AK-229

DeMeo, Sharon M.

From: allan.palmer@nu.com
Sent: Wednesday, July 31, 2013 2:57 PM
To: Cobb, Michael
Cc: DeMeo, Sharon M.; Houlihan, Damien; linda.landis@nu.com; Stein, Mark
Subject: Schiller Station NPDES issues

Hello again Michael.

As we discussed Monday, the Enercon follow-up report with the majority of your remaining answers was just being completed when you returned the latest email update with a new question on dual flow screens. We directed Enercon to postpone the report until they were able to include a response to your new question 7. (see below). We hope to provide you the report with all of the answers within the next two weeks. With the regard to the remaining issues:

- The Enercon Report is sizable and contains information that is confidential to both PSNH and third party vendors. Linda Landis is working through the document to identify areas that do not require protection. Please have Attorney Stein contact Ms. Landis if more details are required at this time.
- Enercon is providing an overview of a fish return system which we can discuss once you have a chance to review the follow-up report.
- With regard to turning off circ pumps when the generating units come off-line, we are currently considering whether the practice can be followed under all circumstances, including during short term standby status. To date, we have made no changes.

Thanks, Allan.

From: "Cobb, Michael" <Cobb.Michael@epa.gov>
To: Allan G. Palmer/NUS@NU
Cc: Linda T. Landis/NUS@NU, "Stein, Mark" <Stein.Mark@epa.gov>, "DeMeo, Sharon M." <Demeo.Sharon@epa.gov>, "Houlihan, Damien" <houlihan.damien@epa.gov>
Date: 07/17/2013 01:55 PM
Subject:

Good afternoon Allan,

This is to follow-up regarding information previously requested by EPA. Here are the items that are still unresolved (your 4/2/13 responses are in red):

1. Either a redacted version of the October 2008 Response to EPA's CWA § 308 letter or a letter from PSNH releasing the CBI designation for the same report.

EPA must produce a publicly reviewable record and when an entire report is claimed CBI, this becomes difficult. If PSNH is unable or unwilling to provide a redacted version, EPA will have no choice but to initiate formal procedures in accordance with 40 CFR Part 2, Subpart B to substantiate PSNH's assertion that your entire submission is CBI.

2. ... Please also include intake velocity calculation at the intake point of the Unit 4 pipe based on maximum design flow.
We have asked Enercon to analyze the velocity at the bar rack at the offshore inlet and will provide the estimate when available.

3. Please provide further explanation why the installation of multi-disc screens would result in higher through-screen velocities especially when combined the Unit 3 renovations, since the Unit 3 renovations is reported to reduce intake velocity. EPA notes that for Merrimack Station, PSNH reported that the installation of multi-disc screens would reduce impingement mortality by 69% for

Unit 1 and 80% for Unit 2.

We are working with Enercon to work out the details to this issue and will provide the response when it is available.

4. Please provide further explanation why the installation of WIP screens would result in smaller screen surface area overall (and higher through-screen velocities) especially when combined the Unit 3 renovations, since the Unit 3 renovations is reported to reduce intake velocity.
We are working with Enercon to work out the details to this issue and will provide the response when it is available.

5. Please provide an evaluation of a combined fish return system that connects both screen houses and engineered to transport fish away from the intake structures based on the direction of tidal flow.
We have not considered a combined fish return system and, as stated in the 2008 Report, additional studies are required to identify optimum discharge locations and determine the feasibility of adequate support structures. This work represents a significant effort with commensurate costs for both biological and engineering evaluations. PSNH requests a discussion with EPA before we commit to such an evaluation.
EPA would like to set up a time it discuss this option, which is a potential, viable component of BTA at Schiller Station. Thank you.

6. Your 5/28/13 email includes a discussion of the unlikelihood of Schiller Station running any of its Units with only one pump. You also state that "[r]egarding **shutdown**, we believe all three units can turn off both pumps within roughly two hours of securing the turbine. This modification could reduce station water flow by an appreciable amount and we are currently considering implementing this change as standard procedure." (emphasis added) Please confirm whether you are referring to the infrequent "shutdown" periods used for maintenance or the more frequent "standby" status periods. Also, please verify whether this procedure has been or will be implemented in the future.

7. EPA also requests additional information about the feasibility of dual-flow screens at Schiller Station. PSNH determined that dual-flow screens were technologically infeasible because the size of the existing intake structure could not accommodate a dual-flow retrofit. PSNH also indicated that total replacement or extensive modifications of the intake structures would be required at a cost much higher than the cost of the screens themselves. Please provide further explanation or supporting information to document or explain these assessments.

Please feel free to contact me if you have any questions or would like to discuss any of these items more thoroughly.

Best,

Michael Cobb
Environmental Engineer
U.S. Environmental Protection Agency
5 Post Office Sq. Suite 100
Mail Code: OEP06-1
Boston, MA 02139-3912
(617) 918-1369

DeMeo, Sharon M.

From: Cobb, Michael
Sent: Wednesday, July 17, 2013 1:56 PM
To: allan.palmer@nu.com
Cc: linda.landis@nu.com; Stein, Mark; DeMeo, Sharon M.; Houlihan, Damien

Good afternoon Allan,

This is to follow-up regarding information previously requested by EPA. Here are the items that are still unresolved (your 4/2/13 responses are in red):

1. Either a redacted version of the October 2008 Response to EPA's CWA § 308 letter or a letter from PSNH releasing the CBI designation for the same report.

EPA must produce a publicly reviewable record and when an entire report is claimed CBI, this becomes difficult. If PSNH is unable or unwilling to provide a redacted version, EPA will have no choice but to initiate formal procedures in accordance with 40 CFR Part 2, Subpart B to substantiate PSNH's assertion that your entire submission is CBI.

2. ... Please also include intake velocity calculation at the intake point of the Unit 4 pipe based on maximum design flow.

We have asked Enercon to analyze the velocity at the bar rack at the offshore inlet and will provide the estimate when available.

3. Please provide further explanation why the installation of multi-disc screens would result in higher through-screen velocities especially when combined the Unit 3 renovations, since the Unit 3 renovations is reported to reduce intake velocity. EPA notes that for Merrimack Station, PSNH reported that the installation of multi-disc screens would reduce impingement mortality by 69% for Unit 1 and 80% for Unit 2.

We are working with Enercon to work out the details to this issue and will provide the response when it is available.

4. Please provide further explanation why the installation of WIP screens would result in smaller screen surface area overall (and higher through-screen velocities) especially when combined the Unit 3 renovations, since the Unit 3 renovations is reported to reduce intake velocity.

We are working with Enercon to work out the details to this issue and will provide the response when it is available.

5. Please provide an evaluation of a combined fish return system that connects both screen houses and engineered to transport fish away from the intake structures based on the direction of tidal flow.

We have not considered a combined fish return system and, as stated in the 2008 Report, additional studies are required to identify optimum discharge locations and determine the feasibility of adequate support structures. This work represents a significant effort with commensurate costs for both biological and engineering evaluations. PSNH requests a discussion with EPA before we commit to such an evaluation.

EPA would like to set up a time it discuss this option, which is a potential, viable component of BTA at Schiller Station. Thank you.

6. Your 5/28/13 email includes a discussion of the unlikelihood of Schiller Station running any of its Units with only one pump. You also state that "[r]egarding **shutdown**, we believe all three units can turn off both pumps within roughly two hours of securing the turbine. This modification could reduce station water flow by an appreciable amount

and we are currently considering implementing this change as standard procedure." (emphasis added) Please confirm whether you are referring to the infrequent "shutdown" periods used for maintenance or the more frequent "standby" status periods. Also, please verify whether this procedure has been or will be implemented in the future.

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Please feel free to contact me if you have any questions or would like to discuss any of these items more thoroughly.

Best,

Michael Cobb
Environmental Engineer
U.S. Environmental Protection Agency
5 Post Office Sq. Suite 100
Mail Code: OEP06-1
Boston, MA 02139-3912
(617) 918-1369

DeMeo, Sharon M.

From: Cobb, Michael
Sent: Wednesday, May 29, 2013 4:55 PM
To: DeMeo, Sharon M.
Subject: FW: Schiller Station Circulating Water Pumps

In case you didn't get this when I forwarded it yesterday.

From: allan.palmer@nu.com [mailto:allan.palmer@nu.com]
Sent: Tuesday, May 28, 2013 12:06 PM
To: Cobb, Michael
Cc: linda.landis@nu.com; william.smagula@nu.com; elizabeth.tillotson@nu.com; richard.despins@nu.com; peter.leavitt@nu.com; felicia.giordano@nu.com; jeffrey.patry@nu.com
Subject: Schiller Station Circulating Water Pumps

Michael, In response to your questions regarding the operation of circulators at Schiller, I have the following additional information to offer:

Typically we operate both pumps and will keep them running when the units are on a cycling schedule (dispatched to run on an intermittent basis). If the pumps have been off, they are typically both started as part of the normal procedure when a unit is called on to generate. We believe it is possible, however, to start Unit 6 with only one pump and to bring it on-line to slightly more than 10 MWhr . We believe Unit 5 is similar, however, it has not been tested since this wood-fired unit is generally base loaded. We are fairly confident that Unit 6 could operate at this low load on one pump for an extended period (assuming we can maintain compliance with the thermal limits), however, Unit 5 would never be kept at a 10 MWhr load. Unit 4 requires both pumps to operate. So unless Unit 6 were to remain at low load for an extended period, there appears to be little gained from running a unit with a single pump.

Regarding shutdown, we believe all three units can turn off both pumps within roughly two hours of securing the turbine. This modification could reduce station water flow by an appreciable amount and we are currently considering implementing this change as standard procedure.

Please let me know if you have any questions. Thanks, Allan.