



United States Department of the Interior

NATIONAL PARK SERVICE
NORTHEAST REGION
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IN REPLY REFER TO:

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Filed Electronically

Kimberly Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Comments and Study Requests in Response to the Notice of Intent to File License Application, Filing of Pre-Application Document (PAD), Commencement of Pre-Filing Process and Scoping and Request for Comments on the PAD and Scoping Document. Turners Falls Hydroelectric Project (FERC 1889-081) and Northfield Mountain Pumped Storage Project (FERC 2485-063), FirstLight Power Resources.

Dear Secretary Bose:

General Comments

The National Park Service files these comments in order to facilitate the relicensing process for both applicants and offers this agency's technical expertise on public recreational access, land conservation and preservation and our understanding of the values placed by the general public on river related resources. Together, the five projects currently up for relicensing directly influence almost 170 miles of New England's longest river and represent five of the nine Connecticut River mainstem dams. The other four dams – the Holyoke Dam (FERC 2004) and the three dams associated with the 15 Mile Falls Hydroelectric Project (FERC 2077) were relicensed relatively recently and Federal Energy Regulatory Commission (FERC) included in each licensing order for those projects a host of comprehensive environmental measures to benefit the public and the shared natural resources associated with the Connecticut River. The FERC has clearly and appropriately recognized the importance of taking a comprehensive look at the current group of Connecticut River relicensings as evidenced by its decision to hold joint site visits, joint Scoping meetings and a Cumulative Effects Meeting as part of the Scoping process; only the third time FERC has done so in a relicensing proceeding.

The U.S. Department of the Interior (DOI) has also recently recognized the importance of the Connecticut River by designating it as the nation's first National Blueway on May 24, 2012. Secretary Salazar noted that "The Connecticut River Watershed is a model for how communities can integrate their land and water stewardship efforts with an emphasis on 'source-to-sea' watershed conservation [as we] seek to fulfill President Obama's vision for healthy and accessible rivers that are the lifeblood of our communities and power our economies." Among the stated goals are to advance a whole river and [utilize] a water-based approach to conservation, outdoor recreation, education and sustainable economic opportunities in the watersheds in which we live, work and play."

The National Blueways System is part of the America's Great Outdoors Initiative which seeks to establish community-driven conservation and recreation for the 21st century. Both the DOI and the Department of Agriculture identified the Connecticut River as an important priority under America's Great Outdoors. The Connecticut River and its 7.2 million-acre watershed includes National Forests, National Historic Sites, National Wildlife Refuges, National Scenic Byways, Partnership Wild and Scenic Rivers, National Recreation Trails, National Natural Landmarks, Important Bird Areas, and segments of the New England National Scenic Trail; the Appalachian National Scenic Trail; the East Coast Greenway Trail; the Northern Forest Canoe Trail; Revolutionary Route National Historic Trail, a Ramsar wetland site, and an American Heritage River, and approximately two million acres of public and private conservation land.

The relicensing of the five projects in the subject proceedings offer a once in a generational opportunity to move forward in achieving the goals of the National Blueways System and the Administration's America's Great Outdoors initiative. Together, the projects currently undergoing relicensing impound over 90 miles of formerly free-flowing river and affect river resources from roughly 45 miles above the Wilder Dam downriver almost all the way to the upper reaches of the Holyoke Dam impoundment. The river offers myriad paddling opportunities for canoeing, kayaking and rowing, including multiple-day trips. It flows through many population centers, both urban and rural and is easily accessible to millions of people. However, serious obstacles to multi-day paddling trips: Several of the dams offer either no portage, as at Turners Falls and long and dangerous portages around other dams such as at Bellows Falls. Public access points and campsites (both river and shore access) are limited and inadequate to accommodate a reasonable amount of public recreational use.

Land Protection

Although the PAD identifies licensee owned lands within the project boundary, it does not so identify licensee owned lands adjacent to the project boundary. In some cases, these adjacent lands could be appropriate for providing additional recreational access to the river, new trails or connections to existing trails. Permanent protection of these lands would also confer aesthetic benefits to those using the river by providing views from the river of undeveloped lands. Regarding lands within the project boundary, those not integral to project operations should be permanently preserved and in many cases consist of prime agricultural lands. Even those lands currently under Agricultural Preservation Restrictions are only temporarily protected. Permanent protection ensures the long term viability of these important resources. Numerous non-governmental organizations as well as the Commonwealth of Massachusetts through its State Comprehensive Outdoor Recreation Plan (SCORP) have identified valuable and important land protection locations and opportunities along the Connecticut River. This information should be identified and used collectively to determine appropriate opportunities for land protection in the context of these relicensing proceedings.

Comments and Issues Specific to Individual Projects

Identification of issues is set out below followed by specific study requests and justifications.

Obstacles to Multi-Day Paddling

The licensee's PAD cited the current Massachusetts SCORP (2006-2011), which identified the need for "water-based" recreational activities. Multiple-day paddling trips clearly meet such needs, but are severely limited by the operations of the Turners Falls hydropower dam. Although campsites and boat ramps do exist, the dam and existing portage discourages paddlers seeking to navigate the length of the Connecticut River. Just as fish are challenged by multiple obstacles to their passage, paddlers are similarly discouraged and either abandon their efforts to migrate

downriver or more likely do not even consider such a through trip. The licensee's PAD does not propose and measures to mitigate limits to or enhance the opportunities for multiple-day paddling trips.

Turners Falls

Impacts to Recreational Paddling at the Turners Falls Bypass Reach

Current access to the bypass reach is extremely challenging and dangerous. Fences have been installed; however, intrepid kayakers can access river left, but river right, which is more desirable is fenced off, has steep access with no stairs and little parking. The take out at the Deerfield River confluence is also steep, frequently muddy, and regularly unusable. Aesthetic issues are also present and scheduled spring, summer and/or fall flows (for paddling or otherwise), would offer the public an important opportunity to observe the natural river in its pre-dam condition. Current project operations preclude potentially valuable (to the public and commercially for the local community) seasonal paddling opportunities during irregular spillage events. The licensee's PAD does not offer any flow proposals mitigate ongoing project impacts to whitewater recreational use. At moderate and higher spillage flows, boaters who manage to access the bypassed reach surf waves and paddle the 2.7-mile whitewater section which provides numerous Class II and Class III features. The bypassed reach also offers potential for rafting, guided kayaking, canoeing, instruction, and general paddling use which in turn, has the potential to add economic value to the region if the releases were scheduled and predictable. With proximity to the University of Massachusetts, Holyoke and Greenfield Community Colleges, and the Northfield-Mt. Hermon School as well as the millions of people living within a three-hour drive of Turners Falls, there is potential for economic benefits to the surrounding community.

The NPS recognizes that scheduled or regular flows into the bypassed reach impact power generation, fish passage, and other environmental variables and should be examined in the broader context.

The NPS recommends a controlled-flow study of whitewater in the Turners Falls bypass reach. The Turners Falls bypass section of the Connecticut River has the potential to offer quality whitewater paddling opportunities.

Impacts of Water Level Fluctuations on Recreational Access and Opportunities

Numerous citizens and representatives of various agencies and organizations made repeated comments at the Scoping meetings relative to adverse impacts associated with water level fluctuations in the Turners Falls impoundment caused primarily from water withdrawals and returns to Northfield Mountain. Power boaters and paddlers alike reported being unable to access or exit from the river due to water level drops and numerous reports of fish strandings were identified. These were identified every location from small informal access points to Barton Cove, where certain conditions literally prevent the use of the facility. Given the applicant's proposal to utilize additional capacity at Northfield Mountain, these situations will only be exacerbated. Bank erosion was also identified as a significant problem due to constant water

level fluctuations and numerous efforts are ongoing to alleviate problem locations. These impacts cause damage to archaeological resources and result in the loss of arable lands.

In order to assess ongoing impacts from current operations and potential additional impacts from proposed operational changes, the applicant should conduct a thorough evaluation of the impacts of water level fluctuations on all recreational access points, both existing and new access locations identified through the studies to be conducted in association with the current proceeding.

Preservation of Cultural, Historical, and Educational Resources

The Turners Falls impoundment covers the scene of a significant event in American history: In May 1676, colonial forces under the command of Capt. William Turner attacked an Indian village across the river from the current town of Turners Falls. Many of the inhabitants were slaughtered, especially women and children. Some of the men escaped. They returned with friends and pursued the retreating English forces, killing Capt. Turner. However, no educational or interpretative signs exist to allow visitors to understand that event. Historical artifacts may still exist at the site, much of which has been submerged beneath the Turners Falls impoundment. Educational opportunities should be coordinated with recreational improvements. A possible option identified during the Scoping meetings is to construct a walkway on the north or river right side at Turners Falls which would include interpretative signage. The walkway would also address the lack of a portage pathway and the difficulty of accessing the bypass on river right.

A study should be undertaken to determine a variety of options for educating the public about the site, and to determine what actions should (or should not) be taken to preserve artifacts.

Records associated with the construction of the Turners Falls dam and the Northfield Mountain Pumped Storage facility (engineering studies, drawings, and photographs taken during construction) are of historical importance and should be preserved. The current relicensing offers an opportunity to collect, catalogue and preserve important historical records held by the licensee related to the design and construction of the hydropower facilities.

A study should determine what historical records remain, make suggestions for their safe storage, and suggest improvements at the projects to highlight the historical significance of the facilities.

Northfield Mountain

Recreational Opportunities at Northfield Mountain

Cross Country Skiing

The original licensee of the Northfield Mountain Pumped Storage project created a locally and regionally significant four season recreational area. It is a locally and regionally valuable cross-country skiing facility during winter months with sufficient snow, and numerous activities such

as hiking and birding occur during spring, summer and fall. However, staff cutbacks have significantly limited recreation use. River based facilities shut down too early in the fall and there are no opportunities for night or twilight skiing, nor is there any snowmaking capability, which would be highly beneficial to local ski teams as well as the general public.

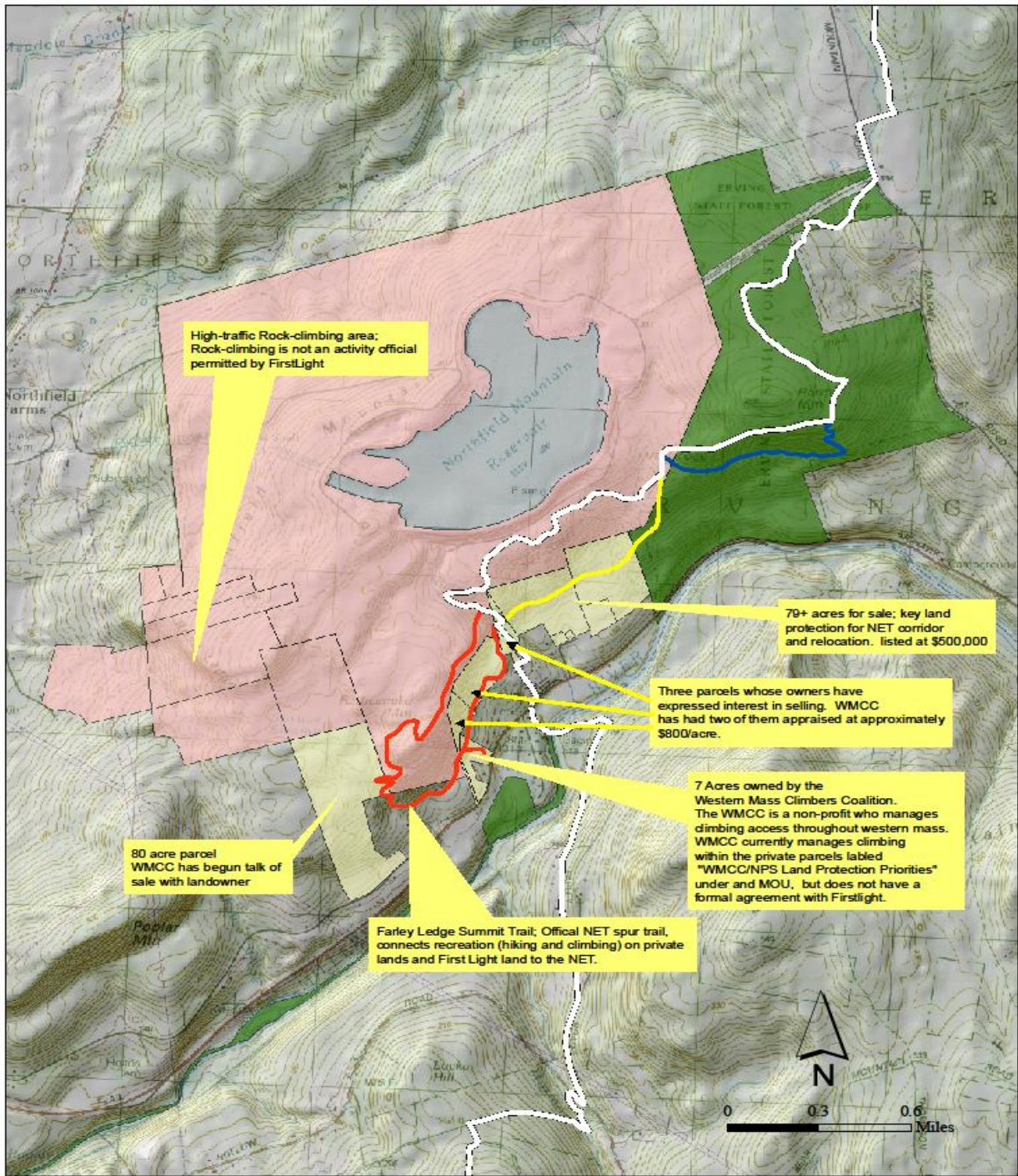
During the Scoping meetings, a parent and manager of the Amherst High School Nordic Ski Team stated that “Northfield Mt. is a treasure. There are beautiful hiking, snowshoeing and cross-country trails and the grooming of the ski trails is excellent. [However,] the mountain needs lights for night skiing and the ability to make snow. Currently, the mountain is closed on Monday and Tuesdays and closes at 4:30 PM. Our team skis after school, arrives at Northfield around 3 PM and can only ski for an hour and half although there is adequate light to ski for longer. Often the mountain is closed when there is snow on upper trails, but not lower trails. Also, Northfield should be available to host high school Nordic ski meets. Currently they are unwilling to do this. Northfield Mt. would be an ideal place to make snow. There is no trouble accessing water and the lower trails are in the shade and would hold snow for a long period of time. A five kilometer loop of man-made snow would be ideal. This would allow for skiing throughout the season and would make Northfield Mt. a truly valuable resource for outdoor recreation in Massachusetts.”

The NPS requests that a study be undertaken identify and recommend improvements and additions that would return Northfield Mountain to its full recreational potential and perhaps provide greater amenities for the future license. One option might be to provide snowmaking for early cross-country skiers before any big winter storms can cover the trails.

Hiking Trails

The Northfield Mountain project area encompasses trails of national significance. The 215-mile long New England Scenic Trail (NET) runs through 39 communities in Massachusetts and Connecticut and received federal designation in 2009. The licensee has acknowledged that a partial relocation of the NET within project boundaries would provide an enhanced recreational experience and improved level of safety for the public. In addition, regionally significant climbing areas nearby would also become more accessible after the relocation of the NET. The Western Massachusetts Climbers Coalition (WMCC) has identified high value climbing locations, several parcels adjacent to the project boundary that are or might be for sale (through fee or easement) and a proposed route to relocate the existing trail. Taken together, these options could enhance the NET for hikers and improve climbing and access opportunities. The map prepared by the WMCC is reproduced below.

An appropriate Study could provide assistance relative to both improved cross country skiing and climbing opportunities, identifying options relative to the licensee buying or so assisting in the acquisition of nearby land and/or easements from willing sellers to preserve the climbing areas and provide the best route for the New England Trail.






Legend

Trails

-  New England National Scenic Trail (NET)
-  Proposed NET Relocation
-  Farley Ledge Summit Trail
-  Hermit Mountain Trail

Property

-  Firstlight Power Resources
-  Erving State Forest
-  NPS/WMCC Land Protection Priorities

Study Requests Pursuant to 18 CFR 5.9(b).

These studies should include an analysis of why members of the public do not use certain resources associated with the Connecticut River in the project vicinity. As heard repeatedly during the scoping meetings, there is a lack of adequate recreational facilities on the Connecticut River in the project areas. These likely results in the cumulative displacement of use to other facilities in the watershed, possibly causing overcrowding at those resources. Although FERC's Form 80 is done every 6 years by the licensee, there is no requirement to do any evaluation other than user identification through on site surveys; therefore, considerable use is missed depending upon numerous factors such as survey dates, weather and conditions. There is also no requirement to survey or reach out to known user groups.

The standard recreational use studies identify current users captured during the study period on specific days; they do not attempt to identify users and more important, user groups/organizations that regularly (or for events) utilize project resources and adjacent lands. In order to develop a complete picture of user needs and goals, the applicant needs to identify local, state and regional user groups (through their mailing/membership lists/web sites info) and reach out to those people through mails and/or online surveys to identify user preferences and concerns. An on-site survey also does not address why certain users do not utilize and area, which may be due to overcrowding or lack of desired facilities. Among the user groups that could be so utilized are the Connecticut River Watershed Council, the Appalachian Mountain Club (AMC), American Rivers, American Whitewater, WMCC and New England FLOW, to name just a few, along with the commercial outfitters and facilities on the river. Any organization that attended the scoping meetings or which provides comments or study requests should be so utilized for this purpose.

Conducting the necessary studies and implementing the measures needed to ensure the public has access to quality outdoor recreational resources are in the public interest. It is widely accepted that outdoor recreation offers significant benefits to the public. Outdoor recreation also has proven economic benefits for communities located near recreational resources.

1. Study of Project Facilities to Support Multiple-day Self-Powered Boating Trips on the Connecticut River.

The NPS requests a study of the quantity, quality, and adequacy of land-based facilities operated by the licensees and associated with self-powered boating on the Connecticut River. This study should examine put-in and take-out facilities especially for canoes, kayaks, rowing shells and other self-powered watercraft; portage routes; campsites; parking and road access; seasons of operation of the facilities to match with actual river use; maintenance; water supplies and other amenities at campsites; and trash and sanitary facilities. The study should include a projection of usage during the proposed 30-year life of the licenses, and the opportunities for the project owners to buy land and/or interests therein from willing sellers in order to increase recreational benefits.

The study should examine the facilities that are necessary specifically for canoe, kayak and rowing shell access to the river. Information from the state SCORP study and from other river

recreational interests suggests that interest in quiet water paddling is rising along with the sales of sea kayaks, rowing shells and canoes. Most of the existing facilities were designed for day use by motorboats with hard-surfaced ramps which may not be particularly suited to canoeists, especially those using wood-and-canvas or fiberglass canoes.

Paddlers attempting source to sea trips report challenging portages and limited opportunities for camping. Once in Massachusetts, campsites become scarce. Most islands are posted as off-limits and paddlers often camp on mudflats or portions of private lands. At the Turners Falls Scoping meetings, a landowner reported finding canoeists on his property in the morning and was kind enough to shuttle them below the Turners Falls dam. Although the licensee maintains two campsites, at Barton Cove and Munn's Ferry, both charge \$22 per night for a tent site and require reservations and deposits. Munn's Ferry; however, lacks potable water and competition for campsites is common. The study should evaluate methods to minimize and/or remedy such situations. From the Turners Falls dam upriver to the Vernon Dam and downriver to the Holyoke dam, there are limited sites for overnight water access camping. According to the Connecticut River Paddler's Trail organization, the ideal frequency of canoe campsites on flatwater stretches is one every five river miles, along with canoe and kayak access in each town. Campsite amenities provided by the licensee should be well signed for visibility from the river and standardized to include adequate canoe landing sites, toilets, potable water, trash disposal, picnic tables, and tent platforms or three-sided shelters.

The Turners Falls Dam has no existing portage pathway. Paddlers arriving at Barton Cove *during working hours* can call for a truck to pick them up, assuming they have a phone and the correct number. Most paddlers report that the licensee is prompt and courteous in providing a shuttle service that drops users off at the mouth of the Deerfield River. That location; however, is often unusable due to water levels and/or muddy conditions and should be improved. Still, a trail is needed in the new license. Two opportunities exist for a portage trail: one on river right which could incorporate educational and interpretive displays and one on river left along the power canal that now serves as a bike trail. Appropriate locations for a take-out and put-in are also critical for safety reasons.

The study should include both water and land-based trails. The Connecticut River Paddler's Trail and the Connecticut River Birding Trail cross project boundaries and their collective interests should be included to ensure a watershed viewpoint, especially as it involves trail networks and associated facilities. Project lands at all the facilities, as well as adjacent lands should be studied for recreational and conservation improvement opportunities. In some cases, certain project lands could be added to existing public facilities (provided adequate resources are available to ensure appropriate long-term management) or placed under permanent conservation restrictions in order to improve conservation and recreation. The study should evaluate the adequacy and maintenance of existing trail systems for the term of the new license to be issued, and determine opportunities for additional hiking trails on project lands, and for linking those trails to existing trails. Such trails in the watershed could cross project boundaries, and adding to them could involve requiring the licensee to purchase additional land or interests therein.

For example, although the NET is referenced, there is no analysis of existing use, trends or user groups. The information developed by the AMC and WMCC should be presented to the

applicant along with an offer to work collaboratively with them to achieve the WMCC's goals regarding moving the trail and land acquisition. Given the scope of these projects, it is not unreasonable to request that the applicant assist in the purchase of fee and/or easements of the identified priority parcels, as well as assist in funding/undertaking trail development.

Project operations have created serious aesthetic issues along the route of the Connecticut River. The dry bypass reach at Turners Falls is an aesthetic sore spot on the river. Even worse, the dams have substituted their industrial appearance for the naturally scenic rapids and falls that graced the Connecticut River. The public has an interest in the scenic values of this major public resource.

Significant additional information relative to the use of the Connecticut River in the project areas exists, yet has not been included or evaluated in the PAD. There is inconsistent knowledge regarding multiple-day trips on the Connecticut River. Although the PAD lists facilities which are not owned or operated by the licensee, such as commercial operations, there is a lack of consistency about those facilities in terms of their seasons of use and what amenities they provide for public recreational use.

Several publications are widely used by paddlers and recreationalists. The primary source of information is *The Connecticut River Boating Guide: Source to Sea* (3rd ed.) published by the Connecticut River Watershed Council (2007). Recreational maps and guides to the river have been published for some reaches by KM Digital Productions in South Hadley, Mass., and are available from the Connecticut River Watershed Council. These foldout river maps cover the reaches from Vernon, Vt., to Turners Falls, Mass. (2008). Three other similar maps cover segments from Turners Falls (2007) down to Hartford, Conn. (2010), which is about the extent of the tidal zone. Most of those maps are in need of updates. In 1991, New England Cartographics in Amherst, Mass., published the *Connecticut River Guide in Massachusetts* by Doug Greenfield and Christopher J. Ryan. The Connecticut River Birding Trail organization located in White River Junction, Vt., has published maps detailing the upper valley section, the northern section, and the southern section of the river.

The Connecticut River Paddler's Trail prepared *The Connecticut River Paddler's Trail MA-CT Expansion Feasibility Study* in 2013. In that document, Noah Pollock of the Vermont River Conservancy examined the Massachusetts and Connecticut reaches of the river. The *Connecticut River Paddler's Trail MA-CT Expansion Feasibility Study* contained a map of the river in Massachusetts created by the Trust for Public Lands with dots indicating recommended locations for additional campsites.

The study identified above will provide the defining mechanism for identifying sites that can be improved as well as additional sites that should be developed in order to ensure increased public opportunities and desire by currently discouraged users to participate in multi-day and local paddling trips on the river. The study will serve to identify potential properties whose acquisitions or fee or interests therein may provide appropriate opportunities for additional recreational facilities. The study should also serve to identify indirect effects of the hydro facilities that may be discouraging public use or displacing water-based recreation to other parts

of the watershed. Cumulative effects would also be evaluated given the number of dams on the river and the fragmenting effect they have on recreational use and experiences.

Studies to evaluate the adequacy of public resources and recreational uses and needs are standard throughout the hydro relicensing process. Methodologies can be selected from among the recognized and accepted standards of the resource and public planning fields. Surveys of people who do NOT use the river or are displaced can employ randomized samples from several databases associated with various local, regional and national user groups. Sufficient information is available from the guidebooks and maps of the river that identify access points and campsites, from the map done by the Paddler's Trail for Massachusetts, as well as information contained in the PAD. Once a consultant is selected and approved, the information should be gathered and analyzed in a timely manner. The study would require spring, summer and fall seasons in order to locate river users and develop a statistically adequate sample. A consultant with experience in similar projects should be selected, in part to create relevant comparisons to other hydropower projects around the country.

Because there is no comprehensive text or guide that provides current information regarding carrying capacity of river-based recreational facilities associated with both individuals and groups of paddlers, the above described study will serve to bridge this information gap as well as to identify needed reconstruction or expansion of existing facilities or the development of new facilities. Any field research would need to be correlated with future use projections and standard requirements for water based access, campsites, sanitary and picnicking facilities and portages.

2. Controlled Whitewater Flow Study in the Bypass Reach Below the Turners Falls Dam.

The Turners Falls project contains a 2.7-mile diversion that reduces in-stream flows except for minimum flow and during flood events. Natural boatable flows are frequently inaccessible, high, flashy, unpredictable, and are usually available only during periods of seasonal high spillage due to flooding. The Turners Falls Dam and diversion canal impacted the rapids below Turners Falls. The reservoir behind the dam rendered other rapids inaccessible as it extends all the way north to the Vernon Dam. Whitewater opportunities eliminated by the project could be partially restored if the licensee provided moderate, stable, and scheduled whitewater flows in the bypass reach that could be used from the late spring through early fall. The current operation of the project largely eliminates valuable seasonal paddling opportunities.

Controlled flow studies are routinely ordered to be conducted on FERC projects. This whitewater reach is a prime opportunity to restore a whitewater run that could be of enormous recreational and economic value to the community.

The goal of a whitewater flow study is to assess the presence, quality, access needs, flow information needs, and preferred flow ranges for river-based boating resources in a stepwise manner. The information to be obtained can be generally characterized as quantitative and qualitative descriptions of the following:

1. The range of optimal and acceptable flows for whitewater paddling in a whitewater park setting.

2. The frequency, timing, duration and predictability of optimal and acceptable paddling flows under current conditions.
3. The access needs of whitewater boating use and the current and potential river access options for paddling.
4. The flow information needs of whitewater boating and the current and potential flow information distribution system.
5. The location, challenge, and other recreational attributes associated with specific rapids and other river features.

The information gathered is a combination of user-generated flow preferences and other engineering information on current and proposed operations (e.g. discharges), geographic information and basic recreational information. Essentially, the Turners Falls Dam would release prescribed flows into the bypass reach for this test, perhaps over two days. For each release, a selected group of paddlers would run the rapid and then answer written questions about their experiences at each flow level. The Turners Falls Dam would release several different flows, measured in cubic feet per second, and the paddlers' experiences would be analyzed to determine the flows that work best at the rapid.

The Turners Falls bypass reach would likely offer the public a high-quality whitewater boating resource when flow conditions are suitable. Conducting the necessary studies and implementing measures to ensure public access to outdoor recreation are in the public interest. In addition, the dry riverbed is not generally considered to be aesthetically pleasing and is in full view of many people who pass by on nearby Route 2 and who drive across the two Connecticut River bridges entering the town of Turners Falls.

Restoration of whitewater recreational opportunities in the Connecticut River has the potential to offer the region economic benefits. FERC has concluded that "to fully evaluate the project's effect on whitewater recreation opportunities and to balance potential enhancement opportunities with their cost, a controlled-flow whitewater boating study is relevant to Commission's public interest determination." This is equally true regarding the Turners Falls Project on the Connecticut River.

Numerous whitewater flow studies have been conducted during FERC relicensings on New England's rivers (including the nearby Deerfield River) that have a long history of whitewater paddling use. However, the bypassed reach below the Turners Falls dam is largely unknown to whitewater boaters. Rapids are un-named, the range of difficulty is unknown, and current access opportunities are extremely difficult. The potential high quality of this scenic 2.7-mile long whitewater run should be evaluated.

Current and historic project operations leave significant information gaps and eliminate most of the low and moderate flows from this reach, resulting in flows too low to paddle, too flashy, or consisting of spiking high flows that may be too dangerous to attempt. Intermediate paddlers, commercial paddlers, and general river-runners know relatively little about this river reach at low or moderate flows. It should also be determined if there is adequate potential to improve river access in a way that offers a high quality car-top put-in and take-out for use of the entire bypass reach. The use of a controlled-flow analysis has been described in Doug Whittaker, Bo Shelby,

and John Gangemi, Flows and Recreation: A guide to studies for river professionals (2005), p. 26-29, is available from the National Park Service website at: www.nps.gov/hydro/flowrec.pdf .

The Project controls flows in the Connecticut River by withdrawing more than 13,000 cfs. The operations eliminate most of the paddling days each year, including the virtual elimination of valuable and regionally needed summer paddling opportunities. This bypassed reach could be a high-quality paddling resource, and since paddling is a flow dependent activity, the project directly affects paddling on the Connecticut River, thereby providing a direct nexus. The results of a controlled flow study would help determine the need for license requirements for scheduled whitewater releases.

The study request in the Turners Falls bypass reach of the Connecticut River should follow the standard methodology as described in Whittaker, referenced above. This methodology is designed to gather information to assess the presence, quality, and preferred flow ranges for river-based boating resources in a step-wise manner. The process steps are generally 1) desktop analyses, 2) on-land feasibility assessment, 3) on-water single flow assessment, 4) on-water multiple flow assessment. We expect and request the full implementation of this methodology.

Because the quality and flow needs of the resource are unknown, we request an on-water multiple flow assessment be conducted. This study will need to take place on various dates and at variable flow levels throughout a spring and summer. Boating groups (such as American Whitewater, NEFLOW and the AMC) can work with the licensee to document the known information regarding the river and would help provide volunteer paddlers and technical support for the studies as appropriate. The whitewater boating study methodology identified above has been used on dozens of other FERC regulated reaches. This study should include an examination of the access issues for the bypass reach and the take-out below. The whitewater boating community would work with the applicant to keep costs reasonable and the quality of information high.

The study will require integration of known information followed by an organized flow study during which several flows are paddled by boaters, with still image and video documentation, surveys of the boaters, a guided conversation among the boaters, and a written report. Given that this is a bypass reach with some minimal access and relatively straightforward hydrology, and given the collaborative approach sought by the paddling community, including in-kind contributions of time and expertise, a consultant should be able to complete this study on behalf of the licensee for a very reasonable cost.

The PAD proposes no whitewater feasibility analysis. This no-action step will reveal nothing about the project impacts on whitewater recreation or opportunities for protection, mitigation, or enhancement measures. There is currently no information relative to the relationship between specific low and moderate flows and the paddling experiences they might provide. A desktop analysis cannot generate this information. Without this information, the FERC cannot fully evaluate or define the project impacts, nor propose and consider provision of releases that provide targeted recreational experiences.

3: Study to Assess Preservation of Cultural, Historical, and Educational Resources

The Indian fishing village that was attacked by forces under Capt. William Turner in 1676 now lies mostly flooded under the Turners Falls reservoir. Indian burial grounds dating back thousands of years have been reported on or adjacent to project lands. Yet the licensee does not have educational and interpretative signs to offer visitors and opportunity to understand this event and its context in American Colonial history. A study should be undertaken to determine a variety of options for educating the public about this historical site, and to determine what actions should (or should not) be taken to preserve artifacts and provide education.

Suggestions at the Scoping meetings included constructing a walkway on the northern or river right side complete with interpretative materials. This walkway would also serve to address the lack of a portage pathway around the dam, as well as access to the bypass reach.

This study should also address the need to document, catalogue, preserve and where appropriate, display the work of the engineers who built the dams at the Great Falls on the Connecticut River, now Turners Falls. Historic resources including drawings, photographs, blueprints, inventories and plans should be considered historical resources worthy of preservation for the public benefit. The study should discover what records remain and recommend plans for preserving them and making them available to historians and researchers. The engineering records related to the construction of dams at Great Falls are a valuable element of our social and industrial history.

The study is primarily the purview of the Massachusetts Historical Commission, but would greatly benefit Indian tribes, the Great Falls Discovery Center in Turners Falls as well as local and regional historically focused entities. The traditional Native American gatherings at a fishing site at Turners Falls are part of the collective heritage of Americans. The study would also include a focus on information about Indian tribes. They had lived at the Turners Falls site for centuries. An article in the Greenfield Recorder on Feb. 14, 2013, mentioned a development site near Turners Falls: "Sitting on the only lightly developed quadrant of the ancient Indian fishing site known as Peskeomskut [now Turners Falls dam], activists have attempted to derail development there for many years and reasons, including wetland and sacred burial-site issues. The activists claim the site was an important burial ground for local indigenous peoples dating back more than 10,000 years, and they say they have the bones to prove it." The article by Gary Sanderson reported on an interview with an archeologist, George Nelson, who, in 1964 discovered what was presumably an Indian burial site in a gravel bank along Route 2. Sanderson also noted that it is likely that "everything within a mile radius of falls would have been loaded with ancient indigenous history/artifacts/burials. When widening Gill Road ca. 1860, they found a spoke burial, 12 bodies, the feet in the center separated by 10-foot circle, many beads, stones, possessions etc."

Although numerous history books have dealt with the 1676 fight at Turners Falls and its ramifications during King Phillip's War, it is undetermined what historical resources remain under water and in the ground. Such sites can be protected and preserved under current laws, but the licensee, and FERC, through its study authority, can provide additional public benefits through a more comprehensive presentation of the historical resources at the site. A number of outcomes for public recreation might be available; among them is an interpretative trail along the

riverbank on the north side with signs indicating the rich history of the area. Numerous books have told the engineering story, but the records held by the licensee have not been catalogued. Books that relate to this topic include Bill Gove, *Log Drives on the Connecticut River* (Littleton, N.H., Bondcliff Books, 2003), and Ed Gregory, *The Turners Falls Canal; History and Description* (2006).

The reservoir at Turners Falls covers the site of the battle and likely numerous artifacts. There may be Indian artifacts or burial grounds on Project lands, therefore providing a direct nexus.

FERC could also require an educational component in the license requirements that could assist the public in understanding the colonial and ancient history associated with Turners Falls. This might be through direct licensee action, such as the trail or displays mentioned above, and through support of the preservation of documents by institutions such as the Great Falls Discovery Center in Turners Falls or the Pocumtuck Valley Memorial Association in Old Deerfield.

The study methodology regarding interpreting Native American use of the area is properly left to the tribes themselves, some of whom are living locally or were long ago removed to Quebec and to professional historians, anthropologists, and archeologists who are present in numbers at the University of Massachusetts, Amherst College, and the other regional institutions of higher education.

The Pocumtuck Valley Memorial Association, which operates the Memorial Hall Museum and Library located just downstream in Old Deerfield, Mass., has expertise in dealing with Native American artifacts, in creating museum displays, and in maintaining close contact with Native Americans in the region and in Canada. Its library contains thousands of historical records of colonial America. Generally accepted historical preservation and museum presentation practices could lead to recommendations for license requirements.

4: Recreation Study at Northfield Mountain

The study would evaluate existing conditions and recommend improvements and additions at the Northfield Mountain Recreation facility the level of public benefit required under the previous license. Additions should be recommended as appropriate for a new license. Options might include providing snowmaking for cross-country skiers, or buying additional lands or interests therein to improve recreation.

As discussed above, FirstLight has agreed that a relocation of the NET within project boundaries would provide an enhanced recreational experience and improved level of safety for the public. This would involve relocating the trail a greater distance away from the storage reservoir at the mountaintop. This relocation would also improve access to popular climbing areas nearby. A recreational study could provide assistance in both cases, possibly by recommending that the licensee acquire or assist in the acquisition of nearby land or interests therein from willing sellers to preserve the climbing areas and provide the best route for the New England Trail. The map prepared by the WMCC and included above illustrates several well thought out and evaluated options.

The subject of adequate recreation at Northfield Mountain and changes to the facility's management and operations has been addressed in several newspaper articles over the years. The study should evaluate expenditures by the licensee over the term of the current license in support of the facility, its promotion, and usage and extrapolate in current dollars, what would be necessary to bring the facility up the quality and level of use that applicable FERC laws and regulation prescribe.

The study should also assess the adequacy of the facility for paddlers. Launching a canoe on the river at the Northfield Mountain site not a desired option for paddlers, who are displaced to other facilities. According to *The Connecticut River Boating Guide: Source to Sea* (3rd ed., 2007), p. 138, published by the Connecticut River Watershed Council:

Mile 124.5: You have now arrived at the **Riverview Picnic and Recreation Area** at **Northfield Mountain** on the left bank, which has a dock to accommodate the *Quinnnetukut II* riverboat, offering river cruises for the general public (phone 800-859-2960). The Northfield Mountain pumped-storage generating plant is sheltered in the mountain behind the site. The main dock area must be kept clear for the *Quinnnetukut II*, but boaters and paddlers may use the dock for brief stops to load and unload. The dock is inaccessible directly by car and can only be reached on foot from a parking area 100 yards away. Access is difficult, and the dock is unavailable from mid-April to mid-June. The power company stretches a fish net across the intake of Northfield Mountain during this time to prevent salmon smolt, which are heading downriver, from getting caught in the pumped-storage station. *Caution:* Avoid the discharge area marked by orange floats on the left bank, which can release enough water to swamp a small boat.

Additional information is needed to determine if changes to the existing facility or its operations could improve the desirability and options for paddlers. The study should assess the months of operation of the Riverview facility, which seems to open late and close early in the boating season. Although the licensee provides shuttle service for boaters doing day trips on the river, there is a fee charged for that service. The study should assess the appropriateness of such a fee on a public resource.

The study should examine the skiing, snowshoeing, hiking, birding, climbing, boating, sightseeing, and educational services provided by the facility with a focus on how the facility has met previous license requirements and how mitigation should be enhanced for a new license. The study could recommend ways that the facility could be updated and improved as the licensee seeks a new federal license, and what conditions might be included in that license. The study and the license requirements should address needs for the entire term of the new license.

The licensee operates the Northfield Mountain Recreation Area as partial mitigation for its operations at the Northfield Mountain Pumped-Storage Project, therefore providing a direct nexus for the impacts on these resources.

The study can utilize several techniques to determine the effectiveness of the Northfield Mountain recreation facilities. User preference surveys and reaching out to various user groups (see page seven, above) could determine issues that are current in the skiing, climbing, boating and hiking communities. The study would also serve to determine what discourages the public from using the facility, or displaces recreation to other areas in the watershed. Such studies have been developed in the administration of parks and recreation areas and can be adapted to this task. The timeframe for the study would need to encompass at least a full year in order to have access to recreationists during the four seasons. It might also be necessary to extend the study beyond a single year to include additional field season if needed due to conditions such as the lack of snow or extreme low water in one of the survey seasons.

The PAD proposes no recreational analysis for this high value recreational resource. Such a no-action type alternative does not provide the FERC with an adequate factual basis upon which to fully evaluate project impacts or to propose and consider license requirements to improve recreational experiences.

5. Creation of a Decommissioning Fund.

The NPS believes a study of the financial production of each individual facility that is being relicensed is appropriate. The analysis and/or NEPA document to be prepared should evaluate creating an escrowed decommissioning or trust fund for the dam and pumped storage project. Given that both parent companies of the licensees are foreign owned, deregulation, future ownership changes and the potential financial impacts of climate change can affect the financial health of the current and potential future owners. The licensees, not the public, should not be burdened with potential costs associated with decommissioning. FERC license conditions often address additional mitigation such as trust funds, dam decommissioning funds, and public committees to oversee license implementation. To that end, the NPS requests a study of both the fiscal health of each FirstLight facility on the river and recommendations for the creation of a decommissioning fund or trust fund to protect the public interest.

New England's rivers are littered with abandoned dams. Over the centuries, companies have failed, and weather events or human error have crippled dams that were then simply left behind. Although the owners of these facilities are presently in good financial health and can meet the requirements over the life of a new license, times and circumstances can change. Unforeseen events might cause either business or physical failure. A number of extraordinary storm events (such as Hurricane Irene and several extreme drought, rain and snow events) have occurred in New England in recent years, thereby increasing the need to fully evaluate a potential dam failure and the associated costs. International business remains risky and both TransCanada and FirstLight are foreign owned. Changing foreign regulations, currency devaluations or circumstances completely out of FERC's purview could compromise the health of the licensee. The economic security of a federally licensed hydropower dam on the longest river in New England is clearly in the public interest. Many hydropower projects support robust recreation economies and produce a public good by generating renewable forms of electricity. The historical record demonstrates—by the thousands of abandoned dams on New England's rivers—that the public should not accept the burden of industrial failure, especially associated with dams. It has become common to create decommissioning funds at such federally licensed

facilities as a way of insuring the public interest against having to pay for removal of a damaged facility or to take over from a failed corporation. Therefore, the American public should be insured against the burden of decommissioning costs. A study could examine the health of the facilities and their owner and recommend the terms of a license requirement for decommissioning.

There is a direct nexus between Project operations and the economic viability of each individual dam. Study results could lead to a license requirement setting up an escrowed decommissioning or trust fund to protect the public interest. The financial viability portion of the study would follow normal procedures in accounting and financial management. The study itself would be relatively inexpensive; however, adequately funding the trust would more challenging. The NPS is unaware of alternative means of securing the public from risks that the corporations or the physical assets might fail during the course of the federal license.

Conclusion

The National Park Service appreciates the opportunity to comment on the PAD and to present study requests we believe to be in the public interest. NPS Hydro Program staff will remain available throughout the course of these proceedings to assist the applicant, other resource agencies and non-governmental organization in the development, conduct and evaluations of the studies requested.

Questions or comments on this submittal should be addressed to Kevin Mendik at kevin_mendik@nps.gov or by phone at 617-223-5299.

Respectfully submitted,



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