



ALABAMA POWER COMPANY

BIRMINGHAM, ALABAMA

MARTIN HYDROELECTRIC PROJECT

FERC NO. 349

STUDY PLAN 12 (F) – EFFECTS OF A RULE CURVE CHANGE ON DOWNSTREAM RECREATION

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Prepared by:



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BIRMINGHAM, ALABAMA**

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**STUDY PLAN 12 (F) – EFFECTS OF A RULE CURVE CHANGE
ON DOWNSTREAM RECREATION**

1.0 GOALS AND OBJECTIVES OF STUDY

Many stakeholder groups have requested that the Alabama Power Company (Alabama Power) investigate the feasibility of raising the winter rule curve at Martin. In Study Plan 12 (a), Alabama Power is conducting a study that will model an increase in the winter pool elevation in increments of 1 foot from el. 481 ft msl¹ to el. 486 ft msl. (i.e., el. 482, 483, 484, 485, and 486 ft msl) as well as to examine extending the summer pool level in the shoulder seasons (raise the Lake to full pool earlier in the Spring and maintain full pool into the early/mid Fall). As a result of this modeling study, Alabama Power must address potential changes to downstream recreational access and facilities associated with a Lake Martin winter rule curve that is higher than existing levels of el 481 ft. msl. which may cause an increase in frequency, duration, and/or magnitude of flooding downstream of Martin Dam.

2.0 RELEVANT RESOURCE MANAGEMENT GOALS

The Federal Energy Regulatory Commission (FERC) requires that the licensee for non-Federal hydroelectric projects consider the effects of continued or proposed operations of the hydroelectric facility. In this case, FERC will require Alabama Power to determine the effects of the proposed rule curve changes on the environmental, recreation, and cultural resources associated with the Project, including changes downstream as a result of the proposed rule curve changes.

3.0 BACKGROUND AND EXISTING INFORMATION

There is little existing information regarding the effects of operational changes at the Martin Project. However, necessary information will be collected and analyzed during the Rule Curve Change Modeling Analysis (see Study Plan 12a) regarding any possible changes in downstream flows and elevations as a result of proposed rule curve changes. This information will be used as necessary when it becomes available.

Information on existing recreation facilities and opportunities from the Martin Dam tailrace to downstream of the Thurlow Project in the Tallapoosa River will be collected as necessary. Existing LIDAR (elevation) data may be used as necessary to determine the effects of water level changes at existing facilities.

4.0 PROJECT NEXUS

The Project is licensed by FERC and all proposed operational changes must be disclosed and affects addressed in the license application to FERC.

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

5.0 STUDY AREA AND STUDY SITES

Alabama Power has identified Martin Project operation-related effects downstream to the USGS river gauge at Montgomery Water Works located on the Tallapoosa River at RM 12.9. The proposed geographic scope for this study would include the Tallapoosa River from the Project to the Montgomery Water Works river gauge. Alabama Power has selected the Montgomery Water Works location for three primary reasons. Having a geographic scope that includes 30+ miles below the Project will account for the principal effects of Martin's operations downstream. Also, the Montgomery Water works location has 18+ years of gage data that would be available for use in depicting elevations and Martin Project related effects on that gage. Finally, keeping the geographic scope limited to the Montgomery Water Works, compared to expanding the scope to the confluence of the Coosa and Tallapoosa Rivers, would minimize the hydrologic complexity of the Coosa and Alabama Rivers operations and intervening flows. Keeping the geographic scope to the Montgomery Water Works would focus on the effects of the Martin Project operations, including low, normal and high flow operations.

6.0 PROPOSED METHODOLOGY

Alabama Power's proposed steps include:

- 1) Review recreation resources in the river reaches below Martin Dam;
- 2) Identify those recreational resources that may be affected by the changes in flows and/or water levels in the river reaches below Martin Dam;
- 3) Review elevation data and/or depth profiles near identified recreational resources to determine if the resources will be affected;
- 4) Conduct site visits as necessary to identified recreational resources;
- 5) Prepare draft report, including maps (both hard copy and electronic), in consultation with MIG 3 members that summarizes possible effects to identified recreational resources; and
- 6) Prepare final report and determine potential mitigation measures to be included, if appropriate, in the Preliminary Licensing Proposal.

7.0 CONSISTENCY WITH GENERALLY ACCEPTED SCIENTIFIC PRACTICE

This study employs generally accepted practices for evaluating recreational access and the effects of hydroelectric projects on recreational access.

8.0 PRODUCTS

Data and documentation (including maps) of the analyses from this study will be included in the PAD and Preliminary Licensing Proposal. Any draft reports generated as part of this study will be distributed to the MIG 3 for review and comment.

9.0 SCHEDULE

This schedule corresponds to Alabama Power’s Process Plan and Schedule filed with FERC on February 16, 2009. Actual consultation meeting dates will be determined with MIG 1 members upon FERC approval of the study plan.

Alabama Power submits Final Study Plan for FERC Approval.....	March 2009
FERC Approval	April 2009
MIG 3 Consultation	December 2009 - May 2010
Initial Study Report.....	November 2009
Initial Study Report Meeting	December 2009
Review Results of Rule Curve Change Analysis.....	December 2009
Determine Access Sites.....	January 2010
Determine Effects Based on Rule Curve Change Analysis	February 2010
Draft Report	March 2010
Final Report	May 2010
FERC Updated Study Report.....	September 2010
Updated Study Report Meeting	September 2010

10.0 LEVEL OF EFFORT AND COST

Alabama Power estimates that consultation with the MIG 3 and determining the effects of the proposed rule curve changes on downstream recreation will cost approximately \$75,000.

11.0 REFERENCES