ATTACHMENT 3b

FINAL SCHEDULE A RESPONSE –

Exhibit A, Exhibit A-1, Exhibit A-2, Exhibit B, Exhibit G Introductory Text

EXHIBIT A
DESCRIPTION OF THE SALUDA HYDROELECTRIC PROJECT

The Saluda Hydroelectric Project is located on the Saluda River in Richland, Lexington, Saluda, and Newberry Counties of South Carolina, approximately 10 miles west of the city of Columbia , and near the towns of Irmo, Lexington, and Chapin. The 2,420 square mile watershed area, drained by the Saluda River and its tributaries above Saluda Dam, provides water for Lake Murray and the Saluda Hydroelectric Plant.

Exhibit A-1 provides a location map of the Project, and Exhibit A-2 is a table of project standard numbers.

1.0 PROJECT STRUCTURES

The Saluda Hydroelectric Project structures consist of a 7,800 foot long earth fill embankment dam (Saluda Dam), a backup dam, an emergency spillway with six Tainter gates, a powerhouse, five concrete intake towers and associated penstocks. Descriptions of individual Project components are provided below.

1.1 Saluda Dam, Spillway, and Spillway Gates

The original Saluda Dam is an earth fill dam with an additional steel sheet pile wall on the upstream edge of the crest, 213 feet high and nearly a mile and a half long. The maximum width of the dam at the bottom is 1,210 feet, and the minimum width at the crest is 50 feet (increased from 36 feet by the South Carolina Department of Transportation (SCDOT) in 2007). A state highway, SC Route 6, is built along the top of the dam. A dike constructed of various combinations of earthen berm, concrete walls, and sheet pile sections extends northwest from the north end of the dam approximately 2,550 feet alongside SC Highway 6. The top of the dike meets or exceeds the elevation of the sheet pile wall on the Saluda Dam with the exception of a park entrance; in the event of extreme flooding, sandbags would be used to raise this section to meet or exceed the Saluda Dam sheet pile wall.

In 2005, a seismic remediation of the Saluda Dam was completed consisting of a new backup dam immediately downstream of and adjacent to the original dam. The backup dam consists of a combination roller compacted concrete (RCC) gravity section and rock fill embankment sections along the downstream toe of the existing dam. The RCC gravity section is founded on bedrock and the rock fill embankments are founded on residual soil. The backup dam is constructed of 1.3 million cubic yards of RCC and 3.5 million cubic yards of rock fill. The backup dam is 213 feet high, with the RCC gravity section (located between the two rock fill embankment sections) being approximately 2,300 feet long and the rock fill berm sections on the north and south ends having a combined length of approximately 5,700 feet. The maximum width of the foundation of the back-up berm is approximately 150 feet for the RCC section and 425 feet for the rock fill embankment sections. The crest elevation of the backup dam is El. 372' NAVD88[1], and the maximum crest width is 40 feet for the RCC section and 20 feet for the rock fill sections. During the seismic remediation, additional rock fill was also added to the downstream slope of the original Saluda Dam to provide a base for two additional northbound traffic lanes for SC Route 6. During 2006 through 2008, the South Carolina Department of Transportation (SCDOT) added pavement and guardrail to this area to complete the highway. Also during this time, the SCDOT widened the crest of the original dam by approximately 14 feet to accommodate two additional traffic lanes, a bicycle lane, and a walking path.

The emergency spillway is 500 feet from the south end of the dam and is a concrete structure equipped with six steel Tainter gates. Four gates are 37' 6" wide and 25' 0" high with sill elevations of 338.5'; the other two gates are 44' 0" wide and 32' 0" high with sill elevations of 328.5'. The 2,900-foot long spillway channel was excavated in bedrock, and reconnects with the Saluda River approximately three quarters of a mile downstream of the powerhouse. The spillway gates are operated when the reservoir level reaches or is predicted to exceed El. 358.5' to pass flood inflows. At a flood elevation of 368.5', the spillway capacity is approximately 154,000 CFS. Under Probable Maximum Flood (PMF) conditions, the spillway is rated to pass 197,000 CFS with the reservoir at El. 374.4'.

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[1] Unless otherwise indicated, all elevation references in Exhibit A are given in North American Vertical Datum 1988 (NAVD 88); conversion to traditional plant datum (PD, used in numerous supporting studies for this license application and often erroneously referred to as MSL) requires the addition of 1.50 feet.

1.2 Intake Towers and Penstocks

Water is supplied to the powerhouse through five 223-foot high intake towers, four of which are 30 feet in diameter, and the fifth 60 feet in diameter. An aerial cable tramway runs between the crest of the dam and the intake towers. The 30' diameter intake towers for Units 1, 2, 3, and 4 each have two 9' wide x 14' high Broome Roller Gates. The 60' diameter intake tower for Unit 5 contains six Broome Roller Gates, each 10' wide x 10' high.

At the bottom of each of the four smaller-diameter towers, a 16-foot diameter penstock 1091 feet long supplies water to Units 1 – 4; at the turbine inlet of each is a 16-foot diameter S. Morgan Smith electrically operated butterfly value. Water entering the Unit 5 Intake Tower passes first through a 491-foot section of open concrete arch conduit, then through a 227-foot divided section of arch conduit containing two 14-foot diameter penstocks followed by a 42 foot long bifurcation, and finally through a 364-foot section of single, 20-foot diameter penstock to the Unit 5 scroll case.

1.3 Powerhouse

The Saluda Hydro Powerhouse is constructed of a reinforced concrete foundation with a steel-framed brick superstructure. The original structure (which contains the turbines and generators for Units 1 through 4) is 91 feet wide, 254 feet long and has a total structural height of 121 feet. A reinforced concrete extension, 89 feet wide and 77 feet long with a structural height of 70 feet, was constructed to house the turbine for Unit No. 5. The original brick superstructure houses generators and auxiliary equipment for Units 1 through 4, but was not extended to house the generator for Unit No. 5, which is enclosed in a weather-tight housing on an open deck. Auxiliary equipment for Unit 5 is located inside the concrete extension, on the turbine floor.

Three of the four original generators are rated at 32.5 MW and the fourth (Unit 3) has been rewound to a rating of 42.3 MW. The original four turbines are each rated at 55,000 HP at 180 feet of head. The generator for Unit 5 is rated at 67.5 MW, and the turbine is rated at 98,300 HP at 156' head. The total rated generator capacity for the station is 207.3 MW.[2] At optimum gate openings, the hydraulic capacity of each of the Units 1 to 4 is 3,000 CFS, and for Unit No. 5 is 6,000 CFS, yielding a total station hydraulic capacity of 18,000 CFS.

The intake towers for Unit Nos. 1 to 4 draw water from near the bottom of the reservoir at a depth of about 175 feet, while Unit No. 5 takes water from a depth of about 55 feet. All five turbine runners are equipped with hub baffles and vent pipes through the head covers to improve dissolved oxygen (DO) concentrations downstream of the Project.

Discharges of once-through non-contact cooling water, floor drains, penstock leakage and storm water runoff from transformer containments into the lower Saluda River from Saluda Hydro are permitted under National Pollutant Discharge Elimination System (NPDES) permit No. SC0002071.

1.4 Tailrace

The tailrace of the Project is made up of a portion of the original riverbed, along with an excavated section approximately 150 feet long immediately downstream of the powerhouse, both consisting of mostly bedrock. Water levels in the tailrace typically fluctuate between El. 171.0' and 183.4' depending on the magnitude and duration of plant operation. The normal tailwater level at minimum gate operation is El. 171.0', corresponding to a total gross head of 185.5 feet during the normal summer maximum pool and 177.5 feet during the normal winter drawdown. Under flood conditions in June 1965, the tailwater reportedly rose to an elevation of approximately 197.5 feet, with four spillway gates operating.

1.5 Bypass Reach

There is no bypass reach associated with this Project.

[2] The currently effective license gives the station capacity as 202.6 MW. This value was based on a power factor of 0.8 for the original four generators. When Unit 3 generator was rewound, its power factor changed to 0.9, and this change was not taken into account in the application for the current license.

2.0 PROJECT IMPOUNDMENTS

2.1 Reservoir

Lake Murray covers a normal maximum operating water surface area of 75 square miles or approximately 48,000 acres. The normal maximum operating water surface elevation is 356.5' during the summer months, although the current license permits a maximum operating level (full pool) of El. 358.5'. At full pool, the reservoir is 41 miles long and about 14 miles wide at its widest point, with 691 miles of shoreline, including islands. Water surface area at full pool is 79.5 square miles or approximately 50,900 acres, with total or gross storage of approximately 2,000,000 acre-feet (650 billion gallons) of water. Usable storage is approximately 635,000 acre-feet (207 billion gallons) of water between full pool and El. 343.5', corresponding to the minimum operating level as observed under the current license.

The reservoir shoreline is irregular, due to many creek beds and drainage ways cut through the terrain. Inflow is generally cooler than the reservoir water, but often carries high sediment loads. The reservoir undergoes thermal stratification annually, typically July though November, with the thermocline occurring between 20 and 40 feet deep. Four municipal water intakes have been constructed in the reservoir to date to serve the Cities of Columbia, West Columbia, Newberry, and Newberry County. Saluda County was granted approval for a municipal water withdrawal by FERC order dated June 9, 2006 (revised by FERC order dated March 22, 2007). See Exhibit C for more detailed information regarding the approved municipal water withdrawals from the Project.

3.0 PROJECT GENERATING EQUIPMENT

The Project generating equipment consists of the following:

3.1 Turbines

Units one, two, three, and four are S. Morgan Smith vertical Francis-type turbines each rated at 55,000 HP at 180' head. Synchronous speed is 138.5 RPM.

Unit five is a Baldwin-Lima-Hamilton (BLH) vertical Francis-type turbine rated at 98,300 HP at 156' head. Synchronous speed is 128.6 RPM.

3.2 Generators

Units 1 through 4 have original Westinghouse 3-phase, 60-cycle, 13,800 V generators. The generators for units 1, 2, and 4 have the original rating of 40,625 KVA at 0.8 power factor (32.5 MW); Unit 3 generator has been rewound to a rating of 47,000 KVA at 0.9 power factor (42.3 MW). These four generators are housed on the generator floor inside the original brick superstructure.

Unit five has a 3-phase, 60-cycle, 13,800 V General Electric generator rated at 75,000 KVA with a 0.9 power factor (67.5 MW). The generator for unit 5 is enclosed in a weather-tight housing on an open deck adjacent to the original powerhouse superstructure.

The total rated capacity for all five generators is 207.3 MW.

3.3 Exciters

Units one through four are each equipped with an exciter and a Permanent Magnet Generator (PMG), both direct connected above the generator rotor.

Unit five is equipped with an AC exciter and rotating rectifier.

3.4 Governors

Units 1 through 4 have Woodward Type A actuator governors that are interconnected in pairs. Unit 5 has its own BLH "Pelton" type actuator governor and pressure tank.

3.5 Power Transformers

Units one, three, and four power transformers are 3-phase, 41,667/46,667 KVA with 55°/65° C temperature rise, type F.O.W. (Forced Oil Water Cooled), 115/13.2 KV. The Unit two power transformer is 3-phase, 40,000 KVA with 55° C temperature rise, type F.O.W., 115/13.2 KV.

The power transformer for Unit five is 3-phase, 76,785/86,000 KVA, type F.O.A. (Forced Oil Air Cooled), 115/13.2 KV with 55°/65° C temperature rise.

3.6 Miscellaneous Equipment

Miscellaneous equipment includes a 175-ton, traveling Bedford bridge crane and all accessory electrical equipment, including instrumentation, batteries, switchgear, etc.

4.0 PROJECT TRANSMISSION LINE

There is no transmission line associated with the Saluda Hydroelectric Project. The electric power is generated at 13,200 volts and is transformed to 115 KV. The power enters the Applicant's transmission system through the nearby Saluda Substation, which is not a part of the Project.

5.0 PROJECT FEDERAL LANDS

There are no Federal lands which are a part of the Saluda Hydroelectric Project.

6.0 MCMEEKIN STATION

McMeekin Station is a 252 MW, coal fired base load power plant located adjacent to the hydro powerhouse on the north side of the Saluda River. It is owned and operated by South Carolina Electric & Gas Company (SCE&G), but is not part of the Project. Ash disposal facilities for McMeekin Station are within the Saluda Project boundary, and approximately 250 CFS (113,000 GPM) of cooling water for the McMeekin condensers is taken from and returned to two of the Saluda Hydro penstocks. Under normal operation, McMeekin Station's cooling water is supplied from Saluda Hydro's Unit 4 penstock, pumped through the condensers, and returned to the Unit 2 penstock. If Saluda Hydro Unit 2 is not operating, the returned cooling water enters the reservoir (Lake Murray) through the intake tower. If Saluda Hydro Unit 2 is operating, the returned cooling water is discharged through the hydro unit into the Saluda River. McMeekin Station's National Pollutant Discharge Elimination System (NPDES) permit No. SC0002046 requires that a minimum of 2,500 CFS be discharged into the Saluda River from Saluda Hydro when Saluda Hydro Unit 2 operates with McMeekin Station operational, for mitigation of potential thermal impacts to the river. This discharge value is based on a 10:1 dilution of the 250 CFS heated discharge from McMeekin Station. A system of valves is provided in the McMeekin cooling water piping to allow supply to be taken from Saluda Hydro Unit 2 penstock instead of Unit 4, and when this occurs the cooling water is discharged directly to the Saluda River using a free discharge valve to provide back pressure and to dissipate the energy of the flow. In this "bypass" mode of operation, McMeekin Station's NPDES permit again requires that 2,500 CFS be discharged from Saluda Hydro for thermal mitigation. McMeekin Station also withdraws approximately 0.5 MGD (0.8 CFS) from the circulating water system for boiler makeup, house service cooling, and ash conditioning use. Most of this water is collected in the plant sumps and is treated in an NPDES permitted treatment system and discharged to the lower Saluda River through NPDES Outfall 003. Discharges from Outfall 003 average approximately 0.3 MGD (0.5 CFS) in dry weather (no runoff). The remaining 0.2 MGD (0.3 CFS) is released to the atmosphere as water vapor from process equipment or is added to the bottom ash to reduce dust during truck transport to the on-site landfill.

The McMeekin Station ash landfill is located on the south side of the Saluda River, about 500 feet downstream of the Saluda backup dam. The ash disposal area is approximately 48 acres. A five acre runoff treatment pond removes solids and allows pH adjustment of ash landfill runoff. The pond discharges intermittently to the lower Saluda River at NPDES Outfall 002.

EXHIBIT A-1

Saluda Hydroelectric Project P-516

Project Location Map

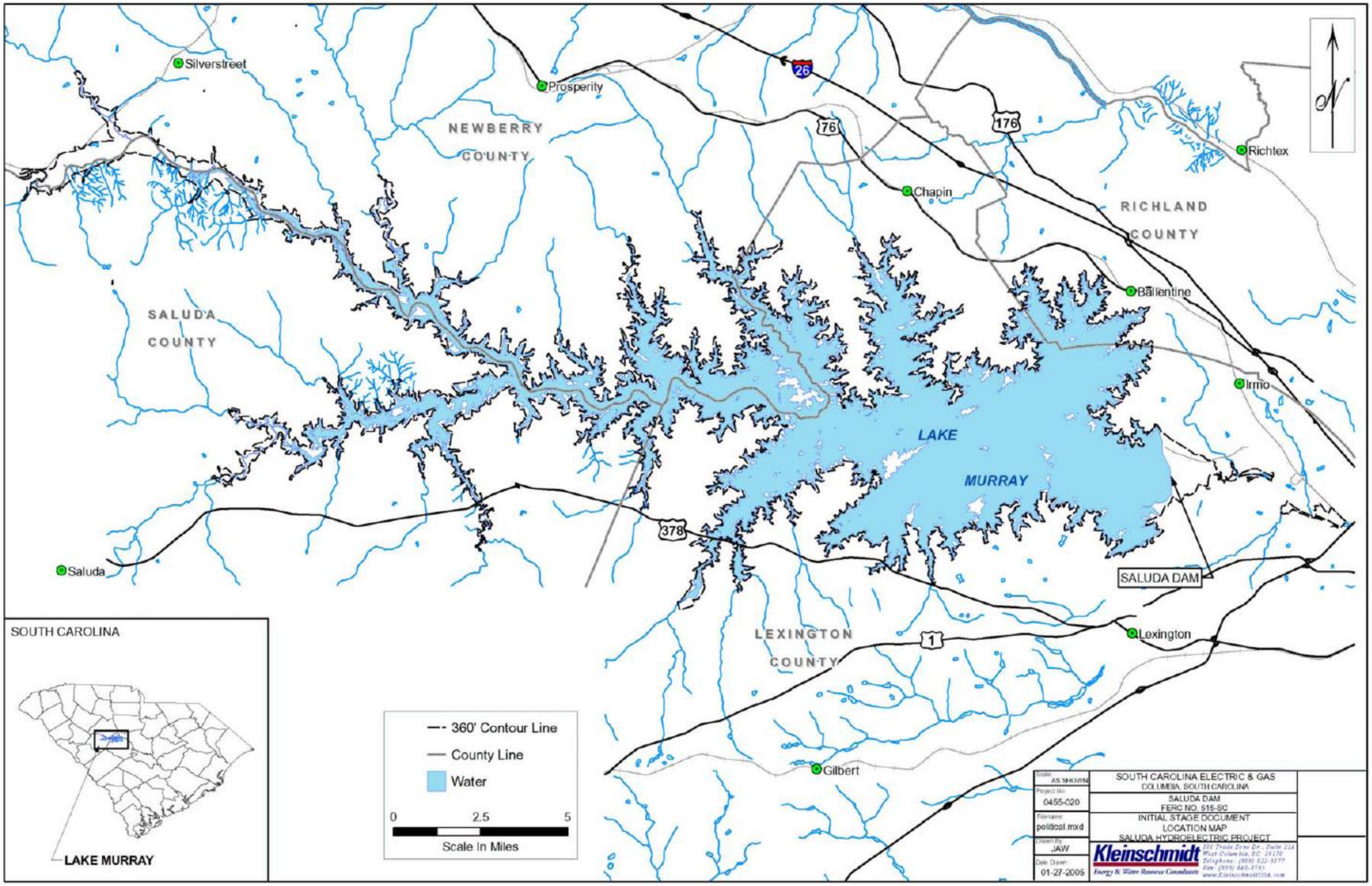

EXHIBIT A-2

Saluda Hydroelectric Project P-516

Table of Standard Project Numbers

DESCRIPTION			NUMBER OR FACT
	Project Location		10 mi west of City of Columbia; Richland, Lexington, Saluda and Newberry Counties
GENERAL			
	Project drainage area		2,420 sq. miles
	Station rated generating capacity		207,300 kW
	Estimated reliable capability		206,000 kW
	Annual generation		245 million kWh or 245,200 MW
	Discharge at rated capacity		18,000 cfs
	Minimum recorded daily average flow		285 cfs (measured @ USGS gauging station near Riverbanks Zoo)
DAMS & RESERVOIR			
	Original Dam	Type & dimensions	Earthfill embankment, 213 ft high, 7,800 ft long, crest el. 375.5’ NAVD88
	Backup Dam	Type & dimensions	Rockfill embankments & RCC gravity, 213 ft high, 8,000 ft long, crest el. 372.0’ NAVD88
	Reservoir	Max. Oper. Level (Full Pool) & Area	358.5’ NAVD88; 50,900 acres
		Min. Oper. Level	343.5’ NAVD88
		Total storage at full pool	2,000,000 acre-feet (at El. 358.5’ NAVD88)
		Active storage	635,000 acre-feet between El. 358.5’ and El. 343.5’ NAVD88
SPILLWAY			
	Spillway Gates	Number & type	6 Radial Tainter, electrically operated with air motor backup
		Gate dimensions	4 @ 37ft 6in long by 25 ft high w/sill elevation of 338.5’ NAVD88 2 @ 44ft long by 32 ft high w/sill elevation of 328.5’ NAVD88
		Maximum discharge	91,000 CFS at full pool el. 358.5’ NAVD88 197,000 CFS at Probable Max. Flood pool el. 374.4’ NAVD88
POWERHOUSE			
	Units 1 - 4	Construction type	Concrete block, brick, steel
	Unit 5	Construction type	Reinforced concrete

EXHIBIT A-2

Saluda Hydroelectric Project P-516

Table of Standard Project Numbers

DESCRIPTION		NUMBER OR FACT				
INTAKE TOWERS		Unit 1	Unit 2	Unit 3	Unit 4	Unit 5
	Diameter	30 ft	30 ft	30 ft	30 ft	60 ft
	Height	223 ft	223 ft	223 ft	223 ft	223 ft
PENSTOCKS		Unit 1	Unit 2	Unit 3	Unit 4	Unit 5
	Diameter	16 ft	16 ft	16 ft	16 ft	20 ft
	Length	1091 ft	1091 ft	1091 ft	1091 ft	1124 ft
TURBINES		Unit 1	Unit 2	Unit 3	Unit 4	Unit 5
	Manufacturer	S. Morgan Smith	S. Morgan Smith	S. Morgan Smith	S. Morgan Smith	Baldwin-Lima-Hamilton
	Type	Vert. Francis	Vert. Francis	Vert. Francis	Vert. Francis	Vert. Francis
	Rated net head	180 ft	180 ft	180 ft	180 ft	156 ft
	Approximate min. discharge capacity	500 CFS	500 CFS	500 CFS	500 CFS	800 CFS
	Rated maximum discharge capacity	3,000 CFS	3,000 CFS	3,000 CFS	3,000 CFS	6,000 CFS
	Draft tube invert elevation	157 ft NAVD88	157 ft NAVD88	157 ft NAVD88	157 ft NAVD88	149.6 ft NAVD88
	HP rating at rated head	55,000	55,000	55,000	55,000	98,300
	Synchronous speed (rpm)	138.5	138.5	138.5	138.5	128.6
GENERATORS		Unit 1	Unit 2	Unit 3	Unit 4	Unit 5
	Manufacturer	Westinghouse	Westinghouse	Westinghouse	Westinghouse	General Electric
	Type	AC	AC	AC	AC	AC
	Phases	3	3	3	3	3
	Voltage	13,800 V	13,800 V	13,800 V	13,800 V	13,800 V
	Frequency	60 Hz	60 Hz	60 Hz	60 Hz	60 Hz
	KVA rating	40,625	40,625	47,000	40,625	75,000
	Power factor	0.8	0.8	0.9	0.8	0.9
	KW output	32,500	32,500	42,300	32,500	67,500
TRANSFORMERS		Unit 1	Unit 2	Unit 3	Unit 4	Unit 5
	Type	FOW	FOW	FOW	FOW	FOA
	Voltage	13.2/115-kV	13.2/115-kV	13.2/115-kV	13.2/115-kV	13.2/115-kV
	Phases	3	3	3	3	3
	KVA Rating	41,667/46,667	40,000	41,667/46,667	41,667/46,667	76,785/86,000
	Temp. Rise	55°/65°C	55°C	55°/65°C	55°/65°C	55°/65°C

EXHIBIT B
PROJECT OPERATION AND RESOURCE UTILIZATION

1.0 PROJECT OPERATION

Historically, Saluda Hydro has operated as a baseload, peaking, load following, and reserve capacity facility. Currently, Saluda Hydro is operated primarily as a reserve generation facility in the Applicant's system. The plant normally operates with one unit on line at minimum gate to provide downstream flow in the Saluda River. This equates to an approximate minimum discharge of 500 – 550 CFS for each of Units 1 – 4, and 800 - 850 CFS for Unit 5 operating alone. These figures represent the practical minimum discharge capabilities for the Saluda Hydro turbines without adverse effects. At full load, each of Units 1 – 4 has a maximum discharge capacity of approximately 3,000 CFS, and Unit 5 has a maximum discharge capacity of approximately 6,000 CFS, for a plant total discharge of 18,000 CFS at full load. In the event of a loss of generation, the remaining Saluda Hydroelectric Project units can be started and brought to full load within 15 minutes. This allows a rapid response to emergencies on the Applicant's system, and also fulfills the Applicant's reserve share obligation as a member of the Virginia-Carolinas Electric Reliability Council (VACAR) under the VACAR Reserve Sharing Arrangement (VRSA). It should be noted that, in order to be considered a reserve generation asset at any given time, Saluda Hydro units must remain on standby and cannot be providing generation for other purposes.

Saluda Hydro is also operated to manage the reservoir elevation on a seasonal basis. Under the current license, the Applicant has managed the reservoir using monthly target elevations, which are subject to revision by the Applicant's management based on climatic conditions, reservoir level at the time, dam and reservoir maintenance requirements, or operational considerations. Historically, the reservoir has been maintained between El. 348.5' NAVD88[1] (winter) and El. 356.5' (summer). Occasional reservoir drawdowns to El. 343.5' have occurred for project maintenance work or control of aquatic vegetation (primarily hydrilla) in the reservoir. The current license allows a maximum operating water surface elevation of 358.5'. Saluda Hydro units are occasionally dispatched on an economic basis when it is

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necessary to release water from the reservoir for seasonal or other drawdowns, or to pass inflow from precipitation in the drainage basin. During the relatively infrequent periods when Saluda Hydro is being utilized for reservoir management, the units being so utilized are not available for reserve generation, and other generation assets must be made available to meet the Applicant's obligation under the VRSA.

The Applicant proposes to continue to utilize Saluda Hydro primarily for reserve generation on an as-needed basis. Generation will also occur to provide downstream flow and for reservoir management when required. The main value of the Project to the Applicant's system is as a reserve generation asset, due to its rapid starting capability and overall excellent reliability.

1.1 Manual or Automatic Operation

The Saluda Hydroelectric Project units normally are dispatched remotely from SCE&G's System Control Center in Columbia. Once started, the units are under automatic control. Units can also be operated manually from the powerhouse. The plant is manned five days per week, eight hours per day, with plant checks conducted on weekends and holidays. Personnel are also available for call out should a problem arise after normal business hours.

1.2 Estimate of Annual Plant Factor

The annual plant factor (the ratio of the average load on the plant for a certain period of time to the capacity rating of the plant) for Saluda Hydro is estimated to be 10 percent, based on annual gross generation data from 1988 through 2006, shown in Exhibit B-1.

1.3 Proposed Operation During Adverse, Mean, and High Water Years

The proposed reservoir operation guide curve and table included as Exhibits B-17 and B-18 gives proposed target reservoir elevations and a proposed normal target operating range for Lake Murray. It should be noted here that the Applicant is using the term "guide curve" and not "rule curve", which was the term used in the application for the current license. A "rule curve" implies that the reservoir will be maintained at or very near a given elevation at certain times of the year, with little flexibility given to the Project operators to allow for conditions beyond their control. Use of the term “guide curve” reflects the intent of the Applicant to manage the reservoir in a more flexible manner, while attempting to balance the often competing demands on the Project’s water resources. Because the Applicant must respond to widely varying conditions in the operation of the Project, that are largely beyond the Applicant’s control, the seasonal target reservoir elevations are intended as a guideline to allow the Project to be operated in a flexible manner, within certain constraints as described below.

The Applicant proposes a normal target operating range between El. 352.5’ (354’ PD) and El. 356.5’, (358.0’ PD), with a maximum operating pool elevation of 358.5’ (360.0’ PD). The target operating pool elevation for March through August will be 356.5’ (358.0’ PD). As has been the practice under the current license, the Applicant proposes a minimum operating pool elevation of 343.5’ (345.0’ PD) for periodic maintenance conditions, which would include but not be limited to: control of aquatic vegetation in the reservoir, investigation, maintenance or repairs of the intake towers, spillway structure, and the upstream face of the original dam, in order to maintain the Project in a safe and reliable condition. Operation at el. 343.5’ is anticipated to be infrequent.

The Applicant has no intention of routinely operating the Project at reservoir elevations at or below el. 343.5’ (345.0’ PD), due to concerns, among others, that one or more of the four municipal water intakes on Lake Murray begin to have difficulty maintaining their normal pumping rate below that water elevation. However, should the pool ever fall below el. 343.5’, the Applicant proposes that the Project will remain available for reserve generation at any pool level consistent with the original design of the Project structures. For example, were it absolutely necessary to operate Saluda Hydro to preserve or restore the stability of the Applicant’s electrical system during an emergency situation, the Applicant would expect to do so. The original Saluda Dam was provided with upstream riprap armor down to El. 298.5’ (300’ PD), and the Project has in the past operated at reservoir elevations as low as 321.26’ (322.76’ PD).

The proposed guide curve targets having the reservoir at its normal maximum operating elevation of El. 356.5’ by March 1st, in order to have water in storage to provide higher seasonal minimum flow to enhance fish passage over shoals in the lower Saluda River during April and May, as recommended by the consulting resource agencies. Improvements in weather forecasting technology and the stream gauge network, and the Applicant’s development of a computer based Flow Forecast Model (FFM) allows more accurate prediction of inflow than in the past. This allows the Applicant to anticipate most high inflow events and reduce the reservoir level in advance of the flood if necessary. This should mitigate the need to spill water in most cases, even though the reservoir would be maintained at El. 356.5’ for a greater portion of the year than it was historically.

The six foot operating range between El. 352.5’ at the end of December and full pool El. 358.5’, provides adequate usable storage for reserve generation requirements in most years, and the normal maximum operating pool elevation of 356.5’ provides approximately 99,000 acre-feet of storage below full pool el. 358.5’ for higher than anticipated inflow during storm events. A gradual reduction in pool level to El. 352.5’ during September through December is proposed in order to provide storage volume for the higher inflow to the reservoir typical in January through March. Public recreational access to the reservoir at El. 352.5’ is excellent, since virtually all public boat ramps on the reservoir are usable well below this level.

The proposed guide curve differs from the reservoir rule curve included in the 1974 application for the current Project license, which provided a reservoir operating range between El. 348.5’ (350’ PD) during November and El. 356.5’ (358.0’ PD) during May. The proposed guide curve presented in this Application reflects the changes in utilization of the Project since 1974, when the Project served baseload, peaking and load following functions in the Applicant’s system. Currently, baseload generation requirements are primarily met by fossil and nuclear units. Peaking and load following generation requirements are primarily met by combustion turbines and a pumped storage facility. Saluda Hydro is now primarily utilized for reserve generation as described in Section 1.0 of this Exhibit. Since the annual energy production of the Project is a secondary benefit to the Applicant, it is not usually necessary to allow the reservoir to fluctuate over as wide a range as was the practice in the past.

Adverse Flow Years: A proposed Maintenance, Emergency, and Low Inflow Protocol (MELIP) is being developed in consultation with the Project stakeholders that includes provisions for staged reductions in seasonal minimum flow and scheduled downstream recreation flows, in order to conserve the remaining water stored in Lake Murray during periods of low inflow, in order to delay or prevent depletion of the usable storage (between el. 358.5' and el. 343.5') in the reservoir. The intent of the MELIP is to allow the Project to continue to fulfill its three primary critical functions for as long as possible during drought periods: Reserve electric generation, municipal water supply, and critical downstream flows. The MELIP will be provided as part of the final Settlement Agreement when that document is finalized with the stakeholders.

In adverse flow years, the reservoir may not reach the normal maximum target elevation of 356.5' (358.0' PD) during the spring and summer months, and may fall below the normal target operating range lower elevation of 352.5' (354.0' PD). Low inflow does not significantly limit the operation of Saluda Hydro for reserve generation, since these generation events are relatively brief and intermittent.

Mean Flow Years: Operation of Saluda Hydro in mean flow years will generally consist of continuous minimal generation to provide downstream flow; intermittent generation for reserve requirements and to provide downstream recreation flows throughout the year; occasional generation for reservoir level management; and some sustained generation in the fall if necessary to reduce the reservoir level to accommodate inflow from winter storms and spring runoff from the upper basin.

High Flow Years: In high flow years, the need to pass higher inflow may require that Saluda Hydro be dispatched on an economic basis for several hours per day or for several days during the week, in addition to the operations listed above for mean flow conditions. During these periods of extended generation, the units being so utilized are not available for reserve use, as described previously. Due to the relatively large hydraulic capacity through the powerhouse (approximately equal to the 1 percent exceeds flow), it is rarely necessary to use the spillway for reservoir level management. The proposed Maintenance, Emergency, and Low Inflow Protocol (MELIP) described above will include guidelines for Project operations during high inflow events.

2.0 ESTIMATE OF DEPENDABLE CAPABILITY

2.1 Gross Generation

Annual gross generation at Saluda Hydro for the years 1988 through 2007 is shown in Exhibit B-1. The average gross annual generation over this period was 180,069 MWH. Rated capacity of the plant is 207.3 MW, and dependable capability is estimated to be 206 MW.

2.2 Streamflow Data & Flow Duration Curves

The Saluda Hydroelectric Project is located on the Saluda River near Columbia, SC. The total contributing drainage area at the Saluda Dam is 2,420 square miles. The monthly and annual flow regime data was collected from two United States Geological Survey (USGS) gauges located along the lower Saluda River downstream of the dam. Gauge number 02169000 is located on the Saluda River near Columbia, about eight miles downstream from the Saluda Dam. It has remained in this location from the time it was first installed in 1925. The contributing drainage area for this gauge is 2,520 square miles and it has an average annual flow of 2,762 CFS (USGS 2007). A second gauge, number 02168504, was installed along the lower Saluda River by USGS in 1988. This gauge records data immediately downstream from the Lake Murray Dam. Data from this gauge have shown that from the time period of 1988 to 2007, flows from Lake Murray have varied from 185 CFS to a recorded high of 22,400 CFS. Annual mean flow from gauge number 02168504 is 2,386 CFS (USGS 2007). The contributing drainage area for this gauge is 2,420 square miles. Monthly and annual flow-duration curves were developed for the Project using the mean daily flow data from the respective gages. The data from the two gages were combined to develop the curves shown in Exhibits B-2 through B-14. The data from the gages was pro-rated to their respective contributing drainage areas to make the mean daily flow site-specific. The period of record for the data that is used in these graphs dates from 1979 through 2003. Since gage number 02168504, directly downstream from the dam, was installed in 1988, data from gage 02169000 was used and pro-rated to that particular drainage area.

The flood of record for the Saluda River near the Project location occurred during construction of the original Saluda Dam on October 2, 1929, and was recorded at USGS gauge 02169000 at 67,000 CFS. Summary statistics for these stations from the USGS 2007 Water Data Report for South Carolina appear below.

02169000 SALUDA RIVER NEAR COLUMBIA, SC—Continued

SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1925 - 2007	
Annual total	452,339		564,618			
Annual mean	1,239		1,547		2,762	
Highest annual mean					5,431	1936
Lowest annual mean					815	1988
Highest daily mean	16,600	Jan 8	18,400	Mar 3[a]	62,300	Oct 2, 1929
Lowest daily mean	340	Jan 29	329	May 23	12	Jul 13, 1930
Annual seven-day minimum	473	Sep 30	416	May 23	21	Aug 28, 1930
Maximum peak flow			18,900	Mar 2[b]	[c]67,000	Oct 2, 1929
Maximum peak stage			7.96	Mar 2[b]	15.22	Oct 2, 1929
Instantaneous low flow			302	May 23	11	Jul 13, 1930
Annual runoff (cfsm)	0.492		0.614		1.10	
Annual runoff (inches)	6.68		8.33		14.89	
10 percent exceeds	2,150		3,110		6,200	
50 percent exceeds	626		630		1,860	
90 percent exceeds	501		501		426	

[a] Also occurred Mar. 4.
[b] Also occurred Mar. 3.
[c] From rating curve extended logarithmically above 36,000 cfs.

02168504 SALUDA RIVER BELOW LAKE MURRAY NEAR COLUMBIA, SC—Continued

SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1988 - 2007	
Annual total	404,256		518,329			
Annual mean	1,108		1,420		2,386	
Highest annual mean					4,328	2003
Lowest annual mean					1,037	2002
Highest daily mean	15,800	Jan 8	18,100	Mar 3	21,800	Jan 16, 1995
Lowest daily mean	229	Jan 29	298	May 23	155	Sep 24, 1989[a]
Annual seven-day minimum	346	Aug 23	370	May 22	168	Jan 12, 1989
Maximum peak flow			18,400	Sep 26	22,400	Jan 16, 1995
Maximum peak stage			15.11	Sep 26	[b]16.01	Feb 21, 1990
Annual runoff (cfsm)	0.458		0.587		0.986	
Annual runoff (inches)	6.21		7.97		13.39	
10 percent exceeds	2,160		2,720		5,530	
50 percent exceeds	497		547		1,420	
90 percent exceeds	401		441		441	

[a] Also occurred Sep. 25, 29, 1989.
[b] Caused by backwater from spillway floodgates.

Inflow to Lake Murray is measured at three USGS gauge stations:

Saluda River at Chappells, USGS No. 02167000, located downstream of the Buzzards Roost Hydroelectric Project (FERC Project No. 1267): This gauge station has been in operation since 1926, and has a contributing drainage area of 1,360 square miles.

Little River near Silverstreet, USGS No. 02167450, located on a tributary to Lake Murray: This gauge station has been in operation since 1990, and has a contributing drainage area of 230 square miles.

Bush River near Prosperity, USGS No. 02167582, located on a tributary to Lake Murray: This gauge station has been in operation since 1990, and has a contributing drainage area of 115 square miles.

Summary statistics for these stations from the USGS 2007 Water Data Report for South Carolina appear below.

An additional gauge station, Little Saluda River at Saluda, USGS No. 021677037, measures discharge values above about 160 CFS due to backwater effects. This gauge station has been in operation since 1992, and has a contributing drainage area of 90 square miles. No summary statistics are available for this station due to the intermittent nature of its data.

02167000 SALUDA RIVER AT CHAPPELLS, SC—Continued

SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1927 - 2007	
Annual total	368,898		432,671			
Annual mean	1,011		1,185		1,869	
Highest annual mean					3,110	1929
Lowest annual mean					732	1988
Highest daily mean	4,500	Dec 26	12,300	Mar 3	56,700	Oct 3, 1929
Lowest daily mean	493	Jul 16	228	Aug 19[a]	8.0	Oct 29, 1939
Annual seven-day minimum	503	Jul 14	241	Aug 16	23	Jun 29, 1940
Maximum peak flow			14,200	Mar 3	[b]63,700	Oct 2, 1929
Maximum peak stage			19.73	Mar 3	[c]32.50	Oct 2, 1929
Annual runoff (cfsm)	0.743		0.872		1.37	
Annual runoff (inches)	10.09		11.83		18.67	
10 percent exceeds	1,970		3,090		3,730	
50 percent exceeds	756		752		1,370	
90 percent exceeds	534		256		518	

[a] Also occurred Aug. 20.
[b] From rating curve extended logarithmically above 29,000 cfs.
[c] Adjusted to present datum.

02167450 LITTLE RIVER NEAR SILVERSTREET, SC—Continued

SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1990 - 2007	
Annual total	35,971		42,180.9			
Annual mean	98.6		116		178	
Highest annual mean					304	1993
Lowest annual mean					77.7	2002
Highest daily mean	1,150	Nov 23	3,060	Mar 3	5,600	Feb 3, 1996
Lowest daily mean	16	Oct 16	3.2	Aug 22	0.71	Aug 14, 2002
Annual seven-day minimum	19	Oct 11	3.7	Aug 18	1.2	Aug 9, 2002
Maximum peak flow			3,500	Mar 3	Unknown	Apr 19, 2003
Maximum peak stage			13.03	Mar 3	15.73	Apr 19, 2003
Annual runoff (cfsm)	0.428		0.502		0.774	
Annual runoff (inches)	5.82		6.82		10.52	
10 percent exceeds	212		211		317	
50 percent exceeds	61		60		87	
90 percent exceeds	24		7.0		27	

02167582 BUSH RIVER NEAR PROSPERITY, SC—Continued

SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1990 - 2007	
Annual total	24,004		27,771.1			
Annual mean	65.8		76.1		102	
Highest annual mean					178	1993
Lowest annual mean					43.6	2002
Highest daily mean	984	Nov 22	2,200	Mar 2	4,330	Jan 15, 1995
Lowest daily mean	10	Jun 12	4.4	Sep 30	3.2	Aug 12, 2002
Annual seven-day minimum	11	Oct 2	5.3	Aug 17	3.9	Aug 7, 2002
Maximum peak flow			3,100	Mar 2	5,570	Jan 15, 1995
Maximum peak stage			13.62	Mar 2	16.06	Jan 15, 1995
Annual runoff (cfsm)	0.572		0.662		0.887	
Annual runoff (inches)	7.76		8.98		12.04	
10 percent exceeds	142		152		192	
50 percent exceeds	33		30		44	
90 percent exceeds	13		6.8		14	

2.3 Area Capacity Curve

Area-capacity curves are given in Exhibit B-15, with a corresponding table presented as Exhibit B-16. The reservoir has gross storage of approximately 2,000,000 acre feet at full pool elevation 358.5’, and usable storage of approximately 635,000 acre feet between elevation 358.5’ (full pool) and elevation 343.5’. The reservoir area is approximately 50,900 acres at full pool elevation 358.5’, and is approximately 35,600 acres at an elevation of 343.5’. At maximum normal operating pool elevation 356.5’, the reservoir area is approximately 48,000 acres, with gross storage of about 1,909,000 acre feet. Previous stage–storage data included in the 1976 application for the current license represented active storage above El. 298.5’ (300.0’ PD), which was the extreme low water elevation for operation of the Project when it was originally designed, and the elevation above which the original earth embankment dam had upstream rip-rap armor provided. To obtain gross storage values, an estimated storage value below El. 298.5' of 394,000 acre feet was added to the previously published active storage values.

2.4 Reservoir Guide Curve

The proposed guide curve for reservoir operation (discussed previously in this Exhibit) is included as Exhibit B-17, and a guide curve table is given in Exhibit B-18.

2.5 Estimated Hydraulic Capacity

The estimated hydraulic capacity of the plant is 18,000 CFS at 180 feet of head and optimum gate opening.

2.6 Spillway Rating Curve

A spillway rating curve is given in Exhibit B-19.

2.7 Tailwater Rating Curve

A tailwater rating curve is given in Exhibit B-20.

2.8 Elevation – Capacity Curve

Elevation-capacity table and curve are given in Exhibits B-21 and B-22. These represent the Applicant's estimate of the Project generating capacity based on operating experience and the installed turbine and generator nameplate ratings.

2.9 Generation Analysis

A Resource Utilization Study was conducted in 2005 to compare historical generation at Saluda Hydro with optimal generation based on available flow.

Monthly generation data were examined for the period 1988 to the present. Annual data were provided going back to 1931. An analysis of a sample period (10 years) was considered to be representative of Project operations and generation. For this analysis, the period used ran from 1989-1998, inclusive. Data prior to 1988 was not used as only annual values were reported. Generation data for 1988 was not considered because it was a severe drought year. Data after 1998 was not used due to extraordinary reductions of the reservoir levels due to the backup dam construction and drought periods. The data for the period of consideration indicated an average annual Project generation of 248,474 MWH. Exhibit B-30 summarizes the historical average data by month and year for the noted period. The minimum and maximum annual generation for the period was determined to be 209,182 MWHs in 1989 and 332,152 MWHs in 1998. The highest recorded generation since 1931 occurred in 1964 with an annual generation of 499,074 MWHs.

An energy model was developed to determine the optimal output of the station. To verify the model's accuracy and calibrate it to site conditions, the model was run using existing conditions and compared to the historical generation for years where both head pond levels and annual generation data were available. These years were 1993-1998, with the exception of 1997 which had incomplete head pond level data. Inputs to the model consisted of the average monthly flow, the average monthly head pond level, tailwater rating curve, head loss data and overall efficiency.

The results of the analysis comparing actual generation to computed generation for the years noted indicated close agreement of the model to actual values. This would indicate that the model accurately represented Project generation. The results of the generation analysis are summarized in Exhibit B-23. Individual curves depicting computed vs. actual generation for 1993-1996 and 1998 are provided in Exhibits B-24 – B-28, and a curve showing the average computed vs. actual generation for the study period is included as Exhibit B-29.

The energy model was then re-run using the 10 year average conditions both in regards to head pond level and flow, and the results were compared to the 10-year average generation. The model results indicated that the station output matches modeled output closely. The only variations occur during the summer period, May through September. The net computed values are within 3 percent of the historical average values. Note that the net values allow for a 5 percent reduction in generation to account for scheduled and unscheduled outages, station service, transformer and other minor losses. Because during typical operations no flow is lost due to spillage, there is not much that can be done to change flow utilization. Changes in impoundment and/or Project operation potentially could result in some increases in Project revenues due to time of day generation. This potential would need to be examined as part of another analysis. Further, some potential gains in equipment performance could also increase Project generation. These however, would be relatively small. Exhibit B-30 presents the 10 year historical generation and a graph showing a comparison with the energy model analysis results.

3.0 POWER UTILIZATION

3.1 Generation for Reservoir Management

When Saluda Hydro is utilized to pass inflow from the drainage basin, or to reduce the reservoir level for maintenance or as part of normal seasonal operation, the power produced is used in the Applicant's system to serve customer demand, and thereby balance the Applicant's system load.

3.2 Generation for Applicant's System Reserve

When Saluda Hydro is utilized to replace the sudden loss of power from another generation asset on the Applicant's own system, the power produced is used in the Applicant's system to serve customer demand, usually for periods of several minutes to several hours, until such time as other generation assets can be brought on line, or purchased off-system power becomes available to balance the Applicant's system load.

3.3 Generation for Regional Reserve Sharing Obligations

When Saluda Hydro is utilized in fulfillment of all or a portion of the Applicant's reserve sharing obligation under the VRSA, the power produced by Saluda Hydro represents excess generation above the requirements of the Applicant's own customer demand. The excess power is made available through the interconnected regional transmission system (the "grid"), to balance generation and load over the interconnected system. Compensation to the Applicant for reserve generation provided to other VRSA member systems is made according to the terms of the VRSA.

4.0 FUTURE DEVELOPMENT

4.1 Potential for Future Development

A Resource Utilization Study was conducted in 2005 was performed to evaluate the potential for future development of the Saluda Project. The study concluded that the existing hydraulic capacity of the Project corresponds to approximately the 1 percent exceeds flow at the Project location, and greatly exceeds the average annual flow at the Project location. This indicates that the Project is fully developed hydraulically, and that no additional generating capacity is necessary to fully utilize the available flow.

Economically feasible future development will likely be limited to upgrading the turbines and/or generators in order to enhance efficiency, maintain reliability, and provide ancillary benefits such as enhancement of downstream dissolved oxygen levels. Some increase in rated capacity or energy may be realized, depending on the actual upgrades performed and the final operating regime for the Project with regard to minimum flow, and reservoir operating range.

4.2 Potential Equipment Upgrades

The Applicant commissioned a Saluda Hydroelectric Project Upgrade Study (Kleinschmidt 2007) to evaluate the potential for upgrading the existing, original generating equipment. The upgrade study determined that significant increases in turbine performance could be obtained with modern runner designs.

For the purposes of the upgrade study, the following alternatives were selected for detailed analysis:

Alternative 0: (Base Case) Existing equipment Rehabilitated/Replaced In-Kind

Alternative 0 represents the Base Case for rehabilitating the existing, original equipment. This option consists of installing in-kind replacement runners and restoring the original machine clearances to achieve the initial performance characteristics and reliability. This alternative would provide no increase in capacity over existing conditions.

Alternative 1: Maximum Capacity, No Wheel Case or Generator Modifications

Alternative 1 would maximize the installed capacity by installing new runners of modern design that offer higher efficiencies, output and DO uptake, and rewinding the generators. This alternative would increase the rated capacity of the Project from 207.3 MW to about 247 MW.

Alternative 2: Maximum Capacity, No Wheel Case or Generator Modifications

Alternative 2 would include the upgrades described in Alternative 1, with additional capacity achieved by also modifying the water passages and generators. This alternative would increase the rated capacity of the Project from 207.3 MW to about 259 MW.

Alternative 3: Alternative 1 with a Minimum Flow Optimized Runner in One Unit

Alternative 3 would include the upgrades described in Alternative 1, with the exception that one of the four smaller turbines would receive a runner optimized for highest efficiency at low flow (less than 1,200 CFS). This alternative would increase the rated capacity of the Project from 207.3 MW to about 227 MW.

Alternative 4: Alternative 2 with a New Minimum Flow Optimized Turbine in One Unit Bay

Alternative 4 would include the upgrades described in Alternative 2, with the exception that one of the four smaller turbines would be replaced by a new turbine optimized for highest efficiency at low flow (less than 1,200 CFS). This alternative would increase the rated capacity of the Project from 207.3 MW to about 227 MW.

Comparison of Upgrade Alternatives

Alternative 0, replacing the existing runners in-kind, represents the least cost option. No increase in rated capacity or energy is realized.

Alternative 1, which maximizes rated capacity without modifications to the wheel cases and generators, would cost approximately 10 percent more than Alternative 0, would have an installed capacity of 247 MW and would produce approximately 3 to 8 percent more energy on an annual basis than the existing equipment, depending on downstream minimum flow requirements.

Alternative 2, which results in the highest rated capacity (259 MW), would cost 45 percent more than Alternative 1, and adds only 6 percent more rated capacity. Alternative 3 would cost slightly more than Alternative 1 due to the modifications required to install a minimum flow optimized runner, and adds 10 percent less rated capacity than Alternative 1. Alternative 4, the most expensive option (75 percent more than Alternative 1), reflects the additional costs for a complete new minimum flow turbine/generator along with the costs for generator and pressure case modifications to the remaining units, and also adds 10 percent less rated capacity than Alternative 1.

In the initial Upgrade Study, water allocations and prioritizations yielded a decisive preferred upgrade option (Alternative 1, maximize capacity with runner replacements) for all minimum flow scenarios. The initial study used an extremely large reserve allocation (ten - 4 hour reserve calls per month) coupled with low priority for minimum flows, which affected the balance of economics against options capable of generating with minimum flows. Based on historical averages of reserve allocation (two – 2 hour reserve calls a month), additional energy model runs and economic evaluations with the same average flow year (calendar year 1996) were made. The revised results suggest that Alternative 3 (rather than Alternative 1) is the economically preferred option for all minimum flow scenarios. However, the overall benefit of Alternative 1 remained an attractive option, due to the projected need for increased reserve generation capacity. Furthermore, there appears to be limited potential for a full size turbine (no wheel case modifications) to generate measurable energy with a minimum flow of 700 CFS. Based on these considerations, the Applicant has selected Alternative 1 as the preferred upgrade alternative.

These upgrades are being proposed to support the South Carolina Department of Health and Environmental Control (SCDHEC) in-stream water quality standard for dissolved oxygen (DO) within the lower Saluda River and to provide increased assurance of the reliability of the equipment to meet Licensee’s generation obligations. Based on recent testing preformed as part of the existing license, the lower Saluda River already meets the SCDHEC DO standard approximately 98% of the time. The Applicant proposes a schedule for equipment upgrades that should improve the water quality characteristics of the lower Saluda River such that a 100% maintenance of the in-stream DO standard may be assured as early as within three years after the license is issued but no later than 11 years after the license is issued. The Applicant proposes to develop an adaptive management program in which, after each unit upgrade, the Project will be evaluated to determine if it is achieving the in-stream water quality goal. At the point at which the DO standard is consistently maintained through all operating scenarios, whether it occur after the first unit upgrade, the second one, or the third one, the remaining unit upgrades (if any remain to be done) will be implemented in a purely economics-driven manner that could extend the upgrade period to 25 years after the issuance of the license. The Applicant proposes to perform the equipment upgrades according to the following protocol:

Unit 5 will be the first unit to be modified. Upgrade of Unit 5 will be completed within three years from issuance of the license. The upgrade of that unit is expected to take as long as three years to accommodate the design and testing necessary to assure the new runner meets the performance objectives.

After completing the upgrade of Unit 5, Applicant proposes to evaluate the effectiveness of the Project based on the adaptive management program. Should it be necessary to upgrade another unit to assure maintenance of the SCDHEC in-stream DO standard, the Applicant will upgrade one of the smaller units (preferably Unit 3) within two years after the completion of the upgrade to Unit 5. This process will be repeated with the sequential upgrades of Units 4, 1, and 2 each being achieved within two years after the completion of the previous unit upgrade should the effects of that prior upgrade not achieve the water quality goals. The adaptive management program could be performed after each unit upgrade simultaneously with the ordering and preparation of installation of the next unit upgrade. If maintenance of the SCDHEC in-stream DO standard has been achieved, the Applicant will have the option to proceed with the installation of the next unit or reschedule the installation based on economics or reliability concerns.

This iterative process produces a schedule of a maximum of eleven years from the issuance of the license until all five units are upgraded should all five unit upgrades be necessary to assure maintenance of the SCDHEC in-stream DO standard for the lower Saluda River. However, should the SCDHEC in-stream DO standard be assured with installation of Unit 5 the Applicant will perform the upgrades on the following schedule:

1. Unit 3 will be upgraded within five years after license issuance;
2. Two units (preferably Units 4 and 1) will be upgraded within 15 years of license issuance; and
3. The last unit (preferably Unit 2) will be upgraded within 25 years after license issuance.
4. Should reliability or other issues require the upgrade of one or more of the units sooner than proposed, the schedule will be accelerated to meet the identified need.

The Applicant proposes to use other hydro/pumped storage facilities and/or gas turbines as alternatives to meet our reserve obligations during the time each unit is out of service for the upgrade modification.

Estimated costs associated with the proposed upgrade option are presented in Exhibit D.

EXHIBIT G

DETAIL MAPS OF THE PROJECT AREA

1.0 PROJECT MAPS

Detail maps of the Project area are included as Sheets G-00 through G-77 (78 sheets) of Exhibit G. As required by Section 4.51(h) of the Commission's regulations, these maps show the location of the Project Boundary Line (PBL), the maximum normal operating level (MNOL), and other principal features of the project. The elevations on all Exhibit G maps have been shown in Plant Datum (PD), which was the datum used in numerous supporting studies for this license application and often erroneously referred to as mean sea level (MSL). Certain other drawings and exhibits in this application reference the North American Vertical Datum of 1988 (NAVD88). Conversion of elevations from Plant Datum to NAVD88 requires the subtraction of 1.50 feet.

As has been noted in the certification statement on each map in this exhibit, the Applicant owns in fee or has flowage rights (at a minimum) to all property within the PBL.

It should be noted that since 1984, the Applicant (Licensee) has conveyed fee interest in Project 516 property lying between the Project Boundary Line and the 75-foot Setback Line and has retained flowage rights within that sales area. In these cases, the Licensee retained fee ownership between the 75-foot Setback Line and the MNOL adjacent to these areas, and these maps reflect this ownership pattern.

2.0 LIST OF PROPERTY OWNERS ADJACENT TO THE PROJECT

A list of property owners adjacent to the Project is provided in Exhibit G-78. It should be noted that in the case of larger properties which were adjacent to the Project boundary and which were later subdivided, all of the individual lots in the subdivision are listed as adjacent property, although some of these lots are not strictly adjacent to the Project boundary at the present time. This information is current as of January 1, 2008.