



# **ALABAMA POWER COMPANY**

*BIRMINGHAM, ALABAMA*

## **MARTIN HYDROELECTRIC PROJECT**

*FERC NO. 349*

### **STUDY PLAN 12 (G) – EFFECTS OF RAISING WINTER POOL LEVEL AND INCREASING THE DURATION OF SUMMER POOL ON LAKE MARTIN RECREATION USE AND ECONOMIC INDICATORS**

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*Prepared by:*



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**1.0 GOALS AND OBJECTIVES OF STUDY**

Many stakeholder groups have requested that Alabama Power Company (APC) investigate the feasibility of raising the winter rule curve at Martin. In Study Plan 12 (a), APC proposes to conduct a study that will model an increase in the winter pool elevation in increments of 1 foot from el. 481 ft. msl<sup>1</sup> to el. 486 ft. msl. as well as to examine extending the summer pool level in the shoulder seasons (later winter/early spring and early fall). As a result of this modeling study, APC has agreed to examine the effects on recreation use, property values, and lake-related business sales if these rule curve changes are implemented.

There are multiple objectives associated with each component of the study. The objectives regarding recreation use are to:

1. estimate total recreational use of the lake, by month and by day type (weekday, weekend, holiday);
2. estimate recreational user characteristics (county of residence, activity participated in, shoreline property owner, etc.);
3. estimate trip cost by various categories (e.g., fuel, food, bait, lodging, etc.);
4. estimate economic impacts (direct, indirect, induced, number of jobs) of recreational use; and
5. estimate the effects of increasing the duration of the summer pool and increasing the elevation of winter pool on recreational use.

The objectives regarding property values are to:

1. estimate characteristics of shoreline property owners and their property (e.g., shoreline footage, residence status [full or part time], recreational activities participated in from property);
2. estimate usability of shoreline structures (i.e., boat houses, docks) at various water levels;
3. estimate total value (current market value) of shoreline property;
4. estimate costs associated with construction and/or maintenance of house and any shoreline structures (i.e., boathouse, docks, seawall);
5. estimate economic impact (direct, indirect, induced, number of jobs) of construction and/or maintenance costs; and
6. estimate the effects of increasing the duration of the summer pool and increasing the elevation of winter pool on shoreline property values.

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<sup>1</sup> Elevation 481 ft msl is equivalent to el. 480 Martin Datum (MD).

Finally, the objectives regarding lake-related businesses are to:

1. estimate characteristics of business and business activity (e.g., on lake or off lake, type of business, length of time in business, months of operation, gross annual sales, etc.); and
2. estimate effects of increasing the duration of the summer pool and increasing the elevation of winter pool on business activity.

## **2.0 RELEVANT RESOURCE MANAGEMENT GOALS**

Fluctuating water levels at hydropower projects may affect resources associated with a hydroelectric project. Not only could fluctuating water levels affect the environmental resources (*i.e.*, fisheries, erosion, aquatic plants, etc.), they also affect social and economic resources (recreation use, property values, etc.). Many Lake Martin stakeholders have requested an examination of how a rule curve change at Lake Martin could potentially affect recreation visitation, property values, and reservoir related businesses. This information will provide the Federal Energy Regulatory Commission (FERC) with necessary information regarding the social and economic impacts of the Project.

## **3.0 BACKGROUND AND EXISTING INFORMATION**

Fishery Information Management Systems, Inc. (FIMS) conducted a study in the 1990s that estimated recreation visitation, trip expenses, distribution of recreation use, property values, and recreation-related business activity. Much of the information provided in the report (FIMS, 1997) is relevant to possible rule curve changes associated with the relicensing of Lake Martin. The FIMS report will provide the basis for this study and will be used as a template for providing current effects of a possible rule curve change.

Furthermore, APC conducted a recreational use study in 2007 (Kleinschmidt, 2008) that provides recreational use patterns as well as an up-to-date inventory of on-the-water businesses at Lake Martin. However, this study was conducted during the drought of 2007, when the elevation of Lake Martin peaked at 487 ft msl (3 feet below the normal operating curve) and reached 481 ft msl (normal winter pool) by September 1, 2007 (when winter pool is normally reached on December 31). Nevertheless, this study could provide valuable information on the effects of reduced summer pool levels on recreation at the Project.

## **4.0 PROJECT NEXUS**

The nexus to the Project is the FERC project boundary and general project vicinity.

## **5.0 STUDY AREA AND STUDY SITES**

The study area differs between the three components of this study. For the recreation use component, the study area is Lake Martin, from the dam to Irwin Shoals, including land-based recreation activity within 10 feet of summer pool level (491 ft msl). For the shoreline property

value component, the study area is all shoreline property, defined as property that abuts Lake Martin at summer pool level (491 ft msl), from the dam to Irwin Shoals. For the lake-related business component, the study area will be limited to the three counties surrounding the Project (Coosa, Elmore, and Tallapoosa Counties).

**6.0 PROPOSED METHODOLOGY**

This study will be completed by one of a select group of experts who were sent a request for proposal (RFP) on October 21, 2008. Based on the response of the selected expert, this section will include a summary of the proposed methodology. At a minimum, the methodology will include:

- A recreational user survey focused on calculating total recreational use of the Lake, recreational user characteristics (e.g., county of residence, activity, shoreline property owner, etc.), expenditure profiles for recreationists, and effects of the duration of summer pool levels and level of winter pool on recreational use;
- A shoreline property owner survey focused on characteristics of the shoreline property owner and their property, value of the property, and effects of the duration of summer pool levels and level of winter pool on shoreline property values;
- A business owner survey focused on characteristic of businesses, business activity, and effects of the duration of summer pool levels and level of winter pool on business activity; and

Variations to the methodology are contingent upon the justification given in the RFP response.

**7.0 CONSISTENCY WITH GENERALLY ACCEPTED SCIENTIFIC PRACTICE**

It is expected that the person or entity chosen based on the response to the RFP will provide sufficient detail in their response to demonstrate consistency with acceptable scientific practice.

**8.0 PRODUCTS**

A draft report will be distributed to the MIG 3 for review and comment. A final report will be provided as part of the license application that will include a PDF copy of the literature/citations used in the report.

**9.0 SCHEDULE**

This schedule is draft and APC intends to develop a formal schedule with MIG 5 members upon final FERC approval of the study.

APC files Final Study Plan .....November 2008

APC request proposals for completion of study .....	November 2008
Anticipated FERC Approval.....	May 2009
MIG 3 Meetings.....	May 2009 – Fall 2010
Data Collection .....	May 2009 – May 2010
Draft Report .....	Summer 2010
Final Report .....	Fall 2010

**10.0 LEVEL OF EFFORT AND COST**

APC estimates the cost of conducting the study, including consultation with the MIG 3, will be approximately \$500,000.

**11.0 REFERENCES**

Fishery Information Management Systems. 1997. Potential Impacts of Water Diversion on Recreational Use and Economic Values Associated with Six Alabama Reservoir Systems, Volume 6: The Martin Reservoir System. ADECA-OWR-97-07. Alabama Department of Economic and Community Affairs, Montgomery, AL.

Kleinschmidt. 2008. Martin Hydroelectric Project (FERC No. 349): Recreation Use Report. Kleinschmidt Associates, Pittsfield, ME.