EXHIBIT H

DESCRIPTION OF PROJECT MANAGEMENT
AND
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COOSA RIVER PROJECT
FERC PROJECT NO. 2146

APPLICATION FOR NEW LICENSE
FOR MAJOR WATER POWER PROJECT – EXISTING DAM

EXHIBIT H

DESCRIPTION OF PROJECT MANAGEMENT AND NEED FOR PROJECT POWER

1.0 PLANS AND ABILITY OF THE APPLICANT TO OPERATE AND MAINTAIN THE PROJECT

From its earliest history, Alabama Power Company (APC) has been a developer and operator of hydroelectric facilities. For over 80 years APC has demonstrated its ability to successfully maintain and operate the Coosa River developments. APC has consistently provided its customers with affordable, efficient, and reliable hydroelectric power. The Coosa River developments have been a cornerstone for economic development in the region, and APC's stewardship of this project has enhanced the quality of life for all users of the Coosa River system. The track record APC has established in its stewardship to develop, maintain, and operate the Coosa River hydroelectric system serves as testimony for its qualification to continue as licensee for these projects. Over the term of a new operating license, APC's experience in operating and maintaining the Coosa River developments will ensure that its customers continue to receive the high level of service to which they have become accustomed.

1.1 Plans to Increase Capacity or Generation

Since APC is an experienced operator of many types of electric generating resources (*e.g.*, hydro, coal, nuclear, natural gas), APC's strategy for meeting customer demands for electric service has been and will continue to be to provide a diverse mix of generating resources which provides reliable and economical service. Like the whole country, the business

environment for APC has been in transition and probably will continue in transition for the near term. However, APC's objective is to fully capture the potential value residing in the Coosa River.

APC views the Coosa River developments as they exist today to be "mature" projects. That is, based on present day electric power economics and the option of providing electric power with other alternative types of generating resources, the construction of an additional generating unit is not economically feasible at any of the Coosa River developments. Nevertheless, with a dramatic change in electric power economics, this view could change.

Even though additional project generating units are uneconomical in today's business environment, APC has investigated the benefits of increased capacity or generation in its resource planning models. At the same time, vendors have been requested to provide costs and performance data for unit refurbishment or replacement. The latest studies show that refurbishment of selected units is beneficial at this time. APC proposes the following plans:

Lay (Two Units) - The proposed scope of work for two of the Lay Units includes turbine replacement, wicket gate system rehabilitation, gate stem bushing replacement, turbine and generator bearing refurbishment, and related component replacement. APC expects each turbine refurbishment to provide approximately four (4) megawatts (MW) of additional capacity, as well as increased efficiency. This equates to a 13.6% increase in nameplate capacity rating. The current full gate flow of approximately 5,770 cfs from each of the two Units to be selected is expected to remain relatively the same, plus/minus 15%.

Bouldin Unit (One Unit) - The key proposed work scope includes turbine replacement, wicket gate system rehabilitation or replacement, gate stem bushing refurbishment, turbine and generator bearing refurbishment, and related component replacement. APC expects the new Bouldin Unit turbine refurbishment to provide approximately four (4) additional MW, as well as increased efficiency. This equates to an approximate 5% increase in nameplate capacity rating. The current full gate flow of 9,600 cfs from the selected Unit is expected to remain relatively the same after the upgrade, plus/minus 15%.

Jordan (one Unit) - The key proposed work scope includes turbine replacement, stator coil replacement, wicket gate system rehabilitation or replacement, gate stem bushing replacement, turbine and generator bearing refurbishment, and related component replacement. The new turbine refurbishment is expected to increase efficiency and provide approximately four (4) additional MW, which reflects a nameplate capacity increase of 12.5%. The current full gate flow of the selected unit is expected to remain the same, plus/minus 15%.

Please note that the expected post-upgrade flows and capacity changes for the two Lay Units, one Bouldin Unit, and Jordan Unit 4 following turbine runner refurbishment referenced above are engineered estimates; actual turbine flows may be different (higher or lower), than those values reported herein, plus/minus 15% for each unit. None of the refurbishments to these units constitutes the addition of a new hydroelectric generating unit.

1.2 Plans to Coordinate the Operation of the Project With Other Water Resource Projects

The Coosa River developments are one component of an extensive water resources management system that includes dependent-interactions with upstream and downstream facilities. Project operations are directly affected by management actions taken at the upstream U.S. Army Corps of Engineers' (USACE) Carters and Allatoona Hydroelectric Projects in Georgia. Conversely, the operation of downstream USACE water resources projects on the Alabama River are affected by the management actions of these developments. APC is in constant communication with the USACE and coordinates its efforts with them. APC provides the USACE a daily report of all dam operations which includes forebay and tailrace elevation, inflow, turbine discharge, spillway discharge and seepage flow. River basin rainfall data from APC's 40 rain gages is available to the USACE through a cooperative program between APC and the National Weather Service. The USACE can use this rainfall data as a good advance indicator of how reservoir releases will be changing. Additionally, APC reports current and forecasted flows into the Alabama River in a special format to help the USACE determine how to most efficiently operate its R.F. Henry, Millers Ferry and Claiborne Dams. Operational data is provided throughout the day to keep the USACE informed.

APC utilizes information about daily USACE operations that are provided in a web-based format. Knowledge about actual and forecasted releases from the USACE's Allatoona and Carters Projects improves the understanding of inflows and provides for efficient management of reservoir storage on a short-term basis.

The State Office of Water Resources (OWR) is responsible for helping to coordinate activities associated with drought conditions. APC provides input to this process as a member of the Drought Response Team. An APC representative chairs the "Monitoring and Analysis Group" that is responsible for monitoring all available data (*i.e.* reservoir storage levels, aquifer levels, climatological data, soil moisture readings, *etc*.) and analyzing the data in order to determine the current level of drought conditions within the state before recommending the level of conservation the state should implement.

1.3 Plans to Coordinate the Operation of the Project With Other Electrical Systems

APC, a public utility with its principal office in Birmingham, Alabama, is engaged in the generation, transmission, distribution, and sale of electricity. APC directly serves approximately 1,385,000 customers in a service area of about 44,500 square miles (approximately 86 percent of Alabama's land area).

As a wholly-owned subsidiary of Southern Company, APC's power generation assets, including the Coosa River developments, are coordinated along with other Southern Company resources to provide reliable and cost-effective generation which meets the demands of a single integrated regional utility system that supplies power to much of the Southeastern United States. While the developments are a valuable element for total system integrated operation, all project energy is retained for use by the customers of APC.

Project operations and electrical generation are coordinated from the Alabama Control Center (ACC) in Birmingham. The ACC monitors and directs the APC generation schedule coordinating with two Southern Company control centers: Fleet Operations and Bulk Power Operations. The Fleet Operations center is responsible for economic dispatch of Southern

Company's generating resources. The Bulk Power Operations center is responsible for Southern Company's system reliability. The ACC coordinates with both entities to minimize production cost and provide reliable electric service.

In today's regulatory environment, APC's generating resources are coordinated to respond to the retail and wholesale markets as either a buyer or a seller in a given market timeframe to effect the best cost position for APC retail customers. This timeframe can range from immediately (for the reliability market), to hourly and daily (for the spot market), up to longer periods (for wholesale bilateral contract markets). The retail service territory load market, effectively a contract with retail customers who continue to be served under the "regulatory compact", is regulated by the Alabama Public Service Commission. The coordination of this integrated retail and wholesale market is in accordance with the Southern Company Intercompany Interchange Contract and APC is an affiliate party to this contract.

2.0 THE NEED FOR ELECTRICITY GENERATED BY THE PROJECT

The Coosa River developments are an important component of APC's power generation system. Project generation is necessary in both the short and long term to maintain system reliability, operational flexibility, and low cost electricity for APC customers.

Project generation represents a valuable portion of APC's total generation production. Lost generation would have to be replaced by other resources which may be potentially less efficient and cost effective than that currently provided by the Coosa River developments. Operational flexibility created by unique project-specific ancillary benefits is a necessary component in maintaining the integrity of the APC electrical system, particularly during periods of peak electrical demand. The loss of these unique benefits and the resulting reduction in flexibility may limit APC's ability to efficiently and cost effectively provide power. Additionally, the distinctive nature of hydroelectric power generation allows APC to provide its customers with low-cost electricity which, if lost, would have to be replaced by potentially more expensive generation resources resulting in higher consumer costs.

The effect of not having this resource available would be significant. In both the short term and long term, APC would be forced to replace this resource either by constructing new capacity or purchasing power from other generators.

2.1 The Effect of Each Alternative Source of Power

The most likely source for alternative power would be constructing combustion turbine type units or combined cycle combustion turbine [having a Heat Recovery Steam Generator (HRSG) and steam turbine] units. Alternatively, depending upon the availability of spot market capacity in the region and transmission capability to deliver this power to APC, purchasing electricity might be another alternative solution to meet short-term power needs. However, neither of these resources offers the level of reliability obtained from the Coosa River developments. The APC system is interconnected with a large number of power sources making

replacement power generally available. Replacement power, however, is dependent upon available transmission capacity

2.1.1 The Applicant's Customers, Including Wholesale Customers

The loss of the generation capacity from these developments would negatively impact customers by requiring APC to construct more costly generating units or to purchase more power from other suppliers at an increasingly higher price. The additional cost associated with either of these options would most likely result in increased costs to customers.

2.2.1 The Applicant's Operating and Load Characteristics

APC is an operating affiliate of Southern Company. In its service territory, which covers most of the State of Alabama, APC had total retail sales of approximately 54,244 thousand megawatt-hours while serving 1.38 million customers during 2004. Peak hour demand experienced while serving all customers was approximately 10,938 MW. Also, in order to enhance its economic position for all of its customers, APC participated in both affiliate and non-affiliate wholesale markets. Total sales in these markets were approximately 22,717 thousand megawatt-hours during 2004.

2.3.1 The Communities Served or to be Served

Hydroelectric projects by nature are high capital cost projects (per installed kw) having long life and slow payback. For long life generating assets, most of the project benefit is derived at the end of the life cycle. Most Coosa River developments are just now approaching the mid-point of their life-cycle. Granting a license to another party other than APC would deprive APC’s investors and customers of these end of life cycle benefits and make them available to others at older vintage cost with comparatively little risk. Additionally, the Coosa River development facilities and APC staff at the developments provide many benefits to the community in addition to low cost power. APC is an important part of the local community.

3.0 ALTERNATIVE SOURCES OF POWER

Should project generation be lost as a result of a license not being granted, APC would have to replace this lost power (capacity and energy) from other resources. Replacement power would have to be provided by alternative resources which either must be constructed or possibly purchased (if capacity and energy is available in the territory and transmission is also available to reliably acquire power for APC's customers).

3.1 Average Annual Cost of the Power Produced by the Project

The average annual cost of power produced by the units is $60.2 million (in 2007 dollars over 30 years). This value is calculated using the Project Operation and Management (O&M) costs, depreciation, taxes and other costs associated with operating the Project.

3.2 Resources Required to Meet Capacity and Energy Requirements

3.1.2 Energy and Capacity Resources

The Coosa River developments contribute up to 960.9 MW of APC's total generating capability. Through 2008, the summer capability of APC's owned generating assets will total 13,022 MW. Of this, 0 MW (or 0%) is in extended reserve shutdown. Additionally, under long-term contracts with other generating systems, APC has 1,250 MW of firm purchases.

3.2.2 Resource Analysis

APC continues to operate in the retail market under the jurisdiction of the APSC. A diverse mix of generation capacity has historically been added to provide reliable power and to mitigate fuel cost volatility. Historically, project approval has been granted by the APSC in their certification process. This includes adequate reserves to ensure reliable service. The APSC has exercised latitude in their approval for reserves to recognize economies of scale in project size, general economic environment for construction, and shifting national and global energy

conditions. All generating plants that are capable of running contribute to the reserve margin. Removal of the Project from the system would therefore affect system reserves.

3.3.2 Effects of Load Management Measures

Nationally, APC was one of the first electric utilities to promote "Load Management". The company continues to promote load management through interruptible contracts with large industrial and commercial customers. Also, APC has actively promoted passive load management to recognize the need for all customers to use energy wisely.

3.4.2 Annual Cost of Each Alternative Source of Power to Replace Project Power

If a new license is not granted for the Coosa River developments, cost for alternative capacity and energy would likely follow costs for natural gas fired generating resources typical for the region. Asset and operating and maintenance costs for these resources are fairly predictable. However, cost for fuel to power these resources is very volatile and the reliability of fuel supply and transportation is also a serious concern. Resulting costs would be expected to be significantly greater than existing hydro power from the Coosa developments.

3.3 Costs and Availability of Alternative Sources of Power

Projection of these costs are more predictable under the regulatory regime. The Power value is based on an estimate of the cost of alternative power from gas fired Combined Cycle capacity at construction cost as provided by the Department of Energy EIA. Two and one half life cycles (20 years each) of combined cycle capacity is deemed equivalent to hydro capacity over a 50 year study period for a total of $95.1 MWh (in 2007 dollars, level over 30 years). Regardless of the market environment, APC's objective will be to continue providing a reliable mix of capacity to moderate volatility in energy cost in order to provide economical electrical energy.

3.4 Effects of Using Alternative Sources of Power

Hydroelectric power has provided APC and its customers with dependable capacity and energy at dependable cost. A great strength for hydro power is its ability to moderate volatility in fuel cost and to enhance overall fuel efficiency by enabling the de-commitment of fossil units overnight since hydro can easily be cycled to meet daily peak loads. APC electric customers would lose these economic advantages if the Coosa River developments' license was awarded to others or not renewed.

4.0 EFFECT OF PROJECT GENERATON ON APPLICANTS OWN INDUSTRIAL FACILITIES

Not Applicable

5.0 NEED FOR ELECTRICITY BY INDIAN TRIBE

Not Applicable

6.0 THE IMPACT ON THE OPERATIONS AND PLANNING OF THE APPLICANT'S TRANSMISSION SYSTEM

In compliance with FERC rulemaking, APC (as part of Southern Company) has functionally separated its transmission and wholesale merchant functions. Even though most of the generating and transmission infrastructure exists to serve the retail market under APSC jurisdiction, wholesale uses of transmission have moved the FERC to an open access transmission policy with all parties being governed by the same operating rules.

6.1 The Effects of Power Flow Redistribution

If a party or parties other than APC were granted licenses for Coosa River developments, the new owner(s) would not necessarily dispatch the projects for the state's retail market. If the new party has another market interest, use of transmission and availability of transmission support from hydro projects could be appreciably different.

6.2 Advantages of the Applicant's Transmission Systems

Under current operating policy, Coosa River developments are continuously available for reactive and real power flow control to support transmission reliability needs. A new licensee may be averse to provide this service without significant compensation.

6.3 Single Line Diagrams

These will be filed with FERC under the Critical Energy Infrastructure Information, pursuant to the Commission's Order No. 630, concurrent with the final license application.

7.0 PLANS TO MODIFY EXISTING PROJECT FACILITIES

The economic benefit APC customers derive from the Coosa River developments is relative to all other power options available from alternative generating resources. Opportunities to enhance hydro operating efficiencies are economically weighed in light of "competing alternative power options." In recent years, turbine manufacturers have improved turbine design technology so that refurbishing hydro turbines to increase project efficiencies is an economical alternative. For the same flow, incremental increases in capacity and energy are available. These incremental power gains provide increases in renewable energy resources which are environmentally benign relative to alternative thermal resources.

For the long-term, upgrading hydro turbines will continue to be a viable economic alternative. During the short term, however, the timing for undertaking improvements at individual projects will be weighed with other competing capital projects, short-term resource needs, and purchase options that could become available.

APC has utilized the Alabama Power Cooperative Approach (APCA) to involve all stakeholders throughout the relicensing process. Their input, along with routine planned changes APC desires, has resulted in numerous changes to project operations. The changes include:

- **Weiss -** Higher winter pool level; seasonally varying flow in the Bypass reach below spillway; drought management plan
- **Henry -** Higher winter pool level; improved flood control release plan; drought management plan
- **Logan Martin** - Higher winter pool level; improved flood control plan; drought management plan
- **Lay -** Refurbishment of two Units
- **Jordan -** Refurbishment of Unit 4; improved recreational release schedule
- **Bouldin -** Refurbishment of one Unit
- **Weiss, Neely Henry and Logan Martin** – Revised Reservoir Regulation Manuals with the USACE

8.0 CONFORMANACE WITH COMPREHENSIVE WATERWAY PLANS

APC, in accordance with Section 10(a)(2) of the Federal Power Act, has identified the following comprehensive plans as those whose mandates and regulations are applicable to the Project.

- United States Fish and Wildlife Service. Recovery Plan for Mobile River Basin Aquatic Ecosystem
- United States Fish and Wildlife Service. 1990. North American Waterfowl Management Plan, Gulf Coast joint venture plan.
- United States Fish and Wildlife Service. Undated. Recreational Fishery Policy of the USFWS.
- Alabama Department of Conservation and Natural Resources. 1986. Statewide Comprehensive Outdoor Recreation Plan
- Alabama Department of Conservation and Natural Resources. 1990. Wildlife lands needed for Alabama.
- National Oceanic and Atmospheric Administration. Coastal Zone Management Act
- National Marine Fisheries Service. 1995. Gulf sturgeon (*Acipenser oxyrhynchus desotoi*) Recovery/Management Plan. Prepared by the Gulf Sturgeon Recovery/Management Task Team
- National Marine Fisheries Service. 1999. Fishery Management Report No. 35 of the Atlantic States Marine Fisheries Commission: Shad and river herring - Amendment 1 to the Interstate Fishery Management Plan for shad and river herring
- National Marine Fisheries Service. 2000. Technical Addendum 1 to Amendment 1 of the Interstate Fishery Management Plan for shad and river herring
- National Park Service. 1982. The nationwide rivers inventory.
- Georgia Department of Natural Resources. 1989. The Georgia recreation planning process: Outdoor recreation assessment and policy plan.
- State of Georgia. Office of the Governor. 1987. Water resources management strategy summary document.

- Metropolitan North Georgia Water Planning District. 2003. Water supply and water conservation management plan.
- Metropolitan North Georgia Water Planning District. 2003. Long-term wastewater management plan
- Metropolitan North Georgia Water Planning District. 2003. District-wide watershed management plan.

Based on a review of these plans, APC has determined that proposed project operations and enhancements will be consistent with these comprehensive plans.

9.0 FINANCIAL AND PERSONNEL RESOURCES

APC is the second largest subsidiary of Southern Company, the nation's largest generator of electricity. Alabama Power, an investor-owned, tax paying utility, serves 1.38 million homes, businesses and industries in the southern two-thirds of Alabama. More than 79,000 miles of power lines carry electricity to customers throughout 44,500 square miles. Electric operating revenues were $4.24 billion for the year 2004.

Southern Company intends to meet its future capital needs through internal cash flow and externally through the issuance of debt, preferred securities, and equity. The amount and timing of additional equity capital to be raised in 2004 - as well as in subsequent years - will be contingent on Southern Company's investment opportunities. Equity capital can be provided from any combination of the company's stock plans, private placements, or public offerings. APC receives equity requirements from Southern Company.

APC plans to obtain the funds required for construction and other purposes from sources similar to those used in the past, which were primarily from operating cash flows. However, the type and timing of any financings - if needed - will depend on market conditions and regulatory approval. In recent years, financings primarily have utilized unsecured debt and preferred securities.

APC has committed significant, highly trained, and experienced staff to the physical operation and maintenance of project facilities as well as to meeting the regulatory and compliance requirements of the new license.

10.0 EXPANSION OF PROJECT LANDS AND NOTIFICATION OF AFFECTED PROPERTY OWNERS AND GOVERNMENT AGENICES

The Coosa River Flood Study (see Volume 1), developed in consultation with the USACE, documents the operational need to acquire approximately 450 acres of additional Project lands in the upper seven miles of the Lay reservoir, just downstream of Logan Martin Dam. As consultation with the USACE is ongoing at the time of filing this application, final details of this action are being developed.

11.0 ELECTRICITY CONSUMPTION EFFICIENCY IMPROVEMENT PROGRAM

11.1 Applicant's Record of Encouraging Power Conservation and Plans for Promoting Power Conservation

APC has encouraged its customers for numerous years to both conserve and use energy efficiently. APC has and continues to utilize several communications mediums to spread these messages including paid print, television and radio advertisements, sponsorships of conservation-oriented events, sporting activities and other programs as well as conservation/recreation-themed shows, workshops and conferences. APC has also utilized brochures, bill stuffers and other literature to spread this message. Now, websites and e-mail campaigns provide much of this information. For example, Energy Tips is a comprehensive online resource designed to provide customers with home energy information using easy to understand terms and illustrations. In addition, the Energy Tips section has an extensive set of Frequently Asked Questions (FAQ) on energy use in the home.

11.2 Compliance of Power Conservation Programs With Applicable Regulatory Requirements

There are no regulatory requirements by the Alabama Public Service Commission for conservation programs. APC however, does have customer conservation programs with financial incentives.

12.0 AFFECTED TRIBAL LANDS

There are no tribal reservation lands within the Coosa River developments' boundaries. However, there are several tribes that attach historic, religious, and/or cultural significance to lands within these boundaries. APC has contacted the following tribes and initiated consultations with them to address potentially affected lands:

Debbie Thomas
Tribal Representative
Alabama-Coushatta Tribe of Texas
Route 3, Box 645
Livingston, TX 77351

Augustine Asbury
Tribal Representative
Alabama-Quassarte Tribal Town
P.O. Box 187
Wetumpka, OK 74883

Delores Herrod
Tribal Representative
Kialegee Tribal Town of the Muscogee
(Creek) Nation
P.O. Box 332
108 N. Main Street
Wetumka, OK 74883

Joyce Bear
Tribal Historic Preservation Officer
Muscogee (Creek) Nation of Oklahoma
P.O. Box 580
Highway 75 & Loop 56
Okmulgee, OK 74447

Kenneth Chambers, Principal Chief
Seminole Nation of Oklahoma
P.O. Box 1498
Seminole, OK 74884

W.S. Steele
Ah-Tah-Thi-Ki Museum
HC 61, Box 21 A
Clewiston, FL 33440

Charles Coleman
Tribal Warrior
Thlopthlocco Tribal Town
Rt. 1 Box 190_A
Weleetka, OK 7488

Terry Cole
Cultural Preservation Committee
Choctaw Nation of Oklahoma
P.O. Drawer 1210
16th and Locust
Durant, OK 74702

Ken Carleton
Mississippi Band of Choctaw Indians
P.O. Box 6257
Choctaw, MS 39350

Rena Duncan
Chickasaw Nation
P.O. Box 1548
Ada, OK 74820

Christine Norris
Jena Band of Choctaw Indians
P.O. Box 14
Jena, LA 71342

Tribal Historic Preservation Officer
Poarch Band of Creek Indians
128 Olive Street
Pineville, LA 71360

13.0 MEASURES TO ENSURE SAFE MANAGEMENT, OPERATION AND MAINTENANCE OF THE PROJECT

APC utilizes trained personnel and a number of specific management programs to ensure the continued safe operation of the Coosa River developments. A combination of trained multi-craft skilled technicians and specialty contractors help to maintain project equipment and facilities at each development. Routine maintenance inspections and services are conducted by APC staff to further ensure the safe management of each development.

13.1 Existing and Planned Operations During Flood Conditions

Existing and planned operations during flood conditions are described in detail in Exhibit B of this license application.

13.2 Warning Devices Used to Ensure Downstream Public Safety

APC utilizes several warning devices at each development including audible alarms, signs, and buoys to warn the public of potentially dangerous flow conditions resulting from project operations. Audible alarms have been installed at each development to alert the public of powerhouse discharges. Strategically placed lit and unlit signs explaining the alarms and warning the public of these and other dangerous conditions have also been placed around and on important project structures including dikes, intakes, powerhouses, spillways, and tailraces. Additional signs along project tailraces remind boaters that state law requires them to wear personal flotation devices within 800-ft of a dam. Warning buoys placed approximately 400 to 500-ft upstream from both the spillways and powerhouses alert boater to dangerous conditions in those waters.

13.3 Proposed Changes Affecting the Emergency Action Plan

There are no proposed changes that would affect the emergency action plan.

13.4 Existing and Planned Monitoring Devices

APC dispatchers remotely monitor lake, tailwater, and generation levels on a continuous basis. Lake and tailwater alarms are used to provide a signal of any unusual operating conditions. Where necessary, piezometers are used to monitor the phreatic surface within the structures. Weirs are used to monitor seepage discharges as appropriate. Deformation monuments are in place to allow for surveying checks of vertical and horizontal movement of dam structures.

An intensive inspection program has been implemented consisting of daily monitoring, twice weekly dam inspections, biennial engineering inspections, and periodic inspections of the principal powerhouse mechanical equipment, including the generating components and the spillway equipment, where applicable. These inspections are in addition to FERC-conducted annual inspections and the five-year consultant inspection.

The purpose of the inspection and monitoring program is to detect any developing problems with the dam and water conveyance structures, and to identify any needed maintenance and corrective measures prior to small maintenance issues turning into larger public safety concerns.

On a twice weekly basis, operations personnel perform an inspection of the dam structures. At Logan Martin and Bouldin, Security Officers working the evening and night shifts routinely inspect the structures, weirs, and riverbanks twice per shift and also monitor the tailrace areas for changes. Readings of the piezometers are generally taken on a monthly basis, and a thorough visual inspection is performed of these structures. Any problems observed are reported to in-house engineering staff who assess the nature of the problem and recommend appropriate maintenance or corrective action.

A complete engineering inspection of all project facilities is performed on a biennial basis by in-house engineering staff. A detailed report of these inspections is prepared and used as a basis for scheduling project maintenance or immediate corrective action. Scheduled turbine-

generator outages are also used as an opportunity to thoroughly inspect project electrical and mechanical equipment.

An annual test of spillway gates is performed to ensure that they will function when needed for flood operations. On a five-year cycle, spillway gates are raised to a full height position. At some locations, these tests require that the stoplogs be set to eliminate the possibility of damage downstream due to the force of the spillway discharge.

Each development is classified under FERC regulations as a "high" hazard dam. Therefore, as required by 18 CFR Parts 8 and 12, APC retains an independent consultant every five years to perform an intensive field inspection and to confirm that project structures adequately meet stringent federal dam safety criteria for high hazard dams.

The dams are monitored through instrumentation as outlined below:

- **Weiss** - There are 30 piezometers in the embankment sections that are read monthly, sump discharges are read monthly, and 45 deformation monuments along the top of the dam are surveyed annually. Crack monitors have been installed at four locations inside the powerhouse. Riverbed soundings downstream from the powerhouse and the spillway are made on a five-year frequency.

- **Henry** - There are 27 piezometers in the embankment sections that are read monthly, pressure and flow in 88 gallery relief drains are measured annually, levels in 19 relief wells and the total relief well discharge are read monthly, and 20 deformation monuments along the top of the dam are surveyed annually. Riverbed soundings are made in the tailrace area on a five-year frequency.

- **Logan Martin** - There are 26 piezometers that are monitored by continuous recorders; 112 piezometers that are read weekly; 61 gallery relief drains and 12 dike relief drains that are read monthly; and 34 deformation monuments are surveyed each month. A fathometer survey boat is used for monthly monitoring of sinkhole

development in the forebay within 1,000 ft of the dam. Weirs have been constructed at two locations in the tailrace area to monitor leakage and readings are taken monthly. Total leakage flow is measured annually by lowering the downstream reservoir level and conducting in-stream flow measurements at a control section. Riverbed soundings are made in the tailrace area on a five-year frequency.

- **Lay** - There are 59 gallery relief drains that are checked for depth, pressure and flow annually, and 8 deformation monuments that are surveyed every two years. Soundings of the tailrace are made on a five year frequency. Field inspection also includes visual observation of drain flow in the galleries of the central non-overflow section and the spillway section, and visual observation of a seepage area downstream from the embankment.

- **Mitchell** - There are 17 deformation monuments that are surveyed annually. Soundings of the tailrace are made on a five year frequency. There are trammel points in the original powerhouse that are used to monitor crack activity.

- **Jordan** - There are 12 deformation monuments that are surveyed every two years. A total of eight piezometers were installed in the spillway, powerhouse, and west abutment as part of a foundation investigation conducted in 1993, and monitored for part of 1994. The piezometers were capped and retired in 1994.

- **Bouldin** - Instrumentation at the project includes 20 deformation monuments that are surveyed every six months; 15 pneumatic and 111 open standpipe piezometers that are measured monthly; and 7 weirs and seepage points that are measured monthly. Eight critical open standpipe piezometers and two critical weirs are continuously monitored and a plant alarm is triggered if the readings exceed a predetermined level.

13.5 Employee and Public Safety Records

There have been two lost time accidents involving employees since 1994. One occurred at the Logan Martin development in 1998 and one occurred at the Jordan development in 2002.

APC places a high priority on public safety at its hydroelectric project developments. APC maintains public safety measures (lighting, signage, markers, audible warnings, fencing, *etc.*) consistent with plans filed with the FERC's Atlanta Regional Office (ARO). In accordance with 18CFR12.10, APC files public safety incident reports with the ARO.

In the past 5 ½ years (January 1, 2004 – June 2005) there has been a total of 27 public safety incidents that APC has been aware of at hydroelectric developments licensed under the current Project No. 2146 and at the Jordan (Project No. 618) and Mitchell (Project No. 82) projects, which will become part of the new Project No. 2146 license. None were determined to have been caused by project operations. The table below summarizes these incidents.

Table 13-5-1: Summary of Public Safety Incidents

		JANUARY 1, 2000 – JUNE 1, 2005		
CURRENT PROJECT NO.	**PROJECT NAME**	**NO. OF INCIDENTS**	**NO. OF FATALITIES**	**NO. OF INJURIES**
82	Mitchell	3	0	1
618	Jordan	1	2	0
2146	Coosa River	23	22	4
	Total	**27**	**24**	**5**

14.0 CURRENT PROEJCT OPERATIONS

The Coosa River developments are operated within the constraints outlined in the three existing licenses. A detailed description of current project operations can be found for each development in Exhibit B of this license application.

15.0 PROJECT HISTORY

The seven developments were originally constructed between 1910 and 1966. During this 50+ year period, the developments were constructed to provide hydroelectric generation, flood control and flow regulation. In the subsequent years since construction of the developments was completed, APC has continued to actively manage the river's other resources including recreational and environmental resources.

As discussed in previous exhibits, APC has continually monitored, maintained, repaired, and improved each development as necessary to comply with FERC requirements and to provide reliable electrical service. Maintenance personnel are on site eight hours a day and each development is monitored and operated remotely 24 hours a day. All APC project personnel have been trained in regulatory compliance, safety, dam surveillance, and emergency action procedures. APC also performs periodic inspections and facility maintenance (repairs, renewals, and replacements) to ensure reliable and safe operation.

The following tables and accompanying descriptions highlight APC actions at each respective development.

Improvements at the Weiss development, following its initial construction in 1958 and placement into service in 1962 include:

1969	An engineering evaluation determined that no modifications were necessary to address concrete cracking and spalling.
Early 1970's	Reference pins were set to monitor structural movement.
1975	Slides were repaired in the freeboard section of the west powerhouse.
1990	Freeboard dike landslides were repaired and rip-rap was added west of the powerhouse and along the tailrace.
1993	Drainage improvements were made downstream of the spillway.
1997	Undergrowth and brush were cleared from the west dike and the finger drain ditch area.

1998	Debris was removed from the trash racks; the emergency generator was replaced; and the spillway gates and structure were repainted

Improvements at the Neely Henry development, following its initial construction in 1962 and placement into service in 1966 include:

1970's	Several improvements were made to address rainwater leakage caused by vertical and longitudinal movements of the powerhouse roof.
1976	Installation of embankment relief was completed.
1977	A king post truss system with tension cables was installed under the powerhouse roof.
1979	Roadway expansion joints in the powerhouse roof were caulked.
1986	344 buoys were placed at strategic locations on the lake for public safety.
1988	Riprap was placed downstream of the spillway to remedy erosion damage.
1990	A small amount of riprap was added to that placed in 1988; a sounding survey was made of the river channel downstream from the dam which documented no major problems.

Improvements at the Logan Martin development, following its initial construction in 1960 and placement into service in 1964 include:

1965	Weirs were constructed to measure boils downstream of the dam.
1966	A weir box was constructed around a newly discovered boil.
1968 - 1970	Several sinkholes were filled and extensive grouting was completed.
1972	A long-term grouting program was initiated.
1977	A rock fill bolster was completed.
1978	Additional sinkholes were filled and the river bottom was blanketed.
1980	A trench drain and rock fill bolster to connect to the bolster of the river section was completed.
1990 - 1991	New lighting in the galleries and replacement of trash racks on all three units.
1991	Roadway expansion joint repair; and construction of a guard building.
1992	Cranes were upgraded; a sump pump was added in the headworks gallery.

1993	Revised procedures were adopted to address sinkholes; new public safety signs and buoys as well as warning sirens and an air compressor were installed; and retarding cylinders were removed.
1994	Grout was pumped under the apron wall below the two main spillway bays nearest the powerhouse; the foundation was drilled and grouted; embankments were repaired, an electronic gate was installed and new hatch cover skirts were added.

Improvements at the Lay development, following its initial construction in 1910 and placement into service in 1914 include:

1964	Major construction was initiated to improve the development, modifications included mass concrete to the dam crest and the downstream faces of non-overflow and spillway sections, foundation treatments; powerhouse upgrades, replacement generators, and increased grouting.

Improvements at the Mitchell development, following its initial construction in 1921 and placement into service in 1923 include:

1949	A fourth powerhouse unit was placed into service.
1985	A second powerhouse containing three additional units and a new spillway structure with three radial gates were constructed and placed into service, the original gates were rehabilitated, and the three original powerhouse units were retired.

Improvements at the Jordan development, following its initial construction in 1926 and placement into service in 1928 include:

1960’s	The normal operating level was raised 7-ft and eighteen new radial gates were installed across the un-gated spillway section.
1992	The trash racks were replaced.
1994	Window stop logs were installed on the tail water side of the powerhouse.

Improvements at the Bouldin development, following its initial construction in 1963 and placement into service in 1967 include:

1967	Extensive seepage as well as several springs and boils were observed.
1967 - 1968	A series of relief wells were installed.
1968	A grouting program was conducted to protect tailrace slopes.
1980	Reconstruction of the Bouldin Dam earth embankment was completed.
1984	An earthfill bolster at the north embankment was added.
1987	Soundings around the trashracks were conducted.
1993 - 1994	The construction joints of the intake structure were grouted.

16.0 SUMMARY OF LOST GENERATION OVER THE LAST FIVE YEARS

The following table summarizes the unscheduled outages at the seven Coosa River development that have occurred during the past five years 2000-2004.

Table 16-1: Summary of Unscheduled Outages

DEVELOPMENT	DATE	UNIT	DURATION	MWH LOST	CAUSE	CORRECTIVE ACTION
Weiss						
	05/08/03	1	0:33	12	High thrust bearing oil level due to sharp increase in ambient temperatures	Drained 10 gallons of oil from the bearing reservoir
Neely Henry						
	05/3/02	1,2,3	11 :00	475	Grounded bushing on main transformer	Cleaned bushing and resealed isophase duct
	05/19/03	3	1:25	17	Float stuck in tailwater depressing system	Removed and cleaned float
Logan Martin						
	05/07/02	2	1:16	57	Upper guide bearing oil level high/low	None taken since oil was probably "sloshing"
	06/30/04	1,2,3	3:09	77	Water in generator bus	Dried and resealed bus
Lay						
	12/13/02	1	0:29	4	Low governor oil level	Replaced air charging system solenoid diaphragm to prevent air leaking

DEVELOPMENT	DATE	UNIT	DURATION	MWH LOST	CAUSE	CORRECTIVE ACTION
	12/10/02	1	65:50	1479	Mechanical binding of the generator breaker mechanism	Rack-out breaker and install new bearings in mechanism
	02/27/03	1	2:03	59	Partial and Complete Shutdown solenoids burned up	Replaced solenoids
Mitchell						
	09/22/04	7	7:09	112	Governor oil level high	Set oil level back to normal
	09/22/04	6	1:45	70	Thrust bearing trip device	Reset trip device
	09/22/04	6	0:35	28	Faulty thrust bearing trip device	Removed device from service
	04/25/03	4	3:40	48	Bus knife switch grounded	Replaced insulator in knife switch
	05/25/03	7	0:47	41	Head cover water level high	Reset pump contactor overloads & adjusted float switches
Jordan						
	02/24/03	3	1:05	33	High stator temperature	Cleaned coolers
	02/24/03	4	1:09	35	Breaker failure relay	Timer set too low; reset timer
	07/19/03	1,2	3:59	15	Lightning hit switchyard	None taken
	07/19/03	3,4	2:55	14	Low governor oil level	Reconfigured station service to prevent loss of feed
Bouldin						
	04/06/01	3	11:12	704	Commutator wore down excessively	Repaired & replaced worn parts

17.0 COMPLIANCE WITH THE TERMS AND CONDITIONS OF THE EXISTING LICENSE

From January 1, 2000 – June 1, 2005, there have been no serious non-compliance incidents involving any of the five developments currently licensed under the Coosa River Project (FERC No. 2146), or involving the Mitchell Dam Project (FERC No. 82) or the Jordan Dam Project (FERC No. 618), which will be included in the new Project No. 2146 license.

18.0 ACTIONS TAKEN WHICH AFFECT THE PUBLIC

APC has a long history of management actions that have benefited the public beyond the terms and conditions outlined in the existing operating licenses. Beneficial APC management actions have taken the form of contributed funds, provided services, and adjusted project operations.

19.0 REDUCED OWNERSHIP AND OPERATING EXPENSES IF THE PROJECT LICENSE WERE TRANSFERRED

If the operating license were transferred from APC, ownership expenses incurred by APC would be greatly reduced if the transferee assumed all financial responsibility for project lands, facilities, and equipment.

Operating expenses borne by APC would be eliminated if the operating license was transferred to a new entity. However, APC does not believe that overall operating costs would be significantly reduced if the operating license was transferred because APC continuously reviews and amends its operating budget to ensure that the project is operated safely and efficiently.

20.0 ANNUAL FEES PAID UNDER PART I OF THE FEDERAL POWER ACT

For fiscal year 2004, APC paid a charge of $7,115.01 for the use of 133.54 acres of Federal lands on Project No. 2146, a charge of $6,944.30 for the use of 127.3 acres of Federal lands on Project No. 82, and a charge of $538.13 for the use of 10.1 acres of Federal lands on Project No. 618.