

FEDERAL ENERGY REGULATORY COMMISSION  
WASHINGTON, D.C. 20426  
October 28, 2020

OFFICE OF ENERGY PROJECTS

Project No. 14867-001 – Virginia  
Scott's Mill Hydro, LLC  
Scott's Mill Hydroelectric Project

VIA Electronic Mail

Mark Fendig  
Scott's Mill Hydro, LLC  
[mfendig@aisva.net](mailto:mfendig@aisva.net)

**Reference: Deficiency of Application for Exemption from Licensing with an Option to File for License**

Dear Mr. Fendig:

On June 17, 2020, Scott's Mill Hydro, LLC (Scott's Mill Hydro) filed a final 10-megawatt (MW) exemption application for the Scott's Mill Hydroelectric Project No. 14867 (Scott's Mill Project).

The Commission is authorized to exempt from the licensing requirements of Part 1 of the Federal Power Act small hydroelectric projects with an installed capacity of 10 MW or less. Section 4.31(c)(2)(ii) of the Commission's regulations requires that applicants seeking exemptions from licensing must have all real property interests in non-federal lands necessary to develop and operate the project, or an option to obtain those interests.

In the exemption application, Scott's Mill Hydro proposes to install a boat ramp and parking area along the eastern side of the impoundment on a parcel of land that is owned by Liberty University. The application states that while Scott's Mill Hydro has discussed purchasing this land from Liberty University, no sale of the property has occurred, nor have access rights to the property been conveyed to Scott's Mill Hydro. Therefore, because Scott's Mill Hydro does not possess all real property interests in the non-federal lands necessary to develop and operate the project, the Scott's Mill Project, as proposed, does not qualify for a 10-MW exemption.

To qualify for an exemption, Scott's Mill Hydro must either obtain the property rights to the proposed boat ramp and parking lot location (with supporting proof and documentation that it has obtained all real property interests in this land) or remove, from the exemption application, its proposal to install the boat ramp and associated parking facilities (in the event it no longer wishes, or is unable, to obtain the property rights to this land). Alternatively, Scott's Mill Hydro may choose to convert its exemption application to an application for a license, either with or without the proposal to install a boat ramp and parking area because, unlike exemptions, license applicants are not required to possess, at the time of filing, all real property interests in lands serving a project purpose.

Within 30 days of the date of this letter, Scott's Mill Hydro must notify the Commission of its intent to either: (1) file a revised exemption application as described above and containing the information requested in the attached schedule A or (2) convert its exemption application to a license application that contains the information in schedule B that is necessary to convert the exemption application to a license application.<sup>1</sup> The license application or revised exemption application must be filed within 120 days from the date of this letter, and also include the information requested in schedule C that staff needs to process either type of application (license or exemption). Failure to meet any of these deadlines will result in the rejection of the exemption application.

On March 13, 2018, the Commission authorized Scott's Mill Hydro to use the Traditional Licensing Process to prepare a license application for the project. Our review of the project record indicates that stages 1 and 2 of pre-filing consultation as required under section 4.38 of the Commission's regulations have been completed. Therefore, regardless of the type of application it chooses to file (revised exemption application or license application), Scott's Mill Hydro would not be required to repeat pre-filing consultation.

Please provide a copy of this letter, Scott's Mill Hydro's letter of intent, and the required information in the appropriate schedules depending on what type of application is filed—schedules A and C if a revised exemption application is filed and schedules B

---

<sup>1</sup> See *Nicholas E. Josten*, 117 FERC ¶ 61,140 at P 17 (2006). In that case, the Commission allowed an applicant for a 5-MW exemption to convert its application to a license application where the proposed project did not qualify for an exemption.

Project No. 14867-001

and C if a license application is filed—to the agencies and Indian tribes that were consulted during the preparation of the exemption application. We will process or solicit additional study requests, as appropriate, once a revised exemption application or license application has been filed with the Commission and will request interventions, recommendations, and terms and conditions on the application after Commission staff has reviewed its adequacy.<sup>2</sup>

The Commission strongly encourages electronic filing. Please file the requested information using the Commission’s eFiling system at <https://ferconline.ferc.gov/eFiling.aspx>. For assistance, please contact FERC Online Support at [FERCOnlineSupport@ferc.gov](mailto:FERCOnlineSupport@ferc.gov), (866) 208-3676 (toll free), or (202) 502-8659 (TTY). In lieu of electronic filing, you may submit a paper copy. Submissions sent via the U.S. Postal Service must be addressed to: Kimberly D. Bose, Secretary, Federal Energy Regulatory Commission, 888 First Street NE, Room 1A, Washington, DC 20426. Submissions sent via any other carrier must be addressed to: Kimberly D. Bose, Secretary, Federal Energy Regulatory Commission, 12225 Wilkins Avenue, Rockville, Maryland 20852. The first page of any filing should include docket number P-14867-001.

---

<sup>2</sup> Additional study requests (ASRs) on the exemption application were filed by Eagle Creek Renewable Energy on August 17, 2020. These ASRs will be processed according to the type of application Scott’s Mill Hydro chooses to file; if an exemption application is filed, the pending ASRs would still apply, and if a license application is filed, the pending ASRs would be rendered moot and stakeholders would be given an opportunity to file ASRs when the Commission solicits ASRs in its tendering notice for the license application.

Project No. 14867-001

If you have any questions, please contact Jody Callihan at (202) 502-8278, or by e-mail at [jody.callihan@ferc.gov](mailto:jody.callihan@ferc.gov).

Sincerely,

John B. Smith, Chief  
Mid-Atlantic Branch  
Division of Hydropower Licensing

Enclosures: Schedule A, Schedule B, and Schedule C

## SCHEDULE A

### Information Needed Only for an Exemption Application (18 C.F.R. §§ 4.31, 4.107, 4.302)

1. As required by section 4.107(a) of the Commission's regulations, please include, in the revised exemption application, documentary evidence (e.g., as an appendix) showing that the applicant (Scott's Mill Hydro, LLC) has the real property interests, as defined in section 4.31(c)(2)(ii), to all lands necessary to develop and operate the proposed project, including the proposed boat ramp and parking lot area, if the applicant still wishes to include these proposed facilities as part of its proposed project.
2. As required by section 4.301, please notify each fish and wildlife agency that Scott's Mill Hydro consulted with of its intent to file an exemption application and request that those agencies provide, within 90 days of such notification, a reasonable estimate of the total costs the agencies anticipate to incur for setting mandatory terms and conditions for the proposed project under section 30(c) of the FPA.
3. As required by section 4.302(a), please include, at the time of filing, a fee or a bond in the amount defined in section 4.302(b) in a check made payable to the United States Treasury indicating the payment is for *ECPA Fees* (section 4.304); also include copies of the most recent cost estimates provided by fish and wildlife agencies [section 4.301(b)] for setting mandatory terms and conditions for the proposed project under section 30(c) of the FPA.
4. As required by section 4.107(7), please indicate the planned date for beginning and completing the proposed construction or development of the generating facilities.

**SCHEDULE B**

**Information Needed Only for a License Application  
(18 C.F.R. §§ 4.32, 4.61)**

1. As required by section 4.32(a)(1) of the Commission's regulations, please identify every person, citizen, association of citizens, domestic corporation, municipality, or state that has or intends to obtain and will maintain any proprietary right necessary to construct, operate, or maintain the project.
2. As required under section 4.32(a)(2), provide the names and mailing addresses of every city, town, or similar local political subdivision that has a population of 5,000 or more people and is located within 15 miles of the project, and of all Indian tribes that may be affected by the project.
3. As required under section 4.32(a)(3), please notify, via certified mail, every property owner within the bounds of the project, or adjacent to any project works, of the filing of your license application; also notify, via certified mail, the applicable entities in section 4.32(a)(2). Such notification must contain the name, business address, and telephone number of the applicant and a copy of Exhibit G contained in the application, and must state that a license application is being filed with the Commission.
4. Please revise your Initial Statement by:
  - a. indicating you are applying for a license rather than an exemption, as required by section 4.61(b)(1).
  - b. indicating whether you are claiming preference under section 7(a) of the Federal Power Act, as required by section 4.61(b)(5).
  - c. specifying when project construction is planned to be completed in relation to license issuance, as required by section 4.61(b)(9).
5. As required under section 4.61(c)(1)(x), please provide the estimated capital costs and annual operation and maintenance expenses of each proposed environmental measure.

## SCHEDULE C

### **Information Needed for Both an Exemption Application and a License Application (18 C.F.R. §§ 4.32, 4.34, 4.39, 4.41, 4.107)**

#### **General Content**

1. As required under section 4.32(a)(4), please provide a notarized sworn statement that the contents of the application are true, or in the alternative, as provided under 28 U.S.C. 1746, a statement in substantially the following form: “I declare (or certify, verify, or state) under penalty of perjury that the foregoing is true and correct. Executed on (date). (Signature).”
2. As required under section 4.32(b), please submit the application to the Secretary of the Commission in accordance with the filing procedures posted on the Commission’s web site at [www.ferc.gov](http://www.ferc.gov); serve one copy of the application on the Director of the Commission’s Regional Office for the appropriate region and on each resource agency, Indian tribe, and member of the public consulted pursuant to section 4.38 of the Commission’s regulations. All maps and drawings filed as part of the application should conform to the requirements of section 4.39.
3. Please publish notice of your application as required by section 4.32(b)(6) of the Commission’s regulations.
4. Section 307(c)(3) of the Coastal Zone Management Act (CZMA) requires that all federally licensed and permitted activities be consistent with approved state coastal zone management programs. Although the consultation record in Appendix A provides a copy of a telephone memo from a conversation you had with the Virginia Department of Environmental Quality (Virginia DEQ), which oversees the state’s coastal zone management program, please provide proof, via a letter or email from the state, of Virginia DEQ’s concurrence with your conclusion that the proposed project is not located within Virginia’s designated coastal zone and would not affect any resources within this zone.
5. Exhibit E states a water quality certification application was submitted to Virginia DEQ on June 10, 2020. As required by section 4.34(b)(5)(i)(B), please provide proof of the date on which the certifying agency received the application for water quality

Schedule C  
Project No. 14867-001

certification (e.g., by providing an email or return receipt that shows when the certifying agency received the water quality certification application).

6. As required under section 4.39(a), Exhibit G drawings must be stamped by a registered land surveyor. Please provide the Exhibit G drawing with the registered land surveyor stamp.

7. The exemption application did not include project boundary data in a geo-referenced electronic format. As required under sections 4.41(h) (for a license application) and section 4.107(d) (for an exemption application), please provide an Exhibit G map that conforms to the specifications of section 4.39. In addition to the other components of Exhibit G, the applicant 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.

8. As required under section 4.41(h)(1), the map in Exhibit G must show the location of the project as a whole with reference to the affected stream or other body of water and, if possible, to a nearby town or any other permanent monuments or objects, such as roads, transmission lines or other structures, that can be noted on the map and recognized in the field; and also show the relative locations and physical interrelationships of the principal project works and other features described under Exhibit A. However, the map in Exhibit G does not show the relative locations and physical interrelationships of principal project works. Therefore, please depict the principal project works on the Exhibit G project boundary map.

9. The project location map (figure A-1) in Exhibit A is difficult to read and interpret. Please modify the map by providing an inset (watershed) map that is separate from and does not blend into the main map; also include a scale bar on the main map.

10. Sections 2.4, 6.1, and Table E-6-4 of Exhibit E indicate the project is located at river mile 260 on the James River, whereas section 1.0 of Exhibit A states the project is located at river mile 252. Please clarify this discrepancy and use a consistent river mile designation for the project throughout the application.



## **Geology and Soils**

11. Page 21 of Appendix B, which contains responses to comments on the draft license application, indicates that an erosion and sediment control plan would be prepared, but there is no mention of such a plan elsewhere in the document (i.e., in the main body of the application in Exhibit A or E). Therefore, please confirm whether you formally propose to develop an erosion sediment control plan for the proposed dredging work that would be conducted upstream and downstream of the dam.

## **Aquatic Resources**

12. Section 4.3 of Exhibit E states the impoundment serves as a backup water supply for the City of Lynchburg, whereas section 6.3.2.1.6 of Exhibit E states the backup water supply is located downstream of the project dam. Please clarify this discrepancy and describe the location and magnitude of any water supply withdrawals in the project vicinity.

13. In our comments on the draft license application (DLA), we indicated the existing water quality data that had been collected to date (limited to 2 days of sampling) was insufficient to characterize the existing baseline conditions at the proposed project and evaluate the potential effects of project operation on upstream and downstream water quality. Based on our review of the exemption application, it appears no additional water quality data has been provided or collected following our comments on the DLA. Therefore, please note that if longer-term, more representative, water quality data are not provided from upstream and downstream of the dam, staff may request, during our adequacy review of the application, that a water quality study be conducted during the low-flow high-temperature season to allow staff to describe the existing environment and support its environmental analysis of potential project effects on water quality.

14. Section 6.3.3.1.2 of Exhibit E states that muskellunge are stocked in the James River. To allow staff to assess the potential for the project to affect this managed game species (e.g., via turbine mortality or impingement), please specify where stocking occurs in relation to the proposed project and the approximate number and sizes of fish that are stocked as well as the frequency of stocking.

15. Summaries of the resident fish community at the project (e.g., in section 6.3.3.1.4 of Exhibit E) are not project-specific and are instead based on sampling data that are

Schedule C  
Project No. 14867-001

pooled across large portions of the James River (e.g., river mile 104 to 228). To allow staff to more accurately assess the potential effects of the project on the local fish community, please provide more precise location-specific fish survey data (ideally from the project impoundment and immediately downstream of the dam). If such project-specific data are not available, please report fish survey and associated catch data from the nearest available locations upstream and downstream of Scott's Mill Dam. To support staff's analysis, please include information on the sampling gear, effort, location, and dates of the fish survey data that were used, as well as any fish size data that were collected.

16. Sections 4.2.1 and 6.3.3.2.3 of Exhibit E state that based on the results of computational fluid dynamics modeling, Scott's Mill Hydro may install guide vanes on the trash racks to reduce fish entrainment and impingement. So that staff can accurately assess the potential effects of the project on resident and migratory fish, including their susceptibility to entrainment and impingement, please indicate in the application whether you propose to install the guide vanes, and if so, whether the guide vanes would result in a narrower effective clear spacing than the currently proposed trash racks that would have a 2-inch clear spacing.

17. Table E-6-4 of Exhibit E provides catch-per-unit effort (CPUE) data for eels at Scott's Mill Dam and other nearby dams on the James River, but provides no indication of the level of sampling effort upon which these data (boat electrofishing) are based. Therefore, for all CPUE estimates in Table E-6-4, to the extent that information is available, please indicate the number of hours (e.g., pedal time), dates, and locations of boat electrofishing samples upon which these CPUE estimates were based, as well as any eel length data that are available from these surveys.

18. Section 6.3.3.2.4 of Exhibit E states the rotational speed of the turbines has not been finalized and that the applicant is working with the manufacturer to determine if the rotational speed of the proposed units can be decreased from 300 to 450 revolutions per minute (rpm) to 150 to 200 rpm. The survival of entrained fish is highly dependent on the rotational speed of hydropower turbines, as survival decreases with increased rotational speed. Therefore, prior to submitting the application, the design and specifications of the turbines you propose to install at the project should be developed to the extent that allows an accurate assessment of the entrainment mortality of resident and

Schedule C  
Project No. 14867-001

diadromous fish, including American eel. The application should include an assessment of the expected turbine mortality through the proposed turbine units chosen for the project based on field studies where similar modular-style powerhouse units have been installed or upon model-based estimates of mortality from the manufacturer (note that because the proposed turbines do not appear to be conventional Francis or Kaplan-style units, the blade strike model of Franke et al. (1997), which is based on Kaplan and Francis units, may not be applicable in estimating mortality through the proposed modular units).

19. Please indicate if the upstream fish passage structures for American eel and sea lamprey would consist of ramp-type structures and whether the structures would include a collection device. If a collection device is proposed, describe the methods for monitoring and releasing captured eels and sea lamprey. Also indicate the proposed season of operation for the upstream eel/lamprey passage facilities and whether the structures would be installed (and removed) on a seasonal basis or constitute permanent structures.

20. Page E-57 of Exhibit E states that fish will be passed safely downstream, into the tailrace, through a 'debris and fish passage module.' Please provide a more detailed description of how this system would work and indicate if this is the primary method by which adult silver eels and juvenile sea lamprey would be passed downstream of the dam during their seaward migration.

21. There are several inconsistencies between the proposed environmental measures in the main body (Exhibit E) of the application and the Agreement in Principle (AIP) reached with the resource agencies that is provided in Appendix A. First, the AIP specifies that upstream passage for anadromous species such as American shad would be installed within 10 years of license issuance, whereas Exhibit E more generally states the powerhouse would be designed in anticipation that a vertical slot fishway or nature-like fishway would be installed in the future. Secondly, Exhibit E states that a half-inch veil flow (approximately 30 cubic feet per second [cfs]) would be provided over the spillway during normal project operation, but the AIP states the expected veil flow would be 1 inch above crest. Lastly, Exhibit E indicates that post-licensing water quality monitoring would only be conducted upstream of the dam, but the AIP indicates that such monitoring would occur both upstream and downstream of the dam. Therefore, to facilitate staff's

Schedule C  
Project No. 14867-001

review of the benefits, costs, and environmental effects of your proposed actions, please ensure that the application includes a cohesive and consistent set of proposed measures; also include a bulletized list of your proposed operation and environmental measures.

22. The AIP indicates that upstream passage for resident fish and anadromous species such as American shad would be installed within 10 years of license issuance. However, the AIP also notes that if American shad reach the project more than 10 years after license issuance, that upstream passage would be provided immediately. Based on these statements, it is unclear if you propose to provide upstream passage for American shad within 10 years of license issuance regardless of whether this species is observed during routine sampling by Virginia Department of Wildlife Resources (Virginia DWR) that occurs downstream of the project. Therefore, in the application, please clarify when, and under what conditions, Scott's Mill Hydro proposes to install upstream passage for American shad (or anadromous species).

23. The Water Quality Study Report in Appendix J indicates that surface water temperatures in the Scott's Mill impoundment were 3.6 degrees Fahrenheit (°F) to 7.2°F cooler, and dissolved oxygen (DO) levels 1.6 milligrams per liter (mg/L) to 3.2 mg/L lower, than surface waters in the impoundment of the upstream Reusens Project (FERC Project No. 2376). This difference is attributed to the release of cooler, deeper (less oxygenated) bottom waters through the Reusens Project into the Scott's Mill impoundment. However, according to the project record for the Reusens Project, that project was not operating from 2012 through July 2017,<sup>3</sup> including the September 2016 sampling period at Scott's Mill Dam (during which time the Reusens Project was presumably spilling all inflow through its surface floodgates into the Scott's Mill impoundment). Therefore, to assist staff in understanding the potential effects of the operation of the upstream Reusens Project on water quality in the Scott's Mill impoundment, please clarify this discrepancy and provide an explanation for the

---

<sup>3</sup> Notice of Intent and Pre-Application Document filed for the Reusens Project on February 28, 2019. Accession No. 20190228-5222.

considerably lower water temperatures and DO levels in the Scott's Mill impoundment (compared to Reusens) that were observed during September 2016.

### **Terrestrial Resources**

24. Page G-3 of the Terrestrial Habitat Report (Table 1, Appendix G) provides a list of vegetative species that were observed on the riverbanks and islands. In the narrative description on pages G-2 and G-3, the report indicates that the southwestern riverbank has the smallest abundance and diversity of species and the islands have the greatest abundance and diversity. To help staff understand the composition of species at the project, please specify where the species listed in Table 1 were observed and clarify if these species are present in all locations surveyed, or if some of the species are only present in specific locations (i.e., the southwestern riverbank, northeastern riverbank, or one or more of the islands).

25. Page 21 of Appendix B, which contains responses to comments on the DLA, states that wetland maps of the area upstream of the Scott's Mill Dam are presented in Appendices J and G. However, the only map presented in either place is a map of the wetlands on Daniel Island. Please provide wetland maps that cover the entire project area.

26. Page E-62 states that "downstream water level effects are expected to be very minor and hence, there should be little or no effect on riparian vegetation." However, the application provides very little information about riparian habitat downstream of the dam and the study area for the Terrestrial Resources Report (Appendix J) does not appear to include any of the area downstream. To support staff's analysis, please describe the riparian habitat downstream of the dam and provide an estimate of the magnitude of fluctuation downstream of the project.

27. Page E-62 states that proposed dredging will occur in an area of "probable" wetlands and any wetland impacts would be mitigated, as required by the U.S. Army Corps of Engineers. However, no specifics are provided regarding how you plan to mitigate those wetland impacts. To assist staff's analysis, please describe any proposed measures to mitigate impacts to the affected wetlands.

### **Threatened and Endangered Species**

28. According to U.S. Fish and Wildlife Services IPaC database,<sup>4</sup> the northern long-eared bat, a federally endangered species, has the potential to exist in the project area. However, no studies were conducted. Page A-54 states that, during the study planning process, it was determined that the project has the potential to impact bat roosting habitat, but based on the applicant's pre- and post-project water level studies, as well as the terrestrial study, Scott's Mill Hydro's biologist determined there would be no effect to bats based on hydrology and shoreline steepness. Page E-65 of the application states that the project "will have little effect on water levels and primarily affect steep shoreline areas" and claims "that bats were unlikely to be affected by the project." However, although you have determined bats will be unlikely to be affected, the federally endangered northern long-eared bat has the potential to be present in the project area. Therefore, please provide a description of any northern long-eared bat habitat that is located within the project area studied for the Terrestrial Habitat Assessment (Appendix G). Also, please clarify if you are planning any tree-clearing activities related to your proposed construction or dredging activities.

### **Recreation Resources**

29. Page 7 of Appendix B states that, "Consultation with local recreation experts from the adjacent counties and resource agencies (e.g., Virginia Department of Conservation and Recreation and Virginia DWR), indicated the local recreation needs." To provide staff with a more accurate picture of recreation at the project, please provide a record of this consultation. The record should include the names of the experts with whom you spoke, the dates the consultation occurred, and a summary of what was discussed. If this information is already provided in the application, please indicate where it is located.

30. Throughout the Recreational Resources Study (Appendix J), various references are made to reports, studies, and conversations without citation. Additionally, for the citations that are provided (e.g., Stanovick et al., 1991), a "Literature Cited" section is not included in the study report. So that staff can review the referenced information, please provide citations for all references, including conversations with other entities, and provide a "Literature Cited" section. If any non-published information is cited (i.e.,

---

<sup>4</sup> <https://ecos.fws.gov/ipac/>.

Schedule C  
Project No. 14867-001

phone conversation memos or meeting transcripts), please provide documentation of this information for the project record.

31. In our comments on the DLA, we requested "...a map indicating where the proposed fishing pier and canoe portage route, put-in, take-out, and parking areas, described on page E-70, are located in relation to proposed project facilities, and the river, within a clearly delineated proposed project boundary." Figures 6-4 and 6-5 in Exhibit E, and the project boundary map provided in Exhibit G, do not display the information requested. Please provide a map that clearly displays the project boundary and the exact location of all existing and proposed recreation facilities. If an exact location for any facilities cannot be provided, please provide an outline of the estimated location(s).

32. Pages 8 and 9 of Appendix B state that an existing informal parking area is used by recreationalists to access the project area and that this area is owned by Liberty University. Because Scott's Mill Hydro is proposing to use this site to install a boat ramp and improve the parking area, it needs to be included within the project boundary pursuant to section 4.41(h)(2) of the Commission's regulations. Therefore, please provide a revised Exhibit G that clearly indicates this area within the project boundary, pursuant to section 4.41(f)(7)(vii)(D) of the Commission's regulations. In addition, please provide a detailed explanation of the improvements you intend to make to this area and how many parking spaces the formalized lot would accommodate. Finally, so that staff can understand the current condition of the site at which the boat ramp and associated parking lot would be installed, please provide photos of this area.

33. Pages E-65 to E-67 of Exhibit E provide a list of recreational opportunities within 60 miles of the project. However, not all the locations listed are within 60 miles. For example, Cass Scenic Railroad State Park is approximately 139 miles from the project area. So that staff can better understand the recreational setting and what recreational opportunities are available in the region, please clarify how far these opportunities are located from the project, preferably grouped in a list by decreasing distance intervals (e.g., 60, 20, and 5 miles from the project).

### **Land Use and Aesthetic Resources**

34. In our comments on the DLA, we requested information on land use in the project area, however, this information was not provided in the exemption application. Page E-73 of Exhibit E categorizes the land use surrounding the project as a mixture of riparian,

Schedule C  
Project No. 14867-001

forested, and recreational. The descriptions are vague and do not provide enough detail to identify the land use within the proposed project boundary. In the application, please provide the following information:

- a. the types of land use within the project boundary (i.e., industrial, urban, rural, forested, riparian, undeveloped, recreational, residential, etc.);
- b. the amount, in acres, for each category; and
- c. a map depicting land use categories.

Also, please identify the percentage of lands within each category that are applicant-owned and privately owned.

35. The operation of the proposed project would result in a reduction in flow over the main spillway (river left, looking downstream) because a large portion of the flow that currently spills over the dam (e.g., up to 4,500 cfs) would be diverted to the opposite side of the impoundment and through the modular powerhouses (on river right). Page J-64 of Appendix J, Visual Resources Report, presents the aesthetic values of these current and future flow conditions over the dam in such a way that makes it difficult for staff to determine the level of potential impact (e.g., describing the aesthetic qualities of various flows by using an inconsistent range of cfs values). Please present this information using the same cfs ranges and descriptors to compare existing aesthetic conditions to future aesthetic conditions (e.g., by comparing the aesthetic value of existing 800- to 1,200-cfs flows to the aesthetic value of future 800- to 1,200-cfs flows). For example, flows (spill over the dam) in the 800 cfs to 1,200 cfs range are considered visually impressive and currently occur X percent of the time. Once the project is constructed and operational, flows over the dam in the 800 cfs to 1,200 cfs range would occur only Y percent of the time. Additionally, please provide a map indicating the locations of the key viewing areas (KVAs) used for the analysis.

### **Cultural Resources**

36. Pages B-10 and B-11 of Appendix B state that the Virginia State Historic Preservation Officer (SHPO) has identified the area of potential effects (APE) as the project boundary, and that the project boundary was extended to include the head pond. Please provide a map showing the APE, as well as the project boundary. Additionally, please clarify whether the Virginia SHPO approved the APE that includes the extended project boundary.



## **Engineering Issues**

37. There are two spillways at the proposed project, a 735-foot-long primary spillway and a secondary, 140-foot-long (arch-shaped) spillway. Scott's Mill Hydro proposes to install a 2-foot-high concrete cap on the crest of the primary spillway and to remove a portion of the secondary spillway to help divert flow into the proposed powerhouse. In order to address any upstream inundation effects of the proposed installation of a 2-foot-high concrete cap on the crest of the primary spillway and reduced total length of the spillways (due to the proposal to remove a portion of the secondary spillway), an analysis is required comparing the upstream inundation effects under existing and proposed conditions. To evaluate the inundation effects, the analysis must include:

- a. A study of historical storms/floods that occurred near the dam. This analysis could entail preparing a hydrologic model to develop inflow and outflow hydrographs based on observed precipitation and flow data and existing river basin characteristics;
- b. a flood frequency analysis of historical inflows and outflows in order to determine the annual recurrence interval of observed maximum flood events;
- c. a comparison of upstream impacts on non-project properties and structures (e.g., residences, campgrounds, businesses) based on the existing and proposed conditions under normal flow and flood scenarios;
- d. inundation maps for all scenarios evaluated, including electronic shapefiles; and
- e. input/output files of any model simulations used in the analysis.

38. The stability analyses in the Preliminary Supporting Design Report only includes calculations for the powerhouse units (LPS Modules). The applicant should also provide stability analyses, under all probable loading conditions, for the existing Scott's Mill Dam primary overflow section and masonry bastion section. The stability analyses should be based on the proposed configuration of each structure as shown in Exhibit F of the application. Please include free body diagrams for each structure with the analyses including the proposed powerhouse.