

**ATTORNEY GENERAL
DEPARTMENT OF JUSTICE**

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CONCORD, NEW HAMPSHIRE 03301-6397

MICHAEL A. DELANEY
ATTORNEY GENERAL



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ANN M. RICE
DEPUTY ATTORNEY GENERAL

ENVIR. APPEALS BOARD

January 31, 2013

Via U.S. First Class Mail

ATTN: Eureka Durr
Clerk of the Board
U.S. Environmental Protection Agency
Environmental Appeals Board
1200 Pennsylvania Avenue, NW
Mail Code 1103M
Washington, DC 20460-0001

Re: *Town of Newmarket Wastewater Treatment Plant*
NPDES Appeal No. 05-12
NPDES Permit No. NH0100196

Dear Ms. Durr:

Enclosed you will find an original plus five (5) copies of New Hampshire Department of Environmental Services' Motion to File Non-Party Amicus Brief and Amicus Brief for filing in the above-referenced matter.

If you have any questions or comments, please do not hesitate to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "E. Mulholland".

Evan J. Mulholland
Assistant Attorney General
Environmental Protection Bureau
(603) 271-3679

EJM/llm

Enclosures

cc: Mr. Samir Bukhari

cc: Mr. John Hall

#860204

**BEFORE THE ENVIRONMENTAL APPEALS BOARD
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C.**

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ENVIR. APPEALS BOARD

_____)	
In the Matter of:)	
)	
Town of Newmarket)	
Wastewater Treatment Plant)	NPDES Appeal No. 05-12
)	
NPDES Permit No. NH0100196)	
)	
_____)	

**NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES'
MOTION TO FILE NON-PARTY AMICUS BRIEF
AND
AMICUS BRIEF**

The New Hampshire Department of Environmental Services respectfully requests leave to file a non-party amicus curiae brief, pursuant to 40 C.F.R. § 22.11(b), in the above-referenced matter in order to correct the record with respect to certain actions and positions alleged to have been taken by the New Hampshire Department of Environmental Services (“NHDES” or the “Department”). The Department takes no position on the Petitioner’s appeal in this matter other than the Department’s official position set forth in its unconditional certification, pursuant to Section 401 of the Clean Water Act, of the NPDES Permit at issue. The certification is attached as Exhibit A.

AMICUS BRIEF OF N.H. DEPARTMENT OF ENVIRONMENTAL SERVICES

The New Hampshire Department of Environmental Services files this amicus curiae brief to set forth its position on certain issues described in the Petition filed in this matter. The Petitioner has mischaracterized statements and positions made by NHDES with respect to the development of, use of, and the analyses supporting the document entitled “Numeric Nutrient Criteria for the Great Bay Estuary” (referenced by the Petitioner as the “2009 Numeric Criteria”). This amicus brief is an attempt by NHDES to correct some of the most important mischaracterizations.

1. Background.

After collecting several seasons of data and undertaking an analysis of those data, NHDES in June 2009 published the 2009 Numeric Criteria document. The 2009 Numeric Criteria document is a NHDES guidance document that describes the basis for certain thresholds that are used by NHDES, through a stressor-response decision matrix, to apply New Hampshire’s Water Quality Standards to the available data about the Great Bay Estuary. The numeric thresholds contained in the 2009 Numeric Criteria document have only been used by NHDES in the context of preparing a list of impaired waters under Section 303(d) of the Clean Water Act. These thresholds guide NHDES’s decision as to whether the narrative nutrient criteria were or were not being attained for a specific assessment unit within the Great Bay Estuary.

2. Underlying Studies

The Petition alleges that certain “underlying studies” were “deleted” from the 2009 Numeric Criteria document. Petition at 10, 18. This is not true. On the contrary, NHDES decided not to use several preliminary analyses conducted well prior to 2009 because the data

sets and methodology used in those graphs were both inconclusive and inadequate to reflect the complexity of the Estuary. For the final document, NHDES ultimately adopted an approach that used long-term averages to take into account delays in the biological response and nonlinear feedback in the complicated estuarine system. Available studies demonstrate that eelgrass loss and algae blooms are not expected to directly follow nitrogen concentrations and that plots of monthly data will not illustrate relationships in estuaries. The approach used by NHDES in the final document was able to illustrate the underlying relationships between nutrients and their effects. The initial analyses that had not been effective were not included in the final report, as was appropriate.

It is important to note that the nitrogen thresholds developed by NHDES in the 2009 Numeric Criteria document were peer reviewed by two independent experts from Cornell University and the University of Maryland. Both reviewers found the thresholds to be reasonable and well-supported by the data presented. In addition, the thresholds are consistent with levels set in other New England estuaries. The Petitioner's claims that the thresholds in the 2009 Numeric Criteria document were based on erroneous technical assumptions are unfounded. Petition at 18. Further, the Petitioner's claim that NHDES somehow admitted that the thresholds were based on erroneous technical assumptions is inaccurate. NHDES stands by the thresholds and the scientific evidence that supports them and will continue to use them in developing the list of impaired waters for the Great Bay Estuary.

3. Impairments

The most recent Section 303(d) list of impaired waters submitted to and approved by USEPA identified many of the assessments units in the Great Bay Estuary as impaired for nitrogen. NHDES continues to hold that much of the Great Bay Estuary is suffering from

cultural eutrophication manifested by low dissolved oxygen in the Estuary's tidal rivers, increased macroalgae, and declining eelgrass. All of these observed effects are classic symptoms of excess nitrogen. They are highly likely to have resulted from high nitrogen concentrations in the Great Bay Estuary.

Several of the impaired assessment units in the Great Bay Estuary consist of segments of tidal rivers leading to the Great Bay, Little Bay, or the Piscataqua River. Some portions of these tidal rivers have supported areas of eelgrass in the past. NHDES does not agree that excess nitrogen has not caused or contributed to the decline in eelgrass in these tidal rivers, contrary to the allegations in the Petition. NHDES believes that unless nitrogen concentrations in the tidal rivers are reduced, eelgrass cannot be restored to its historic range in these rivers.

4. Uncertainties and “Proof”

Deductive “proof” of complex causal relationships within estuaries is rarely ever possible, and such proof is not the goal of scientific inquiry or of regulatory response. Instead, NHDES has relied on its analysis of the long-term data and possible confounding factors, coupled with accepted hypotheses of the relationships between nutrients and their effects, to state with reasonable scientific certainty that anthropogenic nitrogen has caused or contributed to the observed decline in eelgrass in the Great Bay Estuary.

Similarly, the Petition argues the scientific approach used by NHDES in establishing the thresholds in the 2009 Numeric Criteria Document had substantial uncertainties. Petition at 12. NHDES does not believe that its scientific approach was flawed. The use of the term “uncertainty” in the June 2011 Memorandum of Agreement (MOA) signified to NHDES that all scientific conclusions have a degree of uncertainty and that further measurement and analysis might reduce, but not eliminate, that uncertainty.

5. Other Corrections

NHDES did not secretly change its position with respect to listing decisions for the tidal rivers. Petition at 15. NHDES's position has been consistent since 2009: many of the assessment units in the Great Bay Estuary were appropriately listed as impaired for nitrogen on the Section 303(d) List. The letter referenced on page 16 of the Petition simply described how the NHDES was splitting two assessment units for Section 303(d) listing purposes into four assessments units. This split actually reduced the area of the Lamprey and Squamscott Rivers that would be assessed using the more stringent nitrogen threshold for the protection of eelgrass. Splitting the assessment units was not intended to affect USEPA's decision on the then-pending permit for Newmarket's wastewater treatment plant. A copy of this letter was sent to the Petitioner approximately one month after it was sent to USEPA.

With respect to the numbered claims on pages 19-20 of the Petition, NHDES sets forth the following corrections:

1. The conclusion asserted by the Petitioner is based on a study of microscopic algae in the water at one station in the Estuary. The data from that study do not include observations of other types of algae, such as macroalgae, that are important in the Estuary. Therefore, the referenced study is insufficient to draw conclusions about trends for all types of algae in all sections of the Estuary.
2. Total suspended solids, a component of transparency, have increased dramatically as measured at Adams Point over the last thirty plus years.
3. In the Great Bay Estuary, light attenuation is a good indicator of eelgrass survival. There is a statistically significant relationship between light attenuation and total nitrogen in the Estuary. Excess nitrogen impacts eelgrass in the Great Bay in several

ways: increased algal blooms, epiphyte and macroalgae effects, and direct nitrogen toxicity. Nitrogen is most likely the dominant cause of, and certainly contributes significantly to, eelgrass declines in the Great Bay Estuary.

4. NHDES believes that unless nitrogen concentrations in the tidal rivers are reduced, eelgrass cannot be restored to its historic range in these rivers.
5. As compared to Total Nitrogen (TN), Dissolved Inorganic Nitrogen (DIN) is an inferior indicator of nitrogen pollution because it does not include nitrogen that is incorporated into plants and organic matter. DIN is highly variable, while TN measurements show a more complete picture of nitrogen levels in the Estuary. At Chapman's Landing, near the Squamscott River, the data collected show an increasing trend for total nitrogen.
6. The existing state narrative water quality standard with respect to nutrients is: "Class B waters shall contain no phosphorus or nitrogen in such concentrations that would impair any existing or designated uses, unless naturally occurring." Env-Wq 1703.14(b).
7. The numeric thresholds contained in the 2009 Numeric Criteria document have only been used by NHDES in the context of preparing the Section 303(d) list of impaired waters. They are non-binding thresholds. NHDES has concluded to a reasonable degree of scientific certainty that excess nitrogen has caused or contributed to the eelgrass declines in the Great Bay Estuary.
8. The two independent experts who peer reviewed the 2009 Numeric Criteria document concurred that the numeric thresholds were reasonable and well-supported by the available data and the analyses of those data.

Finally, the Oct. 29, 2012 letter from NHDES Commissioner Thomas Burack did not “verify” that the 2009 Criteria were issued in reliance on erroneous scientific conclusions. Petition at 22. Instead, the letter emphasized that eelgrass was not recovering, that the Estuary exhibited all the classic signs of eutrophication, and that excess nitrogen is causing or contributing to the water quality problems in the Estuary. The letter stated, in pertinent part: “reduced [Total Nitrogen] levels can only help to improve the light available to eelgrass, reduce the growth of macroalgae, and reduce direct nitrogen toxicity to submerged aquatic plants.” The letter specifically disagreed with the Coalition’s position that reducing nitrogen would have no material effect on transparency in the tidal rivers.

6. Conclusion

The New Hampshire Department of Environmental Services respectfully requests that the Environmental Appeals Board accept this non-party amicus curiae brief. The intent of this filing is solely to correct some of the inaccuracies presented in the Petition for review in the above-captioned matter.

Dated: January 31, 2013


Evan J. Mulholland
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CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing Motion to File Non-Party Amicus Brief and Amicus Brief in connection with NPDES Appeal No. 05-12, were sent to the following persons in the manner indicated:

By First Class U.S. Mail:

Clerk of the Board
U.S. Environmental Protection Agency
Environmental Appeals Board
1200 Pennsylvania Avenue, NW
Mail Code 1103M
Washington, DC 20460-0001

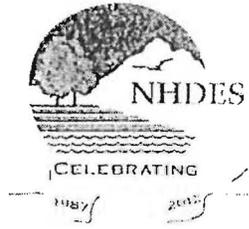
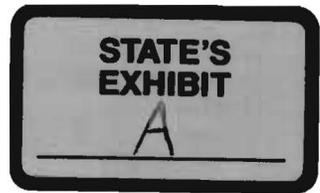
Mr. Samir Bukhari
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Mail Code: ORA 18-1
Boston, MA
02109-3912

Mr. John C. Hall
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1620 I Street, NW, Suite 701
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Dated: January 31, 2013



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The State of New Hampshire
Department of Environmental Services

Thomas S. Burack, Commissioner

*Celebrating 25 Years of Protecting
New Hampshire's Environment*



November 5, 2012

David M. Webster, Water Permits Branch Chief
USEPA Region 1 - New England
Office of Ecosystem Protection -- OLEP06-1
5 Post Office Square, Suite 100
Boston, Massachusetts 02109-3912

Subject: Newmarket Wastewater Treatment Facility
Certification of NPDES Permit No. NH0100196

Dear Mr. Webster:

By letter dated September 30, 2011 the U.S. Environmental Protection Agency (EPA) requested State Certification of NPDES Permit NH0100196 for the Newmarket Wastewater Treatment Facility.

The EPA publicly noticed the availability of the draft permit, including the Fact Sheet, in a notice dated October 5, 2011. The Public Notice provided a public comment period until December 3, 2011, and stated that the draft permit and fact sheet could be obtained at the EPA New England website at http://www.epa.gov/region1/npdes/draft_permits_listing_nh.html or by writing or calling the permit writer at the EPA Boston office. Further, due to significant public interest, EPA provided public notice on October 28, 2011 of a public hearing that was held in the Town of Newmarket on November 30, 2011, and an extension of the public comment period until December 16, 2011.

After appropriate review of the draft permit, public comments, and EPA's response to comments, State Certification is hereby granted pursuant to Section 401 of the Clean Water Act. The permit will ensure that the requirements in Title 50 RSA 485-A, and administrative rule New Hampshire Env-Wq 1700 (Surface Water Quality Regulations) are met.

The effluent limit for nitrogen contained in the Newmarket Wastewater Treatment Facility permit is effectively at the current limits of biological nutrient removal (BNR) technologies for nitrogen removal. Stricter controls than those attainable by BNR technologies are not needed from the facility while the New Hampshire Department of Environmental Services (DES) and communities in the watershed pursue an adaptive planning and implementation framework to address nonpoint source controls during the five-year permit term. DES recognizes that treatment facility improvements to meet these permit limits will be costly and that phasing may be feasible to spread the costs out over time in order to make the improvements more affordable for sewer system users. In addition, the resultant reductions in nitrogen from the treatment plant improvements must ultimately be complemented by reductions from other Great Bay Estuary

www.des.nh.gov

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wastewater treatment plants, municipal stormwater systems and nonpoint sources that will take time to accomplish. In this context, DES supports a phased approach for upgrade of the Newmarket Wastewater Treatment Facility coincidentally with implementation of an adaptive management plan and a robust water quality monitoring plan, both under workscopes and schedules approved by the EPA and DES.

Upon final issuance by the federal EPA, the Department of Environmental Services may adopt the permit, including all terms and conditions, as a state permit pursuant to RSA 485-A:13.

Any person aggrieved by this decision may appeal to the New Hampshire Water Council. Appeal must be made in accordance with RSA 21-O:14, as amended by Laws of 2012, 246:3-5 (effective June 18, 2012), and the rules of the Council, Env-WC 100-200. Copies of the rules may be obtained from the Department's Public Information and Permitting Unit, 29 Hazen Drive / PO Box 95, Concord, NH 03302-0095; telephone: (603) 271- 8876; fax: (603) 271-8013; email: pip@des.nh.gov; or on-line at <http://des.nh.gov/organization/commissioner/legal/rules/index.htm#boards>.

Sincerely,


COPY
Harry T. Stewart, P.E., Director
Water Division

cc: Ted Diers, Administrator, NHDES Watershed Management Bureau
Paul L. Heitzler, P.E., Esq., Administrator, NHDES Wastewater Engineering Bureau
Christian Williams, Federal Consistency Coordinator, NHDES Coastal Program
Stephen Fournier, Town Administrator, Town of Newmarket
Sean Greig, P.E., Water Superintendent, Town of Newmarket