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Vice President
New Nuclear Deployment

November 20, 2009
NND-09-0320

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

ATTN: Document Control Desk

Subject: V. C. Summer Nuclear Station Units 2 and 3
Docket Numbers 52-027 and 52-028
Combined License Application – Supplemental Response to NRC
Environmental Report (ER) Information Needs NP-1, AQ-11 and
AQ-13

Reference: 1. Letter from Ronald B. Clary to Document Control Desk,
Submittal of Revision 1 to Part 3 (Environmental Report) of the
Combined License Application for the V. C. Summer Nuclear
Station Units 2 and 3, dated February 13, 2009.

By letter dated March 27, 2008, South Carolina Electric & Gas Company (SCE&G) submitted a combined license application (COLA) for V.C. Summer Nuclear Station (VCSNS) Units 2 and 3, to be located at the existing VCSNS site in Fairfield County, South Carolina. Subsequently the Environmental Report (ER), Part 3 of the application, was revised and submitted to the NRC (reference 1).

The enclosure to this letter provides supplemental information for ER Information Needs NP-1, AQ-11 and AQ-13. The NRC requested clarification to some of the information provided in the ER site audit conducted the week of March 9, 2009.

Please address any questions to Mr. Alfred M. Paglia, Manager, Nuclear Licensing, New Nuclear Deployment, P. O. Box 88, Jenkinsville, S.C. 29065; by telephone at 803-345-4191; or by email at apaglia@scana.com.

DO83
HRO

I declare under penalty of perjury that the foregoing is true and correct.

Executed on this 20th day of November 2009



Ronald B. Clary
Vice President
New Nuclear Deployment

ARR/RBC/ar

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01/10/10

VCSNS Units 2 and 3
Supplemental Response to NRC Information Needs Items AQ-11 and AQ-13

Original AQ-11 Information Need: Provide an expert to discuss the impacts to aquatic biota resulting from the temporary sewage treatment plant as well as shoreline construction activities including dredging, pile driving, the steel sheet cofferdam, and widening of the rail spur.

AQ-11 Supplemental Information: Describe the methods and alternate construction scenarios as related to construction of the service/offsite water intake structure. Provide a summary of the draft FERC application as related to in-water work and a copy of the final application upon submittal to FERC. Necessary details will need to include construction methods, best management practices, dimensions of the intake structure, dimensions of maintenance access pier, the size of the area to be excavated, and area encompassed by the cofferdams and turbidity curtain.

Response:

Construction Methodology

Construction of the Offsite Water System (OWS) intake, discharge, and access pier will be conducted in compliance with U. S. Army Corps of Engineers (USACE) Section 404 requirements and are not expected to adversely affect the reservoir water quality. The FERC application, designs and construction methods are being finalized and so information in this response is preliminary. Alternatives are presented below and expected impacts are calculated based on suitable construction methods that may later be refined to reduce the impacted area during construction and operation. See attached figures for dimensions and layouts.

OWS Intake Structure

Due to the location and depth required for the OWS Intake Structure, the dewatering of the general construction area surrounding the structure and working "in the dry" (**Option 1**) or working from the reservoir's surface "in the wet" (**Option 2**) will be required. These two options, and alternates for the second option, are outlined below. Both options will require the use of barge working platforms. **Option 1** will utilize barges to construct the rock filled cofferdam to enable working in the dry. The cofferdam will be removed once complete. **Option 2** will require barges to build the Maintenance Access Pier (MAP) and Wet Well. Also, both options will require the deployment of a silt curtain to limit the potential for suspending reservoir sediments. The exact size, orientation, and location of silt curtains will depend on the option utilized at the time of construction.

Option 1:

The installation of the OWS Intake Structure in the dry will require the construction of a cofferdam to encircle the entire area of the MAP and Wet Well (See **Figure 11 and 14**). A pile-faced, tied-back rock filled cofferdam will be erected within the confines of the silt curtain noted above. Upon containment of the work area, the site will be dewatered and all unsuitable soils removed and stockpiled.

VCSNS Units 2 and 3

Supplemental Response to NRC Information Needs Items AQ-11 and AQ-13

The dewatering treatment and sediment control system will depend on final design and construction sequencing of the OWS Intake Structure. The dewatering will be continuous until construction is completed within the cofferdam and all discharged water will be contained within the affected area. All components including the dredging method, turbidity barriers and sediment handling, processing, and disposal, will be confirmed and approved during pre-construction set-up.

Construction may be performed from within the cofferdam, from the shore or from the top of the rock filled cofferdam. Access may be directly from shore, or egress/access ladders may be installed. The foundation of the OWS Intake Structure Wet Well will be erected on flowable fill extending to the rock layer and the concrete poured-in-place base. The structure will then be assembled and the OWS pumps and equipment installed.

The procedure for the MAP construction would require pre-drilling and installation of the concrete piles from the shore, from within the cofferdam or from the top of the cofferdam. Each pile location would be verified and pre-drilled to a depth of approximately 10 feet into the rock below. The concrete pile would then be installed and structural concrete used to grout the pile into final position (See **Figure 15**). Construction of the pile caps and superstructure of the MAP could also be performed from the positions just mentioned for that of the piles.

Once all construction within the cofferdam area is complete, the area will be flooded and the cofferdam removed. The position of the silt curtain will be verified prior to demolition. After the cofferdam has been disassembled, the waters within the contained silt curtain area will be tested for Total Suspended Solids (TSS) until the level is permissible for reservoir limits and then the curtains will be removed.

Option 2:

This alternative for the OWS Intake Structure installation would require a more localized cofferdam, encasing only the OWS Intake Wet Well itself. The piles, pier caps and superstructure composing the MAP would all be constructed from barges or the shoreline.

Wet Well Construction Alternative 1:

The alternate cofferdam would be installed from a barge platform to include H-pile vertical supports, horizontal wales and struts, as needed, and an interlocking sheetpile outer shell. The final configuration would allow for approximately 5 feet of work space on all sides of the proposed OWS Intake Structure (See **Figure 16**).

Once the cofferdam outer shell is in place, tremie concrete will be placed along the inside edge of the sheetpile where it has been driven to contact with the rock layer below. At that time the inside of the cofferdam may be de-watered and all unsuitable soil removed. The foundation of the OWS Intake Structure Wet Well will be erected on flowable fill installed down to rock and the concrete base will be poured atop the

VCSNS Units 2 and 3
Supplemental Response to NRC Information Needs Items AQ-11 and AQ-13

flowable fill. The structure will then be assembled and the OWS pumps and equipment installed (See **Figure 17**).

Once all construction within the cofferdam area is complete, the area will be flooded and the cofferdam removed. The position of the silt curtain will be verified prior to deconstruction. After the cofferdam has been disassembled, the waters within the contained silt curtain area will be tested for TSS until the level is permissible for reservoir limits and then the curtains will be removed.

Wet Well Construction Alternative 2:

The second alternate for the OWS Intake Structure installation would utilize the structure itself as a cofferdam and would require a pre-cast unit to be placed on location from a barge crane. Location piles would be pre-driven into place and the pre-cast unit lowered into final position from above. An appropriate silt curtain configuration would be required.

Once the structure is secured, tremie concrete will be placed along the inside edge of the structure where it has been driven to contact with the rock layer below. At that time the inside of the unit can be de-watered, all unsuitable soil removed and the pre-driven piles cut to a proper length to be encased in the foundation concrete. The foundation of the intake structure will be structural concrete placed inside the structure from the top of rock to the designed bottom of the intake structure elevation. The OWS pumps and equipment can then be installed (See **Figure 18**).

The procedure for the MAP construction would require pre-drilling and installation of the concrete pile from a barge-mounted crane on the reservoir surface. Each pile location would be verified and pre-drilled to a depth of approximately 10 feet into the rock below. The concrete pile would then be installed and structural concrete used to grout the pile into final position (See **Figures 12, 13 & 15**). The silt curtain required would encase each pier location as the construction progressed. The silt curtain would remain in position until the waters within the contained area are tested for TSS and the level is permissible for reservoir limits. Construction of the pier cap and superstructure would then be performed from the barge supported platforms and then the unit can be flooded. The silt curtain will remain in position until the waters within the contained area are tested for TSS and the level is permissible for reservoir limits and then the curtains will be removed.

The use of barges will be necessary for construction of the OWS Intake Wet Well and Maintenance Access Pier structures. There are two locations designated for launching these barges within Monticello Reservoir in order to access the location of this construction. The first location, designated as Barge Launch Location #1 (**Figure 23**), is located on the west bank of Monticello Reservoir approximately 1 mile north of the Fairfield Pumped Storage Facility. The second location, designated as Barge Launch Location #2 (**Figure 23**), is at the same location as the proposed Raw Water System Intake Structure itself.

At both locations, up to 100 feet of shoreline may be utilized to load materials, cranes and other construction equipment on the barges. This process may require the temporary removal of rip-rap or other erosion control measures along the shoreline at these locations. Any and all measures that are removed will be restored immediately after both loading and unloading of the barges.

COLA Revisions:

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

Original AQ-13 information need: Provide an expert to discuss the construction time windows for intake structure, blowdown line, and construction of raw water line, cooling towers, roads, and supporting infrastructure as they relate to impacts on aquatic ecosystems.

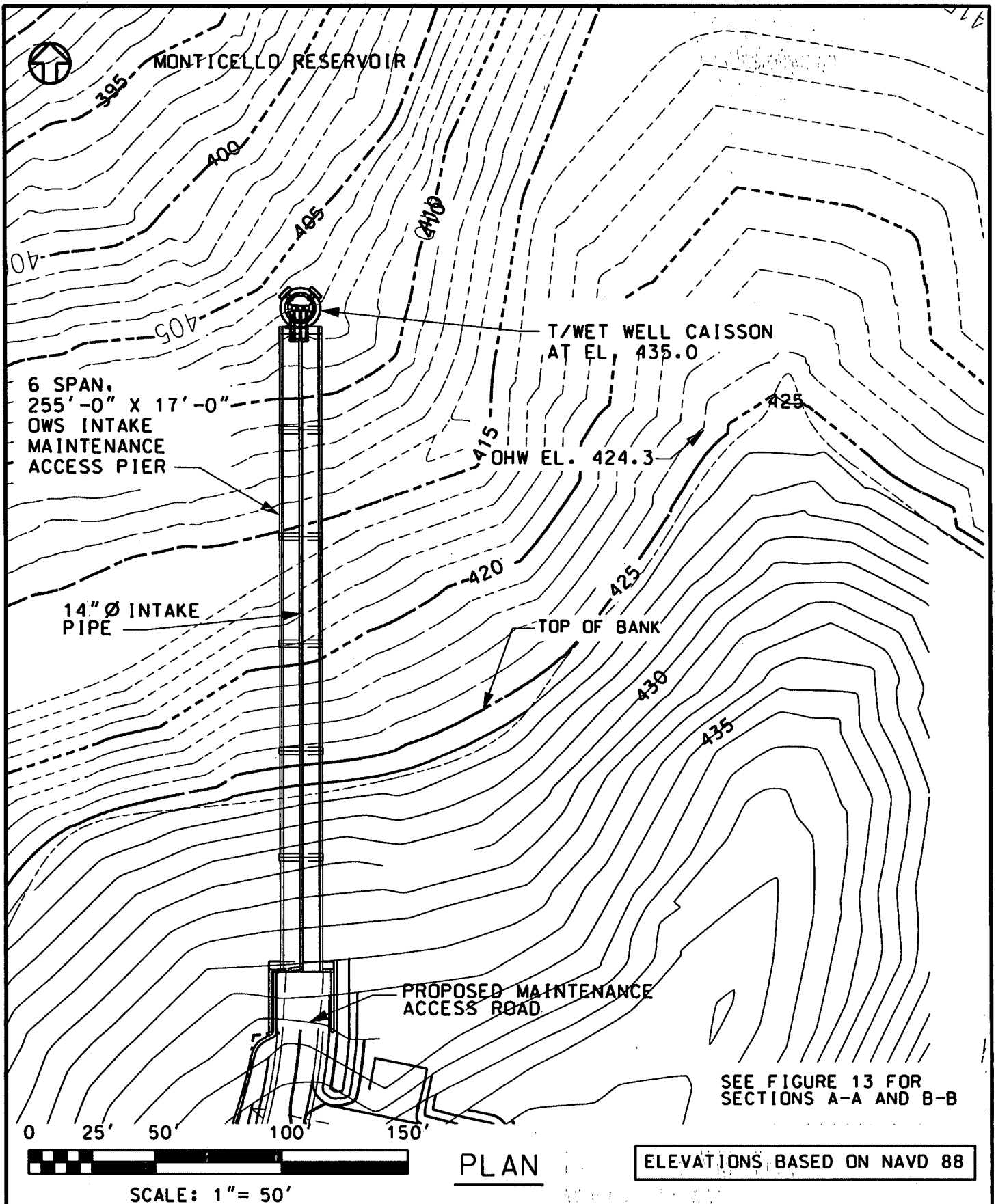
AQ-13 supplemental information: ER rev. 1 indicates construction time line associated with the installation of the cofferdam associated with the circulating water system intake is five months (pg 3.9-5). Will the time frame associated with construction of the service/offsite water intake system deviate from the circulating water intake system? If so, describe why and how the timelines will differ.

Response:

The ER time line for the Circulating Water System is not directly related to OWS intake construction. All water structures are constrained by the FERC and USACE permits, therefore construction cannot begin until approximately August 2011. There will likely be minimal overlap in the timing of the construction of these facilities due to manpower/equipment leveling requirements, etc. therefore they will not likely start and/or finish concurrently. The 5 month window discussed in the ER for Circulating Water System construction may be slightly longer if the OWS construction timeline is added.

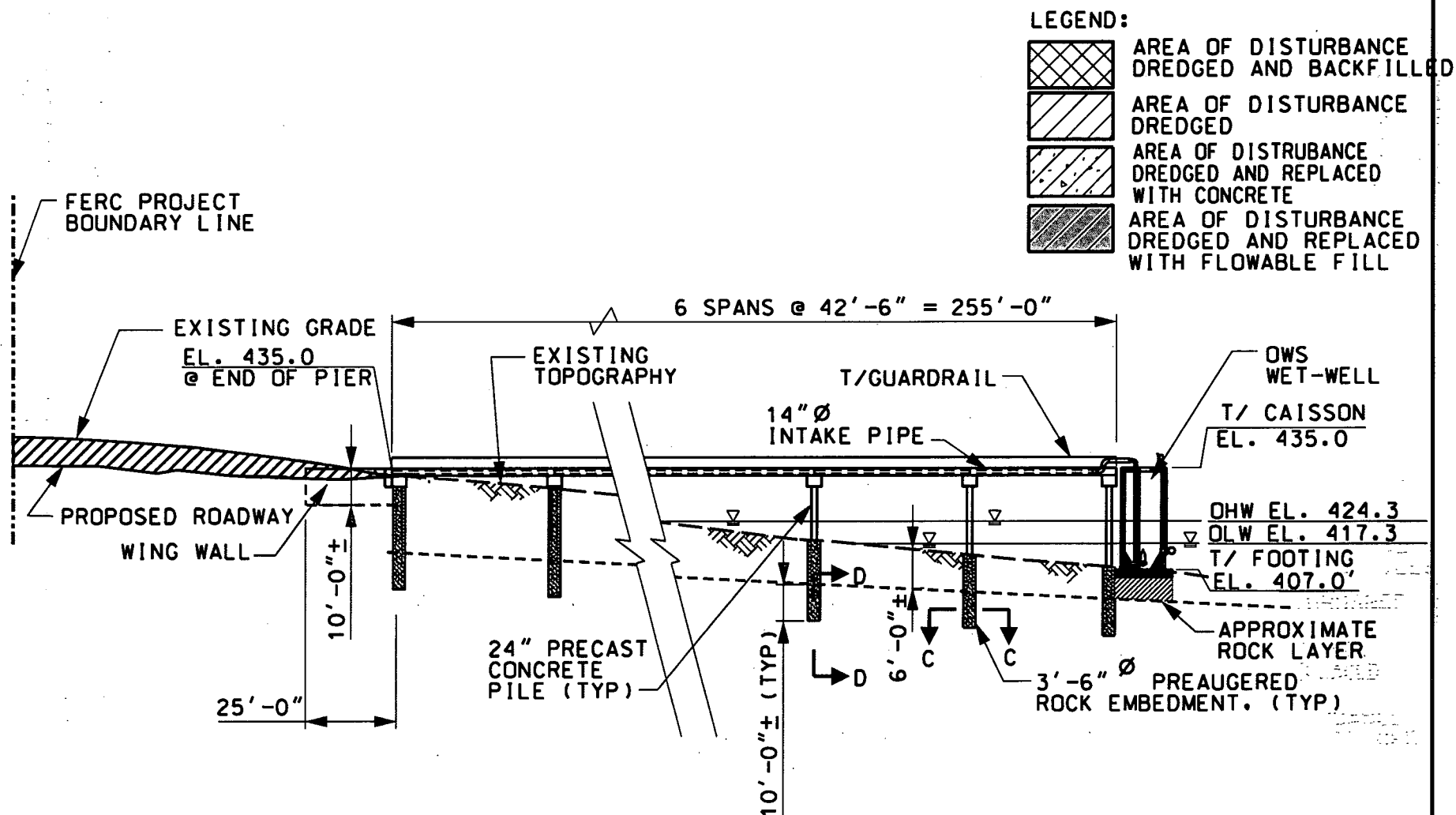
COLA Revisions:

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



APPLICATION FOR AMENDMENT OF
 FERC LICENSE FOR WITHDRAWAL OF
 WATER USE IN CONSTRUCTION AND
 OPERATION OF NUCLEAR GENERATION
 FACILITIES, FOR MODIFICATION OF
 PROJECT BOUNDARY LINE, AND FOR
 NON PROJECT USE OF PROJECT LANDS.
 (PROJECT NUMBER 1894)

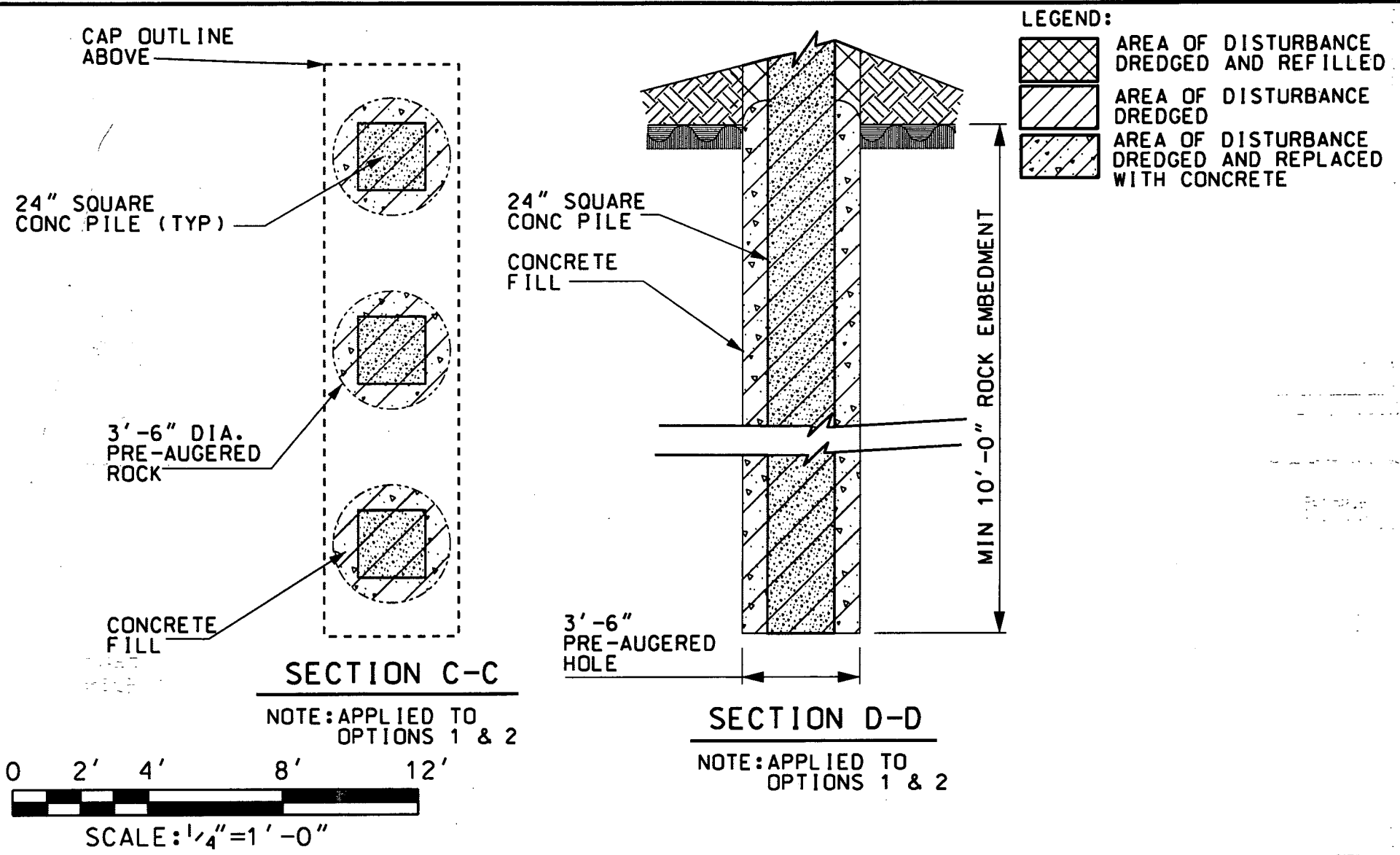
PROPOSED OWS
 MAINTENANCE ACCESS PIER (MAP)
 AND WET WELL
FIGURE 11



PROPOSED OWS MAINTENANCE ACCESS PIER (MAP)
AND WET WELL

FIGURE 12

APPLICATION FOR AMENDMENT OF
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(PROJECT NUMBER 1894)

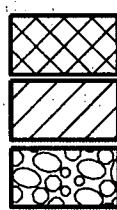


APPLICATION FOR AMENDMENT OF
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(PROJECT NUMBER 1894)

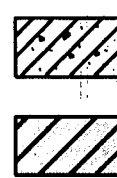
PROPOSED OWS INTAKE STRUCTURE SECTIONS C-C AND D-D

FIGURE 13

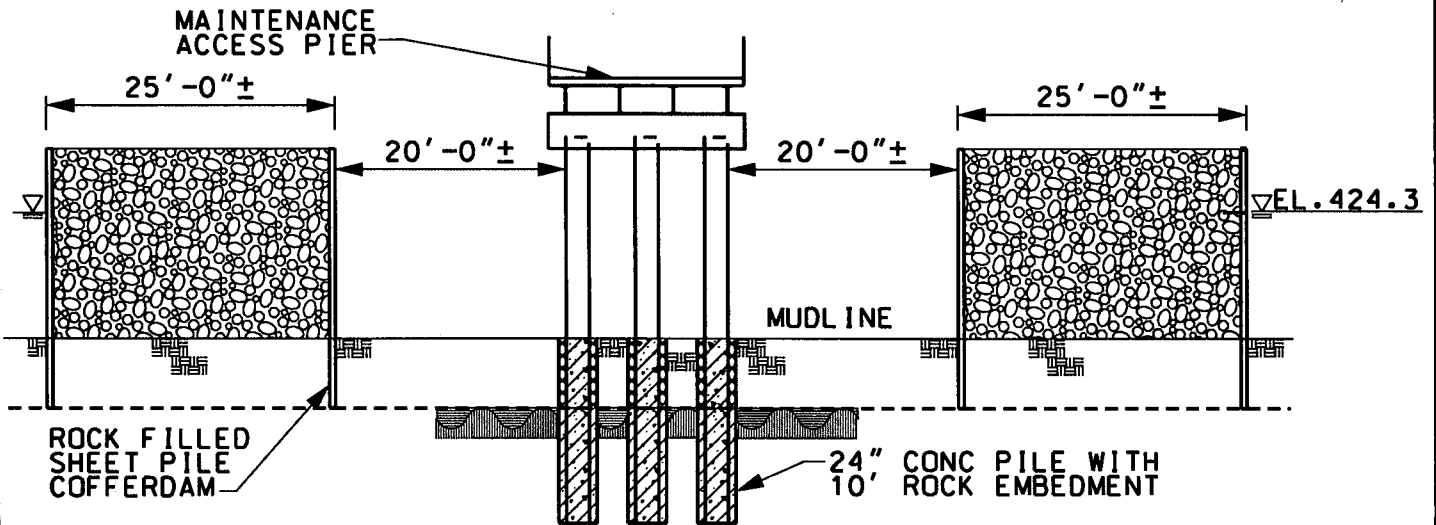
LEGEND:



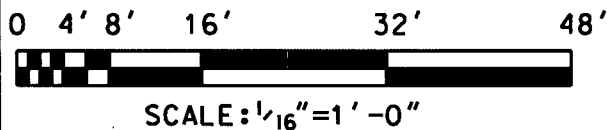
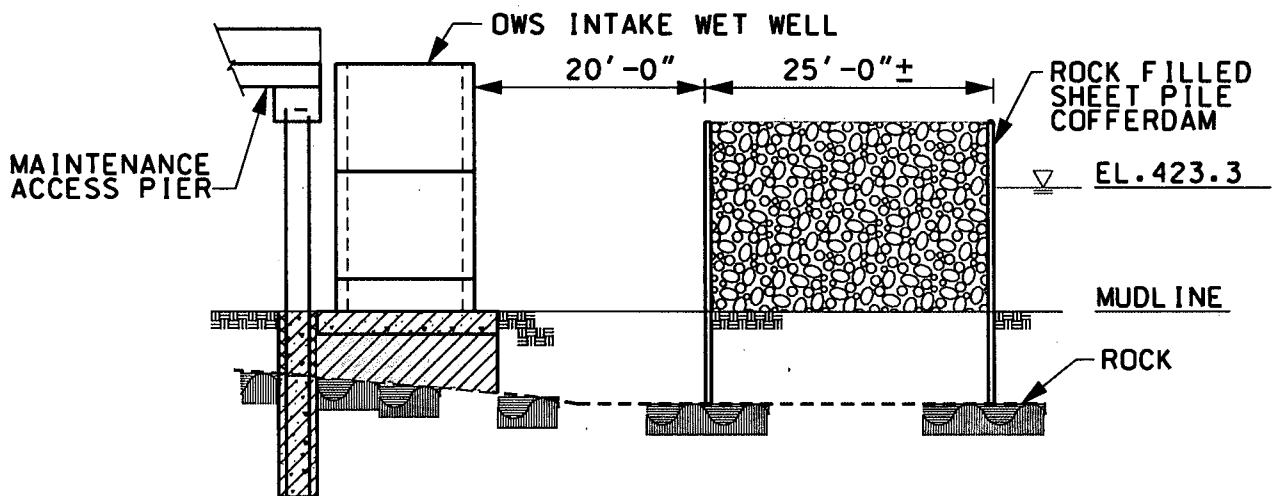
AREA OF DISTURBANCE
DREDGED AND BACKFILLED
AREA OF DISTURBANCE
DREDGED
AREA OF FILL



AREA OF DISTURBANCE
DREDGED AND REPLACED
WITH CONCRETE
AREA OF DISTURBANCE
DREDGED AND REPLACED
WITH FLOWABLE FILL



SECTION A-A



SECTION B-B

ELEVATIONS BASED ON NAVD 88

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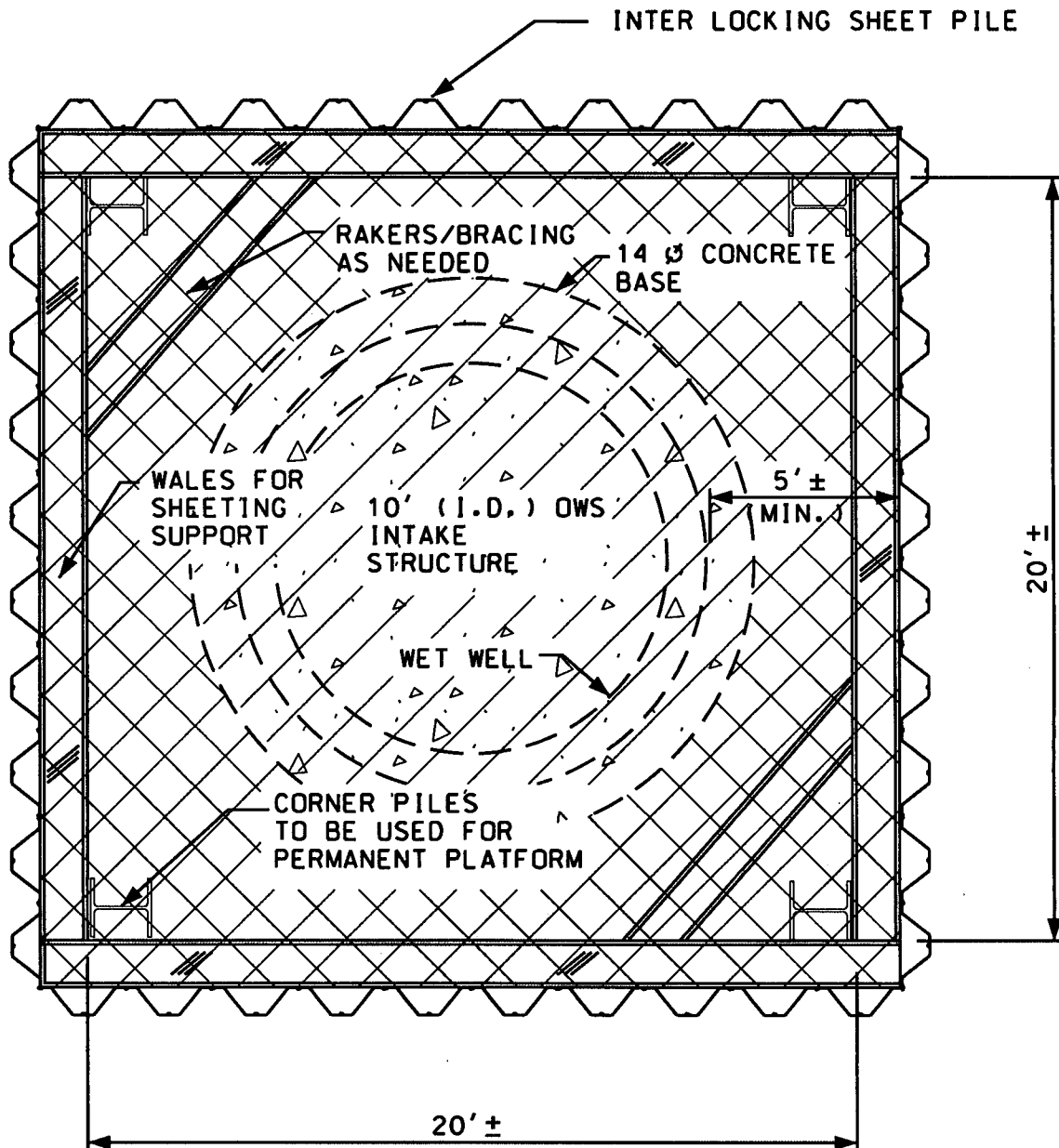
PROPOSED OWS INTAKE STRUCTURE
SECTION A-A AND B-B

FIGURE 15

LEGEND:



AREA OF DISTURBANCE
DREDGED AND REFILLED
AREA OF DISTURBANCE
CUT AND REPLACED
WITH CONCRETE



PLAN VIEW

APPLICATION FOR AMENDMENT OF
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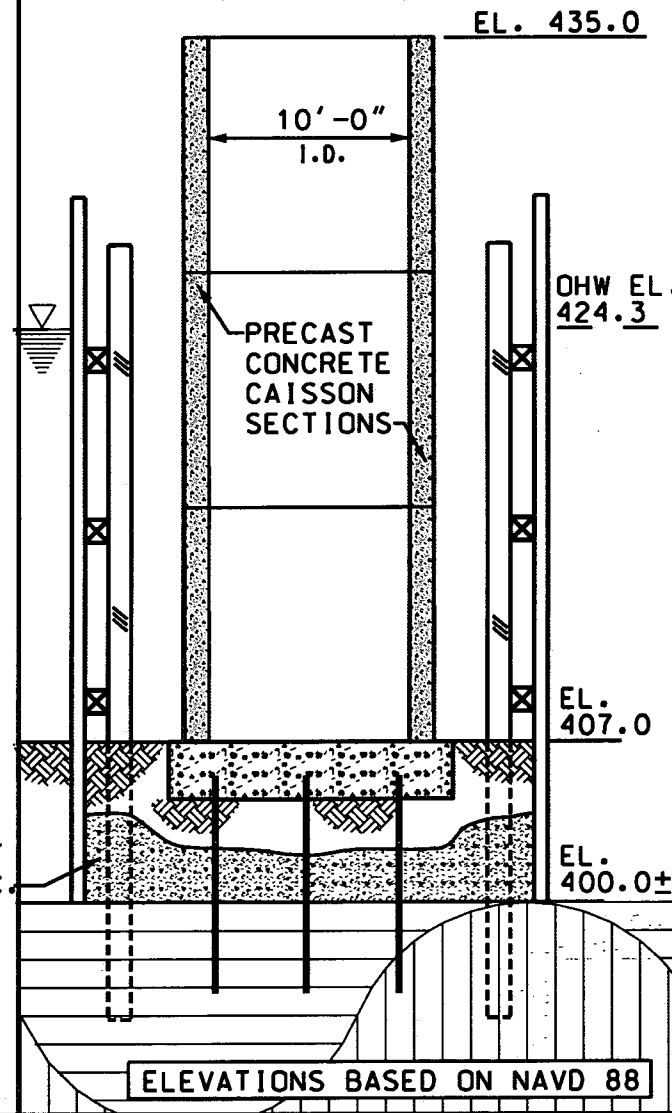
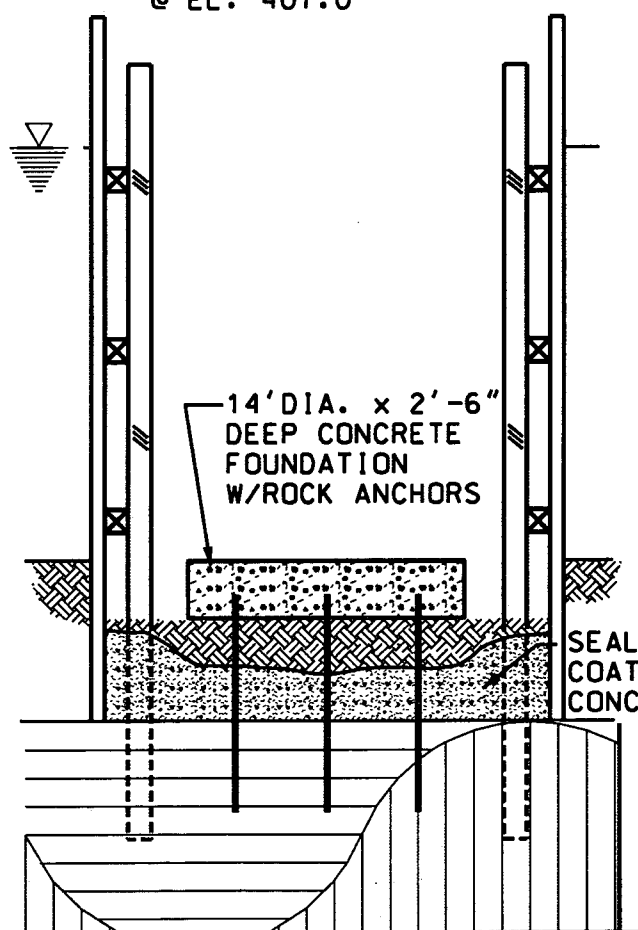
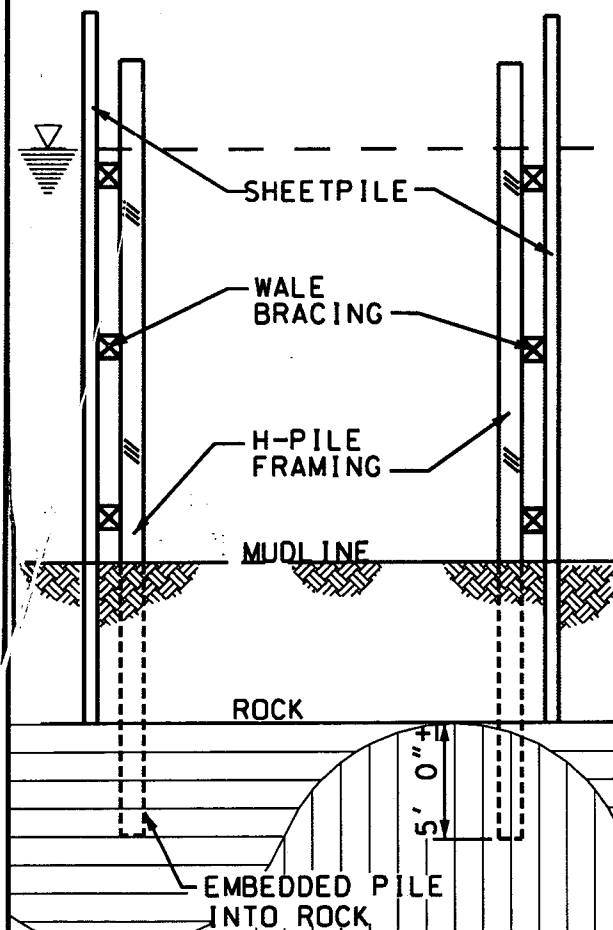
OWS INTAKE STRUCTURE WET WELL
COFFERDAM OPTION 2 - ALTERNATIVE 1

FIGURE 16

- ① - INSTALL H-PILE FOR COFFERDAM (TO REMAIN FOR PERMANENT WORK PLATFORM)
- INSTALL WALES BRACING AS REQUIRED FOR SHEETING
- INSTALL SHEET-PILE INTERLOCKING COFFERDAM
- SEE COFFERDAM PLAN VIEW

- ② - PLACE SEAL COAT CONCRETE
- DEWATER
- REMOVE UNSUITABLE SOIL
- INSTALL COMPACTED BASE MATERIAL AS NEEDED
- INSTALL TIE-DOWN AS NEEDED
- POUR FOUNDATION CONCRETE WITH TOP OF FOOTING @ EL. 407.0

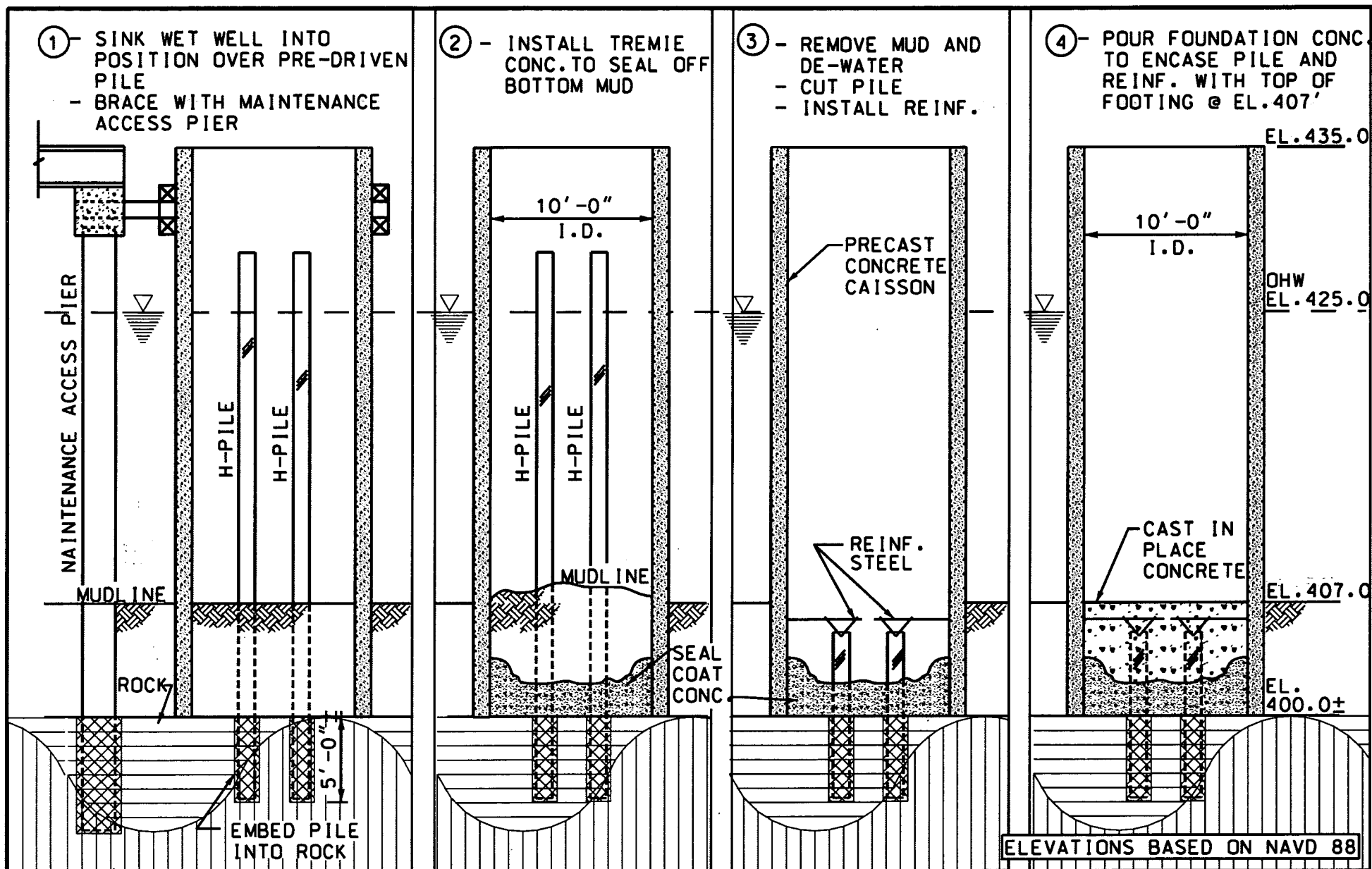
- ③ - INSTALL OWS WET WELL CAISSON AND ATTACH TO BASE
- REMOVE SHEETING AND WALES



APPLICATION FOR AMENDMENT OF FERC LICENSE FOR WITHDRAWAL OF WATER USE IN CONSTRUCTION AND OPERATION OF NUCLEAR GENERATION FACILITIES, FOR MODIFICATION OF PROJECT BOUNDARY LINE, AND FOR NON PROJECT USE OF PROJECT LANDS. (PROJECT NUMBER 1894)

OWS INTAKE STRUCTURE WET WELL - OPTION 2
- CONSTRUCTION SEQUENCE ALTERNATIVE 1

FIGURE 17



APPLICATION FOR AMENDMENT OF
FERC LICENSE FOR WITHDRAWAL OF
WATER USE IN CONSTRUCTION AND
OPERATION OF NUCLEAR GENERATION
FACILITIES, FOR MODIFICATION OF
PROJECT BOUNDARY LINE, AND FOR
NON PROJECT USE OF PROJECT LANDS.
(PROJECT NUMBER 1894)

OWS INTAKE STRUCTURE WET WELL - OPTION 2
CONSTRUCTION METHOD ALTERNATIVE 2

FIGURE 18



APPLICATION FOR AMENDMENT OF
FERC LICENSE FOR WITHDRAWAL OF
WATER USE IN CONSTRUCTION AND
OPERATION OF NUCLEAR GENERATION
FACILITIES, FOR MODIFICATION OF
PROJECT BOUNDARY LINE, AND FOR
NON PROJECT USE OF PROJECT LANDS.
(PROJECT NUMBER 18941)

BARGE LAUNCH LOCATIONS

FIGURE 23

VCSNS Units 2 and 3
Supplemental Response to NRC Information Needs Item NP-1

Original NP-1 Information Need: Provide a knowledgeable expert on the need for power for SCEG, Santee Cooper, VACAR, and the SERC region. This expert should be able to address questions related to the assessment such as:

- Describe wholesale power commitments (firm, non-firm, in area or in sub-region, etc)
- Describe how differences in demand growth (the ER timeframe vs. 2008 annual reports) might influence when new capacity is brought on-line. (e.g. Would lower growth push out the Pee Dee startup date?)

NP-1 Supplemental Information Request: Information is requested to evaluate the energy forecast 3 years past commercial operation of the 2nd reactor. Once the 2009 Santee Cooper IRP has been issued to the State Energy Office in mid-November, we request you forward to us the energy and power forecast out to a minimum of year 2022 (winter 2022/2023). The forecast should evaluate the impact of the stop-work order on the Pee Dee coal fired power plant, how the absence or delay of that generation (capacity) will impact energy and power supply out to 2022, and the impact of the potential loss of the Central Co-Op wholesale power sales agreement on the forecast out to a minimum of year 2022.

Response:

Santee Cooper is currently in the process of revising the 2009 Integrated Resource Plan (IRP). Once the IRP is issued it will be provided to the NRC. To facilitate NRC review, Santee Cooper has provided a proposed revision to ER Section 8.2, "State Need-for-Power Planning – Santee Cooper" which includes the 2009 IRP conclusions. An updated reference list, Section 8.6, is provided along with a useful reference, Santee Cooper Fingertip Facts 2008.

COLA Revisions:

Attached is the proposed revision to ER Section 8.2 which will be provided in the next revision to the ER.

8.2 STATE NEED-FOR-POWER PLANNING – SANTEE COOPER

Santee Cooper is a state-owned public utility created by Act No. 887 (the “Act”) of the South Carolina General Assembly in 1934. The South Carolina Governor appoints the Santee Cooper Board of Directors with the advice and consent of the Senate. The Board has the full authority to manage the property and business of Santee Cooper. The Act also General Assembly has created an advisory board to oversee Santee Cooper operations. The advisory board is composed of the Governor, Attorney General, State Treasurer, Comptroller General, and Secretary of State (SCCL 2007d). The advisory board approves the hiring of the external auditors and sets the salary of Santee Cooper’s Board of Directors.

~~Santee Cooper provides electric service directly to more than 155,000 residential, commercial, and industrial customers. In addition, Santee Cooper is the primary source of power distributed by 20 of the state’s electric cooperatives to over 665,000 customers located in all of the state’s 46 counties (Santee Cooper 2005).~~ Santee Cooper is the state’s largest power producer, supplying electricity to more than 163,000 retail customers in Berkeley, Georgetown, and Horry counties, as well as to 29 large industrial facilities, the cities of Bamberg and Georgetown, and the Charleston Air Force Base. Santee Cooper also generates the power distributed by the state’s 20 electric cooperatives to more than 700,000 customers in all 46 counties. Approximately 2 million South Carolinians receive their power directly or indirectly from Santee Cooper. Figure 8.1-1 shows South Carolina regulated electric service territories. The Santee Cooper direct service territory is shown in cross-hatched white and is further identified by the numeral 27 (identified in the legend as South Carolina Public Service Authority). The electric cooperative service territories are shown in green and are further identified as numerals 6 through 13 and 15 through 26.

South Carolina statutes require Santee Cooper to submit an integrated resource plan triennially, with annual updates during intervening years, to the State Energy Office (SCCL 2007e). The statutorily required contents are the same as those imposed by the PSC on SCE&G, that is:

- Demand and energy forecast for at least a 15-year period
- Supplier’s or producer’s program for meeting the requirements shown in its forecast in an economic and reliable manner, including demand-side and supply-side options
- Brief description and summary of cost-benefit analysis, if available, of each option which was considered, including those not selected
- Supplier’s or producer’s assumptions and conclusions with respect to the effect of the plan on the cost and reliability of energy services, and a description of the external environmental and economic consequences of the plan to the extent practicable

The integrated resource plan is a public document, providing disclosure to customers and the general public, the advisory committee, and the General Assembly. Santee Cooper's most recent integrated resource plan is dated 2008 (Santee Cooper 2008a). This contains information summarized in the following paragraphs summarize the information from that integrated resource plan and also include updated information based on Santee Cooper's most recent load forecast and changes to the generation plan. This updated information will be included in the 2009 Integrated Resource Plan that will be published in November 2009.

Several recent developments have caused Santee Cooper to begin re-evaluating its capital improvement program and long-term power supply plan. First, the on-going economic downturn has reduced the overall demand for electricity. In addition, proposed federal regulation of carbon emissions would significantly increase the operating costs of coal-fired generating stations. Finally, in September 2009, Santee Cooper and Central Electric Power Cooperative, Inc. ("Central") entered into an agreement which, among other things, would permit Central to purchase the electric power and energy requirements necessary to serve five cooperatives located in the upper part of South Carolina from a supplier other than Santee Cooper. If the agreement between Central and a new supplier receives the requisite regulatory approvals, this load would transition to the new supplier over a seven year period beginning in 2013. Therefore, previously anticipated sales to Central would be reduced by the amount of the transitioned load. Based on these factors, on August 24, 2009, the Authority suspended its efforts to further permit and develop the units at the Pee Dee site. The Authority is also reviewing other aspects of its capital improvement program and long-term power supply plan in light of these developments.

8.2.1 LOAD FORECAST

The Santee Cooper integrated resource plan contains forecasts of energy sales, summer peak demand, and winter peak demand. Santee Cooper works with GDS Associates, Inc., to perform annual updates of its load forecast database to include the most recent historical data, including electric system data (e.g., number of customers, energy sales, revenues by customer class), economic data, and weather data. Santee Cooper bases historical values on data available from the Census Bureau, Department of Labor, and Bureau of Economic Analysis, and on Santee Cooper's own records. Most recent historical records have shown that Santee Cooper's winter peak demand is greater than its summer peak demand.

Santee Cooper then forecasts growth trends for key economic and demographic factors, including population, employment, personal income, retail sales, and inflation. Between 1997 and 2005, after weather adjustment, the Santee Cooper average annual forecasting error was less than 1%. Projected values are based on information obtained from Woods & Poole Economics, Economy.com, and the University of South Carolina (Division of Research, Moore School of Business).

The Santee Cooper service area is composed of three electric systems that have differing geographic, demographic, economic, and weather characteristics. Santee Cooper prepares separate economic outlooks and forecasts for each area and combines them for total territorial energy sales and peak demand forecasts.

Santee Cooper develops forecasts of monthly energy sales and peak demand requirements for the 20-year period. For energy sales forecasting, Santee Cooper uses econometric modeling for weather-sensitive components (residential and commercial classifications) and historical trends and customer input for non-weather-sensitive components (industrial classifications). For peak demand forecasting, Santee Cooper uses econometric modeling based on temperatures on historical peak days.

Santee Cooper accounts for uncertainties in the forecasting process by using model simulations for energy sales and peak demand. Santee Cooper uses temperature distribution to develop a probability distribution of temperature at the time of the territorial peak. The results provide peak demand estimates for given temperatures and the probabilities that load requirements will rise or fall to specified levels around the base case forecast (Santee Cooper 2005).

In the 2007 load forecast, forecasted energy and peak demand projections ~~are~~ were initially reduced to take into account potential savings from future energy efficiency and conservation programs (Santee Cooper 2008a).

Figure 8.2-1 illustrates the results of the most recent 2009 Santee Cooper energy sales forecast and Table 8.2-1 identifies the values used to create the figure. As shown, Santee Cooper expects its energy sales to grow approximately 1.86% per year for the next 15 years, rising from 28,982,275,597 gigawatt-hours in 2008-2009 to 36,461,34,693 gigawatt-hours in 2024-3 (Santee Cooper 2008). In large part, this growth is attributable to Santee Cooper directly serving one of the state's fastest growing areas, Myrtle Beach. Santee Cooper's growth rate in its direct service area has averaged 3.5% over the past 5 years (Santee Cooper 2007). It should be noted that the projected growth rate does not include growth in Santee Cooper's direct-served large industrial sector. Growth in the large industrial sector beyond contract amounts is not assumed in the load forecast projections. For overall perspective, Figure 8.2-1 and Table 8.2-1 also include Santee Cooper historical energy sales for the past 10 years.

8.2.2 DEMAND-SIDE MANAGEMENT

~~Santee Cooper provides energy conservation options for residential and commercial customers, giving reduced rates for homes and buildings built or upgraded to high energy efficiency standards. This includes standards for heating and air conditioning equipment, water heaters, weather stripping and storm windows and doors, attic insulation, and major electric appliances. Customers can also obtain low interest loans for purchasing these items, and commercial customers may be eligible for up-front rebates (Santee Cooper 2005).~~

~~Curtaillable, interruptible, and economy power pricing rates are available for commercial and industrial customers. Time-of-use pricing encourages electricity usage during off-peak times and discourages usage during peak loads (Santee Cooper 2005).~~

~~In 2008, Santee Cooper's Board of Directors approved a new conservation initiative that will allow its residential customers to receive energy efficient light bulbs. This program encourages the use of compact fluorescent lights (CFL) in homes served by Santee Cooper as a way to conserve energy. Under this program, residential customers received a voucher in their electric bill which could be redeemed for twelve Energy Star, 75-watt equivalent CFLs. With more than 135,000 direct serve residential customers, the potential number of CFLs to be provided by Santee Cooper will be approximately 1.6 million bulbs at a cost of approximately \$2.7 million. This equates to over 68,000 MWh per year in total energy savings. The program will also have an educational component detailing information on the energy savings from switching from traditional light bulbs to CFLs. As of the middle of July 2008, Santee Cooper has given away over 500,000 CFLs to over 45,000 customers.~~

Santee Cooper provides energy conservation options for residential and commercial customers with rebate programs for homes and buildings built or upgraded to high efficiency standards. This includes standards for heating and air conditioning equipment, duct sealing, water heaters, infiltration reduction, thermal shell improvement, load control management, and energy efficient lighting, appliances and motors. Residential customers can also obtain low-interest loans for purchasing these items.

Curtable, interruptible, and economy power pricing rates are available for industrial customers with interruptible power pricing available for commercial customers as well. Time-of-use pricing encourages electricity usage during off-peak times and discourages usages during peak loads.

The Energy and Demand Response Business Plan is a major initiative supported and approved by the Santee Cooper Board of Directors to realize approximately 209,000 MWh of annual energy savings and 73 MW of demand reduction by 2020.

Subsection 9.2.1.3.2 provides additional details about Santee Cooper demand side management.

8.2.3 EXISTING CAPACITY AND ENERGY SALES

At the end of ~~2007~~2008, Santee Cooper owned summer peak generating capacity of ~~5,089~~5,672 MW. The summer generation capacity mix included (Santee Cooper 2008b):

- Coal-fired plants (3,371-951 megawatts, or ~~66~~70% of capacity)
- Oil- and gas-fired plants (1,270-273 MW, or ~~25~~22% of capacity)
- Hydroelectric plants (130 MW, or 3% of capacity)

~~Table 8.2-1~~ Partial ownership in Unit 1 (318 MW, or 6% of capacity)

With an addition of 419 MW of firm purchases and a lease, Santee Cooper's total summer peak generating capacity comes to 5,508,091 MW.

In ~~2007~~2008, coal provided approximately ~~84~~77% of the energy sales, nuclear ~~10~~9%, oil, natural gas, and landfill gas 4%, and hydro 1% (Santee Cooper ~~2007~~2008b). Figure 8.2-2 shows the growth in capacity that Santee Cooper projects through ~~2021~~2023, with Table 8.2-1 showing the values used to create the figure. This data indicates an expected growth in summer capacity from ~~5,766,043 MW in ~~2009~~8 to 8,147,402 MW in ~~2021~~2023.~~

8.2.4 RESERVE MARGIN

Santee Cooper operates using planning reserve targets of 10% and 13% for winter and summer months, respectively. This includes Santee Cooper obligations as part of Virginia-Carolinas Reliability Group. As noted in Subsection 8.1.1.4, failure to maintain reserve margins would increase operating reserves required by SERC. The space between the graphs of capacity and demand forecast on Figure 8.2-2 generally represents reserve margin.

8.2.5 NEED FOR POWER

At the end of ~~2006~~2008, Santee Cooper had just completed ~~under~~ construction ~~two of a~~ 600 MW coal-fired units (Cross 3 & 4), ~~scheduled for commercial operation January 2007 and 2009, respectively.~~ In addition, Santee Cooper generation planning ~~has~~ had identified the following as necessary to meet projected demand:

- Approximately 170 MW simple cycle combustion turbines for commercial operation in 2012
- Various firm purchased power amounts
- 600 MW-class supercritical pulverized coal unit for commercial operation in 2013 or earlier (Pee Dee)
- 45% ownership share of two 1,107 MW nuclear units located at the VCSNS site
- Approximately 250 MW of new renewable resources by 2021

Currently, approximately 70% of Santee Cooper's generation ~~fleet~~ resources is baseload.

As indicated in the introductory section of 8.2, several events have occurred since mid-2008 that affect Santee Cooper's load forecast and generation planning. Based on these events, the Santee Cooper Board of Directors suspended the permitting for the Pee Dee units. In addition, current load projections indicate there is no longer a need for the 170 MW simple cycle combustion turbines.

8.2.6 PURCHASED POWER

During ~~2006~~2008, Santee Cooper met ~~39~~ (net) of its energy requirements using power purchases. Capacity purchases supplied 8% of demand requirements. ~~Santee Cooper is projecting~~Any interim shortfalls in capacity and reserve requirements ~~that it will meet~~will be met using firm purchases as necessary.

The following is a list of the challenges that Santee Cooper investigated during the generation planning process with regards to the purchase of long-term power from the wholesale market.

- There is a lack of excess baseload capacity within the region. For example, Santee Cooper issued an RFP during the generation planning process in 2005 and there were no bids. Duke, Progress, and SCE&G are also in need of capacity in this timeframe. Many utilities in the region are also tight on capacity and are attempting to build/permit new units.
- Purchased power leads to higher costs than self-build options. During the generation planning process, there were two utilities that were willing to discuss build-to-buy, although this is not attractive because these utilities have to issue taxable debt and have to realize a profit on sales, thereby increasing the cost to Santee Cooper.
- There are currently limited transmission paths into Santee Cooper that can, or are reliably able to, bring in power in the 600 MW range.
- A long-term power purchase deal introduces counterparty risk. There is the risk that the company remains viable and able to deliver the required energy and capacity, and there is the risk that the company can continue to purchase fuel required and provide any liquidated damages that may be written into any contracts.

8.2.7 TRANSMISSION PLANNING

Subsection 2.2.2 describes the VCSNS transmission lines. The Santee Cooper transmission system is interconnected with those of Progress Energy, Duke, SCE&G, Southern Company, and the Southeastern Power Administration. Santee Cooper participates in regional computer modeling to produce an integrated electrical network. Like SCE&G, Santee Cooper is a member of the SERC Reliability Corporation, and tests and designs its transmission system to be compliant with reliability standards of the North American Electric Reliability Corporation, and maintains a 10-year schedule of modifications and additions to its network.

8.2.8 RELEVANCE TO NRC REVIEW

See Subsection 8.1.3 for general information about the purpose of the NRC review for need-for-power. Santee Cooper is different from SCE&G in that Santee Cooper is a state-owned public utility. Thus, the Santee Cooper need-for-power analysis in its integrated resource plan is the state's evaluation. Section 8.4 analyzes how the State evaluation satisfies each NRC review criterion.

**Table 8.2-1
Santee Cooper Energy Sales, Capacity, and Peak
Demand**

Year	Energy Sales (gigawatt- hours)	<u>Summer</u> Capacity (megawatts)	Peak Demand (megawatts)
Historical^(a)			
1997	18,437		
1998	19,466		
1999	20,286	281	
2000	22,139		
2001	22,400		
2002	24,121		
2003	24,060		
2004	24,451		
2005	25,064		
2006 ^(b)	25,422		
2007 ^(c)	27,221		
<u>2008</u>	<u>26,687</u>		

**Table 8.2-1
Santee Cooper Energy Sales, Capacity, and Peak
Demand**

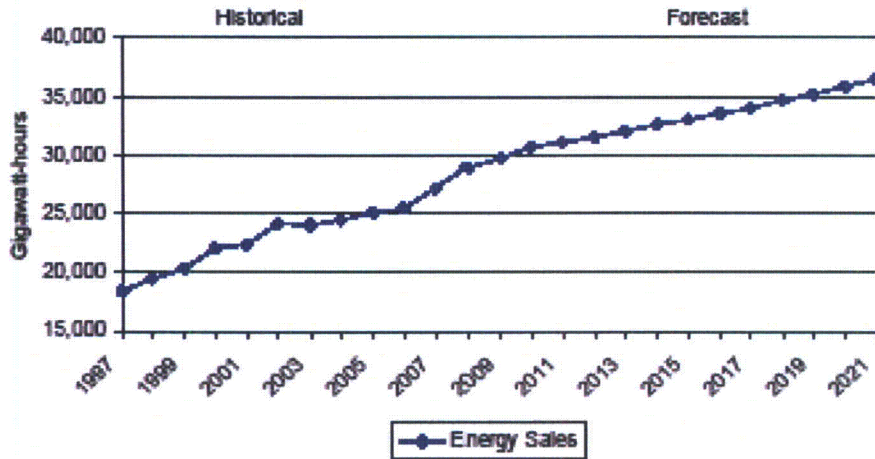
Year	Energy Sales (gigawatt- hours)	<u>Summer</u> Capacity (megawatts)	Peak Demand (megawatts)
Forecast^{(d),(b)}			
2008	28,982	5,766	5,430
2009	<u>27,597</u> 29,776	<u>6,152</u> 6,043	<u>5,388</u> 5,616
2010	<u>28,146</u> 30,679	<u>6,179</u> 6,144	<u>5,486</u> 5,820
2011	<u>29,237</u> 31,130	<u>6,327</u> 6,293	<u>5,656</u> 5,931
2012	<u>29,732</u> 31,574	<u>6,515</u> 6,350	<u>5,773</u> 6,041
2013	<u>30,463</u> 32,062	<u>7,165</u> 6,393	<u>5,892</u> 6,161
2014	<u>30,840</u> 32,559	<u>7,165</u> 6,394	<u>5,988</u> 6,282
2015	<u>31,215</u> 33,061	<u>7,045</u> 6,290	<u>6,083</u> 6,404
2016	<u>31,663</u> 33,541	<u>7,536</u> 6,787	<u>6,184</u> 6,521
2017	<u>32,085</u> 34,049	<u>7,576</u> 6,827	<u>6,284</u> 6,645
2018	<u>32,509</u> 34,647	<u>8,067</u> 6,827	<u>6,385</u> 6,778
2019	<u>32,930</u> 35,249	<u>8,107</u> 7,362	<u>6,484</u> 6,913

**Table 8.2-1
Santee Cooper Energy Sales, Capacity, and Peak Demand**

Year	Energy Sales (gigawatt-hours)	Summer Capacity (megawatts)	Peak Demand (megawatts)
2020	<u>33,348</u> 35,840	8,147 7,402	<u>6,584</u> 7,045
2021	<u>33,795</u> 36,461	8,147 7,402	<u>6,690</u> 7,184
<u>2022</u>	<u>34,243</u>	<u>7,402</u>	<u>6,796</u>
<u>2023</u>	<u>34,693</u>	<u>7,402</u>	<u>6,904</u>

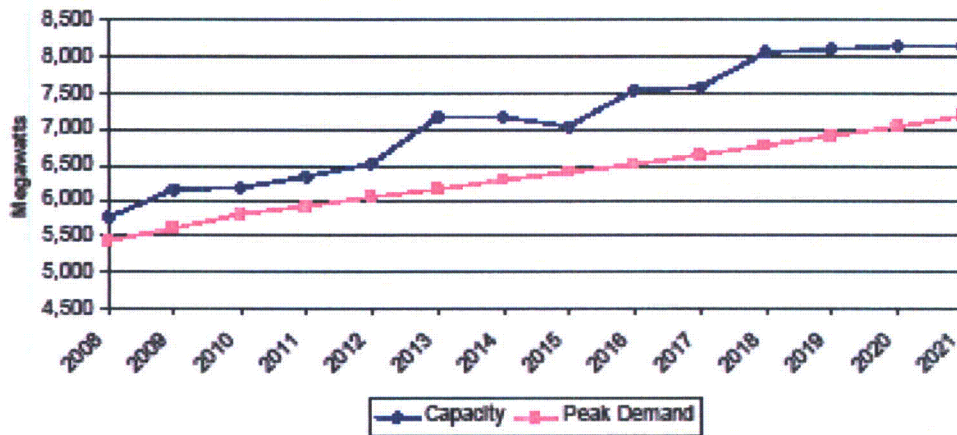
- a) Source: Santee Cooper (2008b6). Note: Data does not include distribution losses.
- b) Source: Santee Cooper (2007). Note: Data does not include distribution losses.
- c) Source: Santee Cooper (2008). Note: Data does not include distribution losses.
- d) Forecast energy sales include distribution losses. Forecast capacity and peak demand data are summer values and include applicable updates. Peak demand data are firm demand only. Capacity includes an additional coal unit in 2007, 2009, a 100 MW sale in the summer of 2009, and 2012, the addition of several landfill gas units between 2007/2009 and 2012, a power purchase between 2011 and 2014, renewable power purchases, and VCSNS Unit 2 in 2016, and natural gas unit in 2018 VCSNS Unit 3 in 2019, and various purchases.

Replace Figures 8.2-1 and 8.2-2 (See next page)



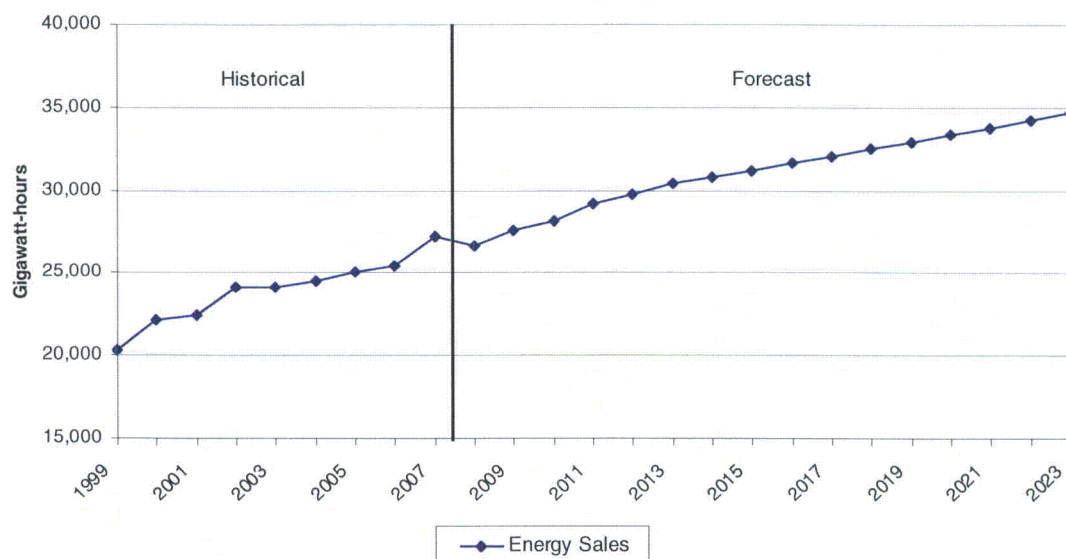
Source: Data from Table 8.2-1. See table for explanatory notes.

Figure 8.2-1. Santee Cooper Energy Sales



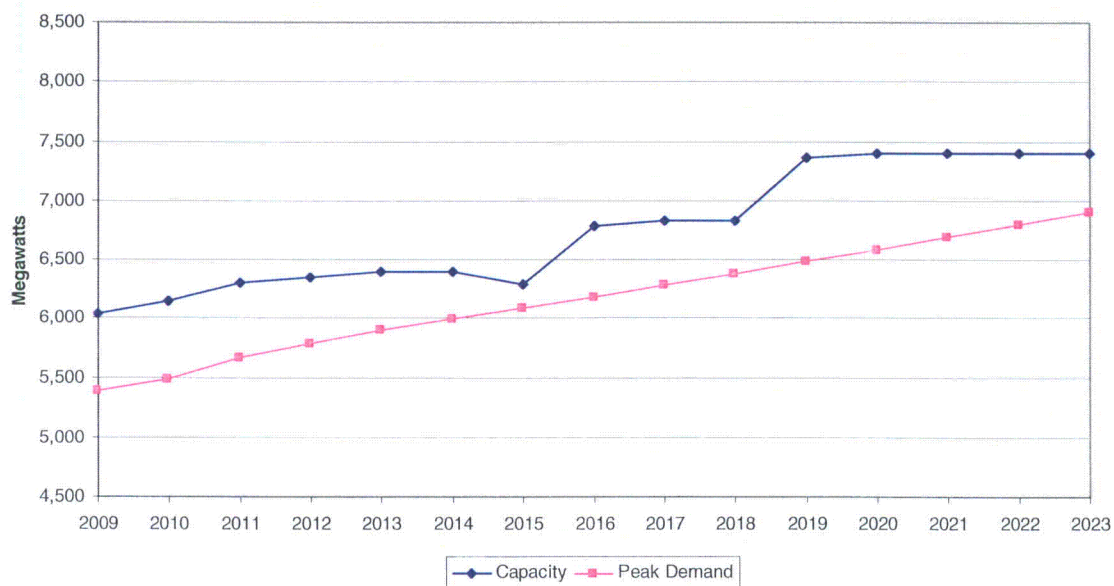
Source: Data from Table 8.2-1. See table for explanatory notes.

Figure 8.2-2. Santee Cooper Capacity and Demand Forecasts



Source: Data from Table 8.2-1. See table for explanatory notes.

Figure 8.2-1. Santee Cooper Energy Sales



Source Data from Table 8.2-1. See table for explanatory notes.

Figure 8.2-2. Santee Cooper Capacity and Demand Forecasts

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Who We Are

Santee Cooper, South Carolina's state-owned electric and water utility, is the state's largest power producer.

Based on generation, Santee Cooper is the nation's largest publicly owned electric utility among state, municipal and district systems, and the third largest based on megawatt-hour sales to ultimate customers.

The source of power for more than 2 million South Carolinians, Santee Cooper provides direct service to more than 163,000 retail customers in Berkeley, Georgetown and Horry counties. Santee Cooper is the primary source of power distributed by the state's 20 electric cooperatives to more than 685,000 customers located in the state's 46 counties.

Santee Cooper also supplies power directly to 31 large industrial facilities in 10 counties, the cities of Bamberg and Georgetown, and the Charleston Air Force Base.

Through the Santee Cooper Regional Water System, water is sold wholesale to the Lake Moultrie Water Agency. The agency then sells the water to its four members: the Summerville Commissioners of Public Works, the city of Goose Creek, the Berkeley County Water and Sanitation Authority, and the Moncks Corner Public Works Commission. Santee Cooper's Lake Marion Regional Water System serves 1,000 customers in the town of Santee.

Santee Cooper was the first utility in the state to offer Green Power, electricity generated by renewable resources such as solar and decomposing garbage in selected landfills.

The utility is governed by an 11-member board of directors that is appointed by the governor, deemed fully qualified by the Senate Public Utilities Review Committee and confirmed by the state Senate. The board is comprised of directors representing each of the six congressional districts; one from each of the three counties (Berkeley, Georgetown, Horry) where Santee Cooper serves retail customers directly; two directors with previous electric cooperative experience, and a chairman appointed at large.

The mission
of Santee Cooper
is to be the state's
leading resource
for improving
the quality of life
for the people
of South Carolina.

To fulfill this mission,
Santee Cooper is committed to:

- being the lowest cost producer and distributor of reliable energy, water, and other essential services
- providing excellent customer service
- maintaining a quality work force through effective employee involvement and training
- operating according to the highest ethical standards
- protecting our environment
- being a leader in economic development

Advisory Board

Mark Sanford
Governor

Mark Hammond
Secretary of State

Henry D. McMaster
Attorney General

Richard A. Eckstrom
Comptroller General

Converse A. Chellis III
State Treasurer

Board of Directors

O.L. Thompson III
Chairman
At-large
Mt. Pleasant, S.C.

*President and chief executive officer of O.L. Thompson Construction Co. Inc.
that includes Thompson Trucking Co. and Wando Concrete*

G. Dial DuBose
First Vice Chairman
3rd Congressional District
Easley, S.C.

*Real estate consultant at
Nalley Commercial Properties
in Easley, S.C.*

Clarence Davis
Second Vice Chairman
2nd Congressional District
Columbia, S.C.

*Partner in Nelson Mullins Riley &
Scarborough LLP, a Columbia-based
law firm*

Continued on page 6

Board of Directors (continued)

William A. Finn
1st Congressional District
Charleston, S.C.

Chairman of AstenJohnson, a specialty textile company for the printing and papermaking industries based in Charleston, S.C.

J. Calhoun Land IV
6th Congressional District
Manning, S.C.

Partner in Land, Parker and Welch, a general practice Manning law firm

Dr. John Molnar
Horry County
Myrtle Beach, S.C.

Medical Director for Grand Strand Regional Medical Center, Emergency Department

Peggy Pinnell¹
Berkeley County
Moncks Corner, S.C.

Owner of State Farm Insurance in Moncks Corner

James W. Sanders Sr.
5th Congressional District
Gaffney, S.C.

Pastor of Bethel Baptist Church in Gaffney for 60 years and active in numerous civic and business organizations

David A. Springs
Georgetown County
Murrells Inlet, S.C.

Retired consulting engineer for electric cooperatives and municipal utilities with Southern Engineering Co. of Georgia

Cecil Viverette
At-Large
Hilton Head Island, S.C.

Retired president and CEO of Rappahannock Electric Cooperative in Virginia

Barry Wynn
4th Congressional District
Spartanburg, S.C.

President of Colonial Trust Co., a private trust company specializing in investment management and estate services

¹ Confirmed by S.C. Senate May 2009

Executive Management

Lonnie N. Carter President and Chief Executive Officer
Bill McCall Executive Vice President and
Chief Operating Officer
Elaine G. Peterson Executive Vice President and
Chief Financial Officer
James E. Brogdon Jr. Senior Vice President and General Counsel
R.M. Singletary Senior Vice President of Corporate Services

Management

Senior Vice Presidents:

Terry L. Blackwell Power Delivery
Maxie C. Chaplin¹ Generation

Vice Presidents:

S. Thomas Abrams Planning & Power Supply
Jeffrey D. Armfield Business Services and Treasurer
Wm. Glen Brown Human Resource Management
Zack W. Dusenbury Retail Operations
Glenda W. Gillette Administration
Thomas L. Kierspe Engineering and Construction Services
L. Phil Pierce Fossil and Hydro Generation
Suzanne H. Ritter Corporate Planning and Bulk Power
Marc Tye Conservation and Renewable Energy
Laura G. Varn Corporate Communications and
Media Relations

Stephon Terrell Thompson Auditor
Pamela J. Williams Corporate Secretary and
Associate General Counsel

¹Retired December 2008

Employees

Number of regular employees 1,840²

²As of December 31, 2008

In its 2008 annual report, the South Carolina Human Affairs Commission ranked Santee Cooper first among state agencies that employ more than 1,000 employees and third among all state agencies reporting for consistent recruitment and retention of a diverse work force.

Santee Cooper Regional Water System

Location	Moncks Corner, S.C.
Construction cost	\$34.7 million
Commercial operation	Oct. 1, 1994
Capacity of treatment plant	36 million gallons per day (mgd)
Miles of pipeline	26
Size of elevated storage tank	1 million gallons
Size of ground storage	10 million gallons
Water supply	Lake Moultrie
Wholesale water sold to.....	Lake Moultrie Water Agency ¹
Water users:	136,000

¹The Lake Moultrie Water Agency sells the water to the City of Goose Creek, the Berkeley County Water & Sanitation Authority, the Moncks Corner Public Works Commission and the Summerville Commissioners of Public Works.

Lake Marion Regional Water System

Location	Santee, S.C.
Construction cost	\$36 million
Commercial operation	May 1, 2008
Capacity of treatment plant	8 (mgd)
Miles of pipeline	1 ²
Size of elevated storage tank	1 million gallons
Size of ground storage	2 million gallons
Water supply	Lake Moultrie
Wholesale water sold to.....	Lake Moultrie Water Agency ³
Water users:	1,030

²The first phase of the project provided initial service to Santee. Construction is underway for a five-mile pipeline to the elevated storage tank in Orangeburg County. Service will eventually expand to the remaining members of the Lake Marion Regional Water Agency.

³The Lake Marion Regional Water Agency is comprised of Berkeley, Calhoun, Clarendon, Dorchester, Orangeburg and Sumter counties, the town of Santee and the city of Sumter.

Lake Information

	Lake Marion	Lake Moultrie
Acres	100,607	59,874
Maximum elevation	76.8 feet	75.5 feet
Gallons of water in Lakes Marion and Moultrie: 756 billion		
Length of dams and dikes: 40 miles		
Length of Tailrace Canal: 4 miles		
Length of Diversion Canal: 5 miles		
Pinopolis Lock: 75 feet deep, 180 feet long, 60 feet wide		

Comparative Highlights

	2008	2007	Percent Change
Power Generated (GWh)	25,056	27,152	-7.7
Purchases, less			
Wheeling and Losses (GWh)	1,746	178	880.9
System Energy			
Requirements (GWh)	26,802	27,330	-1.9
Territorial Peak			
Demand (MW)	5,650	5,563	1.6
Operating Revenue			
(thousands of dollars)	\$1,586,303	\$1,464,825	8.3

Sources of Income – 2008	Percent
Wholesale	57
Military and Large Industrial	22
Residential, Commercial, Small Industrial, and Other	19
Other Income	1
Other Electric Revenue	1
TOTAL INCOME	100

Distribution of Income – 2008	Percent
Operating Expenses (except depreciation)*	70
Debt Service	20
Additions to Plant, Inventories, Etc	9
Payment to State*	1
TOTAL EXPENSES	100

*Does not include payments made from Special Reserve Fund

Santee Cooper Power

Where It Comes From:

Generating Facilities	Location
Anderson County Generating Station (3 MWs)	Belton
Buzzard Roost Hydroelectric Station (8 MWs)	Chappells
Cross Generating Station (2,320 MWs)	
Unit 1	Cross
Unit 2	Cross
Unit 3	Cross
Unit 4	Cross
Grainger Generating Station (170 MWs)	
Units 1 and 2	Conway
Hilton Head Combustion Turbines (97 MWs)	
Unit 1	Hilton Head Island
Unit 2	Hilton Head Island
Unit 3	Hilton Head Island
Horry County Generating Station (3 MWs)	Conway
Jefferies Generating Station (128 MWs)	
Hydro Units 1, 2, 3, 4, & 6	Moncks Corner
Jefferies Generating Station (398 MWs)	
Units 1 and 2	Moncks Corner
Units 3 and 4	Moncks Corner
Lee County Generating Station (5 MWs)	Bishopville
Myrtle Beach Combustion Turbines (90 MWs)	
Units 1 and 2	Myrtle Beach
Units 3 and 4	Myrtle Beach
Unit 5	Myrtle Beach
Rainey Generating Station (961 MWs)	
Combined Cycle Unit 1	Iva
Combustion Turbine 2A	Iva
Combustion Turbine 2B	Iva
Combustion Turbine 3	Iva
Combustion Turbine 4	Iva
Combustion Turbine 5	Iva

Summer Generating Capability	Fuel	Began Commercial Operation
3 MWs	Landfill methane gas	2008
8 MWs	Hydro	2006 ¹
620 MWs	Coal	1995
540 MWs	Coal	1983
580 MWs	Coal	2007
580 MWs	Coal	2008
170 MWs	Coal	1966
20 MWs	Oil	1973
20 MWs	Oil	1974
57 MWs	Oil	1979
3 MWs	Landfill methane gas	2001
128 MWs	Hydro	1942
92 MWs	Oil	1954
306 MWs	Coal	1970
5 MWs	Landfill methane gas	2005
20 MWs	Oil/Gas	1962
40 MWs	Oil	1972
30 MWs	Oil	1976
447 MWs	Gas	2002
146 MWs	Gas	2002
146 MWs	Gas	2002
74 MWs	Gas	2004
74 MWs	Gas	2004
74 MWs	Gas	2004

¹ The year Santee Cooper entered into a lease agreement with the county of Greenwood.

Continued on pages 12-13

Santee Cooper Power

Where It Comes From:

Generating Facilities	Location
Richland County Generating Station (5 MWs)	Elgin
Santee Spillway (2 MWs).....	Pineville
Southeastern Power Association (327 MWs).....	Various
St. Stephen Hydro Plant (84 MWs)	St. Stephen
V.C. Summer Nuclear Station (318 MWs)	Jenkinsville
Winyah Generating Station (1155 MWs)	
Unit 1	Georgetown
Unit 2	Georgetown
Unit 3	Georgetown
Unit 4	Georgetown

System Ratings

Area rated	Percent
Distribution Reliability.....	99.9955
Transmission Reliability.....	99.9979
Generation Availability	93.39

Safety

In 2008, Santee Cooper had a 97.7 percent incident-free safety rating with 42 injuries and preventable motor vehicle accidents.

Summer Generating Capability	Fuel	Began Commercial Operation
5 MWs.....	Landfill methane gas	2006
2 MWs.....	Hydro	1950
327 MWs.....	Hydro	1985 ¹
84 MWs.....	Hydro	1985
318 MWs ²	Nuclear	1983
295 MWs	Coal	1975
295 MWs	Coal	1977
295 MWs	Coal	1980
270 MWs	Coal	1981

6,091 MWs – Total summer generating capability³

¹ The year Santee Cooper entered into its contract with SEPA

² Santee Cooper's one-third ownership share.

³ 5,672 MWs are owned by Santee Cooper

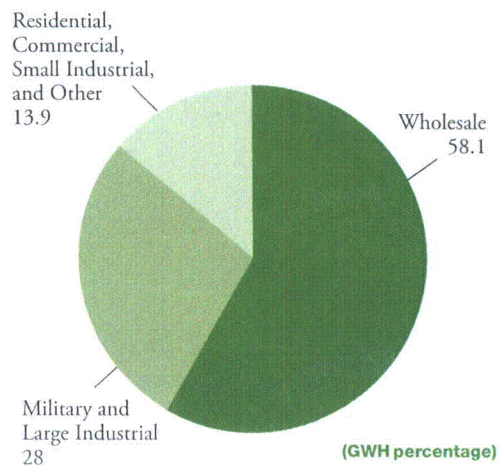
Satisfaction Ratings

Category	Percent
Industrial	96.9
Residential	99.4
Commercial	98
Wholesale	60
Overall	88.6
Average national satisfaction rating	83.2
South Carolina average satisfaction rating.....	86.3

Santee Cooper Power

Where It Goes: 2008 Energy Sales

Customer Type	Gigawatt-hour Total	Number of Customers
Wholesale.....	15,511	4
Military and Large Industrial.....	7,478	31
Residential, Commercial, Small Industrial, and Other	3,698	162,657
Total.....	26,687	162,692

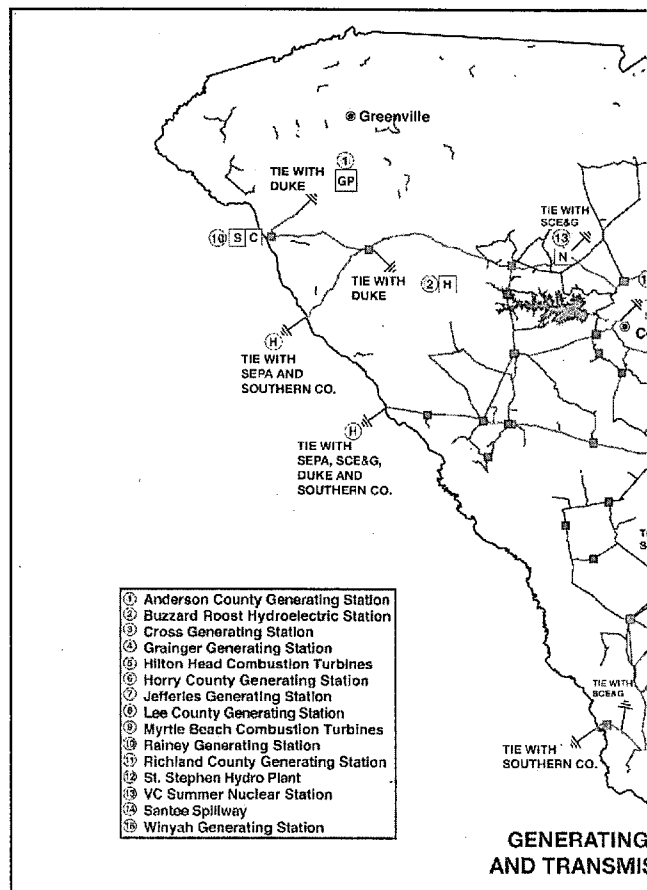


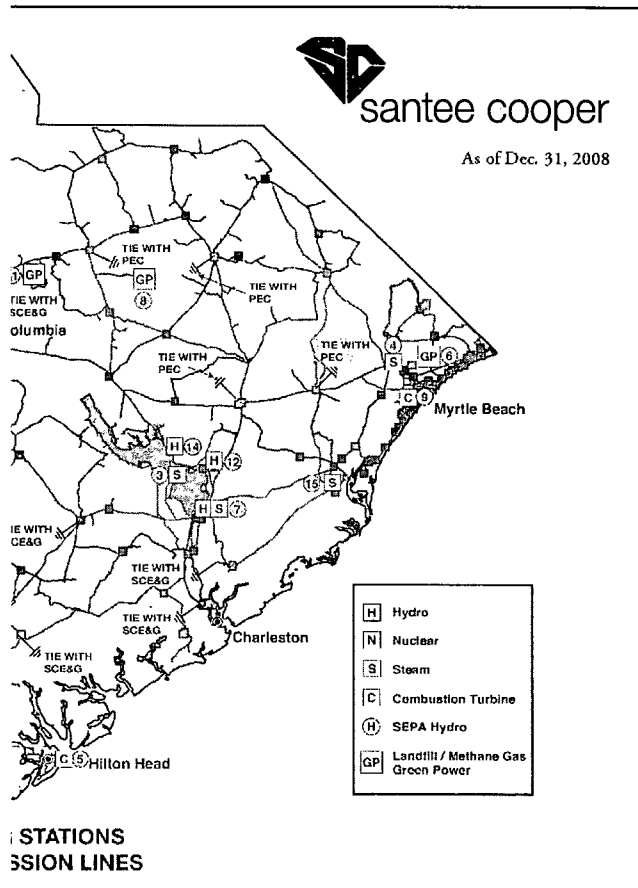
Sales and System Peak Loads

Year	Sales (GWh)	System Peak (MW)
2008	26,687	5,650
2007	27,221	5,563
2006	25,422	5,195
2005	25,064	5,371
2004	24,451	5,088
2003	24,060	5,373
2002	24,121	4,795
2001	22,400	4,803
2000	22,139	3,876
1999	20,281	3,729

Transmission and Distribution

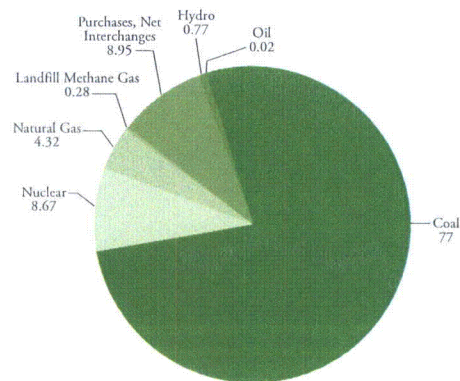
Miles of Transmission Lines	4,872
Miles of Distribution Lines	2,669
Transmission Substations	102
Distribution Substations	80
Central Electric Power System Delivery Points	474
Interconnections with Other Utilities	18
Municipal Customers	2





Total Energy Supply (Percentage)

Year	Hydro	Oil	Coal
2008	.077	0.02	77
2007	1.20	0.06	81.37
2006	1.32	0.11	77.18
2005	1.85	0.21	72.86
2004	1.70	0.12	75.19
2003	2.67	0.10	75.73
2002	1.01	0.14	74.49
2001	0.96	0.23	79.79
2000	1.31	0.46	83.53
1999	1.45	0.72	81.57



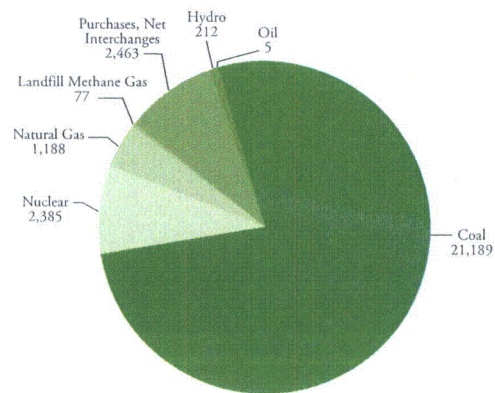
Nuclear	Natural Gas	Landfill Methane Gas	Purchases, Net Interchanges
8.67	4.32	0.28	8.95
10.08	3.91	0.23	3.14
9.85	7.89	0.24	3.41
9.51	7.91	0.17	7.49
10.77	6.57	0.09	5.56
9.74	4.74	0.09	6.93
9.82	9.02	0.06	5.47
9.75	0.76	0.02	8.50
9.22	*	*	5.47
11.71	*	*	4.55

*Not Applicable

Generation and Purchases

(Net Gigawatt-hours in Thousands)

Year	Hydro	Oil	Coal
2008	212	5	21,189
2007	337	17	22,811
2006	335	29	19,621
2005	482	55	19,033
2004	432	31	19,160
2003	670	26	19,010
2002	253	35	18,628
2001	220	54	18,365
2000	301	106	19,133
1999	304	150	17,061



Nuclear	Natural Gas	Landfill Methane Gas	Purchases, Net Interchanges
<u>2,385</u>	<u>1,188</u>	<u>77</u>	<u>2,463</u>
<u>2,826</u>	<u>1,097</u>	<u>64</u>	<u>880</u>
<u>2,503</u>	<u>2,007</u>	<u>61</u>	<u>1,733</u>
<u>2,485</u>	<u>2,067</u>	<u>44</u>	<u>1,957</u>
<u>2,745</u>	<u>1,674</u>	<u>23</u>	<u>1,417</u>
<u>2,445</u>	<u>1,190</u>	<u>22</u>	<u>1,738</u>
<u>2,455</u>	<u>2,256</u>	<u>15</u>	<u>1,367</u>
<u>2,243</u>	<u>174</u>	<u>4</u>	<u>1,956</u>
<u>2,113</u>	<u>*</u>	<u>*</u>	<u>1,252</u>
<u>2,450</u>	<u>*</u>	<u>*</u>	<u>951</u>

Santee Cooper Green

Santee Cooper has two dozen programs under its Santee Cooper Green umbrella, programs that fall into one of two camps: How Santee Cooper lives green, and How Santee Cooper helps others go green.

One way Santee Cooper lives green is by generating renewable Green Power.

2008 Green Power sales:24,272 MWh

Green Power customers support the development of renewable Green Power by purchasing blocks each month through their bill. Renewable Green Power costs more to generate than Santee Cooper's traditional generation, and the money raised through Green Power sales is put entirely into the development of new renewable energy. Santee Cooper currently generates Green Power through landfill gas facilities and solar panels, and the utility is exploring the feasibility of wind generation and biomass.

2008 Green Power Customers¹

Residential	1,947
Green Power Partners ² /Commercial	283
Industrial	1
Customers reached through cooperatives and municipalities	3,718
Green Tag customers	99

Sites	Generating Capacity	Commercial Operation Date
Anderson Regional Landfill Generating Station	3 MWs	September 2008
Horry County Landfill Generating Station	3 MWs	September 2001
Lee County Landfill Generating Station	5 MWs	February 2005
Richland County Landfill Generating Station	5 MWs	February 2006
Coastal Carolina University Green Power Solar Pavilions	16 KWs	July 2006

¹ Data as of Dec. 31, 2008.

² Green Power Partners are committed environmental stewards who have partnered with Santee Cooper in an effort to promote Green Power. To become a partner, these businesses agree to purchase a percentage of their electricity as Green Power.

How Santee Cooper Lives Green

Santee Cooper in 2008 made significant advancements in its commitment to renewable energy with the opening of a new landfill biogas Green Power generating station, the dedication of several new Green Power Solar Schools, the announcement of plans to purchase power from a biomass generating plant, the launch a new solar research initiative and the installation of new wind energy research towers in Georgetown and Horry counties.

In addition to generating renewable Green Power, Santee Cooper has a corporate recycling program that recycled more than 1 million tons of office waste and combustion byproducts in 2008, including 438,238 tons of fly ash and 536,423 tons of gypsum. The utility teaches green through programs including its annual summer Energy Educators Institute, its curriculum-enhancing environmental education programs at the Old Santee Canal Park and its Green Power Solar Schools program, which includes an extensive sixth grade curriculum for students in the utility's Green Power Solar Schools (a partnership with the state's electric cooperatives) and a summer institute to help teachers plan their Solar Schools lessons.

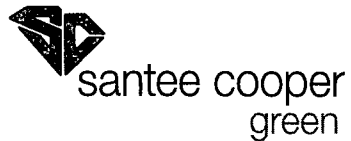
Santee Cooper is practicing what it preaches on conservation. It completed a corporate-wide energy audit last year and is systematically making efficiency improvements. The state-owned utility is already conserving 550 megawatts, mostly through demand-side management programs with industrial customers. By 2020, Santee Cooper hopes to control 650 megawatts in demand-side programs and to generate another 445 megawatts through new conservation and renewable energy initiatives. All told, this would effectively displace the need for 1,100 megawatts of base load electrical generation, or two large scale units.

On Earth Day, Santee Cooper launched an unprecedented compact fluorescent light (CFL) giveaway, offering customers one dozen of the energy efficient bulbs free of charge. By the end of the year, Santee Cooper had given away approximately 800,000 bulbs. Because 40 percent of Santee Cooper residential customers are absentee — reflecting ownerships of rental and vacation homes throughout the coastal direct-serve communities — the promotion actually reached more than 75 percent of customers living in Santee Cooper's service area.

Go Green with Santee Cooper

Santee Cooper is committed to promoting a partnership of stewardship with its customers, developing and executing programs that help others go green. Santee Cooper Green has several environmentally friendly programs, many of which are customer-focused.

Customers can visit the Web site www.santeecoopergreen.com where they can take a free energy audit, engage in smart energy planning and check out options for increasing their home's energy efficiency with low-interest loan programs. Santee Cooper continues to promote energy efficiency through a series of monthly Green Living tips distributed to newspapers statewide.



Environmental Stewardship

Santee Cooper has pioneered many environmental stewardship programs among utilities in South Carolina, from its decades-old efficient homes programs to 2008's wind-power research initiatives. Here are some of the other ways Santee Cooper fulfills its ongoing commitment to the environment:

Environmental Control Technology

When Cross Unit 4 entered commercial operation in October 2008, one-third of the unit's \$755 million construction costs were spent to make it the cleanest coal-fired unit in South Carolina. The emissions-control systems will result in the removal of 99 percent of particulate matter, 97 percent of sulfur dioxide and 90 percent of nitrogen oxides.

System wide, nitrogen oxide emissions fell 13 percent since 2007, and sulfur dioxide emissions are down 30 percent over the same time period.

Lakes and Vector Management

Protecting lakes Marion and Moultrie, South Carolina's largest freshwater resource, has always been of paramount importance to Santee Cooper since the reservoirs were completed in 1942.

With a combined 160,000 acres in five counties, the lakes host 48 water-quality monitoring stations. Monthly samples are analyzed by Santee Cooper's analytical and biological services department and data is shared with numerous state and federal agencies.

Maintaining water quality is important to preserving the natural habitat of the Santee Cooper lakes but also to ensure a safe water source for the Santee Cooper Regional and Lake Marion Regional water systems.

Santee Cooper's vector management department has been battling mosquitoes throughout the utility's 75-year history, effectively eliminating malaria in the counties surrounding the lakes. The department's employees routinely travel door to door through

Continued on pages 26-27

Environmental Stewardship (continued)

lakefront subdivisions, searching for potential breeding grounds and educating homeowners about techniques that discourage breeding. Vector Management also sets and inspects light traps loaded with carbon dioxide or "dry ice," which attracts mosquitoes. Technical associates routinely check the traps, and selected specimens end up under a microscope. This helps the department determine when and where to spray, using approved and environmentally friendly methods.

Wildlife Habitat Management

Santee Cooper nurtures wildlife habitats on its transmission line rights of way throughout the state, offering grants to people who lease the land and maintain it according to guidelines of the South Carolina POWER for Wildlife program.

Creating Sanctuaries for Wildlife

Santee Cooper and the S.C. Department of Natural Resources have a long history of working together to manage the lakes and the properties that surround the state's largest freshwater resource, through fisheries management and state wildlife management areas. Santee Cooper also supports the Santee National Wildlife Refuge in Clarendon County.

Forestry

Santee Cooper manages more than 27,000 acres of forest land around the lakes in Berkeley, Calhoun, Clarendon, Orangeburg and Sumter counties and in nearby Florence and Jasper counties.

Palmetto Trail

Santee Cooper helped blaze South Carolina's Palmetto Trail, a planned 162-mile long hiking, biking and camping pathway from the mountains to the sea. The trail's first segment opened in January 1996. The 24-mile long Lake Moultrie Passage created widespread access for hikers and cyclists to some of the most beautiful

Environmental Stewardship (continued)

vistas around the lake it edges. It is one of three sections that Santee Cooper helped build and continues to maintain.

The other sections include the 20-mile long Eutaw Springs Passage and the 33-mile long Lake Marion Passage. Santee Cooper was also involved in the 2008 opening of two outdoor centers, the High Hills Outdoor Center in Wedgefield and the Hell Hole Outdoor Center in St. Stephen.

Old Santee Canal Park

The 195-acre park, whose construction was financed by Santee Cooper, opened in 1989. It features an interpretive center, theater and classroom. Its staff now includes an education coordinator who is focused on environmental programs. School children across the Lowcountry enjoy outings such as "Nature on the Go," essentially an abbreviated school field trip described as "taking the park to the school." The park's environmental programs emphasize the vast diversity of plant and animal life found throughout the park, covering topics such as insects, reptiles, trees and wetlands.

The park features two miles of boardwalk and hiking trails along Biggin Creek that parallel the Tailrace Canal. A large floating dock is inviting to boaters. The Stony Landing House, circa 1843, provides a scenic overlook at the point where the west branch of the Cooper River begins.

GOFER

GOFER, Give Oil for Energy Recovery, is Santee Cooper's used motor oil collection and recovery program. Santee Cooper started the GOFER program in 1990 to give people throughout South Carolina a convenient place to properly dispose of used motor oil.

Santee Cooper collected 1,824,754 gallons of used motor oil in 2008, representing a 9.9 percent increase over 2007 and 18,568,697 kWhs of electricity as well as a savings of \$1,861,619 in fuel costs.

Visit www.scgofer.org for more information.

Economic Development

The Power Team, Santee Cooper's economic development partnership with The Electric Cooperatives of South Carolina, significantly advanced development efforts throughout the state, especially in some of the more rural and economically challenged areas.

Since initiating new incentives in 2006, the Power Team has committed to more than \$1.8 million in grants to local agencies to certify sites, provide professional development and help with strategic planning for economic development agencies.

Horry County State Bank broke ground for a new Operations Center in the Loris Commerce Center. Google held the Grand Opening Celebration at its new facility in the Mt. Holly Commerce Park. American Gypsum began production in its manufacturing plant in Georgetown County, a partnership with Santee Cooper through which it provides wallboard from gypsum produced as a byproduct at Santee Cooper's Winyah Generating Station.

All told in 2008, the efforts of Santee Cooper and its partners resulted in 2,385 new jobs, \$519.3 million in capital investments and more than 35,300 kilowatts of new load.

Customers

Wholesale Distribution Cooperatives

Aiken Electric Cooperative
Berkeley Electric Cooperative
Black River Electric Cooperative
Blue Ridge Electric Cooperative
Broad River Electric Cooperative
Coastal Electric Cooperative
Edisto Electric Cooperative
Fairfield Electric Cooperative
Horry Electric Cooperative
Laurens Electric Cooperative
Little River Electric Cooperative
Lynches River Electric Cooperative
Marlboro Electric Cooperative
Mid-Carolina Electric Cooperative
Newberry Electric Cooperative
Palmetto Electric Cooperative
Pee Dee Electric Cooperative
Santee Electric Cooperative
Tri-County Electric Cooperative
York Electric Cooperative

Municipal Customers

Bamberg Georgetown

Retail Customers Served Directly

Santee Cooper owns distribution facilities in two noncontiguous areas covering portions of Berkeley, Georgetown and Horry counties. These service areas include 2,669 miles of distribution lines.

Large Industrial Customers

Santee Cooper directly serves the Charleston Air Force Base and 31 large industrial facilities.

Santee Cooper Locations

Santee Cooper Headquarters*
One Riverwood Drive
Moncks Corner (29461)
843-761-8000

Retail Operations
305A Gardner Lacy Road
Myrtle Beach (29579)
843-347-3399

Carolina Forest*

Towne Center

3990 River Oaks Drive (29579)

843-946-5950

Conway*

100 Elm Street (29526)

843-248-5755

Garden City Beach/

Murrells Inlet*

900 Inlet Square Drive (29576)

843-651-1598

Loris*

3701 Walnut Street (29569)

843-448-2411

Myrtle Beach*

1703 Oak Street (29577)

843-756-5541

North Myrtle Beach*

1000 2nd Ave., North

(29582)

843-249-3505

Pawleys Island*

126 Tiller Road (29585)

843-237-9222

St. Stephen*

1172 Main Street (29576)

843-567-3346

*Retail Office

2009

January Sun Mon Tue Wed Thu Fri Sat 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	February Sun Mon Tue Wed Thu Fri Sat 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28	March Sun Mon Tue Wed Thu Fri Sat 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
April Sun Mon Tue Wed Thu Fri Sat 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30	May Sun Mon Tue Wed Thu Fri Sat 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	June Sun Mon Tue Wed Thu Fri Sat 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
July Sun Mon Tue Wed Thu Fri Sat 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	August Sun Mon Tue Wed Thu Fri Sat 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	September Sun Mon Tue Wed Thu Fri Sat 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
October Sun Mon Tue Wed Thu Fri Sat 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	November Sun Mon Tue Wed Thu Fri Sat 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30	December Sun Mon Tue Wed Thu Fri Sat 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

○ Holidays ■ Pay Days

*President's Day is a "floating" holiday
that can be observed anytime during the calendar year.*



P.O. Box 2946101
Moncks Corner SC 29461-6101
One Riverwood Drive
Moncks Corner SC 29461-2901
843-761-8000
www.santeecooper.com

For additional information,
call 843-761-4019