

EXECUTIVE SUMMARY

On March 15, 2004, South Carolina Public Service Authority (SCPSA), filed an application with the Federal Energy Regulatory Commission (Commission or FERC) for a new license under Part I of the Federal Power Act (FPA), to continue operating its existing 130-megawatt (MW) Santee Cooper Hydroelectric Project (FERC Project No. 199), located on the Santee and Cooper rivers in Berkeley, Calhoun, Clarendon, Orangeburg, and Sumter counties, South Carolina. There are no federal lands located within the project boundary.

The Commission must decide whether to issue a new license for the project and what conditions to place on any license issued. When licensing a hydroelectric project, the Commission must ensure that the project will be best adapted to a comprehensive plan for improving or developing a waterway. In addition to the power and developmental purposes for which licenses are issued (e.g., flood control, irrigation, water supply), the Commission must give equal consideration to the purposes of energy conservation; the protection, mitigation of damage to, and enhancement of fish and wildlife (including related spawning grounds and habitat); the protection of recreational opportunities; and the preservation of other aspects of environmental quality.

SCPSA's license application included its proposal to operate the Santee Cooper Project in accordance with certain operational and environmental measures. After agency and stakeholder consultation on the license application and filing of final terms and conditions, SCPSA filed a Letter of Intent of Settlement with the Commission on November 17, 2006, which included draft settlement agreement (DSA) terms and conditions that SCPSA, the U.S. Fish and Wildlife Service (FWS), and South Carolina Department of Natural Resources (SCDNR) recommend be included as an alternative in this environmental impact statement (EIS). The DSA describes measures for fish passage, minimum flows, and enhancement of the Santee National Wildlife Refuge. The parties intend that the draft measures be incorporated into a final settlement agreement and ultimately be included as conditions of a new license.

In this EIS, we evaluate five alternatives for licensing the project: (1) the proposed action (SCPSA's proposal); (2) state and federal agency recommendations outside of the DSA; (3) the DSA measures; (4) a staff alternative that includes most of the measures in the DSA, along with additional measures recommended by staff; and (5) no-action (continued operation as required by the existing license). We use no-action as the baseline against which the other alternatives are compared.

Section 18 of the FPA provides that the Commission shall require the construction operation, and maintenance by a licensee of such fishways as the Secretaries of Commerce or the Interior may prescribe. Pursuant to section 18 of the FPA, preliminary fishway prescriptions were filed by the U.S. Department of the Interior (Interior) and the National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NMFS), in accordance with provisions of the Energy Policy Act of

2005. Interior’s preliminary fishway prescription would be modified if the DSA is finalized, but NMFS is not a party to the DSA and has not modified its preliminary fishway prescription. We include our independent analysis of Interior’s modified preliminary fishway prescription and the NMFS preliminary fishway prescription, but acknowledge the mandatory nature of the final prescriptions and note that any license issued for this project would include all of the measures in the prescriptions.

Based on our analysis of all resource issues, including the effects of proposed measures on project economics, we recommend licensing the project in accordance with the DSA, along with some modifications by staff. We recommend the following measures be included in any license issued:

- (1) Formalize the rule curve for reservoir operations and continue peaking and load regulation operations;
- (2) Continue providing a weekly average flow of 4,500 cubic feet per second (cfs) from Jefferies station to minimize shoaling in Charleston Harbor and prevent saline waters from reaching Bushy Park industrial complex;
- (3) Provide higher seasonal minimum flows below Santee dam as described in the draft settlement;
- (4) Provide continuous minimum flows at St. Stephen as described in the draft settlement;
- (5) Implement fish attraction flows, install manatee exclusion devise, and modify lock operations when manatee are present at Pinopolis lock;
- (6) Prepare and implement a shortnose sturgeon enhancement plan;
- (7) Prepare species management plans for federally listed threatened and endangered species on “developable lands” within the project boundary, as appropriate, and incorporate those plans into the Comprehensive Land Management Plan (CLMP) for the project.
- (8) Provide recreational enhancements at Old Santee Park and Overton Park;
- (9) Install mooring piers at several locations and construct a two-lane boat launch at Richard Landing at White Point;
- (10) Prepare and implement a Programmatic Agreement;
- (11) Prepare and implement a Historic Properties Management Plan to guide SCPSA’s management of the project's historic properties during the term of the license;
- (12) Develop a Low Flow/Emergency Contingency Plan for the operation of the project during low inflows and/or drought;
- (13) Develop an Adaptive Management Program to assess the effectiveness of flow alternatives in providing aquatic habitat and navigation;

- (14) Develop and implement an Operations and Flow Monitoring Plan;
- (15) Form a technical advisory committee for instream flows;
- (16) Construct fish passage facilities and implement entrainment protection measures including:
 - a. At Santee dam: shad and herring population monitoring in the Santee River downstream of the dam, construction and operation of a trap and sort facility and eventually a permanent upstream fish passage facility, eel passage measures, and monitoring and effectiveness evaluation;
 - b. At Pinopolis lock and dam: improved fish monitoring system, additional attraction flows, a fish passage operations plan, eel passage measures, construction of an upstream passage facility at Pinopolis dam as appropriate, and monitoring and effectiveness evaluation;
 - c. Before construction of any facilities, prepare a fish passage implementation plan;
 - d. Post-licensing downstream fish passage/entrainment studies to quantify downstream passage of diadromous fish at Santee dam, Pinopolis lock, and the Jefferies powerhouse, to determine the need for downstream passage facilities for diadromous species;
- (17) Develop and implement an Aquatic Plant Management Plan that addresses the control of non-native invasive aquatic plants;
- (18) Develop a Recreation Plan and update every 10 years for the life of the license; and
- (19) Revise the Comprehensive Land Management Plan, and update the plan every 10 years for the life of the license.

Overall, these measures, along with the standard articles provided in any license issued for the project, would protect/enhance water quality, fisheries, wetlands, recreation, and cultural resources within the project area. In addition, the electricity generated by the project would be beneficial because it would continue to reduce the use of fossil-fueled, electric generating plants; conserve non-renewable energy resources; and continue to reduce atmospheric pollution.

In section 4, *Developmental Analysis*, of this draft EIS, we estimate the cost of operating and maintaining the project under the alternatives identified above, compared to the cost of alternative power. The existing project generates an average of 224,027 megawatt-hours (MWh) annually, valued at \$11,873,000 (53.00 mills/kWh). The annual cost of producing this energy is \$4,900,000 (21.87 mills/kWh), and costs \$6,973,000 (31.13 mills/kWh) less than the cost of the most likely alternative source of power.

Under SCPSA's proposal, the project would generate 223,477 MWh annually, valued at \$11,844,000 (53.00 mills/kWh). The annual cost of producing this energy is \$5,131,000 (22.96 mills/kWh), and would cost \$6,713,000 (30.4 mills/kWh) less than the most likely alternative source of power. Under the DSA the project would generate 220,847 MWh annually, valued at \$11,705,000 (53.00 mills/kWh). The annual cost of producing this energy is \$8,497,000 (38.47 mills/kWh), and would cost \$3,208,000 (14.53 mills/kWh) less than the most likely alternative source of power. The staff-recommended alternative would cost \$3,157,000 (14.30 mills/kWh) less than the most likely alternative source of power.

Under the provisions of section 10(j) of the Federal Power Act, each hydroelectric license issued by the Commission must include conditions based on recommendations of federal and state fish and wildlife agencies to adequately and equitably protect, mitigate damages to, and enhance fish and wildlife resources affected by the project. The SCDNR, Interior, and NMFS filed section 10(j) terms and recommendations in response to the Notice of Application Ready for Environmental Analysis issued on March 3, 2006. In this DEIS we make a preliminary determination that three recommendations made by the agencies may conflict with the public interest and comprehensive planning standard of sections 4(e) and 10(a) of the FPA (see discussion in section 5.2, *Recommendations of Fish and Wildlife Agencies*). Subsequently, SCPSA, SCDNR, and FWS jointly filed the DSA, which if finalized, would resolve two 10(j) items. The NMFS is not a signatory to the DSA, thus we make a preliminary determination that the NMFS recommendation for minimum flow releases at the Santee dam may conflict with the public interest and comprehensive planning standard of sections 4(e) and 10(a) of the FPA.

Section 401(a)(1) of the Clean Water Act (CWA) requires an applicant for a federal license or permit for any activity that may result in any discharge into navigable waters to provide to the licensing or permitting agency a certification from the state in which the discharge originates that any such discharge will comply with certain sections of the CWA. SCPSA filed an application for water quality certification (WQC) with the South Carolina Department of Health and Environmental Control (SCDHEC) in March, 2004 at the same time as filing the license application with the Commission. By letters dated January 10, 2005, February 20, 2006, and February 26, 2007 SCPSA withdrew and resubmitted its application for WQC. SCDHEC has not yet acted on SCPSA's latest request for certification.

Under the recommended alternative, the Santee Cooper Project would: (1) provide a significant and dependable source of electrical energy for the region; (2) avoid the need for an equivalent amount of fossil-fuel-fired electric generation, thereby continuing to conserve non-renewable energy resources and reduce atmospheric pollution; and (3) implement reasonable environmental measures to ensure protection and enhancement of environmental resources. The overall benefits of this alternative would be worth the cost of the recommended environmental measures and would outweigh the consequences of the other alternatives or license denial.