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UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Appalachian Power Company Project No. 739-022

ORDER ISSUING NEW LICENSE

(December 27, 2011)

Article 412. *Debris Management.* The Debris Management Plan is approved and made part of this license and may not be amended without prior Commission approval. Upon license issuance, the licensee shall implement the Debris Management Plan, filed June 29, 2009.

Appalachian Power Company
Claytor Hydroelectric Project
FERC No. 739

Debris Management Plan

June 2009

TABLE OF CONTENTS

SUMMARY

The Claytor Project (No. 739) is licensed to Appalachian Power Company (Appalachian) and is a conventional hydroelectric project located on the New River in Pulaski County, Virginia. The project boundary for the Claytor Project generally follows the 1850 foot contour around the perimeter of the reservoir. Elevations are referred to National Geodetic Vertical Datum (NGVD).

The purpose of this Debris Management Plan is to identify debris removal and control measures within the project boundary for the Claytor Project that maintains the aesthetic values, reduce access difficulties, and reduce boating hazards associated with floating debris while also benefiting the fishery and biological habitats for Claytor Lake. This plan includes removal methods, identification of natural debris that should remain within the project boundary, proposals for public education relative to debris, and possible avenues for stakeholder sharing of debris management for the Claytor Project.

The Debris Management Plan has been prepared with consideration to the numerous meetings with stakeholders in the development and preparation of the related Debris Study for the relicensing of the Claytor Project and is being filed with the Federal Energy Regulatory Commission (Commission) as part of the Application for New License for the Claytor Project being filed by Appalachian. The measures proposed by Appalachian that it believes should be the responsibility of the Licensee as part of the new license are identified in the plan. However, it should be recognized that there are times that it makes sense to develop a cooperative agreement between Appalachian and one or more of the involved stakeholders in order to manage debris for the lake in a mutually beneficial way. These types of agreements would be outside of the requirements of the project license and may reflect additional measures that are above those required by this plan.

1.0 INTRODUCTION

The purpose of this Debris Management Plan (Plan) is to outline how Appalachian, in cooperation with a number of stakeholders, intends to control the accumulation of natural and man-made debris floating on the surface of Claytor Lake over the term of the next license for the Claytor Project (Project). The goal of this Plan is to provide a means to maintain the aesthetic value, reduce access difficulties, and reduce boating hazards related to floating debris for the lake.

1.1 Project Lands and Waters

The Claytor Project is a conventional project located on the New River in Pulaski County, Virginia. The Claytor Project has four generating units, with a combined generating capacity of 75 MW. The reservoir formed by Claytor dam has a surface area of 4360 acres at an operating pool elevation of 1846 feet NGVD and approximately 100 miles of shoreline.

Claytor Project has a drainage area of 2,380 square miles. The majority of the drainage area is rural in nature. For the most part, debris has been characterized as being primarily natural such as logs, trees, and branches. However, during high inflow events for the Project, large amounts of man-made debris are observed.

1.2 Debris Study Objectives and Conclusions

In 2007, Appalachian retained Kleinschmidt Associates, Inc. (Kleinschmidt) to conduct a study of debris that floats on the surface of Claytor Lake. The 2008 study, titled "Claytor Lake Hydroelectric Project Debris Study" is included in the group of studies made a part of Appalachian's application for new license for the Claytor Hydroelectric Project. The objectives of that study were as follows:

1. Determine the amount and types of debris that accumulate on the surface of Claytor Lake.

2. Identify the sources of debris on the lakes and where the highest concentrations occur.

3. Determine the relationship between debris types and amounts to flow event duration and magnitude.

4. Assess various methods and/or programs for reducing debris accumulations on the reservoir and for removing accumulated debris.

5. Define what types of woody debris are considered beneficial fish habitat and should not be removed.

6. Develop a debris management plan for the reservoir, as appropriate.

The referenced study, as well as this Plan, was developed in consultation with a number of stakeholders representing Federal and State agencies, non-governmental organizations (NGO's), and local governments. These consultations occurred in public meetings addressing debris issues as well as other concerns related to the relicensing of the Claytor Project, work group meetings addressing debris concerns directly, and individual contact during which information and opinions were requested.

The conclusions of the study are as follows:

1. The vast majority of debris at the Claytor Project consists of natural materials.

2. Amounts of debris can vary greatly. During high flow years, debris rafts covering large areas become present. However during many years, debris loads are manageable.

3. Primary sources of debris are the New River and Peak Creek.

4. Additional debris originates from land clearing and landscaping around the lake.

5. Debris inputs are positively correlated to flow.

6. The current debris removal program efforts undertaken by Friends of Claytor Lake and supported by Pulaski County to remove debris have been beneficial in reducing debris accumulations and have greatly aided in maintaining the aesthetics and uses of the Lake.

7. Debris can provide beneficial fish habitat for fish and other aquatic species. As such, the beneficial debris should not be removed when not representing a potential boating hazard.

The study further concludes that debris on Claytor Lake is an issue that can affect all stakeholders due to the range of effects it can have on water based recreation, aesthetics, and perceptions regarding the beauty of and character of the Lake. This in turn can negatively impact the local economy. However, the study also recognizes that debris issues are common to many lakes and rivers and is a natural occurring part of the ecosystem. As such, the study concludes that debris is an issue that all stakeholders should work together to resolve.

2.0 DEBRIS MANAGEMENT

2.1 Existing Efforts

Currently, Appalachian has no active debris removal program on Claytor Lake. However, the non-profit organization, Friends of Claytor Lake (FOCL), currently has a debris removal program in which Appalachian donates certain removal equipment (conveyor), monetary contributions, and use of property to support the removal effort.

Additional funding for this effort is provided by the membership of FOCL and Pulaski County. Operations begin on May 15 and continue through October 15th.

Under the current process, lake users contact FOCL with debris removal requests. Debris is removed utilizing a barge that FOCL had retrofitted for this purpose and dumpsters. Natural debris is stacked on shore and allowed to dry. Once dry, the material is either burned on-site or taken off-site for appropriate disposal.

2.2 Beneficial Debris

Claytor Lake supports a substantial amount of water based recreation. Debris can affect these uses in different ways. For example, the presence of abundant, complex woody debris could benefit the fishery and improve angling success. However, this same debris, if dislodged and free floating, could represent a hazard to water skiers and boaters. Therefore, it is important to consider the diversity of activities that occur on the lakes when determining what debris should not be removed because of the associated benefits to the fish community.

Stakeholders from the work group formed to address the debris issues toured portions of Claytor Lake to view debris areas. Those stakeholders included representation from Appalachian, Virginia Department of Game and Inland Fisheries (VDGIF), and FOCL. The consensus of the work group was that beneficial habitat that should not be removed include natural woody material located outside of the defined waterway that is secured in place or otherwise unlikely to become a free floating boating hazard. Examples include fallen trees with roots still attached to the shore or wooded material imbedded in the substrate in the backs of coves. Debris can also be secured in place by cables or other means intended to keep the material from washing away. Any man-made material can be removed. Likewise, natural material that is either free floating, or secured but near the surface in the defined waterway can also be removed.

3.0 MANAGEMENT MEASURES

Based upon the recommendations of the 2008 Debris Study and giving consideration to the numerous consultations regarding the management of debris, the following debris management measures have been formulated by Appalachian for those activities that will be the responsibility of the licensee for the Claytor Project.

3.1 Debris Removal

Debris removal efforts at Claytor Lake will continue as currently being done with Appalachian contracting with either FOCL and/or other contractors as necessary to remove floating debris during the months April through October on a regular schedule. This schedule may be modified based on actual debris loading observed on the lake in consultation with FOCL, Pulaski County and Virginia Department of Game and Inland Fisheries (VDGIF) and Virginia Department of Conservation and Recreation (VDCR). Scheduling of the debris removal efforts will be coordinated with FOCL in order to

establish the most effective clean-up of debris. The first priority for debris to be removed is floating debris that is considered to present a hazard to boating. The second priority will be debris that blocks access or is considered aesthetically unpleasant in the vicinity of the public recreation access areas. The third priority will be debris that blocks access or is considered aesthetically unpleasant in the vicinity of private access areas. Debris that is considered beneficial fish habitat will not be removed.

Appalachian, working with FOCL, will annually establish a blanket contract with a contractor(s) to assist in debris removal efforts when it is determined, in consultation with FOCL, to be essential. That assistance will also include the removal of dead animals, large man-made items or other debris that presents a boating hazard. The Virginia Department of Environmental Quality (VDEQ) will be contacted regarding the removal of containers potentially containing hazardous materials.

3.2 Offload/Disposal Sites

Debris is currently off-loaded at property owned by Appalachian or at commercial/private access areas and will continue similarly over the term of the next license. Those sites will continue to be utilized. Should these sites become unavailable during the term of the next license, Appalachian, working with FOCL, will identify replacement sites for debris off-loading.

3.3 Volunteer Lake Clean-up Efforts

Appalachian, in coordination with FOCL and Pulaski County, will sponsor an annual lake cleanup day for Claytor Lake. Potential benefits of the volunteer efforts are easier access to debris and less potential for disturbing critical biological activities near the shoreline. Appalachian will report on the results of any volunteer lake cleanup efforts in its annual report as detailed in Section 5.0.

3.4 Education

Appalachian will work with FOCL, Pulaski County, VDCR, VDGIF and VDEQ to educate the public regarding the impact debris has on recreation, the environment, and aesthetics for the lake. These efforts may include and are not limited to the following:

- Posting information regarding boating hazards and debris at all public access areas and popular marinas.
- Developing informational material that describes the ecological benefits of certain types of debris and that those areas should not be disturbed.
- Utilizing local media outlets to inform lake users of extreme debris conditions and locations after high inflow events.

- Providing information to property owners on creating aquatic habitat enhancements utilizing debris recovered from the lakes.

- Increase awareness regarding the effects of littering and the storage of materials in the flood plane on the lake.

Appalachian will report on the education efforts in its annual report as detailed in Section 5.0.

3.5 Coordination

The coordination of the debris removal efforts for Claytor Lake will continue as is currently being done through FOCL, or any entity that replaces that organization. Appalachian will inspect the lake once each month from April to October and following heavy inflow events to assess the debris load. A summary of the results will be provided to FOCL, Pulaski County, VDGIF, VDCR, and VDEQ for review starting in April. An overall plan will be developed at that time for directing debris removal efforts for the upcoming months. The overall plan will be revised as necessary based on the monthly inspection reports, with input from FOCL, Pulaski County, VDGIF and VDCR.

Appalachian will establish a Aquatic Vegetation / Debris / Habitat / Shoreline Management Plan Technical Review Committee (Technical Review Committee) with representatives from FOCL, VDGIF, VDCR, VDEQ, Pulaski County and Appalachian. This committee will review the annual report described in Section 5.0 below and provide recommendations and comments. This Committee will also receive a copy of the annual Habitat report for review and comment.

3.6 Costs

Costs to Appalachian for the items described in this Plan are estimated to be $20,000 per year for periods of routine debris removal. Additional costs will be incurred with the items related to additional contractor labor and improvements to off-loading sites as they are developed.

3.7 Schedule

The activities described by this Plan will be implemented within six months of the date of approval of the Plan by the Commission. Any actions taken under the Plan involving construction activities within the Project boundaries will require the appropriate permits, and consultation with FOCL, VDGIF, VDCR, VDEQ, Virginia Department of Historic Resources (VDHR), and Pulaski County. Those activities will also require the approval of the Commission.

4.0 Modifications to Plan

Any modifications to this Plan are to be filed by Appalachian and will require the approval of the Commission. Approval from the Commission will not be requested until after consultation by Appalachian with FOCL, VDGIF, VDCR, VDEQ, and Pulaski County. Those consultations will be documented as part of any filing by Appalachian to the Commission.

5.0 Report

An annual report documenting debris removal efforts will be filed with the Commission by January 30 for the preceding year. The first report will be filed January 30, 2013. The report will contain the following:

a. Summary of the amount of debris removed for the lake including details of the methods used.
b. Summary of debris removal efforts that take place outside of the license or by other parties
c. Summary of Volunteer Lake Cleanup Efforts
d. Summary of Education Efforts
e. Details of any plans that require Commission approval including costs and implementation schedule
f. Proposed modifications to the plan.
g. Consultation documentation

References: *Guidelines for Public Safety at Hydropower Projects* (March 1992), Federal Energy Regulatory Commission.