

FEDERAL ENERGY REGULATORY COMMISSION

Washington, DC 20426

February 18, 2015

OFFICE OF ENERGY PROJECTS

Project No. 2669-085- Massachusetts  
Bear Swamp Project  
Bear Swamp Power Company, LLC

**Subject: Scoping Document 1 for the Bear Swamp Project, P-2669-085**

To the Party Addressed:

The Federal Energy Regulatory Commission (Commission) is currently reviewing the Pre-Application Document submitted by the Bear Swamp Power Company, LLC (Bear Swamp Power) for relicensing the Bear Swamp Project (FERC No. 2669). The project consists of the Bear Swamp Pumped Storage and the Fife Brook Hydroelectric developments. The project is located on the Deerfield River, in Berkshire and Franklin Counties, Massachusetts.

Pursuant to the National Environmental Policy Act (NEPA) of 1969, as amended, Commission staff intends to prepare an environmental assessment (EA), which will be used by the Commission to determine whether, and under what conditions, to issue a new license for the project. To support and assist our environmental review, we are beginning the public scoping process to ensure that all pertinent issues are identified and analyzed, and that the EA is thorough and balanced.

We invite your participation in the scoping process, and are circulating the attached Scoping Document 1 (SD1) to provide you with information on the Bear Swamp Project. We are also soliciting your comments and suggestions on our preliminary list of issues and alternatives to be addressed in the EA. We are also requesting that you identify any studies that would help provide a framework for collecting pertinent information on the resource areas under consideration necessary for the Commission to prepare the EA for the project.

We will hold two scoping meetings for the Bear Swamp Project to receive input on the scope of the EA. A daytime meeting will be held at 10:00 a.m. on March 18, 2015, at the Holiday Inn Berkshires in North Adams, Massachusetts. An evening meeting will be held at 7:00 p.m. on March 18, 2015, at the same location. We will also visit the project facilities on March 19, 2015, starting at 9:00 a.m.

We invite all interested agencies, Indian tribes, non-governmental organizations, and individuals to attend one or all of these meetings. Further information on our environmental site review and scoping meetings is available in the enclosed SD1.

SD1 is being distributed to both Bear Swamp Power's distribution list and the Commission's official mailing list (see section 10.0 of the attached SD1). If you wish to be added to or removed from the Commission's official mailing list, please send your request by email to [efiling@ferc.gov](mailto:efiling@ferc.gov) or by mail to: Kimberly D. Bose, Secretary, Federal Energy Regulatory Commission, 888 First Street, N.E., Room 1A, Washington, DC 20426. All written or emailed requests must specify your wish to be removed from or added to the mailing list and must clearly identify the following on the first page: **Bear Swamp Project No. 2669-085**.

Please review the SD1 and, if you wish to provide comments, follow the instructions in section 6.0, *Request for Information and Studies*. If you have any questions about SD1, the scoping process, or how Commission staff will develop the EA for this project, please contact John Baummer at (202) 502-6837 or [john.baummer@ferc.gov](mailto:john.baummer@ferc.gov). Additional information about the Commission's licensing process and the Bear Swamp Project may be obtained from our website, [www.ferc.gov](http://www.ferc.gov), or Bear Swamp Power's licensing website, <http://www.bearswampproject.com/>. The deadline for filing comments is **April 18, 2015**. The Commission strongly encourages electronic filings.

Enclosure: Scoping Document 1

cc: Mailing List  
Public Files

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SCOPING DOCUMENT 1

BEAR SWAMP PROJECT

MASSACHUSETTS

PROJECT NO. 2669-085

Federal Energy Regulatory Commission  
Office of Energy Projects  
Division of Hydropower Licensing  
Washington, DC

February 2015

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# SCOPING DOCUMENT 1

## Bear Swamp Project, No. 2669-085

### 1.0 INTRODUCTION

The Federal Energy Regulatory Commission (Commission or FERC), under the authority of the Federal Power Act (FPA),<sup>1</sup> may issue licenses for terms ranging from 30 to 50 years for the construction, operation, and maintenance of non-federal hydroelectric projects. On December 19, 2014, Bear Swamp Power Company, LLC (Bear Swamp Power) filed a Pre-Application Document (PAD) and Notice of Intent to seek a new license for the Bear Swamp Project (FERC Project No. 2669).<sup>2</sup>

The Bear Swamp Project (Project) is located on the Deerfield River, in Franklin and Berkshire Counties, Massachusetts. The Bear Swamp Project consists of the Bear Swamp Pumped Storage Development (Bear Swamp Development) and the Fife Brook Hydroelectric Development (Fife Brook Development) and has a total installed capacity of 610 megawatts (MW). The average annual generation of the Bear Swamp Project from 2009 to 2013 was 435,844 megawatt-hours (MWh), and the average annual energy used by the Bear Swamp Development for pumping during the same period was 551,104 MWh.

A detailed description of the project is provided in section 3.0. The location of the project is shown on figure 1. The Bear Swamp Project does not occupy federal lands.

The National Environmental Policy Act (NEPA) of 1969,<sup>3</sup> the Commission's regulations, and other applicable laws require that we independently evaluate the environmental effects of relicensing the Bear Swamp Project as proposed, and also consider reasonable alternatives to the licensee's proposed action. At this time, we intend to prepare an environmental assessment (EA) that describes and evaluates the probable effects, including an assessment of the site-specific and cumulative effects, if any, of the

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<sup>1</sup> 16 U.S.C. § 791(a)-825(r) (2012).

<sup>2</sup> The current license for the Bear Swamp Project was issued with an effective date of April 1, 1970, for a term of 50 years and expires on March 31, 2020.

<sup>3</sup> National Environmental Policy Act of 1969, 42 U.S.C. §§ 4321-4370(f) (2012).

proposed action and alternatives. The EA preparation will be supported by a scoping process to ensure identification and analysis of all pertinent issues.

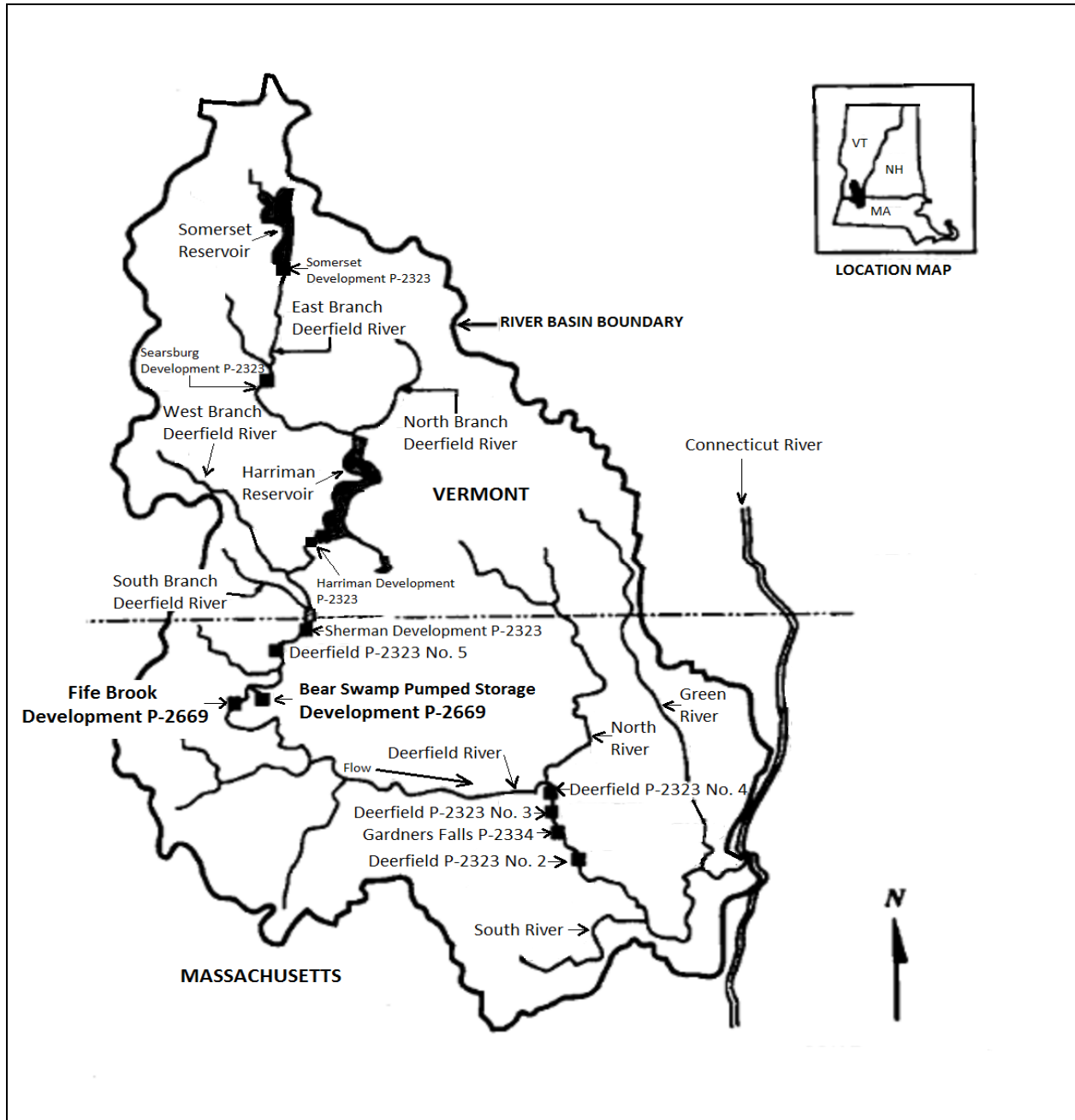


Figure 1. Location of the project and other FERC-licensed hydroelectric projects in the Deerfield River Basin. (Source: staff).

Although our current intent is to prepare an EA, there is a possibility that an environmental impact statement (EIS) will be required. The scoping process will satisfy the NEPA scoping requirements, irrespective of whether the Commission issues an EA or an EIS.

## **2.0 SCOPING**

This Scoping Document 1 (SD1) is intended to advise all participants as to the proposed scope of the EA and to seek additional information pertinent to this analysis. This document contains: (1) a description of the scoping process and schedule for the development of the EA; (2) a description of the proposed action and alternatives; (3) a preliminary identification of environmental issues and proposed studies; (4) a request for comments and information; (5) a proposed EA outline; and (6) a preliminary list of comprehensive plans that are applicable to the project.

### **2.1 Purposes of Scoping**

Scoping is the process used to identify issues, concerns, and opportunities for enhancement or mitigation associated with a proposed action. In general, scoping should be conducted during the early planning stages of a project. The purposes of the scoping process are as follows:

- invite participation of federal, state and local resource agencies, Indian tribes, non-governmental organizations (NGOs), and the public to identify significant environmental and socioeconomic issues related to the proposed project;
- determine the resource issues, depth of analysis, and significance of issues to be addressed in the EA;
- identify how the project would or would not contribute to cumulative effects in the project area;
- identify reasonable alternatives to the proposed action that should be evaluated in the EA;
- solicit, from participants, available information on the resources at issue, including existing information and study needs; and



- determine the resource areas and potential issues that do not require detailed analysis during review of the project.

## **2.2 Comments, Scoping Meetings, and Environmental Site Review**

During preparation of the EA, there will be several opportunities for the resource agencies, Indian tribes, NGOs, and the public to provide input. These opportunities occur:

- during the public scoping process and study plan meetings, when we solicit oral and written comments regarding the scope of issues and analysis for the EA;
- in response to the Commission's notice that the project is ready for environmental analysis; and
- after issuance of the EA when we solicit written comments on the EA.

In addition to written comments solicited by this SD1, we will hold two public scoping meetings and an environmental site review in the vicinity of the project. A daytime meeting will focus on concerns of the resource agencies, NGOs, and Indian tribes, and an evening meeting will focus on receiving input from the public. We invite all interested agencies, Indian tribes, NGOs, and individuals to attend one or both of the meetings to assist us in identifying the scope of environmental issues that should be analyzed in the EA. All interested parties are also invited to participate in the environmental site review. The times and locations of the meetings and environmental site review are as follows:

### **Daytime Scoping Meeting**

Date and Time: March 18, 2015 at 10:00 a.m.  
 Location: Holiday Inn Berkshires  
 40 Main Street  
 North Adams, Massachusetts 01247  
 Phone Number: (413) 663-6500

### **Evening Scoping Meeting**

Date and Time: March 18, 2015 at 7:00 p.m.  
 Location: Holiday Inn Berkshires  
 40 Main Street

North Adams, Massachusetts 01247  
Phone Number: (413) 663-6500

### **Environmental Site Review**

Date and Time: March 19, 2015 at 9:00 a.m.  
Location: Bear Swamp Project Visitors Center  
458 River Road  
Florida, MA 01247  
Phone Number: (315) 598-6130

Please notify Steve Murphy at (315) 598-6130 or [Steven.Murphy@brookfieldrenewable.com](mailto:Steven.Murphy@brookfieldrenewable.com) **on or before March 4, 2015**, if you plan to attend the environmental site review. A map providing the location of the Bear Swamp Project Visitors Center can be obtained at <http://www.bearswampproject.com>. Bear Swamp Power has indicated that persons attending the environmental site review will need to comply with the following requirements: (1) persons must be 16 years or older; (2) persons must have a current, valid, government-issued or school photo identification (i.e., driver's license, etc.); (3) persons with open-toed shoes/sandals/flip flops/high heels, etc. will not be allowed on the environmental site review; (4) no photography will be allowed on-site; (5) small bags containing personal items for the site visit (i.e., notebooks, maps, water, etc.) will be allowed, but are subject to search; (6) no weapons are allowed on-site; (7) no alcohol/drugs are allowed on-site (or persons exhibiting the effects thereof); (8) all persons coming on-site are subject to search; and (9) no animals (except for service animals) are allowed on the environmental site review.

The scoping meetings will be recorded by a court reporter, and all statements (verbal and written) will become part of the Commission's public record for the project. Before each meeting, all individuals who attend, especially those who intend to make statements, will be asked to sign in and clearly identify themselves for the record. Interested parties who choose not to speak or who are unable to attend the scoping meetings may provide written comments and information to the Commission as described in section 6.0. These meetings are posted on the Commission's calendar located on the internet at [www.ferc.gov/EventCalendar/EventsList.aspx](http://www.ferc.gov/EventCalendar/EventsList.aspx), along with other related information.

Meeting participants should come prepared to discuss their issues and/or concerns as they pertain to the relicensing of the Bear Swamp Project. It is advised that participants review the PAD in preparation for the scoping meetings. Copies of the PAD are available for review at the Commission in the Public Reference Room or may be

viewed on the Commission's website ([www.ferc.gov](http://www.ferc.gov)), using the "eLibrary" link. Enter the docket number, P-2669, to access the documents. For assistance, contact FERC Online Support at [FERCOnlineSupport@ferc.gov](mailto:FERCOnlineSupport@ferc.gov) or toll free at 1-866-208-3676, or for TTY, (202) 502-8659. A copy of the PAD can be obtained from Bear Swamp Power's licensing website (<http://www.bearswampproject.com>) or can be inspected and reproduced, by appointment, at the following address: Brookfield Renewable Energy Group, 33 West 1<sup>st</sup> Street South, Fulton, NY 13069.

Following the scoping meetings and comment period, all issues raised will be reviewed and decisions made as to the level of analysis needed. If preliminary analysis indicates that any issues presented in this scoping document have little potential for causing significant effects, the issue(s) will be identified and the reasons for not providing a more detailed analysis will be given in the EA.

If we receive no substantive comments on SD1, then we will not prepare a Scoping Document 2 (SD2). Otherwise, we will issue SD2 to address any substantive comments received. The SD2 will be issued for informational purposes only; no response will be required. The EA will address recommendations and input received during the scoping process.

### **3.0 PROPOSED ACTION AND ALTERNATIVES**

In accordance with NEPA, the environmental analysis will consider the following alternatives, at a minimum: (1) the no-action alternative, (2) the applicant's proposed action, and (3) alternatives to the proposed action.

#### **3.1 No-action Alternative**

Under the no-action alternative, the Bear Swamp Project would continue to operate as required by the current project license (i.e., there would be no change to the existing environment). No new environmental protection, mitigation, or enhancement measures would be implemented. We use this alternative to establish baseline environmental conditions for comparison with other alternatives.

##### **3.1.1 Existing Project Facilities**

###### **Bear Swamp Development**

The existing Bear Swamp Development consists of an upper reservoir, upper reservoir intake structure and penstocks, powerhouse and transmission lines, tailrace and lower reservoir outlet structure, and appurtenant facilities (figure 2).

**Upper Reservoir:** The 118-acre upper reservoir is contained by existing topography and four dikes. The four dikes include: (1) a 1,300-foot-long curved, earth and rockfill dike (North Dike); (2) a 350-foot-long earth and rockfill extension of the North Dike (Dike A); (3) a 2,880-foot-long earth and rockfill dike (South Dike); (4) a 750-foot-long earth and rockfill dike (East Dike). Each dike is constructed with an impervious glacial till core with a compacted rockfill shell and has a crest elevation of 1,606-feet National Geodetic Vertical Dam of 1929 (NGVD). The upper reservoir has a gross storage capacity of 8,300 acre-feet at the normal full water level elevation of 1,600-feet NGVD. A 420-foot-long emergency spillway with a crest elevation of 1,602-feet NGVD is excavated into the bedrock to the east of Dike A.

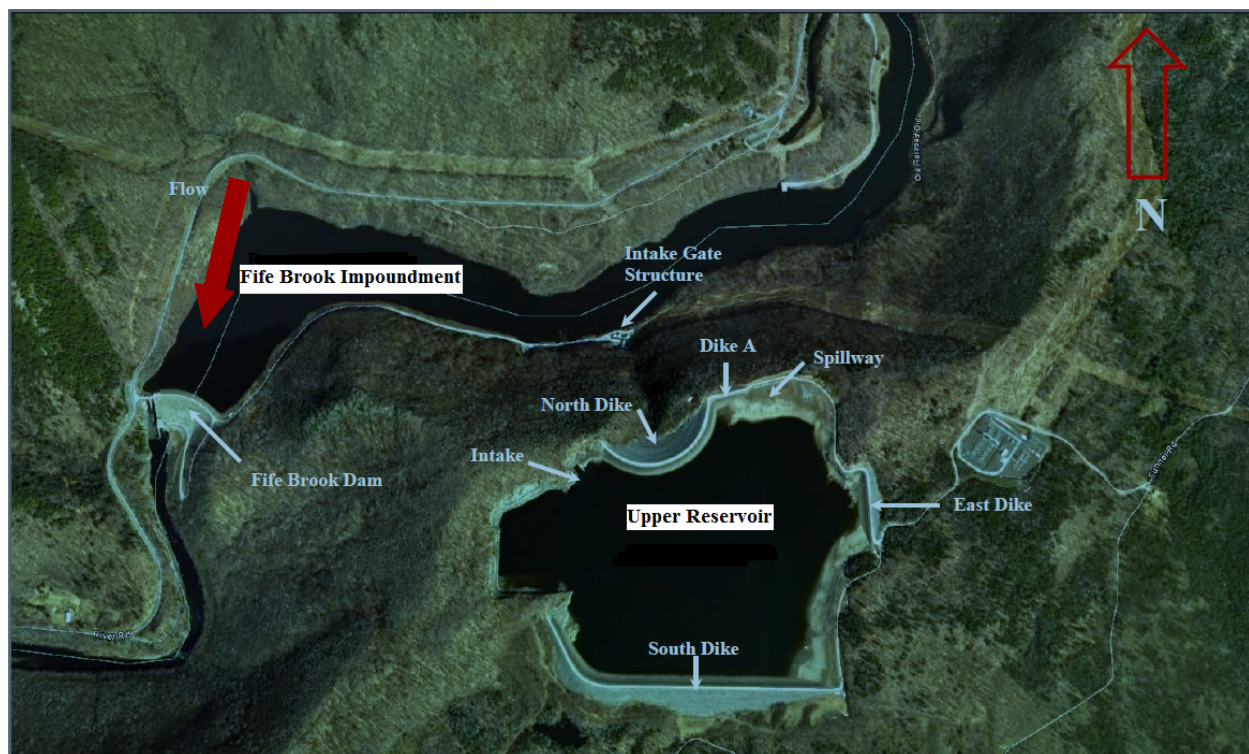


Figure 2. Aerial view of the Bear Swamp Project (Source: staff).

**Upper Reservoir Intake Structure and Penstocks:** Water is conveyed from the upper reservoir to the powerhouse through a 1,090-foot-long underground tunnel system. A 40-foot-diameter, concrete intake structure is located on the floor of the upper reservoir. Water passing through the intake structure enters a 740-foot-long, 25-foot-

diameter concrete-lined vertical shaft and horizontal tunnel that bifurcates into two 350-foot-long, 17.5-foot-diameter concrete-lined penstocks.

***Powerhouse and Transmission Lines:*** The powerhouse consists of an underground cavern that is 227-feet-long, 79-feet-wide, 182-feet-high and contains two reversible 300-megawatt (MW), Francis-type turbine-generator units. Two 230-kilovolt (kV), generator leads and two 230-kV, 1-mile-long above-ground transmission lines connect the reversible turbine-generator units to the regional grid. The powerhouse is accessed via a 700-foot-long, 25-foot-wide, 29-foot-high tunnel or via a 600-foot-long, 15-foot-wide, 23-foot high tunnel that houses the generator leads.

***Tailrace and Outlet Structure:*** Water is conveyed from the powerhouse to the lower reservoir (i.e., Fife Brook impoundment) through two 504-foot-long, 22-foot-wide, 29-foot-high, concrete-lined, underground draft tube tunnels. Each draft tube tunnel connects to a 15-foot-wide, 20-foot-tall outlet structure that includes two 20-foot-high, 15-foot-wide discharge bays. The four discharge bays are equipped with slide gates and trashracks with a clear bar spacing of 6-inches. A 150-foot-long concrete apron extends from the trashracks into the Fife Brook impoundment.

## **Fife Brook**

The existing Fife Brook Hydroelectric Development consists of: (1) an 890-foot-long, 130-foot-high earthen rock-fill dam that includes a 90-foot-long concrete spillway; (2) a 152-acre impoundment with a gross storage capacity of 6,900 acre-feet at a normal maximum water surface elevation of 870 feet NGVD; (3) two 36-foot-wide, 40-foot-high steel tainter gates; (4) a 30-inch-diameter minimum flow release pipe that bifurcates into a 20-inch-diameter pipe and a 24-inch-diameter pipe; (5) a concrete intake structure with a 3-inch clear bar spacing trashrack and 15-foot-wide, 18-foot-high headgate; (6) a 10-foot-diameter, 200-foot-long steel penstock; (7) a concrete powerhouse containing a 10-MW Francis turbine-generating unit; (8) a steel-lined draft tube; (9) an 1.6-mile-long, 13.8-kV transmission line connecting the turbine-generating unit to the regional grid; and (10) appurtenant facilities (figure 2).

The existing project boundary around the Bear Swamp Project extends approximately 2.5 miles upstream of the Fife Brook dam and includes lands around the upper and lower reservoirs. Downstream of the Fife Brook dam, the project boundary includes lands associated with project structures, such as the dam, powerhouse and appurtenant facilities and extends to a point approximately 7.5 miles downstream of the dam.

## **Recreation Facilities**

Bear Swamp Power operates and maintains the recreation facilities described below.

***Bear Swamp Visitor Center:*** An underground visitor center is located about a mile and half upstream from the Fife Brook dam. The visitor center provides information about the Bear Swamp Project and its history through interactive displays, artifacts, and guided tours.

***Fife Brook Fishing and Boating Access Area:*** A non-motorized boat launch and fishing area is located approximately 2,000 feet downstream from the Fife Brook dam along River Road. The site is a popular boat launching and fishing site, and has aluminum boat slides and stairs to the river.

***Zoar Whitewater Access Area:*** A car-top non-motorized boat launch is located upstream from the rapids at Zoar Gap along River Road. The site is a popular launching area for commercial whitewater guide services.

***Zoar Picnic Area:*** A picnic area and car-top launch for non-motorized boats is located approximately seven miles downstream of the Fife Brook Dam along River Road. This site features 25 concrete picnic tables, 22 barbeque grills, and access to the river.

***Fife Brook Overlook Hiking Trail:*** A 1.3-mile section of the Bear Swamp and Hoosac Tunnel Loop hiking trail is accessible from Tunnel Road near the upper reservoir. The trail provides views of the Deerfield River Valley, the Fife Brook impoundment, and the Fife Brook Dam.

***Bear Swamp Public Hunting Area:*** A 900-acre hunting area is located south and west of the upper reservoir and accessible via Tunnel Road.

### **3.1.2 Existing Project Operations**

#### **Bear Swamp Development**

The Bear Swamp Development is a pumped storage hydroelectric facility with a usable storage of 4,900 acre-feet (a 44.5-foot drawdown). An additional 5.5 feet (for a total allowable drawdown of 50 feet) is reserved for emergency power generation and meeting the minimum flow requirements of the Fife Brook Development. The Bear Swamp Development typically cycles between pumping and generation during a 24-hour

period. During pumping operation, the turbine-generator units are operated in reverse and water is pumped from the Fife Brook impoundment to the upper reservoir. The approximate hydraulic capacity of the development during pumping operation is 9,040 cubic feet per second (cfs). During generation, the turbine-generator units are operated conventionally and water from the upper reservoir is discharged into the Fife Brook impoundment. In generation mode, the approximate hydraulic capacity of the Bear Swamp Development is 10,860 cfs.

### **Fife Brook**

The Fife Brook Hydroelectric Development operates in a run-of-river mode where releases from Fife Brook dam generally match the inflow from the upstream Deerfield No. 5 Development. However, due to operation of the Bear Swamp Development the Fife Brook impoundment does not maintain stable elevation. Operation of the Bear Swamp Development fluctuates water levels in the Fife Brook impoundment between elevations 830 and 870 feet NGVD.

The hydraulic capacity of the Fife Brook Development turbine-generator unit ranges from approximately 270 cfs to 1,540 cfs. When the Fife Brook impoundment is full and inflow exceeds the hydraulic capacity of the Fife Brook Development turbine, the turbine-generator unit is operated at its maximum capacity and excess flow is released through the tainter gates.

The current license requires Bear Swamp Power to provide a continuous minimum flow of 125 cfs into the tailrace of the Fife Brook dam.<sup>4</sup> The minimum flow is released through a system of gated pipes, sized to pass the required minimum 125 cfs.

The Fife Brook Development turbine generally has a minimum operating output of 3 MW. To avoid sudden increases in flow downstream of Fife Brook dam that could affect wading anglers, increases from the 125-cfs minimum flow to higher generating flows are ramped to a discharge level equivalent to an approximate 3-MW output level (generally between 270 cfs and 650 cfs) and held for 15 minutes before bringing the

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<sup>4</sup> The minimum flow from the Deerfield No. 5 Hydroelectric development into the Fife Brook impoundment is 73 cfs, which is less than the required minimum flow of 125 cfs into the Fife Brook tailrace. Article 401 of the current license, as amended by the Commission's April 4, 1997 order, requires water to be released from the Bear Swamp Development upper reservoir, if necessary, to ensure that the minimum flow of 125 cfs is met.



powerhouse to its scheduled discharge level.<sup>5</sup>

To provide flows for whitewater recreation, Article 404 of the current license requires 106 periodic, scheduled releases of 700 cfs from April 1 through October 31. These flows are generally released through the Fife Brook turbine-generator unit.

### **3.2 Applicant's Proposal**

Bear Swamp Power proposes to continue to operate and maintain the Bear Swamp Project as is required in its existing license. Bear Swamp Power does not propose any new development<sup>6</sup> or changes in project operation at this time. The current license for the project expires on March 31, 2020.

#### **3.2.1 Proposed Environmental Measures**

The environmental measures that are currently proposed by Bear Swamp Power are described below.

##### Aquatic Resources

- Continue to release a 125-cfs minimum flow in the tailrace of the Fife Brook Development.

##### Recreation and Land Use

- Continue to provide public access.
- Continue to maintain existing recreation facilities.
- Continue to provide whitewater releases.

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<sup>5</sup> Daily flow release forecasts at the Fife Brook dam are posted on the Waterline website at <http://www.h2online.com/default.aspx?pg=si&op=255123>.

<sup>6</sup> On August 13, 2008, the Commission authorized Bear Swamp Project (*See* 124 FERC ¶ 62,127) to replace the Bear Swamp Development's turbine runners and rewind the generators. These project modifications must be completed by August 13, 2019 (*See* 147 FERC ¶ 62,124).



## Cultural Resources

- Develop a Historic Properties Management Plan, in consultation with the Massachusetts Historical Commission and Stockbridge-Munsee Community Band of Mohican Indians, to provide for the protection and management of historic properties.

### **3.3 Dam Safety**

It is important to note that dam safety constraints may exist and should be taken into consideration in the development of proposals and alternatives considered in the pending proceeding. For example, proposed modifications to the dam structure, such as the addition of flashboards or fish passage facilities, could impact the integrity of the dam structure. As the proposal and alternatives are developed, the applicant must evaluate the effects and ensure that the project would meet the Commission's dam safety criteria found in Part 12 of the Commission's regulations and the Engineering Guidelines (<http://www.ferc.gov/industries/hydropower/safety/eng-guide.asp>)

### **3.4 Alternatives to the Proposed Action**

Commission staff will consider and assess all alternative recommendations for operational or facility modifications, as well as protection, mitigation, and enhancement (PM&E) measures identified by the Commission, the agencies, Indian tribes, NGOs, and the public.

### **3.5 Alternatives Considered But Eliminated From Detailed Study**

At present, we propose to eliminate the following alternatives from detailed study in the EA.

#### **3.5.1 Federal Government Takeover**

In accordance with § 16.14 of the Commission's regulations, a federal department or agency may file a recommendation that the United States exercise its right to take over a hydroelectric power project with a license that is subject to sections 14 and 15 of the FPA.<sup>7</sup> We do not consider federal takeover to be a reasonable alternative. Federal takeover of the project would require congressional approval. While that fact alone

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<sup>7</sup> 16 U.S.C. §§ 791(a)-825(r).

would not preclude further consideration of this alternative, there is currently no evidence showing that federal takeover should be recommended to Congress. No party has suggested that federal takeover would be appropriate, and no federal agency has expressed interest in operating the project.

### **3.5.2 Non-power License**

A non-power license is a temporary license the Commission would terminate whenever it determines that another governmental agency is authorized and willing to assume regulatory authority and supervision over the lands and facilities covered by the non-power license. At this time, no governmental agency has suggested a willingness or ability to take over the project. No party has sought a non-power license, and we have no basis for concluding that the Bear Swamp Project should no longer be used to produce power. Thus, we do not consider a non-power license a reasonable alternative to relicensing the project.

### **3.5.3 Project Decommissioning**

Decommissioning of the project could be accomplished with or without dam removal. Either alternative would require denying the relicense application and surrender or termination of the existing license with appropriate conditions. There would be significant costs involved with decommissioning the project and/or removing any project facilities. The project provides a viable, safe, and clean renewable source of power to the region. With decommissioning, the project would no longer be authorized to generate power.

No party has suggested project decommissioning would be appropriate in this case, and we have no basis for recommending it. Thus, we do not consider project decommissioning a reasonable alternative to relicensing the project with appropriate environmental measures.

## **4.0 SCOPE OF CUMULATIVE EFFECTS AND SITE-SPECIFIC RESOURCE ISSUES**

### **4.1 Cumulative Effects**

According to the Council on Environmental Quality's regulations for implementing NEPA (40 C.F.R. 1508.7), a cumulative effect is the effect on the environment that results from the incremental effect of the action when added to other past, present and reasonably foreseeable future actions, regardless of what agency (federal or non-federal)

or person undertakes such other actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time, including hydropower and other land and water development activities.

#### **4.1.1 Resources that could be Cumulatively Affected**

Based on information in the PAD for the Bear Swamp Project, and preliminary staff analysis, we have identified dissolved oxygen and water temperature as resources that could be cumulatively affected by the proposed continued operation and maintenance of the Bear Swamp Project in combination with other hydroelectric projects and other activities in the Deerfield River Basin.

#### **4.1.2 Geographic Scope**

Our geographic scope of analysis for cumulatively affected resources is defined by the physical limits or boundaries of: (1) the proposed action's effect on the resources, and (2) contributing effects from other hydropower and non-hydropower activities within the Deerfield River Basin. We have identified the geographic scope for water quality to include the Deerfield River Basin from its headwaters in southern Vermont to its confluence with the Connecticut River. We chose this geographic scope because the operation and maintenance of the Bear Swamp Project, in combination with other hydroelectric projects in the Deerfield River Basin may affect water quality of the Deerfield River.

#### **4.1.3 Temporal Scope**

The temporal scope of our cumulative effects analysis in the EA will include a discussion of past, present, and reasonably foreseeable future actions and their effects on each resource that could be cumulatively affected. Based on the potential term of a new license, the temporal scope will look 30 to 50 years into the future, concentrating on the effect on the resources from reasonably foreseeable future actions. The historical discussion will, by necessity, be limited to the amount of available information for each resource. The quality and quantity of information, however, diminishes as we analyze resources further away in time from the present.

### **4.2 Resource Issues**

In this section, we present a preliminary list of environmental issues to be addressed in the EA. We identified these issues, which are listed by resource area, by reviewing the PAD and the Commission's record for the Bear Swamp Project. This list is

not intended to be exhaustive or final, but contains the issues raised to date. After the scoping process is complete, we will review the list and determine the appropriate level of analysis needed to address each issue in the EA. Those issues identified by an asterisk (\*) will be analyzed for both cumulative and site-specific effects.

#### **4.2.1 Geologic and Soils Resources**

- None.

#### **4.2.2 Aquatic Resources**

- Effects of continued project operation on dissolved oxygen and water temperature in the Deerfield River downstream of the project.\*
- Effects of continued project operation on aquatic habitat for trout, other resident fish, and benthic macroinvertebrates.

#### **4.2.3 Terrestrial Resources**

- Effects of continued project operation, including reservoir fluctuations, on riparian and wetland habitat and associated wildlife, including waterfowl and wetland-dependent birds.
- Effects of continued project operation and maintenance on upland wildlife habitat and associated wildlife.

#### **4.2.4 Threatened and Endangered Species**

- Effects of continued project operation and maintenance on the federally endangered northeastern bulrush, federally threatened bog turtle, and federally proposed endangered northern long-eared bat.

#### **4.2.5 Recreation Resources**

- Effects of continued project operation on recreational use in the project area, including the adequacy of existing recreational access, the adequacy and capacity of existing recreational facilities, and the adequacy of existing whitewater flows.

#### **4.2.6 Cultural Resources**

- Effects of continued project operation on historic properties and archaeological resources.

#### **4.2.7 Developmental Resources**

- Economics of the project and the effects of any recommended environmental measures on the project's economics.

### **5.0 PROPOSED STUDIES**

Depending upon the findings of studies completed by Bear Swamp Power and the recommendations of the consulted entities, Bear Swamp Power will consider, and may propose certain other measures to enhance environmental resources affected by the project as part of the proposed action. Bear Swamp Power's initial study proposals are identified by resource area in table 1. Detailed information on Bear Swamp Power's initial study proposals can be found in the PAD. Further studies may need to be added to this list based on comments provided to the Commission and Bear Swamp Power from interested participants, including Indian tribes.

Table 1. Bear Swamp Power's initial study proposals for the Bear Swamp Project.  
(Source: Bear Swamp Project PAD)

<b>Resource Area</b>	<b>Proposed Study</b>
<b>Aquatic Resources</b>	
	Survey the 7.5 mile reach downstream of the Fife Brook dam to evaluate the effects of project operation on river levels.

<b>Resource Area</b>	<b>Proposed Study</b>
	Conduct a baseline water quality study of the Fife Brook impoundment and the 7.5 mile reach downstream of the Fife Brook dam to confirm compliance with state water quality standards.
	Conduct a fish survey, including rare, threatened or endangered species, in the Fife Brook impoundment and the 7.5 mile reach downstream of the Fife Brook dam.
	Characterize aquatic habitat in the fluctuation zone of the Fife Brook impoundment and in the 7.5 mile reach downstream of the Fife Brook dam.
	Characterize and survey macroinvertebrate communities downstream of the Fife Brook dam.
<b>Terrestrial Resources</b>	
	Map and characterize existing terrestrial habitat and vegetative cover within the project boundary. Document occurrence of federal and state-listed rare, threatened, or endangered species.
	Map and characterize floodplain, wetland, and riparian habitat within the project boundary.
<b>Recreation, Land Use, and Aesthetics</b>	
	Characterize existing recreational facilities and conditions in the project boundary and nearby areas.

Resource Area	Proposed Study
<b>Cultural Resources</b>	Identify historic properties, assess project-related effects on historic properties, and develop appropriate management measures

## 6.0 REQUEST FOR INFORMATION AND STUDIES

We are asking federal, state, and local resource agencies, Indian tribes, NGOs, and the public to forward to the Commission any information that will assist us in conducting an accurate and thorough analysis of the project-specific and cumulative effects associated with relicensing the Bear Swamp Project. The types of information requested include, but are not limited to:

- information, quantitative data, or professional opinions that may help define the geographic and temporal scope of the analysis (both site-specific and cumulative effects), and that helps identify significant environmental issues;
- identification of, and information from, any other EA, EIS, or similar environmental study (previous, on-going, or planned) relevant to the proposed relicensing of the Bear Swamp Project;
- existing information and any data that would help to describe the past and present actions and effects of the project and other developmental activities on environmental and socioeconomic resources;
- information that would help characterize the existing environmental conditions and habitats;
- the identification of any federal, state, or local resource plans, and any future project proposals in the affected resource area (e.g., proposals to construct or operate water treatment facilities, recreation areas, water diversions, timber harvest activities, or fish management programs), along with any implementation schedules);
- documentation that the proposed project would or would not contribute to cumulative adverse or beneficial effects on any resources. Documentation can

- include, but need not be limited to, how the project would interact with other projects in the area and other developmental activities; study results; resource management policies; and reports from federal and state agencies, local agencies, Indian tribes, NGOs, and the public;
- documentation showing why any resources should be excluded from further study or consideration; and
  - study requests by federal and state agencies, local agencies, Indian tribes, NGOs, and the public that would help provide a framework for collecting pertinent information on the resource areas under consideration necessary for the Commission to prepare the EA/EIS for the project.

All requests for studies filed with the Commission must meet the criteria found in Appendix A, *Study Plan Criteria*.

The requested information, comments, and study requests should be submitted to the Commission no later than April 18, 2015. All filings must clearly identify the following on the first page: **Bear Swamp Project (P-2669-085)**. Scoping comments may be filed electronically via the Internet. See 18 C.F.R. 385.2001(a)(1)(iii) and the instructions on the Commission's website <http://www.ferc.gov/docs-filing/efiling.asp>. Commenters can submit brief comments up to 6,000 characters, without prior registration, using the eComment system at <http://www.ferc.gov/docs-filing/ecomment.asp>. You must include your name and contact information at the end of your comments. For assistance, please contact FERC Online Support at [FERCOnlineSupport@ferc.gov](mailto:FERCOnlineSupport@ferc.gov) or toll free at 1-866-208-3676, or for TTY, (202) 502-8659. Although the Commission strongly encourages electronic filing, documents may also be paper-filed. To paper-file, please send a paper copy to: Kimberly D. Bose, Secretary, Federal Energy Regulatory Commission, 888 First Street, NE, Washington, D.C. 20426.

Register online at <http://www.ferc.gov/esubscription.asp> to be notified via email of new filings and issuances related to this or other pending projects. For assistance, please contact FERC Online Support <mailto:ferconlinesupport@ferc.gov>.

Any questions concerning the scoping meetings, site visits, or how to file written comments with the Commission should be directed to John Baummer at (202) 502-6837 or [john.baummer@ferc.gov](mailto:john.baummer@ferc.gov). Additional information about the Commission's licensing process and the Bear Swamp Project may be obtained from the Commission's website, [www.ferc.gov](http://www.ferc.gov).



## **7.0 EA PREPARATION**

At this time, we anticipate the need to prepare a single EA. The EA will be sent to all persons and entities on the Commission's service and mailing lists for the Bear Swamp Project. The EA will include our recommendations for operating procedures, as well as environmental protection and enhancement measures that should be part of any license issued by the Commission. All recipients will then have 30 days to review the EA and file written comments with the Commission.

The major milestones, with pre-filing target dates are as follows:

<u>Major Milestone</u>	<u>Target Date</u>
Scoping Meetings	March 2015
License Application Filed	March 2018
Ready for Environmental Analysis Notice Issued	May 2018
Deadline for Filing Comments, Recommendations, and Agency Terms and Conditions/Prescriptions	May 2018
Single EA Issued	January 2019
Comments on EA Due	February 2019
Deadline for Filing Modified Agency Recommendations	April 2019
License Order Issued	September 2019

A copy of Bear Swamp Power's process plan, which has a complete list of relicensing milestones for the Bear Swamp Project, including those for developing the license application, is attached as Appendix B to this SD1.

## **8.0 PROPOSED EA OUTLINE**

The preliminary outline for the Bear Swamp Project EA is as follows:

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## **9.0 COMPREHENSIVE PLANS**

Section 10(a)(2) of the FPA, 16 U.S.C. section 803(a)(2)(A), requires the Commission to consider the extent to which a project is consistent with federal and state comprehensive plans for improving, developing, or conserving a waterway or waterways affected by a project. The staff has preliminarily identified and reviewed the plans listed below that may be relevant to the Bear Swamp Project. Agencies are requested to review this list and inform the Commission staff of any changes. If there are other comprehensive plans that should be considered for this list that are not on file with the Commission, or if there are more recent versions of the plans already listed, they can be filed for consideration with the Commission according to 18 CFR 2.19 of the Commission's regulations. Please follow the instructions for filing a plan at <http://www.ferc.gov/industries/hydropower/gen-info/licensing/complan.pdf>.

The following is a list of comprehensive plans currently on file with the Commission that may be relevant to the Bear Swamp Project.

Atlantic States Marine Fisheries Commission. 1995. Interstate fishery management plan

- for Atlantic striped bass. (Report No. 24). March 1995.
- Atlantic States Marine Fisheries Commission. 1998. Amendment 1 to the Interstate Fishery Management Plan for Atlantic sturgeon (*Acipenser oxyrhynchus oxyrhynchus*). (Report No. 31). July 1998.
- Atlantic States Marine Fisheries Commission. 1998. Interstate fishery management plan for Atlantic striped bass. (Report No. 34). January 1998.
- Atlantic States Marine Fisheries Commission. 1999. Amendment 1 to the Interstate Fishery Management Plan for shad and river herring. (Report No. 35). April 1999.
- Atlantic States Marine Fisheries Commission. 2000. Technical Addendum 1 to Amendment 1 of the Interstate Fishery Management Plan for shad and river herring. February 9, 2000.
- Atlantic States Marine Fisheries Commission. 2009. Amendment 2 to the Interstate Fishery Management Plan for shad and river herring, Arlington, Virginia. May 2009.
- Atlantic States Marine Fisheries Commission. 2010. Amendment 3 to the Interstate Fishery Management Plan for shad and river herring, Arlington, Virginia. February 2010.
- Atlantic States Marine Fisheries Commission. 2000. Interstate Fishery Management Plan for American eel (*Anguilla rostrata*). (Report No. 36). April 2000.
- Connecticut River Atlantic Salmon Commission. 1992. A management plan for American shad in the Connecticut River Basin. Sunderland, Massachusetts. February 1992.
- Connecticut River Atlantic Salmon Commission. 1998. Strategic plan for the restoration of Atlantic salmon in the Connecticut River. Sunderland, Massachusetts. July 1998.
- Franklin County Planning Department. 1990. Deerfield River comprehensive management plan. Greenfield, Massachusetts. June 1990.
- Massachusetts Department of Environmental Management. n.d. Commonwealth

- connections: A greenway vision for Massachusetts. Boston, Massachusetts.
- Massachusetts Department of Environmental Quality Engineering. 1983. Connecticut River Basin water quality management plan. Westborough, Massachusetts. June 1983.
- Massachusetts Department of Fish and Game. 2006. Comprehensive wildlife conservation strategy. West Boylston, Massachusetts. September 2006.
- Massachusetts Executive Office of Energy and Environmental Affairs. Statewide Comprehensive Outdoor Recreation Plan (SCORP): Massachusetts Outdoor 2006. Boston, Massachusetts.
- National Marine Fisheries Service. 1998. Final Amendment #11 to the Northeast Multi-species Fishery Management Plan; Amendment #9 to the Atlantic sea scallop Fishery Management Plan; Amendment #1 to the monkfish Fishery Management Plan; Amendment #1 to the Atlantic salmon Fishery Management Plan; and Components of the proposed Atlantic herring Fishery Management Plan for Essential Fish Habitat. Volume 1. October 7, 1998.
- National Marine Fisheries Service. 1998. Final Recovery Plan for the shortnose sturgeon (*Acipenser brevirostrum*). Prepared by the Shortnose Sturgeon Recovery Team for the National Marine Fisheries Service, Silver Spring, Maryland. December 1998.
- National Park Service. The Nationwide Rivers Inventory. Department of the Interior, Washington, D.C. 1993.
- Technical Committee for Fisheries Management of the Connecticut River. 1981. Connecticut River Basin fish passage, flow, and habitat alteration considerations in relation to anadromous fish restoration. Hadley, Massachusetts. October 1981.
- U.S. Fish and Wildlife Service. 1989. Atlantic salmon restoration in New England: Final environmental impact statement 1989-2021. Department of the Interior, Newton Corner, Massachusetts. May 1989.
- U.S. Fish and Wildlife Service. 1995. Silvio O. Conte National Fish and Wildlife Refuge final action plan and environmental impact statement. Department of the Interior, Turners Falls, Massachusetts. October 1995.
- U.S. Fish and Wildlife Service. Canadian Wildlife Service. 1986. North American

waterfowl management plan. Department of the Interior. Environment Canada.  
May 1986.

## **10.0 MAILING LIST**

The list below is the Commission's official mailing list for the Bear Swamp Project (FERC No. 2669). If you want to receive future mailings for the Bear Swamp Project and are not included in the list below, please send your request by email to [efiling@ferc.gov](mailto:efiling@ferc.gov) or by mail to: Kimberly D. Bose, Secretary, Federal Energy Regulatory Commission, 888 First Street, N.E., Room 1A, Washington, DC 20426. All written and emailed requests to be added to the mailing list must clearly identify the following on the first page: Bear Swamp Project No. 2669-085. You may use the same method if requesting removal from the mailing list below.

Register online at <http://www.ferc.gov/esubscribenow.htm> to be notified via email of new filings and issuances related to this or other pending projects. For assistance, please contact FERC Online Support at [FERCOnlineSupport@ferc.gov](mailto:FERCOnlineSupport@ferc.gov) or toll free at 1-866-208-3676, or for TTY, (202) 502-8659.

### **Official Mailing List for the Bear Swamp Project**

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<p>Paul Jahnige Director Department of Conservation and Recreation 136 Damon Rd. Northhampton, MA 01060</p>	<p>Massachusetts Department of Energy Resources Hydro Section 100 Cambridge St. Suite 1020 Boston, MA 02114</p>
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Moxie Outdoor Adventures 1609 US Route 201 The Forks, ME 04985	Secretary of the Commonwealth Massachusetts Historical Commission 220 Morrissey Blvd Boston, MA 02125-3314

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<p>Mr. Tom Christopher New England FLOW 252 Fort Pond Inn Road Lancaster, MA 01523</p>	<p>Hon. Paul W Mark Massachusetts House of Representatives PO Box 114 Dalton, MA 01227</p>
<p>Mr. John Bullard Regional Administrator NOAA Fisheries Service Greater Atlantic Regional Fisheries Office 55 Great Republic Drive Gloucester, MA 01930-2276</p>	<p>Ms. Kathy Reynolds Town Clerk Town of Charlemont Town Hall 157 Main Street Charlemont, MA 01339</p>
<p>Mr. Michael Walsh Director Emergency Management Town of Charlemont PO Box 325 Charlemont, MA 01339</p>	<p>Town Clerk Town of Florida 379 Mohawk Trail Drury, MA 01343</p>
<p>Ms. Jennifer Morse Town Clerk Town of Rowe 321 Zoar Road Rowe, MA 01367</p>	<p>Mr. Wallace A Miller Acting President Stockbridge Munsee Community, Wisconsin N8476 Mo He Con Nuck Road Bowler, WI 54416</p>
<p>Mr. Matthew Cole TransCanada Hydro 3A School Street PO Box 9 Monroe Bridge, MA 01350</p>	<p>Ms. Ann Birch Regulatory Analyst TransCanada Pipelines Ltd 450 1st St SW Calgary, Alberta T2P 5H1 CANADA</p>

<p>The Berkshire Visitors Bureau 66 Allen Street Pittsfield, MA 01201</p>	<p>Department of Geosciences The Massachusetts Geological Survey, University of Massachusetts 269 Morrill Science Center 611 North Pleasant Street Amherst, MA 01003-9297</p>
<p>Office of the Solicitor US Department of the Interior 1849 C Street Northwest MS 6557 Washington, DC 20240</p>	<p>Mr. Andrew Tittler US Department of the Interior 1 Gateway Center Suite 612 Newton, MA 02458-2881</p>
<p>Mr. Andrew L Raddant Off of Envir Policy &amp; Comp US Department of the Interior Northeast Region 15 State Street Suite 400 Boston, MA 02109</p>	<p>Mr. Kevin Parsons Deerfield River Watershed Chapter Trout Unlimited PO Box 133 Shelburne Falls, MA 01370</p>
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<p>Greenfield Field Office US Department of Agriculture Natural Resources Cons Service 55 Federal Street Greenfield, MA 01301</p>	<p>Pittsfield Field Office US Department of Agriculture Natural Resources Cons Service 78 Center Street Suite 206 Pittsfield, MA 01201</p>
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Mr. Bruce Lessels Zoar Outdoor PO Box 245 Charlemont, MA 01339	Mr. Karl Meyer 85 School Street No 3 Greenfield, MA 01301
Mr. Kevin D. Parsons PO Box 133 Shelburne Falls, MA 01370	Hon. Elizabeth Warren US Senate 317 Hart Senate Office Building Washington, DC 20510
Jon Elmer Director of Operations Brookfield Renewable Energy Group 800 Starbuck Avenue Suite 802 Watertown, NY 13601	Secretary's Office Vermont Agency of Natural Resources 1 National Life Drive Davis 2 Montpelier, VT 05620-3901

**APPENDIX A**  
**STUDY PLAN CRITERIA**  
**18 CFR Section 5.9(b)**

Any information or study request must contain the following:

1. Describe the goals and objectives of each study proposal and the information to be obtained;
2. If applicable, explain the relevant resource management goals of the agencies or Indian tribes with jurisdiction over the resource to be studied;
3. If the requester is not a resource agency, explain any relevant public interest considerations in regard to the proposed study;
4. Describe existing information concerning the subject of the study proposal, and the need for additional information;
5. Explain any nexus between project operations and effects (direct, indirect, and/or cumulative) on the resource to be studied, and how the study results would inform the development of license requirements;
6. Explain how any proposed study methodology (including any preferred data collection and analysis techniques, or objectively quantified information, and a schedule including appropriate field season(s) and the duration) is consistent with generally accepted practice in the scientific community or, as appropriate, considers relevant tribal values and knowledge; and
7. Describe considerations of level of effort and cost, as applicable, and why proposed alternative studies would not be sufficient to meet the stated information needs.



## APPENDIX B

### BEAR SWAMP PROJECT PROCESS PLAN AND SCHEDULE

Shaded milestones are unnecessary if there are no study disputes. If the due date falls on a weekend or holiday, the due date is the following business day. Early filings or issuances will not result in changes to these deadlines.

<b>Responsible Party</b>	<b>Pre-Filing Milestone</b>	<b>Date</b>	<b>FERC Regulation</b>
Bear Swamp Power	Issue Public Notice for NOI/PAD	12/19/14	5.3(d)(2)
Bear Swamp Power	File NOI/PAD with FERC	12/19/14	5.5, 5.6
FERC	Tribal Meetings	1/18/15	5.7
FERC	Issue Notice of Commencement of Proceeding; Issue Scoping Document 1	2/17/15	5.8
FERC	Scoping Meetings and Project Site Visit	3/18/15 3/19/15	5.8(b)(viii)
All stakeholders	PAD/SD1 Comments and Study Requests Due	4/18/15	5.9
FERC	Issue Scoping Document 2 (if necessary)	6/2/15	5.1
Bear Swamp Power	File Proposed Study Plan (PSP)	6/2/15	5.11(a)
All stakeholders	Proposed Study Plan Meeting	7/2/15	5.11(e)
All stakeholders	Proposed Study Plan Comments Due	8/31/15	5.12
Bear Swamp Power	File Revised Study Plan	9/30/15	5.13(a)
All stakeholders	Revised Study Plan Comments Due	10/15/15	5.13(b)
FERC	Director's Study Plan Determination	10/30/15	5.13(c)

<b>Responsible Party</b>	<b>Pre-Filing Milestone</b>	<b>Date</b>	<b>FERC Regulation</b>
Mandatory Conditioning Agencies	Any Study Disputes Due	11/19/15	5.14(a)
Dispute Panel	Third Dispute Panel Member Selected	December 2015	5.14(d)
Dispute Panel	Dispute Resolution Panel Convenes	12/9/15	5.14(d)(3)
Bear Swamp Power	Applicant Comments on Study Disputes Due	12/14/15	5.14(j)
Dispute Panel	Dispute Resolution Panel Technical Conference	December 2015	5.14(j)
Dispute Panel	Dispute Resolution Panel Findings Issued	1/8/16	5.14(k)
FERC	Director's Study Dispute Determination	1/28/16	5.14(l)
Bear Swamp Power	First Study Season	2015-2016	5.15(a)
Bear Swamp Power	Initial Study Report	10/29/16	5.15(c)(1)
All stakeholders	Initial Study Report Meeting	11/13/16	5.15(c)(2)
Bear Swamp Power	Initial Study Report Meeting Summary	11/28/16	5.15(c)(3)
All stakeholders	Any Disputes/Requests to Amend Study Plan Due	12/28/16	5.15(c)(4)
All stakeholders	Responses to Disputes/Amendment Requests Due	1/27/17	5.15(c)(5)
FERC	Director's Determination on Disputes/Amendments	2/26/17	5.15(c)(6)
Bear Swamp Power	Second Study Season	2016-2017	5.15(a)
Bear Swamp Power	Updated Study Report due	10/29/17	5.15(f)
All stakeholders	Updated Study Report Meeting	11/13/17	5.15(f)

<b>Responsible Party</b>	<b>Pre-Filing Milestone</b>	<b>Date</b>	<b>FERC Regulation</b>
Bear Swamp Power	Updated Study Report Meeting Summary	11/28/17	5.15(f)
All stakeholders	Any Disputes/Requests to Amend Study Plan Due	12/28/17	5.15(f)
All stakeholders	Responses to Disputes/Amendment Requests Due	1/27/18	5.15(f)
FERC	Director's Determination on Disputes/Amendments	2/26/18	5.15(f)
Bear Swamp Power	File Preliminary Licensing Proposal	2/1/18	5.16(a)
All stakeholders	Preliminary Licensing Proposal Comments Due	5/1/18	5.16(e)
Bear Swamp Power	File Final License Application	3/31/18	5.17
Bear Swamp Power	Issue Public Notice of License Application Filing	4/14/18	5.17(d)(2)