United States Department of the Interior

NATIONAL PARK SERVICE
Congaree National Park
100 National Park Road
Hopkins, South Carolina 29061

IN REPLY REFER TO:

Electronically Submitted

March 14, 2008

Mr. James M. Landreth, Vice President
Fossil and Hydro Operations
South Carolina Electric and Gas Company
111 Research Drive
Columbia, South Carolina 29203

Subject: Draft License Application for Saluda Dam (FERC Project #516)

Dear Mr. Landreth:

The National Park Service (NPS) submits the following comments regarding the Draft License Application (DLA) for the Saluda Hydroelectric Project (FERC #516). We continue to ask that South Carolina Electric and Gas (SCE&G) and the Federal Energy Regulatory Commission (FERC) fully consider the effects of future dam operations on the nationally significant natural and recreational resources located downstream of the Saluda Dam. Downstream interests of the NPS include Congaree National Park (CNP) as well as both the lower Saluda and Congaree rivers which are listed on the Nationwide Rivers Inventory (NRI). The NRI is considered by FERC as a Comprehensive Basin Plan.

NPS staff continues to collaborate with a group of stakeholders, including SCE&G, in the Ecologically Sustainable Water Management (ESWM) process. This ESWM process was designed to create a favorable context in which scientists, park managers and other stakeholders work together to formulate river flow recommendations to improve the ecological integrity of the Saluda and Congaree river systems as well as the associated river floodplain protected by CNP.

Background

Regulations created pursuant to the Federal Power Act, as amended, require consultation with the NPS and other resource agencies (18 C.F.R. § 4.38(a) and 18 C.F.R. § 5.1(d)). The NPS provides technical assistance about outdoor recreation and natural resource conservation pursuant to the Outdoor Recreation Act of 1963 (16 U.S.C. § 4601-1), the NPS Organic Act (16 U.S.C. § 1 *et seq.*), the Wild and Scenic Rivers Act of 1968 (Public Law 90-542), and the National Trails System Act of 1968 (16 U.S.C. § 1246(a)). In addition, the NPS is required under the NPS Organic Act to preserve unimpaired the natural and cultural resources and values of the National Park System for the enjoyment, education, and inspiration of this generation and future generations.

Congaree National Park, originally designated Congaree Swamp National Monument, was authorized by Congress in 1976 (Public Law 94-545) to protect the largest remnant tract of old growth bottomland hardwood forest in the United States. Located primarily along the northern bank of the Congaree River, CNP protects an intact floodplain ecosystem consisting of nearly 26,000 acres in Richland County, SC. According to the park's General Management Plan, specific management objectives for CNP include the following:

1. Protect and perpetuate the park's natural resources, including the bottomland hardwood ecosystem, by protecting the complex hydrological and biological processes.
2. Manage these resources in ways that enhance natural ecological and hydrological processes and mitigate the adverse effects of human activities.
3. Manage the water resources of the park to ensure that the water regimen is not impaired and that the adverse effects on the natural resources are minimized.
4. Cooperate with others to study the Congaree River and determine the best possible methods of river management.

The Congaree River begins approximately 17 miles upstream of CNP at the confluence of the Saluda and Broad Rivers. Since 1930, flows in the Congaree River have been regulated by the operation of the Saluda Dam located upstream on the Saluda River. Water releases from the Saluda Dam are typically inconsistent with the natural hydrograph and result in altered flow conditions both within and adjacent to CNP. These altered flow conditions and their associated effects on the complex ecological communities within the CNP floodplain remain a primary concern of the NPS. While the ecological implications of this altered hydrologic regime on CNP resources have not been thoroughly studied, several targeted scientific studies have examined this relationship in order to provide useful information during the Saluda Dam relicensing process.

In previous filings related to Saluda Dam (e.g., NPS comments on SCE&G's Initial Consultation Document dated 8/11/05), we have cited Patterson et al (1985) which states that floods with 2-year recurrence intervals before the dam had only a 4.5-year recurrence interval after the dam. Patterson et al. further claimed that a 5-year recurrence flood before the dam was only a 25-year recurrence flood after the dam. More recent studies indicate that these conclusions may be more indicative of climate variation than dam operations (Conrads et al. 2007).

The United States Geological Survey (USGS) has recently completed a flood frequency analysis on the peak flows within the Broad, Saluda and Congaree rivers for various periods of the historic record for periods of pre- and post-impoundment of Lake Murray (Conrads et al. 2007). The analysis of daily gage heights indicated that the operation of the Saluda Dam has increased high gage heights that occur in the first six months of the year (December – May) and increased the low gage heights that occur in the last half of the year (June – November). The operation of Saluda Dam has also had the effect of increasing the 1-, 3-, 7-, 30-, and 90-day minimum gage heights by up to 23.9% and decreasing the 1-, 3-, 7-, 30-, and 90-day maximum gage heights by up to 7.2%. Overall, the operation of the Saluda Dam has affected monthly average gage heights by up to 18%.

Although we recognize that FERC considers existing conditions (i.e., post-impoundment) as being representative of the baseline condition with respect to evaluating effects of project operations, we believe that project operations may be resulting in cumulative impacts to the CNP floodplain and its ecosystem. For example, preliminary field evidence indicates that recruitment of bald cypress (*Taxodium distichum*), the co-dominant canopy species within the park, may be profoundly inhibited as a result of artificially prolonged flooding during the growing season (B. Sharitz, pers. comm.). In other words, by increasing water heights during low flow conditions, bald cypress seedlings experience prolonged inundation at a life stage that is highly intolerant to submersion. These changes in water level are further reflected in the surficial ground-water, which may have an effect on the root zone within the CNP floodplain and the associated vegetative community structure within the park.

Specific Comments on the Draft License Application

Within the Initial Statement, item #9 states that "There are no lands of the United States affected by the project." We respectfully disagree with this statement. The Saluda Dam is located approximately 34 miles upstream from CNP. The park is managed by the United States Department of the Interior as a unit of the NPS. Several research studies have shown that the operation of the Saluda Dam has affected the resultant flows and water temperature as far downstream as CNP (e.g., Conrads et al, 2007; Plewa and Graf, 2005; Patterson et al. 1985).

Page 2-25 of the Environmental Report (Exhibit E) discusses comments made by the NPS as well as our efforts to evaluate the relationship of project operations to the CNP floodplain using the "Ecologically Sustainable Water Management" (ESWM) process developed by The Nature Conservancy's Freshwater Initiative. The DLA states that it is the "request of the NPS to compare unregulated (Pre-project) hydrology to the current hydrologic record..." The NPS has never made such a request. This erroneous statement is likely due to a misperception of the nature and intent of the ESWM process. As defined by Richter et al. (2006), ESWM is intended to be an "adaptive, inter-disciplinary, science-based process for developing flow recommendations." It does not require a comparison to pre-project hydrology, nor has the Saluda-Congaree ESWM been carried out in a way that requires a comparison to pre-project conditions. Rather, ESWM requires an in depth investigation of the ecological and societal needs of the river and its hydrology. Despite this misperception, we applaud SCE&G's continuing participation in the ESWM process and we are optimistic that their involvement will result in a positive outcome for all involved.

Page 7-2 of the Environmental Report (Exhibit E) incorrectly refers to Congaree National Park as "Congaree Swamp National Park." Furthermore, the congressionally authorized boundary of the park was expanded in 2003 to include approximately 26,000 acres. Within this context, the park is referred to as a Regional Recreational Resource that is outside the Project boundary. While we agree that CNP is an important recreational resource for South Carolina, the park's primary purpose is to protect the unique, complex and nationally significant floodplain forest ecosystem. It should be noted that although not located within the current FERC project boundary, the park's floodplain ecosystem is likely affected by project operations as previously stated. We believe that the scientific investigations cited previously within this letter reflect strong evidence of a direct nexus between project operations and ongoing and cumulative impacts to the CNP floodplain ecosystem. Therefore, we request that the ecological impacts of

project operations to this nationally-significant resource be fully and completely evaluated within the final license application.

In addition to CNP, the NPS has also been assisting in the development of the Congaree River Blue Trail. This unique water trail designed primarily for canoes and kayaks extends in excess of 40 miles from the confluence of the Saluda and Broad rivers to the confluence of the Wateree River. The Congaree River Blue Trail should be included as recreational resource downstream of Saluda Dam.

The NPS values the active engagement and contributions that SCE&G has committed to the ESWM process thus far. We look forward to continuing our relationship and working together to determine appropriate flows that will enhance the ecological integrity of the Saluda and Congaree River systems and the associated values of the floodplain protected by Congaree National Park.

If you have any questions, please contact Dr. Jeff Duncan, Hydropower Assistance Program Manager at (423) 266-1150, or Bill Hulslander, CNP Resource Program Manager at (803) 776-4396.

Sincerely,

/s/

Tracy Swartout
Superintendent

cc: Bill Argentieri, SCE&G
Randy Mayhan, SCANA
Alan Stewart, Kleinschmidt
FERC Service List

References:

Conrads, P.A., Feaster, T.D. and Roehl, E.A., Jr. 2007. Separating anthropogenic influences on hydrology using data mining techniques – A case study of the Congaree National Park, South Carolina, Water Environment Federation Technical Exhibition Conference 2007, San Diego, California, October 2007

Patterson, G.G., G.K. Speiran, and B.H. Whetston. 1985. Hydrology and its effects on distribution of vegetation in Congaree Swamp National Monument, South Carolina. USGS, prepared in cooperation with the National Park Service. Water Resources Investigation Report 85-4256.

Plewa, T.M. and W.L. Graf. 2005. Hydrologic Variation of the Congaree River near Congaree National Park, South Carolina. A Report for the National Park Service.

Richter, B.D., A.T. Warner, J.L. Meyer, and K. Lutz. 2006. A collaborative and adaptive process for developing environmental flow recommendations. River Res. Applic. 22: 297-318.

Sharitz, R.R. Personal Communication. Dr. Sharitz is a research professor with the University of Georgia's Savannah River Ecology Laboratory, a world renowned expert on bald cypress, and a participant in the ESWM process who has undertaken numerous research projects at CNP.