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MEMORANDUM

DATE: March 9, 2015 QA Tracking #: RFA 12116

SUBJ: QA Unit Review
Sediment Management Plan - 2014 Summary of Annual Monitoring
Northfield Mountain Pumped Storage Project
FERC No 2485-058
Northfield, MA

Prepared by: Gomez & Sullivan Engineers, P.C.
Prepared for: FirstLight Power Resources Services, LLC

FROM: Nora J. Conlon, Ph.D., EPA QA Chemist
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TO: John Howard- FirstLight
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The QA Unit has reviewed the above referenced document that was received electronically on December 1, 2014. The document was reviewed to evaluate the sediment data collection to date and how the data have been used to understand the sedimentation in the Upper Reservoir and to propose management measures to prevent future sediment discharges to the Connecticut River.

Comments

1. The report, which was received as required by December 1, 2014, contains an incomplete evaluation of the data collected from both continuous monitoring instruments (LISST) and the periodic grab samples for laboratory analysis. The results do not describe the particle size distribution, the correlation of LISST data and grab samples for SSC and TSS, the plant operation status in relation to individual TSS/SSC laboratory data results, or flow in relation to individual SSC results. It is unclear how the data can be used to inform decisions on preventing discharges of sediment to the Connecticut River or how it supports the goal of proposing management measures to address entrainment of sediment into the Project works during Upper Reservoir drawdown or dewatering activities to prevent future sedimentation events.

2. Pg 8, TSS/SSC data: The summary paragraph states that the average holding time was 12 days. All TSS/SSC sample holding times are 7 days from date of collecting. Samples analyzed beyond 7 days should not be

included in the data analysis. Additionally, an explanation should be provided to address the missed holding times.

3. Pg 12-13, Grab Samples: EPA required at least monthly grab TSS samples to be collected; therefore, the in-stream samples on a mostly weekly basis met the requirement. The purpose of the grab samples was as a quality control check for LISST data. Median values are of limited utility - data should be directly correlated. Additionally, the SSC data has not yet been used to convert LISST data, which was a primary purpose for its collection. Please present the individual results for all grab data, provide corresponding LISST data, as appropriate, and place it in context of flow and plant operation status. Only TSS/SSC data that were analyzed within the 7 day holding time should be used.

4. Spring Grab Samples: No grab samples from the LISST instruments were collected during higher flows of the spring runoff. Please provide the explanation. It seems that this data would be useful for understanding when more sedimentation would occur in the plant works.

5. Figure 3.7: The SSC data from the LISST-HYDRO sampling in the tailrace looks to follow the flow with the highest concentrations in the April. What is believed to contribute to the spike in August?

6. Pg 24, Summary: The complete evaluation of the data is needed prior to being able to draw conclusions about its usability. The evaluation is necessary to inform the sampling and analysis strategy for 2015.

7. There is no data or analysis on sediment particle size distribution (except in the Alden report). Is this data being utilized, and if so, how is it being utilized?

8. What is the modeled concentration of sediment that would be discharged to the CT River be during the periodic drawdown exercises as part of the management scenario? One of the suggested management techniques is to periodically drawdown to flush sediment back into the river. How much sediment will be released, what will the concentration of sediment be and what will the duration be of the discharge?

9. A suggestion for the 2015 sampling season would be to augment the current sampling program with a robust sampling program of grab samples that would be taken under various conditions: high and low flow, pumping, generating, drawdown, etc.

If you have any questions, please call me at (617) 918-8335.