COMPREHENSIVE RELICENSING SETTLEMENT AGREEMENT

PARR HYDROELECTRIC PROJECT (FERC NO. 1894)

Prepared for:

South Carolina Electric & Gas Company
Cayce, South Carolina

Prepared by:

Kleinschmidt

Lexington, South Carolina
www.KleinschmidtGroup.com

June 2018

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SOUTH CAROLINA ELECTRIC & GAS COMPANY

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1.0 INTRODUCTION

South Carolina Electric & Gas Company (SCE&G), as the holder of the current license for the Parr Hydroelectric Project (Project) (FERC No. 1894) and the applicant for a new license, hereby files the following Offer of Settlement Agreement pursuant to Rule 602 of the Rules of Practice and Procedure of the Federal Energy Regulatory Commission (FERC or Commission) 18 C.F.R. § 385.602. This Comprehensive Relicensing Settlement Agreement (CRSA) has been entered into among SCE&G, state and federal resource agencies, NGOs, individuals and other entities who have been parties to the relicensing proceeding. The obligations and agreements presented in this CRSA are incorporated in appendices A and B. Furthermore, the signatories to the CRSA request that the Commission incorporate the obligations and agreements as illustrated in Appendix A without material modification into the terms and conditions of the new license, as proposed in Appendix E.

2.0 BACKGROUND

2.1 PROJECT DESCRIPTION

The Project is an existing licensed hydroelectric project located on the Broad River in Newberry and Fairfield counties, South Carolina approximately 26 river miles upstream from the City of Columbia. The Project consists of two developments: the 14.88-megawatt (MW) Parr Shoals Development (Parr Development) and the 511.2-MW Fairfield Pumped Storage Development (Fairfield Development). Parr Reservoir is a 4,400-acre impoundment formed by the Broad River and the Parr Shoals Dam and serves as the lower reservoir for the Fairfield Development. Monticello Reservoir is a 6,800-acre impoundment formed by a series of four earthen dams and serves as the upper reservoir for the Fairfield Development. The Parr Development consists of a powerhouse with six generators, a 2,390 foot long dam (including spillway and non-overflow

sections), Parr Reservoir, and transmission and appurtenant facilities. The Fairfield Development consists of four earthen dams, an intake channel, a gated intake structure, four surface penstocks bifurcating into eight concrete-encased penstocks, a generating station housing eight pump-turbine units, Monticello Reservoir, and transmission and appurtenant facilities.

2.2 PROJECT OPERATIONS

The Parr Development operates in modified run of river mode, and generates as a baseload facility using available inflows up to 4,800 cfs. This flow is associated with turbines set at approximately 50 percent gate opening, as the full hydraulic capacity of 6,000 cfs results in power output that exceeds the rated capacity of generators. SCE&G is planning to complete generator upgrades following issuance of a new Project license. This will result in a generating capacity increase of approximately 17 percent.

The Fairfield Development is utilized as a peaking resource, and also as a reserve generation asset to the extent it is not being used to meet peak demand of SCE&G's system. Fairfield generates and pumps using an active storage of 29,000 acre-feet of water. During the generation cycle, active storage in the upper Monticello Reservoir is released from the powerhouse into the lower Parr Reservoir. During the pumping cycle, the active storage is transferred from the Parr Reservoir back into the Monticello Reservoir. This cycle occurs daily, and the transfer of the full active storage results in an upper reservoir maximum fluctuation of 4.5 feet, and a corresponding lower reservoir fluctuation of 10 feet. Monticello Reservoir also serves as a source of cooling water for the V.C. Summer Nuclear Station.

If Project operations are materially changed during the term of the new license, the signatories will meet to discuss potential revisions to the Adaptive Management Plans.

2.3 LICENSING HISTORY

The existing Project license was issued by FERC on August 28, 1974 for a period of 46 years, terminating on June 30, 2020. SCE&G initiated the formal relicensing process on January 5, 2015 by filing with the Commission the Notice of Intent, Pre-Application Document, and request

to use the Traditional Licensing Process. Since that date, SCE&G has worked cooperatively with agencies and non-agency stakeholders through numerous resource group meetings to do the following: establish the scope of studies needed to address issues raised at the Project and develop study reports; conduct agreed upon studies; provide draft copies of study reports to agencies and stakeholders for review and comment; revise study reports to reflect agency/stakeholder comments; and complete follow-up studies deemed necessary to accomplish study goals. Resource Conservation Group (RCG) meetings and Technical Working Committee (TWC) meetings have also served to provide a forum for discussion of Project related concerns among stakeholders. These discussions have continued through the filing of the Draft License Application on May 31, 2017, the development of the Final License Application, and to facilitate development of this CRSA, resulting in the proposals set forth below.

3.0 PURPOSE OF THE CRSA

The purpose of this CRSA is to set forth resolutions reached among the signatories of this CRSA to issues raised during the relicensing process for the Project. The resolutions presented in Appendix A are respectfully proposed for consideration by FERC as it develops terms for the new license and have been structured in accordance with Federal Power Act (FPA) section 10(a)(1), 16 U.S.C. § 803(a)(1), for the balance of both developmental and non-developmental resources.

The purpose of Appendix B to this CRSA is to reflect off-license agreements made between CRSA signatories. These agreements have been proposed as off-license as they concern matters over which the Commission asserts no jurisdiction.

4.0 TERMS AND IMPLEMENTATION

4.1 TERMS

4.1.1 GENERAL

This CRSA is in no way intended to conflict with the legal responsibilities of the CRSA signatories, nor be in conflict with any lawful statutory or regulatory responsibility of or authority held by the signatories. Furthermore, signatories to this CRSA are representing their belief that the issues resolutions developed through good faith efforts and presented herein do not conflict with these responsibilities.

4.1.2 FOR THE NEW LICENSE

The signatories to this CRSA recognize that the Commission will incorporate into the new license those articles required by 18 C.F.R. 2.9 (L-Forms), as well as such other articles as the Commission believes are necessary to fulfill its responsibilities in the administration and enforcement of the new license. With these considerations, the signatories respectfully request that the Commission incorporate the terms set forth in this CRSA as presented in Appendix A as conditions of the new license without material modification. Based on the significant efforts made to achieve the agreements reflected in this CRSA, and subject to the Commission's approval of the various adaptive management programs underlying the signatories' consensus on a number of issue resolutions, SCE&G respectfully request that the Commission consider issuing a new license for a term of 50 years.

4.1.3 FISH PASSAGE

A Prescription for Fishways referenced within section 18 of the FPA, 15 U.S.C. § 811, is not included in this CRSA. A provision for Reservation of Authority by the Secretary of the Interior for the new license has been established and is included in the Santee River Basin Accord for Diadromous Fish Protection, Restoration, and Enhancement (Accord) (Attached as Appendix A-7). The Accord was entered into by SCE&G, Duke Energy Carolinas, LLC, South Carolina Department of Natural Resources (SCDNR), North Carolina Wildlife Resources Commission, and United States Fish & Wildlife Service (USFWS). Fishway prescriptions filed with the

Commission will be consistent with the Accord. Although not a signatory to the Accord because of their position that they may not bind themselves in any way that might infringe upon their various statutory authorities and obligations, the National Marine Fisheries Service (NMFS) and the South Carolina Department of Health and Environmental Control (SCDHEC) were integral members of the team that developed the Accord, and each will participate in its natural resource protection role as it determines appropriate.

4.1.4 ENDANGERED SPECIES ACT

Through cooperation, the signatories to this CRSA have developed Minimum Flow and Downstream Flow Fluctuations Adaptive Management Plans (AMPs) (attached as Appendix A-3 and Appendix A-2) for the Project, which include measures for stabilizing flows downstream of the Project in an effort to improve spawning conditions for several species of fish, including anadromous American shad, as well as striped bass and shortnose sturgeon (Congaree River population). By the signing of this agreement, the USFWS and NMFS each believes, based on currently known information, that the measures specified by the CRSA will protect rare, threatened and endangered (RT&E) species and that it intends to issue a Biological Opinion (BO) consistent with such measures. This CRSA is in no way intended to compromise the authority of the USFWS and NMFS and their determination of conditions for compliance with the Endangered Species Act (ESA), 7 U.S.C. §136; 16 U.S.C. §1531 et seq., or preclude any standard conditions pursuant to applicable law.

In the event that a BO is inconsistent with this CRSA, the agency issuing the BO may withdraw after discussion as described in Section 4.2.6.

4.2 IMPLEMENTATION

4.2.1 COMMITMENTS OF SIGNATORIES

By the signing of this CRSA, signatories are expressing their support for the components herein, some of which represent compromise resolutions but all of which are acceptable given the interests, rights, and obligations of the signatories. The signatories, by signing, also are expressing their support for the incorporation of these components into the new license. Once

the CRSA is signed, all signatories commit to supporting this CRSA to the extent allowable by their authority and based on currently available information.

Should the FERC's draft National Environmental Policy Act (NEPA) document be inconsistent with the CRSA, the signatories will work cooperatively to develop appropriate responses to address the inconsistencies. Within 30 days after the draft NEPA document is issued by the FERC, SCE&G has the option to convene a meeting with the signatories to address any inconsistencies.

Should the final NEPA document and/or license be inconsistent with the CRSA, the signatories will work cooperatively to develop appropriate responses to address the inconsistencies, within the limits of each signatory's authority. Within 14 days after the issuance of the final NEPA document and/or the new license, SCE&G has the option to give notice of its intent to convene a meeting with the signatories to address any inconsistencies.

Upon acceptance of the license, SCE&G will request a transition meeting with the FERC Division of Hydropower Administration and Compliance (DHAC) and the FERC Division of Hydropower Licensing which would include the licensee and all interested signatories to the CRSA.

All signatories believe that this CRSA is consistent with all applicable laws and regulations. However, nothing in this CRSA is intended to abrogate the regulatory or statutory responsibilities of the signatories under applicable law.

Participation in the Adaptive Management Plan (AMP) Review Committees is on a voluntary basis. Expenses incurred by AMP member organizations will not be reimbursed by SCE&G.

Signatories agree to provide current and updated contact information (e-mail, mail, and phone) to SCE&G during the term of the new license. SCE&G agrees to maintain and share the provided contact information.

This CRSA is made with the express understanding that it constitutes a negotiated resolution of issues specific to the Project. No Party will be deemed, by virtue of execution of this CRSA, to have established precedent or admitted or consented to any approach, methodology, or principle, except as it relates to the Project. In the event this CRSA is approved by FERC, such approval will not be deemed precedential or controlling regarding any particular issue or contention in any other proceeding.

4.2.2 LEGAL AUTHORIZATION OF SIGNATORIES

By the signing of this CRSA each signatory represents that he/she has the authorization from the party or parties he/she represents legally to bind that party or those parties to this CRSA. Moreover, upon signature, parties represented by the signing person(s) shall be legally bound to the terms expressed herein, and nothing herein shall be construed as binding any individual signatory on any matter beyond its individual authorities and responsibilities.

4.2.3 SIGNING PERIOD

SCE&G distributed the final CRSA with a signature page to each and every relicensing Party on June 14, 2018. Based on stakeholder feedback, SCE&G will receive a majority of fully executed signature pages to the CRSA by June 26, 2018. SCE&G will add all of the fully executed signature pages to the original CRSA for filing with the Commission, and will provide copies of all completed signature pages to each of the signatories. Several stakeholders' legal departments are still evaluating the CRSA and intend to provide their signature page after that review is complete. These additional stakeholder signature pages will be filed with the Commission once they are provided to SCE&G.

4.2.4 EFFECTIVE DATE OF THE CRSA

This CRSA becomes binding on the signatories on the date that SCE&G files the CRSA with the Commission, or the date upon which signatures are received if they are received after the CRSA is filed with the Commission.

4.2.5 MODIFICATION OF THE CRSA

After the signing period has ended, the signatories may by Unanimous Consent, modify the agreement. In the event Unanimous Consent is required, a signatory must respond to contact within three (3) documented attempts over the course of 30 days, or the consent process will move forward without them.

In the event environmental analysis, pre-license investigation, or post-license investigation yields material new information which may warrant changes to the CRSA, any signatory may request and SCE&G will convene a meeting with the signatories to discuss whether and/or how to modify the CRSA to address the material new information.

4.2.6 WITHDRAWAL OF SIGNATORIES

A signatory may withdraw from this CRSA if his/her/its interests are materially affected by an Inconsistent Act by a Jurisdictional Body. An example of an Inconsistent Act is a new license requirement for downstream flows and/or reservoir fluctuations materially different from those in the CRSA.

Any signatory intending to withdraw from this CRSA will notify all other signatories in writing with the basis for the withdrawal no less than 60 days prior to the withdrawal. With notice to all signatories, any other signatory may require a meeting of the withdrawing signatory to have the matter discussed prior to withdrawal from the CRSA.

Any signatory (with the exception of NMFS, USFWS, USFS, SCDNR, SCSHPO, and SCDHEC) that withdraws from this CRSA will also lose its membership to the AMP Review Committees. Initial AMP Review Committee members must be signatories to this CRSA, or one of the above listed agencies.

4.2.7 MODIFICATION OF ADAPTIVE MANAGEMENT PLAN REVIEW COMMITTEE MEMBERSHIP

Inasmuch as the term of the new license will extend over decades, it may be appropriate that new interests be represented or accounted for in the future. Because some signatory organizations

may be transitional, and since new interest groups may arise, the current signatories agree that Adaptive Management Plan (AMP) Review Committee membership may benefit from modification. Therefore, membership changes will be considered, but no sooner than 5 years from the date of the FERC Order granting a new license. With consensus of the AMP members, but subject to SCE&G's (licensee) agreement, membership in the AMP Review Committee may be expanded or otherwise modified. Any member added to the AMP Review Committee must abide by the requirements of the CRSA.

4.2.8 TERMINATION OF THE CRSA

Termination of this CRSA will occur under the following circumstances: (a) expiration of the term of the new license; (b) the termination or surrendering of the new license to FERC by SCE&G pursuant to the requirements of the FPA.

If the License were to be transferred, the new Licensee would be bound to the requirements of the CRSA.

4.2.9 SUBMITTAL OF THE CRSA TO THE COMMISSION

This CRSA shall be submitted to the Commission with the Final License Application, or as soon thereafter as reasonably possible.

4.2.10 COMMISSION REVIEW OF THE CRSA

Should the Commission have any questions or concerns with regards to the CRSA during the process of drafting the new license, the signatories request that the Commission arrange for the convening of a technical conference to discuss these questions.

4.2.11 OFF-LICENSE AGREEMENTS

Appendix B to this CRSA constitutes off-license agreements made between CRSA signatories. These agreements have been proposed as off-license as they concern matters over which the Commission asserts no jurisdiction, their existence carries no weight in the Commission's consideration of the license application under the Federal Power Act, or there is not a clear and

demonstrated nexus between the agreement and the impacts of the Project. The off-license agreements constitute valuable consideration in the parties' agreement to sign the CRSA and enforceability of off-license conditions is controlled by the law of the State of South Carolina.

4.2.12 LICENSE AMENDMENTS

SCE&G will consult with signatories prior to requesting any license amendment that may be inconsistent with the CRSA.

5.0 DEFINITIONS AND ACRONYMS

The definitions set forth in the following sections are applicable to this CRSA and associated appendices and are fundamental to their understanding and interpretation. When appropriate, these definitions may be adopted by the Commission into the articles of the new license.

- Acre-foot – A volume of water equal to one foot depth over an area of one acre, or 43,560 cubic feet.
- Adaptive Management – A process that allows for the review of protection, mitigation and enhancement programs incorporated into the terms of the new license. This process may allow for program modifications based upon unforeseen circumstances or conditions.
- Area of Potential Effects – The geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if any such properties exist.
- Compliance Limit – The instantaneous minimum flow required by FERC to be released from the Project.
- Cubic feet per second (CFS) – A measurement of water flow representing one cubic foot of water moving past a given point in one second. One CFS is equal to 0.0283 cubic meters per second and 0.646 million gallons per day.
- Cultural resources – Includes items, structures, etc. of historical, archaeological, or architectural significance.

- Dissolved oxygen concentration (DO) – One of the most commonly employed measures of water quality, DO is the amount of gaseous oxygen in a liquid. Low DO levels can adversely affect fish and other aquatic life. DO is generally expressed in units of parts per million (ppm) or milligrams per liter (mg/L)
- Elevation – References in this CRSA are given in North American Vertical Datum 1988 (NAVD 88); conversion to National Geodetic Vertical Datum of 1929 (NGVD 29), used in numerous supporting studies for the license application (and often erroneously referred to as MSL) requires the addition of 0.7 feet to elevation values referenced to NAVD88.
- Flow – The volume of water passing a given point per unit of time.
- Generator Capacity – The maximum amount of electricity that can be produced within the safety limitation of a generator.
- Head – The difference in elevation of the upstream reservoir in relation to the tailrace elevation.
- Hydraulic Capacity – The maximum amount of water that can be passed through the Project turbines.
- Hydrologic Condition – The volume and distribution of precipitation, runoff, and streamflow into the Broad River basin which affect the amount of inflow to Parr and Monticello reservoirs at a given time.
- Inconsistent Act – Any action by a Jurisdictional Body that increases the burden upon or cost or risk to a Signatory substantially beyond the burden, cost or risk reasonably assumed by the Signatory to this CRSA, or that deprives a Signatory of a substantial benefit promised by another Signatory in this CRSA.
- Installed Capacity – The nameplate megawatt rating of a generator or group of generators.
- Jurisdictional Body – Any governmental body which has the authority to prevent the implementation of any part of this CRSA, or to require specific steps be followed prior to implementing any part of this CRSA or to require any other activity or activities that may result in an Inconsistent Act.
- Littoral – Associated with shallow (shoreline area) water (e.g., the littoral zone of an impoundment).
- Lotic – Flowing or actively moving water including rivers and streams.

- Low Inflow Protocol – An agreement between a licensee and stakeholders that provides instructions to the licensee on how to manage flows during low inflow periods.
- Material – Important; affecting the merits of a case; causing a particular course of action; significant; substantial.
- Minimum Flow – A continuous flow, measured in CFS that is required to be released from the Project dam during specified periods of time.
- Net Inflow – The previous day's daily average inflow as calculated using the sum of the three upstream USGS gages (USGS 02156500, Broad River near Carlisle, SC; USGS 02160105, Tyger River near Delta, SC; and USGS 02160700, Enoree River at Whitmire, SC) minus evaporation from the reservoirs.
- Non-Governmental Organization (NGO) – An organization that has been created by an individual or group of individuals containing no official membership of participation by any governmental entity.
- Non-Project Property – Lands not contained within the Project boundary. Unless clear in the context of its use that it is referring to non-SCE&G owned property, all uses herein shall be deemed to refer to SCE&G-owned properties outside the Project boundary.
- Normal Operating Capacity – The maximum MW output of a generator or group of generators under normal maximum head and flow conditions.
- Pre-Application Document (PAD) – A document, representing a collection of documents as compiled into a single unit, containing detailed information on a hydroelectric project; the document is used to describe the project and its resources and to start the applicant's consultation process with resource agencies and the public.
- Project – One or more hydroelectric plants collectively included in a single license issued by the FERC. A Project typically consists of a dam or dams, reservoir(s), powerhouse(s), and appurtenant facilities. As used in this document, the capitalized term "Project" refers specifically to the Parr Hydroelectric Project (FERC Project No. 1894).
- Project Area – All lands and waters within and outside of the Project boundary that may influence materially or be influenced materially by Project operations.
- Project Boundary or Project Boundary Line (PBL) – A demarcation line established by the FERC within which some level of interest in or control over lands, waters and structures are deemed necessary to operate a licensed hydroelectric project.

- Project Vicinity – The general geographic area in which the Project is located for the purposes of describing the existing environment around the Project.
- Recreation site – A land and associated water surface area which people use for leisure activities, whether formally designated or used informally.
- Regulatory agency – A governmental agency that has statutory authority to regulate human or business activities.
- Resource agency – Federal, state, or interstate agency with responsibilities relative to flood control, navigation, irrigation, recreation, fish or wildlife, water resource management, or cultural or other relevant resources of the governmental jurisdiction(s) in which a project is located.
- Review Committee – A group, including SCE&G and stakeholders, formed to direct the implementation of various AMPs and monitoring plans. Members of the Review Committee must be signatories to the CRSA.
- Service List – A list of parties who have formally intervened in a proceeding that is compiled and maintained by FERC; once FERC establishes a Service List, any documents filed with FERC must be sent to all entities on the Service List.
- Signatories – Organizations and/or individuals signed on to the CRSA and not ceased to be by death or dissolution.
- Stakeholder – Any individual or organization (government or non-governmental) with an interest in the management and/or operation of the Parr Project.
- Streamflow – The rate at which water passes a given point in a stream, usually expressed in CFS.
- Tailrace – The tailrace is an area of river downstream of a dam where the impounded water re-enters the river after passing through the turbines.
- Target Flow – The instantaneous minimum flow recommended by the Instream Flow Technical Working Committee (IFTWC) to be released from the Project.
- Unanimous Consent – A vote with no dissenting votes. Abstention or non-response by a signatory is not a dissenting vote.
- Wildlife Management Area (WMA) – An area established as allowed by law through the cooperative agreement of private landowners and the SCDNR to provide for the

enjoyment of all wildlife enthusiasts. Seasonal hunting is allowed on these areas with the purchase of a WMA permit and hunting license.

ACRONYMS

ADA	Americans with Disabilities Act
APE	Area of Potential Effect
AR	American Rivers
AIR	Additional Information Request
AMP	Adaptive Management Plan
AW	American Whitewater
BIA	Bureau of Indian Affairs, an agency of the DOI
BLM	Bureau of Land Management, an agency of the DOI
BO	Biological Opinion
CFR	Code of Federal Regulations
CFS	Cubic feet per second
CNP	Congaree National Park
CRK	Congaree Riverkeeper
CRSA	Comprehensive Relicensing Settlement Agreement
CWA	Clean Water Act
DLA	Draft License Application
DO	Dissolved Oxygen concentration
DOE	US Department of Energy
DOI	US Department of Interior
EA	Environmental Assessment
EAP	Emergency Action Plan
EIS	Environmental Impact Statement
EPA	US Environmental Protection Agency
ESA	Federal Endangered Species Act
FEA	Final Environmental Assessment
FEMA	Federal Emergency Management Agency
FERC	Federal Energy Regulatory Commission
FLA	Final License Application
FPA	Federal Power Act
FTWC	Fisheries Technical Working Committee
GIS	Geographic Information System
GPS	Global Positioning System
HEC-RAS	Hydrologic Engineering Center's River Analysis System
HEC-ResSim	Hydrologic Engineering Center's Reservoir System Simulation
Hp	Horsepower
HPMP	Historic Properties Management Plan
HSI	Habitat Suitability Index
Hz	Hertz (cycles per second)
IFIM	Instream Flow Incremental Methodology
IFTWC	Instream Flow Technical Working Committee
KW	Kilowatt
KWh	Kilowatt-hour
kV	Kilovolts

kVA	Kilovolt-ampere
LLM TWC	Lake and Land Management Technical Working Committee
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MSL	Mean Sea Level
MW	Megawatt
MWh	Megawatt-hour
NAVD	North American Vertical Datum
NEPA	National Environmental Policy Act
NGO	Non-Governmental Organization
NGVD	National Geodetic Vertical Datum
NMFS	National Marine Fisheries Service, also known as NOAA Fisheries
NOAA	National Oceanic & Atmospheric Administration, including NMFS
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NOI	Notice of Intent to file an application for license
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
NWS	National Weather Service
PA	Programmatic Agreement
PAD	Pre-Application Document
PM&E	Protection Mitigation & Enhancement
PMF	Probable Maximum Flood
PPM	Parts per million
RCG	Resource Conservation Group
RTWC	Recreation Technical Working Committee
REA	Ready for Environmental Assessment
SCDHEC or DHEC	South Carolina Department of Health and Environmental Control
RD	Ranger District
RM	River mile
RMP	Recreation Management Plan
RT&E	Rare, Threatened and Endangered
RTE TWC	Rare, Threatened and Endangered Species Technical Working Committee
RSSL	Rocky Shoals Spider Lily
SCDNR or DNR	South Carolina Department of Natural Resources
SCE&G	South Carolina Electric & Gas Company
SCORP	South Carolina Comprehensive Outdoor Recreation Plan
SCPRT	South Carolina Department of Parks, Recreation and Tourism
SCSHPO or SHPO	South Carolina State Historic Preservation Office
SMP	Shoreline Management Plan
THPO	Tribal Historic Preservation Officer
TLP	Traditional Licensing Process
TWC	Technical Working Committee
USACE	US Army Corps of Engineers
USDA	US Department of Agriculture
USFS	US Forest Service

USFWS	US Fish and Wildlife Service
USGS	US Geological Survey
WMA	Wildlife Management Area
WQC	Water Quality Certification, issued under Section 401 of the Federal CWA
WQ TWC	Water Quality Technical Working Committee
WQFW RCG	Water Quality, Fish and Wildlife Resource Conservation Group
WUA	Weighted Usable Area

APPENDIX A

PROPOSED LICENSE CONDITIONS

The following conditions outlined in this Appendix serve to set forth the terms and conditions agreed to by the CRSA signatories for the protection, mitigation, and enhancement of resources affected by the Project. These conditions are incorporated into CRSA Appendix E: Proposed License Articles. Subsequent to the issuance of the new license by the Commission, SCE&G will implement the FERC-approved plans included in this Appendix.

1. RECREATION

a. Recreation Management Plan (Appendix A-1)

2. FISH AND WILDLIFE

a. Flow Fluctuations Downstream of Parr Shoals Dam Adaptive Management Plan (Appendix A-2)

b. Minimum Flows Downstream of Parr Shoals Dam Adaptive Management Plan (Appendix A-3)

c. Monticello Reservoir Fisheries Habitat Enhancement Plan (Appendix A-4)

d. American Eel Abundance Monitoring Plan (Appendix A-5)

e. Freshwater Mussel Monitoring Plan (Appendix A-6)

f. Continue Involvement in the Santee Basin Accord for Diadromous Fish Protection (Appendix A-7)

g. Habitat Enhancement Program (Appendix A-8)

h. **Hydroacoustic Estimates and Distribution of Fish in Monticello and Parr Reservoirs in August 2017 – Protection, Mitigation, Enhancement Measure Recommendation (Appendix A-9)**

3. **WATER QUALITY**

   a. **Enhancements to the West Channel Downstream of Parr Shoals Dam Adaptive Management Plan (Appendix A-10)**

   b. **Parr Shoals Dam Turbine Venting Plan (Appendix A-11)**

4. **OPERATIONS**

   a. **Upgrade/Replacement of Generators at Parr Shoals Development Implementation Plan (Appendix A-12)**

5. **LAKE AND LAND MANAGEMENT**

   a. **Parr Reservoir Shoreline Management Plan (Appendix A-13)**

   b. **Monticello Reservoir Shoreline Management Plan (Appendix A-14)**

   c. **Erosion Monitoring Plan (Appendix A-15)**

6. **CULTURAL RESOURCES**

   a. **Historic Properties Management Plan (Appendix A-16)**

Appendix A-1

Recreation Management Plan

RECREATION MANAGEMENT PLAN

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RECREATION MANAGEMENT PLAN

PARR HYDROELECTRIC PROJECT
(FERC NO. 1894)

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RECREATION MANAGEMENT PLAN

PARR HYDROELECTRIC PROJECT
(FERC NO. 1894)

1.0 INTRODUCTION

South Carolina Electric & Gas Company (SCE&G) (Licensee) is the owner and operator of the Parr Hydroelectric Project (FERC No. 1894) (Project). The Project consists of the two developments: the Parr Shoals Development (Parr Development), and the Fairfield Pumped Storage Development (Fairfield Development). Both developments are located on the Broad River in Fairfield and Newberry counties, South Carolina. The Parr Development creates the Parr Reservoir, located along the Broad River, and the Fairfield Development creates the Monticello Reservoir, located adjacent to the Broad River. The current Project license is set to expire on June 30, 2020.

1.1 BACKGROUND AND CONSULTATION

SCE&G is currently involved in a multi-year relicensing process with the ultimate goal of obtaining a new 50 year operating license for the Project. The Federal Energy Regulatory Commission's (FERC or Commission) regulations at 18 C.F.R. § 2.7 require the evaluation of project recreational resources within license applications with the goal of developing these resources consistent with a recreation plan approved by the Commission. It is the licensee's responsibility to allow for suitable public access and recreational use of project lands and waters consistent with the recreational needs of the area and primary project purposes. Likewise, it is the licensee's responsibility to inform the public of project recreational opportunities, as well as the rules governing the accessibility and use of recreational facilities. A Commission-approved recreation plan, developed in cooperation with appropriate local, state, and federal agencies, and other interested parties, aids licensees in fulfilling these responsibilities.

During relicensing, SCE&G formed the Recreation Technical Working Committee (TWC) to address recreation issues associated with operation of the Project. The Recreation TWC is composed of representatives from various federal, state, and local agencies, non-governmental organizations (NGOs) and private landowners. Agencies and NGOs on the Recreation TWC

include the U.S. Fish and Wildlife Service (USFWS), National Oceanic and Atmospheric Administration (NOAA), National Park Service (NPS), South Carolina Department of Natural Resources (SCDNR), South Carolina Department of Health and Environmental Control (SCDHEC), American Rivers, and Congaree Riverkeeper.

The Recreation TWC has convened throughout the relicensing process to discuss the development, implementation and results of a Recreation Use and Needs Study (RUN Study) and the development of this Recreation Management Plan (RMP). The consultation record for the development of the RMP is included in Appendix A.

As noted by FERC, a well-documented user survey is "an essential part of a good recreation plan" (*Recreation Development at Licensed Hydropower Projects*, FERC 1996). SCE&G completed the above-referenced RUN Study in 2016 to determine what additions and improvements are needed at the Project to accommodate for future recreation use. This RMP was subsequently developed in consultation with stakeholders using the results of the 2016 RUN Study. Moreover, this RMP will be filed with FERC as part of the Final License Application. Upon FERC approval, this RMP establishes SCE&G's requirements for providing public recreation in accordance with the new license.

1.2 PROJECT LANDS AND WATERS

The Parr Development creates the 15-mile long Parr Reservoir, which has a surface area of 4,400 acres at full pool and serves as the lower reservoir for Fairfield Development pumped-storage operations. The Parr Development operates in a modified run-of-river mode and normally operates continuously, passing flow from the Broad River. Parr Reservoir has approximately 88 miles of shoreline within the Project boundary, much of which is available to the public for recreation purposes[1]. The waters and shoreline of Parr Reservoir provide the public with recreation opportunities including hunting, boating, fishing, hiking, and picnicking. Many of these opportunities are available to the public through Project Recreation Sites and Non-Project

[1] SCE&G manages its lands per the classification system described within the Parr Shoreline Management Plan – however, the public is generally not precluded from access to SCE&G-owned lands and shoreline regardless of classification, except for lands reserved and used for Project operations or other areas specifically protected from public access and posted as such.

Recreation Sites[2]. Detailed information on Project and Non-Project Recreation Sites at Parr Reservoir is included in Section 4.0.

The Fairfield Development creates the 6,800 acre Monticello Reservoir, which serves as the upper reservoir for pumped storage operations. The Fairfield Development is primarily used for peaking operations, reserve generation, and power usage. Monticello Reservoir has approximately 47 miles of shoreline within the Project boundary, much of which are available to the public for recreation purposes[3]. The waters and shoreline of Monticello Reservoir are a source for many public recreation opportunities including hunting, boating, fishing, swimming, camping, hiking, and picnicking. Many of these opportunities are available to the public through Project Recreation Sites and Non-Project Recreation Sites. Detailed information on the Project and Non-Project Recreation Sites at Monticello Reservoir is included in Section 5.0.

Adjacent to Monticello Reservoir is the Recreation Lake, which was constructed by SCE&G for the sole purpose of recreation. The Recreation Lake has a surface area of 300 acres and 10 miles of shoreline available to the public for recreation. While Parr and Monticello reservoirs are subject to daily fluctuations from Project operations, the Recreation Lake is maintained at a stable water level. The Recreation Lake provides the public with recreation opportunities such as fishing, swimming and picnicking.

In addition to the Project Recreation Sites at Parr and Monticello reservoirs and the Recreation Lake, approximately 9,000 acres of land and water within the Project boundary are included by lease or agreement in the statewide Wildlife Management Area (WMA) Program, managed by the South Carolina Department of Natural Resources (SCDNR). The Broad River Waterfowl Management Area and the Enoree River Waterfowl Management Area provide hunting opportunities to the public throughout the year.

[2] Project Recreation Sites are recreation sites that are owned, operated, and maintained by SCE&G and Non-Project Recreation Sites are recreation sites that are operated and maintained by an entity other than SCE&G. Both types of recreation sites are located within the Project boundary.

[3] SCE&G manages its lands at the Fairfield Development per the classification system described within the Monticello Shoreline Management Plan – however, the public is generally not precluded from access to SCE&G-owned lands regardless of classification, except for lands reserved and used for Project operations, lands/areas within the Nuclear Exclusion Zone, or other areas specifically protected from public access and posted as such.

1.3 RECREATION USE AND NEEDS STUDY

As previously mentioned, this RMP was developed based on the findings of the 2016 RUN Study. The study was designed to provide information relevant to the current and future availability and adequacy of SCE&G owned and managed Project Recreation Sites and informal recreation sites at Monticello Reservoir and Parr Reservoir. Additionally, information was gathered regarding waterfowl hunting in the Project area, as waterfowl hunters represent a unique group of users whose preferences and perceptions may differ from those using Project recreation sites.

RUN Study results showed most study participants at Parr Reservoir reported the following:

- Individuals chose to visit Parr Reservoir because of the good fishing opportunities.
- Low to moderate crowding perceptions.
- Good to very good recreation site condition perception.
- Additional boat launching or docking facilities were the most requested additional facility.
- Other facility and amenity recommendations included additional lighting and restrooms.

RUN Study results showed most study participants at Monticello Reservoir reported the following:

- Individuals chose to visit Monticello Reservoir because it was close to home and because it provided good fishing opportunities.
- Low to moderate crowding perceptions.
- Very good recreation site condition perceptions.
- Restrooms were reported as the most requested additional facility
- Other facility and amenity recommendations included picnic tables, shelters, lighting and fishing piers or docks.

The RUN Study showed that the population of the Project's surrounding counties will increase by approximately 13 percent over the next 15 years. Study data showed that Project facilities are in good condition and well used. Some sites are closer to capacity during peak periods while others have low density ratings. Generally, existing crowdedness at all facilities appeared to be low to moderate. Waterfowl hunters noted crowding at the Enoree River Waterfowl Management

Area (non-Project recreation site leased, maintained and managed by SCDNR) and on Saturdays at Parr Reservoir.

To address the requests for additional facilities, SCE&G is proposing enhancements to four (4) Project Recreation Sites during the first 10 years of the new license term. SCE&G is also creating four (4) new Project Recreation Sites by upgrading and formalizing existing informal sites, to address the potential future need for additional recreation access at the Project. The proposed schedule for enhancement implementation is included in Section 3.2.

1.4 STRUCTURE OF THE RMP

Pursuant to FERC guidelines, this RMP includes the following information:

- Project Recreation Site Management Policies: Information on the management policies for all Project Recreation Sites owned by SCE&G.
- Ongoing Public Recreation Planning and Monitoring: SCE&G is proposing to implement enhancements and monitor future recreation use during the term of the new license through an Adaptive Management Process (AMP) outlined in this RMP.
- Existing Project Recreation Sites: A comprehensive inventory of the existing Project Recreation Sites; facility amenities including type, number, and barrier free provisions; maps depicting existing Project Recreation Sites; location; owner; manager; user fees; hours of operation if applicable.
- Enhancements to Project Recreation Sites: Proposed facility enhancements including; type, number, and barrier free provisions; conceptual site plans; schedule for enhancement completion.
- Consultation Record: Documentation of consultation during preparation of the RMP, including comments and recommendations provided by consulting agencies and organizations; a description of how comments and recommendations have been addressed, including any justifications for not accommodating specific comments and recommendations

2.0 PROJECT RECREATION SITE MANAGEMENT POLICIES

Project Recreation Sites, as listed in Table 2-1, will be operated and managed according to the following policies.

TABLE 2-1 PROPOSED AND EXISTING PROJECT RECREATION SITES

PARR DEVELOPMENT PROJECT RECREATION SITES	FAIRFIELD DEVELOPMENT PROJECT RECREATION SITES
Cannon's Creek Project Recreation Site	Scenic Overlook Recreation Site
Heller's Creek Project Recreation Site	Highway 215 Recreation Site
Parr Shoals Dam Canoe Portage (*Proposed*)	Highway 99 West Recreation Site
Highway 34 Recreation Site (*Proposed*)	Highway 99 East Recreation Site (*Proposed*)
Enoree River Bridge Recreation Site (*Proposed*)	Recreation Lake Access Area

2.1 PROJECT RECREATION SITE HOURS OF OPERATIONS

All Project Recreation Sites and associated amenities such as boat ramps, picnic shelters, etc. are available and open to the public year-round except for the Recreation Lake Access Area. The Recreation Lake Access Area - Beach Area is open from sunrise to sunset April 1 through September 30 and is closed from October 1 through March 31. All other amenities at the Recreation Lake are open year-round. Restroom facilities at all SCE&G operated recreation sites are currently open from April 1 through September 30 and closed from October 1 through March 31.[4]

2.1.1 PROJECT RECREATION SITE CLOSINGS

In the case of temporary closures of Project Recreation Sites due to maintenance or safety issues, the Licensee will implement notification procedures to the public, including the installation of appropriate signage and physical barriers at the entrance of the recreation site or boat ramp.

[4] Restroom facilities at the Highway 99 West Recreation Site are proposed to be upgraded for year-round access during the new license term.

2.2 USER FEES

All Project Recreation Sites are owned by the Licensee and are currently available to the public at no charge.

2.3 BANK FISHING AT THE PROJECT AND PROJECT RECREATION SITES

The shoreline around Parr and Monticello reservoirs and associated islands is open to the public for bank fishing, except for shoreline that is included in the Nuclear Exclusion Zone. Bank fishing is allowed at all Project Recreation Sites.

2.4 BARRIER FREE REQUIREMENTS

The Commission's regulations at 18 C.F.R. § 2.7(b) requires that the Licensee "develop suitable public recreational facilities upon project lands and waters … and to include therein consideration of the needs of persons with disabilities in the design and construction of such project facilities and access." These facilities and access points are often referred to as "barrier free." Barrier free is defined as a design for those with physical or other disabilities, involving the provision of alternative means of access to steps. Currently, two of the Project Recreation Sites at Monticello Reservoir have some barrier free amenities and none of the Project Recreation Sites at Parr Reservoir have barrier free amenities. The Licensee will modify some of the Project Recreation Sites to increase the amount of barrier free recreation access at the Project. The barrier free modifications for specific sites are discussed in further detail in Sections 4.0 and 5.0.

2.5 PROHIBITED USES, ACTIVITIES AND STRUCTURES

Use of Project Recreation Sites must not endanger public health or safety, or create a public nuisance, or otherwise be compatible with the overall public recreation use of the Project. A list of prohibited uses, activities and structures is included below. The Licensee will consult with local enforcement agencies in the event the Licensee becomes aware the following activities are occurring at Project Recreation Sites.

- Littering
- Consuming alcoholic beverages or illegal controlled substances
- Destroying or defacing property
- Harassing wildlife

- Discharging firearms
- Operation of motorized trail bikes or off-road vehicles
- Open fires
- Private boat docks or boat ramps
- Boathouses
- Commercial marinas
- Marine rails and sea walls
- Permanent structures
- Land-based structures, storage buildings, shelters, patios, gazebos, fences, swimming pools, satellite dishes, signs, storage of boats, canoes or other watercraft or automobiles
- Jet skiing
- Water skiing
- Parasailing
- Paragliding
- Mooring
- Excavations/dredging (except commercial operations authorized by SCE&G and permitted by the regulatory authorities.)
- Effluent discharges
- Storage or stockpiling of construction material
- Livestock access to reservoir
- Vegetation removal, limbing or trimming of any type
- Use of herbicides

A complete list of prohibited activities and structures on Project lands and waters is provided in the Parr and Monticello Shoreline Management Plans and Permitting Handbook.

2.6 COMPLIANCE WITH STATE, FEDERAL AND LOCAL LAWS AND REGULATIONS

Use of Project Recreation Sites must be consistent with all FERC orders and regulations regarding recreation opportunities and development at licensed projects including Order No. 313 (FERC Recreation Policy) and all applicable regulations or directives issued by FERC, or its predecessor, the Federal Power Commission. Use of Project Recreation Sites must also comply with applicable state, federal, and local laws as well as all ordinances, rules, regulations, and sanctions of any regulatory body or governmental agency (state, federal, or local) having

jurisdiction within the recreation site. Project Recreation Site facility construction projects shall comply with applicable federal, state and local rules, regulations, building and zoning codes, and public safety design standards.

2.7 PROTECTION OF THE ENVIRONMENT

During construction, operation and maintenance of Project Recreation Site facilities, necessary precautions will be taken to protect the scenic, environmental, recreational, and cultural quality of affected lands and waters of the Project. Construction of Project Recreation Site facilities shall be completed using Low Impact Development practices for storm water management, when possible and soil and erosion control measures will be implemented and maintained. When practicable, facilities will be designed and constructed to retain vegetation, maintain natural habitat, provide a natural view from the water, and use shielded lighting where lighting is provided.

2.7.1 HISTORIC PROPERTIES

Measures to address the management of historic properties at Project Recreation Sites and islands are addressed in the Project Historic Properties Management Plan.

2.7.2 RECREATIONAL WATERCRAFT

Houseboats, jet skis, recreational watercraft exceeding 30 feet in length, and recreational watercraft with marine sanitation devices are prohibited from use of Project recreation sites to access Project waters.

2.8 PROJECT ISLANDS

SCE&G owns all islands within Monticello Reservoir and Pearson's Island within Parr Reservoir and will retain ownership of these islands for the term of the new license.

2.8.1 PERMITTED USES OF ISLANDS

Unless otherwise noted, all islands in Monticello Reservoir and Pearson's Island in Parr Reservoir are available year round, for passive[5] public recreation activities including walking,

[5] Passive recreation use is defined as those recreation activities that are generally non-consumptive in nature, require a minimum of facilities, and/or have a minimal environmental impact.

wading, picnicking, and bird watching. Waterfowl hunting is permitted on these islands in accordance with federal and state hunting laws and regulations pertaining to Wildlife Management Area (WMA) lands. Islands in Monticello Reservoir are also open for overnight camping.

2.8.2 RESTRICTED USE OF ISLANDS

Overnight camping is expressly prohibited on Project islands in Parr Reservoir. The Licensee may also restrict use of specific islands in consultation with federal, state or local agencies to protect cultural resources or endangered species or for public safety, security, or other management concerns.

2.9 PROJECT RECREATION SITE PLANNING

Continued public recreation planning and consultation with appropriate federal, state and local resource agencies, parks and recreation agencies, tribes, local governments, and resource or recreation-based non-governmental organizations (NGOs) is important to the Licensee. Over the term of the new license, unanticipated Project-related recreation needs may be identified and/or it may be determined that existing or planned recreation facilities are no longer needed. To aid in planning for future recreation needs at the Project, the Licensee plans to conduct the following activities.

2.9.1 FERC FORM 80 REPORTS

FERC regulations require the Licensee to prepare and file a Licensed Hydropower Development Recreation Report (Form 80) for each Project development every six years. The purpose of the Form 80 is to provide FERC and other agencies with a periodic assessment of the recreation facilities located at FERC-licensed projects, whether public recreation needs are being accommodated by the facilities, and where additional efforts could be made to meet future needs.

2.9.2 REVISING THE RMP

The Licensee will convene a group of interested stakeholders approximately 12 years after the issuance of the new license to discuss the development of a Recreation Assessment Study Plan. During relicensing, SCE&G agreed to conduct a Recreation Assessment two years after the completion of Project Recreation Site enhancements, which are scheduled to be complete 10

years after license issuance. Based on the findings of the Recreation Assessment, SCE&G, with input from stakeholders, will revise the RMP, as necessary, and submit it for FERC approval. The need for additional Recreation Assessments or Recreation Use and Needs Studies will be determined in consultation with interested stakeholders as part of an AMP. The AMP is discussed in further detail in Section 3.0.

2.10 MAINTENANCE OF PROJECT RECREATION SITES

SCE&G currently maintains Project Recreation Sites according to a pre-determined schedule developed by their Lake Management Department. Sites are monitored on a quarterly basis and the Lake Management Department addresses maintenance issues on an as-needed basis. SCE&G will continue to monitor and maintain existing Project Recreation Sites in the same manner during the term of the new license. New Project Recreation Sites will be added to the monitoring schedule and regular monitoring and maintenance visits will begin upon completion of the planned enhancements of the site.

3.0 ADAPTIVE MANAGEMENT PROCESS

3.1 OVERVIEW

During relicensing, the Recreation TWC discussed implementing an Adaptive Management Process (AMP) to address Project related recreation issues that arise during the term of the new license. The TWC agreed that SCE&G will complete proposed Project Recreation Site enhancements according to the schedule included in Section 3.2. Stakeholders will also meet with SCE&G periodically during the term of the new license to discuss recreation issues and determine the need for additional recreation assessments. Additional details on the enhancement schedule and future recreation assessments are discussed below.

3.2 PROJECT RECREATION SITE ENHANCEMENT SCHEDULE

Table 3-1 illustrates the schedule for completion of recreation site enhancements, as agreed to in consultation with relicensing stakeholders. Specific enhancements planned for each Project Recreation Site are discussed in Sections 4.0 and 5.0. A summary of proposed enhancements for each site is included in Section 6.0.

TABLE 3-1 PROJECT RECREATION SITE ENHANCEMENT SCHEDULE

PROJECT RECREATION SITE	SITE STATUS	TIMEFRAME FOR COMPLETION
Highway 215 Recreation Area	Existing Site	Prior to license issuance
Parr Shoals Dam Canoe Portage	Proposed new facility	Upon license issuance
Informal Highway 34 Boat Ramp	Proposed new site	Within 2 years after new license is issued
Informal Enoree River Bridge Recreation Site	Proposed new site	Within 2 years after new license is issued[6]
Cannon's Creek Recreation Site	Existing site	Within 4 years after new license is issued
Highway 99 West Recreation Site (previously known as Highway 99 Boat Ramp)	Existing site	Within 6 years after new license is issued
Recreation Lake Access Area	Existing site	Within 6 years after new license is issued
Highway 99 East Recreation Site	Proposed new site	Within 8 years after new license is issued
Scenic Overlook Recreation Site	Existing site	Within 10 years after new license is issued

[6] Completion of this recreation site enhancement is dependent upon approval from the US Forest Service.

3.3 FUTURE RECREATION ASSESSMENTS

SCE&G will conduct a Recreation Assessment approximately 12 years after the new license is issued. The Recreation Assessment will take place two years after the site enhancements are complete. At that time, SCE&G will convene a meeting with interested stakeholders to discuss the Recreation Assessment and develop a study plan. Data collected during the Recreation Assessment will be used to complete the subsequent Form 80 Report.

Depending on the term of the new license, SCE&G will complete one or two additional Recreation Assessments approximately 10 and 20 years after the conclusion of the first Recreation Assessment. The complexity and detail of the additional assessments will be determined by SCE&G and interested stakeholders during a meeting held one year prior to each assessment. A meeting with interested stakeholders will be held within one year of the completion of each assessment to discuss the assessment results related to future recreation site improvements.

4.0 PARR RESERVOIR PUBLIC RECREATION SITES

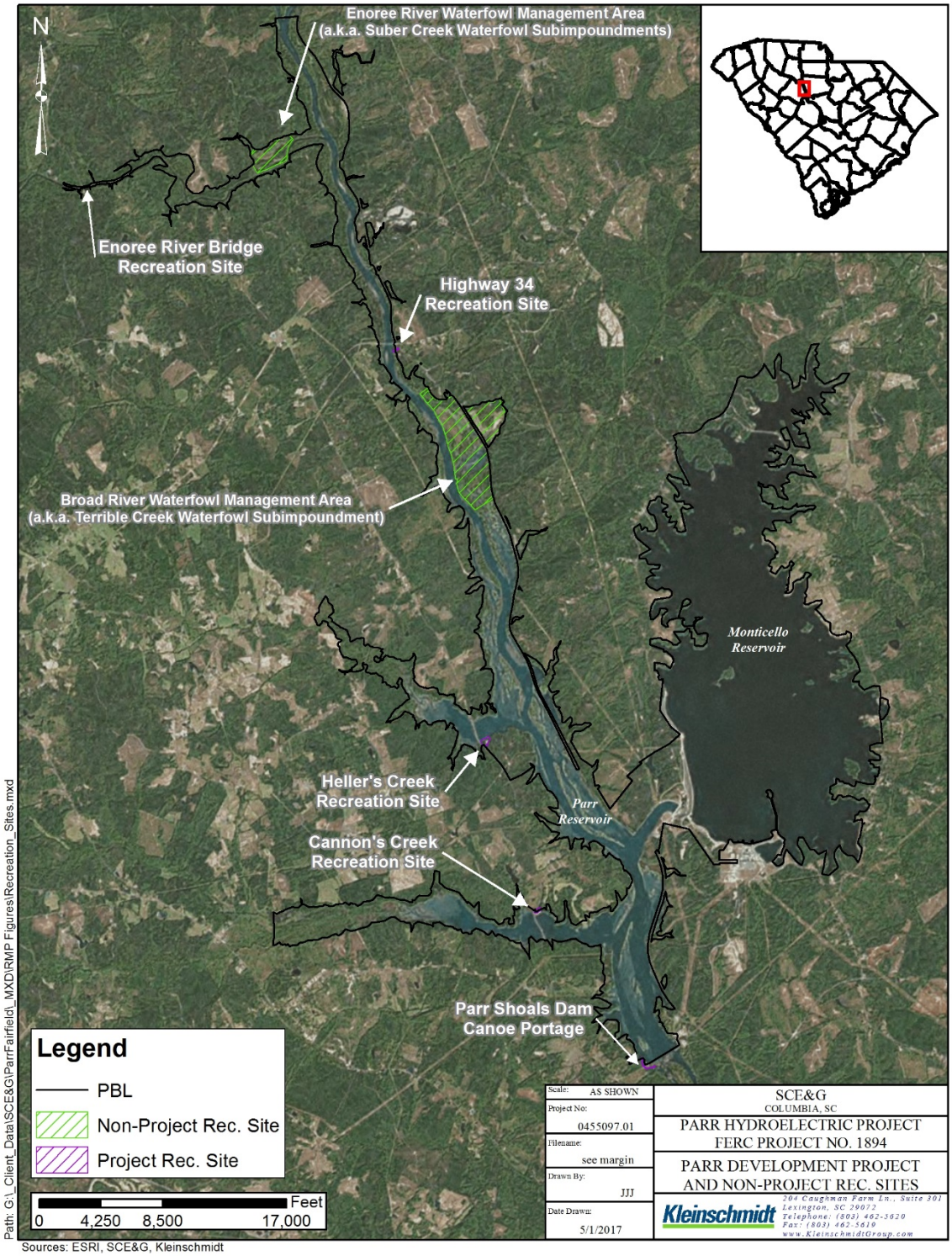
4.1 OVERVIEW

Parr Reservoir currently provides the public with several existing Project and Non-Project recreation sites. In addition, SCE&G is proposing to develop and/or enhance several new and/or informal Project recreation sites at Parr Reservoir. SCE&G owns, or has flowage rights over, all land on which the existing and proposed Project recreation sites are located. Existing and proposed new public recreation sites (both Project and Non-Project) are listed below in Table 4-1 and shown in Figure 4-1. Recreation facility and amenities tables are included in appendices C and D. In addition to the designated public recreation sites at the Project, lands within the Project boundary have been set aside for future recreational development. These lands are shown on land classification maps included in the Parr Reservoir Shoreline Management Plan.

TABLE 4-1 PUBLIC RECREATION SITES AT PARR RESERVOIR

EXISTING PUBLIC RECREATION SITES	PROPOSED NEW PUBLIC RECREATION SITES
Cannon's Creek Recreation Site	Parr Shoals Dam Canoe Portage
Heller's Creek Recreation Site	Highway 34 Recreation Site
Broad River Waterfowl Management Area (Non-Project Recreation Site)	Enoree River Bridge Recreation Site
Enoree River Waterfowl Management Area (Non-Project Recreation Site)	

FIGURE 4-1 PUBLIC RECREATION SITES AT PARR RESERVOIR



4.2 EXISTING PROJECT RECREATION SITES

4.2.1 CANNON'S CREEK RECREATION SITE

4.2.1.1 SITE DESCRIPTION AND EXISTING AMENITIES

Cannon's Creek Recreation Site is an existing Project Recreation Site located in Newberry County (Photo 1). Specifically, the recreation site is located on the western side of Parr Reservoir off of Broad River Road north of Peak, SC. GPS coordinates for this recreation site are latitude 34.2866, longitude -81.3631. This recreation site is owned and operated by SCE&G. A portion of this site is currently located on SCE&G lands outside of the Project boundary. SCE&G proposes to expand the Project boundary by 4.43 acres to bring the entire recreation site within the Project boundary, as shown on Exhibit G drawings filed with the new license application.

PHOTO 1 CANNON'S CREEK RECREATION SITE

Existing amenities at this recreation site include one concrete boat ramp, two shelters each with a picnic table and one grill. Restroom facilities are also located at this recreation site. There is a gravel parking area with spaces for up to 30 vehicles with trailers. Additional supported activities

include primitive camping and bank fishing. This site is unstaffed and open year round to the public without fee.

4.2.1.2 PROPOSED ENHANCEMENTS

During relicensing, SCE&G agreed to implement enhancements at Cannon's Creek Recreation Site, as detailed below. Enhancements will be completed according to the schedule[7] found in Section 3.2. A map of Cannon's Creek Recreation Site that displays existing and proposed amenities is in Appendix B.

- Add at least one (1) interpretive display (two panels) on the cultural and historic resources of the area prior to issuance of the new license in accordance with the Historic Properties Management Plan and Programmatic Agreement.
- Install one (1) fishing pier
- Install one (1) courtesy dock
- Install two (2) additional lights, one (1) near the road and one (1) near the restrooms
- Barrier Free enhancements – pave two (2) barrier free parking spaces and access paths to the picnic area, fishing pier and restrooms, upgrade the restroom to barrier free standards with a new handle on the men's room door and install proper height toilet seats
- Include 4.43 acres of land in the Project boundary, as identified in Appendix B

4.2.2 HELLER'S CREEK RECREATION SITE

4.2.2.1 SITE DESCRIPTION AND EXISTING AMENITIES

Heller's Creek Recreation Site is an existing Project Recreation Area located in Newberry County, South Carolina (Photo 2). Specifically, the recreation site is located on the western side of Parr Reservoir, off of Broad River Road in Pomaria, SC. GPS coordinates for this site are latitude 34.3193 and longitude -81.3744. This site is owned and operated by SCE&G.

[7] Construction of the interpretive display will occur prior to issuance of the new license in accordance with the Historic Properties Management Plan and Programmatic Agreement.

PHOTO 2 HELLER'S CREEK RECREATION SITE

Existing amenities at the recreation site include one concrete boat ramp, two shelters with one picnic table each, and restrooms. The site also has a gravel parking lot with space for up to 25 vehicles with trailers. Additional supported activities include primitive camping and bank fishing. This site is unstaffed and open year round to the public without fee. A map of Heller's Creek Recreation Site that displays existing amenities at the site is in Appendix B.

4.2.2.2 PROPOSED ENHANCEMENTS

SCE&G is not proposing any enhancements to the Heller's Creek Recreation Site.

4.3 PROPOSED NEW PROJECT RECREATION SITES

4.3.1 PARR SHOALS DAM CANOE PORTAGE

4.3.1.1 SITE DESCRIPTION AND EXISTING AMENITIES

During relicensing, SCE&G built an experimental canoe portage on the western side of the Parr Shoals Dam (Photo 3). An approximately 1,600 ft. trail was cleared and appropriate signage was

installed. The portage, located in Newberry County, is currently partially inside and outside of the Project boundary. GPS coordinates for the take-out area, located upstream of the Parr Shoals Dam, are 34.2592, -81.3389. GPS coordinates for the put-in area, located downstream of the Parr Shoals Dam, are 34.2575, -81.3358.

PHOTO 3 PARR SHOALS DAM CANOE PORTAGE

Due to positive feedback from stakeholders, SCE&G plans to formalize the canoe portage by bringing it into the Project boundary and including it on the new Exhibit G drawings that will be filed with the new license application. SCE&G owns all of the land on which the proposed portage is located.

4.3.1.2 PROPOSED ENHANCEMENTS

During relicensing, SCE&G agreed to formalize the canoe portage by bringing it into the Project boundary and maintaining it as an additional recreation facility. Formalization will occur upon license issuance. A map of the Parr Shoals Dam Canoe Portage is in Appendix B. This amenity will be unstaffed and open year round to the public without fee.

4.3.2 HIGHWAY 34 RECREATION SITE

4.3.2.1 SITE DESCRIPTION AND EXISTING AMENITIES

The Highway 34 Recreation Site, currently known as the Informal Highway 34 Boat Ramp or the Highway 34 Primitive Ramp, is an informal recreation site situated partially inside and outside of the Project boundary (Photo 4). It is located in Fairfield County on the eastern side of Parr Reservoir. GPS coordinates for the recreation site are latitude 34.3898 and longitude -81.3950. SCE&G owns the land on which the informal recreation site is located. SCE&G is proposing to formalize the site following issuance of the new license and include the entire recreation site inside the Project boundary as shown on Exhibit G drawings filed with the new license application. The formal Project recreation site will be renamed the Highway 34 Recreation Site.

PHOTO 4 HIGHWAY 34 RECREATION SITE

Currently the only amenities located at the site are an earthen boat ramp and an informal, gravel parking lot with space for up to five vehicles. Located adjacent to the existing informal recreation site and partially inside of the Project boundary is a non-project sand mining operation. The operator of the sand mine is currently seeking FERC approval for non-project use

of project lands and waters (Docket No. P-1894-209) under Article 23 of the current Project license issued August 28, 1974 and Article 63 issued December 8, 2011 (Standard Land Use Article).

4.3.2.2 PROPOSED ENHANCEMENTS

During relicensing, SCE&G agreed to formalize the recreation site and implement the enhancements listed below. Enhancements will be completed according to the schedule found in Section 3.2. A map of Highway 34 Recreation Site that displays existing and proposed amenities is in Appendix B. This site will be unstaffed and open year round to the public without fee.

- Improve the boat ramp – install geogrid and stabilize the bank
- Grade and gravel to improve the parking area
- Remove large trees that hinder vehicle access to the ramp
- Install a Recreation Sign on Highway 34 per FERC regulations
- Bring into the Project boundary, properties 211 parcel E (8.23 acres) and 285 parcel C (9.9 acres west of Railroad tracks) as identified in Appendix B. Through this proposed action, the existing non-project sand mine (Docket No. P-1894-209) will be completely located within the Project boundary. However, the sand mine is expected to have no effect on recreation at the Highway 34 Recreation Site, due to its distance from existing and proposed recreation facilities.

4.3.3 ENOREE RIVER BRIDGE RECREATION SITE

4.3.3.1 SITE DESCRIPTION AND EXISTING AMENITIES

The Enoree River Bridge Recreation Site is currently an informal, non-Project recreation site that is located on U.S. Forest Service lands, primarily outside of the Project boundary[8] (Photo 5). SCE&G has flowage rights for the portion of USFS land inside the Project boundary. The recreation site is in Newberry County near Maybinton, SC. GPS coordinates for the recreation site are latitude 34.4230 and longitude -81.4669.

[8] The Project boundary is located at elevation 274.6' NGVD88 at this site; therefore, only a small portion of the primitive ramp is located within the Project boundary.

PHOTO 5 ENOREE RIVER BRIDGE RECREATION SITE

Currently, the only amenity located at this site is an undeveloped bank area on the Enoree River, which is used to access the river with small watercraft, such as a canoe or kayak.

4.3.3.2 PROPOSED ENHANCEMENTS

During relicensing, SCE&G agreed to enhance the portion of the small watercraft access area that is located within the Project boundary. Enhancements will be completed according to the schedule found in Section 3.2[9]. A map of Enoree River Bridge Recreation Site that displays existing and proposed amenities is in Appendix B. This site will be unstaffed and open year round to the public without fee.

- Build canoe/kayak step down access within the Project boundary
- Install Recreation Sign on Maybinton Road per FERC regulations

4.4 NON-PROJECT RECREATION SITES

The following recreation sites are within the Project boundary; however, SCE&G is not responsible for operating and maintaining the following facilities. These Waterfowl Management Areas were previously approved by the FERC in response to Article 44 in the license issued

[9] Completion of this recreation site enhancement is dependent upon approval from the US Forest Service.

August 28, 1974, by FERC Order dated June 6, 1979, Order Approving Exhibit R Revisions and Related Changes in Land Rights, and shown on the latest version of Exhibit R-3 (FERC No. 1894-99) associated with the August 28, 1974 license.

4.4.1 BROAD RIVER WATERFOWL MANAGEMENT AREA

4.4.1.1 SITE DESCRIPTION AND EXISTING AMENITIES

The Broad River Waterfowl Management Area (WMA) (part of which was formerly known as Terrible Creek Waterfowl Sub-impoundment) is located south of Highway 34 in Fairfield County near the town of Blair, South Carolina. GPS coordinates for the waterfowl area are latitude 34.371 and longitude -81.381. SCE&G owns the land on which the Broad River WMA is located and currently leases the property to the SCDNR. Under the new license SCE&G will offer to lease the lands at Broad River WMA to SCDNR for continued use and management under the WMA Program.

SCDNR manages the site as a Category I waterfowl area, which means hunts are conducted on selected Saturdays during the waterfowl season. Only hunters selected by the SCDNR lottery system are allowed to hunt at this site. This site is closed to the public during waterfowl season, and it is open to the public from February 2 through October 31. Recreation opportunities outside of the waterfowl season include bird watching, bank fishing, deer hunting, and small game hunting.

4.4.2 ENOREE RIVER WATERFOWL MANAGEMENT AREA

4.4.2.1 SITE DESCRIPTION AND EXISTING AMENITIES

The Enoree River WMA (part of which was formerly known as Suber Creek Waterfowl Sub-impoundments) is in Newberry County near the town of Whitmire, South Carolina. GPS coordinates for the waterfowl area are latitude 34.432 and longitude -81.422. The USFS and SCE&G own the land on which the Enoree River WMA is located and SCE&G holds flowage rights for the portion owned by the USFS. The USFS and SCDNR manage the WMA cooperatively. Under the new license SCE&G will offer to lease the lands owned by SCE&G at Enoree River WMA to SCDNR for continued use and management under the WMA Program.

SCDNR manages the site as a Category II waterfowl area, which means it is open to the public for waterfowl hunting. Waterfowl hunting is permitted here on Saturdays until 12 p.m. during the hunting season. Outside of the waterfowl season, the area is open to visitors for activities including bird watching, deer hunting, and small game hunting.

5.0 MONTICELLO RESERVOIR PUBLIC RECREATION SITES

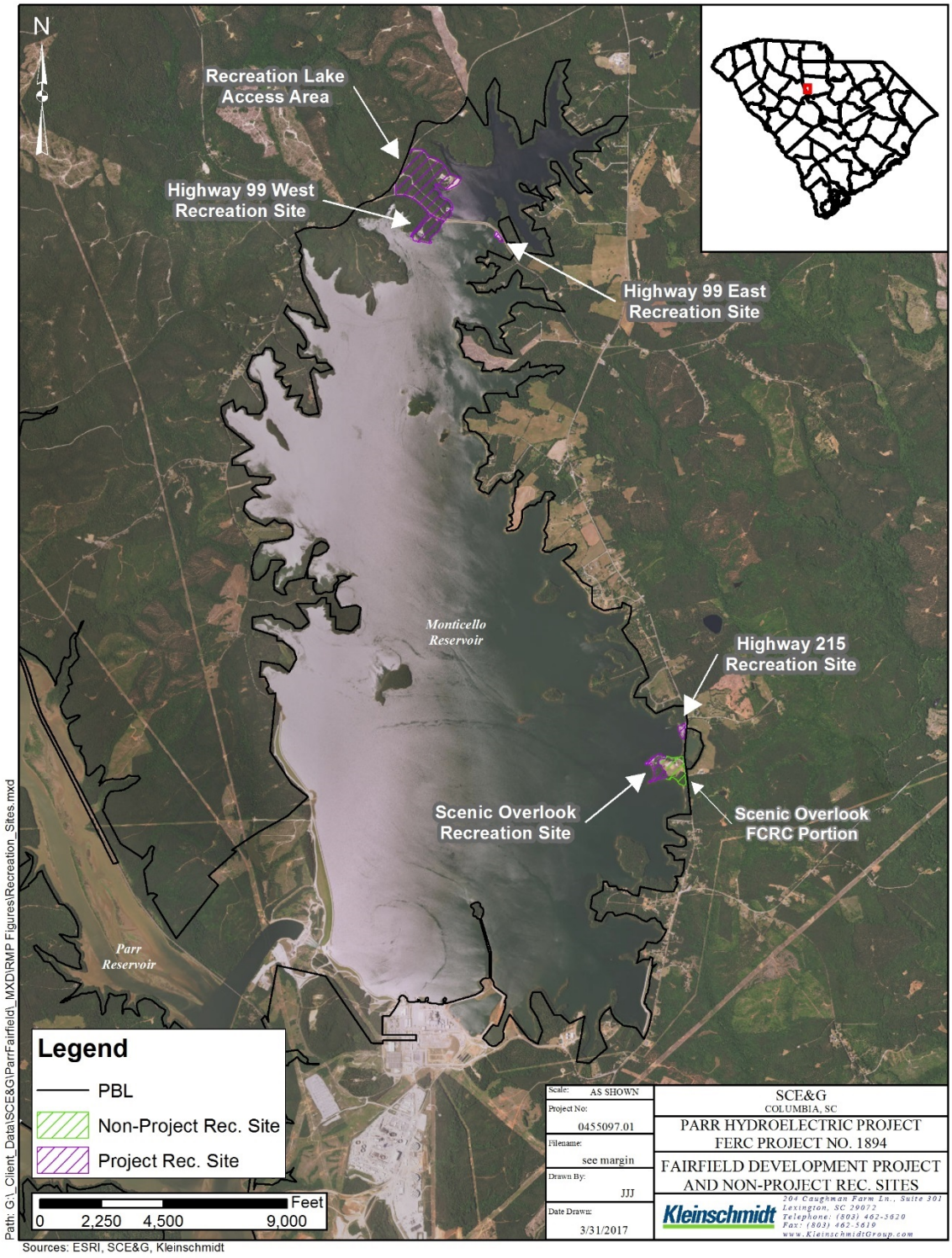
5.1 OVERVIEW

Monticello Reservoir currently provides the public with several existing Project and Non-Project recreation sites. In addition, SCE&G is proposing to enhance one informal recreation site at Monticello Reservoir, making it a formal Project Recreation Site. SCE&G owns, or has flowage rights over, all land on which the existing and proposed Project recreation sites are located. Existing and proposed new public recreation sites (both Project and Non-Project) are listed below in Table 5-1 and shown in Figure 5-1. Recreation facility and amenities tables are included in appendices C and D. In addition to the designated public recreation sites at the Project, lands within the Project boundary have been set aside for future recreational development. These lands are shown on land classification maps included in the Monticello Reservoir Shoreline Management Plan.

TABLE 5-1 PUBLIC RECREATION SITES AT MONTICELLO RESERVOIR

EXISTING PUBLIC RECREATION SITES	PROPOSED NEW PUBLIC RECREATION SITES
Scenic Overlook Recreation Site (Project and Non-Project portions)	Highway 99 East Recreation Site
Highway 215 Recreation Site	
Highway 99 West Recreation Site	
Recreation Lake Access Area	

FIGURE 5-1 PUBLIC RECREATION SITES AT MONTICELLO RESERVOIR



5.2 EXISTING PROJECT RECREATION SITES

5.2.1 SCENIC OVERLOOK RECREATION SITE

5.2.1.1 SITE DESCRIPTION AND EXISTING AMENITIES

The Scenic Overlook, formerly known as the Overlook, is a Project Recreation Site located on the eastern shore of Monticello Reservoir in Fairfield County, South Carolina (Photo 6). GPS coordinates for the site are 34.3239, -81.2894. The entire site is owned by SCE&G and is within the Project Boundary, however only a portion is operated and maintained by SCE&G as a Project Recreation Site. The remaining portion of the site is operated and maintained by the Fairfield County Recreation Commission (FCRC). The FCRC operated portion of this site is discussed under Section 5.4, Non-Project Recreation Sites.

PHOTO 6 SCENIC OVERLOOK RECREATION SITE

The portion of the site operated by SCE&G offers amenities including eight picnic tables, one picnic shelter, a scenic overlook and a fishing pier. Visitors can partake in activities such as

picnicking, dock fishing, and bank fishing. Restrooms and gravel parking areas are also available. The site is unstaffed and free to visitors year round.

5.2.1.2 PROPOSED ENHANCEMENTS

During relicensing, SCE&G agreed to improve the site by implementing the enhancements listed below. Enhancements will be completed according to the schedule found in Section 3.2. A map of the Scenic Overlook Recreation Site that displays existing and proposed amenities is in Appendix B.

- Add one (1) light at existing fishing pier
- Modify the existing fishing pier for barrier free use
- Pave two (2) barrier free parking spaces near the fishing pier and pave an access path to the fishing pier
- Add two (2) new picnic tables
- Build one (1) barrier free picnic shelter with one (1) barrier free picnic table
- Pave one (1) barrier free parking space and an access path near the new barrier free picnic table

5.2.2 HIGHWAY 215 RECREATION SITE

5.2.2.1 SITE DESCRIPTION AND EXISTING AMENITIES

The Highway 215 Recreation Site, also known as the Highway 215 Boat Ramp or Ramp 1, is located on the eastern side of Monticello Reservoir, off Highway 215, in Fairfield County, South Carolina (Photo 7). GPS coordinates for the site are 34.3273, -81.2853. This Project Recreation Site is owned and operated by SCE&G.

PHOTO 7 HIGHWAY 215 RECREATION SITE

This site is primarily used as a boat ramp. A courtesy dock and two concrete boat ramps are located at this site. The site also includes a paved parking area with space for 30 vehicles with trailers and a picnic shelter with two picnic tables. The site is unstaffed, free, and open to the public year round. A map of the Highway 215 Recreation Site that displays existing amenities is included in Appendix B.

5.2.2.2 PROPOSED ENHANCEMENTS

During relicensing, SCE&G agreed to improve the site by implementing the enhancements listed below. Enhancements will be completed per the schedule found in Section 3.2.

- Add at least one (1) interpretive display on the cultural and historic resources of the area prior to issuance of the new license in accordance with the Historic Properties Management Plan and Programmatic Agreement.

5.2.3 HIGHWAY 99 WEST RECREATION SITE

5.2.3.1 SITE DESCRIPTION AND EXISTING AMENITIES

The Highway 99 West Recreation Site is currently known as the Highway 99 Public Access Area, the Highway 99 Boat Ramp, or Ramp 2. The site is located on the northern side of Monticello Reservoir off Highway 99 in Fairfield County, South Carolina (Photo 8). GPS coordinates for the site are 34.3764, -81.3174. This Project Recreation Site is owned and operated by SCE&G.

PHOTO 8 HIGHWAY 99 WEST RECREATION SITE

Existing amenities at the site include three concrete boat ramps, one courtesy dock, two picnic shelters, five picnic tables, one grill, restrooms and primitive tent camping. The site also has a paved parking area with space for 80 vehicles with trailers. This site is unstaffed, free and open to the public year round.

5.2.3.2 PROPOSED ENHANCEMENTS

During relicensing, SCE&G agreed to improve the site by implementing the enhancements listed below. Enhancements will be completed according to the schedule found in Section 3.2. As mentioned, this site is being renamed the Highway 99 West Recreation Site. A map of the Highway 99 West Recreation Site that displays existing and proposed amenities is in Appendix B.

- Add one (1) fishing pier
- Improve boat ramp located in the cove to improve boat access and minimize or eliminate drop-off
- Change two (2) existing lights, one (1) near boat ramp/courtesy dock and one (1) near new proposed fishing pier from standard to flood type lights
- Pave access paths or build ramps and platforms to provide barrier free access to the courtesy dock, new fishing pier and restrooms
- Convert four (4) existing parking spaces into two (2) barrier free parking spaces
- Modify restrooms to allow year round access – add heat to restroom and/or water pump room

5.2.4 RECREATION LAKE ACCESS AREA

5.2.4.1 SITE DESCRIPTION AND EXISTING AMENITIES

The Recreation Lake Access Area, also known as the Monticello Sub-Impoundment or Ramp 3, is located on the Recreation Lake, adjacent to Lake Monticello, off Highway 99 in Fairfield County, South Carolina (Photo 9). GPS coordinates for the site are 34.3821, -81.3134. The site is owned and operated by SCE&G.

PHOTO 9 RECREATION LAKE ACCESS AREA – BEACH AREA

The site is composed of two distinct areas, including a boat ramp area that is open to the public year round and a beach area that is open to the public from April 1 through September 30. Amenities at the beach area include two picnic shelters, 24 picnic tables, seven grills, a beach, restrooms, and a 0.3-mile long hiking trail that connects the beach area and the boat ramp area. The beach area has a gravel parking lot with space for approximately 95 vehicles, including several unpaved, barrier free parking spaces. The boat ramp area includes a concrete boat ramp, a picnic table, restrooms and a gravel parking area with space for 10 vehicles with trailers. Both areas are unstaffed and free to the public.

5.2.4.2 PROPOSED ENHANCEMENTS

During relicensing, SCE&G agreed to implement the enhancements listed below at the boat ramp area of the Recreation Lake Access Area. Enhancements will be completed per the schedule found in Section 3.2. A map of the Recreation Lake Access Area that displays existing and proposed amenities is in Appendix B.

- Add one (1) courtesy dock

5.3 PROPOSED NEW PROJECT RECREATION SITES

5.3.1 HIGHWAY 99 EAST RECREATION SITE

5.3.1.1 SITE DESCRIPTION AND EXISTING AMENITIES

The Highway 99 East Recreation Site is currently an informal recreation site known as the Highway 99 Informal Access Area or the Highway 99 Informal Fishing Area. This site is located on the north side of Monticello Reservoir, off Highway 99 in Fairfield County, South Carolina (Photo 10). GPS coordinates for this site are 34.3766, -81.3077. SCE&G is proposing to formalize this site, making it an official Project Recreation Site, and rename it the Highway 99 East Recreation Site. SCE&G owns the proposed recreation site land, which is currently within the Project Boundary.

PHOTO 10 HIGHWAY 99 EAST RECREATION SITE

Currently, the informal recreation site is used primarily for bank fishing. The site provides a gravel parking area for approximately 20 vehicles, as well as shoreline access for bank fishing. Swimming is prohibited at this site and there are no tables or other amenities available. This site is unstaffed, free to the public and open year round.

5.3.1.2 PROPOSED ENHANCEMENTS

During relicensing, SCE&G agreed to formalize this site and implement the enhancements listed below. Enhancements will be completed per the schedule found in Section 3.2. A map of Highway 99 East Recreation Site that displays existing and proposed amenities is in Appendix B.

- Add one (1) fishing pier
- Add two (2) benches
- Add two (2) picnic tables
- Add two (2) lights on one pole, with one (1) light directed at the fishing pier and one (1) light directed at the parking area

5.4 NON-PROJECT RECREATION SITES

The following recreation sites are within the Project boundary; however, SCE&G is not responsible for operating and maintaining the following facilities. Under the new license, SCE&G will continue under its current lease or offer a new lease to the Fairfield County Recreation Commission (FCRC) for continued operation and management of a portion of the lands at the Scenic Overlook Recreation Site. However, SCE&G may elect to upgrade certain site facilities, as determined through relicensing stakeholder consultation and as discussed below.

5.4.1 SCENIC OVERLOOK – FCRC PORTION

5.4.1.1 SITE DESCRIPTION AND EXISTING AMENITIES

The FCRC operated and maintained portion of the Scenic Overlook is a non-Project recreation site located adjacent to the SCE&G-maintained portion of the Scenic Overlook, discussed in Section 5.2.1. This area is located on the eastern shore of Monticello Reservoir in Fairfield County, South Carolina. GPS coordinates for the site are 34.3240, -81.2856.

The FCRC-maintained site offers many amenities to the public, including tennis courts, a baseball field, a playground area, additional picnic shelters, a 1-mile hiking trail, and a community center. Additional gravel parking areas are available throughout the recreation site.

5.4.1.2 SCE&G-PROPOSED ENHANCEMENTS TO THE FCRC SITE

During relicensing, SCE&G agreed to improve certain facilities at the FCRC site, as listed below. Enhancements will be completed according to the schedule found in Section 3.2. A map of entire Scenic Overlook Recreation Site that displays existing and proposed amenities is in Appendix B.

- Pave one (1) barrier free parking space and access path at the restroom area (SCE&G will coordinate this improvement with the FCRC)

6.0 SUMMARY

Parr Reservoir and Monticello Reservoir support a wide range of public recreation activities through their Project Recreation Sites, including boat and bank fishing, swimming, camping, hunting, and picnicking. In the 2016 RUN Study, most people surveyed reported being satisfied with the condition, number and type of recreation facilities located at the Project.

As part of Project relicensing and after the issuance of the new license, SCE&G will continue to work to maintain and enhance the Project Recreation Sites. SCE&G plans to meet with stakeholders at regular intervals throughout the term of the new license to reevaluate recreation needs at the Project. Table 6-1 summarizes the proposed enhancements for each Project Recreation Site.

TABLE 6-1 SUMMARY OF PROPOSED ENHANCEMENTS FOR PROJECT RECREATION AREAS

PROJECT RECREATION SITE	PROPOSED ENHANCEMENTS
Parr Reservoir	
Cannon's Creek Recreation Site (existing site)	Install one (1) fishing pier
	Install one (1) courtesy dock
	Install two (2) additional lights, one (1) near road and one (1) near restroom
	Pave two (2) barrier free parking spaces and access paths to picnic area, fishing pier and restrooms, upgrade restroom to barrier free standards with new handle on men's room door and install new proper height toilet seats
	Install at least one (1) interpretive display on the cultural and historic resources of the Project area.
	Bring 4.43 acres of land into the Project Boundary.
Parr Shoals Dam Canoe Portage (proposed new facility)	SCE&G built an experimental canoe portage on the Newberry side of the Parr Shoals Dam. An approximately 1,600 ft. trail was cleared and appropriate signage was installed. Depending on usage and feedback from the agencies, SCE&G plans to formalize the canoe portage by bringing it into the Project boundary and maintaining it as an additional recreation facility.
Highway 34 Recreation Site (proposed new site)	Improve boat ramp - install geogrid and stabilize bank
	Grade and gravel to improve parking area
	Remove large trees that hinder vehicle access to ramp
	Install Recreation Sign on Highway 34 per FERC regulations

PROJECT RECREATION SITE	PROPOSED ENHANCEMENTS
	Bring into Project boundary, properties 211 parcel E (8.23 acres) and 285 parcel C (9.9 acres west of Railroad tracks) on Exhibit K-14 drawing
Enoree River Bridge Recreation Site (proposed new site)	Build canoe/kayak step down access within the PBL
	Install Recreation Sign on Maybinton Road per FERC regulations
Monticello Reservoir	
Scenic Overlook Recreation Site (existing site)	Add one (1) light at existing fishing pier
	Modify existing fishing pier for barrier free use, pave two (2) barrier free parking spaces and access path(s) to fishing pier
	Add two (2) new picnic tables
	Build one (1) barrier free shelter with one (1) barrier free picnic table, pave one (1) barrier free parking space and access path to new barrier free shelter
	Pave one (1) barrier free parking space and access path (SCE&G will need to coordinate this improvement with County)
Highway 215 Recreation Area (existing site)	Install at least one (1) interpretive display on the cultural and historic resources of the Project area.
Highway 99 West Recreation Site (existing site)	Add one (1) fishing pier
	Improve boat ramp in cove so it doesn't drop off
	Change two (2) existing lights, one (1) near boat ramp/courtesy dock and one (1) near new proposed fishing pier from standard to flood type lights
	Pave access paths or build ramps and platforms to courtesy dock, fishing pier & restrooms; and convert four (4) existing parking spaces into two (2) barrier free parking spaces
	Modify restrooms to allow year-round access - electricity exists in restrooms, so heat could be added in restroom and/or water pump room
Recreation Lake Access Area (existing site)	Install one (1) courtesy dock
Highway 99 East Recreation Site (proposed new site)	Add one (1) fishing pier
	Add two (2) benches
	Add two (2) picnic tables
	Add two (2) lights on one pole, one (1) light for fishing pier and one (1) light for parking area

APPENDIX A

CONSULTATION RECORD

MEETING NOTES

SOUTH CAROLINA ELECTRIC & GAS COMPANY
Recreation TWC Meeting

October 6, 2016

Final ACJ 10-28-16

ATTENDEES:

Bill Argentieri (SCE&G)
Ray Ammarell (SCE&G)
Beth Trump (SCE&G)
Brandon Stutts (SCANA)
Caleb Gaston (SCANA)
Randy Mahan (SCE&G)
Dan Adams (SCE&G)
Brandon McCartha (SCE&G)
Bill Marshall (SCDNR)
Dick Christie (SCDNR)
Gerrit Jobsis (American Rivers)
Jeff Carter
Billy Hendrix
Alison Jakupca (Kleinschmidt)
Henry Mealing (Kleinschmidt)

These notes are a summary of the major points regarding the Recreation Use and Needs Study presented during the meeting and are not intended to be a transcript or analysis of the meeting.

Alison Jakupca opened the meeting and noted the following goals for the TWC meeting:

- Review the results of the 2015/2016 Recreation Use and Needs Study (RUNS) as presented in the draft RUNS report.
- Review any TWC comments necessary to finalize the RUNS report.
- Create a list of measures, supported by RUNS study results, the TWC feels that SCE&G should consider as PM&E measures for the Settlement Agreement.

Alison provided the group with a presentation reviewing the Parr and Monticello RUNS study results. The presentation has been attached to these meeting notes for reference. The group discussed each recreation area included in the study and the use and user opinions documented for each site. Dick Christie noted that the use numbers documented in the study report appear to be higher than what may actually be occurring at the Project. Alison noted that the recreation days reported in the RUNS report were likely over-estimates due to the FERC-accepted methodology used to estimate recreation days. Traffic counter data, which was used to estimate recreation days, counts every vehicle that enters a site, even if that vehicle is just passing through and the individual(s) is not staying to recreate at the facility. This has the potential to provide high "use" numbers, especially at the sites with easy road access or double entrances/exits. Dick also added that there was very little detail in the report regarding the ADA/barrier free status of the facilities. Barrier free access information will be added into the RUNS report prior to finalizing it (action item). Several other TWC members provided additional report edits that will be captured in the final report.

Kleinschmidt

Although each recreation site was discussed and assessed for potential enhancement needs as presented below, there was extended discussion regarding the Enoree River Bridge Informal Access Area. This area is, in large part, located outside the Project boundary. TWC members emphasized the importance of this site for paddlers and the poor condition of this site as it currently exists. TWC members asked SCE&G to consider ways to support the effort to improve this site. SCE&G stated that development of this site would have to involve agreement by the U.S. Forest Service. Individual site recommendations by the TWC are further detailed below:

Monticello Reservoir:

Scenic Overlook:

- Lighting
- Additional Fishing Pier
- Additional Picnic Tables

Highway 215 Boat Ramp:

- Lighting on/near the dock and boat ramp
- Improve or repair existing boat dock

Highway 99 Informal Access Area:

- Fishing Pier
- Benches
- Picnic Tables
- Restroom (? - may not be possible due to access to utilities)
- Lighting (?)

Highway 99 Boat Ramp

- Improvement to boat ramp in cove – lower end of boat ramp drops off
- Year-round access to restrooms
- Lighting on ramp
- Fishing pier (SCDNR recommendation)

Recreation Lake:

- Regular maintenance and upkeep
- No new facilities or improvements recommended

Parr Reservoir:

Cannon's Creek:

- Boat ramp expansion and/or improvement
- Restroom improvements
- Fishing pier
- Courtesy dock
- Additional lighting

Heller's Creek:

- Boat ramp expansion or improvement to make more useful at low water
- Restroom improvements
- Fishing pier
- Courtesy dock
- Additional lighting

Highway 34 Primitive Ramp:

- Improve grading and boat launch
- Parking area improvements
- Remove large trees that hinder vehicle access to ramp

Enoree River Bridge Informal Access Area (non-Project):

- SCE&G to determine where Project boundary ends and work with the USFS to see if there are ways to improve access
- Non-motorized boat access - canoe/kayak step down facility
- Turn-around area
- Parking for 6 vehicles

Broad and Enoree River Waterfowl Areas:

- No new facilities or improvements recommended

Although not included in the RUNS study, the TWC discussed plans to bring the temporary downstream canoe portage around Parr Shoals Dam into the Project boundary as a formal facility. Bill noted that SCE&G plans to include the canoe portage in the Recreation Management Plan submitted to FERC as part of the new license.

SCE&G staff noted that they would review the list of PM&E measures developed for each recreation site to determine feasibility. Subsequent discussions on site improvements will take place with the TWC after SCE&G's review. Kleinschmidt will incorporate a "barrier free" assessment into the final RUNS report, along with other edits provided by the TWC. Once edits are incorporated a final report will be issued to the TWC and RCG.

The meeting adjourned and action items are listed below.

ACTION ITEMS:

- Kleinschmidt will prepare meeting notes for distribution to the TWC.
- SCE&G to review list of TWC recommended enhancement measures to determine feasibility.
- Kleinschmidt will include "barrier free" assessment in the final RUNS report.
- Kleinschmidt will incorporate edits provided by TWC members into RUNS report and finalize.

Parr Hydroelectric Project – Recreation Use and Needs Study

Draft Study Report Review Meeting

October 6, 2016

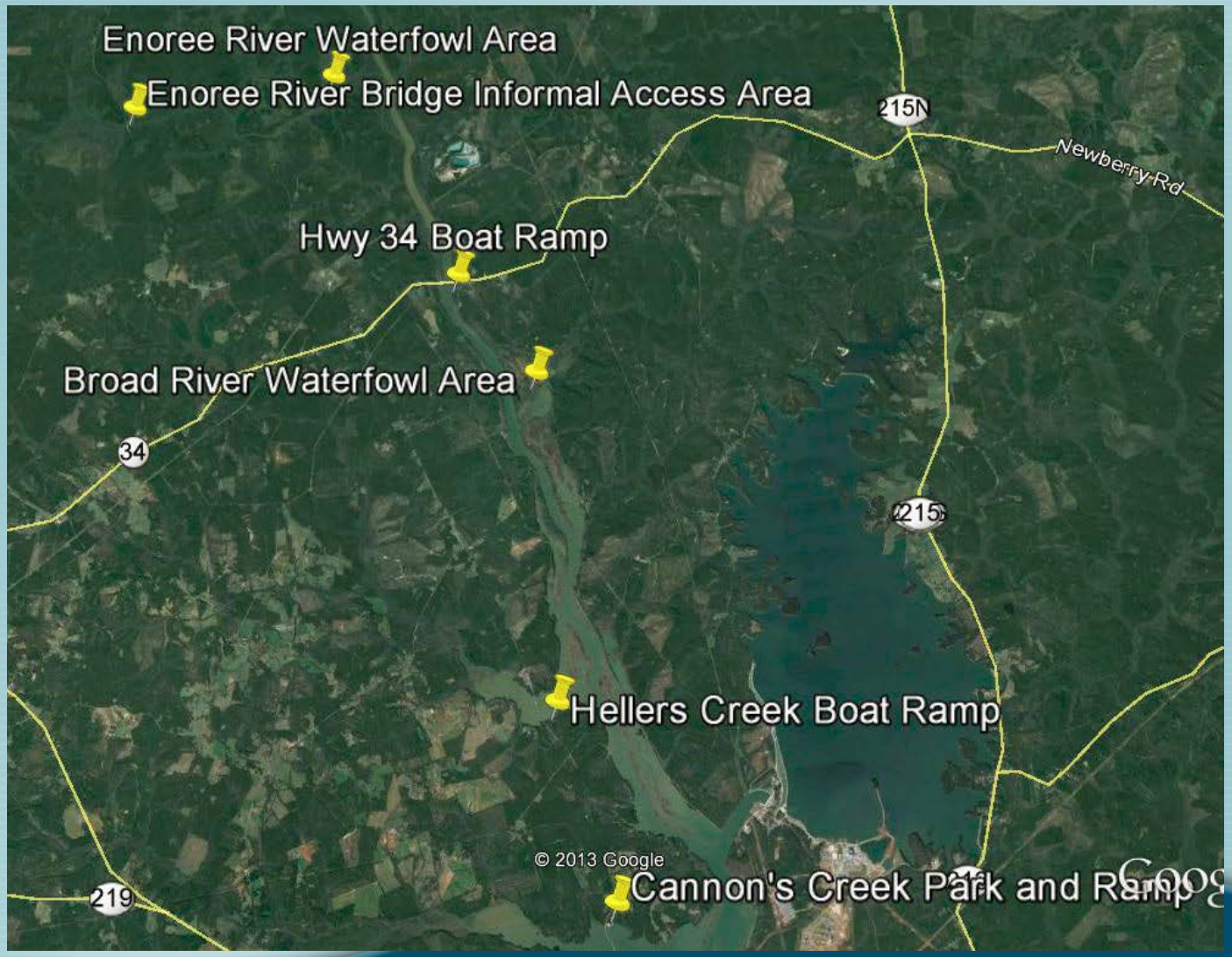
Kleinschmidt

Study Objectives

- Characterize the existing recreation use of the Project recreation sites (type, volume, daily patterns).
- Characterize use of waterfowl areas and SCE&G recreation lands by hunters.
- Identify future recreation needs at the Project.

Study Area - Monticello

Study Area - Parr



Assessment Metrics

Recreation Sites and Informal Areas	Project Facility	Site Inventory	Vehicle Counts	Exit Interviews	Mail-in Surveys	Spot Counts
Monticello Reservoir						
Scenic Overlook (SCE&G-maintained portion)						
Highway 215 Boat Ramp						
Highway 99 Boat Ramp						
Recreation Lake Access Area						
Highway 99 Informal Fishing Area						
Parr Reservoir						
Cannon's Creek Public Access Area						
Heller's Creek Public Access Area						
Highway 34 Primitive Ramp						
Broad River Waterfowl Area						
Enoree River Waterfowl Area						
Enoree River Bridge Informal Access Area						

Study Season

	Monticello Reservoir	Parr Reservoir/Enoree Waterfowl
Primary Site User Interviews	April 1 - September 7, 2015	April 1 - September 7, 2015
Waterfowl Mail-in Survey Distribution: Early Teal Season and Goose	September 11 - September 26, 2015	September 11 - September 26, 2015
Waterfowl Mail-in Survey Distribution: Duck and Canada Geese Seasons	November 21 – 28, 2015, December 12, 2015 - January 31, 2016	November 21 – 28, 2015, December 12, 2015 - January 31, 2016
Waterfowl Mail-in Survey Distribution: Late Canada Geese Season	February 14- February 29, 2016	
Early Crappie Season Site User Interviews	February 1 - March 31, 2016	

Overview: Monticello

- Use by local residents (Fairfield, Lexington, Newberry, Richland).
- Reason for choosing Monticello:
  - Close to home
  - Good fishing
- Island Use (15% of water recreators): bank fishing and camping.
- Early crappie season – March weekdays.

Monticello: Scenic Overlook

Monticello Reservoir: Scenic Overlook

- Amenities: Swimming, Restrooms, Barrier-free dock fishing, Bank fishing, Picnicking.
- Primary Activities: Bank fishing and pier fishing.
- Condition Rating: 4.42
- Crowdedness Rating: 2.08
- Density Rating: 8%(wd); 17%(we)

Monticello Reservoir: Scenic Overlook

- Facility/Amenity and Improvement Requests:
  - Fishing pier/dock
  - Picnic tables/shelter
  - Grills
- Other findings:
  - Monticello site receiving greatest amount of use.
  - High use during early crappie season.

Monticello: Highway 215 Boat Ramp

Monticello Reservoir: Highway 215 Boat Ramp

- Amenities: Boat Ramps; Courtesy Dock; Picnic Shelter.
- Primary Activity: Boat fishing
- Condition Rating: 4.44
- Crowdedness Rating: 2.42
- Density Rating: 62%(wd); 138%(we)

Monticello Reservoir: Highway 215 Boat Ramp

- Facility/Amenity and Improvement Requests:
  - Restrooms
  - Lighting
  - Dock improvements
- Other findings:
  - Monticello site receiving highest condition rating.
  - Supports high level of bank fishing (17% of use).

Monticello: Highway 99 Access Area

Monticello Reservoir: Highway 99 Access Area

- Amenities: Boat ramps (3); Restrooms; Courtesy dock; Picnic shelters, Picnic tables; Grill.
- Primary Activity: Boat Fishing.
- Condition Rating: 4.17
- Crowdedness Rating: 2.70
- Density Rating: 28%(wd); 49%(we)

Monticello Reservoir: Highway 99 Access Area

- Facility/Amenity and Improvement Requests:
  - Lighting
  - Restroom improvements/year-round access
- Other findings:
  - Overall, respondents did not feel any additional facilities were needed.
  - Highest crowdedness rating of all sites.
  - Waterfowl hunter access area.

Monticello: Recreation Lake Access Area

Monticello Reservoir: Recreation Lake Access Area

- Amenities: Boat Launch; Beach Area; Picnic Shelters; Grills; Hiking Trail; Restrooms.
- Primary Activity: Swimming, Boat Fishing.
- Condition Rating: 4.0
- Crowdedness Rating: 2.05
- Density Rating: 12%(wd); 38%(we)

Monticello Reservoir: Recreation Lake Access Area

- Facility/Amenity and Improvement Requests:
  - Picnic tables/shelters, parking
  - Restroom improvements/year-round access
  - Ice/vending/concessions
- Other findings:
  - Overall, respondents did not feel any additional facilities were needed.

Monticello: Hwy 99 Informal Fishing Area

Monticello Reservoir: Hwy 99 Informal Fishing Area

- Amenities: Shoreline access and parking area
- Primary Activity: Bank fishing
- Condition Rating: 4.24
- Crowdedness Rating: 1.90
- Density Rating: 62%(wd); 81%(we)

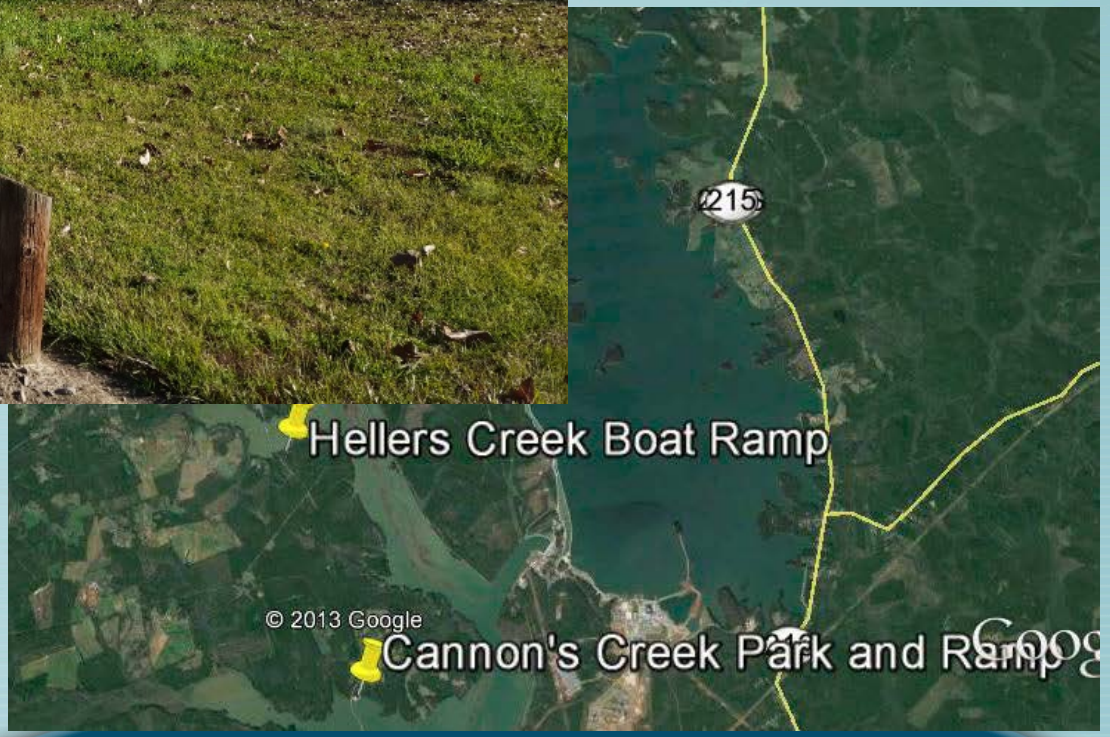
Monticello Reservoir: Hwy 99 Informal Fishing Area

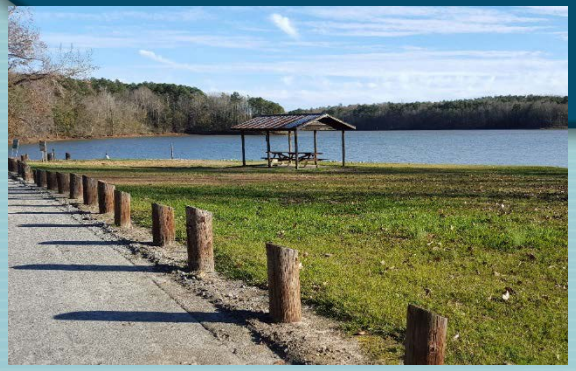
- Facility/Amenity and Improvement Requests:
  - Restrooms
  - Picnic tables/shelters, Trash cans, Water fountain
  - Fishing pier/dock
  - Benches/seating
  - Lighting
- Other findings: High use during early crappie season.

Overview: Parr

- Use by local residents (Newberry)
- Reason for choosing Parr:
  - Good fishing
- Water-based recreation activities (boat fishing and bank fishing)

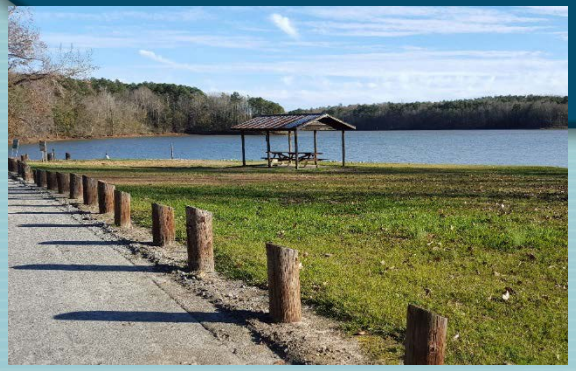
Parr: Cannon's Creek Public Access Area





Parr Reservoir: Cannon's Creek Public Access Area

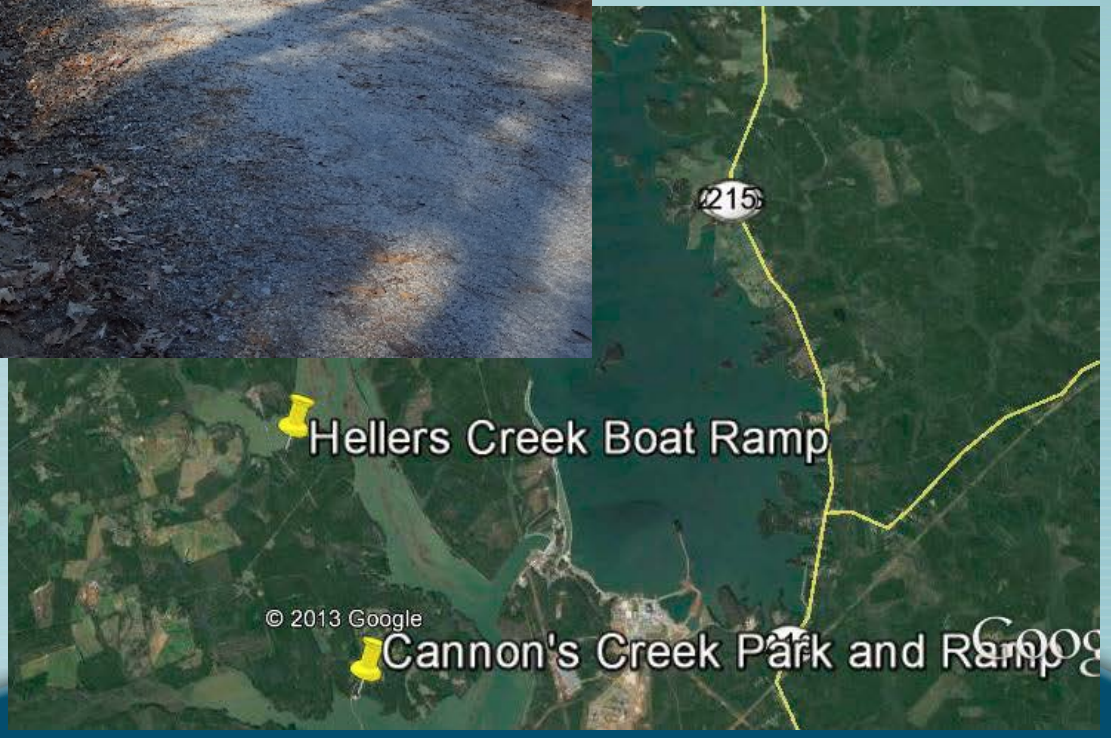
- Amenities: Boat launch; Picnic shelters; Grill; Restrooms.
- Primary Activity: Boat fishing
- Condition Rating: 3.95
- Crowdedness Rating: 1.93
- Density Rating: 28%(wd); 51%(we)



Parr Reservoir: Cannon's Creek Public Access Area

- Facility/Amenity and Improvement Requests:
  - Boat dock/Fishing pier, Boat launch
  - Lighting
  - Restroom improvements
  - Boat ramp improvements
- Other findings: Received highest use of Parr facilities.

Parr: Heller's Creek Public Access Area



Parr Reservoir: Heller's Creek Public Access Area

- Amenities: Boat launch; Picnic Shelters/tables; Restrooms.
- Primary Activity: Boat fishing
- Condition Rating: 3.81
- Crowdedness Rating: 2.31
- Density Rating: 18%(wd); 35%(we)

Parr Reservoir: Heller's Creek Public Access Area

- Facility/Amenity and Improvement Requests:
  - Boat dock/Fishing pier
  - Boat launch (44%)
  - Lighting
  - Restroom improvements
  - Boat ramp repairs
- Other findings:
  - Quite a few comments regarding access limitations (siltation).

Parr: Hwy 34 Primitive Ramp

Parr Reservoir: Hwy 34 Primitive Ramp

- Amenities: Parking and gravel/earthen boat ramp.
- Received approximately 16% of total use at Parr development sites.
- Other findings: Highly utilized by waterfowl hunters. Focus group attendees noted that they would like for this site to remain primitive.

Non-Project: Enoree River Bridge

Non-Project: Enoree River Bridge

- Amenities: Primitive ramp on USFS property.
- Estimated 1,342 recreation days based on vehicle traffic and an estimated 2.15 people per vehicle.
- April was the highest use month.
- Other findings: One of the primary sites used by waterfowl hunters (focus group results).
- Received approximately 5% of use experienced at three SCE&G maintained access areas.

Waterfowl Management Areas

Photo credit: Audubon.org

Waterfowl Management Areas: Monticello Reservoir

- Site Characteristics: Waters of Monticello Reservoir considered WMA; Available for hunting on Wednesdays and Saturdays.

- Use: Primarily Saturday use.

- Additional Findings: In general, no additional facilities or improvements were requested by Monticello Reservoir waterfowl hunters at focus group. Survey respondents requested additional lighting, bathrooms, deeper boat landing.

Waterfowl Management Areas: Parr Reservoir

- Site Characteristics: Portions of Parr designated as WMA and available for hunting Monday through Saturday.

- Use: Primarily Saturday use; Highway 34 and Enoree River Bridge Informal Access (focus group attendees).

- Additional Findings: High reporting of crowding. Requests for days/times to be limited.

Waterfowl Management Areas:
Enoree River Waterfowl Management Area

- Site Characteristics: Category II, Saturday AM only.

- Use: Estimated 263 recreation days during waterfowl season based on vehicle traffic and an estimated 2.15 people per vehicle.

- Additional Findings: DNR's estimated use was 131 people, which could indicate that people are traveling to the site individually.

Waterfowl Management Areas:
Broad River Waterfowl Management Area

- Site Characteristics: Category I WMA: draw-hunt site.

- Use: 7 lottery hunts and 1 youth hunt held in 2015/2016.

- Additional Findings: In general, users are pleased with this site. No additional facility/improvement needs noted.

Data Summary & Future Use

- Project is well used (152,709 recreation days).
- Populations projected to increase by 12.9 percent from 2015 to 2030 – Primary recreation activities anticipated to remain the same.
- Project recreation sites in good to very good condition (average Project rating of 4.17).
- Crowdedness ratings low to moderate.

Data Summary & Future Use

- Monticello:
  - Water-based recreation activities (boat fishing).
  - Island Use (15% of water recreators): bank fishing and camping.
  - Facility/Amenity requests: picnic tables, shelters, lighting, restroom improvements/access and fishing piers or docks.

Data Summary & Future Use

- Parr:
  - Water-based recreation activities (boat fishing and bank fishing).
  - Facility/Amenity requests: boat launching/docking facilities, additional lighting and restroom improvements.

Data Summary & Future Use

- Waterfowl Hunting Areas:
  - Project area well used by waterfowl hunters.
  - Primarily local residents (Monticello); residents of surrounding counties – Richland and Lexington (Parr).
  - Hunting pressure noted as the primary concern at Enoree Waterfowl Area and Parr Reservoir by waterfowl hunters.

PM&E Discussion

- What is requested?
- What is possible?
- What is appropriate?

MEETING NOTES

SOUTH CAROLINA ELECTRIC & GAS COMPANY
Recreation TWC Meeting

January 4, 2017

Final KMK 2-2-17

ATTENDEES:

Bill Argentieri (SCE&G)
Ray Ammarell (SCE&G)
Beth Trump (SCE&G)
Brandon Stutts (SCANA)
Caleb Gaston (SCANA)
Randy Mahan (SCE&G)
Dan Adams (SCE&G)
Brandon McCartha (SCE&G)
Tommy Boozer (SCE&G)
Bill Marshall (SCDNR)
Dick Christie (SCDNR)
Gerrit Jobsis (American Rivers)
John Fantry (Town of Winnsboro)
Henry Mealing (Kleinschmidt)
Alison Jakupca (Kleinschmidt)
Kelly Kirven (Kleinschmidt)

These notes are a summary of the major points presented during the meeting and are not intended to be a transcript or analysis of the meeting.

Alison opened the meeting and stated that the goal of the meeting is to review SCE&G's proposed recreation enhancements and move closer to a final proposal of enhancements for inclusion in the Recreation Management Plan (RMP). Prior to the meeting, Alison distributed a list of SCE&G's proposed recreation enhancements for the TWC to review. This list is attached to the end of these notes.

Alison directed the group to look at the first recreation site on the list, Cannon's Creek, and its associated proposed enhancements. The group also looked at Google maps to see where the proposed enhancements would be located at the site. Dick said that he noticed that boat ramp expansion, which was requested by the TWC, was not proposed by SCE&G at Cannon's Creek and at Heller's Creek and he wanted to know their reasoning for this. Ray said that it didn't look like a boat ramp expansion would be feasible at Heller's Creek because the cove is very shallow. Tommy added that the existing boat ramps are functional and in good shape at Cannon's Creek, so there didn't seem to be a need to upgrade. Alison said this request came from the open ended questions on the Recreation Use and Needs Study (RUNS) surveys. Some people suggested boat ramp expansion at all sites. Dick asked why a courtesy dock was not proposed by SCE&G at Cannon's Creek. Tommy said that part of the reason is due to the fluctuation in the reservoir. Due to flooding and fluctuations, a stationary or floating dock would be hard to manage and make durable. Bill M. said he has heard from the public that they are interested in seeing a courtesy dock at Cannon's Creek. Tommy said a courtesy dock could also introduce safety issues and in particular, might encourage kids to swim in the area although swimming isn't allowed at the site. Alison asked if the fishing pier could be used as a courtesy dock – a problem experienced at SCE&G dock sites on other reservoirs. And the dangers associated with jumping and diving from docks is especially

significant on reservoirs with frequent and significant water level fluctuations, as would be the case here. Henry said the fishing pier is going to be stationary and will have rails for safety, making it difficult to use as a courtesy dock. Dick said the fishing pier might be a good test for installing a stationary courtesy dock in the future and can be revisited 10 or 15 years down the road. Dick said he thinks the ADA proposals at Cannon's Creek are good.

Henry reminded the group that all of the proposed enhancements were the results of the RUNS survey findings. All of the enhancements suggested by the public were listed and then SCE&G visited each site and looked to see what made sense to add. They also made sure enhancements would be consistent with their safety plans.

The group then discussed the Heller's Creek site. SCE&G is not proposing any enhancements at this site. Bill M. asked if SCE&G had difficulty maintaining the boat ramp at this site. Tommy said the ramp extends a long way into the water, but the end stays covered in muck.

The group then discussed the proposed recreation enhancements at the Highway 34 primitive site. Alison said this site served purposes including providing access to duck hunters, canoers and kayakers. SCE&G is proposing to install all enhancements that were suggested by the public. Gerrit asked if graveling the parking lot after grading it is part of the plan. Tommy said yes. Gerrit asked that a gravel parking area be added to the list of enhancements. He also asked how much of the area around the recreation site is subject to fluctuations. He is concerned that the site remain accessible when the reservoir is down. Bill A. said they will need to bring more land into the Project boundary, since the site currently extends beyond the Project boundary line (PBL). This will also ensure that should the site be expanded in the future, the land already will be within the PBL, thereby avoiding having to make a separate application to FERC, potentially delaying plans to implement an expansion. Gerrit mentioned that this site would be a good location for primitive camping, especially with the additional land added to the PBL. This area would provide a place where people canoeing or kayaking down the Broad River could pull off and camp.

The group then discussed the Enoree River Informal Access Area. SCE&G is proposing to install all of the suggested enhancements except the turn-around area and parking for 6 vehicles. The area needed for these enhancements is outside of the PBL and SCE&G would need to gain permission from the US Forest Service and Department of Transportation to bring this land into the PBL for building the parking area. Henry added that should FERC approve the site and require a parking area, SCE&G might consider a phased approach, installing the step-down area first, and then working on parking later during the new license.

Gerrit asked if part of the proposal for the Enoree River and Hwy 34 informal sites is to install signage. He said that many people don't know the sites are there, especially Enoree. Henry said that these sites would become "formal" sites and Part 8 signage would likely be required by FERC at all of the recreation sites.

At the Broad River and Enoree River Waterfowl Areas, no changes are being proposed. These sites are largely outside of SCE&G's control, since they are managed by SCDNR.

The group then discussed the proposed enhancements at the Scenic Overlook. Alison said SCE&G plans to modify the existing fishing pier to make it ADA compliant. Bill A. said that a principal reason SCE&G isn't building an additional fishing pier is that the existing one already is quite large

and thus able to accommodate more usage than presently occurs. SCE&G believes the better direction to go is towards making the pier ADA accessible. Henry noted that as part of the Monticello Reservoir Fish Habitat Enhancement Plan, fish attractors will be added in that area of the reservoir, in an effort to enhance fishing opportunities at the pier. Dick said that he was pleased with these suggested improvements. Ray noted that the pier would be altered to include ADA improvements.

At the Hwy 215 site, Bill said that although the addition of lighting was suggested by the public through the RUNS surveys, lighting is already installed at the site. Therefore, they are not suggesting any improvements at this site.

At the Hwy 99 Informal Access Area, SCE&G is proposing to install a fishing pier, benches, picnic tables and lights but not a restroom. Through the Monticello Reservoir Habitat Enhancement Program, fish attractors will also be installed in this area of the reservoir in an effort to enhance fishing opportunities.

At the Hwy 99 boat ramp, SCE&G is proposing to install all of the suggested improvements, including a fishing pier, improvements to the existing boat ramp, lighting on the boat ramp, and year round access to the restrooms. The group agreed that all of these proposed enhancements were sufficient.

SCE&G is not proposing any improvements at the Recreation Lake. This site is already well used and provides many facilities to the public. When the public was questioned about the need for additional facilities at this site, they indicated that no additional facilities were needed.

Henry said that ADA improvements will be made at Cannon's Creek, the Hwy 99 boat ramp and the Scenic Overlook. He said that ADA improvements will be made according to current ADA guidelines.

The group discussed the need to develop a schedule for installing the enhancements and maps that indicate where the proposed enhancements will be installed. This information will be used in the Recreation Management Plan. SCE&G suggested that since they are proposing to enhance 6 sites, they would like to be able to enhance one site every two years, resulting in all site enhancements being completed in 12 years. SCE&G proposes that the stakeholders decide site enhancement priority. Dick said he would also like to see another RUNS completed at some point during the new license, and if not a full RUNS, then a recreation study more thorough than the data collection associated with the FERC Form 80.

The group took a break and the stakeholders met separately to discuss the enhancements, schedule and site priority.

When the group reconvened, Dick said that they agree with everything that SCE&G has proposed, but in addition, they would like SCE&G to reconsider adding a courtesy dock to Cannon's Creek. Gerrit said that Rosewood Landing, located on the Congaree River, has a floating dock that accommodates changing elevations and flows. Something similar to that dock could be implemented at Cannon's Creek. Henry said that there is still the safety issue with the courtesy dock at this location – with fluctuating water levels and people potentially jumping or diving off the

end of the dock into an unknown depth of water, to tragic effect. It might also be difficult to keep in place and protect from significant damage during high water events.

The group then discussed the stakeholders suggested schedule and priority ranking. Dick said the stakeholders agree to completing one site every two years but would like to see the Enoree River site and Hwy 34 site be completed at the same time. Their site priority is as follows:

1. Hwy 34 and Enoree River
2. Cannon's Creek
3. Hwy 99 Boat Ramp
4. Hwy 99 Informal Site
5. Scenic Overlook

Dick said that if SCE&G does not agree to completing Hwy 34 and Enoree River at the same time, then Hwy 34 would be priority 1 and Enoree River would be priority 2. (After the meeting, Gerrit stated in an email that American Rivers does not support SCE&G completing these sites separately.)

Dick said they would also like to see a new RUNS be completed approximately 12 years after the license is issued. It will take 10 years to complete all of the site enhancements and the study can be initiated two years after that. When SCE&G does the RUNS, Dick suggests that a stakeholder group convene and discuss the results and the RMP. He suggested that this cycle repeat itself every 12 years, synching up with the Form 80 cycle, throughout the license term.

Bill A. said that they currently do a Recreation Assessment at the Neal Shoals Project, which is a slightly less intense study than a RUNS. The license states that a Recreation Assessment be performed on year 10 and year 20 of the 40 year license. Is this something the stakeholders think could work for the Parr Project? Dick said that the most recent RUNS was completed at Parr in 2015 and he would like to limit how long it will be before another RUNS is done. The group discussed the timing of the next RUNS and how it would depend on how long it takes to receive the new license from FERC. They also discussed the need for a RUNS versus a Recreation Assessment. Dick suggested that a Recreation Assessment be completed soon after the enhancements are completed and then a bigger RUNS be completed further into the license term. The group agreed to perform a Recreation Assessment 2 years after the final improvements are implemented and include an Adaptive Management Plan (AMP) section in the RMP including a second and possibly third assessment depending on the length of the license.

Gerrit asked that a maintenance schedule be created to ensure the proposed Hwy 34 improvements are maintained. He said this site can be greatly affected by flooding events and he wants to ensure that the site remain operational throughout the new license term. Tommy said that it will be added to the list of other sites that are monitored each month. Gerrit said he would like for the site studied beyond just monthly monitoring. He would like to see data collected, including measuring sediment buildup with a rod and documenting the site with pictures. Henry said this could be addressed in the site design and within the first year after construction to determine if there are going to be problems maintaining this site.

SCE&G and Kleinschmidt will develop a strawman of the RMP for the group to review. The strawman will include the proposed recreation enhancements, timeline, draft maps of each site with proposed enhancements, maintenance schedule for each site, and AMP wording.

Henry asked, if SCE&G management does not approve building a courtesy dock at Cannon's Creek - will this be a "deal breaker" for SCDNR. Bill M. said they just want the improvement to be reconsidered because he believes the public could find use in this addition, however he doesn't see it as a deal breaker.

After discussion of the recreation enhancements wrapped up, Alison said there were a few outstanding items regarding the Project Shoreline Management Plans that she would like to discuss. Alison said that she would incorporate wording into the Parr SMP on camping at recreation sites. She also asked if SCDNR had come to a decision regarding the parcel of land adjacent to the Fairfield tailrace. Bill M. and Dick said they have discussed this piece of land and between the two of them, they are okay keeping this parcel classified as future recreation. There would be no public hunting on this land, but it would continue to be classified as future recreation. They said they would need to get a final decision from Bob Perry however and Bill M. said he would try to get an answer from him by the end of January.

Alison said she would also edit the SMP maps to include the Enoree River Informal Access Area. Gerrit asked if there should be an exclusion zone for camping at the recreation sites. He thought that camping should not be done near parking lots or boat ramps. Alison said she would add wording to the SMPs to limit camping at the sites to not longer than 7 days and not within 100 feet of a boat ramp.

Action items from the meeting are listed below.

ACTION ITEMS:

- Kleinschmidt will prepare meeting notes for distribution to the TWC.
- Alison will add a gravel parking area to the list of proposed enhancements for the Hwy 34 site.
- Kleinschmidt and SCE&G will work together to develop a strawman RMP to include the proposed recreation enhancements, timeline, draft maps of each site with proposed enhancements, maintenance schedule for each site, and AMP wording for periodic assessments.
- SCE&G will discuss with their management adding a courtesy dock at Cannon's Creek and combining the Enoree River Informal Site and Hwy 34 site for improvements during the same year.
- Alison will edit the Parr SMP to include wording on camping at the recreation sites, including how long camping is allowed (no longer than 7 days) and how far camp sites must be from boat ramps (100 feet).
- Alison will edit the Parr SMP map to include the Enoree River Informal Access site.

MEETING NOTES

SOUTH CAROLINA ELECTRIC & GAS COMPANY
Joint RCG Meeting

March 28, 2017

Final KMK 05-02-17

ATTENDEES:

Bill Argentieri (SCE&G)
Ray Ammarell (SCE&G)
Randy Mahan (SCE&G)
Beth Trump (SCE&G)
Caleb Gaston (SCE&G)
Pace Wilber (NOAA) via conf. call
Melanie Olds (USFWS)
Rusty Wenerick (SCDHEC)
David Eargle (SCDHEC)
Alex Pellett (SCDNR) via conf. call
Dick Christie (SCDNR)
Bill Marshall (SCDNR)
Ron Ahle (SCDNR)
Lorianne Riggin (SCDNR)
Gerrit Jobsis (American Rivers)
Bill Stangler (Congaree Riverkeeper)
Henry Mealing (Kleinschmidt)
Alison Jakupca (Kleinschmidt)
Kelly Kirven (Kleinschmidt)

These notes are a summary of the major points presented during the meeting and are not intended to be a transcript or analysis of the meeting.

Henry opened the meeting with a safety moment and introductions. The purpose of the meeting was to review the Protection, Mitigation and Enhancement (PME) measures identified thus far throughout relicensing, and to discuss any new PME measures that stakeholders may propose. Specifically, the purpose of this meeting was to discuss environmentally related PMEs; a second meeting was scheduled for March 30th to discuss recreation and shoreline related PMEs. Henry said that SCE&G's goal is to file a settlement agreement with FERC at the same time that the Final License Application (FLA) is filed. Also, when the Draft License Application (DLA) is filed with FERC later this summer, SCE&G would like to include as many PMEs as possible, so that stakeholders have an opportunity to comment on them.

A PME memo was distributed to stakeholders prior to the meeting that listed all of the previously identified PME measures and SCE&G proposed response. The PowerPoint presentation that was used during the meeting is attached to the end of these notes.

Monticello Fish Habitat Enhancements

Due to poor habitat along the shoreline and reservoir fluctuations, stakeholders requested that SCE&G make efforts to enhance aquatic habitat in Monticello Reservoir. SCE&G is proposing to enhance spawning, juvenile and adult fish habitat in the reservoir. This will also help to offset entrainment losses by increasing fish recruitment and attracting fish to another area of the reservoir, away from the intake area. Bill M. asked if there were plans for a long term maintenance of the

program. Juvenile and adult enhancements are made of materials that will last for 40 years and will have no long term monitoring, but spawning enhancements will be monitored and adjusted as needed during the first 5 to 10 years of the new license. Bill A. said that after the enhancement is installed, for compliance purposes, the PME will be complete. He said that we won't be putting in trees or other substances that will decay fairly quickly over time, so maintenance shouldn't be needed. He added that if SCDNR wants to add trees to the reservoir, they are welcome to do so. Henry said that this enhancement plan was included in the Final Reservoir Fluctuation Report. He noted that this and other Adaptive Management Plans (AMPs) will be sent back out to the TWCs this summer to revisit and approve.

West Channel Water Quality Enhancements

Low dissolved oxygen (DO) was found to occur in areas within the west channel downstream of Parr Shoals Dam, so SCE&G is developing an AMP to address this issue. The AMP will be provided to the Water Quality TWC within the next month for review and comment. Gerrit asked about the success criteria for monitoring. Henry said that from SCE&G's standpoint, success would be to meet the state standard for DO. Gerrit asked to see the locations for monitoring DO in the west channel. Henry said that Ron Ahle stated in a previous meeting that he would provide a grid of random sampling locations for monitoring. When SCE&G receives this, it will be included in the AMP. Generally, monitoring will occur at the upper and middle portions of the west channel, but not at the lower section, where the west channel converges with the east channel.

Turbine Venting Plan

Rare occurrences of low DO were identified in the tailrace of Parr Shoals Dam. SCE&G determined that venting the turbines could increase DO slightly, so they developed a plan to vent turbines during the low DO season, generally from June 15 through August 31. Dick asked if there will be an AMP component the Turbine Venting Plan. He said that the window has already been extended through August and it may need to be extended even further if the low DO season shifts over the next 30-50 years. Henry said we will add a line into the Turbine Venting Plan to allow for the possibility of extending or adjusting the venting window if low DO becomes an issue outside of the existing window.

David Eargle asked if venting caused any issues within the Project. Bill A. said that venting does create a loss in efficiency and maybe some additional wear and tear on the turbines. He added that SCE&G is replacing the bearings on the turbines to make them more durable, which may actually allow for more air intake and thus making venting unnecessary.

American Eel Monitoring

During the American eel study that was conducted as part of relicensing, a small number of eels were caught/observed downstream of Parr Shoals Dam. NOAA Fisheries asked SCE&G to conduct monitoring during the term of the new license to see if eels were moving up the Broad River to the base of the Parr Shoals Dam. Monitoring will be based on the number of eels passed at the St. Stephen Fish Lift and will only include electrofishing methods.

Melanie said that she is concerned about the frequency of monitoring. She said that 10 years might be too long between studies, and there is the possibility that the trigger to increase monitoring to

every 5 years could be hit soon after the 10 year monitoring mark. She said that the first 10 year interval may be okay, but after that waiting another 10 years may be too much. Bill A. said that this plan hasn't been completely drafted yet, so we can adjust the frequency. Melanie suggested that the plan allow for monitoring every 10 years or after "X" amount of eel passage occurs at a downstream dam.

Gerrit questioned the method of using only electrofishing to survey eels. Is electrofishing alone enough to accurately document the population? Henry said that in our studies, other gear types weren't effective and electrofishing was the only successful method downstream of the dam. The goal is to detect an increase in numbers of eel that justify passage upstream. Melanie suggested that open wording be used in the plan to allow for the use of new technology that may be available in the next 30-50 years.

Dick noted that the new license for Santee Cooper (issuance is pending) includes a fish passage component that might change things. Maybe this could be used as a check point. After fish passage is installed at Santee Cooper, revisit the eel monitoring efforts at Parr.

Kleinschmidt will draft up an American eel monitoring plan and send it to stakeholders for review.

Downstream Flow Fluctuations

Stakeholders requested that SCE&G work to reduce downstream flow fluctuations year round and during spring spawning. SCE&G has identified several ways to accomplish this and will develop an AMP for this issue. Bill A. said he would like the AMP to account for a meeting each year to discuss the spring spawning flow stabilizations and a second meeting to discuss the year round flow stabilizations. He asked the group if this would be too many meetings. Dick said the meetings could be combined and that the AMP can be written to allow for flexibility with meeting. Melanie added that a two week window in the January timeframe should be included each year for agencies to give input on monitoring. SCE&G plans to have someone on site 24 hours a day for the two 14-day monitoring events to make hourly adjustments to the crest gates as needed.

Generator Upgrade at Parr Shoals Development

SCE&G plans to upgrade the generators so that the turbines can pass more than 4,800 cfs, which is currently the maximum amount of water they can pass with current generator limitations. Ray said SCE&G would like to be able to increase this to 6,000 cfs, and also pass higher inflow through the turbines and reduce downstream flow fluctuations due to crest gate operation. Ray said they are still evaluating this, but they should have a decision on this by the time the DLA is issued.

Gerrit asked about the timeframe for making a definite decision on generator upgrades. Bill A. said this has to be in the FLA, so 2018 at the latest. Gerrit asked if there will be a net generation benefit. Ray said, yes, they should be able to pass more water through the powerhouse instead of spilling it.

Santee Basin Accord

SCE&G is a signatory to and active participant in the Santee River Basin Accord for Diadromous Fish Protection, Restoration, and Enhancement (Accord) and will continue to be involved in this program. Bill S. asked how the flooding issues at the Columbia Hydro Project will affect the

Accord, since fish passage at Parr is based on passage numbers from Columbia. The City of Columbia could forfeit their license and the project could be decommissioned. What would happen to the license requirement of monitoring the fish passage facility? If there is no monitoring, would new triggers for fish passage at Parr be developed? Dick said that monitoring is a big responsibility and so is keeping the fishway operating, and he doesn't know if a state agency could take on this responsibility. No one knows exactly what will happen at Columbia in the future.

Henry suggested that the agencies discuss this with the Accord members and see if they have a suggestion.

Downstream Navigation Flows

SCE&G completed navigation surveys at two ledge sites identified by the stakeholders as points of constriction in the Broad River. The surveys concluded that 700-1000 cfs is needed to safely navigate the two ledges. Gerrit said that American Rivers submitted written comments on this study and said that according to the navigation criteria included in the study plan, a flow of 1000 cfs is needed for navigation. Henry stated that the 700 cfs flow creates a channel over 60 feet wide and that a canoe, kayak, or jon boat should be able to navigate the most constricted ledge even if this doesn't strictly meet the criteria. Henry also noted that the criteria isn't a state statute but a recommendation from SCDNR.

Bill M. said that the Bookman Island complex is very complicated and navigation can be tricky. He asked if information is going to be provided that shows the best route to navigate the complex. Henry said that once minimum flows are settled, anyone who is interested will be invited to boat the area to verify navigation. He also said that a map that shows navigation routes will be developed and posted on SCE&G's website for public use.

Downstream Minimum Flows

SCE&G plans to propose a continuous minimum flow for the new license. The Instream Flows TWC is still actively discussing what the new minimum flows should be. The TWC has agreed that there should be three flows, including a spring spawning flow, a transitional flow, and a low flow for summer months. SCE&G has been gathering additional information since the last TWC meeting and will distribute this information to the stakeholders soon. Stakeholders will have an opportunity to meet outside of the TWC to discuss this information, and then the entire TWC will reconvene to discuss and hopefully negotiate and agree to the three flows.

Dick said that since the last TWC meeting, SCDNR has internally discussed the possibility of having target flows and compliance flows, and giving SCE&G an "incentive" to meet the target flows. If flows aren't met for a certain period of time and are off by a certain amount, SCE&G would have to provide some sort of mitigation.

Gerrit said that the real goal is not to put SCE&G in a compliance bind, but to implement flows that will benefit the river as much as possible. He said if rules are developed that provide better downstream flows, instead of hard numbers for flows that might be more beneficial. He agrees with SCDNR's idea to provide an incentive/mitigation for meeting target flows.

The TWC has discussed possibly using the daily average of the previous day's inflow to develop a target for the following day's minimum flow, as suggested by Melanie at the previous TWC meeting.

Bill M. asked if there would be a low inflow protocol (LIP). Bill A. said that part of the new minimum flow proposal would be to take the place of a LIP. Ray said the compliance flow would be adjusted down until it hits inflow. A LIP can be cumbersome and it would be easier if it is built into the daily flow. Gerrit said he is optimistic that minimum flows can be agreed on, especially looking at how well things worked out during the Saluda relicensing. Melanie said that compliance flows could be set and target flows could be very adaptive. And flows could be readjusted through meetings if habitat goals are not met. Ron said that could mean a lot of field work and Melanie said it doesn't have to be done on a yearly basis. Henry reminded the group that this Project does not have a storage reservoir to supplement low inflows so future adjustments of flows may be limited. He also noted that the biggest driver for annual flows would be the basin hydrology – high, medium, or low water years as this changes from year to year.

Gerrit said that the way he understands the state law, the minimum flow applies to a section of river downstream of the Project. If an entity is withdrawing water downstream, such as the Town of Winnsboro, the withdrawal could bring a section of the river out of compliance during low flow periods. Either the Town of Winnsboro can only withdraw water when river flow is above some minimum flow, or SCE&G must release more water to make up for the Town of Winnsboro's withdraws. This is something for SCDHEC to consider as they approve withdrawals.

Dam Removal in the Broad River Basin

Henry said that American Rivers presented the idea of SCE&G funding dam removals in the Broad River Basin early on in the relicensing. At this time, SCE&G is not proposing this as a PME measure.

Gerrit apologized for not providing information earlier, but is prepared to discuss this items further. He said that Parr Reservoir impounds 15 miles of the Broad River. Fluctuations in the reservoir and downstream cause impacts to aquatic habitat and recreation, and none of the proposed PMEs offset these impacts. He would like SCE&G to create a fund for dam removals, which would create riverine habitat in the basin to offset impacts to the Broad River. He would also like SCE&G to create new recreation resources to offset recreation impacts.

Gerrit provided the following requests to SCE&G:

- Recreation Enhancement – To offset impacts to water based recreation from the combined operation of FPSP and PSP, SCE&G will:
    - Provide funding and donate land for a non-motorize boat launch on the west bank of the Broad River in the vicinity of Haltiwanger Island;
    - Provide funding to develop a website that promotes recreation opportunities at the Broad and Enoree rivers in Richland, Lexington, Fairfield, Newberry, Laurens and Union counties;
    - Provide funding for developing, printing and distributing high quality, waterproof paddling maps for the Broad and Enoree rivers in Richland, Lexington, Fairfield, Newberry, Laurens and Union counties.

Decisions for how the funds are to be spent will be determined by a fiduciary board consisting of representatives of SCE&G, SCDNR, USFWS, Congaree Riverkeeper and American Rivers.

- Aquatic Habitat Enhancement - To offset impacts to aquatic habitat from the combined operation of FPSP and PSP, SCE&G will:
    - Provide funding for voluntary dam removals or floodplain restoration in the Broad, Congaree and lower Saluda watersheds
    - Fund at a rate of $135,000 per year in 2017 dollars. This amount is based on an average cost of approximately $410,000 per dam removal in 2017 dollars and the expectation to remove one dam for every three years of the license term.

  Decisions for how the funds are to be spent will be determined by a fiduciary board consisting of representatives of SCE&G, SCDNR, USFWS, NMFS, Congaree Riverkeeper and American Rivers.

Henry mentioned that during the Recreation Use and Needs Study, the public did not indicate that there was a need for additional recreation opportunities downstream of the Project. Paddling enhancements were requested and are being addressed by enhancement of the Enoree River Bridge Recreation Site and Highway 34 Recreation Site. Alison J. said that only four people responded to the Recreation Flow Survey and the results didn't indicate a need or interest in additional downstream recreation. Bill A. said that if a recreation site were built outside of the PBL, FERC might want this land to be included in the PBL, and this is a concern for SCE&G. Bill A. asked Bill S. if he talked with SCE&G's Land Department to see if they would be interested in donating a piece of land for recreation, outside of the relicensing process or municipalities that would be interested in building and maintaining a recreation site. Bill S. said he hasn't talked with either of them yet.

Bill A. said that regarding the recreation maps, SCE&G is willing to develop these and house them on their existing website. Gerrit said that would be acceptable, or even house them on a separate website and just include a link on SCE&G's website. Gerrit said the maps could include information on safety, species in the area, and cultural connections in the area to educate recreators. Gerrit said he would provide examples.

Bill A. asked Gerrit if there are potentially 12 or more dams identified within the area that need to be removed. Gerrit said these are voluntary removals and approximately 40 dams have been identified in South Carolina. Once a dam is identified, American Rivers would approach the dam owner to see if they are interested in dam removal. He said they don't have any dams identified as ready for removal currently because there is no funding source. However, if funding becomes available, dams can be identified. Gerrit said he would provide a list of dams in the Broad River Basin and Congaree River tributaries that would be eligible for removal. Rusty said that maybe an application process could be implemented, where people can apply to have their dams removed. He said the SCDHEC dam safety program has lots of staff now, so they might be able to provide assistance.

Bill A. asked what is involved with a dam removal; what types of tasks would the money be used to fund? Gerrit said that the money would be used to fund things such as design engineering, in-channel work, planting, contaminant analysis with sediment sampling, construction/demolition, and permitting.

Ron said that if small dams are removed, there may not be a lot of benefit, but if there is one big dam removal, it might be more beneficial. He said there is so much variability in dam size, the rate of one dam removal for every three years can be confusing. Gerrit said he would like the funding level to be at one dam removal every three years, however, the program might not necessarily take out one dam every three years. A fiduciary committee would determine the best use of money. The committee may elect to save up for many years to provide funding for one large dam removal.

Other PMEs

At the end of the meeting, Henry asked the group if there were any other PMEs they would like to discuss that had not previously been brought to the table.

Ron said that on the Recreation Lake, the boat ramp is very narrow and is bordered with rip-rap, making it very hard to launch a boat. He said that you have to walk out on the rip-rap, which can be dangerous. Ron asked that a courtesy dock be constructed at this boat ramp.

Ron also said that he would start a baseline study on fisheries in the west channel. He will put together a study proposal with the intention of starting the study this year. He plans to conduct three samples per year for two years to establish the baseline, and repeat the study again as changes are made. He also said he will provide the grid for sampling DO in the west channel, as he indicated at a previous meeting.

Bill M. said that SCDNR has been considering the unavoidable impact to aquatic resources in Parr Reservoir and the unavoidable impacts to the downstream area from flow fluctuations. While SCE&G is trying to minimize flow fluctuations, there will still be some fluctuation that will never be completely eliminated. In response, the PME measure that SCDNR has considered is establishment of a funding mechanism for various programs. He said that SCE&G could provide funding for an existing mitigation and enhancement program such as the Broad River Mitigation Trust Fund or the Santee Accord, or create a new in-license habitat enhancement program that would focus on the entire watershed.

SCDNR is also considering the effects of entrainment. They will continue to discuss how to reduce the impacts of entrainment with SCE&G, including the presence of lights or other “bells and whistles” to scare fish away. Bill M. said that some entrainment studies at other projects have shown that one intake may draw more fish in than others, so making operational changes may help reduce entrainment.

Bill A. said that SCE&G is already planning to make operational changes to reduce downstream flow fluctuations. If SCE&G was to create a fund, would they then not need to implement the operational changes? SCDNR seeks to avoid or minimize impacts as the initial steps of mitigation, and the operational changes are expected to reduce impacts but not eliminate them. Bill M. said there will still be some unavoidable fluctuations that will happen, and the fund will be to address these unavoidable impacts.

Melanie said that she didn’t see any PMEs that would monitor changes downstream after new minimum flows and reduced flow fluctuations are implemented, such as the mussel population. She said that monitoring could be tied back to the fund that SCDNR is proposing.

Caleb said that requesting funding for external goals should not be considered. Instead, any amount of money contributed to a fund should be based on losses from the Project. Gerrit said that he believes his proposal for contributions to dam removal is reasonable. He estimated that habitat and other losses from the Project are approximately $96 million due to the impoundment of 15 miles of the Broad River by Parr Reservoir. Henry said that number would be based on pre-Project impacts, for which SCE&G has already mitigated during the Project's re-development. Bill S. said that he thinks there is a benefit in the flexibility of having a fund that will address all of the various unavoidable impacts.

Bill A. suggested that the group hold a meeting to discuss these new PM&E measures, such as a habitat enhancement fund, future entrainment studies, and monitoring studies. The stakeholders need to provide specifics for each of these prior to the meeting so that they can be reviewed and considered with SCE&G management.

With that the meeting adjourned. Action items from this meeting are listed below.

ACTION ITEMS:

- Kleinschmidt will send out the Final Reservoir Fluctuation Report to the TWC for another review.
- Kleinschmidt will add wording to the Turbine Venting Plan to allow for an adjustment of the turbine venting window in the future, if determined as necessary.
- Stakeholders (specifically NOAA and USFWS) to provide comments on what they would like to see in the American Eel Monitoring Plan. Kleinschmidt will use these comments to develop a plan and distribute to Fisheries TWC for additional comments.
- Kleinschmidt will send out the West Channel AMP draft ASAP.
- Once minimum flows are established, SCE&G and Kleinschmidt will schedule demonstration flows, and invite stakeholders to boat the river to verify navigation.
- SCE&G and Kleinschmidt will distribute the additional information on minimum flows ASAP. Stakeholders are encouraged to meet separately and discuss this information. SCE&G will then schedule an Instream Flows TWC meeting to discuss minimum flows.
- Bill Stangler will talk to SCE&G's Land Department to discuss the donation of land and to municipalities for developing and maintaining a recreation site on the Broad River, downstream of the Project.
- Gerrit will send some example recreation maps, similar to what he would like SCE&G to develop for the Project. Gerrit will also send a fact sheet on dam removals, a list of dams identified for removal in South Carolina, and information on removed dams.
- Ron will provide the sampling grid for the West Channel AMP.
- SCDNR, USFWS and other stakeholders will send in specifics for a habitat enhancement fund, future entrainment studies, and monitoring studies prior to the next meeting.
    - USFWS to provide specifics for a Mussel Monitoring Plan – where, when, how, why, who and what is the goal?

MEETING NOTES

SOUTH CAROLINA ELECTRIC & GAS COMPANY
Joint RCG Meeting

March 30, 2017

Final KMK 05-02-17

ATTENDEES:

Bill Argentieri (SCE&G)
Ray Ammarell (SCE&G)
Randy Mahan (SCE&G)
Beth Trump (SCE&G)
Corbin Johnson (SCE&G)
Tommy Boozer (SCE&G)
Billy Chastain (SCE&G)
Dan Adams (SCE&G)
Brandon McCartha (SCE&G)
Caleb Gaston (SCANA)
Brandon Stutts (SCANA)
Melanie Olds (USFWS)
Dick Christie (SCDNR)
Bill Marshall (SCDNR)
Alex Pellett (SCDNR) via conf. call
Rusty Wenerick (SCDHEC)
David Eargle (SCDHEC)
Gerrit Jobsis (American Rivers)
Henry Mealing (Kleinschmidt)
Alison Jakupca (Kleinschmidt)
Kelly Kirven (Kleinschmidt)

These notes are a summary of the major points presented during the meeting and are not intended to be a transcript or analysis of the meeting.

Alison opened the meeting with a safety moment and introductions. The purpose of the meeting was to review the Protection, Mitigation and Enhancement (PME) measures identified thus far throughout relicensing, and to discuss any new PME measures that stakeholders may propose. Specifically, the purpose of this meeting was to discuss recreation and shoreline related PMEs; a meeting was held earlier in the week on Tuesday, March 28th to discuss environmentally related PMEs. Alison reminded the group that SCE&G's goal is to file a settlement agreement with FERC at the same time that the Final License Application (FLA) is filed (June 2018) and include as many PMEs as possible in the Draft License Application (DLA) when it is filed with FERC later this summer.

A PME memo was distributed to stakeholders prior to the meeting that listed all of the previously identified PME measures and SCE&G proposed response. The PowerPoint presentation that was used during the meeting is attached to the end of these notes.

Recreation Site Monitoring/Maintenance/Improvements at Parr Reservoir

Based on the results of the Recreation Use and Needs Study (RUNS), the Recreation TWC developed a list of proposed recreation enhancements for Parr Reservoir. The informal Highway 34 Recreation Site and the informal Enoree River Bridge Recreation Site will both be improved and formalized. The experimental canoe portage at Parr Shoals Dam will also be formalized. Cannon's

Creek Recreation Site will receive upgrades and improvements. A Recreation Management Plan (RMP) will also be developed for the Project.
David Eargle asked if the channel in Parr Reservoir will be marked for hazards and navigation. Bill A. asked David if he was thinking of marking a path from the Cannon's Creek and Heller's Creek recreation sites into the main reservoir and David said yes. Tommy said that SCDNR would have to do the hazard marking in the reservoir. Bill M. said that there is a Memorandum of Agreement (MOA) from 1979 between SCDNR and SCE&G that SCDNR would like to revisit and possibly update. Hazard markers were part of the original MOA and might need to be carried forward into a new agreement. SCDNR would install the markers with help from SCE&G. Henry said that SCE&G and SCDNR should review the MOA and decide if it needs to be included in the Settlement Agreement or if it should be a separate agreement.

Recreation Site Monitoring/Maintenance/Improvements at Monticello Reservoir

Results from the RUNS were used to develop a list of proposed recreation enhancements at Monticello Reservoir. SCE&G will improve the Project and non-Project portions of the Scenic Overlook. They will also make improvements at the Highway 99 "West" and "East" Recreation Sites. The Highway 99 "East" site is currently informal and it will be formalized after the new license is issued.

At the PME meeting on Tuesday, Ron Ahle asked that SCE&G construct a courtesy dock at the Recreation Lake boat ramp. Dick said he talked with Ron about this and agrees that it would be a good addition. There is a safety concern with walking on the rip-rap when launching a boat. Bill A. said he would talk to SCE&G management about this request.

Erosion Monitoring and Control on Parr and Monticello Reservoirs

Currently, SCE&G monitors the shoreline of Parr Reservoir for erosion annually and the shoreline of Monticello Reservoir bi-annually. Alison said that FERC likes to see formal plans for erosion monitoring and control. This plan will be formalized and included in the DLA.

Melanie asked why Parr is monitored annually and Monticello is monitored bi-annually. Ray said there has always been more concern around Monticello Reservoir for erosion and they wanted to monitor the shoreline more frequently because of this. At Monticello Reservoir, there are areas where the Project Boundary Line (PBL) is close to the shoreline. When there is the potential for encroachment on the PBL, SCE&G obtains a permit from the US Army Corps of Engineers and works with the property owner to get access to add rip rap. Bill A. said that Parr Reservoir doesn't have any significant areas of severe erosion but Monticello does mainly due to significant wind and wave action on the reservoir.

Shoreline Management Plans for Parr and Monticello Reservoirs

SCE&G updated the existing Shoreline Management Plan (SMP) for Monticello Reservoir and created a new SMP for Parr Reservoir. SCE&G also created a Permitting Handbook that will be distributed for public use.

Bill A. said there was land designated as Future Recreation next to the Fairfield tailrace and there was discussion with SCDNR about potentially reclassifying the land as Project Operations and

providing a different tract of land for Future Recreation. However, SCE&G has decided to keep the lands classified as Future Recreation.

Bill M. said SCDNR has some questions about the Broad River Waterfowl Area. The SCDNR boundaries (which are shown on maps sent to Ray A. by Bill M.) include some land that is outside of the PBL and not owned by SCE&G. The group reviewed the maps from Bill M. on the screen and Ray stated that SCE&G does not intend to change the PBL in that area and the original agreement in the 1970s was for the construction of the waterfowl sub-impoundment itself, with some of the surrounding property being denoted on the Exhibit K maps as "Game Management Area", which is now called Wildlife Management Area. Bill M. said that some of the land that was offered by SCE&G in the potential trade for Future Recreation lands was land that SCDNR already occupies in the Broad River Waterfowl Area. Corbin said this land was offered to SCDNR to include in the waterfowl area so they could have more control over the land. SCE&G will discuss this issue and the Enoree River Waterfowl Area boundary further with SCDNR outside of the meeting.

Alison noted that the SMPs are scheduled for review every 10 years of the new license.

Cultural Resources

SCE&G worked with the State Historic Preservation Office (SHPO) to complete Phase I and Phase II cultural studies.

SCE&G also developed a Historic Properties Management Plan (HPMP) and filed it with FERC. FERC is developing a Programmatic Agreement (PA) which will take effect after the new license is issued. As part of the HPMP and PA two kiosks will be constructed at Cannon's Creek and the Highway 215 boat ramp. One kiosk includes information on the Lyles Ford area that was impacted by Project operations and the other kiosk has a timeline history of the Project.

Bill A. said that one site is being impacted by erosion from Project operations and SCE&G will do stabilization to prevent further erosion or will complete a data recovery at the site. They have not decided which mitigation they will complete yet. Bill M. mentioned that SCE&G should put the kiosk information on their website as well and Bill A. said they will do that as part of the HPMP requirements.

Recreation Resource Maps

During relicensing, stakeholders requested that SCE&G develop a map that displays recreation areas downstream of Parr Shoals Dam, along with navigation points and Rocky Shoals Spider Lily (RSSL) locations. SCE&G would like to complete this as an off-license agreement. Gerrit said he would like to see recreation information from Neal Shoals through the Parr Reservoir and downstream to Columbia Hydro, including locations of recreation sites on the Enoree River and Cannon's and Heller's creeks. SCE&G will develop a draft of the map and send it to the stakeholders to review.

RSSL Outreach and Education

During previous meetings, the Congaree Riverkeeper requested that SCE&G make efforts to educate the public on the RSSL. SCE&G has agreed to do this as an off-license agreement and will provide information on the RSSL on the recreation maps and on their website.

Melanie asked why SCE&G is not doing periodic monitoring of the RSSL. Bill A. said the populations are located downstream outside of the PBL. Henry added that they were never identified as a "driver" for setting minimum flows, so monitoring wasn't warranted.

Melanie asked if signs are located in the area of the RSSL populations that ask people not to pick the flowers. Bill A. said the flowers are in the middle of the river and he doesn't know where they would put signs. Melanie said they could put signs on the access points on the Broad River. Bill A. said the access points aren't owned by SCE&G and the signs could be vandalized. Henry said maybe they could develop a brochure that also includes information on bald eagles and other species in the area to educate the public. It was also mentioned that this information could be included on the recreation resource maps. Dick said it would be nice if the brochure could be posted to SCE&G's website before the license comes out. The group looked at a similar brochure developed for Saluda Hydro Relicensing on the screen.

Downstream Recreation Flows

Alison said that SCE&G did a study to determine if there was an interest in recreation flows that included a focus group and an online survey. The survey did not provide much feedback, as only four responses were received. The flows that were requested during the summer months are typically during times of low inflow. This Project does not have a storage reservoir, so providing recreation flows when inflow is low is not possible. Recreation flows would only be available during wet summers.

Alison said that when the downstream minimum flows are tested, stakeholders will be able to boat the flows and see how they would work for recreation and navigation. The Recreation TWC will be notified when the demonstration flows are scheduled so they can plan to participate.

Gerrit said that setting the flows for navigation only doesn't provide for a high quality canoe/kayak experience. He said that there is a huge storage reservoir in Monticello Reservoir that could release water for recreation for short periods of time. Henry reminded the group that Monticello is not a storage reservoir. It is used for the pumped storage facility only. Ray said that releasing water from Monticello and then releasing that water from Parr Shoals Dam for recreation purposes is a loss to the pumped storage system and is counter to the way SCE&G needs to operate Fairfield to meet the needs of the electric system. Ray said that changing the minimum flow from a daily average to a continuous flow should help with recreation.

Palmetto Trail Contributions

Stakeholders requested that SCE&G contribute to the Palmetto Trail, however SCE&G already provides funding, easements, and volunteer labor through the V.C. Summer Facility, and they do not plan to make additional donations as part of Parr Relicensing.

Other PME Requests

SCDNR said that there is currently an informal agreement with SCE&G to coordinate the draining and flooding of the waterfowl impoundments. SCDNR would like this agreement to be formalized and included in the Settlement Agreement. Dick said the agreement needs to be adaptive to changing conditions and focus on communications. This should be discussed each year so SCDNR and SCE&G can come up with a mutually agreeable way to drain and flood the impoundments.

Bill M. and Dick said that they have discussed different ways that SCE&G can mitigate for unavoidable impacts particularly to aquatic resources. There should be something in the PME package that encourages stakeholders to support long term licenses. SCDNR would like to see additional land conservation and protection, particularly riparian lands or wetlands since they are important to aquatic species. Other important lands are those that provide public access and recreation benefits. Bill M. said that SCDNR is also interested in Wildlife Management Area (WMA) property enhancements and large parcels of land that provide public benefits. Henry asked if they had identified any land or if they have an idea of how much land they would want. Bill M. identified 14 parcels of land owned by SCE&G that SCDNR might be interested in. These lands could be put into a conservation easement or a WMA. SCE&G could commit to protect and not develop these lands for the term of the new license. Bill A. asked if it would be okay with SCDNR if SCE&G maintained timber and mineral rights. Bill M. said that probably would be fine. Dick said lands that allow for habitat and species protection are valuable. Lands that also provide public access have an increased value. And lands that, in addition to protecting habitat and species and providing public access, also provide value to SCDNR have the highest value. These lands could be protected for the term of the license instead of in perpetuity.

Melanie asked if the funds that were discussed in Tuesday's PME meeting for dam removal and habitat enhancements could be combined into one fund that provided for all these things. Henry said SCE&G would need details on how much money should go in the fund and exactly what the money would be used for including habitat enhancement, land acquisition, dam removal and floodplain restoration. Gerrit said American Rivers' priority is to use the money on dam removal, but since it is impossible to predict when those projects will come up, they have to be flexible. Gerrit agreed with SCDNR that developing a fund to mitigate for unavoidable adverse impacts is important. There should be a lower priority on studies and a higher priority on actions. Studies don't offset impacts. Rusty said that from a SCDHEC perspective they would place a priority on any improvements or changes that the stakeholders are proposing that would have a positive impact on water quality or quantity of the resource.

Henry asked if the enhancements that SCE&G has already agreed to, including fish habitat enhancements in Monticello Reservoir and recreation enhancements, could be financed through the fund. Gerrit said that those enhancements are minimizing effects and the fund should be separate and used for mitigation.

Alison reviewed the timeline for the remainder of relicensing with stakeholders. SCE&G plans to file the DLA in May 2017. Stakeholders will have 90 days to review and comment. SCE&G hopes to submit the RMP to the TWC for review prior to submitting the DLA. The Settlement Agreement development and discussion will occur from August through October 2017. SCE&G will revise the license application from March through April 2018 and will file the Final License Application in June 2018.

Henry asked Rusty when SCDHEC wants SCE&G to file the 401 water quality certificate application. Could SCE&G file early? Rusty said he would talk with his management. If SCE&G filed early, it could be ready for implementation when FERC issues the new license.

The meeting adjourned. Action items are listed below. After the meetings, American Rivers and SCDNR submitted additional information. This information is attached to the end of the notes.

ACTION ITEMS:

- SCE&G and SCDNR will review the 1979 MOA and explore the channel marking/hazard marking in Parr Reservoir further.
- SCE&G and SCDNR will discuss the land issue at the Broad River Waterfowl Area.
- SCE&G and Kleinschmidt will develop a draft recreation resource map and send it to stakeholders for review and comment.
- Stakeholders need to decide how much money they would like for a mitigation fund and how the fund would be used.
- Rusty will talk to his managers at SCDHEC about the possibility of SCE&G filing an application for the 401 water quality certificate early.
- SCDNR to provide more information and details on a Land Protection Plan.

MEETING NOTES

SOUTH CAROLINA ELECTRIC & GAS COMPANY
Joint RCG Meeting

July 18, 2017

Final KMK 08-21-17

ATTENDEES:

Bill Argentieri (SCE&G)
Ray Ammarell (SCE&G)
Randy Mahan (SCE&G)
Caleb Gaston (SCE&G)
Brandon Stutts (SCE&G)
Beth Trump (SCE&G)
Melanie Olds (USFWS)
Fritz Rohde (NOAA) via conf. call
Alex Pellett (SCDNR)
Dick Christie (SCDNR)
Bill Marshall (SCDNR)
Ron Ahle (SCDNR)
Bill Stangler (Congaree Riverkeeper)
Henry Mealing (Kleinschmidt)
Alison Jakupca (Kleinschmidt)
Kelly Kirven (Kleinschmidt)
Jordan Johnson (Kleinschmidt)

These notes are a summary of the major points presented during the meeting and are not intended to be a transcript or analysis of the meeting.

Henry opened the meeting with a safety moment and introductions. The purpose of the meeting was to review the remaining Adaptive Management Plans (AMPs) and Monitoring Plans that were not discussed at the previous AMP meeting on July 13, 2017. Specifically, stakeholders discussed the West Channel AMP, the Monticello Habitat Enhancement Plan, the Erosion Monitoring Plan, the Entrainment/Hydroacoustics study plan, the Turbine Venting Plan, and the revisions made to the Recreation Management Plan.

West Channel AMP

The group began with a discussion of the West Channel AMP, starting with the randomized sampling grid that Ron developed for the plan. Henry said that Kleinschmidt modified the grid by removing areas that stay de-watered due to higher elevations. Henry also said that Kleinschmidt added a line in the text to specify that sampling could occur anywhere within a chosen grid, not necessarily at the mid-point.

Ron said he would like to simplify the goals and objectives section of the AMP. He stated that he believes the goal of the AMP is to enhance aquatic habitat by increasing flows and improving oxygen levels. Henry said that SCE&G's goal is to increase the dissolved oxygen (DO) to a level that is acceptable to SCDHEC. Henry said that in order to accomplish that goal flows would need to be increased in the west channel. Increased flows and increased DO would create improved habitat. Ron said that he believes the health of the aquatic ecosystem is the overall goal and, while increased DO is an important part of that goal, it is not the overall goal. Bill A. said that his concern is if DO is improved but species abundance and diversity doesn't increase, does that mean

the objective has failed. Ron said that he doesn't think that would indicate failure because the habitat was still improved. Henry noted that SCDNR's goal all along is to improve the aquatic habitat in the west channel. The reason that SCE&G pursued the issue is because SCDHEC said the DO in the area would be an issue for obtaining a 401 water quality certification. Dick said that the goals and objectives are not very well defined in the AMP. He said if SCE&G could agree that the overall goal of the AMP is to enhance aquatic habitat, the objectives could be to try to meet state DO standards specifically during the summer months and to maintain and/or enhance flows to the area.

Ron said that transects for the IFIM study were picked in the west channel area to see what flows are best for certain species. Henry said that other stakeholders have expressed concern over how much flow is going to be removed from the east channel to the west channel and how this will affect the species in the east channel. Henry also stated that he believes the habitat in the west channel is never going to be as good as that in the east channel. Ron asked why. Henry said that 70 percent of the west channel area is a long deep pool area. Ron said he believes there is a lot of potential habitat in the west channel that could be improved.

Henry said when channel modifications to admit more water to the west channel begin, it should be done incrementally and in consultation with the Review Committee, to determine how the modifications affect the east and west channels. Melanie said that the USFWS is interested in improving the west channel, but they don't want those improvements to negatively affect the east channel.

The group agreed to revise the goals and objectives section. Henry said that the plan should be clear and concise so that it isn't misconstrued later. Ron said that he doesn't believe meeting the state standard for water quality and DO is what should indicate success in the west channel. He believes that increased WUA is important and the AMP shouldn't focus solely on water quality. The group reached consensus on the revised goals and objectives for the AMP.

In the AMP, wording was added to explain that channel modifications are contingent upon US Army Corps of Engineers permitting. Brandon said that these permits are good for two years. Henry said that other considerations for the timing of channel modifications should include spawning seasons and potential future critical habitat designations in the area – Atlantic sturgeon for example.

The group discussed additional modifications to the DO random sampling grid. Melanie said that the grids where the continuous sampling will occur should be removed. The grids should also be renumbered.

Melanie said that the plan should specify the minimum number of random samples that will be taken in the west channel and at what frequency. The group agreed that 10 percent of the sites should be sampled. The sites should be chosen randomly and should be stratified, with a greater number of samples being taken upstream of the 213 bridge. The group agreed that a study plan will need to be developed and submitted to FERC after the license is issued. The group also agreed to change the title of this AMP to "Adaptive Management Plan: Enhancements to the West Channel Downstream of Parr Shoals Dam."

Monticello Reservoir Habitat Enhancement Plan

Henry said that the group should focus specifically on Section 5.0 of this plan, where the protection, mitigation and enhancement (PME) measures are spelled out. Henry said he believes that after SCE&G files this plan, FERC will ask for a study plan explaining how enhancements will be implemented.

Melanie said that the wording included in the plan regarding no long term monitoring was confusing and seemed to imply that short term monitoring would take place. This wording was changed to specify that no monitoring would occur. Dick said that SCDNR may do some monitoring with grad students. Melanie also asked if any maintenance of the structures would occur. Caleb said that SCDNR requested the installation of the structures and assured the group that the structures are effective, based on past studies. These structures are also permanent and will not fall apart over time, so maintenance shouldn't be necessary.

Ron said that the structures should be fitted with labels that include owner information. Signs should also be installed at each public boat ramp informing the public that a habitat enhancement program is underway and not to disturb the structures if they encounter them.

Erosion Monitoring Plan

The group discussed the comments that Bill M. submitted on the Erosion Monitoring Plan. Bill M. asked that more details be included within each erosion category. Ray said that vegetation was included as part of each erosion category description because it is used to visually indicate how much erosion is occurring. If trees are downed along the shoreline, then the area is likely eroding. Bill M. asked where they are looking for vegetation. Ray said they look in areas with scarp. If root balls are visible and if trees have recently fallen at the base of the scarp, this indicates erosion. Ray said that the categories are subjective, so they try to have the same person perform the monitoring every year to reduce variability.

Bill M. said he would like the category descriptions to be more measureable. He said that at the Keowee-Toxaway Project, scarp height was used to indicate erosion. Ray edited the plan to specify that if an area of active shoreline erosion is identified, measurements will be taken or reference pins will be installed to verify the severity of the erosion quantitatively. Bill A noted that the revised wording will need to be agreed to by the Dam Safety Department prior to finalization.

Entrainment/Hydroacoustic Study Plan

Henry told the group that SCE&G and Kleinschmidt performed additional analysis as part of the Entrainment Study using information that Bill M. sent over from previous Duke Energy studies. Dick said that the additional analysis wasn't completed exactly how SCDNR expected.

Henry said that SCE&G has committed to performing a hydroacoustic study in August, to examine species composition and how lights at the Project intake areas affect entrainment. Don Degan with Aquacoustics, Inc. will be working with Kleinschmidt and SCE&G to perform the study. Dick asked if Don has done a similar type of "lights on/lights off" evaluation previously. Henry said yes, at Lake Russell. Dick asked if there was an idea of the number of hours or the amount of effort that was going to be dedicated to the "lights on/lights off" experiment. Ray said operations will be off

each night for approximately three hours. Dick said he was a little concerned about a snap shot approach, but it sounds like that will be covered. Henry said that he talked with Don about timing of the study, and he indicated that August is the best time of year to examine how lights affect shad. Dick said if data is collected that shows what he thinks is happening (a relationship between entrainment and lights), improving entrainment will be a matter of modifying the lighting at the Project. However, if the data doesn't verify this relationship, the question is raised as to whether a relationship exists or is more data needed.

Henry said that stakeholders can observe the study if they are interested. An email will be sent out closer to the study to see if anyone is interested.

Melanie asked if the enhancements that are planned for Monticello Reservoir are located far away from the intakes. Henry said yes, that was taken into account when the enhancements areas were chosen. Melanie said that if entrainment is an issue for the reservoir, why would you want to enhance habitat and produce more fish? Henry said the habitat enhancement is being completed to help offset entrainment, but it could also encourage entrainment. The enhancements will be used to increase densities of fish higher in the lake, away from the intakes. Information on how site selection was made is included in the Monticello Habitat Enhancement Plan. This information will also be reflected in the analysis section of the Final License Application.

Turbine Venting Plan

All stakeholders indicated they were fine with this plan as it stands.

Recreation Management Plan

Alison explained that the land on which the Enoree River Bridge Recreation Site sits is owned by the US Forest Service (USFS). So before enhancements are completed at this site, SCE&G will need to gain approval for these enhancements from the USFS. Two footnotes were added to the Recreation Management Plan indicating this. Alison said that the USFS will likely need to complete the NEPA process and contact the SHPO about these enhancements, which will affect how long it will take to implement the enhancements. Alison said that the USFS may want to categorically exclude this from NEPA. They will still need to consult with SHPO, however, this process should be fairly straightforward.

Alison also discussed the existing sand-mining operation located in the Parr Reservoir, near the Highway 34 Recreation Site. She said that some of the stakeholders may be aware of a similar operation at the Duke Energy 99 Islands Project. Duke is in the process of obtaining a license amendment from FERC to allow the sand-mining operation to continue. SCE&G will likely have to do something similar to address sand-mining in the Parr Reservoir. Bill S. told the group that he receives phone calls every few months regarding the oil sheen from fuel spills/leaks from the sand-mining operation. Bill A. said that he spoke with the contractor who runs the sand-mining operation and he indicated that he would like to continue to operate in the area. Bill A. said he spoke with FERC and they asked him to write a letter explaining the situation. FERC will then respond by asking SCE&G to either file a request for non-Project use of Project lands and waters, or shut down the operation. SCE&G will need to consult with the agencies on this matter. SCE&G will also include this issue in the Final License Application.

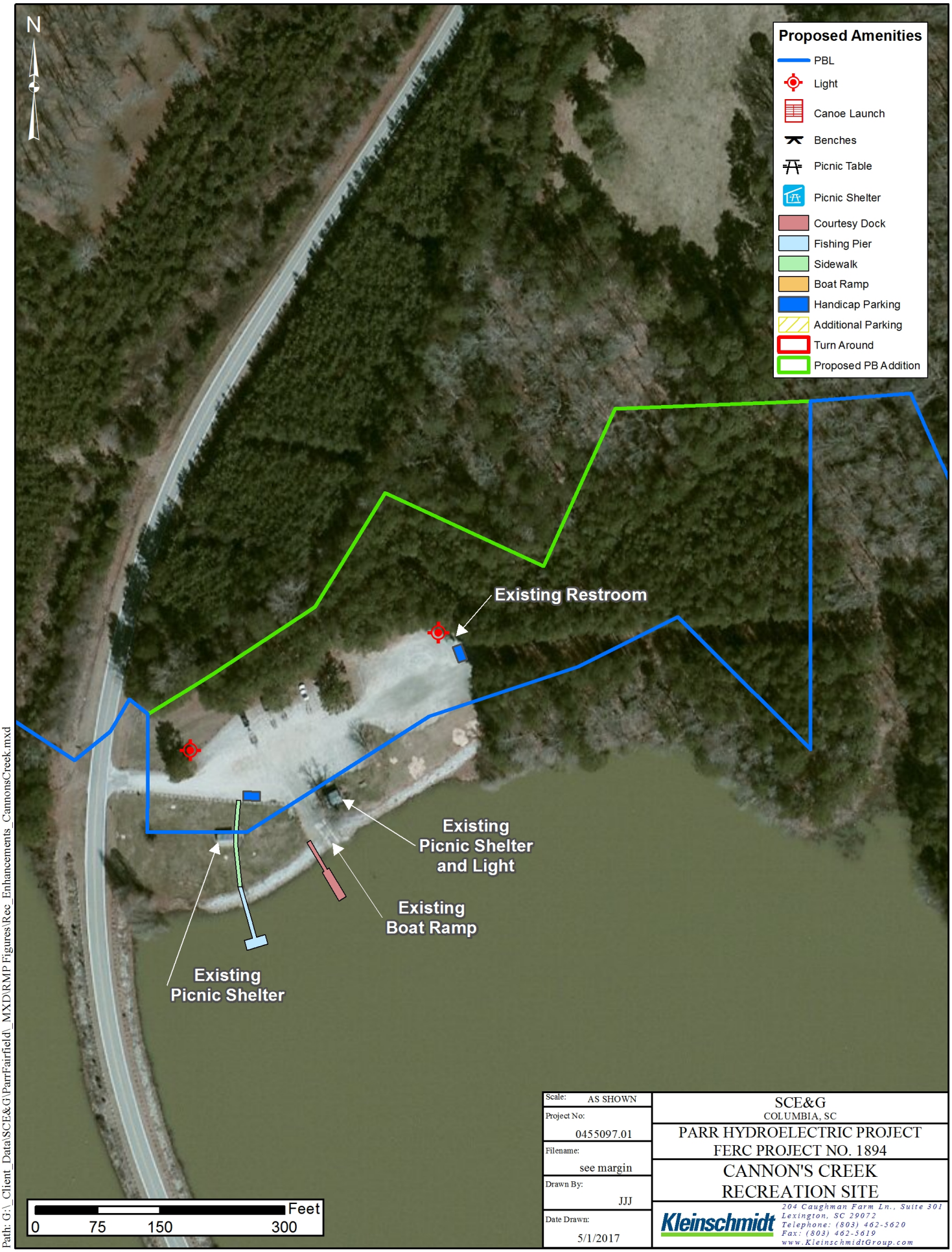
Following this discussion, the meeting adjourned. Action items are listed below.

ACTION ITEMS:

- SCE&G and Kleinschmidt will make all of the edits to the West Channel AMP, Monticello Habitat Enhancement Plan, and Erosion Monitoring Plan that were discussed in the meeting.
    - West Channel AMP - the grids where the continuous sampling will occur should be removed
    - West Channel AMP - the grids should also be renumbered
    - West Channel AMP - ten percent of the sites should be sampled.
    - West Channel AMP - the sites should be chosen randomly and should be stratified, with a greater number of samples being taken upstream of the 213 bridge
    - Monticello Reservoir Habitat Enhancement Plan - the structures should be fitted with labels that include owner information
    - Monticello Reservoir Habitat Enhancement Plan - Signs should also be installed at each public boat ramp informing the public that a habitat enhancement program is underway and not to disturb the structures if they encounter them
    - Erosion Monitoring Plan – changes were incorporated during the meeting
- Kleinschmidt will send an email to stakeholders prior to the hydroacoustic study to see if anyone is interested in observing.
- SCE&G Dam Safety Department will need to approve changes to Erosion Monitoring Plan.
- Kleinschmidt will include write-up of the mining operation in the Final License Application.

APPENDIX B

PROJECT RECREATION SITE FIGURES



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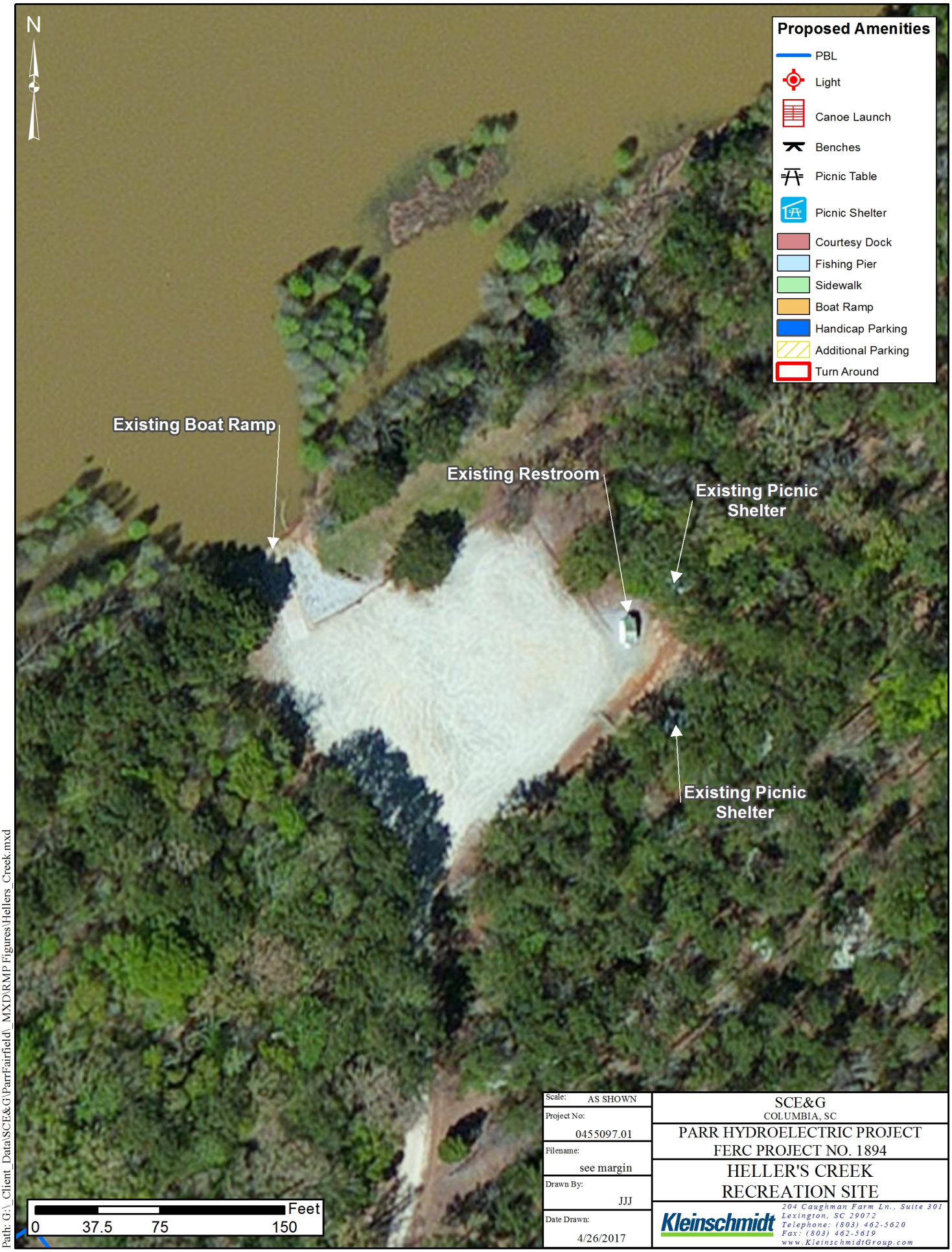
Scale: AS SHOWN	SCE&G COLUMBIA, SC
Project No: 0455097.01	PARR HYDROELECTRIC PROJECT FERC PROJECT NO. 1894
Filename: see margin	CANNON'S CREEK RECREATION SITE
Drawn By: JJJ	
Date Drawn: 5/1/2017	

Kleinschmidt
204 Caughman Farm Ln., Suite 301
Lexington, SC 29072
Telephone: (803) 462-5620
Fax: (803) 462-5619
www.KleinschmidtGroup.com

Source: SCE&G, Kleinschmidt, ESRI



Scale: AS SHOWN	SCE&G COLUMBIA, SC
Project No: 0455097.01	PARR HYDROELECTRIC PROJECT FERC PROJECT NO. 1894
Filename: see margin	HELLER'S CREEK RECREATION SITE
Drawn By: JJJ	Kleinschmidt 204 Caughman Farm Ln., Suite 301 Lexington, SC 29072 Telephone: (803) 462-5620 Fax: (803) 462-5619 www.KleinschmidtGroup.com
Date Drawn: 4/26/2017	

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Source: SCE&G, Kleinschmidt, ESRI

Scale: AS SHOWN	SCE&G COLUMBIA, SC
Project No: 0455097.01	PARR HYDROELECTRIC PROJECT FERC PROJECT NO. 1894
Filename: see margin	PARR SHOALS DAM CANOE PORTAGE
Drawn By: JJJ	
Date Drawn: 3/21/2017	Kleinschmidt 204 Caughman Farm Ln., Suite 301 Lexington, SC 29072 Telephone: (803) 462-5620 Fax: (803) 462-5619 www.KleinschmidtGroup.com

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Source: SCE&G, Kleinschmidt, ESRI

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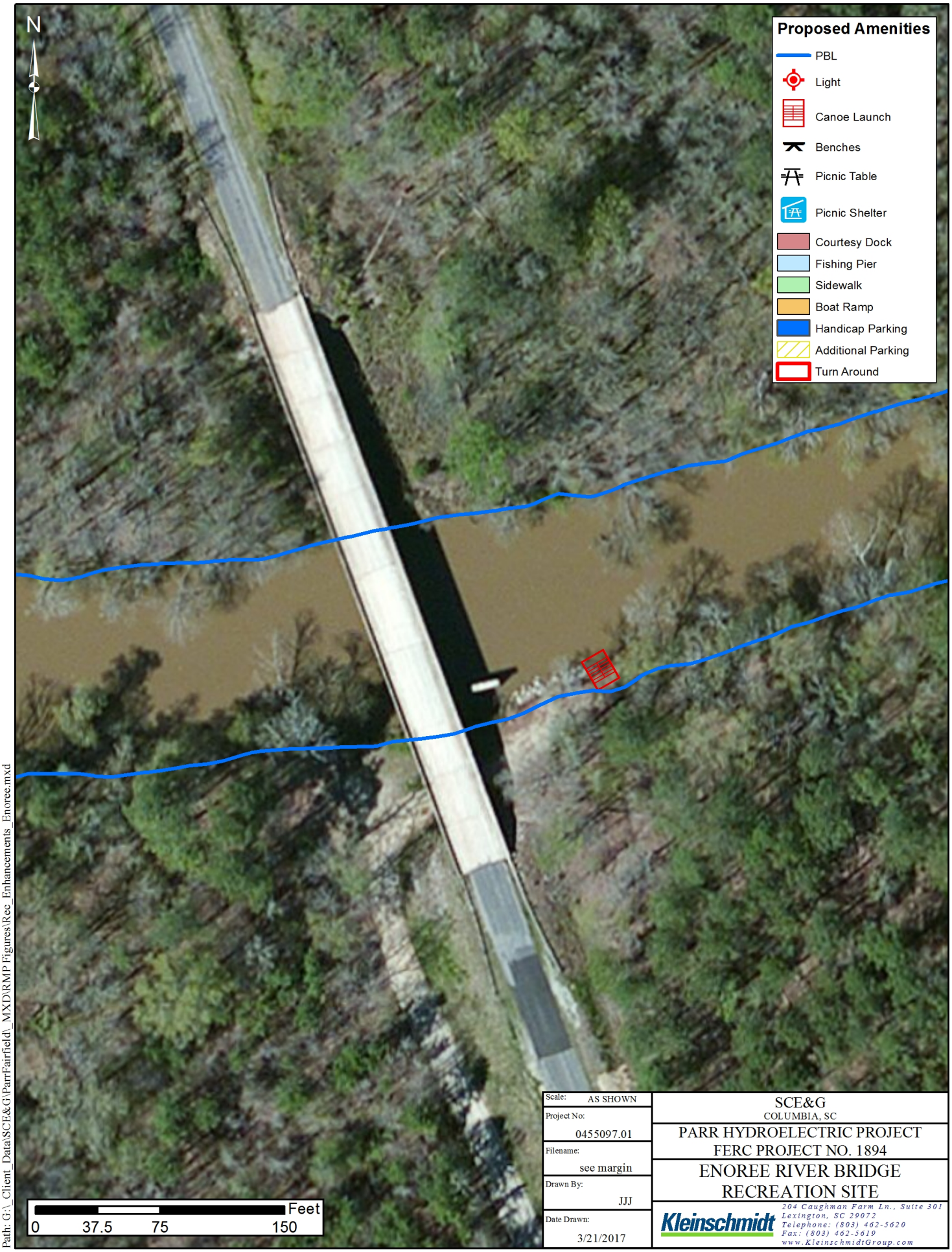
Scale: AS SHOWN	SCE&G COLUMBIA, SC
Project No: 0455097.01	PARR HYDROELECTRIC PROJECT FERC PROJECT NO. 1894
Filename: see margin	HIGHWAY 34 RECREATION SITE
Drawn By: JJJ	
Date Drawn: 4/27/2017	Kleinschmidt 204 Caughman Farm Ln., Suite 301 Lexington, SC 29072 Telephone: (803) 462-5620 Fax: (803) 462-5619 www.KleinschmidtGroup.com

Source: SCE&G, Kleinschmidt, ESRI



Scale: AS SHOWN	SCE&G COLUMBIA, SC
Project No: 0455097.01	PARR HYDROELECTRIC PROJECT FERC PROJECT NO. 1894
Filename: see margin	ENOREE RIVER BRIDGE RECREATION SITE
Drawn By: JJJ	Kleinschmidt 204 Caughman Farm Ln., Suite 301 Lexington, SC 29072 Telephone: (803) 462-5620 Fax: (803) 462-5619 www.KleinschmidtGroup.com
Date Drawn: 3/21/2017	

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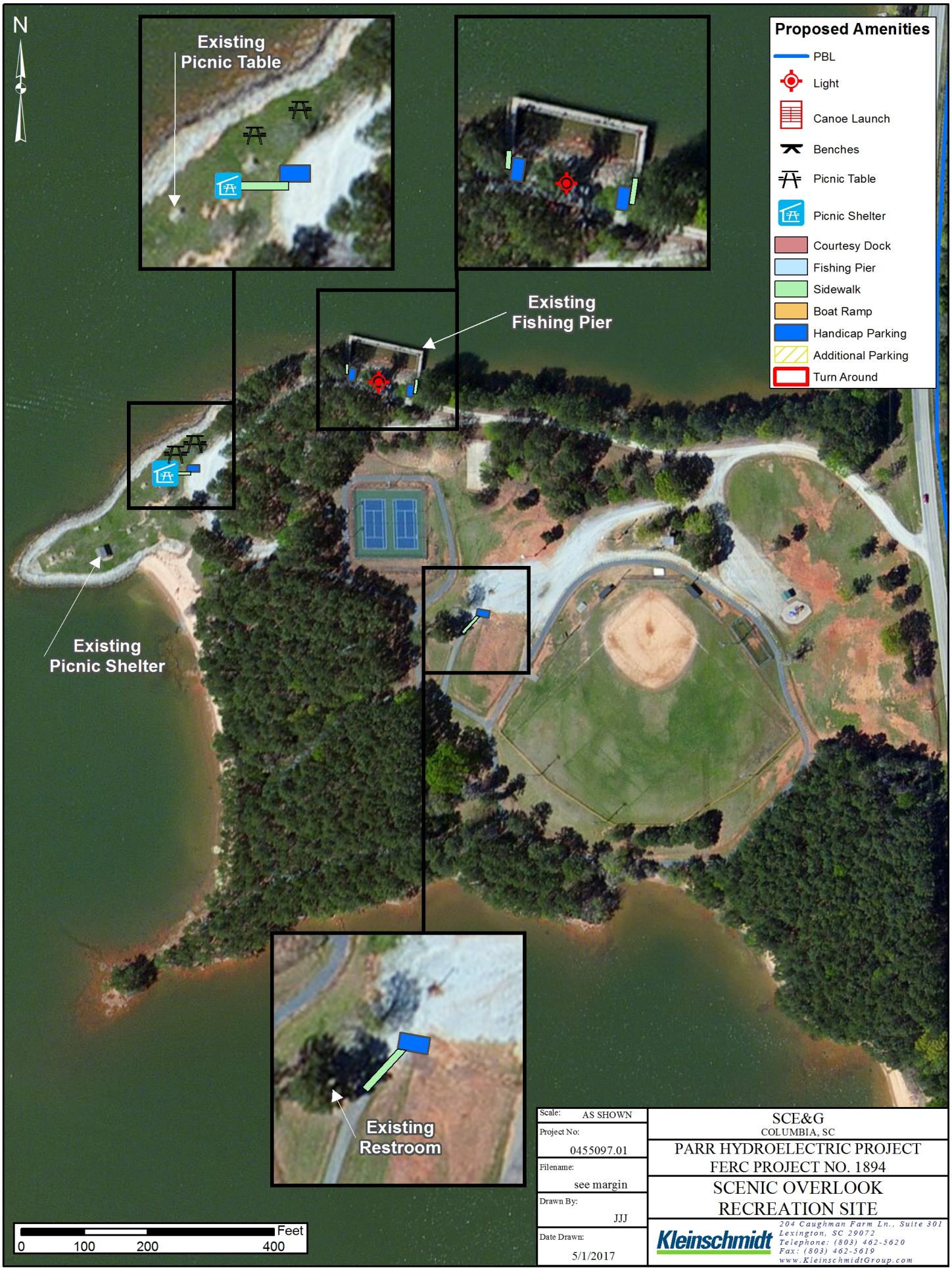
Source: SCE&G, Kleinschmidt, ESRI



Scale: AS SHOWN	SCE&G COLUMBIA, SC
Project No: 0455097.01	PARR HYDROELECTRIC PROJECT FERC PROJECT NO. 1894
Filename: see margin	SCENIC OVERLOOK RECREATION SITE
Drawn By: JJJ	
Date Drawn: 5/1/2017	Kleinschmidt 204 Caughman Farm Ln., Suite 301 Lexington, SC 29072 Telephone: (803) 462-5620 Fax: (803) 462-5619 www.KleinschmidtGroup.com

Path: G:_Client_Data\SCE&G\ParrFairfield_MXD\RMP Figures\Rec_Enhancements_ScenicOverlook.mxd

Source: SCE&G, Kleinschmidt, ESRI

Scale: AS SHOWN	SCE&G COLUMBIA, SC
Project No: 0455097.01	PARR HYDROELECTRIC PROJECT FERC PROJECT NO. 1894
Filename: see margin	HIGHWAY 215 RECREATION SITE
Drawn By: JJJ	
Date Drawn: 5/1/2017	

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www.KleinschmidtGroup.com

Path: G:_Client_Data\SCE&G\ParrFairfield_MXD\RMP Figures\Highway_215.mxd

Source: SCE&G, Kleinschmidt, ESRI

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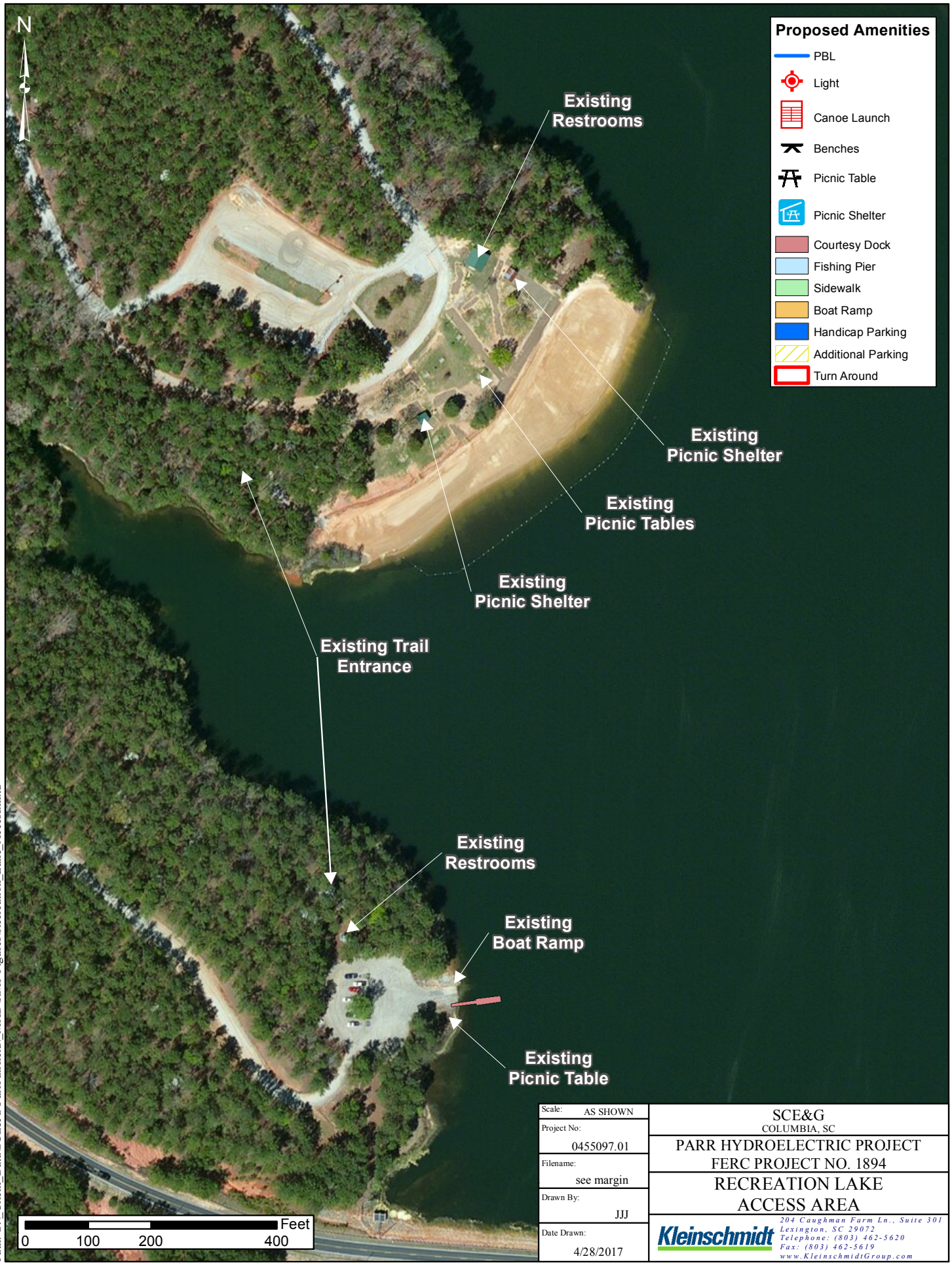
Scale: AS SHOWN	SCE&G COLUMBIA, SC
Project No: 0455097.01	PARR HYDROELECTRIC PROJECT FERC PROJECT NO. 1894
Filename: see margin	HIGHWAY 99 WEST RECREATION SITE
Drawn By: JJJ	
Date Drawn: 5/1/2017	Kleinschmidt 204 Caughman Farm Ln., Suite 301 Lexington, SC 29072 Telephone: (803) 462-5620 Fax: (803) 462-5619 www.KleinschmidtGroup.com

Source: SCE&G, Kleinschmidt, ESRI



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Filename: see margin	RECREATION LAKE ACCESS AREA
Drawn By: JJJ	
Date Drawn: 4/28/2017	Kleinschmidt 204 Caughman Farm Ln., Suite 301 Lexington, SC 29072 Telephone: (803) 462-5620 Fax: (803) 462-5619 www.KleinschmidtGroup.com

Source: SCE&G, Kleinschmidt, ESRI

Scale: AS SHOWN	SCE&G COLUMBIA, SC
Project No: 0455097.01	PARR HYDROELECTRIC PROJECT FERC PROJECT NO. 1894
Filename: see margin	HIGHWAY 99 EAST RECREATION SITE
Drawn By: JJJ	
Date Drawn: 3/21/2017	Kleinschmidt 204 Caughman Farm Ln., Suite 301 Lexington, SC 29072 Telephone: (803) 462-5620 Fax: (803) 462-5619 www.KleinschmidtGroup.com

Path: G:_Client_Data\SCE&G\ParrFairfield_MXD\RMP Figures\Rec_Enhancements_Highway99East.mxd

Source: SCE&G, Kleinschmidt, ESRI

APPENDIX C

RECREATION FACILITY TABLE

TABLE 1 FERC-APPROVED RECREATION FACILITIES AT THE PARR HYDROELECTRIC PROJECT

RECREATION SITE NAME	RECREATION FACILITIES[10] [11]
Cannon's Creek Recreation Site (*previously known as Cannon's Creek Site*)	30 vehicle w/trailer parking (*including 2 barrier free spaces*), 2 restrooms (*barrier free*), 1 boat ramp, *1 fishing pier, 1 courtesy dock*, 2 picnic shelters, 2 picnic tables, 2 grills, primitive camping, *interpretive display, accessible routes*
Heller's Creek Recreation Site (*previously known as Heller's Creek Site*)	25 vehicle w/trailer parking, 2 restrooms, 1 boat ramp, 2 picnic shelters, 2 picnic tables, primitive camping
Scenic Overlook Recreation Site (*previously known as Overlook*)	Gravel parking areas (*including 3 paved barrier free spaces*), 2 restrooms *(barrier free)* 1 fishing pier (*barrier free*), 11 picnic tables (*including 1 barrier free picnic table*), 2 picnic shelters (*including 1 barrier free shelter*), overlook, *accessible routes*
Highway 215 Recreation Site (*previously known as Ramp 1*)	30 vehicle w/trailer parking spaces, 2 boat ramps, 1 courtesy dock, 2 picnic tables, 1 picnic shelter, *interpretive display*
Highway 99 West Recreation Site (*previously known as Ramp 2*)	80 vehicle w/trailer parking spaces (*including 2 barrier free spaces*), 2 restrooms, 3 boat ramps, *1 fishing pier*, 1 courtesy dock, 5 picnic tables, 2 picnic shelters, 1 grill, primitive camping, *accessible routes*
Recreation Lake Access Area (*previously known as Ramp 3*)	105 parking spaces (including 2 unpaved barrier free spaces), 4 restrooms, 1 boat ramp, 26 picnic tables, 2 picnic shelters, 7 grills, beach, 1/3 mile hiking trail, *1 courtesy dock*

TABLE 2 PROPOSED RECREATION FACILITIES AT THE PARR HYDROELECTRIC PROJECT

RECREATION SITE NAME	RECREATION FACILITIES
Parr Shoals Dam Canoe Portage	*Canoe portage*
Highway 34 Recreation Site	*5 vehicle parking, geogrid boat ramp*
Enoree River Bridge Recreation Site	*Canoe/kayak step-down access facility*
Highway 99 East Recreation Site	*20 parking spaces, 1 fishing pier, 2 picnic tables, overlook with 2 benches*

[10] Proposed facilities are denoted in italics.
[11] Highlighted recreation amenities are included in the Recreation Amenities Table included in Appendix D.

APPENDIX D

RECREATION AMENITIES TABLE

TABLE 1 RECREATION AMENITIES FOR THE PARR HYDROELECTRIC PROJECT (FERC NO. 1894)

PROJECT NO.	DEVELOPMENT NAME	RECREATION AMENITY NAME	RECREATION AMENITY TYPE	AMENITY STATUS	LATITUDE	LONGITUDE	FERC CITATION & DATE	NOTES
P-1894	Parr Shoals Development	Cannon's Creek Recreation Site	Boat Ramp Area	Constructed	34.2867028°	-081.3625722°	52 F.P.C. 537 (1974) – 08/28/1974	1 boat ramp – 1 lane
P-1894	Parr Shoals Development	Cannon's Creek Recreation Site	Reservoir Fishing	Unconstructed	##.####	-##.####	### FERC ¶ ##,### MM/DD/YYYY	Fishing Pier
P-1894	Parr Shoals Development	Cannon's Creek Recreation Site	Picnic Area	Constructed	34.2868806°	-081.3625583°	52 F.P.C. 537 (1974) – 08/28/1974	2 picnic shelters, 2 picnic tables, 2 grills
P-1894	Parr Shoals Development	Cannon's Creek Recreation Site	Campsites	Constructed	34.2869778°	-081.3624333°	52 F.P.C. 537 (1974) – 08/28/1974	Primitive camping
P-1894	Parr Shoals Development	Cannon's Creek Recreation Site	Interpretive Display	Unconstructed	##.####	-##.####	### FERC ¶ ##,### MM/DD/YYYY	Industry Evolution on the Broad River
P-1894	Parr Shoals Development	Heller's Creek Recreation Site	Boat Ramp Area	Constructed	34.3193889°	-081.3746556°	52 F.P.C. 537 (1974) – 08/28/1974	1 boat ramp – 1 lane
P-1894	Parr Shoals Development	Heller's Creek Recreation Site	Picnic Area	Constructed	34.3191833°	-081.3739389°	52 F.P.C. 537 (1974) – 08/28/1974	2 picnic shelters, 2 picnic tables

PROJECT NO.	DEVELOPMENT NAME	RECREATION AMENITY NAME	RECREATION AMENITY TYPE	AMENITY STATUS	LATITUDE	LONGITUDE	FERC CITATION & DATE	NOTES
P-1894	Parr Shoals Development	Heller's Creek Recreation Site	Campsites	Constructed	34.3195139°	-081.3744611°	52 F.P.C. 537 (1974) – 08/28/1974	Primitive camping
P-1894	Parr Shoals Development	Parr Shoals Dam Canoe Portage	Canoe Portage Take-out	Unconstructed	##.####	-##.####	### FERC ¶ ##,### MM/DD/YYYY	Approx. 1,600-foot portage trail
P-1894	Parr Shoals Development	Parr Shoals Dam Canoe Portage	Canoe Portage Put-in	Unconstructed	##.####	-##.####	### FERC ¶ ##,### MM/DD/YYYY	Take-out and put-in counted as 1 canoe portage on Form 80
P-1894	Parr Shoals Development	Highway 34 Recreation Site	Boat Ramp Area	Unconstructed	##.####	-##.####	### FERC ¶ ##,### MM/DD/YYYY	1 boat ramp – 1 lanes
P-1894	Parr Shoals Development	Enoree River Bridge Recreation Site	Canoe Put-in	Unconstructed	##.####	-##.####	### FERC ¶ ##,### MM/DD/YYYY	Canoe/kayak step-down access facility
P-1894	Fairfield Development	Scenic Overlook Recreation Site	Reservoir Fishing	Constructed	34.3246639°	-081.2876972°	52 F.P.C. 537 (1974) – 08/28/1974	Fishing Pier

PROJECT NO.	DEVELOPMENT NAME	RECREATION AMENITY NAME	RECREATION AMENITY TYPE	AMENITY STATUS	LATITUDE	LONGITUDE	FERC CITATION & DATE	NOTES
P-1894	Fairfield Development	Scenic Overlook Recreation Site	Picnic Area	Unconstructed	##.####	-##.####	### FERC ¶ ##,### MM/DD/YYYY	8 picnic tables and 1 picnic shelter (constructed); *3 tables and 1 shelter (unconstructed).*
P-1894	Fairfield Development	Scenic Overlook Recreation Site	Overlooks/Vistas	Constructed	34.3238028°	-081.2897111°	52 F.P.C. 537 (1974) – 08/28/1974	Monticello Reservoir Overlook
P-1894	Fairfield Development	Highway 215 Recreation Site	Boat Ramp Area	Constructed	34.3275250°	-081.2856639°	52 F.P.C. 537 (1974) – 08/28/1974	2 boat ramps – 2 lanes
P-1894	Fairfield Development	Highway 215 Recreation Site	Picnic Area	Constructed	34.3265333°	-081.2852750°	52 F.P.C. 537 (1974) – 08/28/1974	1 picnic shelter, 2 picnic tables
P-1894	Fairfield Development	Highway 215 Recreation Site	Interpretive Display	Unconstructed	##.####	-##.####	### FERC ¶ ##,### MM/DD/YYYY	Industry Evolution on the Broad River
P-1894	Fairfield Development	Highway 99 West Recreation Site	Boat Ramp Area	Unconstructed	34.3762778°	-081.3178722°	### FERC ¶ ##,### MM/DD/YYYY	3 boat ramps, 3 lanes (constructed); *1 boat ramp to be extended (unconstructed)*

PROJECT NO.	DEVELOPMENT NAME	RECREATION AMENITY NAME	RECREATION AMENITY TYPE	AMENITY STATUS	LATITUDE	LONGITUDE	FERC CITATION & DATE	NOTES
P-1894	Fairfield Development	Highway 99 West Recreation Site	Reservoir Fishing	Unconstructed	##.####	-##.####	### FERC ¶ ##,### MM/DD/YYYY	Fishing Pier
P-1894	Fairfield Development	Highway 99 West Recreation Site	Picnic Area	Constructed	34.3766083°	-081.3175222°	52 F.P.C. 537 (1974) – 08/28/1974	2 picnic shelters, 5 picnic tables, 1 grill.
P-1894	Fairfield Development	Highway 99 West Recreation Site	Campsites	Constructed	34.3764472°	-081.3175639°	52 F.P.C. 537 (1974) – 08/28/1974	Primitive camping.
P-1894	Fairfield Development	Recreation Lake Access Area	Boat Ramp Area	Constructed	34.3793306°	-081.3133972°	52 F.P.C. 537 (1974) – 08/28/1974	1 boat ramp, 1 lane
P-1894	Fairfield Development	Recreation Lake Access Area	Picnic Area	Constructed	34.3818528°	-081.3135444°	52 F.P.C. 537 (1974) – 08/28/1974	2 picnic shelters, 26 picnic tables, 7 grills
P-1894	Fairfield Development	Recreation Lake Access Area	Beach Area	Constructed	34.3816556°	-081.3130639°	52 F.P.C. 537 (1974) – 08/28/1974	Beach Area
P-1894	Fairfield Development	Recreation Lake Access Area	Trails	Constructed	34.3828333°	-081.3144917°	52 F.P.C. 537 (1974) – 08/28/1974	1/3-mile hiking trail
P-1894	Fairfield Development	Highway 99 East	Reservoir Fishing	Unconstructed	##.####	-##.####	### FERC ¶ ##,### MM/DD/YYYY	Fishing Pier

PROJECT NO.	DEVELOPMENT NAME	RECREATION AMENITY NAME	RECREATION AMENITY TYPE	AMENITY STATUS	LATITUDE	LONGITUDE	FERC CITATION & DATE	NOTES
		Recreation Site						
P-1894	Fairfield Development	Highway 99 East Recreation Site	Picnic Area	Unconstructed	##.####	-##.####	### FERC ¶ ##,### MM/DD/YYYY	2 picnic tables
P-1894	Fairfield Development	Highway 99 East Recreation Site	Overlooks/Vistas	Unconstructed	##.####	-##.####	### FERC ¶ ##,### MM/DD/YYYY	Monticello Reservoir Overlook with 2 benches

Appendix A-2

Flow Fluctuations

Downstream of Parr Shoals

Dam Adaptive Management

Plan

ADAPTIVE MANAGEMENT PLAN

FLOW FLUCTUATIONS DOWNSTREAM OF PARR SHOALS DAM

SOUTH CAROLINA ELECTRIC & GAS COMPANY

FERC NO. 1894

Prepared by:

South Carolina Electric & Gas Company

June 2018

ADAPTIVE MANAGEMENT PLAN
FOR THE
FLOW FLUCTUATIONS DOWNSTREAM OF PARR SHOALS DAM

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DEFINITIONS OF TERMS, ACRONYMS, AND ABBREVIATIONS

AMP	Adaptive Management Plan
AR	American Rivers
CFR	Code of Federal Regulations
cfs	cubic feet per second
Commission	Federal Energy Regulatory Commission
CRK	Congaree Riverkeeper
CRSA	Comprehensive Relicensing Settlement Agreement
DLA	Draft License Application
FERC	Federal Energy Regulatory Commission
FLA	Final License Application
ft	foot
Generator capacity	the maximum amount of electricity that can be produced within the safety limitation of a generator
Head	the difference in the elevation of the upstream reservoir in relation to the tailrace elevation
Hydraulic capacity	the maximum amount of water that can be passed through the Project turbines
IFIM	Instream Flow Incremental Methodology
installed capacity	the nameplate megawatt rating of a generator or group of generators
interested parties	individuals and entities that have an interest in a proceeding
kW	Kilowatt
kWh	kilowatt-hour
Licensee	South Carolina Electric & Gas Company
Licensing/Relicensing	the process of acquiring an original FERC license for a new proposed hydropower project; or, the process of acquiring a new FERC license for an existing hydropower project after the previous license has expired.
Minimum Flow	A continuous flow, measured in CFS that is required to be released from the Project dam during specified periods of time.
Msl	mean sea level
MW	megawatt
MWh	megawatt-hour
Net inflow	The previous day's daily average inflow as calculated using the sum of the three upstream USGS gages (USGS 02156500, Broad River near Carlisle, SC; USGS 02160105, Tyger River near Delta, SC; and USGS 02160700, Enoree River at Whitmire, SC) minus evaporation from the reservoirs.
NGO	non-governmental organization
NMFS	National Marine Fisheries Services, also known as NOAA Fisheries
NOAA	National Oceanic and Atmospheric Administration, including NMFS
normal operating capacity	The maximum MW output of a generator or group of generators under normal maximum head and flow conditions
PM&E	protection, mitigation and enhancement measures

Project	Parr Hydroelectric Project (FERC No. 1894)
Project Area	Zone of potential, reasonably direct project effects within the FERC Project Boundary.
Project Boundary	The boundary line defined in the license issued by FERC that surrounds areas needed for Project purposes.
Review Committee	A group, including SCE&G and stakeholders, formed to direct the implementation of the Downstream Flow Fluctuation AMP. Members of the Review Committee must be signatories to the Comprehensive Relicensing Settlement Agreement.
SCDHEC	South Carolina Department of Health and Environmental Control
SCDNR	South Carolina Department of Natural Resources
SCE&G	South Carolina Electric & Gas Company
SHPO	State Historic Preservation Officer
Tailrace	Channel through which water is discharged from the turbines
TLP	Traditional Licensing Process
Turbine capacity	maximum shaft horsepower for an individual turbine at full gate
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WQFW RCG	Water Quality, Fish and Wildlife Resource Conservation Group
WUA	Weighted Usable Area

1.0 INTRODUCTION

South Carolina Electric & Gas Company (SCE&G) must file an application for a new license for its Parr Hydroelectric Project (Project) (FERC No. 1894) on the Broad River with the Federal Energy Regulatory Commission (FERC) by June 2018. SCE&G is currently involved in a multi-year relicensing process that requires a cooperative effort between SCE&G and stakeholders, including state and federal resource agencies, non-governmental organizations (NGOs) and concerned citizens, to address operational, recreational and ecological concerns associated with Project operations. During relicensing, the issue of downstream flow fluctuations associated with Project operations was identified by the Water Quality, Fish and Wildlife Resource Conservation Group (WQFW RCG) as an issue that needed to be resolved. The WQFW RCG includes representatives from SCE&G, South Carolina Department of Natural Resources (SCDNR), U.S. Fish and Wildlife Service (USFWS), South Carolina Department of Health and Environmental Control (SCDHEC), National Oceanic and Atmospheric Administration (NOAA), American Rivers and Congaree Riverkeeper. The WQFW RCG discussed and determined necessary changes to Project operations to stabilize downstream flows. Over the course of several WQFW RCG meetings, a framework for a Downstream Flow Fluctuation Adaptive Management Plan (AMP) was developed to address downstream flow stabilization during the new license term (Appendix A). This AMP outlines SCE&G's proposed actions for stabilizing downstream flows and will be implemented during the term of the new Project license.

1.1 PROJECT DESCRIPTION

The Parr Hydroelectric Project includes the 14.88-megawatt (MW) Parr Shoals Development (Parr Development) and the 511.2-MW Fairfield Pumped Storage Development (Fairfield Development) located in Fairfield and Newberry counties, South Carolina. Parr Reservoir is a 4,400-acre impoundment formed by the Broad River and the Parr Shoals Dam and serves as the lower reservoir for the Fairfield Development's pumped storage operations. Monticello

Reservoir is a 6,800-acre impoundment formed by a series of four earthen dams and serves as the upper reservoir for the Fairfield Development's pumped storage operations. The existing Project license was issued by FERC on August 28, 1974 for a period of 46 years, terminating on June 30, 2020. SCE&G intends to file for a new license with FERC on or before May 31, 2018.

2.0 DOWNSTREAM FLOW FLUCTUATION AMP REVIEW COMMITTEE

2.1 COMMITTEE MEMBERS

A Review Committee will be formed to direct the implementation of the AMP. Members of the Review Committee must be signatories to the Comprehensive Relicensing Settlement Agreement (CRSA) with the exception of NOAA Fisheries, USFWS, US Forest Service, South Carolina State Historic Preservation Office, SCDHEC and SCDNR.

SCE&G will serve as chairperson of the Review Committee, and be responsible for organizing meetings and distributing documents to committee members. Each entity will have the opportunity to select a representative to the Review Committee from within their organization.

The Review Committee will ultimately work to guide the decision-making processes specified in the Downstream Flow Fluctuation AMP. The Review Committee will not make decisions that conflict with state or federal law. The Review Committee's responsibilities may include, but are not limited to:

- Evaluating baseline information and study plans;
- Providing overall guidance for the AMP process;
- Evaluating other study (i.e., existing) information or information which becomes available during the time period of evaluations and would be applicable to the AMP;
- Establishing and documenting the goals and objectives of each action undertaken as part of the AMP and advising when modifications to metrics used for evaluation purposes are needed;
- Reviewing and considering long term impacts of operational modifications on the Project and Project economics when evaluating the feasibility of implementing modifications; and
- Advising on modifications to the AMP to be presented to FERC and advising if any amendment action is necessary during the term of the license.

2.2 BUDGET/RESOURCES

The responsibility for implementation of this AMP, including its funding, will rest primarily with SCE&G, as licensee for the Parr Project. SCE&G will also rely on other resources outside of its establishment including, but not limited to, the following:

- federal, state and local grants
- donated services (federal and state agency involvement)
- expertise (governmental, non-governmental, private)

2.3 COMMITTEE MEETINGS

The Review Committee is tentatively scheduled to consult once per year via an in-person meeting or conference call. The meetings would be held to review current procedures, set future targets, and continue to provide input on operating guidelines. These annual meetings would assess how closely SCE&G matched outflows to inflows during spring stabilization periods, and to evaluate whether the stabilization goals were met year-round and/or seasonally.

The frequency of meetings may be adjusted based on need. The tentative schedule is provided in Section 6.0 of this plan. Minutes from each meeting, as well as any pertinent materials discussed in the meetings will be filed with FERC as an appendix to the annual report of AMP activities, as described in Section 7.0 of this plan.

3.0 GOALS AND OBJECTIVES

The WQFW RCG has requested that SCE&G reduce the fluctuations downstream of Parr Shoals Dam that result from Project operations. Specifically, they requested two levels of reduced fluctuations. The first goal is to reduce year-round downstream flow fluctuations. This goal would benefit the aquatic resources in the Broad River downstream of Parr Shoals Dam by stabilizing wetted habitat and reducing large daily fluctuations by some amount. The second goal is to stabilize flows during two 14-day spawning periods. During the spawning periods, SCE&G would attempt to match inflow and outflow to potentially improve spawning conditions for several species of fish, including anadromous American shad, striped bass and the Congaree River population of shortnose sturgeon.

4.0 CURRENT OPERATIONS

During the current license, SCE&G has operated the Project to meet the requirements of the current license articles and FERC regulations. Under current operation guidelines, Parr Reservoir can fluctuate up to 10 feet daily and Monticello Reservoir can fluctuate up to 4.5 feet daily as part of the pumped storage operations of the Fairfield Development. SCE&G operators also do not allow Parr Reservoir to rise above full pool and pass water over the spillway crest gates in the closed position. The operators only have two options for managing Parr Reservoir level under variable inflow conditions. They can pass water through the Parr Shoals turbines or lower the spillway crest gates. The ten crest gates are operated in pairs, with each pair being 400 feet long. The crest gates can be lowered in 0.1 foot increments over a ten foot operating range to allow inflow in excess of Parr Shoals Hydro's hydraulic capacity to spill over the gates.

Article 39 of the current license requires SCE&G to operate the Project reservoirs in such a manner that releases from Parr Reservoir (during flood flows) are no greater than flows which would have occurred in the absence of the Project. Assessments conducted during the late 1970's and in 2014 both indicate that flows of 40,000-45,000 cfs would begin to inundate and flood lands downstream of Parr Shoals Dam. Several measures have been implemented during the current license to ensure that only natural inflows above 40,000 cfs pass downstream of the Parr Development, and that releases from the Fairfield Development do not increase the magnitude or frequency of downstream flooding. These measures include incrementally lowering spillway gates when inflow, as measured at the three upstream USGS gages (see Section 5.1.2) is between 6,000-8,000 cfs, and continuing until all ten gates are in the open (lowered) position by the time that inflows reach 40,000 cfs. Additionally, generation at the Fairfield Development is reduced as inflow increases and is completely curtailed by the time inflows reach 40,000 cfs. By the time that the 40,000 cfs threshold has been met, all gates must be lowered to the full open position and Fairfield Development generation must be curtailed. However, pump back operations at Fairfield may occur during high flow events, as these operations actually reduce the amount of flow passing through the Parr Development. This operating regime has proved to be successful in the past and SCE&G intends to continue operating in this manner during future high flow events.

During relicensing, stakeholders noted that when inflow to the Project is less than 40,000 cfs, frequent fluctuation events occur throughout the year that sometimes increase and decrease releases from the Project by 5,000 to 10,000 cfs daily. This issue was addressed during the relicensing process by the WQFW RCG. The RCG held meetings on August 26, 2015, January 1, 2016, August 17, 2016 and October 18, 2016 to discuss the magnitude of this issue. The notes from each meeting and additional information provided to the RCG are included in Appendix A. As part of these RCG discussions, SCE&G determined that two operational practices contribute to downstream flow fluctuations. First, current operations include daily or weekly "reservoir inventory management releases" through the Parr Shoals Dam spillway crest gates that causes some of the fluctuations in downstream flow. When inflow to Parr Reservoir is greater than the flows that the Parr Shoals powerhouse can pass, the reservoir level slowly rises during the week and water is then released by lowering crest gates. Current inventory management operations result in large, short duration pulses being released downstream. Second, some or all of the spillway gates are sometimes lowered and left in that position for several days to spill excess inflow, which increases the influence of Fairfield generation and pumping on downstream flows due to water spilling over the lowered gates as Parr Reservoir rises and falls during pumped storage operations. SCE&G plans to develop and begin to implement operational guidelines and procedures during the term of this AMP that will reduce the frequency and duration of these pulses and fluctuations and allow SCE&G to manage reservoir inventory more proactively under the new license.

5.0 AMP IMPLEMENTATION

The WQFW RCG identified the need to reduce downstream flow fluctuations in the Broad River caused by Project operations year-round. The WQFW RCG also identified the need for stable flows during specific fish spawning periods during the spring. The success of flow fluctuation reductions will be measured by comparing inflow to outflow at the Project, both qualitatively and using metrics such as deviation of outflow from inflow as described below in Section 5.1.2. Additionally, WUA data from the IFIM study performed during relicensing may potentially be used to evaluate the habitat improvements which may result from reductions in fluctuations. Because this AMP covers a five-year period, SCE&G will work with the Review Committee to set appropriate evaluation and compliance criteria each year. Compliance criteria will consider the effects of mechanical restrictions (turbines down for repair), high inflow event information for each year and will also include deviation criteria during the four weeks of spring spawning season.

5.1 GENERAL YEAR-ROUND DOWNSTREAM FLOW FLUCTUATION REDUCTIONS

System control operators will modify year-round inventory management release operations to reduce downstream flow fluctuations during all months. Parr spillway gates are currently only operated when the Project is manned (i.e. weekdays during daytime hours). This can result in flows being built up overnight or gates being left down, both of which contribute to downstream flow pulses. Additional guidelines will be developed for use by system control and plant operators to ensure that flows are released on a more even schedule.

A remote-control camera will be installed on the west side of the Parr Shoals Dam. This camera will allow offsite system control operators to determine if conditions are safe to raise or lower crest gates 1 and 2 when the plant is unmanned. Along with the remote-control camera, the capability for remote-control operation of crest gates 1 and 2 will be added. This will allow system control to make around the clock gate adjustments based on real time inflow and reservoir level data, as opposed to gate adjustments being limited to daytime hours when the powerhouse is manned.

SCE&G has agreed to investigate the potential for automating the crest gate operation using a Programmable Logic Controller (PLC) based system. A PLC is already used to position the

gates, and it may be possible to incorporate inputs of inflow, reservoir level, and outflow and develop logic that will allow the gates to track changes in Parr Reservoir level so as to provide a more constant outflow during periods of spillage. Automated gate operation will be subject to SCE&G's ability to effectively monitor the gates for debris accumulation and other safety related conditions when gates are positioned.

Modifications or replacement of generators at the Parr Development may also be implemented during the new license if it is determined that these changes are mechanically and economically feasible. This change would allow increased hydraulic capacity through the powerhouse and would assist in regulating reservoir inventory and reduce the frequency of spillage at Parr Shoals Dam.

While the original hydraulic capacity (the maximum amount of water that can be passed through the Project turbines) of the Parr Development powerhouse was 6,000 cfs, the increase in head (the difference in the elevation of the upstream reservoir in relation to the tailrace elevation) during the construction of the Fairfield Development resulted in a turbine capacity (maximum shaft horsepower for an individual turbine at full gate) that exceeded the generator capacity (the maximum amount of electricity that can be produced within the safety limitation of a generator). The generator limitations actually limit the hydraulic capacity of the project to approximately 4,800 cfs, due to the need to operate the turbines at a reduced gate opening. Increasing the generator capacity would allow higher turbine flows, with a Project hydraulic capacity of approximately 6,000 cfs at low pond to 7,000 cfs when the Parr Reservoir is full.

Increasing the powerhouse hydraulic capacity will reduce the need to pass inflows using spillway gates, which will aid in reducing downstream flow fluctuations. To quantify the benefit of this increased control, the flow duration data was used to compare the existing and anticipated increase in hydraulic capacities. The difference between these represents the "benefit" of turbine-controlled releases.

For example, in Table 5-1, under current conditions the existing hydraulic capacity is exceeded 64.2 percent of the time during the month of March. By comparison, after all generators are upgraded, hydraulic capacity at minimum and maximum pond would be exceeded 48.3 and

38.2 percent of the time. This generator upgrade program results in spillway gate control of downstream flows being reduced 15.9 to 26.0 percent of the time.

TABLE 5-1 PERCENT OF TIME SPILLWAY FLOW CONTROL IS REDUCED

Station	Percent of Time Flow Exceeded												
Flow (cfs)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
4,800	52.2%	58.0%	64.2%	50.5%	31.9%	23.1%	14.9%	16.4%	9.5%	13.3%	21.3%	43.0%	33.0%
6,000	35.0%	41.3%	48.3%	38.5%	19.7%	12.7%	7.5%	10.8%	4.8%	9.0%	14.2%	26.8%	22.2%
7,000	28.6%	34.1%	38.2%	29.0%	14.2%	8.7%	6.5%	8.8%	3.6%	7.6%	11.4%	21.7%	17.5%
	Percent of Time Spillway Flow Control is Reduced												
6,000	17.1%	16.7%	15.9%	12.0%	12.2%	10.5%	7.5%	5.6%	4.8%	4.2%	7.1%	16.2%	10.8%
7,000	23.6%	23.9%	26.0%	21.4%	17.7%	14.5%	8.5%	7.6%	5.9%	5.6%	9.9%	21.4%	15.5%

5.2 SPRING SPAWNING STABILIZATION

Operational practices will be further modified during two 14-day spring spawning periods to further reduce downstream flow fluctuations. During these timeframes, the Project's operational goal will be to provide outflows that more closely match inflows. SCE&G will staff the Parr Shoals facility 24 hours/day during these periods to manipulate crest gates to more closely track Parr reservoir level and maintain a more constant discharge. Exceptions will be during periods when the inflow is less than the hydraulic capacity of the Parr Shoals turbines (when crest gates can be maintained in the raised position) and/or during flood events (when gates must be lowered progressively to limit backwater effects upstream of the dam). The periods of spawning flow stabilization will be determined annually by the Review Committee prior to the spawning period. Exact timing may vary from year to year but will generally be as follows:

- For 14 days during the last two weeks of March (March 15 through March 31) - flow stabilization for shortnose sturgeon in the Congaree River.
- Two 7-day blocks during April 1 through May 10 - flow stabilization for numerous species including striped bass, American shad, and robust redhorse.

During these stabilization periods, hourly inflow and mean deviation of outflow vs. inflow will be computed and tracked as a running measure each year. An example of how the mean deviation would be computed is included in Appendix B. Annual target reductions in mean deviation (correlated to mean inflow) will be set by the Review Committee each year during the 5-year monitoring period. This will guide operations with the goal of reducing downstream fluctuations. Project inflow will be computed as the sum of flows measured at the three USGS gage stations upstream of Parr Shoals Dam minus estimated evaporation from the Project

reservoirs. Evaporation estimates used by SCE&G are based on standard methodology and are presented in Appendix C.

The three gages used to calculate inflow are:

- 02156500 Broad River near Carlisle, SC
- 02160105 Tyger River near Delta, SC
- 2160700 Enoree River near Whitmire, SC

As inflow increases, backwater restrictions (potential of flooding the railroad tracks at Section 13 of the USGS backwater profile as shown on drawing Exhibit G-9) will limit how far the crest gates can be raised as Parr Reservoir rises. At some level of inflow Fairfield operations may need to be curtailed, or it may be determined by the Review Committee that certain releases during periods of higher inflow will not negatively impact the species in the river and that adjusting the gates to track the reservoir level may not be necessary. When computing inflow, no correction will be made for travel time, and the measured discharge (total inflow) will not be prorated to account for un-gaged areas between the gage stations and Parr Shoals Dam.

5.3 ANNUAL ANALYSIS

A Review Committee meeting will be held annually to review the results of downstream flow fluctuation reductions, set compliance targets for the following year, and suggest additional changes to operating guidelines. For this meeting, SCE&G will prepare a summary report on the success of the downstream flow fluctuation efforts during the year. This assessment will be performed using metrics such as deviation of outflow from inflow, or other measures such as the percent of time that outflow was within "X" percent of inflow. The report will also include an assessment of flow fluctuation reductions both year round and during the two 14-day spawning periods. The annual report, along with Review Committee meeting notes, will be filed with FERC following each annual meeting.

Potential metrics being considered for evaluating reductions in flow fluctuation include:

- Computing the mean hourly deviation of outflow from inflow over a specific time period, i.e. the entire year, the spring flow stabilization period, or monthly. This computation would involve comparing hourly values of outflow and inflow, computing the absolute

value of the difference each hour (the deviation), and taking the mean of the deviation values over the time period being evaluated. An example computation using actual inflow and outflow data is presented in Appendix B, along with a discussion of the relevance of this metric for evaluating the magnitude of fluctuations relative to inflow.

- Examining graphs of inflow and outflow to determine how closely the outflow hydrograph compares to the inflow hydrograph. Example graphs are included as Figure 1 and Figure 2.

Figure 1 shows a period during March 2012 when inflow to the Project was less than the hydraulic capacity of Parr Hydro, and the crest gates were maintained in a fully raised position (no spillage). Even with Fairfield Pumped Storage (FFPS) operating throughout the period, the crest gates were maintained in the fully raised position and the overall pattern of Project releases matched well with the overall pattern of inflow to the Project. Mean hourly deviation of outflow from inflow over this period was 567 cfs.

Figure 2 shows a period during March 2010 when inflow to the Project was greater than the hydraulic capacity of Parr Hydro, and several crest gates were maintained in a partly or fully lowered position (spillage occurred). With Fairfield Pumped Storage (FFPS) operating throughout the period, the overall pattern of Project releases did not match well with the overall pattern of inflow to the Project. Mean hourly deviation of outflow from inflow over this period was 1,641 cfs, nearly three times the mean hourly deviation shown in Figure 1. Figure 2 also shows that the amount of fluctuation becomes greater as inflow increases, due to the need to spill more of the inflow using the crest gates. This correlation of greater fluctuation with increasing inflow is discussed in more detail in Appendix B.

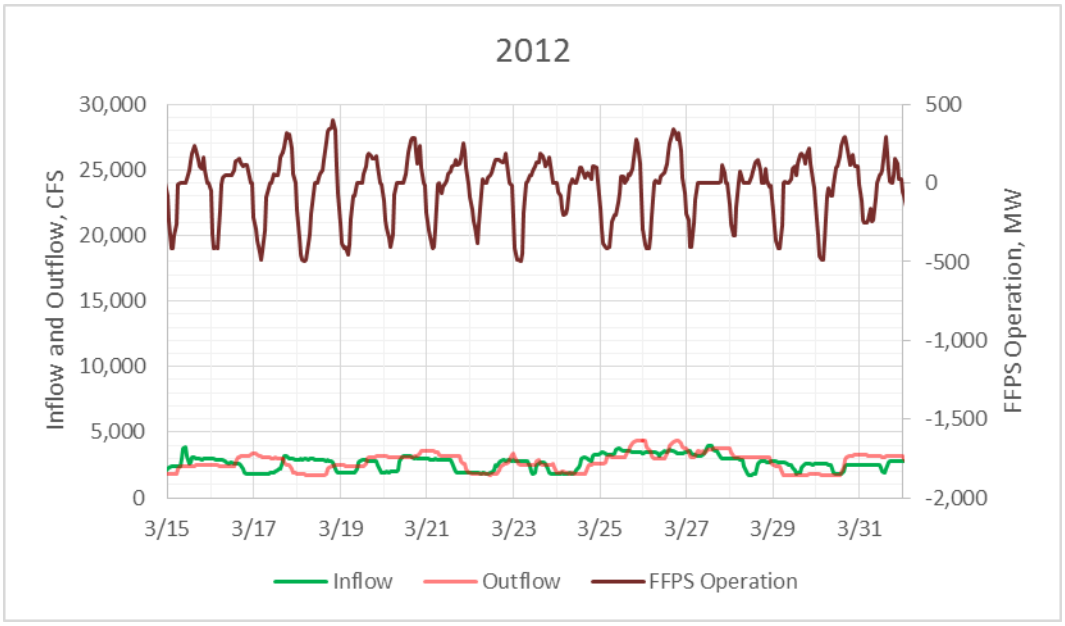


FIGURE 1 GRAPH ILLUSTRATING A PERIOD OF SMALLER FLUCTUATIONS (INFLOW < PARR HYDRO HYDRAULIC CAPACITY)

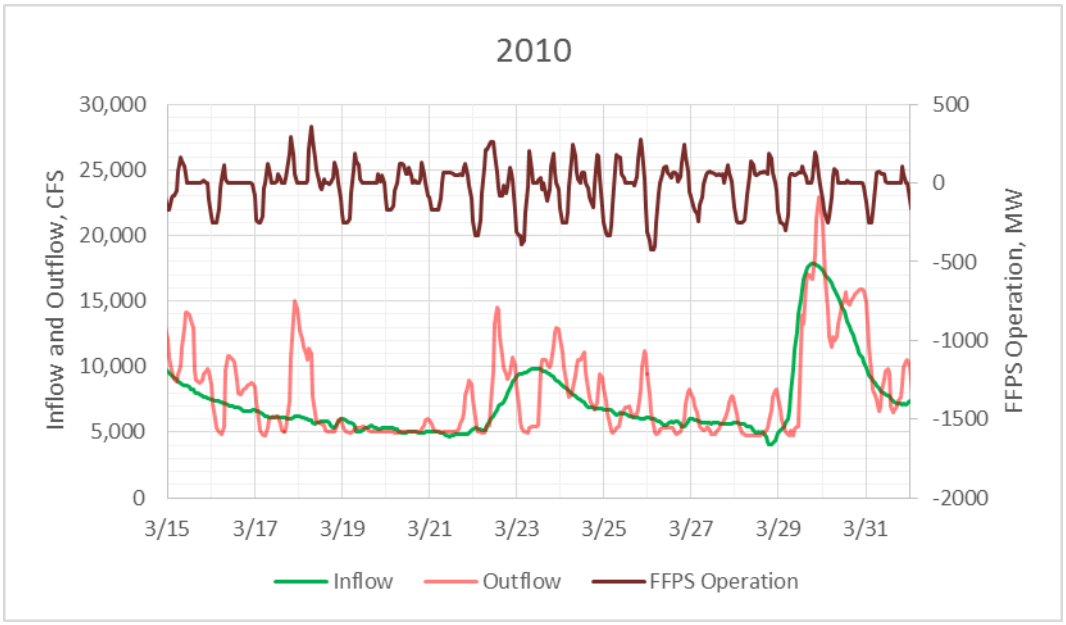


FIGURE 2 GRAPH ILLUSTRATING A PERIOD OF LARGER FLUCTUATIONS (INFLOW > PARR HYDRO HYDRAULIC CAPACITY)

6.0 SCHEDULE

The AMP schedule is described in the table below in relation to the issuance of the license by FERC.

TABLE 6-1 AMP IMPLEMENTATION SCHEDULE

Period	Item
Within 90 days of license issuance	Submit updated Downstream Flow Fluctuation AMP to FERC
Within 120 days of license issuance	Form Review Committee – develop "compliance criteria"
*Year 1- of new license	• Modify inventory management releases using guidelines to be developed by SCE&G • System Control implements new operating guidelines to reduce flow pulses throughout the year • Implement spring spawning flow stabilization (March and April-May) • Review Committee meeting to review results and set compliance criteria – February of the following year • File Annual Report with FERC – April 30 after Review Committee meeting
End of first calendar year following the year of license issuance	• Addition of remote control camera to west abutment of Parr Shoals Dam and provide System Control operators the ability to operate the camera • Add remote control operation of crest gates 1 and 2 and provide System Control operators the ability to operate these two gates
*Year 2 of new license	• System Control implements any modifications of operating guidelines to reduce flow pulses throughout the year • Implement spring spawning flow stabilization (March and April-May) • Review Committee meeting to review results and set compliance criteria for following year – February of the following year • File Annual Report with FERC – April 30 after Review Committee meeting
*Year 3 of new license	• System Control implements any modifications of operating guidelines to reduce flow pulses throughout the year • Implement spring spawning flow stabilization (March and April-May) • Review Committee meeting to review results and set compliance criteria for following year – February of the following year • File Annual Report with FERC – April 30 after Review Committee meeting
*Year 4 of new license	• System Control implements any modifications of operating guidelines to reduce flow pulses throughout the year

	• Implement spring spawning flow stabilization (March and April-May) • Review Committee meeting to review results and set compliance criteria for following year – February of the following year • File Annual Report with FERC – April 30 after Review Committee meeting
*Year 5 of new license	• System Control implements any modifications of operating guidelines to reduce flow pulses throughout the year • Implement spring spawning flow stabilization (March and April-May) • Review Committee meeting to review results and set compliance criteria for following year – February of the following year • Develop recommendation for completion or continuation of the AMP • File Annual Report with FERC – April 30 after Review Committee meeting

*Year 1 through 5 - Upgrade generators and expand hydraulic operating range, this could continue through year 10 after license issuance

7.0 COMPLIANCE

Compliance will be based on following the schedule in Section 6.0 and submission of an annual AMP report each year to FERC. The annual report will contain a summary of all AMP activities and data, including an assessment of the extent to which goals and objectives were achieved. The report will be made available to appropriate entities for review and comment at least 30 days prior to being submitted to FERC. All comments on the report, pertinent correspondence, and Review Committee meeting minutes will be appended to the annual report.

At the end of the 5-year AMP period, the Review Committee will provide final recommendations to FERC on extension or completion of the AMP. If the AMP is completed, then final compliance criteria will be proposed by the Review Committee for use during the remainder of the license.

8.0 REFERENCES

Federal Power Commission (FPC). 1974. Order Issuing New License (Major). Authorizing Project Redevelopment, Permitting use of Project Waters for Condenser Cooling Purposes, Vacating Hearing Order, and Permitting Withdrawal of Intervention. (Project No. 1894). Issued August 28, 1974.

APPENDIX A

SUMMARY OF CONSULTATION

Appendix A – Summary of Consultation

The Water Quality, Fish and Wildlife RCG convened often throughout the relicensing process to discuss the development of the Downstream Flow Fluctuations AMP. A list of meeting dates pertinent to the development of this AMP is included below. The complete consultation record for the development of this AMP, including notes from the meetings listed below, can be found in Appendix A of the Final License Application's Exhibit E.

- WQFW RCG Meeting – August 26, 2015
- WQFW RCG Meeting – January 21, 2016
- WQFW RCG Meeting – August 17, 2016
- WQFW RCG Meeting – October 18, 2016
- Joint[1] RCG Meeting – March 28, 2017
- Joint RCG Meeting – July 13, 2017

[1] A Joint RCG Meeting refers to a meeting where all RCGs are present, including the Water Quality, Fish and Wildlife RCG, the Lake and Land Management and Recreation RCG, and the Operations RCG.

APPENDIX B

MEAN DEVIATION EXAMPLE

Appendix B – Mean Hourly Deviation Example Calculations

Inflow to Parr Reservoir is computed as the sum of three upstream USGS gage station readings: Broad River near Carlisle, Tyger River near Delta, and the Enoree River near Whitmire. No adjustment is made for travel time of flow from the gages, and no scaling for ungaged area is applied. The discharge values for the three gages are provided in columns A – C of the tables below. Outflow from Parr Reservoir is measured at the Broad River at Alston USGS gage, located about one mile downstream of Parr Shoals Dam.

Using hourly Project inflow and outflow data for March 15, 2012 (first day of Figure 1 in Section 5.3), mean hourly deviation for the day (24 hourly values) is computed to be **568 CFS** as shown in the table below:

	A	B	C	D	E	F
Date/Time	Broad River CFS	Tyger River CFS	Enoree River CFS	Total Inflow (A+B+C) CFS	Outflow CFS	Deviation ABS(D-E) CFS
3/15/2012 0:00	1,470	411	311	2,192	1,850	342
3/15/2012 1:00	1,580	411	311	2,302	1,820	482
3/15/2012 2:00	1,650	409	311	2,370	1,810	560
3/15/2012 3:00	1,710	406	311	2,427	1,770	657
3/15/2012 4:00	1,730	406	309	2,445	1,770	675
3/15/2012 5:00	1,700	406	309	2,415	1,790	625
3/15/2012 6:00	1,730	406	307	2,443	2,190	253
3/15/2012 7:00	1,730	400	307	2,437	2,350	87
3/15/2012 8:00	2,320	406	307	3,033	2,380	653
3/15/2012 9:00	3,010	403	307	3,720	2,380	1,340
3/15/2012 10:00	3,110	406	307	3,823	2,400	1,423
3/15/2012 11:00	2,510	406	307	3,223	2,380	843
3/15/2012 12:00	1,890	409	307	2,606	2,400	206
3/15/2012 13:00	1,970	406	307	2,683	2,400	283
3/15/2012 14:00	2,320	409	307	3,036	2,410	626
3/15/2012 15:00	2,330	406	307	3,043	2,430	613
3/15/2012 16:00	2,320	406	305	3,031	2,450	581
3/15/2012 17:00	2,260	395	307	2,962	2,460	502
3/15/2012 18:00	2,300	400	305	3,005	2,460	545
3/15/2012 19:00	2,210	398	305	2,913	2,480	433
3/15/2012 20:00	2,280	398	305	2,983	2,480	503
3/15/2012 21:00	2,260	400	305	2,965	2,500	465
3/15/2012 22:00	2,280	395	305	2,980	2,510	470
3/15/2012 23:00	2,280	395	303	2,978	2,510	468
Mean Values:	**2,123**	**404**	**307**	**2,834**	**2,266**	**568**

This same calculation can be performed for any time period. For the 17 day (408 hour) period shown in Figure 1 in Section 5.3, the calculation of mean hourly deviation gives a value of **567 CFS**.

Appendix B – Mean Hourly Deviation Example Calculations

Using hourly Project inflow and outflow data for March 15, 2010 (first day of Figure 2 in Section 5.3), mean hourly deviation for the day (24 hourly values) is computed to be **2,228 CFS** as shown in the table below:

	A	B	C	D	E	F
Date/Time	Broad River CFS	Tyger River CFS	Enoree River CFS	Total Inflow (A+B+C) CFS	Outflow CFS	Deviation ABS(D-E) CFS
3/15/2010 0:00	7,600	1,210	844	9,654	12,100	2,446
3/15/2010 1:00	7,510	1,200	832	9,542	10,700	1,158
3/15/2010 2:00	7,380	1,190	819	9,389	9,700	311
3/15/2010 3:00	7,290	1,180	807	9,277	9,320	43
3/15/2010 4:00	7,200	1,160	798	9,158	9,040	118
3/15/2010 5:00	7,100	1,140	789	9,029	8,850	179
3/15/2010 6:00	6,990	1,130	780	8,900	9,400	500
3/15/2010 7:00	6,880	1,120	771	8,771	10,000	1,229
3/15/2010 8:00	6,740	1,120	762	8,622	11,500	2,878
3/15/2010 9:00	6,720	1,090	756	8,566	13,000	4,434
3/15/2010 10:00	6,740	1,090	748	8,578	14,100	5,522
3/15/2010 11:00	6,700	1,080	739	8,519	14,100	5,581
3/15/2010 12:00	6,630	1,070	733	8,433	13,900	5,467
3/15/2010 13:00	6,520	1,050	730	8,300	13,500	5,200
3/15/2010 14:00	6,440	1,060	727	8,227	13,000	4,773
3/15/2010 15:00	6,330	1,040	719	8,089	9,730	1,641
3/15/2010 16:00	6,260	1,040	716	8,016	8,970	954
3/15/2010 17:00	6,200	1,030	710	7,940	8,850	910
3/15/2010 18:00	6,150	1,020	704	7,874	8,800	926
3/15/2010 19:00	6,110	1,010	699	7,819	8,970	1,151
3/15/2010 20:00	6,030	999	693	7,722	9,470	1,748
3/15/2010 21:00	5,980	988	693	7,661	9,680	2,019
3/15/2010 22:00	5,960	980	687	7,627	9,810	2,183
3/15/2010 23:00	5,900	973	684	7,557	9,650	2,093
Mean Values:	**6,640**	**1,082**	**748**	**8,470**	**10,673**	**2,228**

Again, the same calculation can be performed for any time period. For the 17 day (408 hour) period shown in Figure 2 in Section 5.3, the calculation of mean hourly deviation gives a value of **1,641 CFS**.

The proposed use of mean hourly deviation of outflow from inflow as a metric for evaluating the effectiveness of reductions in downstream flow fluctuations is based on the strong correlation that exists between Project inflow and the mean hourly deviation of outflow from inflow. This can be shown using inflow and outflow data from the period 2000 – 2016 for three periods during the year: March 1 – May 31, March 15 – March 31, and April 1 – May 10. Mean hourly deviation was computed for these periods each year, and the results plotted against inflow.

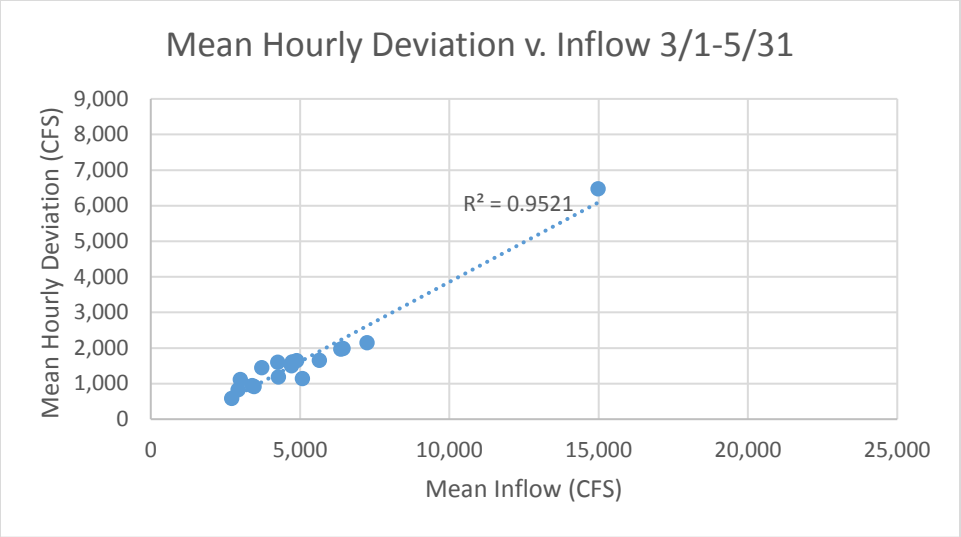
Appendix B – Mean Hourly Deviation Example Calculations

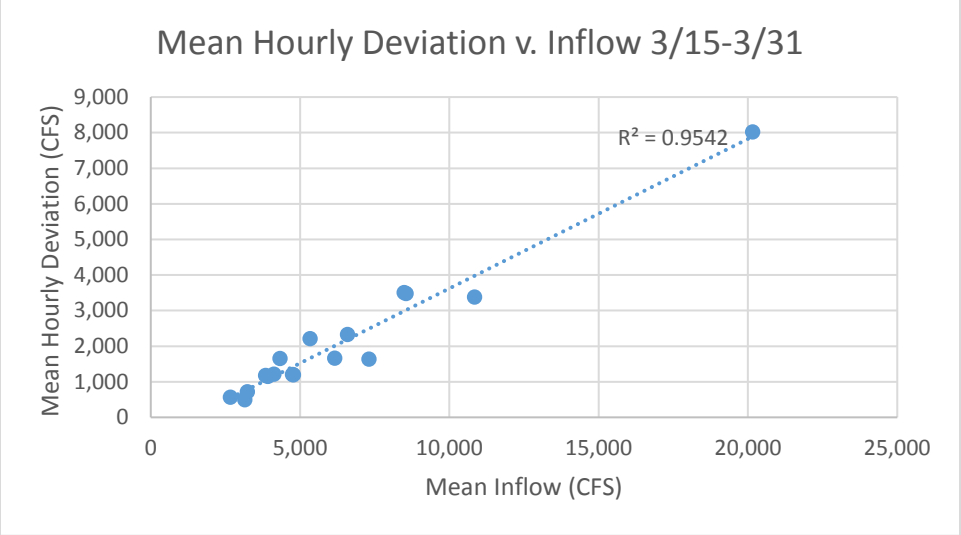
Year	Mean Inflow 3/1-5/31	Mean Hourly Deviation 3/1-5/31	Mean Inflow 3/15-3/31	Mean Hourly Deviation 3/15-3/31	Mean Inflow 4/1-5/10	Mean Hourly Deviation 4/1-5/10
2000	4,250	1,600	8,553	3,483	3,943	1,350
2001	3,716	1,446	8,491	3,506	3,034	1,212
2002	2,996	1,114	4,127	1,215	2,817	1,098
2003	14,980	6,472	20,161	8,018	14,730	6,232
2004	3,458	916	3,240	720	3,808	996
2005	6,438	1,991	10,841	3,384	6,047	2,003
2006	2,715	586	3,146	494	2,777	678
2007	4,889	1,642	4,327	1,655	3,573	911
2008	2,928	823	3,917	1,154	2,789	753
2009	5,644	1,650	6,158	1,667	4,931	1,428
2010	5,073	1,140	7,307	**1,641**	4,465	931
2011	4,278	1,186	4,780	1,197	3,917	1,061
2012	3,399	944	2,667	**567**	2,647	595
2013	7,247	2,147	4,750	1,202	9,943	3,190
2014	6,368	1,970	6,588	2,326	6,936	2,274
2015	4,717	1,499	3,845	1,181	6,542	2,235
2016	4,732	1,614	5,334	2,215	4,630	1,557
Mean	5,166	1,691	6,367	2,096	5,149	1,677

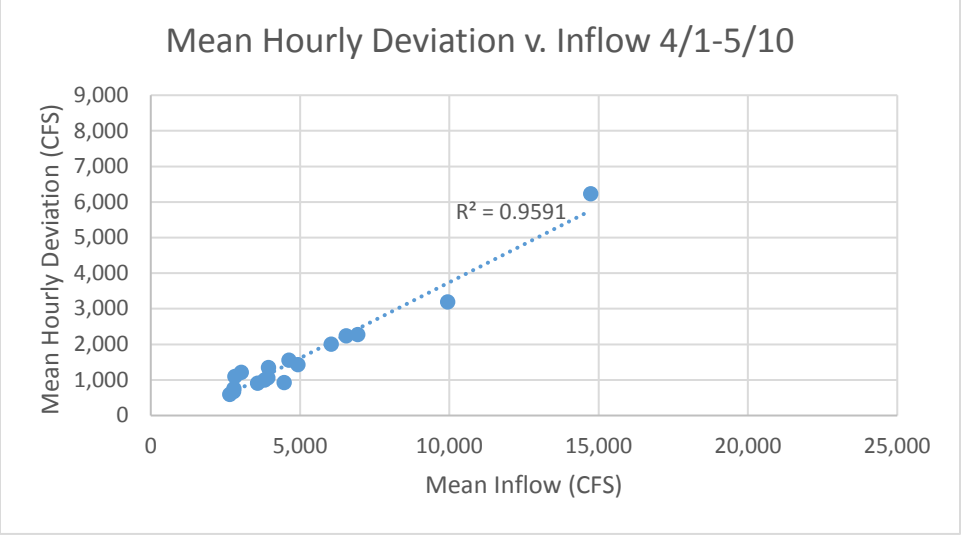
Graphs of mean inflow versus mean hourly deviation for the three time periods in the table above are included on the following page. The best fit linear regression line is shown along with the square of the correlation coefficient, indicating a greater than 95% correlation between mean inflow and mean hourly deviation of outflow from inflow.

In order to use this metric to evaluate the effectiveness of the proposed mitigation measures in reducing downstream flow fluctuations, the mean hourly deviation will be computed from hourly inflow and outflow data, and compared with the deviation that has occurred historically at the same mean inflow. This comparison will be a measure of the amount of fluctuation reduction being achieved. For example, during a future year's evaluation period of March 15 – March 31, use of the proposed fluctuation mitigation measures results in a mean hourly deviation of 1,500 cfs, and mean inflow during this period was 8,000 cfs. The relationship shown in the second graph on the next page indicates that a mean inflow of 8,000 cfs can be expected to result in a mean deviation of 3,000 cfs historically. For the future year in question, the mean hourly deviation was reduced by 50 percent during the evaluation period.

Appendix B – Mean Hourly Deviation Example Calculations







APPENDIX C

EVAPORATION METHODOLOGY

Estimated Evaporation from Parr and Monticello Reservoirs

Evaporation, Central SC			Reservoir Evaporation Loss Estimates in CFS					
	Avg. Monthly FWS Evap. (in).	Evap. Rate (CFS/1000 ac.)	Monticello Evap. Rate (CFS)	VCS Increased Evap. Rate (CFS)	Parr Evap. Rate, (CFS)	**Total Evap. Rate Incl. VCS (CFS)**	**Total Evap. Rate Not Incl. VCS (CFS)**	**Total Evaporation (ac-ft)**
January	1.29	1.75	12	20	8	**40**	**20**	**2,462**
February	1.82	2.74	19	21	12	**51**	**31**	**2,845**
March	3.19	4.33	29	21	19	**70**	**48**	**4,282**
April	4.50	6.31	43	23	28	**93**	**71**	**5,553**
May	5.24	7.10	48	24	31	**103**	**79**	**6,356**
June	5.53	7.75	53	25	34	**112**	**87**	**6,656**
July	5.77	7.82	53	26	34	**113**	**88**	**6,953**
August	5.00	6.78	46	25	30	**101**	**76**	**6,231**
September	4.03	5.64	38	24	25	**88**	**63**	**5,207**
October	3.08	4.18	28	23	18	**70**	**47**	**4,276**
November	2.00	2.80	19	21	12	**53**	**31**	**3,127**
December	1.37	1.85	13	20	8	**41**	**21**	**2,523**
Whole Year	**42.8**	**4.92**	**33**	**23**	**22**	**78**	**55**	**56,473**
May-October	**28.7**	**6.54**	**45**	**24**	**29**	**98**	**73**	**35,680**
	(Sum)	(Average)	(Average)	(Average)	(Average)	(Average)	(Average)	(Sum)

Source: Pan Evaporation Records for the South Carolina Area, John C. Purvis, South Carolina State Climatology Office
FWS values were computed as 75 percent of pan evaporation values.
This factor was estimated from a discussion in NOAA Technical Report NWS 33, Evaporation Atlas for the 48 Contiguous States.

Reservoir evaporation loss estimates are based on surface areas of 6,800 acres for Monticello and 4,400 acres for Parr.

The conversion from evaporation in inches to evaporation rate in CFS per thousand acres is:

(inches) x (1 ft/12 in) x (1 month/31 [or 30 or 28] days) x (43,560 SF/acre) x (1 day/86,400 sec) x (1,000 acres/thousand acres)

Increased evaporation from V.C. Summer Station is estimated using information provided by VCS, and is based on average ambient temperature for each month.

Appendix A-3
Minimum Flows Downstream of Parr Shoals Dam Adaptive Management Plan

ADAPTIVE MANAGEMENT PLAN

MINIMUM FLOWS DOWNSTREAM OF PARR SHOALS DAM

SOUTH CAROLINA ELECTRIC & GAS COMPANY

FERC NO. 1894

Prepared by:

South Carolina Electric & Gas Company

June 2018

ADAPTIVE MANAGEMENT PLAN
FOR THE
MINIMUM FLOWS DOWNSTREAM OF PARR SHOALS DAM

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DEFINITIONS OF TERMS, ACRONYMS, AND ABBREVIATIONS

AMP	Adaptive Management Plan
AR	American Rivers
CFR	Code of Federal Regulations
cfs	cubic feet per second
Commission	Federal Energy Regulatory Commission
Compliance Limit	The instantaneous minimum flow required by FERC to be released from the Project.
CRK	Congaree Riverkeeper
CRSA	Comprehensive Relicensing Settlement Agreement
DLA	Draft License Application
FERC	Federal Energy Regulatory Commission
FLA	Final License Application
ft	foot
IFIM	Instream Flow Incremental Methodology
IFTWC	Instream Flow Technical Working Committee
installed capacity	the nameplate megawatt rating of a generator or group of generators
interested parties	individuals and entities that have an interest in a proceeding
kW	Kilowatt
kWh	kilowatt-hour
Licensee	South Carolina Electric & Gas Company
Licensing/Relicensing	the process of acquiring an original FERC license for a new proposed hydropower project; or, the process of acquiring a new FERC license for an existing hydropower project after the previous license has expired.
Low inflow protocol	An agreement between a licensee and stakeholders that provides instructions to the licensee on how to manage flows during low inflow periods.
Minimum Flow	A continuous flow, measured in CFS that is required to be released from the Project dam during specified periods of time.
Msl	mean sea level
MW	megawatt
MWh	megawatt-hour
Net inflow	The previous day's daily average inflow as calculated using the sum of the three upstream USGS gages (USGS 02156500, Broad River near Carlisle, SC; USGS 02160105, Tyger River near Delta, SC; and USGS 02160700, Enoree River at Whitmire, SC) minus evaporation from the reservoirs.
NGO	non-governmental organization

NMFS	National Marine Fisheries Services, also known as NOAA Fisheries
NOAA	National Oceanic and Atmospheric Administration, including NMFS
normal operating capacity	The maximum MW output of a generator or group of generators under normal maximum head and flow conditions
PM&E	protection, mitigation and enhancement measures
Project	Parr Hydroelectric Project (FERC No. 1894)
Project Area	Zone of potential, reasonably direct project effects within the FERC Project Boundary.
Project Boundary	The boundary line defined in the license issued by FERC that surrounds areas needed for Project purposes.
Review Committee	A group, including SCE&G and stakeholders, formed to direct the implementation of the Minimum Flow AMP. Members of the Review Committee must be signatories to the Comprehensive Relicensing Settlement Agreement.
RTWC	Recreation Technical Working Committee
SCDHEC	South Carolina Department of Health and Environmental Control
SCDNR	South Carolina Department of Natural Resources
SCE&G	South Carolina Electric & Gas Company
SHPO	State Historic Preservation Officer
Tailrace	Channel through which water is discharged from the turbines
Target Flow	The instantaneous minimum flow recommended by the IFTWC to be released from the Project.
TLP	Traditional Licensing Process
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service, an agency of the DOI
USGS	U.S. Geological Survey
WQC	Water Quality Certification, issued under Section 401 of the Federal Clean Water Act
WUA	Weighted Usable Area

ADAPTIVE MANAGEMENT PLAN
FOR THE
MINIMUM FLOWS DOWNSTREAM OF PARR SHOALS DAM

1.0 INTRODUCTION

South Carolina Electric & Gas Company (SCE&G) must file an application for a new license for its Parr Hydroelectric Project (Project) (FERC No. 1894) (Project) with the Federal Energy Regulatory Commission (FERC) by June 2018. The relicensing process is a multi-year cooperative effort between SCE&G and stakeholders, including state and federal resource agencies, non-governmental organizations and concerned citizens, to address operational, recreational and ecological concerns associated with Project operations. During the relicensing process, the potential impact of Project operation minimum flows on fishery resources, aquatic habitat, and fish/navigation passage was identified as an issue to address.

SCE&G formed the Instream Flow Technical Working Committee (IFTWC) and the Recreation Technical Working Committee (RTWC) to develop an Instream Flow Incremental Methodology (IFIM) Study and a Downstream Navigational Flow Assessment, respectively, to address the minimum flow issue. The IFTWC includes representatives from SCE&G, South Carolina Department of Natural Resources (SCDNR), South Carolina Department of Health and Environmental Control (SCDHEC), U.S. Fish and Wildlife Service (USFWS), National Ocean and Atmospheric Administration (NOAA), American Rivers, and Congaree Riverkeeper. The RTWC includes representatives from SCE&G, SCDNR, SCDHEC, NOAA, American Rivers, Congaree Riverkeeper, and other interested individuals.

During the TWC meetings, a framework for a Minimum Flow Adaptive Management Plan (AMP) was developed to address minimum flows to be released downstream of the Project during the new license term. This AMP describes the minimum flow issue and SCE&G's proposed actions to maintain minimum flows that will support fishery resources, aquatic habitat, and navigation passage downstream of the Project. These actions will be implemented during the new Project license.

1.1 PROJECT DESCRIPTION

The Project includes the 14.88-megawatt (MW) Parr Shoals Development (Parr Development) and the 511.2-MW Fairfield Pumped Storage Development (Fairfield Development) located in Fairfield and Newberry counties, South Carolina. Parr Reservoir is a 4,400-acre impoundment formed by the Parr Shoals Dam on the Broad River and serves as the lower reservoir for the Fairfield Development. Monticello Reservoir is a 6,800-acre impoundment formed by a series of four earthen dams and serves as the upper reservoir for the Fairfield Development. The existing Project license was issued by FERC on August 28, 1974 for a period of 46 years, terminating on June 30, 2020. SCE&G intends to file for a new license with FERC on or before May 31, 2018.

2.0 MINIMUM FLOW AMP REVIEW COMMITTEE

2.1 COMMITTEE MEMBERS

A Review Committee will be formed to direct the implementation of the AMP. Members of the Review Committee must be signatories to the Comprehensive Relicensing Settlement Agreement (CRSA) with the exception of NOAA Fisheries, USFWS, US Forest Service, South Carolina State Historic Preservation Office, SCDHEC and SCDNR.

SCE&G will serve as chairperson of the Review Committee, and be responsible for organizing meetings and distributing documents to committee members. Each entity will have the opportunity to select a representative to the Review Committee from within their organization.

The Review Committee will ultimately work to guide the decision making processes specified in the Minimum Flow AMP. The Review Committee will not make decisions that conflict with state or federal law. The Review Committee's responsibilities may include, but are not limited to:

- Providing overall guidance for the AMP process;
- Evaluating other study (i.e., existing) information or information which becomes available during the time period of evaluations and would be applicable to the AMP;
- Reviewing and considering long term impacts of operational modifications on the Project and Project economics when evaluating the feasibility of implementing modifications;

- Reviewing the Minimum Flow Annual Report which documents the prior year's AMP activities which SCE&G will file with FERC, making it publicly available; and
- Advising on modifications to the AMP to be presented to FERC and advising if any amendment action is necessary during the license.

2.2 BUDGET/RESOURCES

The responsibility for implementing this AMP will rest primarily with SCE&G, as licensee for the Project. SCE&G will also rely on other resources outside of its establishment including, but not limited to, the following:

- federal, state and local grants
- donated services (federal and state agency involvement)
- equipment (purchases and loaners)
- expertise (governmental, non-governmental, private)

2.3 COMMITTEE MEETINGS

The Review Committee is tentatively scheduled to consult once per year via an in-person meeting or conference call. The frequency of meetings may be adjusted based on need. The tentative schedule is provided in Section 6.0 of this plan. Minutes from each meeting, as well as any pertinent materials discussed in the meetings will be filed with FERC as an appendix to the annual report of AMP activities, as described in Section 7.0.

3.0 GOALS AND OBJECTIVES

The overall goal of this AMP is to provide a minimum flow from the Project that considers fishery resources, aquatic habitat, and fish/navigation passage needs. This AMP provides the guidance for releasing minimum flows from the Project that consider these downstream resources. The methods that will be employed under this AMP to achieve this goal and objective are described in Section 5.0.

4.0 INSTREAM FLOW STUDIES

4.1 IFIM STUDY AND IFTWC DISCUSSIONS

SCE&G conducted an IFIM study during 2014-2016 in the Broad River from the Parr Shoals Dam to the downstream end of the Bookman Island complex (Figure 4-1) (Kleinschmidt 2016b). The IFIM study results provided quantitative estimates of habitat area at selected discharges, based on site-specific measurements of stream morphology, cover, substrate, depth, velocity and discharge gathered at transects within predetermined river reaches. These physical measurements were rated for habitat suitability based on habitat use data developed for eleven key aquatic species (and various life stages) and quantified as Weighted Usable Areas (WUA) over a range of flow releases from Parr Shoals Dam (Kleinschmidt 2016b and Meeting Notes Appendix A).

The IFTWC had multiple meetings from September 2016 through July 2017 to discuss the results of the IFIM study and to develop a recommendation for a minimum flow at the Project (Meeting Notes - Appendix A). The IFTWC conducted a float trip in October 2017 to observe target minimum flow(s) at select study sites. During the field observations, the IFTWC concurred with the minimum flow recommendations for the Project.

The IFTWC established three minimum flow periods and a series of minimum flow targets for each period (Section 5.0). The recommendation includes a “Target Flow” and a “Compliance Limit”. Because the Project is not a storage project and outflows should be related to inflow to the Project, the Target Flow is a minimum flow based on habitat data from the IFIM study results and the Compliance Limit is based on inflow exceedance values and the need for an operation margin. Target Flow and Compliance Limit will be evaluated as part of this AMP, which is anticipated to last for the first 5 years of the new license. The Review Committee will evaluate annually how well SCE&G met the Target Flow and the Compliance Limit in relation to inflows to the Project. It is SCE&G’s goal to improve the instream habitat downstream of Parr Shoals Dam and minimize the number of non-compliance events during the license. The IFTWC also agreed to an “operation margin” that would allow operations during low flow periods to be conducted without the need for a complicated low inflow protocol.

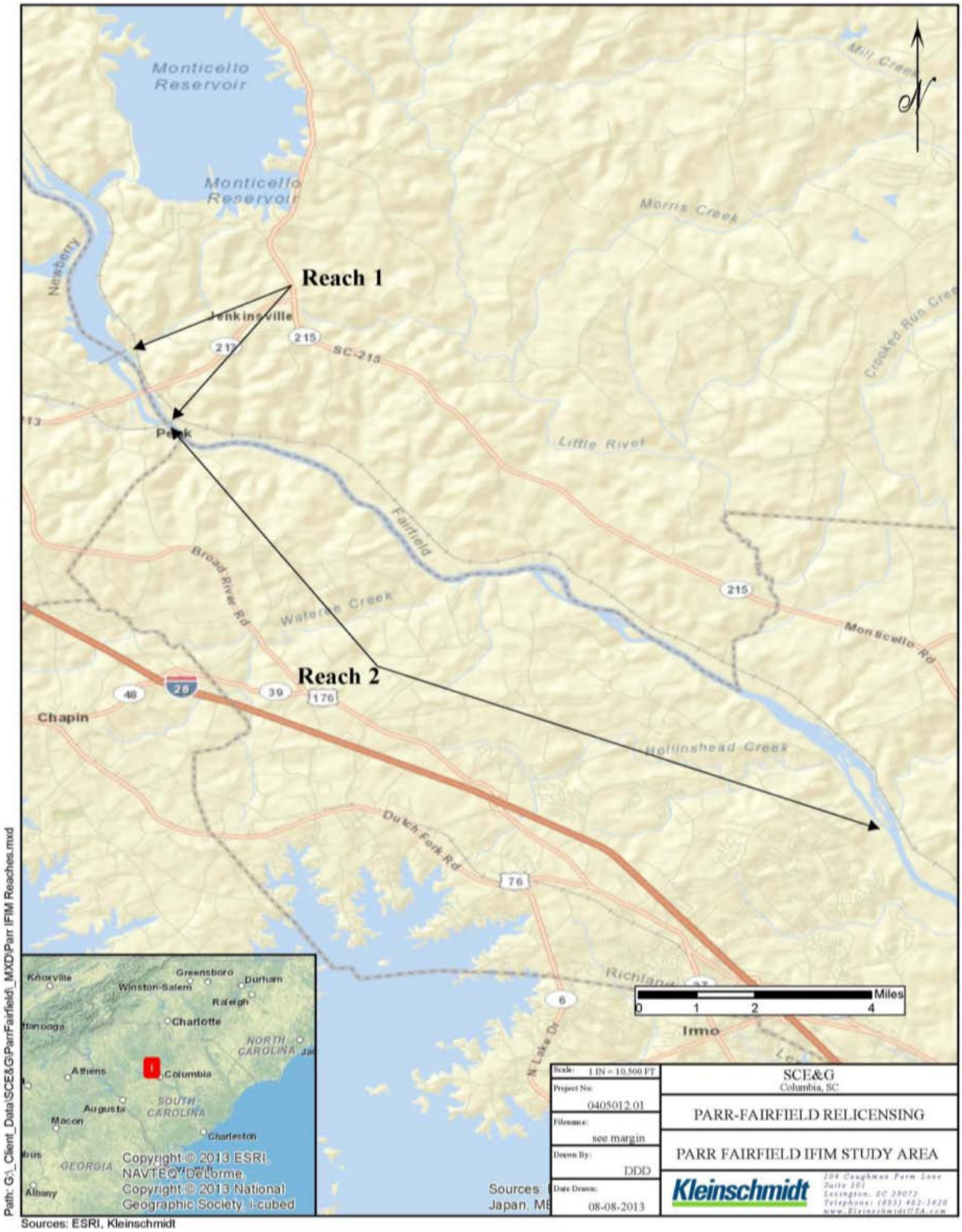

FIGURE 4-1 IFIM STUDY AREA

4.2 DOWNSTREAM NAVIGATIONAL FLOW ASSESSMENT

The Downstream Navigational Flow Assessment was conducted to ensure that the minimum flow recommendation developed during relicensing would consider the flow needed for one-way navigation in the Broad River. The recommendation for one-way navigation is defined as a "minimum depth of one foot across a channel 10 feet wide or across 10 percent of the total stream width, whichever is greater. Minimum depth does not need to occur across a continuous 10 percent of the stream width, but each point of passage must be at least 10 feet wide." One-way navigation recommendations are based on the passage of a 14 foot Jon-boat without a motor in the downstream direction only (SCWRC, 1988).

The navigational analyses evaluated constrictions on the Broad River downstream of the Parr Dam at two areas identified by the Recreation TWC. These areas were identified as "Ledge 1" and "Ledge 2" (Figure 4-2). Ledge 1 (Figure 4-3) consists of a bedrock ledge located approximately 2.4 miles upstream of Haltiwanger Island. Ledge 2 (Figure 4-4) consists of a bedrock ledge located 1.3 miles upstream of Hickory Island and approximately 0.5 miles downstream of the mouth of Little River.

Results of the assessment indicated that a flow of 500 cfs meets the passage recommendation at Ledge 1 with approximately 205 ft of cross-sectional passage provided collectively by two notches. A flow of 1,000 cfs meets the passage recommendation at Ledge 2. The navigation report noted that flows of 700 cfs provide the ‘1-foot’ passage criteria through a notch at Ledge 2 that is 66 ft wide. Although this flow does not meet the exact navigation recommendation of providing navigation across 10 percent of the total stream width, it does provide a passage point that should be sufficient for one-way passage of a 14 ft Jon-boat, canoes, and kayaks. These results were considered along with the results of the IFIM Study in developing a minimum flow recommendation for the new license.

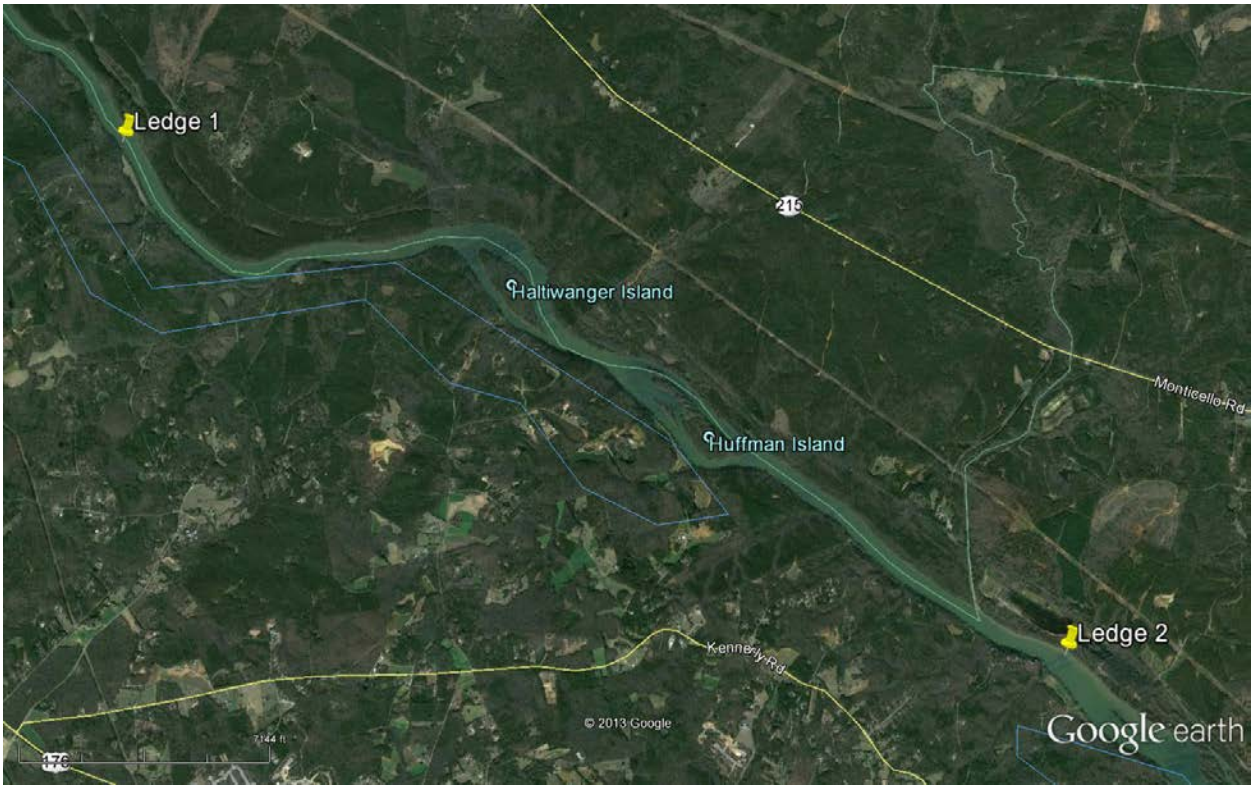

FIGURE 4-2 POINTS OF NAVIGATIONAL CONSTRICTION

FIGURE 4-3 LEDGE 1

FIGURE 4-4 LEDGE 2

5.0 MINIMUM FLOW RECOMMENDATION

The IFTWC identified several measures to implement and monitor the recommended minimum flow regime in the new operating license through the AMP. These measures are described in detail in the sections below. The timing and magnitude of the IFTWC's recommended "continuous" flows are as follows.

5.1 TARGET FLOW

A Target Flow is defined as the instantaneous minimum flow recommended by the IFTWC to be released from the Project. The Target Flow value will vary seasonally and will have "operation margin" based on inflow. During this AMP, the Review Committee will evaluate the annual flow record at the Alston gage (USGS 02161000 Broad River at Alston, SC) for meeting the Target Flow.

5.2 COMPLIANCE LIMIT

A Compliance Limit is defined as the instantaneous minimum flow required by FERC to be released from the Project. The Compliance Limit value will vary based on net inflow, but will generally be 100 to 200 cfs lower than the Target Flow. For compliance purposes, "operation margin" will allow SCE&G to discharge less than the Target Flow for up to six hours per day (with a maximum of three consecutive hours) so that flows are between the target and compliance flow without triggering a non-compliance event. This variance will be used to adjust the balance of storage between the reservoirs, and to allow for variation in flow due to equipment or human factors. When net inflow falls to 600 cfs or less, the Compliance Limit flow would be computed as net inflow minus a 50 cfs buffer. If flow releases drop below the Compliance Limit, or if flows drop below the Target Flow for longer than 6 hours a day and/or longer than 3 consecutive hours, SCE&G will notify the Review Committee within ten days and will include the deviation and reason for that deviation in the annual report to FERC.

A goal of the AMP is to reduce the number of hours per day and the number of consecutive hours of flows between the target and compliance flow values, to the extent that a reduction is shown to be possible based on operational experience during the term of the AMP.

5.3 CALCULATION OF NET INFLOW AND TARGET FLOWS

Net inflow is defined as the previous day's daily average inflow as calculated using the sum of the three upstream USGS gages[1] minus evaporation from the reservoirs. Evaporation for the Parr and Monticello reservoirs is based on standard accepted evaporation methodology. Monthly evaporation values for each reservoir, calculation of those values, and citations for the methodology used are provided in Appendix B.

The previous day's daily average inflow would be based on midnight to midnight of the previous day, and the new Target Flow would be implemented from noon of the current day to noon of the next day. When the previous day's net inflow is below the prescribed Target Flow but above the Compliance Limit, the new target flow would be computed as the net inflow. The Compliance Limit would fluctuate based on how low the net inflow is below the prescribed Target Flow as shown in Section 5.4 below.

When net inflow falls to 600 cfs or less, the new Compliance Limit flow would be computed as net inflow minus a 50 cfs buffer. This step will allow an operation margin for SCE&G to recover up to 50 cfs for up to six hours during each day (with a maximum of three consecutive hours) during low flow periods. This provision will take the place of a low inflow protocol for the project.

5.4 MINIMUM FLOW RECOMMENDATION

Table 5-1 describes the specifics of a Minimum Flow Recommendation for the Project. This recommendation identifies Target Flows and Compliance Limits in relation to net inflows into the Project.

1 (USGS 02156500, Broad River near Carlisle, SC; USGS 02160105, Tyger River near Delta, SC; and USGS 02160700, Enoree River at Whitmire, SC)

TABLE 5-1 PARR MINIMUM FLOW RECOMMENDATION

	Net Inflow (cfs)	Minimum Target Outflow (cfs)	Compliance Outflow (cfs)
High Flow Period Feb 1 – April 30	> 2300	2300	2100
	≤ 2300 and > 2200	net inflow	2100
	≤ 2200 and ≥ 600	net inflow	(net inflow minus 100 cfs) or 550 cfs whichever is greater
	< 600	net inflow	net inflow minus 50 cfs
Transitional Flow Periods Dec 1 – Jan 31; May 1 – May 31	>1500	1500	1300
	≤ 1500 and > 1400	net inflow	1300
	≤ 1400 and ≥ 600	net inflow	(net inflow minus 100 cfs) or 550 cfs whichever is greater
	< 600	net inflow	net inflow minus 50 cfs
Low Flow Period June 1 – Nov 30	> 1000	1000	900
	≤ 1000 and ≥ 600	net inflow	(net inflow minus 100 cfs) or 550 cfs whichever is greater
	< 600	net inflow	net inflow minus 50 cfs

6.0 SCHEDULE

The AMP schedule is described in the table below in relation to the issuance of the license by FERC.

TABLE 6-1 AMP IMPLEMENTATION SCHEDULE

Period	Item
Within 90 days of license issuance	Submit Updated Minimum Flow AMP to FERC
Within 120 days of license issuance	Form Review Committee and review Minimum Flow AMP
Year 1 of new license	• Implementation of Minimum Flow • Review Committee annual meeting February of following year • File Annual Report with FERC – April 30th after Review Committee meeting
Year 2 of new license	• Implementation of any AMP-Minimum Flow changes • Review Committee annual meeting February of following year • File Annual Report with FERC – April 30th after Review Committee meeting

Year 3 of new license	• Implementation of any AMP-Minimum Flow changes • Review Committee annual meeting February of following year • File Annual Report with FERC – April 30th after Review Committee meeting
Year 4 of new license	• Implementation of any AMP-Minimum Flow changes • Review Committee annual meeting February of following year • File Annual Report with FERC – April 30th after Review Committee meeting
Year 5 of new license	• Implementation of any AMP-Minimum Flow changes • Review Committee annual meeting February of following year • Develop recommendation for completion or continuation of AMP • File Annual Report and Final AMP Recommendations with FERC – April 30th after Review Committee meeting

7.0 COMPLIANCE

Compliance will be based on following the schedule in Section 6.0 and the submission of an annual AMP report to FERC. The annual report will contain a summary of all AMP activities and data, including an assessment of the extent to which goals and objectives were achieved. The report will be made available to appropriate entities for review and comment at least 30 days prior to being submitted to FERC. All comments on the report, pertinent correspondence, and Review Committee meeting minutes will be appended to the annual report.

At the end of the 5-year AMP period, the Review Committee will provide final recommendations to FERC on extension or completion of the AMP. If the AMP is completed, then final compliance criteria will be proposed by the Review Committee for use during the remainder of the license.

8.0 REFERENCES

Kleinschmidt Associates. 2016a. Downstream Navigational Flow Assessment. September 2016.

Kleinschmidt Associates. 2016b. Instream Flow Study Report. October 2016.

South Carolina Water Resources Commission (SCWRC). 1988. Instream Flow Study Phase II: Determination of Minimum Flow Standards to Protect Instream Uses in Priority Stream Segments: A Report to the South Carolina General Assembly. Available Online [URL]: http://scwaterlaw.sc.gov/Instream%20Flow%20Study%20ph2.pdf. Accessed August 2013.

APPENDIX A

SUMMARY OF CONSULTATION

Appendix A

The Instream Flow TWC, a sub-section of the Water Quality, Fish and Wildlife RCG, convened often throughout the relicensing process to discuss the development of the Minimum Flows AMP. A list of meeting dates pertinent to the development of this AMP is included below. The complete consultation record for the development of this AMP, including notes from the meetings listed below, can be found in Appendix A of the Final License Application's Exhibit E.

- Instream Flow TWC Meeting – March 5, 2014
- Instream Flow TWC Meeting – September 27, 2016
- Instream Flow TWC Meeting – January 24, 2017
- Joint[1] RCG Meeting – March 28, 2017
- Joint RCG Meeting – July 13, 2017

[1] A Joint RCG Meeting refers to a meeting where all RCGs are present, including the Water Quality, Fish and Wildlife RCG, the Lake and Land Management and Recreation RCG, and the Operations RCG.

APPENDIX B

EVAPORATION METHODOLOGY

Estimated Evaporation from Parr and Monticello Reservoirs

Evaporation, Central SC			Reservoir Evaporation Loss Estimates in CFS					
	Avg. Monthly FWS Evap. (in).	Evap. Rate (CFS/1000 ac.)	Monticello Evap. Rate (CFS)	VCS Increased Evap. Rate (CFS)	Parr Evap. Rate, (CFS)	**Total Evap. Rate Incl. VCS (CFS)**	**Total Evap. Rate Not Incl. VCS (CFS)**	**Total Evaporation (ac-ft)**
January	1.29	1.75	12	20	8	**40**	**20**	**2,462**
February	1.82	2.74	19	21	12	**51**	**31**	**2,845**
March	3.19	4.33	29	21	19	**70**	**48**	**4,282**
April	4.50	6.31	43	23	28	**93**	**71**	**5,553**
May	5.24	7.10	48	24	31	**103**	**79**	**6,356**
June	5.53	7.75	53	25	34	**112**	**87**	**6,656**
July	5.77	7.82	53	26	34	**113**	**88**	**6,953**
August	5.00	6.78	46	25	30	**101**	**76**	**6,231**
September	4.03	5.64	38	24	25	**88**	**63**	**5,207**
October	3.08	4.18	28	23	18	**70**	**47**	**4,276**
November	2.00	2.80	19	21	12	**53**	**31**	**3,127**
December	1.37	1.85	13	20	8	**41**	**21**	**2,523**
Whole Year	**42.8**	**4.92**	**33**	**23**	**22**	**78**	**55**	**56,473**
May-October	**28.7**	**6.54**	**45**	**24**	**29**	**98**	**73**	**35,680**
	(Sum)	(Average)	(Average)	(Average)	(Average)	(Average)	(Average)	(Sum)

Source: Pan Evaporation Records for the South Carolina Area, John C. Purvis, South Carolina State Climatology Office
FWS values were computed as 75 percent of pan evaporation values.
This factor was estimated from a discussion in NOAA Technical Report NWS 33, Evaporation Atlas for the 48 Contiguous States.

Reservoir evaporation loss estimates are based on surface areas of 6,800 acres for Monticello and 4,400 acres for Parr.

The conversion from evaporation in inches to evaporation rate in CFS per thousand acres is:

(inches) x (1 ft/12 in) x (1 month/31 [or 30 or 28] days) x (43,560 SF/acre) x (1 day/86,400 sec) x (1,000 acres/thousand acres)

Increased evaporation from V.C. Summer Station is estimated using information provided by VCS, and is based on average ambient temperature for each month.