

FEDERAL ENERGY REGULATORY COMMISSION

WASHINGTON, D.C. 20426

MAY 16, 2008

OFFICE OF ENERGY PROJECTS

Project No. 2210-108  
Smith Mountain Hydroelectric Project  
Appalachian Power Company

Teresa P. Rogers, Supervisor  
Environmental and Regulatory Affairs  
Appalachian Power Company  
P.O. Box 2021  
Roanoke, VA 24022-2121

**Reference: Request for Additional Information**

Dear Ms. Rogers:

We have reviewed your license application for the Smith Mountain Project, filed on March 27, 2008, and found no deficiencies. However, your license application has not been accepted for filing, nor is it ready for environmental analysis at this time. The Notice of Acceptance and Ready for Environmental Analysis will be issued at a later time, pursuant to 18 C.F.R. §5.22.

In reviewing your license application, we identified additional information that is needed for our environmental review. Therefore, pursuant to section 5.21 of the Commission's regulations please provide the requested information identified in the enclosed Schedule A. Unless otherwise noted, the requested information must be filed within 60 days of the date of this letter. If such information causes any other part of your application to be inaccurate, that part also must be revised and refiled.

Please file an original and eight copies of your responses to our additional information requests with: Kimberly D. Bose, Secretary, Federal Energy Regulatory Commission, 888 First Street, NE, Washington, DC 20426. The first page of the response should clearly show the project number, P-2210-108. Your response may be filed electronically via the Internet, in lieu of paper. See 18 CFR 385.2001(a)(1)(iii) and the instructions on the Commission's website, [www.ferc.gov](http://www.ferc.gov), under the "e-Filing" link. The Commission strongly encourages electronic filings. Register online at [www.ferc.gov/esubscribenow.htm](http://www.ferc.gov/esubscribenow.htm) to be notified via e-mail of new filings and issuances

related to this or other pending projects. For assistance, contact FERC Online Support at [FERCOnlineSupport@ferc.gov](mailto:FERCOnlineSupport@ferc.gov) or toll free at (866) 208-3676.

If you have any questions, please contact Allan Creamer at (202) 502-8365, or by e-mail at [allan.creamer@ferc.gov](mailto:allan.creamer@ferc.gov).

Sincerely,

Vince Yearick, Chief  
Hydro East Branch 1

cc: Mailing List  
Public Files

Enclosure: Appendix A

Smith Mountain Project  
P-2210-108

## APPENDIX A Additional Information Requests

Your Preliminary Licensing Proposal (PLP), filed November 2, 2007, included several resource management plans. On January 30, 2008, Commission staff provided comments on your PLP, and noted that your proposed measures, including the resource management plans, lacked detail and clarity. Staff indicated that the management plans should contain: (a) the details of the specific measures to be implemented, including conceptual design drawings for any facilities or structures to be constructed; (b) schedules for implementing the measures identified in the plans; (c) the consultation record for the plans; and (d) an estimated cost for each measure in the plans.

While some of the proposed plans filed with the license application have been updated to include the aforementioned information, others have not. In addition, some continue to lack detail and clarity, and the proposed Roanoke logperch management plan was not filed with the PLP. Thus, many of our additional information requests included herein are specific to your proposed resource management plans. Therefore, please file revised resource management plans, including the information noted below, within 60 days from the date of this letter. We realize this timeframe limits your opportunity for additional consultation with stakeholders. However, our primary concern at this point in the process is to have a proposal before us with specific measures that can be assessed in our environmental document. The stakeholders will have opportunities to comment on your proposal in response to our Ready for Environmental Analysis notice and during the comment period on the environmental document.

Several of the draft management plans, filed as part of your license application, include the formation of technical committees (*e.g.*, Recreation, Aquatic Vegetation, Habitat and Aids to Navigation Management Plans, as well as the Sediment and Water Quality Monitoring Plans). As explained in the plans, these committees would make decisions regarding the on-going implementation of the plans (*e.g.*, the need for additional measures, future actions, etc.). We remind you that, per the Commission's Settlement Policy, any decisions made by these committees, relative to measures to be implemented (or actions to be undertaken) by Appalachian Power Company (Appalachian) need to be filed with the Commission for approval. *See* 116 FERC ¶61,270 (2006) at pp 5 and 6. The management plans, and the language contained therein, must be revised to reflect this stipulation of the Commission's Settlement Policy.

### EROSION AND SEDIMENT MANAGEMENT PLANS

**1. SEDIMENT MONITORING PLAN** – In section 2 of the Sediment Monitoring Plan (Sediment Plan), you state that Appalachian will establish a basin-wide committee to address sediment in the watershed. You indicate that the committee will determine, and be responsible for, the frequency of the committee meetings and any future courses of

action. In section 3.b, you describe the reporting requirements of the plan, including actions to be taken by Appalachian and others. As stated previously, any decisions made by the committee, as they pertain to project-related effects and actions to be taken to address such effects, must be filed with the Commission for review and approval. In addition, section 3.b should be revised to explain that the report will identify those measures/actions that are intended to be implemented under the license and those that should be considered as off-license measures.

In addition to the above, the revised Sediment Plan must: (a) explain how the Sediment Plan, and the activities of the plan, will be coordinated with other proposed plans and their activities (*e.g.*, Erosion Monitoring and Aids to Navigation Plans); and (b) include an implementation schedule for the plan and its activities. Consideration should be given to the timing associated with implementing plans that require coordination.

**2. EROSION MONITORING PLAN** – The revised Erosion Monitoring Plan (Erosion Plan) must: (a) explain how the Erosion Plan, and the activities of the plan, will be coordinated with other proposed plans (*e.g.*, Sediment Monitoring Plan); and (b) include an implementation schedule for the activities proposed in the plan. Consideration should be given to the timing associated with implementing plans that require coordination. In addition to the above changes, the Erosion Plan must be revised as noted below.

In section 1.b of the Erosion Plan, you indicate that a detailed topographic survey will be conducted on a specific slope at a monitoring location for the purpose of documenting bank conditions over the term of the next license. Please explain, in the revised Erosion Plan, what is meant by a topographic survey, and describe the methodology in some detail.

In section 1.d of the Erosion Plan, you indicate that 10 sites will be established between Leesville dam and Altavista to document bank conditions along the Roanoke River. The sites would be monitored to document any project-related effects from your proposed change in the flow regime downstream from the project. Please identify the monitoring sites, and include this information on a map in your revised Erosion Plan.

In section 1.f of the Erosion Plan you state that, upon completion of the monitoring, an assessment of each site will be made regarding the need to continue monitoring and frequency. However, the plan does not explain how Appalachian will address project-related effects, should they be identified. Therefore, the Erosion Plan, in sections 1.f and 3.0 (report filed with the Commission), must be revised to include some mechanism to address problem areas should that become necessary.

In section 2.0 of the Erosion Plan, you state that Appalachian will develop two demonstration projects designed to stabilize eroding shoreline along Smith Mountain and

Leesville lakes. However, you provide no detail about these projects that would help us understand your proposal and evaluate it in our environmental document. Therefore, you must revise the Erosion Plan to include details on the type of demonstration projects, the locations involved, and what methods will be used.

### FISH & AQUATIC RESOURCES

**3.** In Exhibit B, pages B-9 to B-15, of your license application, you provide the monthly and annual flow duration curves for USGS Gage #02060500 at Altavista, Virginia. Please provide the tabular data for these curves.

**4.** On page 5-98 of Exhibit E, you state that, "..., as with nesting fish species discussed previously, macroinvertebrates and freshwater mussels are not likely to occupy areas that persistently water and dewater." Please explain this statement. What information was used to support the notion that aquatic organisms do not use habitat in a fluctuation zone? You should provide copies of any study reports, journal articles, or other literature reviewed to reach this conclusion.

**5. HABITAT MANAGEMENT PLAN** – Please revise the Habitat Management Plan (Habitat Plan) to include: (a) criteria for judging the success of the proposed habitat improvement program; and (b) a schedule for implementing the plan and the specific provisions of the plan. Consideration should be given to the timing associated with implementing plans that require coordination (*e.g.*, Erosion Plan). In addition to the above changes, the Habitat Plan must be revised as described below.

As noted previously (*see* Erosion Plan), you propose to develop demonstration projects at Smith Mountain and Leesville lakes. You indicate that the projects would be developed as part of your Habitat Plan. The Habitat Plan, in section 2.3, mentions the demonstration projects, but does not provide enough detail for our analysis. The same section of the Habitat Plan mentions that a Habitat Management Technical Review Committee will develop a list of potential sites for habitat enhancements, as well as the types of habitat to be created at those sites. However, little detail regarding the sites and habitat types is provided.

Therefore, the Habitat Plan must be revised to include: (a) a detailed description of how the activities of the Habitat Plan will be coordinated with the activities of your proposed Erosion Plan; and (b) detail on the potential locations and the specific types of habitat projects to be implemented pursuant to section 2.3 of the Habitat Plan, as identified in Appendix A of the plan.

In the Habitat Plan, you recognize the aquatic habitat benefits of woody debris. You indicate that woody debris bundles would be used, where appropriate (we assume this will include cove areas), to enhance shoreline habitats. Notwithstanding the

references to woody debris in the Habitat Plan, there is no discussion or reference to your proposed Debris Management Plan. Therefore, please revise the Habitat Plan to include an explanation of how the activities of the Habitat Plan will be coordinated with the activities of your proposed Debris Management Plan.

In sections 3.2 and 3.3 of the Habitat Plan, you describe the consultation and reporting requirements associated with a habitat enhancement plan, a component of the Habitat Plan. Please clarify who will develop and revise the habitat enhancement plan, and who will develop the annual and 5-year reports? Also, we note that reports will be developed. However, it is not clear what information will be included in those reports. Therefore, section 3.3 of the Habitat Plan must be revised to identify the information that will be included in the reports. The annual reports should outline the work completed and identify what, if any, enhancements may be planned for the next reporting period. At a minimum, the 5-year report filed with the Commission should include: (a) the monitoring information associated with section 3.1 of the Habitat Plan; (b) a summary of the annual reports' findings; and (c) any recommendations for changes to the Habitat Plan that require Commission review and approval.

**6. ROANOKE LOGPERCH PLAN** – On March 12, 2008, the U.S. Fish and Wildlife Service (FWS) filed a letter commenting on the Roanoke Logperch and Pigg River Level Logger Study Reports. In its letter, FWS identified a variety of conservation measures that are included in the Roanoke Logperch 5-Year Status Review. These measures are designed to restore the Roanoke logperch and its habitat. Your proposed Roanoke Logperch Plan adopts many of the conservation measures recommended by FWS. However, the Roanoke Logperch Plan must be revised to address the following.

- Item 1 of the plan will need to be much more specific with regard to the activities that Appalachian proposes to undertake. For example, what type of habitat restoration projects will be considered? Where will the projects be located? A description of the type of habitat projects to be considered and a map showing the general locations of those projects would be helpful.
- Item 3 talks about a report that would be filed with the Commission every 5 years. This report should: (a) include a list of projects completed and a description of the effectiveness of those efforts; (b) identify what, if any, projects may be planned for the next reporting period; and (c) any recommendations for changes to the plan that require Commission review and approval. Also, the revised Roanoke Logperch Plan should outline the criteria for determining the success of habitat enhancement efforts.
- An implementation schedule must be included in the plan.

**7. WATER MANAGEMENT PLAN** – On page 14, section 4.C.b, of the Water Management Plan (Water Plan), you indicate that when both units at Leesville are out of service, flows will be released downstream through an open spillway gate. You provide

the same information on page B-3 of your license application. You must revise the Water Plan to include some description of how the spillway gate will be operated. For example, will the gate be manually operated or automated? How is the opening of the gate triggered, and under what conditions?

Section 5 of the Water Plan describes review and update procedures for the plan. You mention that a report will be filed with the Commission every 5 years. However, it is not clear what information will be included in that report. Therefore, section 5.0 of the plan must be revised to identify the information that will be included in the report. At a minimum, the report should describe the project's operation during that 5-year reporting period (*e.g.*, lake level fluctuations; flow releases downstream from Leesville; generation records for both developments; annual water withdrawals; a discussion of how project operation compares to license requirements, including a record and explanation of any deviations from such requirements, etc.), as well as include any recommendations for changes to the plan.

On page 12, section 3.B.a, of the Water Plan you state that Appalachian, under a new license, will develop a flood notification list for alerting the lake community. This list should be part of the revised Water Plan. Alternatively, the Water Plan should include a time component specifying when this list will be developed.

**8. WATER QUALITY MONITORING PLAN** – Section 4 of the Water Quality Monitoring Plan (Water Quality Plan) describes your proposed: (a) water quality monitoring protocol; (b) consultation process; and (c) reporting and updating procedures. The proposed Water Quality Plan, however, lacks an explanation of how it will be integrated with any on-going water quality monitoring program(s) at the project (*e.g.*, Smith Mountain Lake Association's on-going monitoring program), as well as clarity in the consultation process and reporting procedures.

To address the aforementioned concerns, the Water Quality Plan must be revised. First, you should include a description of how the existing, on-going water quality monitoring program on Smith Mountain Lake and the new monitoring program for Leesville Lake would be consistent with the provisions of your proposed Water Quality Plan (*i.e.*, the Water Quality Plan needs to include a discussion of how it will be coordinated with any on-going or off-license monitoring programs). Second, in section 4.2 of the plan, you describe the consultation process associated with implementing the plan. Please clarify who will establish the Water Quality Technical Advisory Committee and whether Appalachian will be part of the committee? Finally, in section 4.3 of the plan you mention that a report will be developed and filed with the Commission annually. However, it is not clear what information will be included in that report. At a minimum, this report should describe not only the monitoring results and analyses, but also include any recommendations for continued monitoring or additional measures.

### AQUATIC VEGETATION

**9.** Section 8.0 of the Aquatic Vegetation Management Plan (Vegetation Plan) describes your proposed integrated management strategy for controlling non-native aquatic vegetation within Smith Mountain and Leesville lakes. The proposed strategy includes: (a) permits issued by Appalachian to control native, non-native nuisance, and non-native invasive aquatic vegetation; (b) monitoring requirements (annual and 5-year full-lake surveys); (c) reporting and update procedures; and (d) education efforts that will be undertaken by Appalachian. In section 10.0, you describe your proposed permit program, which consists of nine elements that outline requirements for Appalachian, landowners seeking a permit, and licensed contractors.

The Vegetation Plan, however, lacks sufficient information on: (a) how it will be integrated with any on-going vegetation control programs [*e.g.*, the Tri-County Lake Administrative Commission's (Tri-County Commission) program, etc.]; and (b) an implementation timeline. Therefore, the plan must be revised to include: (a) a description of how the Tri-County Commission's existing, on-going vegetation control program for Smith Mountain Lake would be consistent with the provisions of your proposed Vegetation Plan (*i.e.*, the Vegetation Plan needs to include a discussion of how it will be coordinated with any on-going vegetation control programs); and (b) a schedule for implementing the plan and its activities.

**10.** Section 9.3 of your proposed Vegetation Plan describes the reporting and consultation requirements associated with implementing annual and full-lake (5-year) surveys at the project. You indicate that a report will be filed with the Commission following the 5-year survey. However, it is not clear what information will be included in that report. Therefore, section 9.3 of the plan must be revised to identify the information that will be included in the report. At a minimum, the contents of the 5-year report should include: (a) the information and reports associated with the annual surveys preceding the 5-year survey; (b) information collected as part of the 5-year survey; (c) recommendations and proposed methods for controlling aquatic vegetation at the project that require Commission review and approval; (d) the updated vegetation maps mentioned in section 9.4 of the plan; and (e) any education efforts, as outlined in section 9.5 of your proposed plan, undertaken by Appalachian during the reporting period.

### DEBRIS MANAGEMENT

**11.** In your proposed Debris Management Plan (Debris Plan), you indicate that Appalachian owns and operates a mechanical floating skimmer that is used to collect natural and man-made debris from the surface of Smith Mountain and Leesville lakes, and haul it to shoreline locations for disposal. Section 3.2 of the Debris Plan states that Appalachian "should" work with the Tri-County Commission and the Leesville Lake

Association (Leesville Association) to identify dedicated off-loading sites, and that consideration should be given to evaluating those sites for potential diversion and collection devices. You identify four general locations for such evaluation, including: (a) one site each on the upper Roanoke and Blackwater river arms of Smith Mountain Lake; and (b) one site each on the upstream and downstream portions of Leesville Lake. Please identify, more specifically, the sites to be evaluated, and include this information on a map in your revised Debris Plan.

**12.** Throughout the Debris Plan, you use the terminology “Appalachian should . . . .” Also, in section 3.2, you indicate that, should the installation of a debris diversion and collection device appear feasible, a joint project could be considered. This wording indicates no commitments on Appalachian’s part toward implementing specific measures relative to debris management at the project. The Debris Plan must be revised with more definitive language regarding Appalachian’s proposed debris management measures.

**13.** Section 3.6 of the Debris Plan indicates that Appalachian will inspect both lakes . . . “to assess the debris load.” What does Appalachian intend to do once that assessment is complete?

**14.** The revised Debris Plan must include a provision to file, with the Commission, a report documenting the measures implemented pursuant to section 3.0 of the plan (*e.g.*, feasibility of constructing a diversion structure, lake clean-up program, enforcement activities, education efforts, etc.).

#### RECREATION, AESTHETICS, & LAND USE

**15. NAVIGATION AIDS PLAN** – In the preface of the Aids to Navigation Management Plan (Navigation Plan), you indicate that the plan has not been reviewed by Tri-County Commission, who oversees the aids to navigation system on Smith Mountain Lake and maintains the lateral marks identifying the navigable waterway. You also indicate that the Leesville Association maintains mileage markers on Leesville Lake. Finally, you point out that the navigation aids program follows U.S. Coast Guard and Virginia Department of Game and Inland Fisheries (Virginia DGIF) standards.

Since Tri-County Commission, Leesville Association, and the Virginia DGIF are major participants in maintaining the navigation aids program, it is important to have their input concerning the plan. Therefore, you must file, with the Commission, a revised Navigation Plan that incorporates any comments received from the aforementioned entities and others on the plan.

**16. RECREATION MANAGEMENT PLAN** – In section 2 of the Recreation Management Plan (Recreation Plan), you describe the facilities to be installed at existing recreation sites around Smith Mountain and Leesville lakes. However, the plan lacks an

implementation schedule, an estimated cost for each additional facility, conceptual drawings, and annual operation and maintenance procedures for the facilities. The plan must be revised to include this information. Consideration should be given to the timing associated with implementing plans that require coordination [*e.g.*, Recreation and Shoreline Management Plans, as well as the Historic Properties Management Plan (HPMP) discussed below].

In section 5.3.6.2 of your license application, you state that Appalachian will provide new recreation facilities (*i.e.*, fishing piers, boat docks, parking areas) at several existing recreation areas, with the intent that the Virginia DGIF will operate and maintain the facilities. We remind you that you must retain the ability to operate and maintain project recreation facilities. *See* 18 C.F.R. §2.7 and 117 FERC ¶31,301 at 3-5 (2006). The Recreation Plan, and language contained therein, must reflect this stipulation.

### CULTURAL RESOURCES

17. In section 5.3.8.2 of your license application, you propose to submit a draft HPMP to the State Historic Preservation Office (SHPO) for review by March 2009. However, during the October 17, 2007, teleconference among staff from the Virginia SHPO, Appalachian, and the Commission, Appalachian staff stated that a draft HPMP would be provided to the Virginia SHPO for review in January 2008, so that an HPMP could be filed with the license application. In addition, your proposed schedule is not consistent with our goal of having management plans filed that could be adopted in any license issued for a project. Therefore, please file a draft HPMP that specifies how historic properties will be managed in the project's area of potential effect (APE), as defined in 36 C.F.R. Section 800.16(d) during the term of the license.<sup>1</sup>

The Secretary of the Interior's "Standards and Guidelines" (*Federal Register*, September 29, 1983, Vol. 48, No. 190, Part IV, pp. 44716-44740; hereinafter, "Secretary's Standards") and the Council and Commission's *Guidelines for the Development of Historic Properties Management Plans for FERC Hydroelectric Projects* (issued May 20, 2002) must be taken into account in developing the HPMP. Also, the HPMP must be developed by a person or persons who meet, at a minimum, the professional qualifications standards for architectural history and archeology in the Secretary's Standards (48 *Federal Register* 44738-39).

The HPMP must, at a minimum, address the tasks listed below. The HPMP must also specify how each task will be carried out and when it will be completed (with

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<sup>1</sup> The APE for relicensing the Smith Mountain Project is defined as: (a) lands enclosed by the project boundary; and (b) lands or properties outside the project boundary where project operation, recreational development, or other project-related development or use may cause changes in the character or use of Historic Properties, if any Historic Properties exist.

consideration to the timing associated with implementing plans that require coordination, as stated in AIR #16).

1. The status, and schedule for completing, any survey work associated with identifying historic properties within the APE.
2. Protection and preservation of historic properties that may be threatened by ground-disturbing activities, shoreline erosion, or other potential adverse effects caused by implementing the license.
3. Consideration and, where appropriate, adoption of prudent and feasible project or management alternatives that would avoid adverse effects on historic properties.
4. Consideration and implementation of appropriate treatments that would mitigate any unavoidable adverse effects.
5. Consultation with the SHPO regarding the identification and evaluation of historic properties, determination of effects, and ways to avoid, minimize or mitigate adverse effects.
6. An action plan for unanticipated discoveries during license-related construction activities.
7. Treatment and disposition of any human remains that may be discovered, taking into account applicable state laws.
8. Identification and proposed treatment, avoidance, or mitigation of effects to traditional cultural properties through the development and implementation of a traditional properties treatment plan after consultation with any interested Indian tribes and the Virginia SHPO.
9. A plan for public interpretation of the historic and archaeological values of the project.
10. Curation of all archaeological materials and appropriate field and research notes, maps, drawings and photographic records collected related to project operation and maintenance (with the exception of human skeletal remains and associated funerary objects) in accordance with the requirements of 36 CFR Part 79, Curation of Federally Owned and Administered Archeological Collections and the National Park Service Museum Handbook.
11. Coordination with the Virginia SHPO during implementation of the HPMP.

## **Developmental Resources**

**18.** In Exhibit A of your license application, you state that there is no transmission lines associated with the Smith Mountain Project. However, Exhibit A, page A-10, in your license application, describes routing the project power to sub-stations near each powerhouse and to an interconnection point with the distribution grid. Please clarify this apparent discrepancy. You must revise Exhibit A to include a detailed description of the electrical equipment, including the sizes, lengths, and locations, used to convey the power from the generators to the sub-stations and to the point of interconnection with the distribution grid.

**19.** Section 4.41(h) of the Commission's regulations states that Exhibit G is a map of the project that must conform to the specifications of §4.39 of the regulations. In addition to the other components of Exhibit G, the application must provide the project boundary data in a geo-referenced electronic format – such as ArcView shape files, GeoMedia files, MapInfo files, or any similar format. The electronic boundary data must be positionally accurate to  $\pm 40$  feet, in order to comply with the National Map Accuracy Standards for maps at a 1:24,000 scale (the scale of USGS quadrangle maps). The electronic Exhibit G data must include a text file describing the map projection used (*i.e.*, UTM, State Plane, Decimal Degrees, etc.), as well as the map datum (*i.e.*, feet, meters, miles, etc.). Three sets of the maps must be submitted on compact disk or other appropriate electronic media. Therefore, please file the Exhibit G maps in electronic form, as described above.

**20.** On page 8 of Exhibit D, you indicate that you are proposing no changes in the license application that would result in changes to the estimated average annual generation or value of project power for the Smith Mountain Project. Yet, in Exhibit E you describe releasing flows from the Leesville dam in accordance with a proposed Water Management Plan. Changes to the downstream flow regime may result in changes to annual generation and/or the value of project power. Please clarify what, if any, changes to annual generation and cost of power would occur with the implementation of your proposed Water Management Plan

**21.** In section 5.4 of Exhibit E, you provide a table with the capital, as well as annual operation and maintenance costs associated with your proposed environmental enhancement measures. You also provide project cost and benefit information in Exhibit D of your license application. Are the costs for the environmental measures in 2008 dollars? If not, please identify the basis for the costs of your proposed measures, as well as the overall project costs and benefits. We also remind you that section 5.4 of Exhibit E will need to be updated based on any revisions made to your proposed management plans.

Document Content(s)

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