APPENDIX A-11

SALUDA HYDROELECTRIC PROJECT FLOW RELEASE PROGRAM

APPENDIX A-11

FLOW RELEASE PROGRAM

FINAL

Flow Releases to the Lower Saluda River:

As a result of Instream Flow Incremental Methodology Study performed during relicensing at the direction of the Instream Flow Technical Working Committee (TWC) on the lower Saluda River (LSR), a Microsoft Access® database was created and used to calculate flow and the weighted usable area (WUA) relative percentage for each month for flow scenarios of interest to stakeholders. This in turn was used to test the success of various flow scenarios to maintain and enhance aquatic habitat. . After exploring a number of scenarios, SCE&G has agreed that it shall operate the Project in accordance with the following minimum flow schedule:

TIME PERIOD	FLOW (CFS)	PRIMARY BIOLOGICAL FUNCTION
Jan. 1 – Mar. 31	700	Achieves habitat goals as outlined by the Instream Flow TWC based on a target minimum of 80% of the total available WUA
April 1 – May 10	Striped Bass Enhancement Flow Regime (See below for details.)	Enhances striped bass spawning in the Congaree River and adult trout habitat in the lower Saluda River
May 11 – May 31	1,000	Enhances adult trout and striped bass habitat
June 1 – Dec. 31	700	Achieves habitat goals as outlined by the Instream Flow TWC based on a target minimum of 80% of the total available WUA

Striped Bass Enhancement Flow Regime

The Striped Bass Enhancement Flow Regime (STB Flows) were originally proposed by the South Carolina Department of Natural Resources (SCDNR) as a means of improving conditions for striped bass spawning in the Congaree River, which is formed by the confluence of the Broad and Saluda Rivers. It is SCDNR's contention that conditions most favorable to striped bass spawning have historically occurred when flow in the Congaree River near the I-77 bridge was approximately 9,000 CFS during the April 1 through May 10 period. Favorable conditions are also thought to have occurred when the Saluda River contributes approximately 30 percent of the total flow in the Congaree River at Columbia. This corresponds to a flow in the Saluda River which would be approximately 45 percent of the flow in the Broad River as measured at the USGS Broad River at Alston, SC gage site (No. 02161000). The SCDNR developed a target flow regime for the Saluda Project designed to maintain a Saluda River 30 percent flow contribution to the Congaree River when flow in the Broad River at Alston is between 2,500 and 8,000 CFS during the April 1st – May 10th period each year. The STB target flow request is summarized as follows:

- April 1st – May 10th: Each day that the previous day's daily average flow in the Broad River (measured at Alston gage) is between 2,500 CFS and 8,000 CFS, Saluda will release as a continuous target flow equal to the lesser of:
  - 45% of the previous day's daily average flow in the Broad River at the Alston gage, or
  - The balance of what is required to create a 9,000 CFS in the Congaree River.
- The striped bass request flows are intended to be released continuously 24 hours per day and will be treated as target flows subject to a 1,000 CFS minimum flow to be released from Saluda Hydro when the previous day's daily average flow in the Broad River (measured at Alston gage) is less than 2,500 CFS or greater than 8,000 CFS.

The STB target flow for a given day will be released to the extent possible as a continuous flow. It is recognized that STB habitat enhancement flows will vary on a day to day basis. For compliance purposes SCE&G will be granted a plus or minus 100 CFS variance of the STB target habitat enhancement flows. Determination of compliance shall be subject to matters

beyond the reasonable control of SCE&G. The STB target flows will be determined on a daily basis using the previous day's average flow in the Broad River measured at the Alston gage as shown in Table 1 and Chart 1. There will be no restriction on additional generation by Saluda Hydro if required during the STB flow period each year; when additional generation is no longer required on a given day, the STB target flow for the given day will be resumed. During the period from April 1 – May 10 when the previous day's average flow in the Broad River at the Alston gage is less than 2,500 CFS or greater than 8,000 CFS, STB target flows will not be in effect and a continuous minimum flow of 1,000 CFS will be released.

Exceptions to Prescribed Minimum Flow

Because the Project is operated primarily and critically as a reserve facility, in the event of a reserve call, the Project outflows will likely increase above target minimum flows for short durations. In addition, recreational flow events, outlined in the Recreation Plan discussed in Section 2.1 will increase the referenced minimum flows for the duration of the events. In the event of a drought, minimum flows for the LSR will conform to the Maintenance, Emergency and Low Inflow Protocol (MELIP) outlined in Section 5.1.

Flow Releases to Enhance Striped Bass Habitat in the Congaree River Adaptive Management Plan

The schedule for striped bass enhancement flow regime in this agreement is intended as a first attempt to reasonably meet the spawning habitat needs in the Congaree River. This striped bass enhancement flow regime may influence other biological resources in the Congaree River. In order to evaluate flow interests, an Adaptive Management Team (AMT) consisting of SCE&G, state and federal agencies, and other relicensing stakeholders with relevant experience and interests will be formed. Members of the AMT must be signatories to the Comprehensive Relicensing Settlement Agreement (CRSA). The AMT will meet annually, in February, to evaluate the effects on the resources of the previous year's April and May flow releases. In addition, the AMT may elect to meet as necessary during extreme, unforeseen weather events. The Instream Flow TWC will meet within one year after the CRSA is filed with the Commission. Among the items of business to be addressed at this meeting will be establishing qualifications of and terms for members of the AMT, and the creation of a charter and guidelines to operate under. The charter and guidelines shall at a minimum provide for the following items.

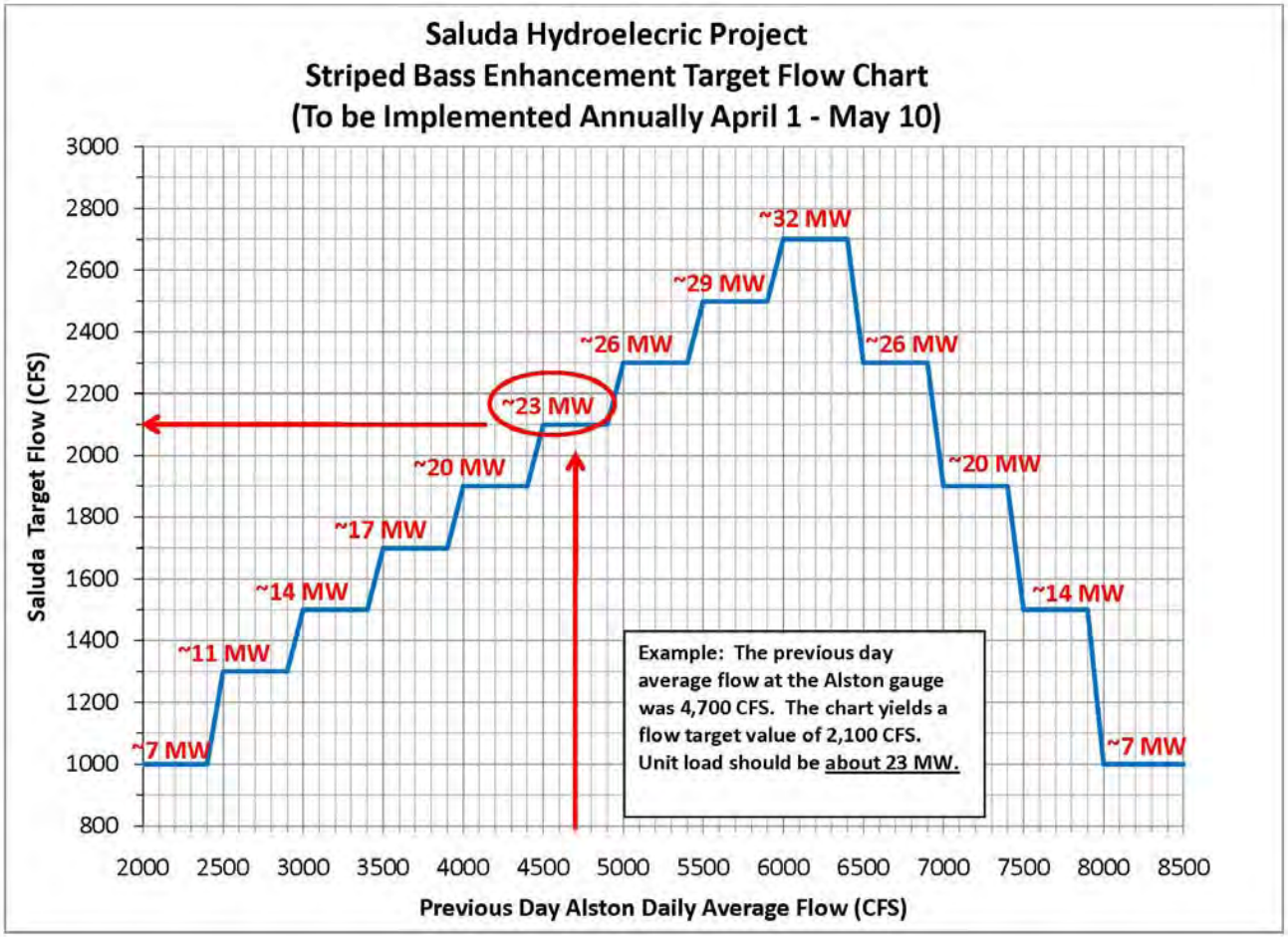
- **Metrics**: The AMT will set goals, develop parameters, including required measurements, develop study plans and reporting requirements prior to implementation of the striped bass flow regime.
- **Monitoring Plan**: The AMT will develop a monitoring plan within one year of license issuance that will identify the timing, frequency, and sampling methods associated with previously identified metrics. The monitoring plan will also include an evaluation of priority species in the LSR. SCE&G will not be responsible for any monitoring of this enhancement. All monitoring will be performed by State or federal agencies or other partners identified by the AMT. Funding may be provided by sources other than State and federal agencies.
- **Decision Thresholds**: During the 6th and 11th years, or such other years as determined appropriate by the AMT, following the issuance of the Saluda Hydroelectric Project new license, monitoring results will be assessed to determine if changes to the striped bass flows released from the Saluda Dam are needed. If the striped bass enhancement flow regime fails to meet goals identified by the AMT, alternative flow releases and/or changes to the DNR monitoring program may be recommended.
- The original instream flow recommendation was 1,000 CFS from April 1 to April 15, 1,300 CFS from April 16 to May 14 and 1,000 CFS from May 15 to May 31 or associated low inflow protocol flows. Any increase in flows from those specified above as the STB flows, must be agreed to by SCE&G before being implemented. SCE&G will consult with and consider other stakeholders interests who are signatories to the CRSA prior to agreeing to increased flows. Any continuation or reduction in flows from those specified above as the STB flows, must be agreed to by the AMT before being implemented.
- **Reporting**: SCE&G will file an annual progress report with the Commission on the efforts of the AMT by June 30.

Table 1: Striped Bass (STB) Enhancement Target Flow Schedule to be implemented annually April 1 – May 10 when Broad River daily average flow is between 2,500 and 8,000 CFS

Previous Day's Average Flow in Broad River at USGS Alston Gauge (CFS)	STB Enhancement Target Discharge from Saluda Hydro (CFS)	STB Enhancement Allowable Discharge Range from Saluda Hydro (CFS)
<2,500	1,000 minimum	1,000 minimum
2,500 – 2,999	1,300	1,200 – 1,400
3,000 – 3,499	1,500	1,400 – 1,600
3,500 – 3,999	1,700	1,600 – 1,800
4,000 – 4,499	1,900	1,800 – 2,000
4,500 – 4,999	2,100	2,000 – 2,200
5,000 – 5,499	2,300	2,200 – 2,400
5,500 – 5,999	2,500	2,400 – 2,600
6,000 – 6,499	2,700	2,600 – 2,800
6,500 – 6,999	2,300	2,200 – 2,400
7,000 – 7,499	1,900	1,800 – 2,000
7,500 – 7,999	1,500	1,400 – 1,600
≥8,000	1,000 minimum	1,000 minimum

Footnote: This table was developed based on existing equipment and therefore is subject to change pending unit upgrades.

Chart 1:


Saluda Hydroelecric Project
Striped Bass Enhancement Target Flow Chart
(To be Implemented Annually April 1 - May 10)
Saluda Target Flow (CFS)
3000
2800
2600
2400
2200
2000
1800
1600
1400
1200
1000
800
~7 MW
~11 MW
~14 MW
~17 MW
~20 MW
~23 MW
~26 MW
~29 MW
~32 MW
~26 MW
~20 MW
~14 MW
~7 MW
Example: The previous day average flow at the Alston gauge was 4,700 CFS. The chart yields a flow target value of 2,100 CFS. Unit load should be about 23 MW.
2000 2500 3000 3500 4000 4500 5000 5500 6000 6500 7000 7500 8000 8500
Previous Day Alston Daily Average Flow (CFS)