



# **ALABAMA POWER COMPANY**

*BIRMINGHAM, ALABAMA*

## **MARTIN HYDROELECTRIC PROJECT**

*FERC NO. 349*

### **STUDY PLAN 11 – WATER QUANTITY, WATER USE, AND WATER WITHDRAWALS**

*NOVEMBER 2008*

*Prepared by:*



**ALABAMA POWER COMPANY  
BIRMINGHAM, ALABAMA**

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**STUDY PLAN 11 – WATER QUANTITY, WATER  
USE, AND WATER WITHDRAWALS**

**1.0 GOALS AND OBJECTIVES OF STUDY**

In preliminary consultation with various agencies and stakeholders, the following issues were identified: the amount of water being withdrawn from Lake Martin and the correlation with population; limiting future water withdrawals, especially for municipalities; and accommodating/increasing permitted withdrawals for riparian use.

The goal of this study is to produce a white paper detailing Alabama Power Company's (APC) water withdrawal policy, current known water withdrawals from the Martin Project, ecological and navigational flow requirements in the Tallapoosa River basin, and water withdrawal intake locations during droughts, and drought contingency operations at the Martin Project.

**2.0 RELEVANT RESOURCE MANAGEMENT GOALS**

During the summer of 2007, Alabama experienced the worst drought in recorded history. During August 2007, nearly three-fourths of the state was classified as "exceptional," the highest drought level issued by the U.S. Drought Monitor. As a result of this drought, APC reservoirs experienced the lowest inflows in recorded history, which significantly curtailed hydroelectric generation at the Martin Project, except for the flows passed necessary to meet downstream requirements. Understanding how and why APC manages this water resource is imperative because of the impact that water scarcity may have on other resources at the Project.

**3.0 BACKGROUND AND EXISTING INFORMATION**

Over the last decade, there have been a growing number of new demands placed on APC's water resources. These additional demands have been for such uses as residential water supply, industrial growth, agriculture, recreational use, and environmental stewardship. Since large storage reservoirs provide a constant and reliable water supply, many water withdrawers have sought approval from APC to use its hydroelectric reservoirs as a source of water.

APC's existing policy was first developed in 1989 to manage water withdrawals and give consideration to the economic impacts of water withdrawals from its reservoirs. Consistent with Federal Energy Regulatory Commission (FERC) precedent on compensation for water withdrawals from federally-licensed hydroelectric projects, APC developed a water withdrawal policy designed to prevent APC's ratepayers from subsidizing the withdrawals from the reservoirs.

In 1993, the Alabama Legislature enacted the Alabama Water Resources Act, which created the Office of Water Resources (OWR). The OWR's primary purpose was to create a system for tracking the various uses of Alabama's waters. This system was intended to help the state develop plans and strategies for the management of its waters. The Alabama Water Resources Act also required that a declaration of beneficial use be submitted to the OWR by each public water system and by each person who diverts, withdraws, or consumes more than 100,000 gallons of water a day from the waters of the state. Thus, this law requires that a prospective withdrawer of water from an APC reservoir must file a declaration with the OWR.

In 2001, the OWR requested that APC implement measures to provide incentives to promote conservation of water resources. In response to this request, APC has implemented a process requiring applicants to demonstrate that they have initiated and obtained the necessary approvals from the OWR prior to granting permission to withdraw from APC's reservoirs.

Water use and drought management have been studied in the Alabama-Coosa-Tallapoosa Comprehensive Study done in the 1990s. Data and models from that study are currently being updated to include the 2000 and 2007 droughts as part of the development of new U.S. Army Corps of Engineering basin manuals.

#### **4.0 PROJECT NEXUS**

Availability of water is of utmost concern to the future operation of the Martin Project. Understanding how much water is available and the various competing interests will provide valuable information for deciding how this scarce resource is managed.

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

The study area will encompass Lake Martin, APC-owned lands within the Project Boundary, and specific tributaries as they pertain to water withdrawals.

#### **6.0 PROPOSED METHODOLOGY**

The identification of water withdrawers on APC reservoirs will be accomplished through the use of secondary data sources.

##### **6.1 Data Collection Techniques**

Existing information will be used to facilitate data collection for this study. First, a request for data from the OWR will be made. APC records on those withdrawals approved by the FERC will also be collected. APC will also provide additional information on the location of water withdrawal intakes during droughts and any associated Alabama Drought Response Operating Proposal (ADROP) measures.

Other reports will be consulted during the collection of known withdrawal locations. There were a number of studies related to the Alabama-Coosa-Tallapoosa (ACT) Draft Environmental Impact Statement that will be found and reviewed (See Section 11.0). Other literature will be gathered and reviewed on an as needed basis.

Once a list of known withdrawal locations is complete and other existing literature has been reviewed, a draft report will be issued to Martin Issue Group (MIG) 2 for their input. Comments received from MIG-2 will be incorporated into a final report.

## 6.2 Data Analysis

In addition to the literature review, APC will include an analysis of future water withdrawals based on existing information for current and proposed operations.

## 7.0 ***CONSISTENCY WITH GENERALLY ACCEPTED SCIENTIFIC PRACTICE***

The planned study methods discussed above have been accepted by the federal and state agencies and other interested stakeholders in other Alabama FERC relicensing projects.

## 8.0 ***PRODUCTS***

Once this study is completed, a draft white paper detailing APC water withdrawal policy, current known water withdrawals from the Martin Project, ecological and navigational flow requirements in the Tallapoosa River basin, and drought contingency operations at the Martin Project will be available to the MIG 2 for review and comment. Upon review and discussion, a Final white paper will be filed with the Martin License Application.

## 9.0 ***SCHEDULE***

This schedule is draft and APC intends to develop a formal schedule with MIG 2 members upon final FERC approval of the study.

APC files Final Study Plan .....	November 2008
Anticipated FERC Approval.....	May 2009
MIG 2 Consultation .....	May 2009 – December 2010
Consult with and Obtain OWR and other withdrawal data .....	June 2009
Draft Report .....	February 2010
Final Report .....	December 2010

### ***10.0 LEVEL OF EFFORT AND COST***

APC estimates the cost of consulting on the study plan, collecting and reviewing existing information, and reporting is approximately \$25,000.

### ***11.0 REFERENCES***

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