

PMC-EF2a

**U.S. DEPARTMENT OF ENERGY  
EERE PROJECT MANAGEMENT CENTER  
NEPA DETERMINATION**



RECIPIENT: Alabama Power Company

STATE: AL

**PROJECT TITLE :** Upgrades to Alabama Power Hydroelectric Developments

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0000120	DE-EE0002670	GFO-10-231	0

**Based on my review of the information concerning the proposed action, as NEPA Compliance Officer (authorized under DOE Order 451.1A), I have made the following determination:**

**CX, EA, EIS APPENDIX AND NUMBER:**

Description:

**B5.1** Actions to conserve energy, demonstrate potential energy conservation, and promote energy-efficiency that do not increase the indoor concentrations of potentially harmful substances. These actions may involve financial and technical assistance to individuals (such as builders, owners, consultants, designers), organizations (such as utilities), and state and local governments. Covered actions include, but are not limited to: programmed lowering of thermostat settings, placement of timers on hot water heaters, installation of solar hot water systems, installation of efficient lighting, improvements in generator efficiency and appliance efficiency ratings, development of energy-efficient manufacturing or industrial practices, and small-scale conservation and renewable energy research and development and pilot projects. The actions could involve building renovations or new structures in commercial, residential, agricultural, or industrial sectors. These actions do not include rulemakings, standard-settings, or proposed DOE legislation.

**Rational for determination:**

Alabama Power Company (APC) is proposing to use ARRA funding through DOE to upgrade and refurbish four vintage turbines (1940's – 1960's) at three of its hydropower developments it operates on the Coosa River under licenses issued by the Federal Energy Regulatory Commission. The DOE funding would be applied to the entire project, which is classified as capital purchase and equipment installation and modification.

**Tasks include:****Phase 1 – Lay Dam Modernization**

- \*Task 1.0. - Award of the contract and commencement of fabrication of new turbine for first unit
- \*Task 2.0. - Vendor mobilization, turbine installation, and commissioning
- \*Task 3.0. - Second unit installation and commissioning
- \*Task 4.0. - Performance testing

**Phase 2 – Jordan Dam Modernization**

- \*Task 5.0. - Award of the contract and commencement of fabrication of new turbine
- \*Task 6.0. - Vendor mobilization, turbine installation, and commissioning
- \*Task 7.0. - Performance testing

**Phase 3 – Bouldin Dam Modernization**

- \*Task 8.0. - Award of the contract and commencement of fabrication of new turbine
- \*Task 9.0. - Vendor mobilization, turbine installation, and commissioning
- \*Task 10.0. - Performance testing.

APC's objectives are to increase efficiency of the Coosa River flows through replacement of 1940s to 1960s vintage turbines with state-of-the-art turbines; increase power generation at the Coosa River hydroelectric developments to provide customers with additional low-cost, renewable hydro generation to meet peak and off-peak power demand; increase individual unit reliability, including increasing the ability of each unit to perform at its maximum efficiency when needed to meet power demand; continue commitment to the development and maintenance of clean, renewable energy sources and responsible stewardship of natural resources and local habitats; and contribute to local and national economic recovery by quickly creating skilled jobs in the manufacturing and construction industries.

**Permits, Consultation and Existing NEPA Documentation:**

A Final Environmental Assessment for the Coosa River Project was issued by the Federal Energy Regulatory

Commission and the U. S. Army Corps of Engineers on December 31, 2009.

The Alabama Historical Commission was consulted in the development of the Coosa River Project relicensing application, which contains the unit upgrades proposal. Alabama Power will also notify the Alabama Historical Commission prior to the start of on-site work activities.

FERC Environmental Assessment for FERC License – Determination by FERC states, "Commission staff finds that the issuance of a license for the Coosa River Project, with staff's recommended environmental measures, would not constitute a major federal action significantly affecting the quality of the human environment."

The Coosa River development currently operates under FERC project no. 2146-111 - Order approving Settlement and Issuing New License

**\*Section 18 of the FPA (fishway prescriptions)**

U.S. Department of the Interior

Status: Consultation complete. Per the EA conditions, the Interior reserves authority to prescribe fishways for the Coosa developments

**\*Section 10(j)**

FPA Alabama Department of Conservation and Natural Resources and Interior

Status: Consultation complete

**\*Clean Water Act**

Alabama Department of Environmental Management

Status: Completed. Water Quality Certificate issued on July 1, 2005

**\*Endangered Species Act**

U.S. Fish and Wildlife Service

Status: APC began consulting with the U.S. Fish and Wildlife Service beginning January 14, 2004. APC prepared a draft biological assessment and submitted it with the applicant prepared EA in July 2005. Consultation is ongoing.

**\*Section 106 of the National Historic Preservation Act**

Alabama State Historic Preservation Officer and Georgia State Historic Preservation Officer

Status: Complete. On October 26, 2006, FERC executed a Programmatic Agreement.

**\*Coastal Zone Management Act Consistency**

Alabama Coastal Area Management Program

Status: Complete. November 10, 2004, Alabama CAMP responded and concurred that the project is not within Alabama's coastal management zone.

**\*Public Law 83-436**

U.S. Army Corps of Engineers (Corps)

This June 28, 1954, law provides for the development of the Coosa River by constructing additional dams to provide hydroelectric power. Section 9 of the PL 83-436 states that the operation and maintenance of the dams shall be subject to reasonable rules and regulations of the Secretary of the Army in the interest of flood control and navigation. The Corps implements this authority through its Water Control manuals, specifically the ACT River Basin Master Manual.

**Hazardous Materials:**

The turbine vendor performing these unit upgrades may encounter moderate concentrations of lead paint, and will utilize OSHA approved removal and disposal procedures.

The turbine vendor will utilize OSHA-approved chemical storage, use and disposal procedures. Chemicals will include small amounts of cleaners and solvents.

**Safety:**

The Coosa River project has been operating for 51, years under the existing licenses. During this time FERC staff has conducted operational inspections focusing on the continued safety of the structures, identification of unauthorized modifications, efficiency and safety of operations, compliance with the terms of the license, and proper maintenance. In addition, the projects have been inspected and evaluated every 5 years by an independent consultant, and consultant's reports have been filed for FERC review. APC also maintains emergency action plans for each development to be implemented in case of an emergency.

APC has established safety protocols in place which follow OSHA Safety Standards. These will apply for construction

and operation activities by staff and subcontractors.

Environmental Measures/Applicant Committed Actions based on the FERC EA:

#### Water Quantity

1. Consult with Alabama DCNR and FWS to determine the need for minimum flows studies downstream of the Lay development. Develop and implement final plans and schedules for studies to be conducted downstream of this development, along with proposed methodologies for determining when minimum flows are required.
2. Continue to operate the Lay development in a run-of-river mode with normal full pool elevation of 396 feet msl. Daily fluctuations of 0.75 (below normal full pool elevation of 396 ft msl) to 1 foot (i.e., to 395 feet msl) would continue as they have under existing operations.
3. Continue to operate the Jordan and Bouldin developments in a run-of-river mode with normal full pool elevations of 252 feet msl and daily fluctuations of less than 1 foot. Continue navigation flow releases from these developments in agreement with the Corps.
4. Maintain the existing navigation<sup>47</sup> and aquatic enhancement flow release plan downstream of Jordan dam as described in section 2.1.3, Existing Project

#### Water Quality

5. Pursuant to the 401 WQC issued on July 1, 2005, meet state water quality standards of 4 mg/L of DO in turbine releases of each development via the following steps:
  - A) Design, install, or operate aerations systems at the Lay development within 18 months of licensing.
  - B) Implement a water quality monitoring plan at all developments to collect DO and temperature data at specified monitoring stations in the project tailwaters during the summer months for 3 years after licensing.
  - C) Develop and implement additional structural or operational measures if monitoring results do not indicate substantial compliance with the state water quality standards for DO.
6. File with FERC for approval and implement the updated Erosion Repair and Monitoring Plan including monitoring erosion hotspots and repairing erosion sites in the future as required.

#### Fisheries

7. Consult with FWS and the Corps regarding potential methods to provide or enhance future fish passage on the Alabama River, on a schedule to be mutually agreed to among APC, FWS, and the Corps, in lieu of FWS pursuing passage options on the Coosa River developments.
8. Establish and maintain the Fisheries Habitat Enhancement and Restoration Program (Fish Program)

#### Terrestrial

9. Incorporate the wetland database developed during relicensing into APC's geographic information system database as a tool for administering the SMP, filed July 2005.
10. Recommend best management practices that will protect riparian zones located within the project boundaries for each development;
11. Develop a public education initiative as part of a comprehensive public education plan to educate the public on the value of wetlands.
12. Implement the Coosa Wildlife Management Plan (Kleinschmidt, 2005), with the exception of establishing and funding the Wildlife Habitat Enhancement and Restoration Program.
13. Make available to state and federal agencies APC's RTE database.
14. Continue to implement the Aquatic Plan Management and Mosquito Management programs.
15. Continue to cooperate with Alabama DCNR in the control of exotic species.

## Threatened and Endangered Species

16. As part of the Coosa Wildlife Management Plan, implement a red-cockaded woodpecker management plan for the Mitchell development.

17. Continue to provide the minimum flow and DO enhancements at the Jordan development to protect the Tulotoma snail.

## Recreation

18. Continue existing recreational releases from the Jordan development.

19. File and implement a revised Recreation Plan that, at a minimum, includes:

(A) a detailed summary of APC's proposed recreational enhancement measures, including a description of the specific items that APC would implement, a description and figure of the location of the proposed enhancements and associated recreational sites including relationship of these facilities to the existing project boundary, and a revised implementation schedule;

(B) Measures for future monitoring of the recreational facilities and demand over the term of any new license and measures for future update and revisions to the Recreation Plan; and

(C) Provisions for consultation with affected entities, including Alabama DCNR, Alabama Rivers Alliance, American Rivers, and American Whitewater, in the implementation and future monitoring reports associated with the revised Recreation Plan.

20. Develop and implement measures identified in section 8.0 of the Recreation Plan, as described below:

A) Periodically monitor amount, location, and origin of woody debris on the project reservoirs.

B) Conduct a flow study (after Jordan Dam's unit 4 upgrades have been completed) that would utilize recreational user surveys to evaluate various recreational flow releases that would replace the current 4,000 cfs releases with some combination of the current 4,000 cfs releases and the scheduled 10,000 cfs (holiday) releases downstream of Jordan dam.

21. Provide barrier-free hunting at the Jordan development, including construction of two disabled accessible hunting houses.

## Land Use

22. Implement the SMP, including shoreline classification and shoreline management policies, including best management practices; additional measures associated with APC's shoreline permitting program; public education and outreach measures; and measures for SMP review and update.

23. Add 364 acres of land to the project boundary. This includes:

A) About 235 acres of land associated with the purchase of flood easements;

B) About 120 acres of land to the project boundary on the west side of the Coosa River about 0.5 mile downstream of Jordan dam; and

C) About 9 acres of land on the east side of Coosa River about 1 mile downstream of Jordan dam.

24. Remove about 61 acres of land downstream of Jordan dam adjacent to the lands that would be added for the barrier-free hunting and 2 acres at the Bouldin development.

## Cultural

25. Implement the Programmatic Agreement, executed October 26, 2006, and the final HPMP, dated September 2006.

## Developmental

26. We preliminarily accept APC's proposal to upgrade two units at the Lay development, one unit at the Jordan

development and one unit at the Bouldin development but recommend that APC develop, and file for FERC approval a final design plan and construction schedule for the proposed upgrades.

**Additional Measures Recommended by Staff**

27. Develop a drought management plan for the Coosa River System. The plan should be finalized and filed for FERC approval after the Corps completes revision of the ACT Manual and associated appendices and NEPA documentation. The drought management plan should include a provision to review and revise the plan for consistency with the Alabama Drought Management Plan once that plan is finalized.

28. As an interim measure, until a final drought management plan is approved by FERC, during drought conditions APC must consult with the Corps and file a request for FERC approval for each specific case in which the minimum flow releases from the project may be less than the 7-day-average of 4,640 cfs reported at Montgomery, Alabama (downstream of the Thurlow Lake and Jordan/Bouldin Lake).

29. Develop and file for FERC approval a flow and water level monitoring plan to assure compliance with the licensed reservoir operation curves and minimum flows.

30. Allow FWS evaluation of any proposed permitting that may affect lands classified as sensitive resource lands that include RTE species.

Alabama Power Company commits to fore mentioned environmental protection and mitigation measures as specified in the FERC Environmental Assessment (Measures #1-30). Based on these measures and acquisition of the permits and provisions discussed above, DOE deems impacts from this project to be less than significant.

This project comprises "actions to conserve energy" by means of improvements in generator efficiency; therefore a CX B5.1 applies.

**NEPA PROVISION**

DOE has made a final NEPA determination for this award

Insert the following language in the award:

Insert the following language in the award:

You are required to:  
Comply with the environmental protection and mitigation measures as specified in the FERC Environmental Assessment and acquire permits deemed necessary through the FERC License number 2146-111.

Note to Specialist :

None Given.

**SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.**

NEPA Compliance Officer Signature:     *Kimberly Keenan*      
NEPA Compliance Officer

Date:     3/4/2010    

**FIELD OFFICE MANAGER DETERMINATION**

Field Office Manager review required

**NCO REQUESTS THE FIELD OFFICE MANAGER REVIEW FOR THE FOLLOWING REASON:**

- Proposed action fits within a categorical exclusion but involves a high profile or controversial issue that warrants Field Office Manager's attention.
- Proposed action falls within an EA or EIS category and therefore requires Field Office Manager's review and determination.

**BASED ON MY REVIEW I CONCUR WITH THE DETERMINATION OF THE NCO :**

Field Office Manager's Signature: \_\_\_\_\_  
Field Office Manager

Date: \_\_\_\_\_

27. Develop a draft management plan for the Caspian River System. The plan should be feasible and tied for FERC approval after the Corps completes review of the AET Manual and associated appendices and NEPA documentation. The draft management plan should include a provision to review and revise the plan for consistency with the Adaptive Management Plan once that plan is finalized.

28. As an interim measure, until a final draft management plan is approved by FERC, during draft conditions approval the Corps must file a request for FERC approval for each specific case in which the minimum flow releases from the project may be less than the 1-day-averaged 1,640 cfs reported at Montgomery, Alabama (downstream of the Tinslow Lake and Jordan/Oxley Lake).

29. Develop and file the FERC approval a flow and water-level monitoring plan to ensure compliance with the licensed reservoir operation curves and minimum flow.

30. Advise FERC evaluation of why proposed permitting that may affect lands classified as sensitive resource lands that include RTE species.

Alabama Power Company commits to four mitigation environmental protection and mitigation measures as specified in the FERC Environmental Assessment (MEAS) 11-301. Based on these measures and evaluation of the permit and provisions discussed above, DOE deems impacts from this project to be less than significant.

This project complies with actions to conserve energy by means of improvements in generator efficiency, therefore a CE is not required.

NEPA PROVISION

DOE has made a final NEPA determination for the award.

Insert the following language in the award:

Insert the following language in the award:

Y or no required to

Comply with the environmental protection and mitigation measures as specified in the FERC Environmental Assessment and signed permits deemed necessary through the FERC license number 2146-111.

How to specify:

How given:

3/4/2010

SIGNATURE OF THE MEMORANDUM COPIES FOR THE RECORD OF THIS DECISION  
\_\_\_\_\_  
NCA Compliance Officer

**FIELD OFFICE MANAGER DETERMINATION**

- Field Office Manager review required
- FIELD REQUESTS THE FIELD OFFICE MANAGER REVIEW FOR THE FOLLOWING REASON:
  - Proposed action fits within a categorical exclusion but involves a high profile or controversial issue that warrants Field Office Manager's attention
  - Proposed action falls within an EA or BE category and therefore requires Field Office Manager's review and determination