

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Bear Swamp Power Company, LLC)

Project No. 2669-085

MOTION TO INTERVENE

DEERFIELD RIVER WATERSHED CHAPTER
OF
TROUT UNLIMITED

Pursuant to Rules 210 and 214 of the Rules of Practice and Procedure of the Federal Energy Regulatory Commission (FERC or the Commission), 18 CFR §§ 385.210 and 385.214, and in response to the Commission's January 30, 2019 Notice of Application Accepted for Filing, Soliciting Motions to Intervene and Protests, Ready for Environmental Analysis, and Soliciting Comments, Recommendations, Terms and Conditions, and Prescriptions (Notice of Application Accepted), Deerfield River Watershed Chapter of Trout Unlimited (DRWTU) hereby moves to intervene in the above-captioned docket.

COMMUNICATIONS AND CORRESPONDENCE

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DESCRIPTION OF THE BEAR SWAMP PROJECT

The Notice of Application Accepted describes the Bear Swamp Project as follows:

The existing Bear Swamp Project consists of a pumped storage development, the Bear Swamp Pumped Storage Development, and a conventional hydropower development, the Fife Brook Development, with a combined authorized capacity of 676 megawatts (MW). The project generates an average of 483,863 megawatt-hours (MWh) annually and uses an average of 618,293 MWh annually to operate the pumped storage development.

Bear Swamp Pumped Storage Development

The existing Bear Swamp Pumped Storage Development consists of: (1) a 118-acre upper reservoir with a gross storage capacity of 8,300 acre-feet at the normal full water surface elevation of approximately 1,600 feet National Geodetic Vertical Datum of 1929 (NGVD), which is contained by existing topography and four dikes: (a) an approximately 1,300-foot-long, 155-foot-high curved, earth and rock-fill dike (North Dike); (b) an approximately 350-foot-long, 23-foot-high earth and rock-fill dike extending from the eastside of the North Dike (North Dike Extension); (c) an approximately 2,880-foot-long, 140-foot-high earth and rock-fill dike (South Dike); and (d) an approximately 750-foot-long, 50-foot-high earth and rock-fill dike (East Dike); (2) a 420-foot-long emergency spillway excavated into bedrock to the east of the North Dike Extension; (3) an 88-foot-long, 1.5- to 4-foot-wide, 4-foot-high submerged weir with three 5-foot-wide, 3-foot-high concrete stoplog gates; (4) a 40-foot-diameter concrete inlet/outlet structure located at the bottom of the upper reservoir to the west of the North Dike; (5) an approximately 1,430.5-foot-long tunnel system that conveys water from the upper reservoir to two 11-foot-diameter, steel-lined penstock sections; (6) a 227-foot-long, 79-foot-wide, 182-foot-high underground powerhouse containing two reversible Francis pump turbine-generator units with a total authorized capacity of 666 MW; (7) a lower reservoir inlet/outlet structure with four 15-foot-wide, 20-foot-high bays, each equipped with 16-foot-wide, 20.6-foot-high steel slide gates; (8) four 15-foot-wide, 26.7-foot-tall steel trashracks with 6-inch bar spacing; (9) two 13.8-kilovolt (kV) pump motor-generator lead electrical lines, one approximately 890 feet long (east lead), and one approximately 900 feet long (west lead); (10) two 13.8/230-kV step-up transformers; (11) two 230-kV above-ground transmission lines, one approximately 4,075 feet long (south line) and one approximately 3,960 feet long (north line), which terminate at a non-project switchyard owned by National Grid; and (12) appurtenant facilities.

Fife Brook Development

The existing Fife Brook Development consists of: (1) an 890-foot-long, 130-foot-high earthen rock-fill dam; (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, which also serves as the lower reservoir for the Bear Swamp Pumped Storage Development; (3) two 36-foot-wide, 40-foot-high steel Tainter spillway gates that are integral with the dam; (4) a concrete intake structure that is integral with the dam and includes an 11.2-foot-wide, 24-foot-tall trashrack with 3-inch bar spacing and a 15-foot-wide, 18-foot-high headgate; (5) a 10-foot-diameter, 200-foot-long steel penstock; (6) an approximately 79.25-foot-long, 44-foot-wide, 94-foot-tall concrete powerhouse containing a 10-MW Francis turbine-generator unit; (7) a 21-foot-long steel-lined draft tube; (8) an approximately 325-foot-long, 30-inch-diameter minimum flow release pipe that is gated at its intake and bifurcates into an approximately 55-foot-long, 20-inch-diameter pipe and an approximately 55-foot-long, 24-inch-diameter pipe; (9) a partially buried (860-foot-long section) and partially above-ground (7,060-foot-long section) 13.8-kV transmission line that connects the turbine-generator unit to the regional grid at a non-project substation owned by Great River Hydro, LLC; and (10) appurtenant facilities.

The Bear Swamp Pumped Storage Development uses a storage capacity of 4,600 acre-feet to produce approximately 3,028 MWh of generation over approximately 5.3 hours. The Bear Swamp Pumped Storage Development normally generates and pumps back some or all of the useable storage capacity over a 24-hour period.

The Fife Brook impoundment is the lower reservoir of the Bear Swamp Pumped Storage Development and has an allowable drawdown of 40 feet to provide a useable storage capacity of 4,600 acre-feet to the upper reservoir of the Bear Swamp Pumped Storage Development for daily peaking operations. Releases from Fife Brook dam generally match the inflow from the Station No. 5 Development of Great River Hydro LLC's Deerfield River Project (FERC No. 2323), which discharges directly into the Fife Brook impoundment.

The existing license requires Bear Swamp to release a continuous minimum flow of 125 cubic feet per second (cfs) from the Fife Brook dam. The existing license also requires Bear Swamp to provide 106 scheduled annual releases of 700 cfs for whitewater recreation downstream of the Fife Brook dam from April 1 through October 31. Bear Swamp proposes to continue the current licensed mode of operation, including the minimum flow and whitewater recreation releases. Bear

Swamp proposes to increase the volume of the whitewater flow releases from 700 cfs to 800 cfs.

SUMMARY OF BSPC LICENSING PROPOSAL

The Notice of Application Accepted summarizes BSPC licensing proposal as follows:

Bear Swamp proposes to continue to operate and maintain the existing licensed project recreation facilities. Bear Swamp also proposes several new measures to enhance recreational resources: (1) improve the overflow parking area at the Fife Brook Fishing and Boating Access Area; (2) construct a new portage trail that begins downstream from the Showtime whitewater feature and extends upstream to the existing vehicle turnaround at the Dunbar Brook Picnic Area; (3) provide additional seasonal restroom facilities at the Zoar Picnic Area; (4) install a handrail on the stairs at the Fife Brook Fishing and Boating Access Area; (5) construct a stall-type changing facility at the Zoar Picnic Area; and (6) install additional signage to educate recreationists on safety and the Deerfield River flow regime. Finally, Bear Swamp proposes to continue to include 201 acres of river corridor lands downstream from the Fife Brook Development in the project boundary for the protection of wildlife and riverine habitat.

DRWTU'S PARTICIPATION IS IN THE PUBLIC INTEREST

DRWTU satisfies the requirements for intervention set forth in 18 CFR § 385.214(b)(2)(iii).

DRWTU Missions and Goals

DRWTU is an unincorporated association and one of over 420 chapters of Trout Unlimited, an organization of approximately 120,000 members. DRWTU is committed to advancing the mission and goals of Trout Unlimited in and around the watershed of the Deerfield River in the Commonwealth of Massachusetts. These values and goals include:

- Using the best science to drive conservation priorities;
- Promoting and maintaining a strong legal and regulatory framework to protect water resources, wild fish and fishing opportunities;
- Connecting with passionate anglers who want to give back to the resource they value so much; and
- Engaging TU members and the public in conservation by training, educating and building a strong community to advocate for cold water resources.

Commitment to these principles generally and as applied to the Deerfield Watershed earned DRWTU the prestigious Gold Trout award for 2018, an honor bestowed to the Trout Unlimited Chapter that has “taken innovative and thoughtful approaches to build and expand community and advance TU’s conservation mission.”

DRWTU Participation in Licensing Proceedings

DRWTU has actively participated in this re-licensing proceeding by attending meetings and commenting on proposed, draft and final study plans and studies. In the fall of 2017, at its own expense (and with the support of generous contributors of time, talent and money), DRWTU conducted studies to identify and document trout spawning beds (redds) in a 7.5 mile stretch of the Deerfield River below the Bear Swamp Project’s Fife Brook dam. This first of its kind study in Massachusetts provided critical information to establish conclusively wild trout’s robust attempt to spawn in the Deerfield River and the way BSPC’s hydropeaking severely thwarts spawning and generation of wild trout. The 2017 study results were confirmed in the fall of 2018. De-watered redds were found in the same locations as before, and in one case, around Beaver Island, a new cluster of 12 de-watered redds was found.

DRWTU’s participation has been and continues to be advocacy for the public interest, including (i) developing scientific bases for analysis of and decision making regarding re-licensing of the Bear Swamp Project, (ii) providing and evaluating information for safe and healthful river uses and activities, and (iii) creating and maintaining adequate public sanitary facilities to support the recreation population enjoying the Deerfield River within and without the area of the Bear Swamp Project boundaries.

DRWTU’s advocacy in the public interest in the course of these proceedings can be found in its then-President Kevin Parson’s correspondence and submissions to the Commission of

December 20, 2016; January 28, 2018 (submitting Trout Spawning Study Interim Report); February 5, 2018; and May 25, 2018 (submitting Trout Spawning Study Final Report). DRWTU incorporates these communications by reference herein.

DRWTU's Enjoyment of Deerfield River Aesthetics

DRWTU's members individually and collectively enjoy shoreline, wading and floating angling opportunities along the Deerfield River, including in the immediate area of the project boundaries and in the 17-mile reach between the project and the headwater of Great River Hydro's development No. 4. downstream of the BSPC Project. The riverine experience includes the aesthetic values of the natural and project-affected conditions of the river.

DRWTU Contributes to the Deerfield River Area Economy

DRWTU's advocates for the interests of the public and in health and safety of persons enjoying and seeking to enhance the recreational opportunities and quality of life the Deerfield River offers and provides to the local and regional communities, where DRWTU members predominantly reside.

DRWTU's advocates for public safety and persons exposed to risk of sudden changes of river elevation in the absence of adequate warning systems and cautionary ramping up and down of Fife Brook Dam discharges. Health and safety concerns extend to all users of the river resource enjoying and seeking to enhance the recreational opportunities and quality of life the Deerfield River offers and provides to the local and regional communities, where DRWTU members predominantly reside.

Further, members patronize the many establishments supporting river recreation, including the businesses supporting fly fishing for trout and other freshwater fish species. In the past five years, two new fly fishing shops (Deerfield Fly Shop and Overwatch Outpost) have expanded the

economic opportunities for angling equipment and float fishing. More than a dozen full-time fly fishing guides currently serve in the Deerfield River watershed. DRWTU leadership has been meeting with municipal and regional Franklin County representatives and state officials to highlight the economic opportunities associated with Deerfield River fly fishing. Public and private economic development interests are recognizing that fly fishing, and sustainable wild trout populations, are especially attractive to anglers and should be part of economic development planning.

Franklin County is Massachusetts' most rural county. Less than 102 people per square mile occupy the County's 724 square mile area compared to approximately 835 persons per square mile in the rest of the Commonwealth. With an overall poverty level greater than 12 percent, some Franklin County municipalities rank among the poorest in the Commonwealth. Recognizing the importance of the tourist economy to the economic health of Franklin County, State Senator Adam Hinds, representing Franklin County, has introduced and pressed for passage of legislation creating an Office of Outdoor Recreation within the Executive Office of Energy and Environmental Affairs to promote Franklin County's recreational opportunities from around the northeast and beyond. Nurturing and enhancing the Deerfield River's wild trout fishery will support tourist attraction and enjoyment of trout angling. Minor BSPC operational adjustments and effective communication of scheduled and actual daily Fife Brook Dam releases can be achieved at low cost, while simultaneously having a potentially significant impact on the local tourist economy.

DRWTU Advances Public Legislative and Policy Goals

DRWTU actively supports and promotes the critical conservation values of the United States of America, the Commonwealth of Massachusetts and their laws requiring thorough and

thoughtful evaluation of all federal actions affecting the quality of the human environment.

EXISTING STUDIES ARE INADEQUATE
TO ASSESS ENVIRONMENTAL IMPACT OF
THE PROJECT AS PROPOSED

DRWTU submits that the scope and extent of the studies conducted to date do not adequately assess the environmental impacts of the Bear Swamp Project. BSPC's field studies and desktop analyses are insufficient to inform Commission decision making of direct and indirect environmental impacts of the project generally, and with respect to the Deerfield River and its spawning species specifically. BSPC impacts on life cycles and populations of brown, brook and rainbow trout have not been evaluated consistently and sufficiently to reflect the multiple modes of project operations, where flows can rapidly vacillate from 125 cfs to over 1500 cfs. BSPC has not afforded the Commission the opportunity to make informed decisions about necessary and appropriate alternatives that may most efficiently and effectively mitigate the impacts from this major licensing proceeding.

Instead of presenting what operational conditions may mitigate adverse impacts, BSPC proposes to proceed in a "business as usual" mode as though no new, alternative or creative steps are worthy of serious consideration to protect fish and wildlife (and serve other public interest values). BSPC complains that it cannot accommodate all competing interests seeking safe, efficient and economically sound operation of the Bear Swamp Project. Playing one set of interests off another is hardly novel strategy. BSPC's complaints, however, are founded on its resort to the convenience of deferring to a crabbed and inaccurate interpretation of the 1994 multi-party settlement agreement set forth in the Commission's Order Approving Offer of Settlement and New License for the Deerfield River Project, Docket No: 2323-012, 79 FERC ¶ 61006 (1997).

DRWTU maintains that environmental study to date reflects an assumption that the Bear Swamp Project must maintain discharge flow at 125 cfs except when hydropeaking and generating from the 10 MW Fife Brook development. Required analysis should include evaluation of the impacts of higher cfs flows during the trout spawning and fish egg incubation period from approximately November 1 to April 15 annually (spawning and incubation period).

Based on studies DRWTU organized, paid for and performed, minimum flows during this period should be maintained at 350 cfs to promote spawning, enhance conditions for survival of incubating eggs and protect emerging fry. (BSPC's desktop analysis, arguably at wrong locations, indicates a 328 cfs flow would be sufficient). Absent increased flow during the spawning and incubation period, the now irrefutably documented trout spawning beds—redds—at many locations downstream of the Fife Brook Dam will continue to be dewatered at flows as low as 125 cfs. Dewatering exposes eggs to freezing temperatures that terminate incubation and upset the scope and extent of wild trout fishery reproduction in the main stem of the Deerfield River. With increase in winter flows and other modest adjustment to BSPC operations, fish biologists and DRWTU agree, the Upper Deerfield could become a robust wild trout fishery.

DRWTU, along with federal and state agencies, has called for an Instream Flow Incremental Methodology (IFIM) study to evaluate the impacts of hydropeaking and minimum flow regimes on the redds in the approximately 17 mile stretch of river between the Fife Brook Dam and the inlet to the entrance to the pond serving Deerfield Project Number 4. FERC Staff rejected this additional study request, while at the same time relying upon the information generated by DRWTU's Interim and Final Studies identifying redd locations and numbers.

The studies FERC Staff required of BSPC are inadequate to demonstrate the extent of the impact of 125 cfs minimum flow and hydropeaking (ranging to approximately 1700 cfs) on the

reproduction cycles within wild trout habitat downstream of the Fife Brook Dam. In net effect, the BSPC studies did establish that increased release flows resulted in greater water depth and velocity at three transects in the affected area, but a study was hardly necessary to prove the obvious. The fundamental problem with the studies FERC Staff required and BSPC performed is that BSPC studied transects in portions of the river other than where DRWTU studies showed redds were in fact located. More simply stated, FERC Staff accepted and required, and BSPC performed, studies in the wrong places downstream of the Fife Brook Dam.

Studies performed have not accurately maintained targeted flows, a problem blamed on the configuration of the Tainter gates forming part of the Fife Brook Dam. Studies performed to date have included no information about or evaluation of improvements to the Tainter gates that would allow for accurately generating target flows for study and operational purposes. BSPC made in \$30 plus million in 2017 off a public resource. BSPC can and should afford to make modest infrastructure improvements to benefit this public resource.

Compliance with the National Environmental Policy Act, the Federal Power Act and FERC regulations require generation of a record that will allow for informed decision making by the Commission. Without the information that would be generated by an IFIM, the Commission cannot make a reasoned and informed decision on the merits of relicensing the Bear Swamp Project. The federal and state agencies' comments have highlighted this shortcoming in the Integrated Licensing Process, and one expects that no Water Quality Certification can be issued without requiring an IFIM to assess Fife Brook Dam release impacts during the November 1 to April 15 spawning and incubation periods.

The Fife Brook development has the capability of increasing flow to 350 cfs during the trout spawning and incubation periods. Adequate water is maintained behind the dam and in the

Upper Reservoir of the Bear Swamp Pump Storage development. While BSPC undoubtedly desires to continue to operate at flows maximizing profitability, its preferred business model does not supersede responsibility to study and address the indisputable fact that its operations are adversely impacting the river's wild trout fishery, as well as other flora and fauna.

In addition to urging increasing minimum flows to 350 cfs from November 1 – April 15, DRWTU joins other interested parties in the following release enhancements:

- a. Sufficient ramping up and ramping down for all releases. DRWTU submits at least a 1 hour ramp up and ramp down is required, particularly during post emergence—being March 15 – June 30, a time period in which newly emerged fry are most vulnerable.
- b. All mandated recreation releases occur no later than 10 am.
- c. Maximum recreation flow releases to be maintained at 700 cfs

NECESSARY SAFETY IMPROVEMENTS

There are multiple steps to be taken that will improve safety and ameliorate risks presented by the Bear Swamp Project's releases from the Fife Brook Dam.

Most important is informing the public of the scheduled releases from the dam and alerting the public using the river at times when releases occur. Abandonment of the former Waterline notice system has compounded safety issues, since Waterline, while imperfect, nonetheless allowed river users to attempt to determine river accessibility for angling and other recreational opportunities. In previous communications to FERC, DRWTU detailed how safety concerns also contribute to lost economic opportunities. There are many instances of anglers checking Waterline, determining predicted low flows were scheduled, only to find that, upon arrival at the river, an unscheduled and unannounced was occurring or starting without warning, resulting in unsafe conditions, stranding anglers on the wrong side of the river or anglers having to walk

away disgruntled because it was impossible to figure out when the river would become fishable again. FEERC needs to require BSPC to work directly with Great River Hydro, operator of the Deerfield 5 facility, so they together can responsibly alert the public regarding projected and actual flows thereby providing an accurate, timely, and reliable system of notice to the public to avoid the inevitable result in which a river user is either seriously injured or killed as a result of being swept away by an unexpected and unscheduled release. DRWTU believes it is just a matter of time this will happen.

The current situation is unacceptable and dangerous. Responsible management of the river resource for power generation requires coordination between BSPC and Great River. FERC should use its authority to require these separate licensees to operate within the spirit of the Deerfield River Settlement Agreement (DRSA), bearing in mind that the DRSA was negotiated when one entity controlled both Deerfield 5 and the Bear Swamp Project. In furtherance of this position, DRWTU believes the Bear Swamp license must be linked to the Great River license with either a termination of the license at that time, or a provision that the Bear Swamp license would automatically be re-opened to enable a top to bottom approach for the entire Deerfield River system to evaluate the ecological and safety needs.

Even coordination will not address the full extent of risks presented by the unrestricted generation decision making at the Bear Swamp Project. Existing warning devices, strobe lights and horn, are simply ineffective when it comes to alerting those using the river at even relatively short distances from the Fife Brook Dam. BSSPC needs to perform the following tasks:

- Install equipment to provide cell phone coverage from Fife Brook Dam to Deerfield River confluence with Cold River.

- Install impending release warning system using light installations at Zoar Road Picnic Area, Christmas Tree Pool, Bridge to Nowhere, Hoosac Tunnel and Fife Brook Dam parking area.
- Install and maintain handicap appropriate hand rails on all stairways leading to the Deerfield River.

BSPC's own studies reveal that the existing audible alarm system is inaudible a relatively short distance from the dam, and current practices of initially ramping up discharge is inconsistent and provides insufficient time for river users to egress the river at appropriate and convenient locations. Re-licensing must address this on-going safety problem. It is, in fact, remarkable that no serious injuries or deaths have occurred as a result of the hydropeaking operations.

FLOW GAUGE INSTALLATION IMMEDIATELY DOWNSTREAM OF FIFE BROOK DAM

Given that BSPC has been unable to accurately predict and maintain flows using the USGS flow meter in Charlemont, FERC should require BSPC to install and maintain a flow gauge immediately downstream of the Fife Brook Dam to support monitoring of releases to protect spawning activity from November 1 through April 15, as well as to support recreational releases. Preferably, flow gauge should provide real time data to control room operators.

PUBLIC ACCESS TO UPPER AND LOWER RESERVOIRS

BSPC has not articulated in any detail why it serves the public interest to exclude the public from the Lower and Upper Reservoirs. Public access for passive recreation, fishing and non-motorized boating do not appear to be inconsistent with Bear Swamp Project purposes.

SANITARY FACILITIES AT SHUNPIKE REST AREA

DRWTU joins in with the Deerfield River Watershed Association in seeking annual installation and maintenance of seasonal sanitary facilities—at least 3 portable toilets—at the Shunpike Rest Area in Charlemont, Massachusetts. On the one hand, Shunpike is outside the boundaries of the Bear Swamp Project. On the other hand, the extensive use of the area relates directly to the recreational opportunities created by the Bear Swamp Project’s operations. For the protection of the river resource and the health and safety of the public, it is reasonable to require as a re-licensing condition provision of the requested sanitation facilities.

STEWARDSHIP OF FORESTRY IN ZOAR PARK PICNIC AREA

Shade trees in the parking and picnic facilities of the Zoar Picnic area likely will age out during the course of a Bear Swamp Project license. FERC can require BSPC to prepare a succession plan and serve as steward to maintain the picnic area forestry and avoid the sort of clear cutting that can result from inattention to silviculture maintenance.

Respectfully submitted,
Deerfield River Watershed Chapter of Trout Unlimited
By its Attorney

Dated: March 29, 2019



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