United States Department of the Interior

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

IN REPLY REFER TO:

August 11, 2005

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

Subject: Initial Consultation Document for Saluda Dam Relicensing

Dear Mr. Landreth:

The National Park Service (NPS) submits the following comments for consideration regarding the Initial Consultation Document (ICD) for the relicensing of Saluda Dam (FERC #516). While NPS fully supports the goal of relicensing Saluda Dam for the numerous benefits it provides the citizens of South Carolina, we believe it is important to balance these benefits with those provided by the area's numerous natural and cultural resources. Specifically, during the relicensing process, we ask that South Carolina Electric & Gas (SCE&G) and the Federal Energy Regulatory Commission (FERC) thoroughly evaluate any adverse effects of dam operations, particularly on nationally-significant natural and cultural resources downstream of Saluda Dam. Downstream interests of the NPS include Congaree National Park and segments of both the Saluda and Congaree rivers which are listed on the Nationwide Rivers Inventory (NRI).

The NPS is committed to being an active and engaged partner throughout the relicensing process. Particularly in light of our recent participation under FERC's Integrated Licensing Process (ILP), we are fully supportive of and endorse SCE&G's decision to use an "Enhanced Traditional Process." This process, as described at SCE&G's initial stakeholder meeting in Columbia, SC on June 16, 2005, will include a detailed communications protocol as well as the establishment of resource working groups made up of SCE&G staff and consultants and interested stakeholders. The NPS looks forward to collaborating with SCE&G and all other stakeholders in this endeavor.

Background

Congaree National Park (CNP), originally designated Congaree Swamp National Monument, was authorized by Congress in 1976 (PL 94-545) to protect the largest remnant tract of old growth bottomland hardwood forest in the United States. Located along the northern bank of the Congaree River, CNP currently protects a floodplain ecosystem consisting of 22,200 acres in the heart of South Carolina's Piedmont ecoregion. The Congaree River begins approximately 17 miles upstream of CNP at the confluence of the Saluda and Broad rivers near Columbia, South Carolina.

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Historically, the Congaree River experienced seasonal fluctuations in water levels and lateral flow across its floodplain producing alternating periods of flooding and drying at what is now the Congaree National Park floodplain. Over thousands of years, the presence of these environmental conditions led to the co-evolution of a complex and interdependent ecological community with the CNP floodplain. Since 1930, flow in the Congaree River has been regulated by the Saluda Dam located upstream on the Saluda River, and to a lesser degree, by small dams on the Broad River which predated the establishment of the Park. Today, the Saluda Dam is operated for the purpose of hydroelectric power production, particularly during times of high electrical demand. To meet this need, SCE&G operates the dam as a peaking facility where releases from the dam produce brief periods of extremely high flows followed by periods of extremely low flows. In addition, releases from the dam are typically inconsistent with the natural hydrograph resulting in modified flood events at times that are less than ideal to support the floodplain ecosystem.

After the Saluda Dam became operational in 1930, frequency of floods on the Congaree River floodplain, including CNP, decreased (Patterson et al. 1985). Floods with a 2-year recurrence interval before the dam had only a 4.5-year recurrence interval after the dam. Even more noticeable was that a 5-year recurrence flood before the dam was only a 25-year recurrence flood after the dam.

Although the exact ecological effects of decreased flood frequency on the floodplain community at CNP is poorly known, preliminary studies have shown that operations of the Saluda Dam create a series of relatively cold pulses that move down the Saluda River to its junction with the Broad River, and then downstream on the Congaree River to Congaree National Park. These pulses require about 15 hours to reach the park where they cause fluctuations of 0.2 to 0.5 feet in river stage. These fluctuations, in turn, alter the amount, timing, and duration of floodplain inundation within the park, and they thus influence ecosystem constraints of the park.

The effects of the Saluda Dam, however, play themselves out against the backdrop of flows from the Broad River that mix with discharges from the Saluda River and the Saluda Dam. At present, we know that on average, the Saluda supplies approximately one third of the flows received by the Congaree—flows from the Broad making up the other two thirds. The ecological implications of this regulated hydrologic regime on the CNP ecosystem is poorly known, but it is the subject of present research at the park.

Studies in similar settings suggest ecological impacts of dams can extend far downstream. For example, Hyslop (1988) found altered fish compositions and decreased fish diversity in a floodplain of the Sokota-Rima system, Nigeria after a dam was constructed 100-km upstream. Other studies have shown that flooding influences floodplain fish with regard to somatic growth (Gutreuter et al. 1999), species composition (Killgore and Baker 1996, Turner et al. 1994), species diversity (Chapman and Chapman 1993, Hyslop 1988), and recruitment (Copp 1989, Killgore and Baker 1996). Anecdotal evidence from CNP suggests that decreased flood frequencies favors exotic species such as wild hogs. With fewer major flood events, hog populations are able to exist for longer periods of time within the CNP floodplain severely damaging floodplain flora and altering soil conditions. Currently, hydrological studies of the floodplain's inundation and soil saturation characteristics are being conducted by the United States Geological Survey, the University of South Carolina, and others.

Specific Comments on the ICD

1) Congaree National Park is mentioned briefly on p. 163 of the ICD as a recreational resource. No other mention of CNP is made in the document. Although we agree that CNP is an important recreation resource within the project vicinity, the park would not exist if it were not for its unique, complex, and nationally-significant floodplain ecosystem. In order to fulfill recreational potential of the park, a fully intact and relatively unimpaired ecosystem is essential. The NPS, therefore, requests that SC&G and FERC evaluate the full suite of potential ecological impacts from the Saluda Dam on the CNP floodplain as the process moves forward.

2) On p. 164 the ICD correctly states that no federally-designated Wild and Scenic Rivers exist within the project area. However, it should be noted that both the lower Saluda and the Congaree are listed on the NRI. The NPS is mandated by Congress to manage and provide oversight on matters pertaining to rivers designated under the Wild and Scenic Rivers Act of 1968 (U.S.C. 1271-1287) (PL 90-542). In partial fulfillment of Section 5(d) of the Wild and Scenic Rivers Act, and under Executive Order, the NPS is also charged with overseeing and maintaining the NRI. Streams listed on the NRI are viewed as potential candidates for inclusion in the Wild and Scenic Rivers System. River segments can become listed if they possess certain locally-, regionally-, nationally-, or globally-significant "outstandingly remarkable values (ORVs)" such as scenery, geology, wildlife, or recreational potential. The NRI is also on file with the FERC as a Comprehensive Plan pursuant to Section 10(a)(2)(a) of the Federal Power Act.

   The Saluda River is listed on the NRI from river mile 3 to river mile 10 for its significant scenic, recreation, geologic, fish, wildlife, historic, and cultural values. Similarly, the Congaree River is listed on the NRI from river mile 0 (the confluence of the Saluda and Broad rivers) to river mile 40, a segment that encompasses CNP. Under a 1979 Presidential directive and related Council on Environmental Policy procedures, "all federal agencies must seek to avoid or mitigate actions that would adversely affect one or more NRI segments." In accordance with this directive, the NPS requests that SCE&G and the FERC address any potential impacts to the ORVs for which these river segments are designated.

Ongoing Research and Requested Studies

The NPS, along with its partners, has initiated basic research in order to conduct a modified "ecologically sustainable water management" (ESWM) process relevant to flows from the Saluda Dam. ESWM is an inclusive, collaborative, and consensus-based process to determine a scientifically-based set of river flow prescriptions in order to protect downstream resources while balancing upstream benefits. ESWM was originally developed by The Nature Conservancy's Freshwater Initiative to improve ecological conditions below dams operated by the Army Corps of Engineers. In 2003, a successful ESWM process was performed for flows resulting from the Corps' Thurmond Dam on the Savannah River (the next major basin to the south of the Saluda-Congaree system). We believe this process can be readily adapted and applied within the context and time frame of the Saluda relicensing. Accordingly, NPS has begun in earnest to undertake some initial steps for implementing the ESWM process.

At present, the NPS is developing a comprehensive literature review that identifies essential physical, chemical, biological, and socioeconomic resources that are affected by the operations of Saluda Dam, particularly as it relates to CNP. This information will be suitable for use within stakeholder workshops associated with ESWM with the ultimate goal of a consensus-based flow recommendation. In addition, an interactive geographic information system (GIS) tool is being developed that will be capable of providing quantitative and visual information regarding the effect of various Saluda operational scenarios on the degree of inundation at CNP.

Despite this progress being made, NPS recognizes that an ESWM process cannot be successful without the active engagement and buy-in from a breadth of stakeholders. For this reason, we seek a partnership with SCE&G and others involved in the relicensing to fully implement an ESWM process. Specifically, assistance in improving the GIS model and facilitation of stakeholder workshops is critical.

Specific resource issues of concern in managing CNP include the exact nature of river stage and the timing, frequency, magnitude, and duration of floodplain inundation as a function of Saluda operating alternatives. The effects of various flooding scenarios on nutrient dynamics, gene flow, aquatic invertebrates, fish, amphibians, vascular plants, wildlife, and exotic species should also be addressed. In

addition, potential recreational and socioeconomic issues associate with Saluda operations should be addressed by the ESWM or any other process used to evaluate operating alternatives and their effects.

Once again, the National Park Service looks forward to participating in the relicensing process. If you have any questions, do not hesitate to contact the park's Chief of Resources Management Bill Hulslander at 803-776-4396, ext. 20.

Sincerely,

Martha Bogle

Martha Bogle
Superintendent