FERC Proposed Study Plan Meeting

May 14, 2013

Northfield Mountain Pumped Storage Project (FERC No. 2485)

Turners Falls Hydroelectric Project (FERC No. 1889)

Agenda

Morning- 9 am to Noon

- Introductions
- Integrated Licensing Process Schedule
- Logistics and Communications
- Review of Proposed Study Plans- General Overview
- Review of Studies Not Proposed

Afternoon- 1:00 pm to 4:00 pm

- Working Group Meetings
  - Group #1- Review Proposed Study Plans
  - Group #2 and #3- see agendas

Integrated Licensing Process Schedule

Date	Action	Regulation
4/15/2013	FERC issues Scoping Document 2	§5.10
4/15	FL filed Proposed Study Plan (PSP)	§5.11(a)
5/14 (am)	**FERC required PSP Meeting**	**§5.11(e)**
5/14 (pm)	Water, Developmental Resources (3 studies)	§5.11(e)
5/15	Geology, Soils Resources (2 studies)	§5.11(e)
5/21, 22, 6/4, 5	Aquatic, Terrestrial, Wetlands, Riparian Res. (22 studies)	§5.11(e)
6/11, 12, 13	Rec., Land Use, Aesthetics, Cultural Res. (9 studies)	§5.11(e)
7/14	Stakeholders submit comments on PSP	§5.12
8/13	FL files Revised Study Plan (RSP)	§5.13(a)
8/28	Stakeholders file comments on RSP	§5.13(b)
9/12	FERC Issues Study Plan Determination	§5.13(c)
10/2	Notice of formal study dispute (only mandatory conditioning agencies)	§5.14(a)
12/11	FERC issues study dispute determination	§5.14(l)

Logistics and Communications

- Send email to firstlight@gomezandsullivan.com to indicate what meetings you are attending.
- All documents, meeting agendas, presentations, etc., are always available on http://www.northfieldrelicensing.com. This website is the formal method of communication (in addition to FERC eLibrary).
- Intent of May 14 morning meeting.
- Intent of May 14 afternoon and other scheduled meetings.
- Handout: Schedule of meeting dates/times.

Proposed Studies- Geology and Soils

2013 Full River Reconnaissance (No. 3.1.1)

Objectives:

- Develop Quality Assurance Project Plan (QAPP); develop repeatable methodology
- Document existing riverbank features
- Map and describe all active and recent bank erosion and upland land use practices

Geographic Scope:

- TF Impoundment

Nexus:

- Erosion is a function of: naturally high flows, water level fluctuations due to project operations, boat wakes and other factors.

Proposed Studies- Geology and Soils

NM/TF Operations Impact on Sediment Transport (No. 3.1.2)

Objectives:

- Assess management measures to minimize sediment transport through TF canal and from Upper Reservoir during/after maintenance drawdowns.
- Conduct focused investigation of bank instability in TF Impoundment where there is a causal relationship between project operations and erosion.

Geographic Scope:

- TF Power Canal, Upper Reservoir (management measures), TF Impoundment.

Nexus:

- Project operations may contribute to TF Impoundment shoreline erosion.
- Dewatering of the Upper Reservoir can result in release of sediments.
- Dewatering of Power Canal not known to cause sediment releases (concern may be use of water control at Cabot emergency spillway resulting in mobilizing sediment at base of dam).

Proposed Studies- Water Resources

Water Quality Monitoring (No. 3.2.1)

Objectives:

- Characterize dissolved oxygen (DO) and temperature in project area.
- Determine potential impacts of project operations on DO and temperature.
- Compare findings with MA state water quality standards.

Geographic Scope:

- TF Impoundment, bypass reach, power canal, and below Cabot Station.

Nexus:

- Project operations may impact DO and temperature.

Proposed Studies- Water Resources

Hydraulic Study of TF Impoundment, Bypass Reach and below Cabot Station (No. 3.2.2)

Objectives:

- Develop hydraulic models of a) *TF Impoundment and b) from TF Dam to Holyoke Dam to evaluate impact of project operations on water elevations in the CT River.
- The hydraulic model study will feed many other studies that evaluate the impact of project operations on various resources.

Geographic Scope:

- TF Impoundment, TF Dam to Holyoke Dam.

Nexus:

- Project operations have a direct impact on water elevations in the TF Impoundment and below Cabot Station.

* Model of TF Impoundment already developed

Proposed Studies- Fish & Aquatic Resources

Conduct Instream Flow Habitat Assessments in the Bypass Reach and below Cabot Station (No. 3.3.1)

Objectives:

- Assess potential effects of the range of discharges from TF Falls Dam, Station No. 1 and Cabot Station on wetted area and aquatic habitat suitability in the bypass reach and below Cabot Station.

Geographic Scope:

- TF Dam to Sunderland, MA.

Nexus:

- Project operations have the potential to influence aquatic habitat in the bypass reach and below Cabot Station.

Proposed Studies- Fish & Aquatic Resources

Evaluate Upstream and Downstream Fish Passage of Adult American Shad (No. 3.3.2)

Objectives:

- Identify the effects of the TF and NM Projects on adult shad migration including delays, upstream and downstream route selection, and spillway ladder efficiency.

Geographic Scope:

- Holyoke Dam to Vernon Dam.

Nexus:

- The Project's upstream and downstream passage facilities should be designed and operated to provide effective fish passage.

Proposed Studies- Fish & Aquatic Resources

Evaluate Downstream Passage of Juvenile American Shad (No. 3.3.3)

Objectives:

- Determine if project operations affect juvenile American shad timing, orientation, routes, rates and survival during outmigration.

Geographic Scope:

- TF impoundment upstream of NM to confluence of the Deerfield River.

Nexus:

- The Project's downstream passage facilities should be designed and operated to provide effective downstream fish passage.

Proposed Studies- Fish & Aquatic Resources

Evaluate Upstream Passage of American Eel at the TF Project (No. 3.3.4)

Objectives:

- Identify and assess potential locations for upstream American eel passage by identifying concentrations of eels staging in pools or attempting to ascend wetted structures and assess sites for permanent passage structures.

Geographic Scope:

- The TF Project.

Nexus:

- The TF Project may directly impact upstream American eel as Project structures create impediments to migration.

Proposed Studies- Fish & Aquatic Resources

Evaluate Downstream Passage of American Eel (No. 3.3.5)

Objectives:

- Quantify the migratory timing, movement rates, survival and proportion of eel passing via various passage routes at TF and NM.

Geographic Scope:

- TF impoundment upstream of NM to confluence of the Deerfield River.

Nexus:

- Project operations may affect eel outmigration.

Proposed Studies- Fish & Aquatic Resources

Impact of Project Operations on Shad Spawning, Spawning Habitat and Egg Deposition in the Area of the NM and TF Projects (No. 3.3.6)

Objectives:

- Determine if project operations affect shad spawning site use, availability, spawning habitat quantity and quality and spawning activities downstream by conducting night-time visual observations below TF and in the TF impoundment.

Geographic Scope:

- Sunderland, MA to upstream of NM.

Nexus:

- Project operations may affect spawning behavior during operational changes.

Proposed Studies- Fish & Aquatic Resources

Fish Entrainment and Turbine Mortality Study (No. 3.3.7)

Objectives:

- Assess fish impingement, turbine entrainment and turbine passage survival, develop a qualitative scale of entrainment risk for resident and migratory species and a quantitative assessment of turbine mortality of American shad and American eel.

Geographic Scope:

- TF impoundment upstream of NM to confluence of the Deerfield River.

Nexus:

- Project operations may affect fisheries resources in the Project area.

Proposed Studies- Fish & Aquatic Resources

Computational Fluid Dynamics Modeling in the Vicinity of the Fishway Entrances and Powerhouse Forebays (No. 3.3.8)

Objectives:

- Conduct bathymetric surveys at Spillway and Cabot ladders and Station No. 1 and Cabot Station intakes. Develop three-dimensional CFD models of the power canal in front of Station No. 1 intakes, Cabot Station intakes and Cabot fishway entrance.

Geographic Scope:

- TF Project.

Nexus:

- CFD modeling is required to evaluate potential fish passage barriers.

Proposed Studies- Fish & Aquatic Resources

Two Dimensional Modeling of the NM Project Intake/Tailrace Channel and CT River Upstream and Downstream of the Intake/Tailrace (No. 3.3.9)

Objectives:

- Model flow characteristics upstream and downstream of NM, assess velocities, flow fields, and velocity barriers under alternative scenarios.

Geographic Scope:

- TF Impoundment upstream and downstream of NM.

Nexus:

- Project operations may impact passage of migratory fish, and have a potential for entrainment.

Proposed Studies- Fish & Aquatic Resources

Assess Operational Impacts on Emergence of State-Listed Odonates in the CT River (No. 3.3.10)

Objectives:

- Characterize and determine if project operations affect the assemblage structure and emergence/eclosure behavior of odonates in the Project area.

Geographic Scope:

- TF impoundment to Sunderland, MA.

Nexus:

- Timing, rate and magnitude of Project operations may adversely effect emerging odonate.

Proposed Studies- Fish & Aquatic Resources

Fish Assemblage Assessment (No. 3.3.11)

Objectives:

- Document species occurrence, distribution and relative abundance of resident and diadromous fish within the project along spatial and temporal gradients. Compare results with historical records.

Geographic Scope:

- TF impoundment to Sunderland, MA.

Nexus:

- Project operations has a potential to affect fish populations, biological interactions and habitat quantity and quality. An understanding of current fish assemblages is needed to examine potential effects.

Proposed Studies- Fish & Aquatic Resources

Evaluate Frequency & Impact of Emergency Water Control Gate Discharge Events and Bypass Flume Events on Shortnose Sturgeon Spawning and Rearing Habitat in the Tailrace and Downstream from Cabot Station (No. 3.3.12)

Objectives:

- Determine the frequency that the emergency water control gates are operated, understand the operation of the bypass flume and evaluate the impact of events on sediment transport and bottom velocities within the shortnose sturgeon spawning and rearing habitat below Cabot Station.

Geographic Scope:

- The Cabot Station tailrace and downstream areas.

Nexus:

- Spill events through the emergency flow gates and bypass flume may create flow dynamics that may not be sufficiently protective of shortnose sturgeon spawning and rearing.

Proposed Studies- Fish & Aquatic Resources

Impact of the TF Project and NM Project on Littoral Zone Fish Habitat and Rearing Habitat (No. 3.3.13)

Objectives:

- Assess timing and location of fish spawning in the littoral zone. Delineate and map shallow water habitats subject to inundation and exposure due to project operations and evaluate potential impoundment fluctuation impacts on nest abandonment, displacement and egg dewatering.

Geographic Scope:

- TF impoundment.

Nexus:

- Project operations have a potential to impact fish by influencing spawning success and spawning habitat quality and quantity.

Proposed Studies- Fish & Aquatic Resources

Aquatic Habitat Mapping of TF Impoundment (No. 3.3.14)

Objectives:

- Map the distribution and abundance of aquatic habitat within the TF impoundment. Habitat mapping and characterization of aquatic mesohabitat will provide information regarding the character and extent of aquatic habitat that may potentially be affected by project operations.

Geographic Scope:

- TF Impoundment.

Nexus:

- Littoral habitat and aquatic species that use this habitat may be affected by water level fluctuations.

Proposed Studies- Fish & Aquatic Resources

<u>Assessment of Adult Sea Lamprey Spawning within the TF Project and Northfield Mountain Project Area (No. 3.3.15)</u>

Objectives:

- Identify areas of suitable spawning habitat, conduct spawning surveys, describe spawning mound characteristics, determine if Project operations are affecting spawning areas.

Geographic Scope:

- TF Impoundment upstream of NM to confluence of the Deerfield River.

Nexus:

- Project operations have a potential to affect sea lamprey spawning activity, habitat and success.

Proposed Studies- Fish & Aquatic Resources

Habitat Assessment, Surveys, and Modeling of Suitable Habitat for State Listed Mussel Species in the CT River below Cabot Station (No. 3.3.16)

Objectives:

- Delineate populations of state-listed mussels downstream of Cabot Station to characterize distribution, abundance, and habitat use. Collect data on mussels and habitat parameters where species are found and using data from the hydraulic model and IFIM evaluate the effects of flow regimes on the state-listed mussels.

Geographic Scope:

- Cabot Station to Sunderland, MA.

Nexus:

- Project operations have a potential to affect state-listed mussels and their habitat.

Proposed Studies- Fish & Aquatic Resources

Assess the Impact of Project Operations of the TF Project and NM Project on Tributary and Backwater Area Access and Habitat (No. 3.3.17)

Objectives:

- Identify potential barriers to fish access to tributaries and backwater areas resulting from water level fluctuations and measure changes to available habitat and water quality in these areas.

Geographic Scope:

- TF impoundment to Sunderland, MA.

Nexus:

- Project operations have a potential to affect tributary and backwater habitat access.

Proposed Studies- Fish & Aquatic Resources

Impact of the TF Canal Drawdown on Fish Migration and Aquatic Organisms (No. 3.3.18)

Objectives:

- Identify and evaluate potential measures to reduce effects of dewatering for the annual canal drawdown.
- Design and implement identified measures and survey fish and aquatic organisms during canal drawdown after measures are implemented.

Geographic Scope:

- Cabot Station canal.

Nexus:

- Project operations have a potential to affect fish and aquatic organisms in the canal during the drawdown.

Proposed Studies- Fish & Aquatic Resources

Evaluate the Use of an Ultrasound Array to Facilitate Upstream Movement to TF Dam by avoiding Cabot Station Tailrace (No. 3.3.19)

Objectives:

- Establish a ultrasound array across the Cabot Station tailrace and determine the effect of the field on upstream migration by monitoring movements of radio-tagged American shad.

Geographic Scope:

- Cabot Station tailrace.

Nexus:

- This study coupled with the adult shad radio-telemetry study may provide information needed to select an approach to resolve upstream shad passage at the TF Project.

Proposed Studies- Terrestrial, Wildlife and Botanical Resources

Baseline Inventory of Terrestrial Wildlife and Botanical Resources at the TF Impoundment, the Bypass Reach and below Cabot Station within the Project Boundary (No. 3.4.1)

Objectives:

- Characterize the terrestrial wildlife and botanical resources by established survey and inventory techniques and assess the potential effects of operations on these communities.

Geographic Scope:

- TF Impoundment to Sunderland, MA.

Nexus:

- Project operations have a potential to affect habitat for a variety of terrestrial resources.

Proposed Studies- Terrestrial, Wildlife and Botanical Resources

Effect of NM Project-related Land Management Practices and Recreation Use on Terrestrial Habitats (No. 3.4.2)

Objectives:

- Identify and describe project-related land management practices and use of recreation areas, describe wildlife and botanical habitats, determine if land management practices has a potential to facilitate spread of invasive plant species and identify if land management practices and use of the recreation areas affect existing resources in the NM Project area.

Geographic Scope:

- NM Mountain Project area.

Nexus:

- Project land management practices and use of recreation areas may affect wildlife behavior and botanical resources .

Proposed Studies- Wetlands, Riparian and Littoral Habitat

Baseline Inventory of Wetland, Riparian and Littoral Habitat in the TF Impoundment and Assessment of Operational Impacts on Special-Status Species (No. 3.5.1)

Objectives:

- Describe and verify or map wetlands, shallow water aquatic habitat including SAV, EAV, substrate type, invasive species and associated wildlife up to 200 feet from the TF Impoundment shoreline.
- Collect baseline information on state-listed plant species, and analyze how project operations potentially affect state-listed species.

Geographic Scope:

- TF Impoundment to Sunderland, MA.

Nexus:

- Project operations have a potential to affect wetland, riparian, littoral habitats and expand invasive plant species populations.

Proposed Studies- Recreation and Land Use

Recreation Use/User Contact Survey (No. 3.6.1)

Objectives:

- Determine the amount of recreation use at the TF and NM Projects.
- Ascertain views of recreating public and adjacent residential landowners regarding existing recreation sites, activities, and access at the Projects.

Geographic Scope:

- Existing formal and informal recreation sites within the TF and NM Projects.

Nexus:

- Information on current use and whether existing facilities are meeting recreation demand would inform a decision on whether additional or modified facilities and access are necessary.

Proposed Studies- Recreation and Land Use

Recreation Facilities Inventory and Assessment (No. 3.6.2)

Objectives:

. Complete the baseline investigation of existing recreation facilities, including descriptions of amenities and overall condition of facilities and access sites by preparing summary report of the investigation.

Geographic Scope:

- Existing formal and informal recreation sites within the TF and NM Projects.

Nexus:

- The inventory of existing recreation facilities and access sites would help inform a decision on whether additional or modified facilities and access are necessary.

Proposed Studies- Recreation and Land Use

Whitewater Boating Evaluation (No. 3.6.3)

Objectives:

- Determine the range of flows needed to support various whitewater boating.
- Determine current and future demand for boating in the bypass reach.
- Determine the number of days per month acceptable flow would be available.
- Determine competing uses.
- Identify the need for and define access points and parking.

Geographic Scope:

- The 2.7 mile TF bypass reach.

Nexus:

- Whitewater boating evaluation would help inform a decision on whether whitewater boating opportunities in the bypass reach should be provided.

Proposed Studies- Recreation and Land Use

Assessment of Day Use and Overnight Facilities Associated with Non-Motorized Boats (No. 3.6.4)

Objectives:

- Determine number of overnight facilities within the Projects.
- Determine need for alternative canoe portage.
- Determine the need for potential future non-motorized boating facilities, including appropriate spacing for overnight facilities.

Geographic Scope:

- Project lands abutting the Connecticut River within the TF and NM Projects.

Nexus:

- Assessment would help inform a decision on whether additional or modified facilities and access are necessary.

Proposed Studies- Recreation and Land Use

Land Use Inventory (No. 3.6.5)

Objectives:

- Identify current land uses.
- Identify current land use controls.
- Determine appropriate land use designations within the Projects' boundaries.

Geographic Scope:

- Lands within and abutting the Projects' boundaries up to 200 feet.

Nexus:

- Operation of the Projects may have the potential to affect land use within Project boundaries. The inventory will aid in future land management decisions within the Projects' boundaries.

Proposed Studies- Recreation and Land Use

Assessment of Effects of Project Operation on Recreation and Land Use (No. 3.6.6)

Objectives:

- Using information derived from other recreation studies, assess whether operation of the TF and NM Projects has an effect on recreation facilities or land use within either Project.

Geographic Scope:

- Will include all lands and waters within the TF and NM Projects.

Nexus:

- Assessment would help inform a decision on whether modifications and additional recreational facilities are necessary.

Proposed Studies – Recreation and Land Use

Recreation Study at Northfield Mountain, including Assessment of Sufficiency of Trails for Shared Use (No. 3.6.7)

Objectives:

- Determine whether the Tour and Trail Center meets current and future recreation needs
- Identify uses on NM trail system and whether trails are suitable for sustaining those uses.

Geographic Scope:

- Lands within the NM Project boundary.

Nexus:

- Study would help inform a decision on whether trails and facilities at NM meet existing and future recreation need.

Proposed Studies- Cultural Resources

Phase 1A Archeological Survey (No. 3.7.1)

Objectives:

- Identify archaeologically sensitive resources within the Projects' Area of Potential Effect and determine need for more intensive surveys that may identify potentially National Register eligible archaeological resources.

Geographic Scope:

- Lands within the Projects' boundaries and lands outside the Projects' boundaries where the Projects may have the potential to adversely effect eligible resources on such lands.

Nexus:

- Archaeological surveys will help inform a decision on whether a Historic Properties Management Plan (HPMP) is necessary, and if so, measures to be included in an HPMP.

Proposed Studies- Cultural Resources

Reconnaissance-Level Historic Structures Survey (No. 3.7.2)

Objectives:

- Identify known historic architectural resources within the Projects' Area of Potential Effects that are listed in the National Register of Historic Places or that potentially may be eligible for listing in the National Register and determine need for more intensive surveys of historic architectural resources.

Geographic Scope:

- Lands within the Projects' boundaries and lands outside the Projects' boundaries where the Projects may have the potential to adversely effect eligible resources on such lands.

Nexus:

- Historic structures surveys will help inform a decision on whether an HPMP is necessary, and if so, measures to be included in an HPMP.

Proposed Studies- Developmental Resources

Evaluate the Impact of Current and Potential Future Modes of Operation on Flow, Water Elevation, and Hydropower Generation (No. 3.8.1)

Objectives:

- To develop a baseline model of the CT River from the Wilder Project to the Holyoke Project.
- Use the model to evaluate the impact on hydropower generation due to potential alternative modes of operation.
- Discharges from model will be used in habitat time series analyses.

Geographic Scope:

- Wilder Dam to Holyoke Dam.

Nexus:

- Potential changes in project operations at the three TransCanada Projects and FirstLight Projects will have a direct impact on generation.

Studies not Proposed

Study of Shoreline Erosion Caused by NM Operations

Summary

- Among many objectives, the study seeks to conduct a historical analysis of soil loss, erosion, nutrient loading, topography compared to today.

Rationale for Not Conducting Study

- Conducting the historical analysis would not inform potential PME measures or license conditions.
- FERC uses current conditions as baseline conditions; not pre-raising of the dam or historic conditions.
- Most of the study objectives are being addressed in Study Nos. 3.3.1 and 3.3.2.

Studies not Proposed

Study the Impact of Operations of the NM Project and TF Dam on Sedimentation and Sediment Transport in the CT River

Summary

- Among many objectives, the study seeks to a) install a suspended sediment monitoring site below the NM tailrace and b) conduct a comparison of TF Impoundment bathymetric surveys between 1913 and today.

Rationale for Not Conducting Study

- Conducting the historical comparison of bathymetry would not inform potential PME measures or license conditions.
- FERC uses current conditions as baseline conditions; not pre-raising of the dam or historic conditions.
- Most of the study objectives are being addressed in Study Nos. 3.3.1, 3.3.2, 3.2.2, 3.3.13, 3.3.14, 3.3.17, 3.4.1, 3.5.1, 3.6.6.

Studies not Proposed

Watershed Wide Stormwater Model

Summary

- Proponent seeks a stormwater model using LiDAR of the entire CT River Watershed.

Rationale for Not Conducting Study

- There is no nexus between stormwater runoff in the entire CT River Watershed and Project Operations.
- The Proponent estimated the proposed study cost as over $2,000,0000.
- The study would not inform PME measures or license conditions.
- Two other studies- hydraulic model and operations model address many of the Proponent's study objectives.

Studies not Proposed

Noise Level Determination for NM Project Operations

Summary

- Proponent requests a study to evaluate if the NM Project can be heard by neighbors.

Rationale for Not Conducting Study

- The study would not inform the development of feasible PME measures or license conditions.
- The Project has operated for almost 50 years without any evidence that noise from pumping and generating equipment can be heard outside the immediate vicinity of the equipment.

Studies not Proposed

Climate Change and Continued Project Operations

Summary

- Proponents want to predict temperature increases in impoundments over next 30-50 years due to climate change and how climate change may impact high flow events.

Rationale for Not Conducting Study

- The study would not inform the development of license conditions or PME measures.
- The proponents have not established that the proposed study methodology is consistent with generally accepted scientific practice.

Studies not Proposed

Feasibility of Converting the NMF Project to a Closed-Loop or Partially Closed Loop System

Summary

- Proponents are seeking a feasibility study to evaluate developing a closed or partial loop system.
- Proponents suggest that a useful study could be accomplished at low cost with “some engineering and design work”.

Rationale for Not Conducting Study

- The level of effort and cost to conduct a feasibility study would be extremely high and proponents have not shown that mitigation measures for existing Project impacts will not be sufficient.
- FERC recently stated that while the Federal Power Act authorizes it to require modifications to an applicant’s proposal, FERC does not believe it has the authority to require a license applicant to construct and operate an entirely different project from the one it has proposed.

Studies not Proposed

Decommissioning Fund

Summary

- Proponents are seeking the licensee to develop a decommissioning fund.
- Proponents allege there are thousands of abandoned dams in New England waterways and state that the dams are at risk from age and storm events.

Rationale for Not Conducting Study

- FERC has consistently denied requests for establishing decommissioning funds in new licenses.
- Abandoned dams are very different from FERC licensed dams. FERC-licensed dams are subject to rigorous dam safety requirements.

Studies not Proposed

Contingent Valuation Study

Summary

- Proponents request a contingent valuation study of providing paddling flows in the TF bypass reach.

Rationale for Not Conducting Study

- Willingness to pay studies do not provide a reliable assessment of the potential economic effect of adding recreational opportunity to an area.
- FERC has consistently found that monetization of non-power resources is inadequate in assessing non-power values.
- Study Nos. 3.6.1, 3.6.3, and 3.6.4 will assess recreational use and demand at the TF Project and will give FERC the information it needs to assess power and non-power values and craft requirements for a new license.

Studies not Proposed

Mitigation Impacts of the CT River and Loss of Whitewater Recreation at and above TF Dam

Summary

- Proponents request an assessment of regional whitewater boating resources in order to determine off-site mitigation.

Rationale for Not Conducting Study

- FERC has consistently held that the Project as it exists today is the baseline condition for the evaluation of power and non-power resources.
- FirstLight has proposed to conduct a whitewater evaluation study (Study No. 3.6.3), including identifying available regional whitewater boating opportunities, which will help inform a license decision on the effects of current Project operation, if any, on recreational boating.

Studies not Proposed

Assess Preservation of Cultural, Historical and Educational Resources

Summary

- Proponent has requested a study to determine actions to be taken to educate the public about certain historical sites, to preserve artifacts, and to identify, preserve, and make available historic Project engineering drawings.

Rationale for Not Conducting Study

- FirstLight is proposing to conduct cultural resources surveys (Study Nos. 3.7.1 and 3.7.2), which will inform the need for more intensive level surveys of cultural resources and potentially the need for an HPMP. It is premature to determine what measures should be included in an HPMP.

Studies not Proposed

Shad Population Model for the CT River

Summary

- FirstLight received requests to develop an American shad population model using existing data to quantify how Project operations and potential restoration/mitigation measures impact Connecticut River shad populations.

Rationale for Not Conducting Study

- A suite of fish passage studies is being proposed and results of these studies along with the multiple past studies should be ample to assess fish passage efficiency.
- A predictive model already exists which historically generated accurate results, but did not predict the downturn in returning shad likely caused by competition and predation.
- The study would not inform the development of license conditions or PME measures.