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R.I. Department of Environmental Management
Office of Water Resources
Fax No. (401) 222-3564

DATE: 9/12/06
TO: DAVID Pincumbe
OF: EPA 617-918-1505
FROM: Angelo Liberti

MESSAGE:

Number of pages including this cover sheet: _____

Please confirm receipt of fax (401) 222-4700, Ext. 4 YES NO

(please circle)

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RHODE ISLAND

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

235 Promenade Street, Providence, RI 02908-5767

TDD 401-222-4462

September 12, 2006

David Pincumbe
Municipal Permits Branch (CMP)
Office Of Ecosystem Protection
US Environmental Protection Agency
Congress Street, Suite 1100
Boston, MA 02114-2023

**Re: Draft NPDES Permit for the North Attleborough WWTF No. MA0101036 and
Attleboro Water Pollution Control Facility, NPDES Permit No. MA0100595**

Dear Mr. Pincumbe:

The Rhode Island Department of Environmental Management (DEM) has reviewed the permit limits contained in the draft permits referenced above and determined that many of these limits will result in violations of Rhode Island Water Quality Standards in RI waters. The Environmental Protection Agency (EPA) established all water quality-based permit limits using background concentration of zero and by allocating 100% of the criteria. As a result, the limits for the Attleboro facility were based on the assumption that the entire pollutant load from the North Attleborough facility was eliminated from the water column before reaching the Attleboro facility. This assumption is not reflective of actual conditions and when coupled with allocation of the entire criteria, results in permit limits that cause violations of RI Water Quality Standards. In addition, EPA has utilized an instream hardness value of 100 mg/l to compute the water quality criteria for metals. This value is significantly higher than values typically observed in RI waters and results in higher water quality criteria than DEM would anticipate. Please provide information to support the use of this hardness value.

The table below, compares the instream concentrations at the MA/RI state line that result from the draft permit limits, to the RI Water Quality Standards (please note that for the sake of this analysis the hardness of 100 mg/l was utilized based on the assumption that EPA will provide justification for using this value). The concentrations that will result at the state line were computed from a mass balance using a 7Q10 flow at the state line of 14.4 cfs (or 2.71 cfs, based on flow data collected from USGS gauge # 01109403 after subtracting out historical WWTF flows), the WWTF flows and pollutant concentration limits contained in the draft permits and are artificially low as the EPA assumption of pollution concentrations of zero upstream of the North Attleborough WWTF was also used. Attached is a spreadsheet that contains the details of this analysis.

	Ten Mile River Concentration at the RI Border ¹	RI Water Quality Standard	% Exceedance of RI Water Quality Standards
Phosphorus	0.177 mg/l	0.025 mg/l ²	606 %
Copper	10.5 ug/l	9.3 ug/l	12.9%
Lead	3.6 ug/l	3.2 ug/l	14.3%
Aluminum	98.5 ug/l	87 ug/l	13.2%
Zinc	135.5 ug/l	120 ug/l	13.1%
Cadmium	0.32 ug/l	0.27 ug/l	19.0%
Cyanide	5.2 ug/l	5.2 ug/l	0%

¹As noted above predicted concentrations are artificially low since the EPA assumption of pollutant concentrations of zero upstream of the North Attleborough WWTF was utilized.

²Rule 8.D.(2) of the Rhode Island Water Quality Regulations establishes the following criteria for Nutrients:

"Average Total Phosphorus shall not exceed 0.025 mg/l in any lake, pond, kettlehole or reservoir, and average Total P in tributaries at the point where they enter such bodies of water shall not cause exceedance of this phosphorus criteria, except as naturally occurs, unless the Director determines, on a site-specific basis, that a different value for phosphorus is necessary to prevent cultural eutrophication."

Determination of whether the water quality criterion of 25 ug/l is applicable to the Ten Mile River requires an evaluation of whether it flows into a lake, pond or reservoir (including whether run of the river impoundments constitute a lake, pond or reservoir). For the development of nutrient criteria, the EPA document titled *Nutrient Criteria Technical Guidance Manual: Lakes and Reservoirs: First Edition* has defined lakes as natural and artificial impoundments if they have a surface area greater than 10 acres and a minimum mean water residence time of 14 days. The Turner Reservoir on the Ten Mile Rivers meets both criteria and receives most of its flow from the Ten Mile River; therefore, the criterion of 25 ug/l must be met in the Ten Mile River at the point where it enters Turner Reservoir.

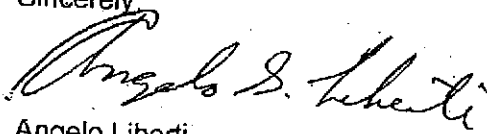
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Mr. Pincumbe
September 12, 2006

The table below is excerpt from the Final 2004 and the draft 2006 Rhode Island List of Impaired Waters ("303(d) list") and lists several waterbody segments that are impaired due to excessive metals and Phosphorus concentrations. As noted above the limits proposed by EPA would result in continued violation of many of these criteria even under the assumption that no other pollutant sources are present.

Waterbody ID	Waterbody Name	Cause
TEN MILE RIVER BASIN		
RI0004009L-01A	Turner Reservoir	LOW DO, Phosphorus, Lead (Pb), Copper (Cu) PATHOGENS
RI0004009L-01B	Turner Reservoir	LOW DO, Phosphorus, Lead (Pb), Copper (Cu) PATHOGENS
RI0004009L-02	Slater Park Pond	EXCESS ALGAL GROWTH/CHL-A, Phosphorus, PATHOGENS
RI0004009L-03	Omega Pond	Phosphorus, Lead (Pb), Copper (Cu)
RI0004009R-01A	Ten Mile River	Lead (Pb), Copper (Cu), Cadmium (Cd)
RI0004009R-01B	Ten Mile River	BIODIVERSITY IMPACTS, Copper (Cu), Lead (Pb)

As you know, pursuant to the NPDES regulations at 40 CFR 122.44(d) and 33USC Sec.1341(a)(2), NPDES limits must achieve compliance with water quality standards and limits must be included in permits where pollutants will cause, have reasonable potential to cause, or contribute to an exceedance of the State's water quality. As noted above the limits contained in the draft permit will result in violations of RI water quality standards and therefore, the limits must be revised using a Waste Load Allocation (WLA) strategy that includes an appropriate margin of safety to account for any lack of knowledge concerning the relationship between effluent limits and water quality, ensures an equitable distribution of pollutant loads and that at a minimum meets all Rhode Island water quality criteria at the state line.

Sincerely,



Angelo Liberti
Chief of Surface Water Protection

enclosure

cc: Paul Hogan, MADEP