Meeting Minutes
Relicensing of the Turner Falls Hydroelectric Project (FERC No. 1889) and Northfield Mountain Pumped Storage Project (FERC No. 2485)

Date: October 15, 2014

Location: Northfield Mountain Visitors Center, 99 Millers Falls Road, Northfield, MA

Re: 2013 Full River Reconnaissance Survey (Relicensing Study No. 3.1.1)

Attendees: Kimberly Noake-MacPhee, Franklin Regional Council of Governments (FRCOG)*
Andrea Donlon, Connecticut River Watershed Council (CRWC)*
Anne Wibiralske, CRWC Volunteer/Smith College
Tom Miner, Connecticut River Streambank Erosion Committee (CRSEC)*
John Bennett, Franklin Conservation District (FCD)*
Russ Cohen, MA Riverways*
Mike Bathory, Landowners and Concerned Citizens for License Compliance (LCCLC)*
David Foulis, Massachusetts Department of Environmental Protection (MADEP)
Bob Kubit, MADEP, *via phone*
Bill McDavitt, National Marine Fisheries Service (NMFS), *via phone*
Brandon Cherry, Federal Energy Regulatory Commission (FERC), *via phone*
Patrick Crile, FERC, *via phone*
Mike Watts, FERC, *via phone*
Tom Dean, FERC, *via phone*
Bob Simons, Simons and Associates (S&A)^
Mickey Marcus, New England Environmental (NEE)^
Adam Kahn, Foley Hoag (FH)^
John Howard, FirstLight
Chuck Momnie, FirstLight
Tom Sullivan, Gomez and Sullivan Engineers, DPC (Gomez and Sullivan)^
Tim Sullivan, Gomez and Sullivan^
Mark Wamser, Gomez and Sullivan^
** Member of CRSEC*
^ Consultant to FirstLight

Background

On September 15, 2014, FirstLight filed its final study report for the 2013 Full River Reconnaissance (FRR) with FERC. The final study report was included as part of FirstLight's Initial Study Report (ISR) filing. As required by FERC regulations, FirstLight held public meetings on September 30 and October 1, 2014 to review the ISR. At the October 1 meeting FirstLight presented the results of the 2013 FRR via a PowerPoint presentation. Roughly 45 minutes of the meeting was allocated for discussing the 2013 FRR. At that same meeting, FirstLight agreed to have a separate meeting to further discuss the 2013 FRR. The second FRR meeting was held on October 15, 2014. Minutes of that meeting are included below.

Introductions

FirstLight opened the meeting and had all parties introduce themselves. It was noted that the meeting was scheduled from 9:00 am to noon and that the purpose of the meeting was for Stakeholders to provide feedback and ask questions regarding the 2013 FRR. FirstLight reviewed the FERC process and upcoming deadlines including:

- FirstLight will file its ISR meeting summary on October 15, 2014
- Per the FERC regulations, Stakeholders may file comments on the FRR within 30 days of October 15, or by November 14, 2014

It was noted that FirstLight presented the FRR findings at the ISR meeting held on October 1; as such, FirstLight proposed for this meeting to review the report section-by-section to keep the discussion organized.

Prior to reviewing the report, FirstLight asked Stakeholders if they had any questions on the GIS web application that had been recently developed to view the FRR photo and video locations. CRSEC indicated that they found the mapping and images easy to navigate. It was discussed that there was some difficulty taking the classification tables in the FRR and comparing it to the web application and report maps. FirstLight explained how to review the previously provided information and cross-reference it against tables in the FRR. CRSEC indicated it would be useful to have river miles (RM) shown on the web application. FirstLight said they would consider whether to add RM to the web application and encouraged Stakeholders to include this suggestion with their comments to be filed on November 14.

CRSEC asked if the Field 2007 photo log would be included in the web application. FirstLight indicated that they believed the stakeholders already have the 2007 photographs from when the report was originally issued. CRSEC then asked if FirstLight would be conducting a comparison of photographs of 2007 and 2014. FirstLight informed the Stakeholders they would have to review the Revised Study Plan (RSP) to see what was previously committed to. FirstLight noted that the 2014 photos were taken during the summer making comparison to the 2007 photographs difficult. It was also discussed that the 2013/2014 photos were geo-tagged (embedded coordinated in each photo); however, it was unclear if the 2007 photos were.

At this point in the meeting FirstLight and the Stakeholders began reviewing each section of the FRR report.

Executive Summary

Initial discussion focused on Stakeholder concerns regarding the Background section of the Executive Summary. CRSEC had several questions and concerns about the inclusion of the 2012 Simons & Associates report titled *Riverbank Erosion Comparison along the Connecticut River*. FirstLight provided an overview of the 2012 S&A report and indicated that it was included in the Executive Summary to provide the reader with context in regard to erosion conditions in the Turners Falls Impoundment (Impoundment) compared to other reaches of the Connecticut River.

CRSEC sought clarification for the term 'terrace level' used on Page i. FirstLight indicated that this sentence was referring to the floodplain terrace.

Discussion then focused on the margin of error for the summary statistics stated on Page iv and v. CRSEC questioned what the margin of error was for the finding that there has been a decrease in the rate of erosion since the 2008 FRR. Stakeholders requested that if the data that was used to develop these statistics is available in a format that is easy to overlay in GIS than it should be made available such that it can be manipulated to see where the riverbank segment breaks were determined. The CRSEC stated they would like to know if there is a +/- error for these comparisons. The CRSEC also stated that they would like to see the development of error bars for the survey. FirstLight asked that any concerns be addressed in the November filing with FERC.

CRSEC sought further clarification on how the total length of riverbanks was calculated and why it was different from the 2008 total. FirstLight explained that the segment endpoints are delineated in the field but that the lengths are based on curvilinear segments. In 2008 USGS quad maps were used as the base layer from which the lengths were determined while in 2013 aerial imagery was used. FirstLight then noted that the summary statistics found in the report were one tool used during the FRR to assess the health of Impoundment riverbanks. FirstLight noted that from an observational standpoint riverbank conditions have generally improved over time and particularly since the first FRR (1998) and the most recent (2008).

CRSEC wanted to know if MADEP participated in the FRR. MADEP explained they did not; their focus was on the Causation Study, however they were pleased with the level of increased effort of the FRR.

Section 1
No Comments

Section 2
The CRSEC requested clarification on the assertion that flows in the Impoundment during the survey were "in the typical pattern of peaking power generation." FirstLight provided explanation as to the operating conditions of the Vernon and Turners Falls Projects.

Section 3
No Comments

Section 4
CRSEC noted some confusion that Section 4.1 stated that data from MassGIS was used but there was no mention of GIS data being obtained from NH or VT. FirstLight explained that MassGIS data was used as it was more readily available than GIS data from NH or VT; however, the MassGIS data was used as a reference only. The land-use GIS layer developed during the FRR was developed through onscreen digitizing and field investigation/mapping.

CRSEC noted that they found it interesting the riparian buffer widths in Table 4.2 are either big or small and that there is not much in between.

Section 5

CRSEC sought clarification of the term "normal water levels" in Table 5.2. FirstLight indicated that this information is in the Pre-Application Document (PAD). FirstLight explained that a duration analysis was conducted for the PAD for 10 years of hourly data for 4 locations in the Impoundment; from this normal water level was determined. CRSEC noted it would be helpful to have this information in one place.

Discussion then focused on the effectiveness of the land-based survey. CRSEC inquired if the land-based survey was useful or not and if it was effective in identifying tension cracks. FirstLight indicated that although the land-based survey provided valuable supplemental input, the boat-based survey was more effective in seeing the entire riverbank and classifying features, characteristics, and erosion conditions. FirstLight also indicated that it was difficult to identify tension cracks during the land-based survey due to the fact that the ground was covered in leaves. CRSEC was curious if FirstLight encountered any accessibility issues with private property during the land-based survey. FirstLight noted that letters were sent to all abutting property owners in advance of field efforts and that no issues were encountered.

CRSEC sought clarification on the distinction between falls and flows (Table 5.2). FirstLight explained that the definitions for these features were based on the definitions found in the Field 2007 report as noted in Figure 5.1 which was taken directly from that report.

At this point in the meeting there was a 15 minute break.

Section 6

Once the meeting resumed FirstLight pointed out that many of the areas of concern with this section were already discussed during the Executive Summary portion of the meeting and that, in the interest of time, the focus for this section should be on areas not previously discussed.

CRSEC noted that observations 5 and 9 on page 6-3 reference erosion events that may have been caused by historical floods. They would like to see further evidence of this. FirstLight could not recall a specific example of where these occurred off hand and noted they would have to review their field notes. FirstLight encouraged Stakeholders to reference the detailed site assessment field sheets included in an Appendix to the report. FirstLight noted that these conclusions were made by developing a basis for determining the age of slides based on using the age of the trees on the banks.

CRSEC noted on page 6-2, the first bullet point discussed the term "mass wasting" which has been used in older FRRs but has not been employed in the most recent. The CRSEC stated that it would be helpful if the term was defined and an explanation was included in the report on why it was used here, but not in the actual reconnaissance.

CRSEC sought clarification on how the thresholds were determined to elevate a classification from one category to another. They also indicated that it would be helpful if the thresholds were defined and examples were provided which demonstrate the minimum and maximum percent of erosion that might be occurring to be classified as None/Little. FirstLight clarified that the thresholds were already defined in the RSP as well as Table 5.1 of the final report and that the Quality Assurance Project Plan (QAPP) contained

photographs depicting examples of each erosion classification. CRSEC reiterated their request for specific examples from the 2013 FRR showing these classifications. MADEP asked FirstLight if it would be possible to select a few segments to provide as examples with explanations for the classification. FirstLight indicated they could provide such examples as a means of verifying that the QAPP was followed.

CRSEC sought clarification as to whether the results of the 2013 FRR would still be used to guide selection of future streambank stabilization. FirstLight confirmed this. CRSEC noted that since a segment classified as None/Little erosion may have some erosion present, it may be useful to identify one or two spots that are classified as None/Little that could be used for repair.

Discussion then focused on a classification disagreement between the CRSEC and FirstLight regarding the Kendall site. FirstLight noted that it was anticipated this site would be a topic of discussion and as such spent considerable time inspecting it in the field both from boat and on land. The classification represents the consensus of the technical team. CRSEC believes it doesn't reconcile with common sense observations.

An extended discussion then focused on Table 6.1 and the various classification statistics. CRSEC asked if the percentages for the Type of Erosion and Potential Indicators of Erosion categories represent all riverbanks or only those classified as having erosion. FirstLight indicated they represent all riverbanks. CRSEC stated they had trouble reconciling how some of the Types of Erosion and Potential Indicators of Erosion could have high percentages yet the Stage of Erosion and Extent of Current Erosion are almost all Stable and None/Little. FirstLight explained that although erosion features were identified at a number of segments, these features were typically not significant enough to elevate the classification of that segment to a different category. FirstLight also reiterated that the FRR was a reconnaissance level survey that was not designed to evaluate each individual erosion feature; with that being said this was the most detailed FRR ever conducted.

CRSEC stated that the Stage of Erosion categories used for the 2013 survey were inconsistent with those used in 2008. FirstLight noted that the categories were changed during the study scoping process because of the requests made by the CRSEC that the FRR incorporate the Field 2007 report recommendations. CRSEC acknowledged that, but stated the Stage of Erosion category was not a recommendation of the Field report or agreed to by the CRSEC.

Discussion then centered on the finding that lower riverbank vegetation has significantly increased since 2008. CRSEC stated they have not had a chance to verify that yet, however, they believe the concluding sentence about vegetation continuing to spread is not accurate. FirstLight indicated that data collected at bank restoration sites and observations made during the FRR support the conclusion that lower riverbank vegetation has increased and continues to spread.

Discussion then focused on the erosion feature observed at the Urgiel site. CRSEC asked FirstLight for their initial reactions as to why this feature may exist. FirstLight stated they are currently unsure exactly how or why this feature formed, but noted that the Urgiel site is one of the detailed study sites being examined as part of Study No. 3.1.2 (Causation Study). MADEP noted that the erosion feature appears to have much

more to do with localized hydrology than the hydraulics of the river. MADEP noted this site could be a good example for FirstLight to demonstrate how the classification for this segment was developed.

Section 8

CRSEC expressed disappointment that the Final Report did not acknowledge that federal funding was used on previous bank stabilization efforts or the work of the Stream Bank Erosion Committee to push for more bioremediation type projects.

Meeting Wrap-up

CRSEC indicated they would like to schedule another meeting to discuss the list of sites proposed for bank stabilization.

FirstLight reminded the Stakeholders that November 14 is the deadline for filing comments.

CRSEC questioned why FERC Compliance was not present at the meeting and if FirstLight extended the invitation to them. FirstLight indicated that the invitation was sent to FERC Compliance and due to a scheduling conflict they were unable to attend. Brandon Cherry (FERC) confirmed this.

Meeting adjourned.