AB-1318

GZA
GeoEnvironmental, Inc.

Engineers and
Scientists

VIA EMAIL

February 9, 2012
File No. 04.0029307.00

Mr. Dana Clement
Superintendent
Allenstown Wastewater Treatment Facility
35 Canal Street
Allenstown, New Hampshire 03275

Re: Calculated Stream B Concentrations
Merrimack Station
Public Service of New Hampshire (PSNH)
Bow, New Hampshire

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Manchester
New Hampshire
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603-623-3600
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Dear Dana:

As presented in PSNH's Industrial Wastewater Discharge Permit Application, submitted in May 2011, the facility is equipped with a technologically-advanced wastewater treatment system which includes post-treatment systems that can be used to further reduce the volume of the treated waste stream (i.e., referred to as "Stream A"). These post-treatment systems are anticipated to become operational the week of February 13, 2012. With these post-treatment systems, PSNH will have the ability to reduce the volume of wastewater while maintaining pollutant concentrations that we believe to be compatible with your treatment system. The estimated volume of concentrated wastewater (Stream B) to be transported and disposed is approximately 7,000 to 10,000 gallons per day. We respectfully request that Allenstown Wastewater Treatment Facility consider accepting the Stream B.

The attached **Table 1** summarizes the calculated Stream B concentrations based on recent sampling events and the anticipated degree of volume reduction.

ANALYTICAL DISCUSSION

Flue Gas Desulfurization (FGD) wastewater requires specialized analytical techniques to overcome matrix interference for certain analysis of trace metals. To assist you in evaluating this issue further, we offer an excerpt below from the United States Environmental Protection Agency's (EPA) web site and a link to their draft Standard Operating Procedure (SOP) for trace metals analysis of FGD wastewater that contains further guidance.

LABORATORY ANALYSIS OF FGD WASTEWATER

Wastewater from FGD systems can contain constituents known to cause matrix interferences. EPA has observed that, during inductively coupled plasma – mass spectrometry (ICP-MS) analysis of FGD wastewater, certain elements commonly present in the wastewater may cause polyatomic interferences that bias the detection and/or quantization of certain elements of interest. These potential interferences may become significant when measuring trace elements at concentrations in the low parts-per-billion range.

TABLE 1
CALCULATED B STREAM CONCENTRATIONS
Public Service of New Hampshire - Merrimack Station

PARAMETER	CALCULATED B STREAM CONCENTRATIONS (mg/L)
Aluminum	0.299
Ammonia	6.69
Antimony	0.0038
Arsenic	0.036
Barium	2.2
Beryllium	0.0038
BOD	< 44
Cadmium	0.0015
Chloride	80,000
Chromium (T)	< 0.0036
COD	945
Cobalt	0.05
Copper	< 0.0036
Cyanide (T)	0.15
Fluoride	72.73
Iron	< 0.364
Lead	< 0.0015
Manganese	2.13
Mercury	0.000076
Molybdenum	1.02
Nitrate	727
Nickel	0.058
O&G	< 36
pH	7.3
Selenium	0.538
Silver	< 0.00073
TDS	152,727
Thallium	0.048
Tin	< 1.18
Titanium	< 0.12
Vanadium	< 0.26
Zinc	< 0.007
VOC EPA 624	ND
PCBs	ND

← permit limit expected w/out concentration.

NOTE:
1. These values were estimated using recent analytical results and calculating the resulting concentrations after volume reduction and are subject to change.
2. ND means not detected. These parameters are not expected to be present in the B Stream.