
‘EPA REGION 1 - FILE MEMORANDUM

TO: MERRIMACK STATION NPDES PERMIT FILE

FROM: MARK STEIN, DANIELLE GAITO, ERIC NELSON

SUBJECT: NOTES ON OCTOBER 1, 2019, TELEPHONE CONFERENCE CALL BETWEEN EPA REGION 1 AND GRANITE SHORE POWER, LLC

DATE: OCTOBER 7, 2019

On October 1, 2019, representatives of EPA Region 1 (EPA, the Region, Region 1 or the Agency) and Granite Shore Power, LLC (GSP or the Company), had a conference call to discuss issues related to EPA’s continuing efforts to reissue the NPDES permit for GSP’s Merrimack Station power plant (the Facility). EPA was represented on the phone call by Danielle Gaito, Eric Nelson, and Mark Stein, while GSP was represented by James Andrews and Lynn Tillotson of GSP and Stephen Gidiere and Tom DeLawrence of Balch & Bingham, GSP’s outside law firm.

As an agenda for the call, the participants agreed to use a list of issues that GSP’s attorney Stephen Gidiere had emailed to Mark Stein on September 10, 2019, with the heading, “Merrimack NPDES Permit – Open Items.” A copy of this record is attached hereto as **Attachment A**.

1. ***Chronic Thermal Effects:*** The first topic of discussion was compliance with permit requirements intended to prevent adverse chronic effects to the balanced indigenous population of organisms in the river (BIP) from longer-term exposure during the warm weather season to elevated water temperatures resulting from the Facility’s thermal discharges. EPA explained that given the Facility’s reduced operations in recent years (*i.e.*, no longer running as a baseload unit), and given information in the record potentially indicating that with these reduced thermal discharges, river temperatures could be maintained at protective levels, the Agency was considering a set of temperature limits intended to limit the Facility to operating within its current profile and within protective ambient chronic limits. Without conceding that such limits were necessary, GSP agreed in concept to the idea of permit requirements intended to maintain the current operational mode – which GSP expects the Facility to do for the foreseeable future – but still wanted to ensure that the specific permit requirements allowed the Facility to help serve the region’s electricity needs and, as a result, make money.

In light of these considerations, EPA had proposed the idea of having a Facility capacity factor (CF) limit coupled with chronic ambient temperature limits. These limits would be applied so that as long as the Facility met the CF limit, it would be considered in compliance with the permit, but if it exceeded the CF limit, it would still be considered in compliance as long as the chronic temperature limits were not exceeded at Monitoring Station S-4 (S-4). It would be a violation of the permit, however, if the Facility exceeded both the CF limit and the chronic limits at S-4. In prior meetings, EPA had proposed a CF limit of 35%, whereas GSP later counter-proposed a CF of 60%.

After the parties' last prior meeting, GSP had proposed a CF of 45% measured on a 45-day rolling average basis (see Attachment A). In response to GSP's proposals, EPA expressed concern that GSP's proposed values would potentially not be protective of the BIP by allowing too many consecutive days of temperatures exceeding the chronic temperature limits. EPA also suggested that operations data indicated that the Facility has not operated at a level as high as 45% in recent years. GSP responded that while it was not likely to operate that much, it did operate as high as 45% in 2012/2013, and it could not be sure of, and has no control over, when the Facility will be needed by the New England Independent System Operator (ISO). Therefore, GSP wants the Facility to be available whenever possible to meet the ISO's needs (and make money). GSP also noted that acute temperature limits will apply help to protect the fish, but EPA noted that acute limits help prevent mortality and other acute harm, but chronic impacts are also a concern that must be addressed. EPA assured GSP that the Agency is not trying to prevent the Facility from making money or from providing needed electricity to the region and is only trying to reasonably assure protection of the BIP consistent with the Clean Water Act in a complicated permitting scenario.

EPA indicated that regarding true electric supply emergencies, it was still considering GSP's proposal that the Facility be allowed to operate without permit violations if called upon by the ISO in an "OP-4" emergency for the Region. GSP indicated that such situations were both unusual and of short duration, and that, in the case of an OP-4 event, Merrimack would already be running.

EPA indicated that it would also further consider whether a capacity factor higher than its prior proposal of 35% could be adequately protective over a 45-day rolling average period or a shorter rolling average period (e.g., 40% over a 45-day rolling average, which Jim Andrews indicated that GSP could perhaps live with).

GSP noted that renewables are nowadays often called up before a coal-burning facility like Merrimack Station, and the Facility is unlikely to be called up more often in the future, but it may be needed in acute situations, particularly in the winter, or if a large generator goes off-line unexpectedly. GSP noted that Merrimack Station only ran 14 or 15 days in 2019 in the summer, including some time running at GSP's own behest in order to test and improve boiler efficiency.

2. Summer Acute Temperature Limits: EPA indicated that it had done some additional analysis of the record and the literature and concluded that it had not applied the 2°C buffer twice in its computations for developing acute temperature limits, as suggested by Stephen Gidiere during the August 27, 2019 meeting. EPA also noted that, based on this review, it was considering making some small adjustments to the acute temperature limits and time periods, as follows: from May 1-31: 29.3°C; from June 1- June 21: 30.9°C; from June 22 – July 31: 31.3°C.

GSP indicated that it preliminarily thought that it could live with those temperatures and time periods.

GSP's Open Items list (Attachment A) proposed that if the acute temperature value was met or exceeded at S-4, then the Facility would be allowed 6 hours to reduce operations (and discharges) to bring the ambient values below the acute temperature values (and not requiring reductions that would be below the Facility's "minimum safe operating loads"). EPA indicated that it was inclined to reduce that time-span to 4 hours as per earlier discussions. GSP responded that it had proposed six hours because it thought that EPA had earlier suggested that value.

EPA asked what GSP meant by “minimum safe operating load” and the company indicated that it meant that generation would be backed down in a safe, orderly manner so as not to threaten major damage to equipment or risks to personnel. GSP indicated that it does not have experience with how long it takes to properly reduce load, but it believes it can get that experience during the implementation period provided for in the compliance schedule it proposed. EPA indicated that it expects that during this implementation period, as we have discussed before, GSP can figure out how to best operate the plant to comply with the permit.

3. ***Delta-T:*** EPA indicated that it currently thought that it would be able to agree with the Delta-T approach when ambient temperatures exceed chronic temperature limits as spelled out in GSP’s Open Items list (Attachment A), which follows on discussions from previous meetings. In its Open Items list, GSP also proposes to apply this Delta-T approach when ambient temperatures exceed acute temperature limits. Prior to the Open Items list, EPA had not considered this approach for acute temperatures and indicated to GSP that it would have to evaluate potential impacts to the BIP. EPA also noted that it is not aware of ambient temperatures approaching or exceeding acute temperature limits based on data collected over the past several years.

4. ***Compliance Schedule for Meeting Thermal Discharge Requirements:*** EPA indicated that it currently thought it could agree with the compliance schedule approach spelled out in GSP’s Open Items List (Attachment A).

5. ***Compliance Schedule for Requirements Under CWA § 316(b):*** EPA asked what GSP wanted to study regarding (wedgewire) “screen feasibility and effectiveness” given that it had already done some pilot testing in the Merrimack River. GSP indicated that it only had, in essence, “one data point” from that single study and it wanted to do some additional work to develop a more robust estimate of site-specific wedgewire screen effectiveness to provide a well-supported target effectiveness for the compliance approach to be applied to satisfy CWA § 316(b). GSP noted that the schedule would have to allow for work to be done in-river from April to July in order to capture the entrainment period. EPA indicated that it currently thought it could agree with the compliance schedule approach spelled out in GSP’s Open Items List (Attachment A).

Attachment A

Draft / For Discussion Purposes Only

MERRIMACK NPDES PERMIT—OPEN ITEMS

Capacity Factor for Summer Alternative Compliance with Chronic Temp Limit:

45% CF / 45-day rolling average / May-Sept. / If highest 45-day average CF in a month is at or below 45%, then weekly average temp limits do not apply that month / two options for May (permit would only include one of them):

- a. May uses 31-day rolling average; or
- b. use last two weeks of April to calculate a 45-day average at end of May

Summer Acute Temperature Limit: May-July only / Daily maximum / 30.9°C^1 / Measured as hourly average at S-4 / If the measured hourly average temperature at S-4 is above 30.9°C , the permittee remains in compliance with this effluent limitation so long as it, as soon as possible but within a period no longer than six hours following the hour in which S-4 measured above 30.9°C , reduces the thermal output of the discharge either: to the extent that the measured hourly average temperature does not exceed 30.9°C as an hourly average, or to the minimum safe operating load for the units.²

Delta-T: Because ambient temperatures in the river may at times approach or exceed the chronic and/or acute levels identified in the permit, the permit should provide that compliance is maintained with both so long as S-4 is no more than 2°C greater than N-10 or N-5 (whichever location is used for ambient temp at the time). The permit should also specify that so long as the Station is not generating, there cannot be non-compliance with thermal limits.

Compliance Schedule for Thermal Limits: Permit must include a minimum 18-month compliance period to install and test monitors (e.g., new winter placement) and before chronic and acute thermal limits become effective (due to need to develop standard operating procedures).

Section 316(b) Compliance: BTA=wedgewire screens / two-stage compliance schedule: 1) period to study screen feasibility and effectiveness and 2) period to select and implement option for achieving similar effectiveness.