

133 FERC ¶ 62,117  
UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

Alabama Power Company

Project No. 2165-032

ORDER APPROVING PROJECT OPERATIONS AND FLOW MONITORING PLAN

(Issued November 03, 2010)

1. On July 27, 2010, Alabama Power Company (APC) filed a project operations and flow monitoring plan (Plan), pursuant to Article 409 of the license for the Warrior River Project No. 2165.<sup>1</sup> The Warrior River Project is located on the Black Warrior River and the Sipsey Fork, a headwater tributary to the Black Warrior River, in Cullman, Walker, Winston, and Tuscaloosa Counties, Alabama.

**Requirements**

2. Article 409 of the license requires APC to file a plan to monitor compliance with: (1) Smith Lake levels as required in Article 402; (2) operations for flood control as required by Article 403; (3) navigation flows as required in Article 404; (4) the drought management plan required by Article 405; (5) the minimum flow for the Smith development required by Article 407; (6) dissolved oxygen levels and dissolved oxygen enhancement measures as required in the water quality certificate contained in Appendix A; and (7) project operation at the Bankhead development as required by Article 406.

**APC'S Plan**

3. Article 402 – Smith Lake Levels

Smith Lake level data will be obtained through the Hydro Optimization Management System (HOMS) and provided to the Power System Coordinator (PSC) to monitor and operate the Smith hydroelectric facility 24 hours/day, 7 days/week in accordance with the approved operations guide curve and elevations shown in the U.S. Army Corps of Engineers (Corps) March 1965 Black Warrior-Tombigbee River Basin Reservoir Regulation Manual (Manual).

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<sup>1</sup> 130 FERC ¶ 62,271 Order Issuing New License (2010).

4. Article 403 – Operations for Flood Control

Smith Lake level, inflow, discharge and Cordova gage elevation data will be obtained through HOMS and provided to the PSC to monitor the Smith hydroelectric facility 24 hours/day, 7 days/week for potential for flood operations. The PSC will notify the Reservoir Management on-call person designated in HOMS, when the criteria to initiate flood control operations are met. Reservoir Management will direct operations of the project during flood events in accordance with the Manual, unless otherwise directed by the Corps. Coordination with the Corps will be maintained as necessary during flood control operations.

5. Article 404 – Navigation Flows

Smith facility discharge and Bankhead inflow data will be obtained through HOMS and provided to the PSC to monitor Smith and Bankhead hydroelectric facilities 24 hours/day, 7 days/week for releases of potential navigational flows during periods of extreme drought or extended drawdown. When extreme drought or extended drawdown conditions exist, the Reservoir Management on-call person designated in HOMS will notify the PSC. Reservoir Management will direct operation of the project during this time in accordance with the Manual, or as the Commission may require. Coordination with the Corps will be maintained as necessary during the extreme drought or extended drawdown.

6. Article 405 – Drought Management Plan

The HOMS system will be used to monitor the conditions that will be developed in the Drought Management Plan. The plan will implement drought management measures on or before the time that reservoir elevations at Smith Lake reach the drought contingency curve as described above. Smith Lake levels will be obtained through HOMS and available to Reservoir Management and the PSC to monitor the Smith hydroelectric facility 24 hours/day, 7 days/week for potential drought operations. When water levels in Smith Lake fall below 495 feet msl, APC will inform the Commission within 15 days of implementation of any emergency reservoir drawdown or changes in project operations.

7. Article 406 – Project Operation at Bankhead

Bankhead Lake level data will be obtained through HOMS and provided to the PSC to monitor the Bankhead hydroelectric facility. During normal operations, an alarm will be provided to the PSC to maintain the daily average water surface

elevation at Bankhead Lake at not less than 253.7 feet msl and not greater than 255 feet msl.<sup>2</sup>

8. Article 407 – Minimum Flow

To achieve a minimum flow at the Smith Dam requires a sophisticated scheme and system of piping, valves and automated controls. APC will implement a fully automated system using PLC to control motor operated valves at the primary trip points identified in the plan. When the control system receives the signal from the tailrace elevation gage that the tailrace elevation has reached elevation 256.2 msl, the control system will send a signal to open the minimum flow valves on both units. Alternately, when the units are called to begin generating, the control system will send the signal to close the minimum flow valves. There are appropriate alarms built into the control logic to ensure the valves operate as they are called to. These various system signals for normal and alarm conditions from the local plant control system will be tied into HOMS as well. Because day to day routine operations are carried out by the PSC, they will be responsible for reacting to any alarms or faults received through HOMS in the event of a minimum flow system malfunction. During times when the plant is manned, the PSC will contact the plant personnel to investigate and address the problem causing the alarm. During times when the plant is unmanned, the PSC will contact the plant on-call person to investigate and address the problem causing the alarm.

9. **Agency Comments**

On June 22, 2010, a draft copy of the Plan was submitted to the Alabama Department of Conservation and Natural Resources, the Alabama Department of Environmental Management, the U.S. Fish and Wildlife Service, and the Corps of Engineers for comments or concurrence. All of the agencies concurred with the Plan.

10. **Discussions and Conclusion**

HOMS is central to APC's hydro operations and flow monitoring plan, and is a complex and dynamic system of data collection, analysis and management tools, and includes an arrangement of hydrologic and flow monitoring systems and tools as well. HOMS also serves the purpose of real time monitoring, and is a decision tool and support for computer applications related to the operation of APC's 14 hydroelectric facilities located within the Coosa, Tallapoosa and Black Warrior River Basins. In addition, HOMS has been utilized in APC's hydro operations for over 25 years, and continues to

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<sup>2</sup> It is important to note that the Corps, through various operations, can impact the Bankhead elevation beyond the control of APC.

evolve as tools and technology improves. The Plan, based on the premise of HOMS, meets the requirements of Article 409 of the license and will be approved by this order.

The Director orders:

(A) The project operations and flow monitoring plan for the Warrior River Project No. 2165, filed by Alabama Power Company on July 27, 2010, is approved.

(B) This order constitutes final agency action. Any party may file a request for rehearing of this order within 30 days from the date of its issuance, as provided in section 313(a) of the FPA, 16 U.S.C. § 8251 (2006), and the Commission's regulations at 18 C.F.R. § 385.713 (2010). The filing of a request for rehearing does not operate as a stay of the effective date of this order, or any other date specified in this order. The licensee's failure to file a request for rehearing shall constitute acceptance of this order.

William Guey-Lee, Chief  
Engineering and Jurisdiction Branch  
Division of Hydropower Administration  
and Compliance