

Admin #592

Ericp Nelson /R1/USEPA/US
10/24/2005 12:08 PM

To palmeag@nu.com
cc mmattson@normandeau.com, Sharon
Zaya/R1/USEPA/US@EPA
bcc
Subject Re: High Debris Loading Sampling Protocol

Allan, Mark:

I've been thinking your proposed modification in the context of what the goal is of conducting six-day samples. These "long interval" samples, as Merrimack Station's monitoring plan indicates, were intended to detect the impingement of key migratory species (i.e., Atlantic salmon, shad, eel, alewife). I thought this was a good approach to quantifying the impingement of migrating fish, given what is likely to be the highly variable presence of these species as some move downstream now, and some in spring. The proposed sub-sampling will provide some useful information, but we will not consider it representative of the 6-day sampling since it does not appear to accomplish what the 6-day sampling was intended to do. I realize the plant is experiencing high loads, and processing these loads seems impractical, but it's unfortunate that the period when alewife might be moving downstream in significant numbers is not covered by long-interval sampling.

You may modify the 6-day sampling plan for the three-week period beginning 27 October, as described in the proposal you submitted by e-mail on 10/20/2005. We will review the subsampling data as a separate data set. The final report should present it as such.

The 24-hour samples will still be collected during this time period, as described in 2.4.2.2 in the sampling plan.

Call if you have any questions.

Regards,
Eric

Eric P. Nelson

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palmeag@nu.com
10/20/2005 05:11 PM

To Ericp Nelson/R1/USEPA/US@EPA
cc mmattson@normandeau.com, Sharon
Zaya/R1/USEPA/US@EPA
Subject High Debris Loading Sampling Protocol

Eric, We have been trying to find a workable solution to address your issue regarding the integrity of long term samples during periods of high debris loading (a few weeks in the spring & fall). We have learned that these periods involve serious volumes of material that is impossible to collect and manage. Instead of keeping the baskets in-place and simply overflowing debris, we will continue to sample throughout the period, but will use much shorter durations.

Given current conditions and experience, we have targeted the fall period to run from 10/27 thru 11/17. When a 24-hour sample is not being collected during these 3 weeks, a random 1-hour sample will be collected each and every day. All impinged fish will be identified to the lowest practical taxon, regardless of species.

Obviously the critical time for this protocol is at hand so we ask for your prompt review and approval of this revision. We think this procedure provides substantial and continuous impingement information while allowing us to avoid much of the hassle of managing yards of debris. Thanks, Allan. (See attached file: High Debris Period Impingement Sampling Protocol 20 Oct 05.doc)

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High Debris Period Impingement Sampling Protocol 20 Oct 05.doc



palmeag@nu.com
10/20/2005 05:11 PM

To Ericp Nelson/R1/USEPA/US@EPA
cc mmattson@normandeanu.com, Sharon
Zaya/R1/USEPA/US@EPA
bcc

Subject High Debris Loading Sampling Protocol

History: This message has been replied to.

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High Debris Period Impingement Sampling Protocol 20 Oct 05.doc

Note: This Section will be inserted into the Merrimack Station Quality Assurance Plan and Standard Operating Procedures for Impingement Monitoring as Revision 1, October 2005

20 October 2005

Attachment 1

2.4.2.5 Long-Interval (6-Day) Samples Collected During Periods of High Debris Loads

Plant operators report that natural debris from the traveling screen washes at the Merrimack Station Unit 1 and Unit 2 CWIS can each exceed 30 gallons per hour during the autumn period as dead aquatic vegetation is combined with deciduous leaves and pine needles from terrestrial vegetation in the cooling water withdrawn from the Merrimack River. This high debris period typically requires continuous washing of the traveling screens at each operating unit, and will produce in excess of 21 cubic yards of debris from each unit during a 6-day period. Based on past experience and current observations of the progression of the 2005 autumn season, Merrimack Station has identified the three week period from 27 October 2005 through 17 November 2005 as the most likely high debris period for this year. The following protocol describes a sub-sampling procedure to collect hourly impingement samples daily to **replace the** long interval (6-day) samples during this three-week high debris period.

- The period of high debris load at Merrimack Station Unit 1 and Unit 2 during 2005 is defined as 27 October through 17 November.
- During the 2005 period of high debris load, the impingement collection baskets will be removed from the impingement troughs at Merrimack Station Unit 1 and Unit 2 so that the wash contents will be allowed to flow back into the river during the high debris period.
- A total of six randomly selected one-hour sub-samples will be collected from each Unit to **represent** the long-interval (6-day) samples during the period of high debris load.
- Normandeau will randomly select a one-hour period out of every 24 hours for each day during the long interval (6-day) impingement samples to represent the sub-sample of impingement for that day at each Unit.
- A schedule will be prepared in advance identifying the randomly selected hours for each Unit on each day.
- The entire contents of fish and debris washed off of all operable traveling screens at each Unit will be collected during the randomly selected hour on each day by deploying and retrieving the impingement collection basket at the beginning and end of that hour.
- The Unit, date, beginning and end wash times represented by each one-hour sub-sample will be recorded on the tag for the bag(s) containing each one-hour sub-sample from each Unit.
- The sum of the six one-hour sub-samples from consecutive days will constitute the composite sub-sample for the long interval (6 day) sample from each Unit during periods of high debris loads.
- All QC reinspection will apply to the one-hour sub-samples and not to the composite sub-samples.
- The composite sub-sample for each Unit will be processed as described in Section 2.4.5. Note that all impinged fish in each composite sub-sample will be identified to the lowest practical taxon, counted, and weighed, and not just the four migratory species as was specified in Revision 0 of this SOP.
- A similar protocol may also be necessary during spring runoff.