

**SUPPLEMENT TO SANTEE COOPER
TRANSMISSION LINE SITING STUDY
DISCUSSION OF ALTERNATIVE SITES**

Prepared for:

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Introduction

This supplement to the Santee Cooper Transmission Line Siting Study (MACTEC; August 25, 2008) has been prepared to evaluate transmission line siting associated with four alternative nuclear power plant sites, with multiple transmission lines associated with each site. This evaluation has been prepared to respond to the request for additional information (RAI Alt-3) sent by the Nuclear Regulatory Commission (NRC). It examines the potential wetland, stream and State Navigable Waters impacts that may result from the proposed transmission corridors associated with each of the four proposed alternative sites and the V.C. Summer Nuclear Station (VCSNS).

The four alternative sites evaluated consist of the: Fa-1 site, Saluda site, Cope site, and Savanna River site. These sites are described further in the Results section below and figures depicting the transmission lines associated with each alternative, as well as a figure of the VCSNS site and a figure depicting all of the sites together, are included at the end of the text. Each alternative power plant site will have associated transmission lines to be constructed and maintained by SCE&G and Santee Cooper. SCE&G has prepared an evaluation of their transmission lines under separate cover.

The transmission line siting process used by Santee Cooper for these alternatives is described in Section 2.2 of the Transmission Line Siting Study (MACTEC, 2008). Three types of overhead transmission line right-of-way (ROW) development options are evaluated in this supplement: new ROW, new ROW parallel and adjacent to existing ROW (parallel ROW), and existing ROW. New ROW typically requires the development of 100-foot wide corridors across previously unaffected landscape and may also require the development of associated substations. This option includes the clearing of existing vegetation or other obstructions and construction of new transmission structures. New ROW generally results in the greatest impacts to natural resources due to the conversion of forested wetlands and other forested habitats to herbaceous wetlands and early successional vegetation. However, the primary benefit of new ROW is the ability to design a new line in the most direct, shortest route possible.

Locating transmission lines parallel and adjacent to an existing maintained ROW is similar to new ROW in that it requires conversion of forested wetlands and other forested habitats to herbaceous wetlands and early successional vegetation. However, the parallel ROW option typically does not require a full 100 foot corridor width, resulting in less clearing of forested wetlands and other forested habitats. This option also utilizes established access pathways for construction and maintenance activities, and lessens fragmentation of natural habitats. Therefore, development of parallel ROW typically results in fewer impacts than developing a new ROW.

The existing ROW option indicates that the proposed lines will be routed within an existing, maintained transmission ROW, which will require no conversion of forested wetlands to herbaceous wetlands or new clearing of other habitats. This option will also not require additional ROW maintenance activity or increased fragmentation of natural habitats. Routing new transmission lines within existing ROW is typically the most desirable option and the least likely to require extensive environmental permitting.

Table 1 provides a breakdown of the amounts of these three types of overhead transmission lines associated with each of the proposed alternatives and the VCSNS site.

Table 1: Santee Cooper Transmission Line ROW Types associated with Nuclear Power Plant Alternatives

	New ROW		Parallel ROW		Existing ROW		Total Acres
	Acres	% of Corridor	Acres	% of Corridor	Acres	% of Corridor	
VCSNS Site Combined Corridors (235 miles)	0	NA	45	1	3,534	99	3,579
Fa-1 Alternative Combined Corridors (238 miles)	255	7	0	NA	3,302	93	3,557
Saluda Alternative Combined Corridors (321 miles)	306	8	501	12	3,257	80	4,064
Cope Alternative Combined Corridors (106 miles)	188	23	614	77	0	NA	802
SRS Alternative Combined Corridors (138 miles)	672	57	499	43	0	NA	1,171

Methodology

The transmission corridors associated with the five alternative nuclear power plant sites were evaluated to determine the approximate wetland acres affected and the number of stream and navigable water crossings. This analysis is based on information obtained from the following resources. Wetland acreages were estimated using the U.S. Department of Agriculture/Natural Resource Conservation Service (USDA/NRCS) mapped hydric soil types and the U.S. Fish and Wildlife Service National Wetlands Inventory (NWI). Stream and navigable water crossings were identified using the U.S. Geological Survey's (USGS) National Hydrography Dataset of stream channels and the South Carolina Department of Health and Environmental Control (DHEC) Navigable Waters data, respectively. This data set is the most readily accessible and state-wide consistent information on which to base an estimate of potential wetland areas and stream channels covered by the definition of jurisdictional waters of the U.S., including wetlands, as defined by 33 CFR, Part 328.3(b) (33 USC 1344).

Wetland acreages were estimated based on area soil type and NWI information. The USDA/NRCS soil surveys were used to define potential wetland habitat types based on soil type. Hydric soils are defined as “soils that are formed under conditions of saturation, flooding or ponding long enough during the growing season to develop anaerobic conditions in the upper part” (USDA/NRCS, 2006), and are classified as poorly to very poorly drained. This classification is a relatively accurate indication that wetlands are potentially present. Hydric soils do not include areas mapped as open water. Soils identified in the soil surveys as containing hydric inclusions indicate that the mapping unit is not classified as hydric, but is typically associated with and has the potential to contain areas of hydric soils that could not be shown separately on the soil maps due to the scale used in mapping. For the purposes of this evaluation, wetland acreages were estimated based on the combination of hydric soils and soils that have hydric inclusions. The NWI classifies wetland habitat types based on photo-interpretation of aerial and/or satellite imagery. The NWI wetlands referenced in this evaluation are of three types: Forested Wetlands, Non-Forested Wetlands and Open Water.

Wetland areas in the Piedmont Physiographic Province are likely to be found in topographic valleys adjacent to perennial streams or in backswamps of larger streams and rivers. They are typically limited in size by the higher topographic relief of the landforms found in this area. Wetland areas in the Coastal Plain Physiographic Province are likely to occur along wide drainageways of meandering streams and rivers with adjacent alluvial swamps and floodplains, and also in shallow depressions of low elevation on flat plains. Wetlands identified in the Coastal Plain based on Hydric soils may be over-estimated due to the greater percentage of upland soil types with the potential for hydric inclusions located in this region. Conversely, NWI wetlands identified in the Coastal Plain may be under-estimated due to the masking effect that evergreen pine plantations can have when wetlands are interpreted from infrared aerial photography.

The estimated stream crossings are calculated from USGS National Hydrography Dataset based on the “River/Stream” feature class mapped at the 1:100,000 scale. This feature class is generally defined by the USGS as containing water throughout the year, except for infrequent periods of severe drought. State Navigable Waters crossings are based on GIS data obtained from the South Carolina DHEC, Bureau of Water. Navigability is determined by the South Carolina DHEC and is defined as “waters which are now navigable, or have been navigable at any time, or are capable of being rendered navigable by the removal of accidental obstructions, by rafts of lumber or timber or by small pleasure or sport fishing boats” (SCDHEC, 2006).

Results

VCSNS Site

The VCSNS Site is located in central western Fairfield County at the existing V.C. Summer Nuclear Station, and would have two Santee Cooper transmission lines associated with it. These lines would connect the VCSNS site to the Flat Creek substation located in Lancaster County (approximately 72 miles in a generally northeast direction) and the VCSNS site to the Varnville substation located in Hampton County (approximately 163 miles in a generally southern direction). These lines cover a total distance of approximately 235 miles and a total area of approximately 3,579 acres. Of this total area, approximately 99 percent will be routed within existing maintained ROW, with the remaining one percent identified as parallel ROW adjacent to an existing corridor. The most significant wetland and stream impacts would occur along the segments of corridor that require new ROW parallel to existing ROW, which are located in the Piedmont Physiographic Province. These areas are estimated to include one acre of hydric soils, seven acres of NWI wetlands and three stream crossings (one of which would be a State Navigable Water).

Fa-1 Alternative

The Fa-1 Alternative Site is also located in central western Fairfield County (on the opposite end of Monticello Reservoir from the existing VCSNS) and would have two Santee Cooper transmission lines associated with it. These lines would connect the Fa-1 site to the Flat Creek substation (approximately 73 miles in a generally northeast direction) and the Varnville substation (approximately 165 miles in a generally southern direction). These lines cover a total distance of approximately 238 miles and a total area of approximately 3,557 acres. Of this total area, approximately 93 percent will be routed within existing maintained ROW and approximately seven percent will require new ROW. The most significant wetland and stream impacts would occur along the segments of new ROW, which are located in the Piedmont Physiographic Province. These areas are estimated to include 20 acres of hydric soils, 14 acres of NWI wetlands and seven stream crossings (three of which would be State Navigable Waters).

Saluda Alternative

The Saluda Alternative Site is located in northern Saluda County and would have five Santee Cooper transmission lines associated with it. These lines would connect the Saluda site to the Greenwood County substation located in Greenwood County (approximately 46 miles in a generally western direction), the Saluda site to the Newberry substation located in Newberry County (approximately 16 miles in a generally northeast direction), the Saluda site to the Pomaria substation also located in Newberry County (approximately 28 miles in a generally northeast direction), the Pomaria substation to the Flat Creek

substation (approximately 76 miles in a generally northeast direction), and the Pomaria substation to the Varnville substation (approximately 155 miles in a generally southern direction). These lines cover a total distance of approximately 321 miles and a total area of approximately 4,064 acres. Of this total area, approximately 80 percent will be routed within existing maintained ROW and approximately 20 percent will require new ROW or parallel ROW adjacent to an existing corridor. The most significant wetland and stream impacts would occur along the segments of new and parallel ROW, which are located in the Piedmont Physiographic Province. These areas are estimated to include 73 acres of hydric soils, nine acres of NWI wetlands and 54 stream crossings (11 of which would be State Navigable Waters).

Cope Alternative

The Cope Alternative Site is located in southern Orangeburg County and would have three Santee Cooper transmission lines associated with it. These lines would connect the Cope site to the Aiken substation located in Aiken County (approximately 42 miles in a generally northwest direction), the Cope site to the Orangeburg substation located in Orangeburg County (approximately 12 miles in a generally northeast direction) and the Cope site to the Varnville substation (approximately 52 miles in a generally southern direction). These lines cover a total distance of approximately 106 miles and a total area of approximately 802 acres. None of these lines will be routed within existing ROW and the entire lengths of the corridors will require either new ROW or parallel ROW adjacent to an existing corridor. The entirety of these lines is located within the Coastal Plain Physiographic Province. These areas are estimated to include 471 acres of hydric soils, 138 acres of NWI wetlands and 72 stream crossings (4 of which would be State Navigable Waters).

SRS Alternative

The SRS Alternative Site is located within the U.S. Department of Energy's Savannah River Site (SRS), located in Barnwell and Aiken Counties, and would have three Santee Cooper transmission lines associated with it. These lines would connect the SRS to the Aiken substation (approximately 27 miles in a generally northern direction), the SRS to the Orangeburg substation (approximately 47 miles in a generally eastern direction) and the SRS to the Varnville substation (approximately 64 miles in a generally southeast direction). These lines cover a total distance of approximately 138 miles and a total area of approximately 1,171 acres. None of these lines will be routed within existing ROW and the entire lengths of the corridors will require either new ROW or parallel ROW adjacent to an existing corridor. The entirety of these lines is located within the Coastal Plain Physiographic Province. These areas are estimated to include 324 acres of hydric soils, 65 acres of NWI wetlands and 70 stream crossings (3 of which would be State Navigable Waters).

Table 2 presents estimated wetland acreages based on hydric soils and NWI data for the combined Santee Cooper transmission line corridors associated with each alternative site. The combined corridors for each site are divided into two categories: New ROW (includes parallel ROW) and Existing ROW.

Table 2: Estimated Wetlands along Santee Cooper Transmission Lines

VCSNS Site – Combined Corridors (235 miles)						
	New ROW (45 Acres)		Existing ROW (3,534 Acres)		Total ROW (3,579 Acres)	
Wetlands Estimate	Acres	% of Corridors	Acres	% of Corridors	Acres	% of Corridors
Hydric Soils	1	2	1,142	32	1,143	32
NWI Wetlands	7	16	248	7	255	7
Fa-1 Alternative – Combined Corridors (238 miles)						
	New ROW (255 Acres)		Existing ROW (3,302 Acres)		Total ROW (3,557 Acres)	
Wetlands Estimate	Acres	% of Corridors	Acres	% of Corridors	Acres	% of Corridors
Hydric Soils	20	8	1,134	34	1,154	32
NWI Wetlands	14	5	244	7	258	7
Saluda Alternative – Combined Corridors (321 miles)						
	New ROW (807 Acres)		Existing ROW (3,257 Acres)		Total ROW (4,064 Acres)	
Wetlands Estimate	Acres	% of Corridors	Acres	% of Corridors	Acres	% of Corridors
Hydric Soils	73	9	1,135	35	1,208	30
NWI Wetlands	9	1	255	8	264	6
Cope Alternative – Combined Corridors (106 miles)						
	New ROW (802 Acres)		Existing ROW (0 Acres)		Total ROW (802 Acres)	
Wetlands Estimate	Acres	% of Corridors	Acres	% of Corridors	Acres	% of Corridors
Hydric Soils	471	59	0	NA	471	59
NWI Wetlands	138	17	0	NA	138	17
SRS Alternative – Combined Corridors (138 miles)						
	New ROW (1,171 Acres)		Existing ROW (0 Acres)		Total ROW (1,171 Acres)	
Wetlands Estimate	Acres	% of Corridors	Acres	% of Corridors	Acres	% of Corridors
Hydric Soils	324	28	0	NA	324	28
NWI Wetlands	65	6	0	NA	65	6

Sources: NRCS 2008b and SCDNR 2008c

Table 3 presents the approximate number of major (perennial) streams and the number of State Navigable Waters that will be crossed by the combined corridors associated with each of the proposed alternative sites. The number of State Navigable Waters crossings is presented here as a subset of the major stream crossings. As in Table 2, the combined corridors for each site are divided into two categories: New ROW (includes parallel ROW) and Existing ROW.

Table 3: Estimated Stream and Navigable Waters Crossings for Santee Cooper Transmission Lines

VCSNS Site – Combined Corridors			
	New	Existing	Total
Miles of ROW	2	233	235
Major Stream Crossing	3	137	140
State Navigable Waters Crossing	1	17	18
Fa-1 Alternative – Combined Corridors			
	New	Existing	Total
Miles of ROW	21	217	238
Major Stream Crossing	7	136	143
State Navigable Waters Crossing	3	18	21
Saluda Alternative – Combined Corridors			
	New	Existing	Total
Miles of ROW	108	213	321
Major Stream Crossing	54	134	188
State Navigable Waters Crossing	11	17	28
Cope Alternative – Combined Corridors			
	New	Existing	Total
Miles of ROW	106	0	106
Major Stream Crossing	72	NA	72
State Navigable Waters Crossing	4	NA	4
SRS Alternative – Combined Corridors			
	New	Existing	Total
Miles of ROW	138	0	138
Major Stream Crossing	70	NA	70
State Navigable Waters Crossing	3	NA	3

Sources: USGS 2008, SCDHEC 2008a

Summary

Impacts to natural resources associated with transmission line development would be best reduced by routing transmission lines within existing ROW corridors to the greatest extent possible. The nuclear power plant sites utilizing the greatest percentage of existing ROW for Santee Cooper transmission lines are the VCSNS site (99%) and Fa-1 alternative (93%). Approximately 80% of the Santee Cooper transmission lines associated with the Saluda site are routed within existing ROW, while the Cope and SRS alternatives do not allow for any routing of Santee Cooper transmission lines within existing ROW. If routing transmission lines within existing ROW is not available, routing lines parallel and adjacent to existing ROW is preferable and has a lesser impact to natural resources than acquisition and development of entirely new ROW. The VCSNS site is the only one of the five sites evaluated that does not require any completely new ROW for Santee Cooper transmission lines.

Although the highest estimates of wetland acres crossed (based on hydric soils/NWI) are understandably associated with the sites with the greatest mileage: Saluda (1,208/264 acres), Fa-1 (1,154/258 acres), and VCSNS (1,143/255 acres); the Cope and SRS alternatives have significantly greater wetland acreage impacted as a result of the development of new ROW (471/138 acres) and (324/65 acres), respectively; and the Cope alternative has the highest wetlands impacts as a percentage of total ROW acres (59%/17%). Once again, the number of major stream and State Navigable Water crossings is proportional to the total length of the combined corridors; however, the greatest impacts associated with stream and navigable water crossings are expected to occur as a result of the development of new ROW. The Cope and SRS sites have the greatest number of major stream and State Navigable Water crossings located in line segments identified as new ROW.

**VCSNS UNITS 2 and 3
Environmental Report Review
Response to NRC Requests for Additional Information**

NRC RAI Letter Dated June 22, 2009

NRC RAI Number: RAI USACE-4 **Revision:** 0

Reference ER Information Needs Item: N/A

Question Summary (RAI):

Provide a discussion of mitigation plans/concepts for the proposed project and all viable alternatives.

Full Text (supporting information):

Required for determination whether potential project alternatives would be in compliance with the 404(b)(1) Guidelines and for comparison of alternatives under NEPA.

VCSNS Response:

In accordance with the 404(b)(1) Guidelines, avoidance and minimization of project impacts to the human and natural environment must be demonstrated as part of the permitting process. Regardless of the site selected for the proposed nuclear station, SCE&G understands the importance and necessity of such avoidance and minimization. Development of any of the four alternative sites not selected as the preferred site (SRS, Cope, Fairfield 1, and Saluda), as well as the preferred site (VC Summer), would result in some modifications to the human and natural environment. Attempts would be made to avoid such modifications to the extent feasible, while still preserving the purpose and need of the project. Alterations that cannot be avoided would be minimized.

Engineering plans have been developed for the preferred VC Summer Site. An existing nuclear station is located on the same parcel as the proposed station, which lends to significant avoidance and minimization of project impacts to the human and natural environment simply by the fact that the proposed facility will be constructed adjacent to an existing facility and on property already owned by SCE&G.

Impacts to the natural environment are significantly avoided and minimized by utilizing the VC Summer Site also due to the presence of Lake Monticello, which was constructed in the mid-1970s as a cooling water source for the existing VC Summer nuclear facility. Construction of the proposed nuclear facility at any other alternative site would require either construction of a reservoir similar to Lake Monticello or withdrawal of significant quantities of water from an existing surface water body, such as a nearby river.

Impacts to the human and natural environment are also significantly avoided and minimized by utilizing the VC Summer Site, as the site already contains a nuclear facility and its ancillary structures and appurtenances. Some of these structures and appurtenances will be shared with the new facility.

It is not known at the writing of this document as to whether mitigation plans other than for impacts to jurisdictional waters will be offered or will be necessary.

To provide compensatory mitigation for unavoidable jurisdictional waters impacts associated with the proposed project, SCE&G would likely propose to purchase adequate credits from an approved mitigation bank in the service area in which impacts

**VCSNS UNITS 2 and 3
Environmental Report Review
Response to NRC Requests for Additional Information**

are proposed. If such a bank does not exist, mitigation credits could be purchased from another bank as deemed appropriate by the regulatory agencies. SCE&G may also propose to provide mitigation credits by conducting certain activities on company-owned property in close proximity to proposed jurisdictional waters impacts as deemed appropriate by the regulatory agencies.

Associated COLA Revisions:

No COLA revision is required as a result of the response to this RAI.

Associated Attachments:

None

**VCSNS UNITS 2 and 3
Environmental Report Review
Response to NRC Requests for Additional Information**

NRC RAI Letter Dated June 22, 2009

NRC RAI Number: RAI USACE-5 **Revision:** 0

Reference Information Needs Item: none

Question Summary (RAI):

Expand the impacts discussion of the proposed project and all viable alternatives to include secondary and cumulative impacts that might expected or reasonably foreseeable.

Full Text (supporting information):

Required for determination whether potential project alternatives would be in compliance with the 404(b)(1) Guidelines and for comparison of alternatives under NEPA.

VCSNS Response:

Secondary or indirect effects are those that are separated in time or distance from the proposed action, but are nonetheless, reasonably foreseeable (40 CFR 1508.8). The VCSNS COLA ER does not distinguish between direct and indirect effects, but presents all reasonably foreseeable impacts, whether direct or indirect. For example, Section 5.2 discusses consumptive water use and compares it with historical river water flows. It presents the mitigative effect of drawing from Monticello and Parr Reservoirs on downstream users of Broad River water. Section 2.3 identifies downstream water users and their demands on Broad River water. Another example is provided in Section 5.8.2.2.3 in which the effects of increased tax revenues on county land use are discussed.

With respect to wetlands, for the proposed site, ER Section 4.3.1.1 identifies approximately 1 acre of wetlands that would be impacted as a direct effect. Dewatering of construction excavations is identified as a potential indirect effect on wetlands; however, no quantification of the impact can be projected at this time. In that section, SCE&G commits to minimizing such impacts by appropriate design. In Section 4.1.1.1, SCE&G commits to minimizing erosion that might affect wetlands remote from the actual ground disturbance and to protect receiving waters from stormwater runoff.

For alternative sites, a complete site layout was not developed, and evaluation of impacts was based on reconnaissance-level information, not field studies (in accordance with NRC guidance). In the ER, specific wetlands impacts were not determined at alternative sites. However, reconnaissance-level information on wetlands was used in the site selection process as described in ER Section 9.3.2 (see especially Table 9.3-2). Five sites were selected for more detailed consideration. Among the five sites, the proposed VCSNS site, SRS, and Saluda all ranked equally with respect to wetlands (Table 9.3-7). The other two sites were ranked less desirable for wetlands. Given the very low impact to wetlands from the proposed VCSNS site, SCE&G believed that detailed study of wetlands impacts at alternative sites was not warranted and that adequate attention was given to avoiding wetlands impacts. SCE&G further believes that there are no obviously superior (environmentally) sites beyond the proposed site

VCSNS UNITS 2 and 3
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Response to NRC Requests for Additional Information

(ER Section 9.3.4). This conclusion is true for wetlands impacts as well as for overall suitability.

Therefore, SCE&G does not believe that the impacts discussion in the ER needs to be expanded to address additional secondary or indirect impacts. Nevertheless, responses to RAIs USACE-2 and USACE-3 will provide more details on alternate site wetlands impacts. Also, please note that a cross reference list between the USACE public interest factors and the ER was provided in SCE&G letter NND-09-0210 dated July 30, 2009.

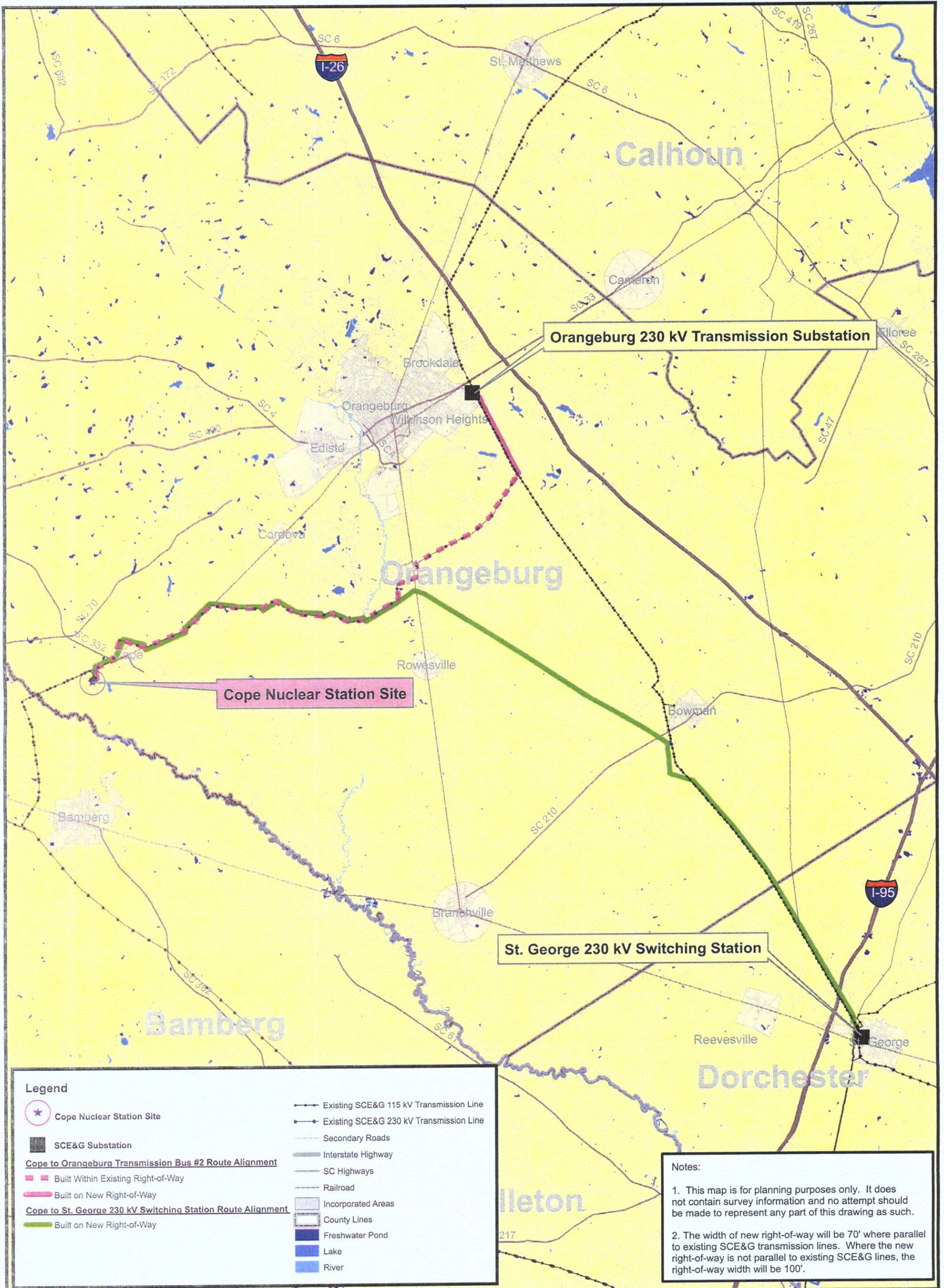
Cumulative impacts are presented in Section 10.5.

Associated COLA Revisions:

No COLA revision is required as a result of the response to this RAI.

Associated Attachments:

None



Legend

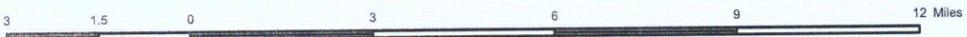
- Cope Nuclear Station Site
- SCE&G Substation
- Cope to Orangeburg Transmission Bus #2 Route Alignment**
 - Built Within Existing Right-of-Way
 - Built on New Right-of-Way
- Cope to St. George 230 kV Switching Station Route Alignment**
 - Built on New Right-of-Way
- Existing SCE&G 115 kV Transmission Line
- Existing SCE&G 230 kV Transmission Line
- Secondary Roads
- Interstate Highway
- SC Highways
- Railroad
- Incorporated Areas
- County Lines
- Freshwater Pond
- Lake
- River

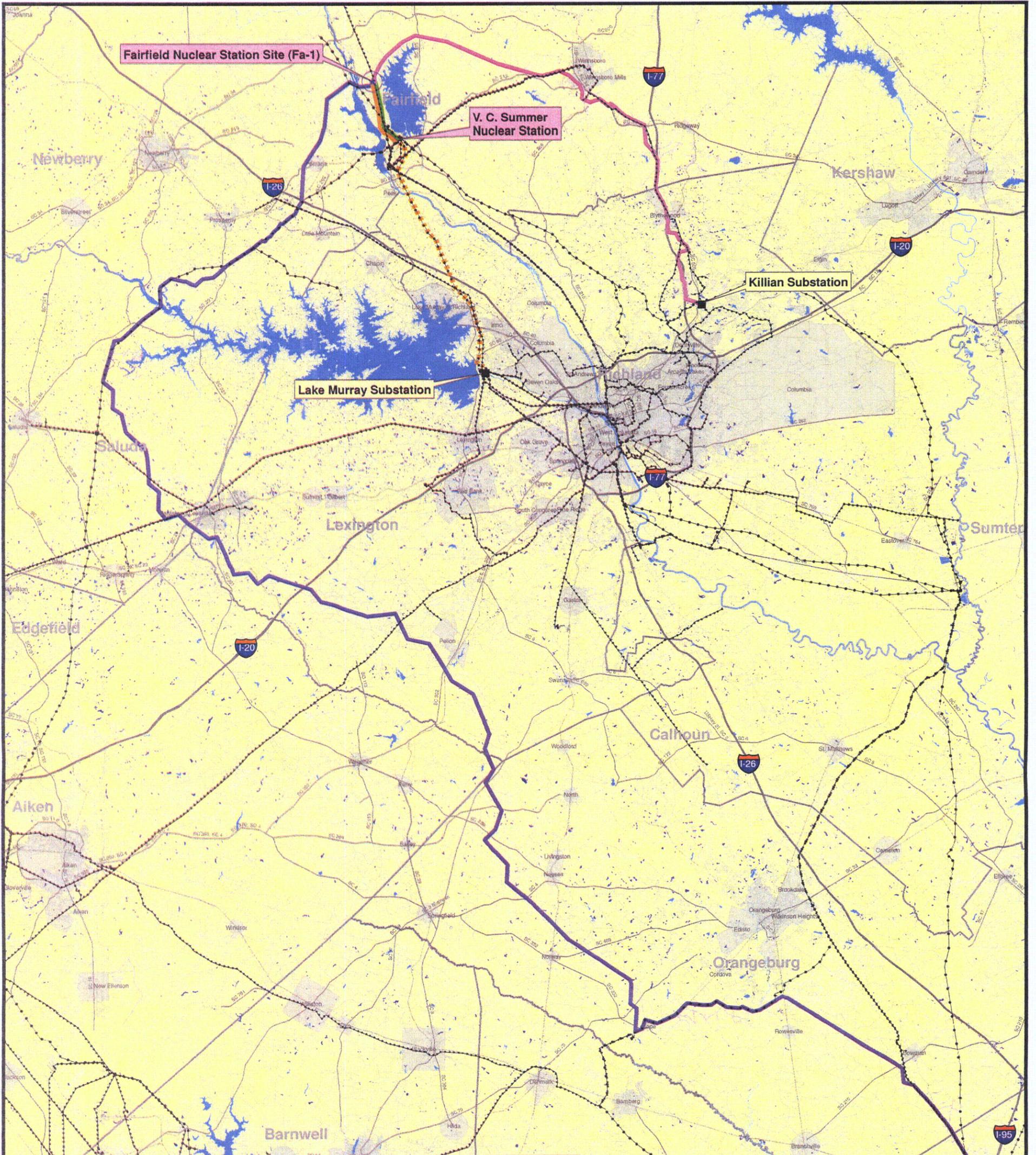
Notes:

1. This map is for planning purposes only. It does not contain survey information and no attempt should be made to represent any part of this drawing as such.
2. The width of new right-of-way will be 70' where parallel to existing SCE&G transmission lines. Where the new right-of-way is not parallel to existing SCE&G lines, the right-of-way width will be 100'.



**Alternate Nuclear Station Site: Cope
New Transmission Lines**





Legend

- ★ Fairfield Nuclear Station Site
- SCE&G Substations
- Fairfield Nuclear Station to Lake Murray Substation Route Alignment**
 - Built Within Existing Right-of-Way
 - Built on New Right-of-Way
- Fairfield Nuclear Station to V. C. Summer Nuclear Station Route Alignment**
 - Built on New Right-of-Way (Three Lines)
- Fairfield Nuclear Station to Killian Substation Route Alignment**
 - Built on New Right-of-Way
- Fairfield Nuclear Station to St. George Switching Station Route Alignment**
 - Built on New Right-of-Way
- Existing SCE&G 33 kV Transmission Line
- Existing SCE&G 115 kV Transmission Line
- Existing SCE&G 230 kV Transmission Line
- Secondary Roads
- Interstate Highway
- SC Highways
- Railroad
- Incorporated Areas
- County Lines
- Freshwater Pond
- Lake
- River

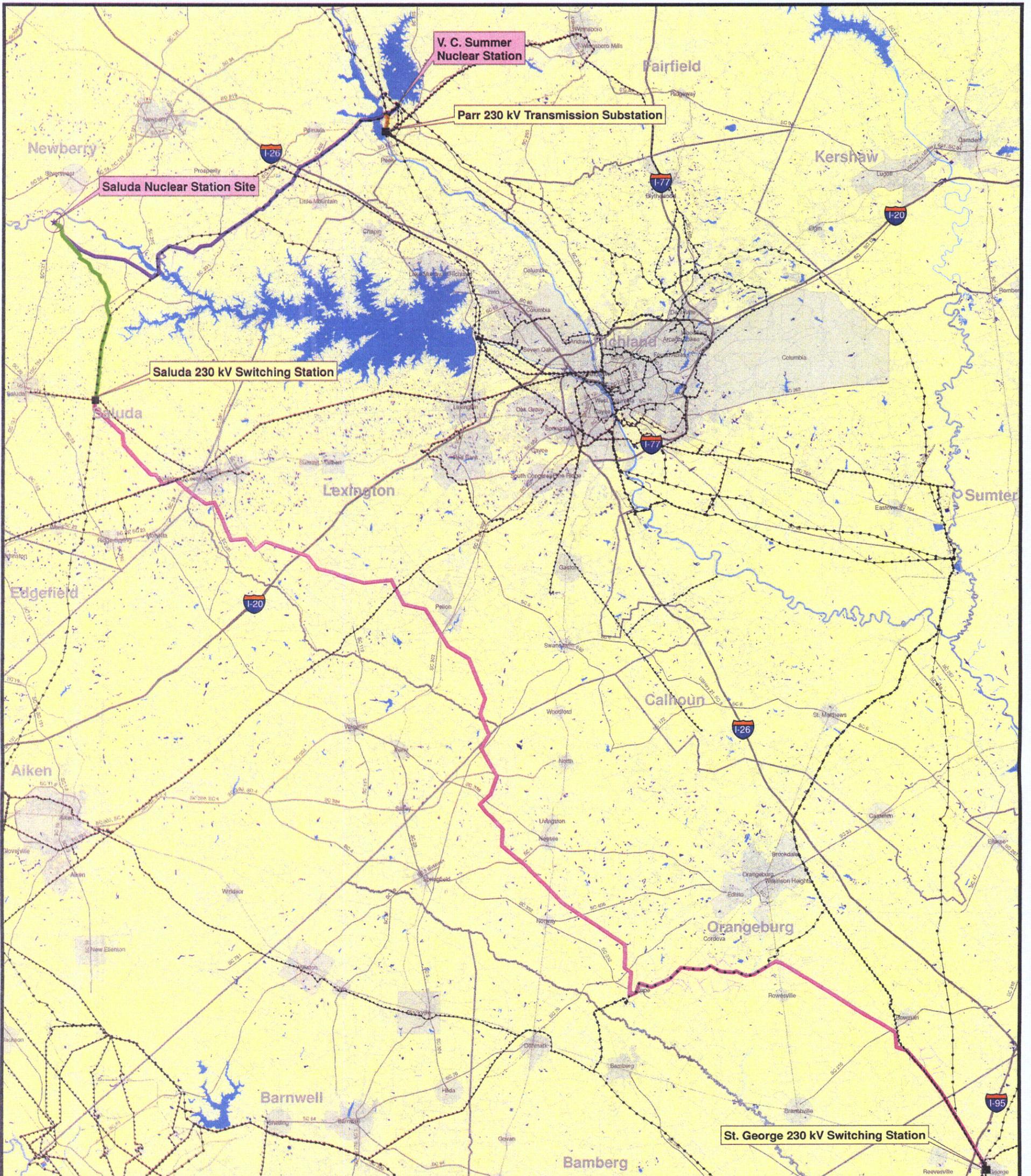
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Alternate Nuclear Station Site: Fairfield New Transmission Lines





V. C. Summer Nuclear Station

Parr 230 kV Transmission Substation

Saluda Nuclear Station Site

Saluda 230 kV Switching Station

St. George 230 kV Switching Station

Legend

- Saluda Nuclear Station Site
- SCE&G Substations
- Saluda 230 kV Switching Station to St. George 230 kV Switching Station Route Alignment**
 - Built on New Right-of-Way
 - Saluda Nuclear Station to Saluda 230 kV Switching Station Route Alignment
 - Built on New Right-of-Way
 - Saluda Nuclear Station to V. C. Summer Nuclear Station Line to Parr 230 kV Substation Route Alignment
 - Built on New Right-of-Way
 - Saluda Nuclear Station to V. C. Summer Nuclear Station 230 kV Route Alignment
 - Built on New Right-of-Way
- Existing SCE&G 33 kV Transmission Line
- Existing SCE&G 115 kV Transmission Line
- Existing SCE&G 230 kV Transmission Line
- Secondary Roads
- Interstate Highway
- SC Highways
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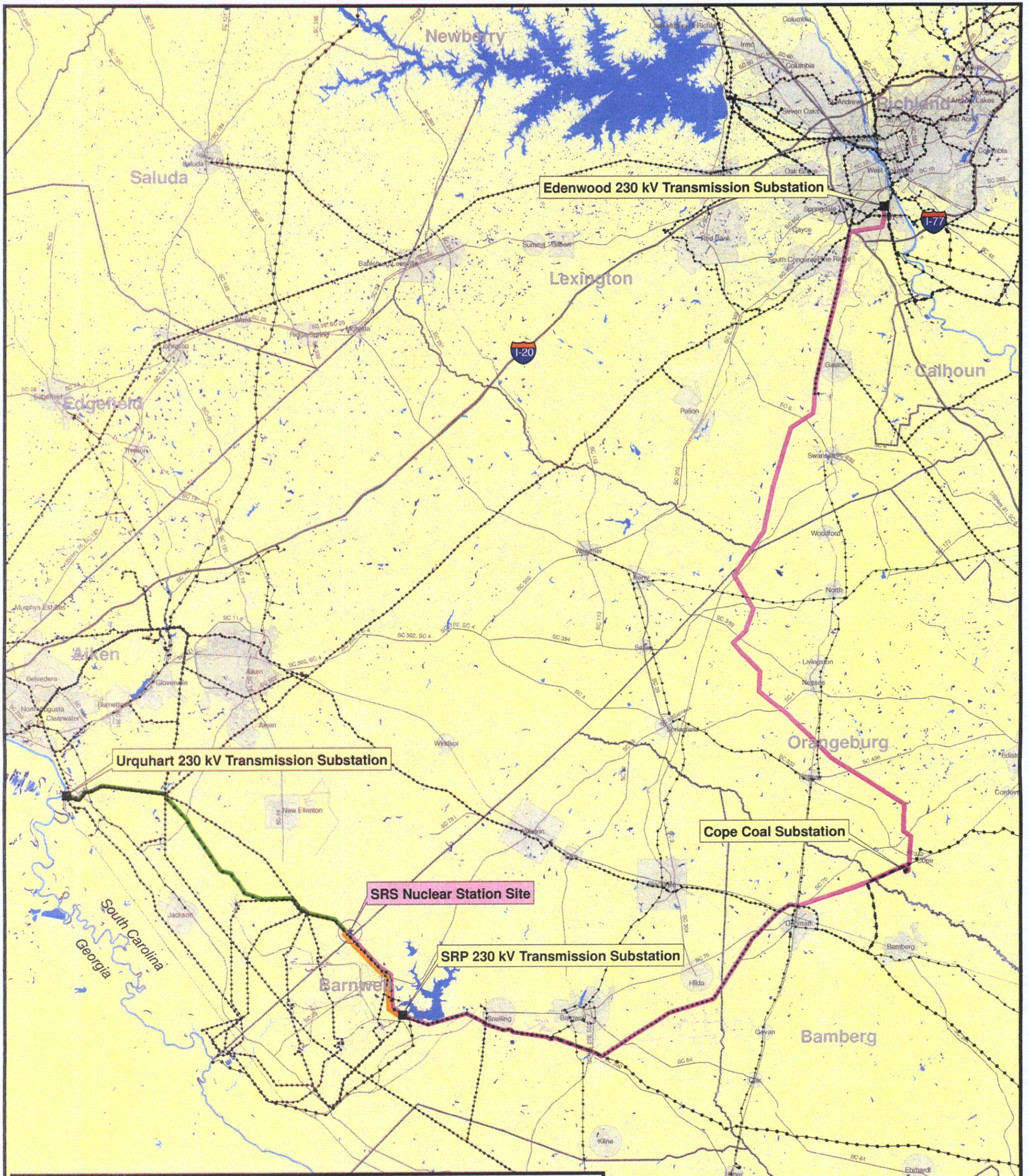
Notes:

1. This map is for planning purposes only. It does not contain survey information and no attempt should be made to represent any part of this drawing as such.
2. The width of new right-of-way will be 70' where parallel to existing SCE&G transmission lines. Where the new right-of-way is not parallel to existing SCE&G lines, the right-of-way width will be 100'.



Alternate Nuclear Station Site: Saluda New Transmission Lines





Edenwood 230 kV Transmission Substation

Urquhart 230 kV Transmission Substation

SRS Nuclear Station Site

SRP 230 kV Transmission Substation

Cope Coal Substation

Legend

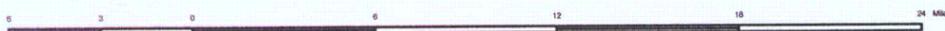
- SRS Nuclear Station Site
- SCE&G Substations
- SRS Nuclear Station to SRP 230 kV Substation Route Alignment
- Built on New Right-of-Way
- SRS Nuclear Station to Cope Coal Substation to Edenwood 230 kV Substation Route Alignment
- Built on New Right-of-Way
- SRS Nuclear Station to Urquhart 230 kV Substation Route Alignment
- Built on New Right-of-Way
- Existing SCE&G 46 kV Transmission Line
- Existing SCE&G 115 kV Transmission Line
- Existing SCE&G 230 kV Transmission Line
- Secondary Roads
- Interstate Highway
- SC Highways
- Railroad
- Incorporated Areas
- County Lines
- Freshwater Pond
- Lake
- River

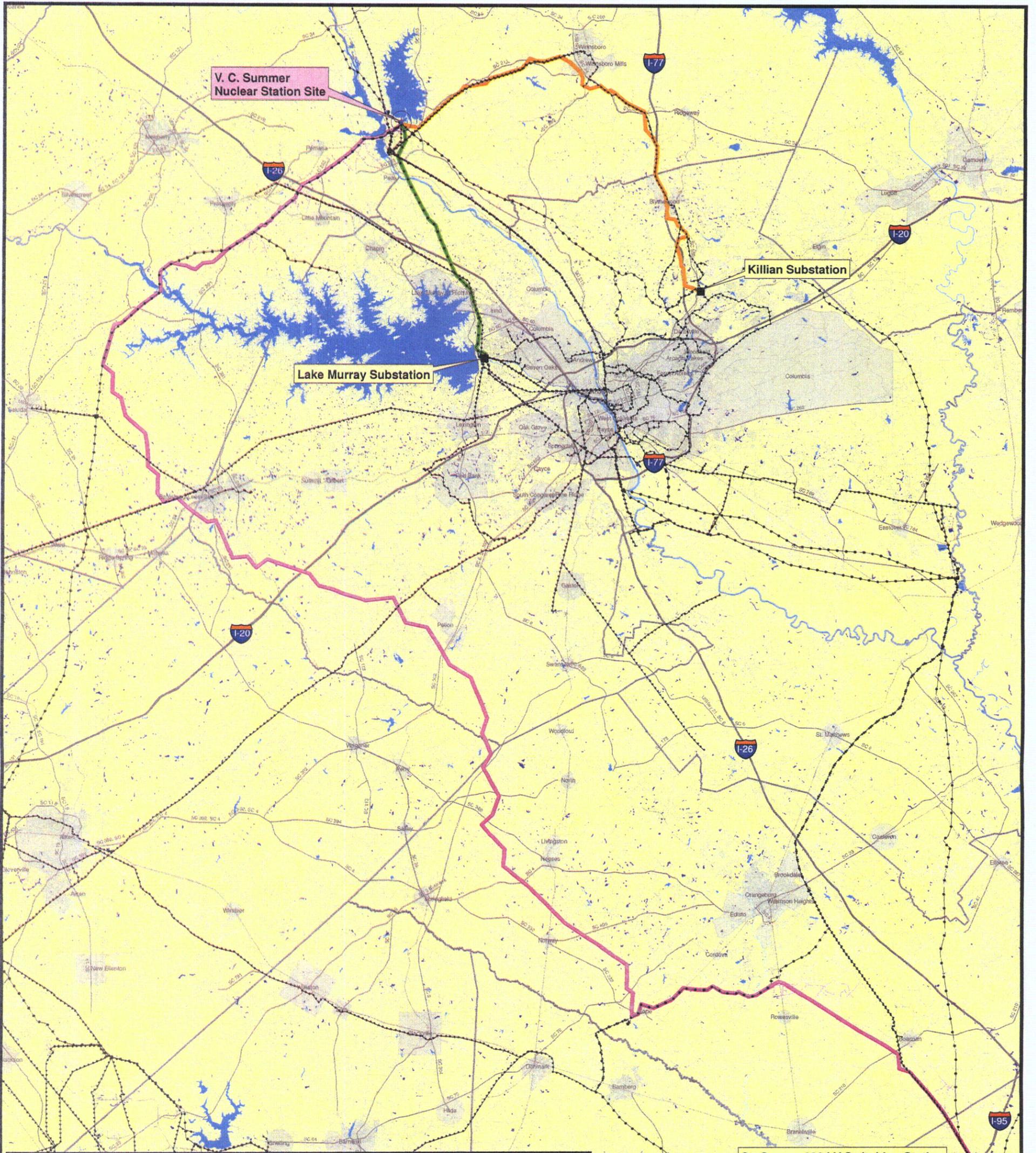
Notes:

1. This map is for planning purposes only. It does not contain survey information and no attempt should be made to represent any part of this drawing as such.
2. The width of new right-of-way will be 70' where parallel to existing SCE&G transmission lines. Where the new right-of-way is not parallel to existing SCE&G lines, the right-of-way width will be 100'.



**Alternate Nuclear Station Site: SRS
New Transmission Lines**





V. C. Summer Nuclear Station Site

Killian Substation

Lake Murray Substation

St. George 230 kV Switching Station

Legend

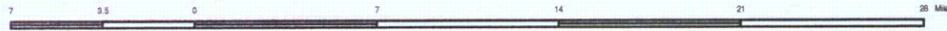
- V. C. Summer Nuclear Station Site
- SCE&G Substations
- V. C. Summer Nuclear Station to Lake Murray Substation Route Alignment**
 - Built Within Existing Right-of-Way
 - Built on New Right-of-Way
- V. C. Summer Nuclear Station to Killian Substation Route Alignment**
 - Built on New Right-of-Way
- V. C. Summer Nuclear Station to St. George Switching Station Route Alignment**
 - Built on New Right-of-Way
- Existing SCE&G 33 kV Transmission Line
- Existing SCE&G 115 kV Transmission Line
- Existing SCE&G 230 kV Transmission Line
- Secondary Roads
- Interstate Highway
- SC Highways
- Railroad
- Incorporated Areas
- County Lines
- Freshwater Pond
- Lake
- River

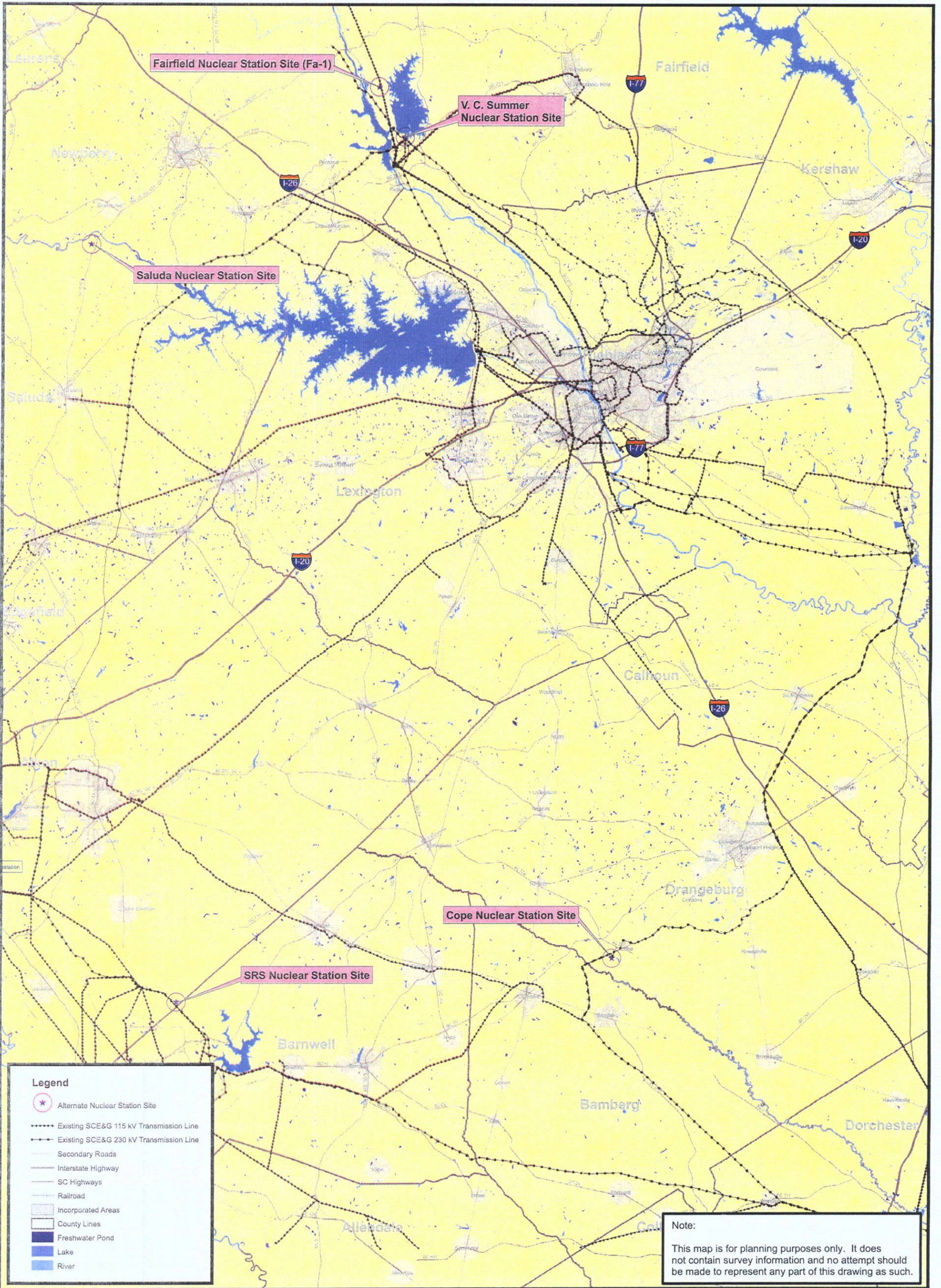
Notes:

1. This map is for planning purposes only. It does not contain survey information and no attempt should be made to represent any part of this drawing as such.
2. The width of new right-of-way will be 70' where parallel to existing SCE&G transmission lines. Where the new right-of-way is not parallel to existing SCE&G lines, the right-of-way width will be 100'.



**Alternate Nuclear Station Site: V. C. Summer
New Transmission Lines**





Legend

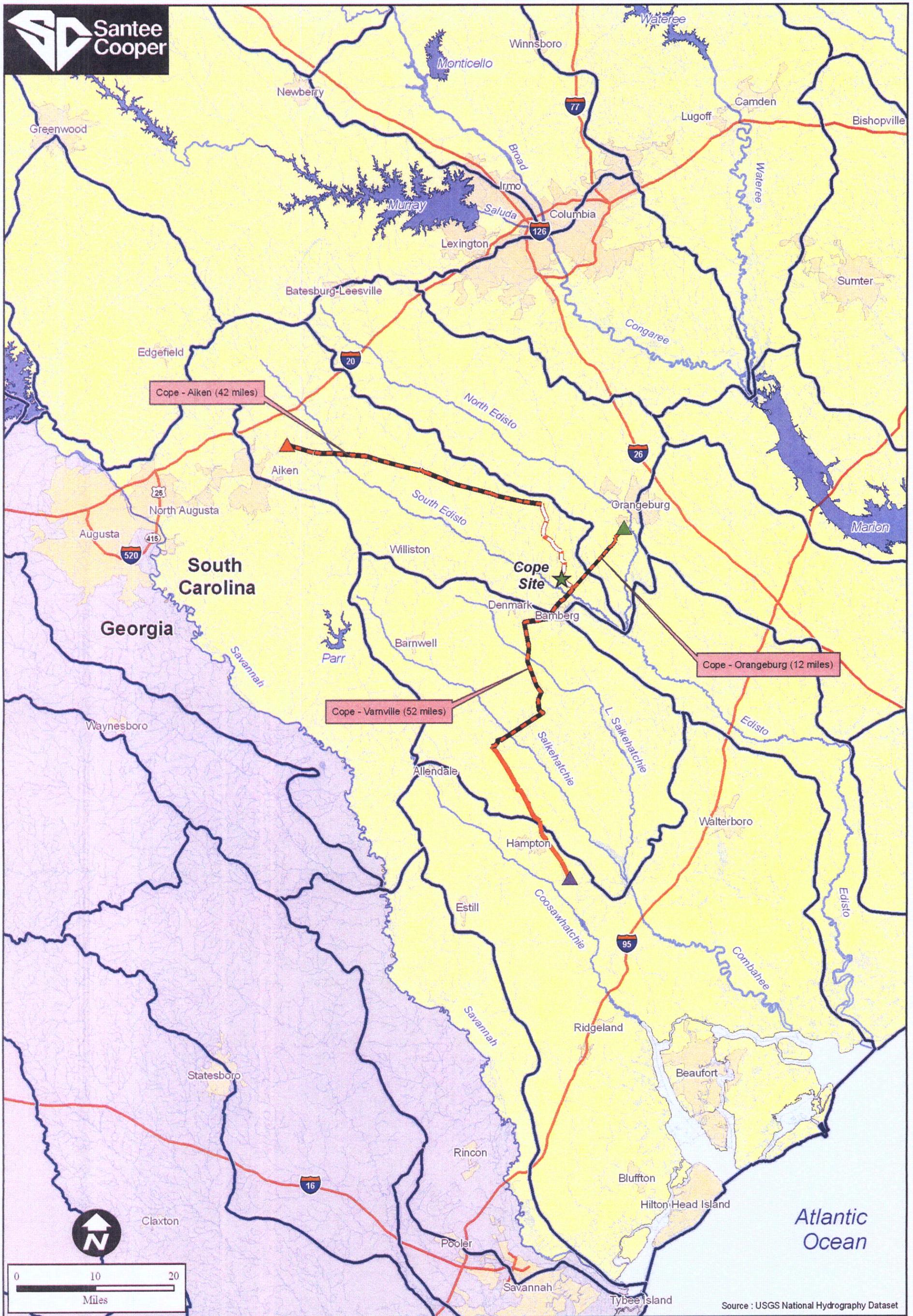
-  Alternate Nuclear Station Site
-  Existing SCE&G 115 kV Transmission Line
-  Existing SCE&G 230 kV Transmission Line
-  Secondary Roads
-  Interstate Highway
-  SC Highways
-  Railroad
-  Incorporated Areas
-  County Lines
-  Freshwater Pond
-  Lake
-  River

Note:
 This map is for planning purposes only. It does not contain survey information and no attempt should be made to represent any part of this drawing as such.



Alternate Nuclear Station Sites





Source : USGS National Hydrography Dataset

LEGEND

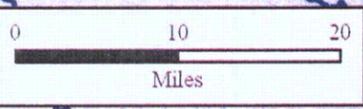
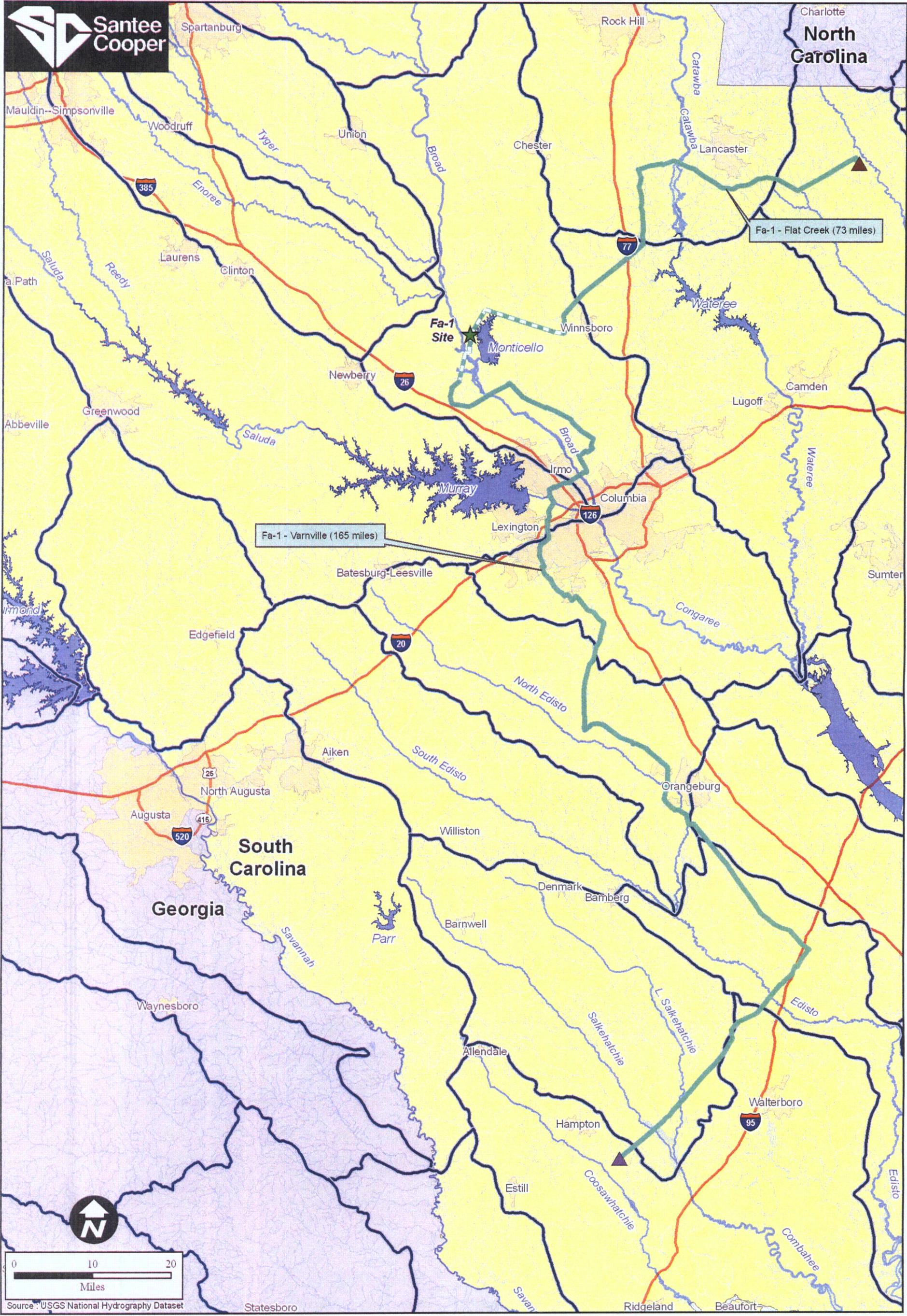
- ★ Cope Site
- ▲ Aiken Terminus
- ▲ Orangeburg Terminus
- ▲ Varnville Terminus
- Major Rivers
- Streams
- Watershed Boundary
- Major Lakes
- Population Centers > 3,000

- ROW Type**
- New ROW
 - Parallel ROW
 - Existing ROW

Drawn By: BSM
 Checked By: KMR
 Approved By: AWC
 Date: July 29, 2009



Cope Alternative Site and Santee Cooper Transmission Lines



Source: USGS National Hydrography Dataset

LEGEND

- ★ Fa-1 Site
- ▲ Flat Creek Terminus
- ▲ Varnville Terminus
- Major Rivers
- Streams
- Watershed Boundary
- Major Lakes
- Population Centers > 3,000

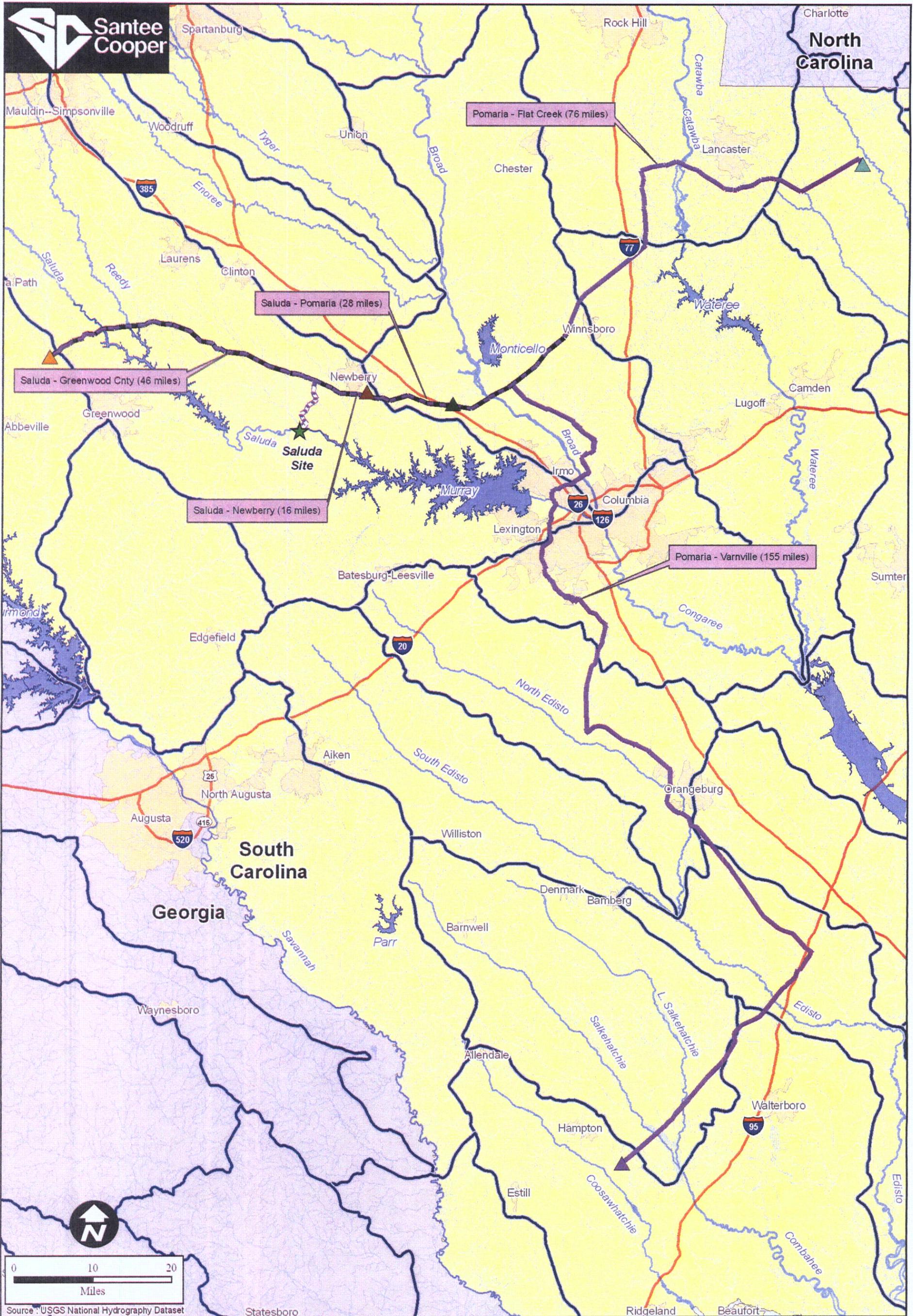
ROW Type

- New ROW
- Existing ROW

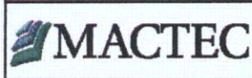
Drawn By: BSM
 Checked By: KMR
 Approved By: AWC
 Date: July 29, 2009



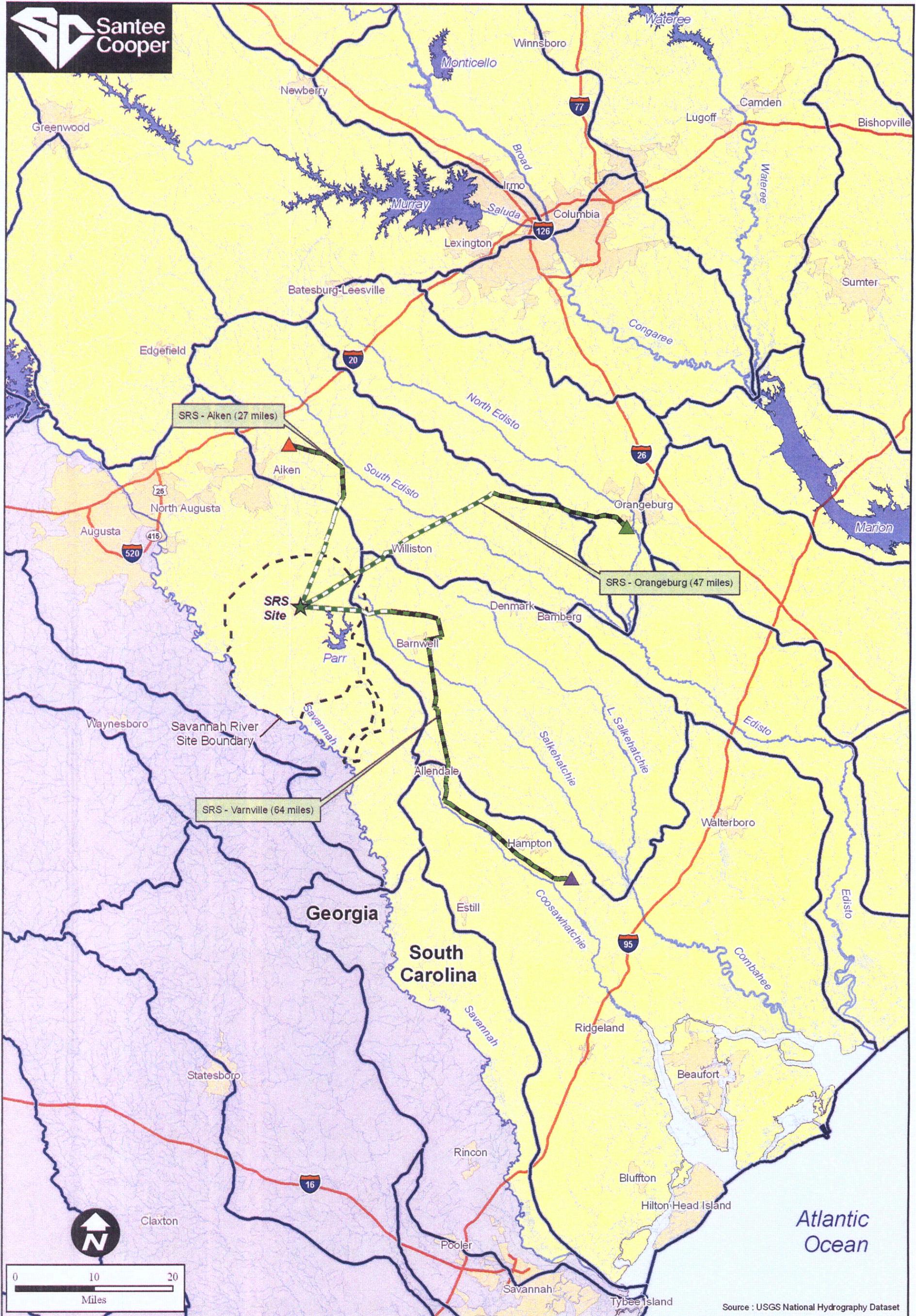
Fa-1 Alternative Site and Santee Cooper Transmission Lines



Drawn By: BSM
 Checked By: KMR
 Approved By: AWC
 Date: July 29, 2009



Saluda Alternative Site and Santee Cooper Transmission Lines



Source : USGS National Hydrography Dataset

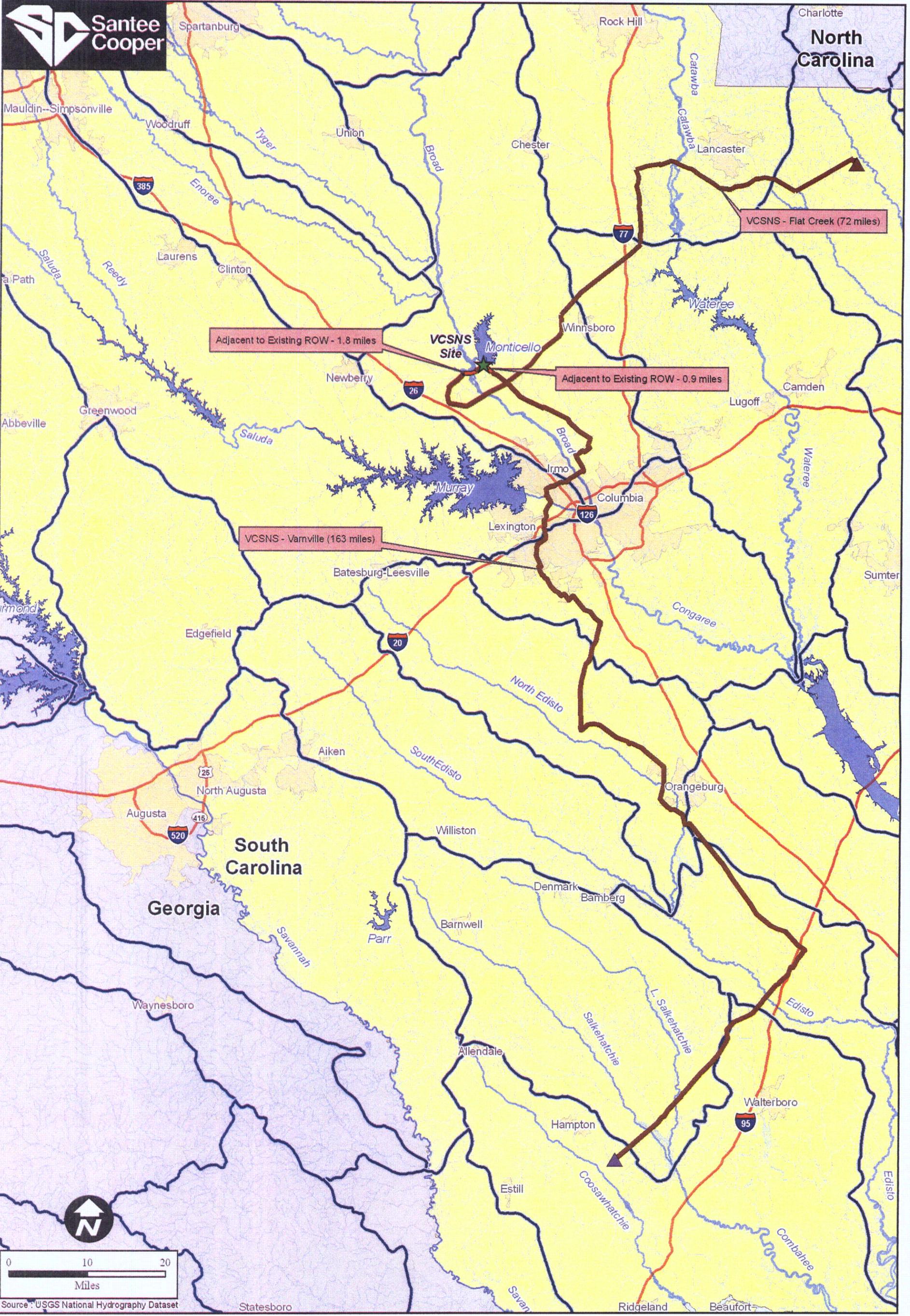
LEGEND

- | | | |
|--------------------------------|----------------------------|-----------------|
| ★ SRS Site | Major Rivers | ROW Type |
| ▲ Aiken Terminus | Streams | — New ROW |
| ▲ Orangeburg Terminus | Watershed Boundary | — Parallel ROW |
| ▲ Varnville Terminus | Major Lakes | |
| ▭ Savannah River Site Boundary | Population Centers > 3,000 | |

Drawn By: BSM
 Checked By: KMR
 Approved By: AWC
 Date: July 29, 2009



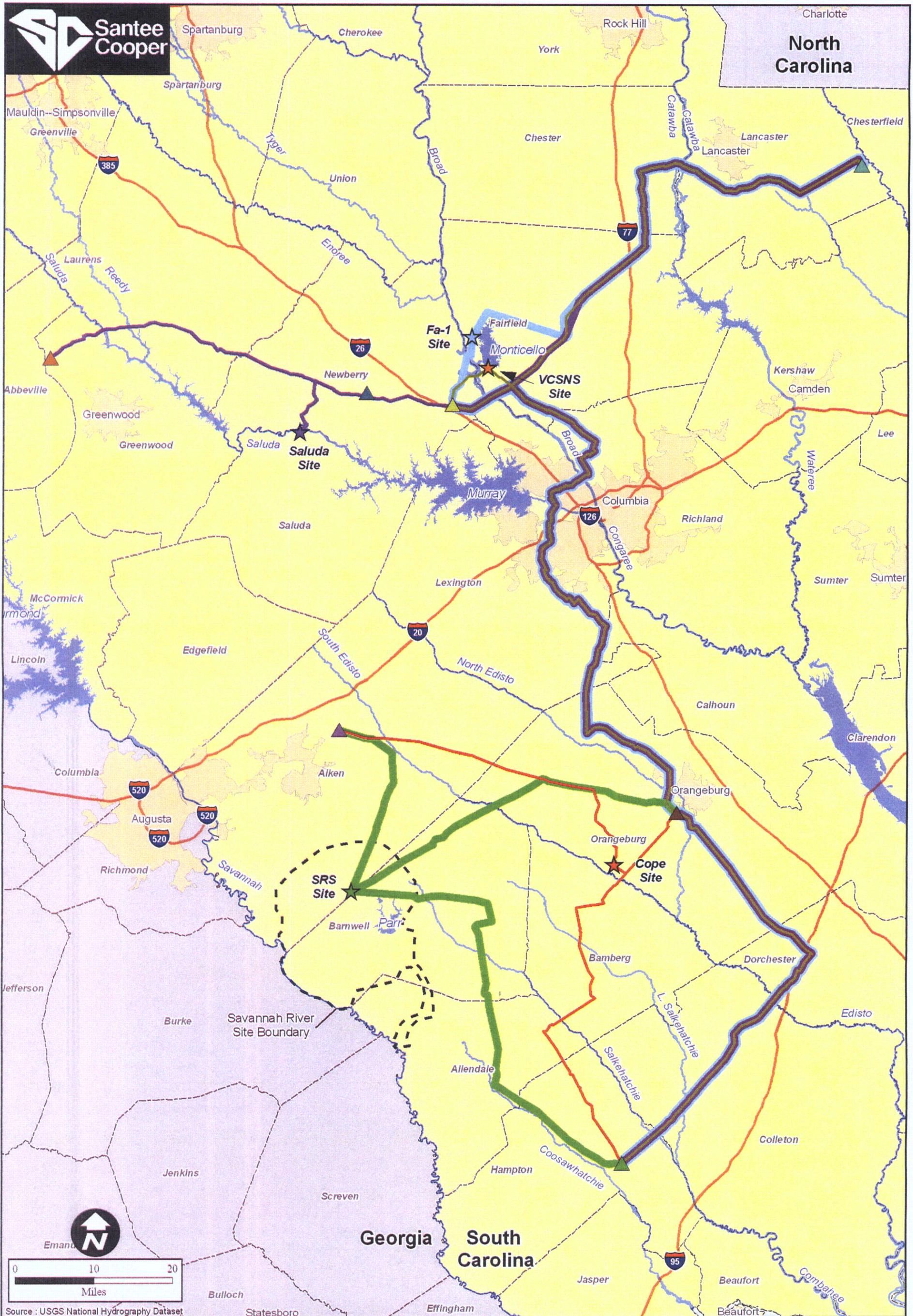
SRS Alternative Site and Santee Cooper Transmission Lines



Source: USGS National Hydrography Dataset

LEGEND <ul style="list-style-type: none"> ★ VCSNS Site ▲ Flat Creek Terminus ▲ Varnville Terminus — Major Rivers — Streams — Watershed Boundary — Major Lakes — Population Centers > 3,000 		ROW Type <ul style="list-style-type: none"> — Parallel ROW — Existing ROW 	Drawn By: BSM Checked By: KMR Approved By: AWC Date: July 29, 2009	VCSNS Site and Santee Cooper Transmission Lines
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Source : USGS National Hydrography Dataset

LEGEND

- | | | | | |
|----------|-----------------------------|------------------------|--------------|-------------------------------|
| ★ VCSNS | — VCSNS Transmission Lines | Terminus Points | ▲ Newberry | □ Population Centers > 14,000 |
| ★ Cope | — Cope Transmission Lines | ▲ Aiken | ▲ Orangeburg | --- County Boundary |
| ★ SRS | — SRS Transmission Lines | ▲ Flat Creek | ▲ Pomaria | |
| ★ Saluda | — Saluda Transmission Lines | ▲ Greenwood | ▲ Varnville | |
| ★ Fa-1 | — Fa-1 Transmission Lines | | | |

Drawn By: BSM
 Checked By: KMR
 Approved By: AWC
 Date: July 29, 2009

Alternative Sites and Santee Cooper Transmission Lines



ROW Widths not to scale