



# LOWELL REGIONAL WASTEWATER UTILITY

WASTEWATER COLLECTION AND TREATMENT

AR-1232



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**TO:** Sharon DeMeo  
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U.S. Environmental Protection Agency – Region 1  
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**SUBJECT:** Lowell Regional Wastewater Utility's Management of PSNH Hauled Waste

**DATE:** October 20, 2014

The Lowell Regional Wastewater Utility (LRWWU) has reviewed comments submitted collectively, on August 18, 2014, by Earthjustice, Environmental Integrity Project, Sierra Club, and the Conservation Law Foundation ("the Environmental Organizations").

The comments pertain to the issuance of a draft National Pollutant Discharge Elimination System (NPDES) permit for "Merrimack Station", an electrical power generation plant in Bow, NH that is operated by the Public Service of New Hampshire (PSNH). As a by-product of its power generation process, Merrimack Station generates a Flue Gas Desulfurization (FGD) waste stream.

LRWWU owns and operates the Duck Island Wastewater Treatment Facility (WWTF), a municipal sewage treatment plant that accepts domestic, commercial, and industrial wastewaters from Lowell and its four surrounding towns. The Duck Island WWTF also accepts domestic and commercial septage, as well as industrial hauled waste, including FGD wastewater from Merrimack Station. LRWWU provides the following responses to comments from the Environmental Organizations related to FGD wastewater:

## LRWWU's NPDES Permit Compliance

- **Environmental Organizations:** "EPA should determine whether the POTWs receiving FGD wastewater from the Merrimack Station are violating their NPDES permits by doing so...."
- **LRWWU:** LRWWU has not violated its NPDES permit as a result of accepting FGD hauled wastewater from Merrimack Station. LRWWU takes seriously its responsibility to meet NPDES permit conditions and protect water quality in the Merrimack River. We would not accept this wastewater if it jeopardized our compliance and the river's health.

## LRWWU's Pretreatment Standards

- **Environmental Organizations:** "EPA should insist that each POTW that has received FGD wastewater from Merrimack Station revise its local pretreatment standards to prohibit Merrimack Station from sending FGD wastewater to the POTW."
- **LRWWU:** LRWWU's Industrial Pretreatment Program (IPP), an EPA-approved program, monitors and regulates all significant industrial discharges to the Duck Island WWTF, including the FGD wastewater from Merrimack Station. The purpose of LRWWU's IPP is to prevent pass-through and interference at the Duck Island WWTF.

Pass-through refers to a receiving stream discharge containing constituents that violate NPDES permit conditions. Interference refers to constituents in wastewater or sludge that disrupt the wastewater treatment process or wastewater sludge disposal. Please refer to excerpts below from Part 40 of the Code of Federal Regulations (CFR) for definitions of pass-through and interference.

It is important to recognize that the **presence** of trace metallic ions in wastewater, receiving stream discharges, or wastewater sludges does not necessarily constitute "pass-through" or "interference." In order for pass-through or interference to occur, the "**quantity or concentration**" of a particular constituent must be great enough to cause a permit violation, a process upset, or a restriction in the use of sludge. LRWWU's IPP consistently achieves its objectives of protecting the Duck Island WWTF, the Merrimack River, and the environment from pass-through and interference. Therefore, there is no reason for LRWWU to revise its local pretreatment standards.

#### Definitions:

**"Pass-through"** is defined in 40 CFR 403.3(p) as *"a discharge which exits the POTW into waters of the United States in quantities or concentrations which alone, or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation)."*

**"Interference"** is defined in 40 CFR 403.3(k) as *"a discharge which alone, or in conjunction with a discharge or discharges from other sources, both: (1) inhibits or disrupts the POTW, its treatment processes or operations, or its sludge processes, use or disposal; and (2) therefore is a cause of a violation of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation) or the prevention of sewage sludge use or disposal..."*

#### Presence of Pollutants in FGD Wastewater

- **Environmental Organizations:** *"EPA notes that a number of toxic pollutants, including persistent, bioaccumulative toxins, are present in FGD wastewater..."*
- **LRWWU:** Over the past three years, LRWWU has periodically analyzed the FGD wastewater that it has accepted from Merrimack Station. Analytical data indicates the presence of trace concentrations of dissolved metals, and nothing else of concern. The metallic concentrations are always less than one part per million (ppm), often a tiny fraction of a single ppm. Trace levels of dissolved metals are common in many liquid wastes, including domestic and commercial sewage.

The presence of low concentrations of dissolved metals does not necessarily represent a threat to human health or the environment. The bio-toxicity of dissolved metals is dependent upon many factors, all of which are considered when water quality and sludge standards are developed. These conservative federal and state standards limit the amount of dissolved metals that can be accepted into the Duck Island WWTF and discharged to the Merrimack River. In all cases, LRWWU complies with these environmental standards.

#### Fate of Pollutants in FGD Wastewater

- **Environmental Organizations:** *"EPA notes... that POTWs are not designed to remove the toxic pollutants present in FGD wastewater from Merrimack, such as Mercury and Selenium... These constituents are generally expected to pass through a typical municipal sewage treatment plant."*
- **LRWWU:** The Duck Island WWTF is not specifically designed to remove trace amounts of Mercury, Selenium, or other dissolved metallic ions that are typically found in domestic, commercial, and industrial wastewaters. At the concentration levels found in Duck Island's waste streams, metallic ions either remain dissolved in the water phase or partition into wastewater sludge (solids). Dissolved metallic ions are discharged to the Merrimack River, while those that aggregate in wastewater sludge are disposed with the sludge.

Because many of the dissolved metallic concentrations found in wastewater are near or below detection limits, the removal efficiencies often cannot be calculated. In these instances, literature values for typical removal efficiencies are utilized. The 2004 EPA Local Limits Development Guidance Appendices (Appendix R, Page 2) list median removal efficiencies for Mercury (60%) and Selenium (50%). These literature values indicate that roughly half of the trace amounts of these two metals are discharged to a receiving stream, and the other half are disposed in wastewater sludge.

### Revision of LRWWU's NPDES Permit

- **Environmental Organizations:** *"EPA should issue a final NPDES permit for Merrimack Station that...revises the NPDES permit for each POTW receiving FGD wastewater from Merrimack, if the existing permit does not adequately address FGD wastewater."*
- **LRWWU:** LRWWU's NPDES permit should not be revised to address FGD wastewater because LRWWU properly manages this waste stream through the implementation of its IPP. The presence of trace concentrations of dissolved metallic ions in FGD wastewater, the non-detectable or barely-detectable concentrations levels of these metallic ions in LRWWU's Duck Island WWTF influent and effluent, and LRWWU's consistent compliance with pretreatment standards indicate that LRWWU's NPDES permit adequately addresses FGD wastewater.

### LRWWU's Acceptance of FGD Wastewater

- **Environmental Organizations:** *"EPA must not allow POTWs to continue to discharge Merrimack Station's FGD wastewater without adequate treatment or in a manner that causes or contributes to a violation of the state water quality standards."*
- **LRWWU:** LRWWU's is meeting all of the conditions of its NPDES permit and is properly managing its IPP. Therefore, LRWWU should be allowed to continue receiving FGD wastewater from Merrimack Station.

Thank you for the opportunity to respond to comments related to our management of FGD wastewater from Merrimack Station. LRWWU is proud of its commitment to maintaining water quality in the Merrimack River watershed. We look forward to collaborating with the EPA and other stakeholders in fulfilling this mission. Should you have any questions, please do not hesitate to call me at 978-674-1601.

Respectfully,



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