [9,300 gpm (expected) 28,880 gpm (max)] @ 91°F	The expected heat rejection rate to a receiving water body, expressed as flow rate in gallons per minute at a temperature in degrees Fahrenheit. Refer to Sections 2.3.2, 3.3.2; used as basis for analyses in Sections 5.3.1 and 5.3.2
CWS Cooling Tower Maximum Consumption of Raw Water	14,452 gpm [28,904 gpm]	The expected maximum short-term consumptive use of water by the circulating water systems (evaporation and drift losses). Refer to Sections 3.3.1 and 3.4.1, and Table 3.3-1
CWS Cooling Tower Expected Consumption of Raw Water	13,962 gpm [27,924 gpm]	The expected normal operating consumption of water by the circulating water system (evaporation and drift losses). Refer to Sections 3.3 and 3.4, and Table 3.3-1
Auxiliary Heat Sink (nuclear island cooling)		
SWS Cooling Tower Acreage	0.5 acre [1 acre]	The land required for SWS mechanical draft cooling towers, including support facilities such as equipment sheds and basins. Refer to Section 3.1.2
SWS Cooling Tower Makeup Rate	269 gpm (1,177 gpm) [537 gpm (2,353 gpm)]	The expected (maximum) rate of removal of water from wells to replace water losses from auxiliary heat sink. Refer to Sections 3.3 and 3.4.1
Airborne Effluent Release Point		
Normal Dose Consequences to the Maximally Exposed Individual	Total body: 0.05 mrem [0.1 mrem]	The estimated annual design radiological dose consequences due to gaseous releases from normal operation of the plant. Refer to Section 5.4
Post-Accident Dose Consequences	See Tables 7.1-13 to 7.1-22	The estimated design radiological dose consequences due to gaseous releases from postulated accidents. Refer to Section 7.1

Part III Site Interface Values		
Item	**Single Unit [Two Unit] Value**	**Description and Reference**
Liquid Radwaste System		
Normal Dose Consequences	10 CFR 50, App I, 10 CFR 20 40 CFR 190	The estimated design radiological dose consequences due to liquid effluent releases from normal operation of the plant. Refer to Section 5.4.2.1
Plant Characteristics		
Total Acreage	310 acres for 2 units	The land area required to provide space for all plant facilities, including power block, switchyard, spent fuel storage, and administrative facilities. Refer to Section 4.1.1.1
Groundwater Consumptive Use	376 gpm (1,570 gpm) [762 gpm (3,140 gpm)]	The Rate of withdrawal of groundwater to serve the new units. Used in analysis in 5.2.2
Plant Population		
Operation	345 [660]	The number of people required to operate and maintain the plant. Refer to Section 3.10.3; used in analyses in Section 5.8
Refueling / Major Maintenance	1,000	The additional number of temporary staff required to conduct refueling and major maintenance activities. Refer to Section 5.8
Construction	1,576 people monthly average [3,152 people monthly average]	The monthly average estimated construction workforce staffing for two AP1000 units being constructed simultaneously. This assumes a site preparation schedule of 18 months, 48 months from first concrete to fuel load, with 6 months from fuel load to commercial operation and 12 months between commercial operation of each unit. This assumes 20.5 job hours per net kilowatt installed, giving credit for offsite modular construction. The peak number of construction workforce personnel could reach the 4,400 range. Refer to Section 3.10.1; used in analyses in Section 4.7

I.1 Reference

Southern Nuclear Operating Company, Inc. (Southern). 2008. *Southern Nuclear Operating Company, Vogtle Early Site Permit Application, Revision 4. Southern Company, Birmingham, Alabama*. Accession No. ML081020073.

Westinghouse Electric Company, LLC. (Westinghouse). 2003. *Siting Guide: Site Information for an Early Site Permit Application, APP-0000-X1-001, Revision 3*. Westinghouse Electric Company LLC, Pittsburgh, Pennsylvania.

Appendix J

Statements Made in the Early Site Permit Environmental Report Considered in the NRC Staff's Environmental Review

Appendix J

Statements Made in the Early Site Permit Environmental Report Considered in the NRC Staff's Environmental Review

If an early site permit (ESP) for the Vogtle Electric Generating Plant (VEGP) site is issued and if Southern Nuclear Operating Company (Southern) references it in an application for a construction permit (CP) or a combined license (COL), Southern would have to demonstrate that the design selected for the site falls within the bounds of the U.S. Nuclear Regulatory Commission's (NRC's) ESP analysis in this environmental impact statement (EIS). With regard to the environmental impacts associated with construction and operation of the proposed VEGP Units 3 and 4, Southern made a number of representations in its ESP application, responses to requests for additional information, and other submittals. As listed in this appendix, the NRC staff relied on these representations and staff-developed assumptions in assessing the environmental impacts associated with construction and operation of the proposed Units 3 and 4. As such, fulfillment of these representations and assumptions provides part of the basis for the final impact assessment. Should a CP or COL applicant reference the ESP, and the NRC staff ultimately determine that a representation or assumption has not been satisfied at the CP/COL stage, that information would be considered new and potentially significant, and the affected impact area could be subject to reexamination.

Throughout its Environmental Report (ER) supporting the ESP application, responses to requests for additional information, and other submittals, Southern provides

- commitments to address certain issues in the design, construction, and operation of the facility
- statements of planned compliance with current laws, regulations, and requirements
- commitments to future activities and actions that it will take should it decide to apply for a CP or COL
- descriptions of Southern's estimate of the environmental impacts resulting from the construction and operation of the new nuclear units on the site
- descriptions of Southern's estimates of future activities and actions of others and the likely environmental impacts of those activities and actions that would be expected should Southern decide to apply for a CP or COL.

The following tables are meant to aid the staff and the applicant in the event this EIS is referenced in a CP or COL application. The tables are not meant to replace the analyses in the EIS, or all the statements and assumptions that the staff used to perform those analyses. Table J-1 provides Southern's representations and the NRC staff's assumptions about design (Appendix I, Site Characteristics and AP1000 Design Parameters), permits and authorizations (Appendix H), mitigation measures and controls (Section 4.10 and 5.11 of the EIS), and the site redress plan (Section 4.11). Table J-2 contains references to representations and assumptions organized by technical area without repeating the information in Table J-1.

Table J-1. Appendix I, Appendix H, Section 4.10 and 5.11 Assumptions and Commitments

Area	Representations/Assumptions
Site Characteristics	An applicant referencing this EIS will demonstrate its application is bounded by the ESP site characteristics contained in Table I-1, Part 1.
AP1000 Design Parameters	An applicant referencing this EIS will demonstrate its application is bounded by the AP1000 design values contained and referenced in Table I-1, Part 2.
Site Interface Values	An applicant referencing this EIS will demonstrate its application is bounded by the site interface values contained in Table I-1, Part 3.
Authorizations and Permits	An applicant referencing this EIS will provide the status of the authorizations and permits specified in Appendix H.
Mitigation of Construction Impacts	An applicant referencing this EIS will demonstrate its application contains the mitigation measures contained in Section 4.10.
Mitigation of Operational Impacts	An applicant referencing this EIS will demonstrate its application contains the mitigation measures contained in Section 5.11.
New and Significant Information	An applicant referencing this EIS will provide, in its application, any new information that could affect the technical basis or conclusions for determination of an impact level in the EIS.

Table J-2. Assumptions by Technical Area Not Contained in Table J-1

ER Section Number, RAI, or Other Submittal	Applicant Statement	EIS Section
	Land Use	
ER 2.1	The centerline of VEGP Units 3 and 4 will be approximately 2,100 feet west and 400 feet south of the center of the existing Unit 2 containment building. Unit 4 containment will be approximately 800 feet west of Unit 3 containment.	2.2.1
ER 2.1	A railroad spur runs to the site from the Norfolk Southern Savannah-to-Augusta track.	2.2.1
ER 2.2.1.1	No prime farmland soils occur on the VEGP site. Burke County is developing zoning regulations, but the VEGP site currently is not zoned.	2.2.1
ER 2.2.2.1	The existing transmission system supporting VEGP Units 1 and 2 has two 500-kV lines and four 230-kV lines in four corridors. There is an additional 230-kV line to the Wilson Station.	2.2.2
ER 2.2.1.2	GPC provides access to the Savannah River and picnic tables at its boat landing, immediately downstream of the VEGP property.	2.2.1
ER 2.2.3	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).	2.2.3
ER 3.7.2	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.	3.3, 4.1.2, 9.2.2
ER 3.7.2	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.	4.1.2

Table J-2. (contd)

ER Section Number, RAI, or Other Submittal	Applicant Statement	EIS Section
ER 3.7.2	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.	3.3
ER 4.1.1.1	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 25 acres of mixed and bottom land hardwoods will be lost. One permitted landfill in the construction footprint (Landfill #3) will be relocated.	4.1.1
ER 4.1.1.1	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.	4.1.1
ER 4.1.1.1	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.	4.1.1

Table J-2. (contd)

ER Section Number, RAI, or Other Submittal	Applicant Statement	EIS Section
ER 4.1.2	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.	4.1.2
ER 4.3.2.2	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.	4.1.2
	Meteorological and Air Quality	
ER 3.6.3.1, 5.8.1.1	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.	5.2.2

Table J-2. (contd)

ER Section Number, RAI, or Other Submittal	Applicant Statement	EIS Section
ER 4.4.1.3, 4.4.1.1.1, 4.3.1.1	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 • Phase grading to minimize the area of disturbed soils • Re-vegetate road medians and slopes	4.2.1
ER 4.4.2.2.4, 4.4.2.1	For this analysis, 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.	4.2.2

Table J-2. (contd)

ER Section Number, RAI, or Other Submittal	Applicant Statement	EIS Section
ER 4.4.2.2.4, 5.8.2.2.4	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 work force 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.	4.2.2
ER 5.3.3.1.1	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 the summer. The plumes will occur in all compass directions. No impacts other than aesthetic will result from the plumes. Although visible from offsite, the plumes resemble clouds and will not disrupt the aesthetic view.	5.2.1
ER 5.3.3.1.3	Water droplets drifting 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. Therefore, as these droplets evaporate, either in the air or on vegetation or equipment, they deposit these solids. The maximum predicted solids deposition rate from a single tower will be as follows: Maximum pounds per acre per month 3.6 Feet to maximum deposition 1,600 Direction to maximum deposition North	5.2.1

Table J-2. (contd)

ER Section Number, RAI, or Other Submittal	Applicant Statement	EIS Section
ER 10.5.2	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.	5.2.1
	Surface Water Use and Quality	
ER 2.3.2.1.1	Most water users in the Savannah River basin depend primarily on surface water to satisfy current and future demands.	2.6.2.2
ER 2.3.2.1.1	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.	2.6.2.1
ER 2.3.2.1.2	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.	3.2.2.1
ER 2.3.2.1.2	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.	3.2.2.2

Table J-2. (contd)

ER Section Number, RAI, or Other Submittal	Applicant Statement	EIS Section
ER 3.3.1	Surface water consumptive use for the two AP1000 units' normal operation is 27,924 gpm, with a maximum of 28,904 gpm.	3.2.2.1
ER 3.3.1	The final effluent discharge stream will be routed to the Savannah River downstream of the existing units' discharge.	3.2.2.2
ER 3.3.2	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.	3.2.2.2
ER 3.4.1.1.1	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.	3.2.2.1
ER 3.4.1.1.1	Each AP1000 unit will use a circulating water system (CWS) to dissipate up to 7.55×10^9 Btu/hr (1.51×10^{10} 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	3.2.2.1
ER 3.4.1.2	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.	3.2.2.1
ER 3.4.2.2	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.	2.6.1.3

Table J-2. (contd)

ER Section Number, RAI, or Other Submittal	Applicant Statement	EIS Section
3.6.3.3	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.	3.2.4.3
ER 3.6.3.4	VEGP generates small volumes of mixed wastes. VEGP maintains procedures for the safe storage and disposal of mixed wastes. The treatment, storage and disposal of mixed wastes generated by the new units will be managed as current mixed wastes are managed.	3.2.3.3
ER 3.6.3.5	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.	3.2.4.3
ER 3.6.3.5	VEGP has an existing solid waste landfill permitted by Georgia EPD 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.	3.2.4.3
ER 4.2.1	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.	4.3.1

Table J-2. (contd)

ER Section Number, RAI, or Other Submittal	Applicant Statement	EIS Section
ER 4.2.1	Southern will follow best management practices for soil and erosion control as required by applicable federal and state laws and regulations.	4.3.1
ER 4.2.2	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.	4.3.2
ER 5.2.1, 5.3.1.1	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.	5.3.2.1, 3.2.2.1
ER 5.2.2.1	Current evaporative consumptive loss for the existing units is 30,000 gpm.	7.3.1.1
ER 5.2.3.1	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.	5.4.2.3,
ER 5.2.3.1	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 (Table 5.2-1). This equates to a dilution factor of from 60 to 120, depending on the time of year.	5.3.3.1
ER 5.2.3.4	A 2-foot diameter port was chosen as a compromise between mixing zone and velocity considerations.	5.3.3.1

Table J-2. (contd)

ER Section Number, RAI, or Other Submittal	Applicant Statement	EIS Section
ER 5.3.2.1	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.	5.3.3.1
	Groundwater Use and Quality and Geology	
ER 4.2.2	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.	4.3.2
ER 4.2.2	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.	4.3.2
ER 4.2.3	None of the planned construction activities has the potential to affect the deep, confined aquifers.	4.3.2
ER 10.5.1	No other large groundwater users are in the vicinity of VEGP.	7.3.1.2
	Terrestrial Ecology	
Southern RAI Response E4.3-1a, January 2007	Best Management Practices used to minimize impacts during pre-construction and construction activities begin with programmatic Construction Environmental Control Plan being put 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	4.4.1

Table J-2. (contd)

ER Section Number, RAI, or Other Submittal	Applicant Statement	EIS Section
Southern RAI Response E3.9-4, January 2007	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	4.4.1
Southern RAI Response E4.3-1e, January 2007	The length of disturbance of the shoreline at the barge slip will be approximately 90 feet.	4.4.1
Southern RAI Response, Conference Call Summary, June 20, 2007	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).	4.4.1
Southern RAI Response E3.9-4, January 2007	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.	4.4.1
Southern RAI Response E3.9-4, January 2007	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.	4.4.1
Southern RAI Response E3.9-4, January 2007	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.	4.4.1

Table J-2. (contd)

ER Section Number, RAI, or Other Submittal	Applicant Statement	EIS Section
Southern RAI Response E3.9-4, January 2007	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.	4.4.1
Southern RAI Response E3.9-4, January 2007	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.	4.4.1
Southern RAI Response E4.2-2, January 2007	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.	4.4.1
Southern RAI Response E2.4-1d, January 2007	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	4.4.1
Southern RAI Response E3.9-4, January 2007	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.	4.4.1
Southern RAI Response E2.4-1c, January 2007	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.	4.4.1

Table J-2. (contd)

ER Section Number, RAI, or Other Submittal	Applicant Statement	EIS Section
Southern RAI Response, Conference Call Summary, June 20, 2007	New upland retention ponds would be constructed and used to accept surface water runoff and water from the dewatering process. These new retention ponds would function as sedimentation basins. 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.	4.4.1
ER 3.9.2.11	The power block area will be excavated to approximately 90 feet below grade, removing sand, silt, and clay down to the marl layer. The excavation will be concurrent with the installation of a dewatering system, slope protection and retaining wall systems. Duration: 6 months	4.4.1
SSAR 2.4.12	The construction duration for excavation then backfill to the bottom of the containment and auxiliary buildings is currently projected to be about 18 months.	4.4.1
Southern RAI Response E2.4-1c, January 2007	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.	4.4.1
Southern RAI Response RAI E2.4-1d, January 2007	The actual intake structure and canal will be located in approximately 3 acres of wetlands.	4.4.1
Southern RAI Response E4.3-1b, January 2007	1.6 ha (4.0 ac) for the simulator building was included in the disturbance footprint.	4.4.1

Table J-2. (contd)

ER Section Number, RAI, or Other Submittal	Applicant Statement	EIS Section
Southern RAI Response RAI E6.3-1, January 2007	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.	4.4.1
ER 4.1.2	GPC will site the [transmission] line in accordance with Georgia Code Title 22, Section 22-3-61. GPC has procedures for implementing this regulation, which involve data gathering on land uses, environmental issues, existing corridors, and cultural resources in the study area; consultation with USFWS, the GDNR, USACE, and evaluation of environmental, cultural, and land use issues. The environmental evaluation addresses crossing wetlands, National Forests, government lands under protection, and stream and rivers; and impact to special habitats and threatened and endangered species.	4.4.1, 4.4.3
Southern Comment 9 on draft EIS dated December 26, 2007	Permanent facilities would occupy approximately 320 acres and temporary facilities will occupy approximately 200 acres.	4.4.1, 4.4.3
Southern Comment 10 on draft EIS dated December 26, 2007	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.	4.4.1, 4.4.3

Table J-2. (contd)

ER Section Number, RAI, or Other Submittal	Applicant Statement	EIS Section
Southern RAI Response E4.3-1c, January 2007; Southern RAI Response 3, April 2008	Habitat type acreage associated with various construction areas as described in the RAI responses	4.4.1, 4.4.3
Southern's RAI Response - Disturbed Area Table associated with Figure 1, April 2008	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	4.4.1, 4.4.3
Southern RAI Response E2.4-1g, January 2007	SNC will work with the Georgia Department of Natural Resources to ensure that any protected species are indeed protected.	4.4.1; 4.4.3
ER 4.4.1	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.	4.4.1, 4.4.3
GPC Corridor Study 2007	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	4.4.3
ER 6.5.1.1	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.	4.4.1, 4.4.3
ER 3.9.4	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.	5.4.1

Table J-2. (contd)

ER Section Number, RAI, or Other Submittal	Applicant Statement	EIS Section
ER 5.3.4.2	The noise levels from cooling tower operation and diesel generators are anticipated to be 55 decibels (dBA) at 300 m (1000 ft)	5.4.1
ER 5.3.1.3	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.	5.4.1
ER 5.1.2	GPC has established corridor vegetation management and line maintenance procedures that will be used to maintain the new corridor and transmission line.	5.4.1
GPC Corridor Study 2007	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.	4.4.1, 4.4.3, 5.4.1, 5.4.3
	Aquatic Ecology	
ER 2.1-1	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).	2.7.2.1
E-mail - 4/26/07 ML072140748	The bluebarred sunfish (*Elassoma okatie*) is unlikely to be present in waters on the Vogtle site.	2.7.2.1
ER 6.5.1.2	The current VEGP NPDES permit does not require monitoring of aquatic ecological resources.	2.7.2.3
ER 6.5.2.2	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.	4.4.2.5

Table J-2. (contd)

ER Section Number, RAI, or Other Submittal	Applicant Statement	EIS Section
ER 6.5.2.2	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.	4.4.2.5
RAI 2.4-1	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.	4.4.2.1, 4.4.2.2
RAI E3.9-4	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	4.4.2.1

Table J-2. (contd)

ER Section Number, RAI, or Other Submittal	Applicant Statement	EIS Section
RAI E3.9-4	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 N12600 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.	4.4.2.1
RAI E3.9-4	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.	4.4.2.1
RAI E3.9-4	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.	4.4.2.1
RAI E4.2-2	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.	4.4.2.1
6/20/07 Conference call summary ML071840243	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.	4.4.2.1
RAI E 3.9-4	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.	4.4.2.1

Table J-2. (contd)

ER Section Number, RAI, or Other Submittal	Applicant Statement	EIS Section
ER 3.9-4	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.	4.4.2.1
E3.9-4	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.	4.4.2.1
RAI E 3.9-4	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.	4.4.2.1
RAI E3.9-4	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.	4.4.2.1

Table J-2. (contd)

ER Section Number, RAI, or Other Submittal	Applicant Statement	EIS Section
RAI E 3.9-4	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.	4.4.2.1
RAI E3.9-4	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.	4.4.2.3
RAI E3.9-5	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.	4.4.2.1
RAI E3.9-6	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.	4.4.2.1
RAI E2.4-1g	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.	4.4.2.1

Table J-2. (contd)

ER Section Number, RAI, or Other Submittal	Applicant Statement	EIS Section
ER 4.3-5	The new line will cross Burke, Glascock, Jefferson, Richmond, Warren, and McDuffie counties.	4.4.2.3
ER 4.3.2.2	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. For example, in accordance with Georgia Sediment and Erosion Control Act best management practices, a 25-foot buffer would be maintained along all waters of the state that need to be cleared for new transmission corridor right-of-way. No structures will be placed within the buffer. All buffers will be cleared with methods approved by the Georgia Environmental Protection Division (EPD). ... Access roads will be built only as necessary to construct and 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.	4.4.2.3
December 2006 RAI ML063520382	The substrate in the deep sections of the Savannah River is characterized as "...brown poorly graded gravel with sand..." to "...poorly graded gravel..."	4.4.3.2
ER 5.2.3.1	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.	5.4.2.3

Table J-2. (contd)

ER Section Number, RAI, or Other Submittal	Applicant Statement	EIS Section
ER 3.4.2.2	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.	5.4.2.3
ER 5.2.3.1	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.	5.4.2.3
ER 5.2.3.8	...scouring will be localized... at the discharge.	5.4.2.4
ER 5.3.1.1	The Cooling Water Intake Structure (CWIS) will incorporate a number of design features that will reduce impingement and entrainment of aquatic organisms. These include (1) the basic orientation of the cooling water intake structure and canal, perpendicular to the river and its flow.	5.4.2.1
ER 5.3.1.2	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.	5.4.2.1

Table J-2. (contd)

ER Section Number, RAI, or Other Submittal	Applicant Statement	EIS Section
	Socioeconomics and EJ	
ER 4.4.1	Vibration and shock impacts are not expected, due to the strict control of blasting and other shock-producing activities.	4.5.1
ER 4.4.1	All construction activities will occur within the construction site boundary.	4.5.1.1
ER 4.4.1	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.	4.5.1.3
ER 4.4.1.1.1	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.	4.5.1.1
ER 4.4.1.1.1	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.	4.5.1.1
ER 4.4.1.1.1	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.	4.5.1.1
ER 4.4.1.1.1	All equipment will be serviced regularly and operated in accordance with local, State, and Federal emission requirements.	4.5.1.1

Table J-2. (contd)

ER Section Number, RAI, or Other Submittal	Applicant Statement	EIS Section
ER 4.4.1.1.1	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.	4.5.1.1
ER 4.4.1.1.2	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.	4.5.1.2
ER 4.4.1.1.3	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.	4.5.1.3
ER 4.4.1.1.3	Any damage to public roads, markings, or signs caused by construction activities will be repaired to pre-existing conditions or better.	
ER 4.4.1.1.3	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.	4.5.1.3, 4.5.4.1
ER 4.4.1.2	[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.	4.5.1.1
ER 4.4.1.2	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); Restrict noise-related activities (e.g., pile driving) to daylight hours; Restrict delivery times to daylight hours.	

Table J-2. (contd)

ER Section Number, RAI, or Other Submittal	Applicant Statement	EIS Section
ER 4.4.1.3	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	4.5.1.1
ER 4.4.2.1	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.	4.5.2
ER 4.4.2.1	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.	4.5.2
ER 4.4.2.2	It is expected that site preparation and construction activities will continue for approximately 7 years and employ as many as 4,400 construction workers.	4.5.2
ER 4.4.2.2.4	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).	4.5.4.1

Table J-2. (contd)

ER Section Number, RAI, or Other Submittal	Applicant Statement	EIS Section
ER 4.4.2.2.4	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.	4.5.4.1
ER 4.4.2.2.5	The clearing and excavation for the new units and adjacent support facilities will not be visible from offsite roads.	4.5.4.2; 4.5.1.4
ER 4.4.2.2.5	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.	4.5.1.4
ER 4.4.2.2.5	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.	4.5.4.2
ER 4.4.2.2.7	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 nuclear plant refurbishment impacts based on impacts sustained during original plant construction (in NUREG-1437).	4.5.4.4
December 2006 RAI ML063440072	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.	4.5.2, 4.5.4.5

Table J-2. (contd)

ER Section Number, RAI, or Other Submittal	Applicant Statement	EIS Section
ER 4.4.2.2.8	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.	4.5.3.2
ER 5.8.1.1	Good access roads and appropriate speed limits will minimize the amount of dust generated by the commuting work force.	5.5.1.1
ER 5.8.1.4	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.	5.5.4.1
ER 5.8.2.1	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 population in the 50-mile region by approximately 1,750 people.	5.5.2
ER 5.8.2.1	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.	5.5.2
ER 5.8.2.2.2	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.	5.5.3.1
ER 5.8.2.2.4	SNC will stagger outage schedules so only one unit will be down at a time.	5.5.4.1
ER 5.8.2.2.5	. . .use of the WMA/boat landing is seasonal and not likely to coincide with [VEGP] shift traffic.	4.5.3.4, 5.5.4.2

Table J-2. (contd)

ER Section Number, RAI, or Other Submittal	Applicant Statement	EIS Section
ER 5.8.2.2.6	SNC estimates that the maximum increase in workforce will be 1,000 outage workers.	5.5.4.1
	Historic and Cultural Resources	
ER 2.5	SNC has begun formal discussions with the Georgia and South Carolina State Historic Preservation Officers (SHPO) that will continue throughout the ESP application review process.	2.9.3
ER 2.2	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.	5.6
ER 2.2	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.	5.6
ER 4.1	As part of the site preparations activities, before land-disturbing activities begin, SNC will prepare a similar procedure for construction activities.	4.6
ER 4.1	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.	4.6
ER 4.1	All land-disturbing activities associated with constructing a new transmission line will follow established procedures ...	4.6
ER 5.1	All earth-disturbing activities at VEGP are conducted under procedures which prescribe actions to be taken if significant archaeological or paleontological artifacts are encountered.	4.6, 5.6

Table J-2. (contd)

ER Section Number, RAI, or Other Submittal	Applicant Statement	EIS Section
ER 5.1	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.	5.6
ER 5.1	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.	4.6
Non-Radiological and Radiological Health, Uranium Fuel Cycle, and Decommissioning		
ER 3.5	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 Part 20 and 10 CFR Part 50, Appendix I.	3.2.3
ER 4.4.1.1.1	No significant industrial or commercial facilities other than the VEGP nuclear units exist or are planned for the vicinity.	4.8
ER 4.4.1.1.1	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.	4.8.1.2
ER 4.4.1.1.1	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.	4.8.1.1

Table J-2. (contd)

ER Section Number, RAI, or Other Submittal	Applicant Statement	EIS Section
ER 4.4.1.1.1	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.	4.8.1.1
ER 4.4.1.1.1	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).	4.8.1.1
ER 4.4.1.1.1	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.	4.8.1.1
ER 4.5.4.4	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 Part 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 Part 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 Part 50, Appendix I, for gaseous and liquid effluents.	4.9.4

Table J-2. (contd)

ER Section Number, RAI, or Other Submittal	Applicant Statement	EIS Section
ER 4.5.4.4, and Southern comments on draft EIS dated December 26, 2007	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.	4.9.4
ER 5.4.1	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 Part 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).	5.9.1
ER 5.4.3	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 Part 50, Appendix I. As the table indicates, the single-unit doses are below Appendix I limits.	5.9.3
ER 5.4.3	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. As indicated in NUREG-1555, demonstration of compliance with the limits of 40 CFR Part 190 is considered to be in compliance with the 0.1 rem limit of 10 CFR 20.1301.	5.9.3
ER 5.4.4	Annual doses to all of the surrogates meet the requirements of 40 CFR Part 190.	5.9.5

Table J-2. (contd)

ER Section Number, RAI, or Other Submittal	Applicant Statement	EIS Section
ER 5.4.5	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.	5.9.4
ER 5.5.2	Southern will handle mixed wastes generated at the new facilities in accord with existing procedures.	6.1.6
ER 5.5.2	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.	6.1.6
ER 5.5.2	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.	6.1.6
ER 5.5.3	VEGP's existing pollution prevention and waste minimization program will apply to the new units.	6.1.6
ER 5.5.5	All radioactive wastes will be managed according to established laws, regulations, and exposure limits.	6.1.6
ER 6.2	The VEGP radiological monitoring program is not expected to change as a result of adding Units 3 and 4.	5.9.6
ER 6.2.5	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.	5.9.6

Table J-2. (contd)

ER Section Number, RAI, or Other Submittal	Applicant Statement	EIS Section
ER 6.2.5	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 Part 50 Appendix I.	5.9.6
	Postulated Accidents	
ER 4.4.1.2	The exclusion area boundary is greater than ½ 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) • Restrict noise-related activities (e.g., pile driving) to daylight hours • Restrict delivery times to daylight hours	4.8.2
ER 4.6	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 Southern or Georgia Power Company procedures and processes applicable to construction projects • Incorporation of environmental requirements of construction permits in construction contracts	4.8.2

Table J-2. (contd)

ER Section Number, RAI, or Other Submittal	Applicant Statement	EIS Section
ER 5.3.4.2	... 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.	5.8.2
ER 7.1.3	The design basis accident source terms in the AP1000 Design Control Document are calculated in accordance with RG 1.183, based on 102 percent of the rated core thermal power of 3400 MW.	5.10.1
ER 7.1.4	For each accident, the EAB dose shown is for the two-hour period that yields the maximum dose, in accordance with RG 1.183.	5.10.1
	Transportation	
ER 3.8.1	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.	6.2.1
ER 3.8.3	Radioactive waste will be shipped from the VEGP site by truck.	6.2.3
ER 5.11.1.1	The AP1000 has a thermal power rating of 3400 MWt and meets this condition.	6.2
ER 5.11.1.2	The AP1000 uses a sintered UO_2 pellet form.	6.2
ER 5.11.1.3	The AP1000 fuel exceeds the 4 percent U-235 condition.	6.2
ER 5.11.1.4	AP1000 uses either Zircalloy or ZIRLO cladding and meets this subsequent evaluation condition.	6.2

Table J-2. (contd)

ER Section Number, RAI, or Other Submittal	Applicant Statement	EIS Section
ER 5.11.1.6	...the new units will have storage capacity exceeding that needed to accommodate five-year cooling of irradiated fuel prior to transport offsite.	6.2.2, 6.2.2.1
ER 5.11.1.7	SNC will receive fuel via truck shipments for the AP1000 units being considered for this site...The fuel shipments to the VEGP site will comply with Federal or state weight restrictions.	6.2.1
ER 5.11.1.8	SNC assumed that all spent fuel shipments will be made using legal weight trucks.	6.2.2
ER 5.11.1.9	SNC will solidify and package the radioactive wastes.	6.2.3
ER 5.1.1.10	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.	6.2.3
ER 5.11.1.11	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.	6.2.3
ER 7.4.1	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).	6.2.1.2
ER 7.4.2	The NRC analysis assumed that shipping casks for advanced LWR spent fuels would provide equivalent mechanical and thermal protection of the spent fuel cargo.	6.2.2.2

Table J-2. (contd)

ER Section Number, RAI, or Other Submittal	Applicant Statement	EIS Section
	Alternatives	
ER 1.1.1	Georgia Power Company (GPC), through the Georgia Public Service Commission's Integrated Resource Planning process, has identified a need for additional base load generation by no later than 2015.	9.2
ER 9.2.2.1	For analysis purposes, SNC assumed a target value of 2,234 MWe for the net electrical output from a new two-unit facility at VEGP.	9.2
ER 9.2.1.2	SNC will submit an application for renewal of the operating licenses for VEGP in 2007 and this analysis assumes the continued operation of VEGP Units 1 and 2.	9.2.1
ER 9.2.1.3	In its most recent Integrated Resource Plan (IRP) filing, GPC evaluated a total of 266 residential DSM measures that provided potential energy savings through: • increased energy efficiency for electric appliances, electric space cooling and heating equipment, and electric lighting; • electric water heating measures; and • heating and cooling savings resulting from improvements to the home's exterior shell. GPC also evaluated 246 commercial and industrial (non-residential) DSM measures. A qualitative evaluation was conducted to eliminate DSM measures that were not applicable to the GPC's customer base or climate. A total of 106 residential and 92 non-residential measures were passed from the qualitative screening analysis to the economic screening for cost effectiveness analysis. ... As a result of this [cost effectiveness analysis], no new DSM programs were identified for development.	9.2.1

Table J-2. (contd)

ER Section Number, RAI, or Other Submittal	Applicant Statement	EIS Section
ER 9.2.3.1.4	Based on this analysis, SNC assumed that cooling towers would be used for the coal-fired alternative. Use of cooling towers would minimize impingement, entrainment, and thermal impacts; consumptive water use through evaporation would be a SMALL impact, and 100-foot-high mechanical towers or 600-foot-high natural draft towers would introduce a visual impact.	9.2.2
ER 9.2.2.10	SNC defined the pulverized coal-fired alternative as consisting of four conventional boiler units, each with a net capacity of 530-MWe for a combined capacity of 2,120 MWe.	9.2.2.1
ER 9.2.2.11	Integrated Gasification Combined Cycle (IGCC) is an emerging, advanced technology for generating electricity with coal that combines modern coal gasification technology with both gas turbine and steam turbine power generation.	9.2.2.1
ER 9.2.2.11	IGCC units do not produce ash or scrubber wastes.	9.2.2.1
ER 9.2.3.1.2	The coal-fired alternative would generate substantial solid waste. The coal-fired plant, using coal having an ash content of 10.87 percent, would annually consume approximately 7,260,000 tons of coal.	9.2.2.1
ER 9.2.3.1.2	SO_x-control equipment, annually using approximately 183,000 tons of limestone, would generate another 218,000 tons per year of waste in the form of scrubber sludge.	9.2.2.1

Table J-2. (contd)

ER Section Number, RAI, or Other Submittal	Applicant Statement	EIS Section
ER 9.2.3.1.1	SNC has assumed a plant design that would minimize air emissions through a combination of boiler technology and post combustion pollutant removal. SNC estimates the coal-fired alternative emissions to be as follows: SO_2 = 5,587 tons per year NOx = 1,815 tons per year CO = 1,815 tons per year PM10 (particulates having a diameter of less than 10 microns) = 91 tons per year PM2.5 (particulates having a diameter of less than 2.5 microns) = 0.39 tons per year.	9.2.2.1
ER 9.2.3.1.2	Southern Company recycles approximately 35 percent of its coal ash.	9.2.2.1
ER 9.2.3.1.2	SNC estimates that ash and scrubber waste disposal over a 40-yr plant life would require approximately 406 acres.	9.2.2.1
ER 9.2.3.1.3	Construction of the power block and coal storage area would impact approximately 697 acres of land and associated terrestrial habitat.	9.2.2.1
ER 9.2.2.12	SNC assumed four 530-MWe units, having a total capacity of 2,120 MWe, as the gas-fired alternative at the VEGP site.	9.2.2.2
ER 9.2.3.2.1	SNC estimates the gas-fired alternative emissions to be as follows: SO_2 = 169 tons per year NOx = 540 tons per year CO = 112 tons per year PM = 94 tons per year (all particulates are PM2.5)	9.2.2.2
ER 9.2.3.2.3	Construction of the combined cycle plant would impact approximately 159 acres of land.	9.2.2.2

Table J-2. (contd)

ER Section Number, RAI, or Other Submittal	Applicant Statement	EIS Section
ER 9.2.3.2.3	An easement encompassing approximately 242 acres would need to be graded to permit the installation of a natural gas pipeline.	9.2.2.2
ER 9.3.1.2	Southern Company subsidiaries have generating facilities that supply electric power to customers located in Georgia, Alabama, and Mississippi (and a small portion of Florida). Therefore, SNC has defined the region of interest as the three-state Southern Company service area.	9.4.1
ER 9.3.2	Within the region of interest, SNC considered the three existing Southern Company nuclear sites with currently licensed, operating plants; and an undeveloped ("greenfield") site in central Alabama that was originally proposed for a 4-unit nuclear plant in the 1970's, but never developed. Candidate sites include: • Joseph M. Farley Nuclear Plant (FNP) • Edwin I. Hatch Nuclear Plant (HNP) • Vogtle Electric Generating Plant (VEGP) • Barton Site (greenfield).	9.4.2
ER 9.3.3.2.1	The HNP site encompasses approximately 2,240 acres and is characterized by low, rolling sandy hills that are predominantly forested. The site is divided by the Altamaha River, and includes 900 acres north of the river in southern Toombs County and 1,340 acres south of the river in northern Appling County. All industrial facilities associated with the site are located in Appling County. The area comprising the reactors, containment buildings, switchyard, cooling tower area and associated facilities, to which access is restricted, is approximately 300 acres. Approximately 350 acres of the site are composed of wetlands and transmission corridors, and approximately 1,600 acres are managed for timber production and wildlife habitat.	9.5.1.1
ER 9.3.3.2.1	No land would be acquired for additional facilities at HNP. The footprint of a new plant would be approximately 300 acres and an additional 250 acres would be required for temporary facilities and laydown yards.	9.5.1.1

Table J-2. (contd)

ER Section Number, RAI, or Other Submittal	Applicant Statement	EIS Section
ER 9.3.3.2.1	There are six transmission lines connecting HNP to the transmission system, which occupy four transmission line corridors. These include approximately 340 miles of lines that occupy approximately 7,200 acres of corridor. The corridors pass through rolling hills that are primarily a mixture of cultivated land, grazing land, and managed timberlands (paper and pulp stock). The areas are mostly remote with low population densities. It is assumed that the proposed project would necessitate the addition of one 500-kilovolt transmission lines, requiring a 200-foot-wide transmission corridor. The additional transmission line could be installed via expansion of an existing right-of-way, or it could follow a new right-of-way.	9.5.1.1
ER 9.3.3.1.1	The FNP site consists of 1,850 acres on the west bank of the Chattahoochee River in Houston County, Alabama. Approximately 500 acres are used for generation and maintenance facilities, laydown areas, parking lots, and roads. The developed areas are located primarily on a plateau approximately one-half mile west of the river, with the area adjacent to the river mostly undeveloped. The remainder of the site consists of forested areas, ponds, wetlands, and open fields. Alabama Power Company (APC) currently maintains approximately 1,300 acres of the FNP site as a wildlife preserve. The proposed project would require that a portion (up to 550 acres) of the wildlife preserve be cleared for development, reducing habitat for onsite wildlife.	9.5.2.1
ER 9.3.3.1.1	There are six transmission lines connecting FNP to the transmission system. These include approximately 326 miles of lines that occupy approximately 5,938 acres of corridor (NRC 2005). The corridors pass through land that is primarily rolling hills covered in forests or farmland. The areas are mostly remote with low population densities. For this analysis SNC assumed that the proposed project would necessitate the addition of one 500-kilovolt transmission line requiring a 200-foot wide transmission corridor.	9.5.2.1

Table J-2. (contd)

ER Section Number, RAI, or Other Submittal	Applicant Statement	EIS Section
ER 9.3.3.3.1	The Barton Site consists of 2,800 acres on the west bank of Jordan Reservoir between Chestnut Creek to the north and Jake Creek to the south. The undeveloped site is predominantly forested, and is characterized by moderately rolling hills with maximum local relief of about 300 feet occurring between the river and nearby ridge tops.	9.5.3.1
ER 9.3.3.3.1	The footprint of a new plant would be approximately 400 acres and an additional 150 acres would be required for temporary facilities and laydown yards. Because the (Barton) site is undeveloped, additional acreage would be required for roads, parking lots, and a switchyard.	9.5.3.1
ER 9.3.3.3.1	A 6-mile connecting rail spur, requiring approximately 120 acres, would also be constructed to transport materials and equipment to the (Barton) site.	9.5.3.1
ER 9.3.3.3.1	SNC assumed that two 500-kilovolt transmission lines requiring a 300-foot wide transmission corridor would be needed to connect the proposed project to APC's transmission system. It is assumed that the lines would connect to the substation at the Gaston Generating Plant, which is approximately 35 miles north of the Barton Site near Wilsonville, Alabama. Routing the new transmission lines to the Gaston Generating Plant would require about 1273 acres of transmission corridor. Although the most direct route would, in general, be used between terminations, consideration would also be given to avoiding possible conflicts with any natural or man-made areas where important environmental resources are located.	9.5.3.1

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10. SUPPLEMENTARY NOTES

Docket Nos. 52-025 and 52-026

11. ABSTRACT *(200 words or less)*

This Final Environmental Impact Statement (FEIS) has been prepared in response to an application submitted to the U.S. Nuclear Regulatory Commission (NRC) by Southern Nuclear Operating Company, Inc. (Southern) for an Early Site Permit (ESP). The proposed action requested in Southern's application is for the NRC to: (1) approve a site within the existing Vogtle Electric Generating Plant (VEGP) boundaries as suitable for the construction and operation of a new nuclear power generating facility, and (2) issue an ESP for the proposed location at the VEGP site, adjacent to the existing VEGP units.

The NRC staff's preliminary recommendation to the Commission related to the environmental aspects of the proposed action is that the ESP should be issued as proposed. The staff's evaluation of the site safety and emergency preparedness aspects of the proposed action are addressed in the staff's Safety Evaluation Report issued in August 2007. This recommendation is based on: (1) the application, including the Environmental Report (ER), submitted by Southern; (2) consultation with Federal, State, Tribal, and local agencies; (3) the staff's independent review; (4) the staff's consideration of comments related to the environmental review that were received during the public scoping process; and (5) the assessments summarized in this FEIS, including the potential mitigation measures identified in the ER and this FEIS. In addition, in making its recommendation, the staff determined that there are no environmentally preferable or obviously superior sites. Finally, the staff has concluded that the site preparation and preconstruction activities allowed by 10 CFR 50.10(e)(1) requested by Southern in its application will not result in any significant adverse environmental impact that cannot be redressed.

12. KEY WORDS/DESCRIPTORS *(List words or phrases that will assist researchers in locating the report.)*

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