

EXHIBIT B

**COMMENTS ON DRAFT PERMIT
TOWN OF JAFFREY WASTEWATER TREATMENT PLANT
NPDES REAPPLICATION NO. NH0100595**

TOWN OF JAFFREY, N.H.

TOWN OFFICE BUILDING

TOWN MANAGER'S OFFICE

10 GOODNOW STREET
JAFFREY, NEW HAMPSHIRE 03452
(603) 532-7880
townmanager@town.jaffrey.nh.us

CERTIFIED MAIL – RETURN RECEIPT REQUESTED

May 21, 2007

Stephen S. Perkins
Office of Ecosystem Protection
USEPA – Region 1
1 Congress Street – Suite 1100
Boston, Massachusetts 02114-2023

Harry T. Stewart
DES Water Division Director
P.O. Box 95
Concord, New Hampshire 03302

**Subject: Town of Jaffrey Wastewater Treatment Plant
NPDES Reapplication No NH0100595
Comments on Draft Permit**

Gentlemen:

The Town of Jaffrey (Jaffrey or the Town) appreciates the opportunity and is pleased to provide the following comments on the draft NPDES permit prepared by Environmental Protection Agency (EPA) and received by the Town on April 4, 2007. We also appreciate that you extended the comment deadline until May 21, 2007.

Our comments address both broad, substantive issues of concern and more discrete comments and corrections. These issues are significant. You fully appreciate, I know, the Town's commitment and efforts to work with you to arrive at a plant design that will be protective of the Contoocook River and reasonably achievable. With the appropriation now approved by the voters in March, we are on a final path to constructing the new treatment plant that will accomplish these aims. With the limited exceptions that we address below, we concur with the effluent limits in the draft permit. In a few key regards, however, the permit limits published by EPA are not supportable by the extensive data and analysis that has been done for this reach of the river.

We appreciate that you and your colleagues at EPA and the New Hampshire Department of Environmental Services (DES) have devoted considerable time and attention to this permit application and the related TMDL for the Contoocook River. We thank you for your continued focus and consideration.

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A. 7Q10 flow and Available Dilution

As described on pages 9-10 of the Fact Sheet and Attachment C, we believe the dilution factor is not calculated properly. The 7Q10 at the Jaffrey discharge location using the Dingman factor is 3.82 cfs. That flow is based on drainage area characteristics of the drainage area at Jaffrey in relation to characteristics of the drainage area upstream of Peterborough and measured flows at Peterborough. The Town, DES and EPA all agree on the 7Q10 flow.

However, there is no justification for subtracting the effluent design flow from the 7Q10 in calculating the dilution factor. The statement that "*the 7Q10 just above the outfall is calculated by subtracting the plant design flow from the 7Q10 downstream of the outfall*" does not make sense. The 7Q10 just above the outfall, at the outfall and just below the outfall is 3.82 cfs.

The correct dilution factor (DF) is 90% of $(1.93 + 3.82)/1.93 = 2.68$. This is a slight increase in the existing dilution factor, which is based on supporting documents for the NPDES permit renewal in 2001 using a 7Q10 of 3.33 cfs. While the draft permit increases the 7Q10 from 3.33 cfs to 3.82 cfs - - which is a benefit to Jaffrey - - the Town is simultaneously penalized by subtracting the design flow from the upstream 7Q10. Furthermore, the use of the design flow of 1.93 cfs builds into the equation even greater conservatism, since the Jaffrey Wastewater Treatment Plant (WWTP) effluent flow data demonstrates that flow in the summer months is much less than in the winter. It is highly unlikely, therefore, that the plant will discharge at its design flow during summer, low flow river conditions. This very conservative approach is then compounded by use of the 10% margin of safety. It is also noteworthy that the water supply for the Town of Jaffrey is from two (2) gravel packed wells that supply on average 313,000 gallons per day or 0.48 cfs (2006 data). In addition, Millipore Corporation - the Town's largest industrial discharger - supplies most of their water needs from bedrock wells that account for about 75,000 gallons per day or 0.12 cfs.

There is no reasonable justification presented in the Fact Sheet for subtracting the Jaffrey WWTP design flow from the 7Q10. All limits determined using the correct dilution factor should be re-calculated with the results as follows:

- Copper - average monthly 7.5 ug/L, maximum day 10.1 ug/L¹
- Lead - average monthly 1.5 ug/L
- Silver - maximum day 0.9 ug/L
- Zinc - average monthly 99.0 ug/L

¹ Although these copper limits are slightly higher than those in the current permit, EPA should find that these new limits should be excluded from the "anti-backsliding" rate. The slightly higher limits are the result of thorough analysis during the TMDL study and proper valuation of the dilution factor. 33 U.S.C. § 1342 (B) (i) and (C).

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- Whole Effluent Toxicity: chronic limit 37.3%

B. TMDL Study

The draft permit has been developed without reliance on an EPA-approved TMDL, even though DES, EPA and the Town of Jaffrey have worked for many years on a TMDL study for the Upper Contoocook River that is essentially final. EPA approved the TMDL work plan prepared by DES on August 1, 2003 and has been involved in the implementation of the TMDL study over the last few years. DES issued the draft TMDL in May 2006, on which the Town provided substantive input in a report from HydroQual dated July 2006. DES subsequently revised the TMDL permit limits, and issued final TMDL permit limits on February 23, 2007. The Town of Jaffrey hired a consulting firm at its own expense to work with DES to finalize the TMDL. As indicated by additional comments from HydroQual, the Town still believes that certain limits in the DES final TMDL report are overly stringent, but those limits are still higher than those proposed by EPA in its draft permit.

The Town respectfully suggests that it is unreasonable to proceed with a final permit without the full benefit of the extensive work that went in to the TMDL study. If there are flaws in the TMDL, then those flaws should be identified and addressed. The TMDL prepared by DES with extensive input from the Town and the Town's consultants sets forth very (and sufficiently) protective limits that should be relied upon by EPA. Ironically, while the Town has continued to assert in its comments of February 12, 2007 that the final TMDL permit limits established by DES are still overly conservative, the EPA draft permit ignores certain limits that DES has proposed. The proposed phosphorus limits, in particular, are substantially more stringent than the TMDL calls for.

DES reaffirmed its final TMDL - derived permit limits, as indicated in the February 23, 2007 e-mail from Gregg Comstock to Randall Heglin. The NPDES permit limits should be no more stringent than DES's final TMDL limits.

C. Phosphorus Limit

The Town has designed a new treatment plant that will accomplish substantial phosphorus (P) reduction. While the Town may be able to meet the limit set forth in DES's final TMDL limits (0.5 mg/l phosphorus summer, 1.0 mg/l, winter), the need for phosphorus limits is not apparent. To the contrary, the data, modeling and analysis show affirmatively that a phosphorus limit is not needed to maintain water quality standards and meet the DES phytoplankton target. There is no basis for a summer phosphorus limit more stringent than DES's final TMDL limit of 0.5 mg/l. DES, the Town, and EPA have devoted considerable time, attention, and resources to developing a TMDL. While there remain differences of opinion among the three governments as to whether limits for phosphorus are truly needed, and what those limits should be, the Town has indicated a willingness to accept the summer phosphorus limit as set forth in DES's final TMDL limits. EPA can impose a further condition in the final permit that requires evaluation of the new WWTP operations, and effluent and receiving water monitoring. A well-designed and

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implemented monitoring program will provide EPA and DES and Jaffrey with additional information and analysis on phosphorus.

The Fact Sheet (page 17) states that the effects-based approach was selected because "it is more directly associated with impairment to designated use. The effects-based approach provides a threshold value above-which adverse water quality effects (i.e.,) water quality impairments are likely to occur. It applies empirical observations of a causal variable (i.e. phosphorus) and a response variable (i.e., chlorophyll a) associated with designated use impairments." However, while stating that an effects-based approach is taken for the Contoocook, application of the Red Book/Gold Book 0.1 mg/l total phosphorus for the river is arbitrary and not defensible.

Available data and DES TMDL modeling results demonstrate that 0.1 mg/l total phosphorus as a stream standard and the corresponding draft Jaffrey 0.16 mg/l effluent limit (summer) are not "necessary to meet water quality standards" (FS, page 7). EPA's statement that there is "no realistic likelihood that water quality standards could be met with less stringent limits than those proposed in the draft permit" (FS, page 7) is contradicted by extensive site-specific data, modeling and analysis done through the TMDL study. The TMDL analysis for the upper Contoocook River should be used to establish a phosphorus standard for the river that is protective of the uses that can be impaired by phosphorus in the river and downstream waters: aesthetics (too much phytoplankton, too much periphyton,) dissolved oxygen impairments (caused by too much algae and/or too much periphyton) and impacts on downstream impoundments (algae and dissolved oxygen impairments from sediment sources of dead vegetation). See Appendix A for a discussion of EPA's inappropriate reliance on the so-called "Gold Book" and other guidance documents in suggesting that a particular instream phosphorus criterion applies to this permit.

DES considers a phytoplankton level of 15 ug/l of chlorophyll a as a numeric expression of its narrative nutrient standards for algae. Examination of the available upper Contoocook River data indicates that under existing conditions from Jaffrey, the upper Contoocook is not impaired for phytoplankton. Data collected in August 2004 and the summer 2005 show only one sample greater than the target of 15 ug/l. (16 ug/l Noone Pond, August 4, 2004). All other phytoplankton measurements are less than 7, with the majority less than 5 ug/l chlorophyll a. A sample from Noone Pond (small impoundment downstream of the Jaffrey discharge) September 14, 2005 during an extreme low flow period (flow at Peterborough, 6 cfs) was 4 ug/l. Again, even during extreme low flow, the river phytoplankton in Noone Pond was well below the DES target with existing phosphorus levels in the Jaffrey WWTP effluent.

The predictive model at 7Q10 flows with the Jaffrey discharge at existing conditions (effluent TP=2.8 mg/l) also predicts phytoplankton chlorophyll at less than the target level of 15 ug/l. The modeling to date indicates that the phytoplankton growing in the river does not contribute to the river dissolved oxygen impairment. Modeling results show that the decrease in algae from lower phosphorus actually results in lower dissolved oxygen. Therefore, at the TP levels predicted downstream of the Jaffrey WWTP (greater than 0.1 mg/l), no impairment is predicted at that TP level. Thus, even for Jaffrey at existing effluent phosphorus levels, the data and analysis suggest

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that no limit at all is needed during the summer season. The 0.1 mg/l total phosphorus used in the draft Jaffrey permit limit development is not appropriate for the upper Contoocook and use of 0.1 mg/L as a stream standard to be met at 7Q10 is overly stringent.

During the winter season, furthermore, aquatic plant growth is limited by factors other than nutrients. Low temperatures, low light, generally higher flows, and periodic ice cover limit growth. Given New Hampshire winter temperatures, phytoplankton, periphyton and rooted aquatic plants are not being produced during the winter season. This lack of growth will be independent of phosphorus concentrations in the waters. Therefore, there is no use impairment associated with Jaffrey phosphorus. Similarly, die off of aquatic vegetation during the fall season is independent of phosphorus levels during the winter and is a natural occurrence. The measured phytoplankton and the qualitative assessment of periphyton during the summer season as stated above is very low, well within DES target levels. The summer phosphorus, as indicated by the TMDL modeling, does not produce excessive biomass. Reduction of Jaffrey summer phosphorus does not significantly reduce instream phytoplankton. Therefore, there is relatively little biomass from the upper Contoocook to be settled into the bottom sediments of the upper Contoocook or to settle out downstream of the Peterborough WWTP in Powder Mill Pond.

EPA acknowledges that the "vast majority of the phosphorus discharged is in the dissolved form and the dissolved phosphorus will pass through the system during the winter period." (FS Page 17). We agree with the Fact Sheet assessment regarding high dissolved phosphorus form in the Jaffrey effluent and that phosphorus will flow through the system during the winter season. For that reason and the fact that plant growth does not occur (for reasons other than nutrient limitation), a phosphorus effluent limit at Jaffrey is not necessary to protect water quality and water uses during the winter.

The Peterborough section of the river, downstream of the upper Contoocook/Jaffrey river reach, particularly Powder Mill Pond, has been described as impaired due to cultural eutrophication and nutrient enrichment. EPA's reliance on any impairment at Powder Mill Pond is misplaced. The phosphorus load leaving the upper Contoocook River section becomes a source to the Peterborough section of the river. The phosphorus load at this location has a component that is from the Jaffrey WWTP and from non-point sources (NPS) from the upper Contoocook drainage area and tributaries. The upper Contoocook load needs to be taken into account along with phosphorus from the Peterborough WWTP and NPS loads from the pond drainage area located in the Peterborough river section.

Although neither the DES nor the HydroQual analyses directly calculate the impact of the Jaffrey WWTP discharge on Powder Mill Pond, both analyses did calculate the total phosphorus remaining at the downstream end of the Jaffrey segment of the Contoocook River. This downstream concentration then provides the upstream load for the Peterborough segment of the river. The August 2004 data used to calibrate the model for the Jaffrey segment indicates that the phosphorus is not conserved in the river downstream of Jaffrey. The Jaffrey WWTP load is joined by any non-point sources. At the downstream end of the Jaffrey segment (25Y-CTC), the measured total phosphorus load in the river is substantially less than the sum of the Jaffrey and

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non-point source loadings. For example, during the August 22, 2004 low flow survey by DES, Jaffrey discharged 7.5 pounds per day (lb/day) phosphorus and the non-point sources are estimated at 1.8 lb/day, for a total loading of 9.3 lb/day, yet the measured total phosphorus load at 25Y-CTC is only 4.4 lb/day. Even if the non-point source portion is assumed to be conserved, then the existing Jaffrey load decreases from 7.5 to 2.6 lb/day, a 67 percent reduction.

A similar non-conservative behavior for total phosphorus is noted in the 2002 data and TMDL model for the Peterborough segment of the Contoocook. Using the 25Y-CTC data, 3.0 lb/day entered the Peterborough segment during the August 22, 2002 DES survey. This consists of the non-point source and residual Jaffrey WWTP loads. The data indicate that Peterborough discharged approximately 24.6 lb/day at that time. The measured total phosphorus and flow at 25-CTC immediately upstream of Powder Mill Pond shows that of the 27.6 lb/day load at Peterborough, only 6.65 lb/day actually enters the pond. Thus, approximately 75 percent of the total phosphorus load is removed from the system between the Peterborough WWTP discharge and the pond. Only the phosphorus that actually enters the pond contributes to the impairment, if any, in the pond. The measured total phosphorus in Powder Mill Pond during the August 2002 survey averaged approximately 0.04 mg/l. If the EPA Gold Book recommendation of 0.025 mg/l within impoundments is used as the target total phosphorus concentration for the pond, then a reduction of 37.5 percent in total phosphorus loading to the pond is required. On this basis, the August 2002 loading entering the Peterborough reach of 6.65 lb/day during low flow should be reduced to 4.2 lb/day.

With a phosphorus reduction of 75 percent between the Peterborough WWTP and Powder Mill Pond, total phosphorus of 16.8 lb/day is the allowable load at Peterborough, consisting of the Peterborough WWTP, Jaffrey non-point sources, and the residual Jaffrey WWTP loading. For a Peterborough design flow of 0.6 mgd and effluent total phosphorus limit of 0.88 mg/l,² the phosphorus loading would be 4.4 lb/day. The remainder 12.4 lb/day is available for the Jaffrey non-point source and residual Jaffrey WWTP loadings. If the Jaffrey non-point source load is 1.8 lb/day, then the Jaffrey residual is 10.0 lb/day. With a phosphorus reduction of 67 percent between the Jaffrey WWTP and the beginning of the Peterborough river segment, then Jaffrey WWTP total phosphorus loading of 31.8 lb/day is allowable. At the design flow of 1.25 mgd, Jaffrey's effluent concentration should not exceed 3.0 mg/l. Further, the DMR data shows that the Jaffrey WWTP presently discharges at a monthly average of 2.8 mg/l. Based on the above conservative mass balance analysis, reduction of Jaffrey to a summer effluent limit of 0.16 mg/L is simply not justified. While the TMDL analysis can be shown to justify no phosphorus limit for either summer or winter, the Town has indicated a willingness to accept the summer monthly average limit arrived at in DES's final TMDL limits of 0.5 mg/l.

Moreover, there is no indication that the periphyton represents an impaired condition. The DES Contoocook River survey program, approved by EPA, was conducted to determine the water quality in the upper Contoocook, did not quantitatively measure periphyton. A visual assessment of the presence/absence was made. When present, the spatial coverage of the periphyton was

² The draft Peterborough WWTP permit contains a 0.88 mg/l monthly average limit for total phosphorus.

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estimated. Very broad categories were used for assessments of coverage: 0-33%, 34-66% and 67-100%. Presence of periphyton is not surprising. The upper Contoocook River is a shallow, clear, relatively fast moving stream with an abundance of suitable substrate (rocks, sticks, etc.) for periphyton growth and minimal tree canopy cover. There is no indication that the periphyton represents an impaired condition. Since there were no periphyton biomass measurements made, there are no data for comparison with DES TMDL model results. The model, therefore, cannot be considered as calibrated/verified for periphyton. Any biomass levels calculated in the calibration/verification process are interesting but there is no way of independently being sure that the calculation is correctly representing the periphyton levels.

Periphyton affects dissolved oxygen in receiving water. An assessment should be made in the TMDL modeling analysis as to the importance of this parameter as modeled in the overall dissolved oxygen calibration success. If the dissolved oxygen can't be satisfactorily represented using the data collected (if there is a significant "missing piece") and periphyton is postulated as being a possible dissolved oxygen source (through its photosynthesis) and/or dissolved oxygen sink (through its respiration), including periphyton in the model to "test" the theory is a logical first step. However, if periphyton is suspected as a major factor, measurements should be obtained to include periphyton in the analysis.

Periphyton can also affect primary contact recreation use. High levels of periphyton can cause aesthetic impairment. There is no indication of aesthetic impairment or an impairment of primary contact recreation in the upper Contoocook River due to periphyton. High levels of periphyton can also limit biodiversity of the benthic invertebrates in a system. The FS statement that "as enrichment increases, the fraction of periphyton biomass composed of filamentous greens increases as does the percent of stream bed covered with algae (U. S. EPA, July, 2000)" may be true as a generality in a case where the amount of phosphorus in the stream is low enough to be limiting periphyton growth. This is not the situation observed in the upper Contoocook. But, if the judgment of DES is that there is an impairment, the section(s) of the river where the impairment exists should be listed on the 303(d) List, periphyton data should be obtained to determine existing conditions, and a TMDL target for its reduction established.

The above discussion indicates strongly that EPA's draft summer limit of 0.16 mg/l is simply not justifiable. The generic guidance documents relied upon by EPA are not instructive in the context of a riverine discharge that has been studied and analyzed in a very thorough fashion through the TMDL process. A case can even be made that no permit limit for phosphorus is justified at all. However, again, the Town believes that the new Jaffrey WWTP will achieve a phosphorus discharge level of 0.5 mg/l as a monthly average for the summer months, and the Town is willing to accept that permit limit. Similarly, the Town is willing to accept an average monthly limit for phosphorus of 1.0 mg/l during the winter months.

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D. Carbonaceous Oxygen Demand (CBOD); Total Suspended Solids (TSS); Ammonia-Nitrogen (NH₃-N).

We appreciate that EPA has adjusted the draft permit limits for CBOD₅ and ammonia nitrogen at the Town's request. That adjustment increased the CBOD₅ limit but lowered the ammonia limit, so that the total oxygen demand remains the same. The Town now seeks a further modification to these limits, decreasing further the ammonia limit and increasing in a corresponding fashion the CBOD limit. In his March 15, 2007 letter to Randall Heglin, Roger Janson indicated that EPA "would be amenable to a small further increase to the CBOD limit if requested, but would further reduce the ammonia limit to maintain the same ultimate oxygen demand." The draft NPDES permit sets a summer ammonia-nitrogen limit of 5.3 mg/l and a winter limit of 30 mg/l. Ammonia limits in the draft permit are significantly higher than limits negotiated between DES and Jaffrey. Based on DES summer requirements (temp=25 deg C and pH = 7, 7Q10 flow, Jaffrey WWTP design flow), and winter requirements (low temperature, winter pH values, 7Q10 flow not adjusted for season, Jaffrey WWTP at design flow), the draft ammonia limits may exceed DES ammonia toxicity standards. In addition, TMDL modeling to date indicates that the draft ammonia winter limit and most likely the summer limit also will cause a dissolved oxygen standard violation.

Under an administrative order from EPA, we are proceeding with construction of an activated sludge treatment plant that will be capable of meeting a more stringent ammonia-nitrogen limit in the summer. Thus, we ask that EPA lower the summer ammonia-nitrogen limit to 2.5 mg/l and increase the corresponding CBOD limit to 15 mg/l. The overall total oxygen demand will not be increased, and most likely will be reduced.

With respect to the total suspended solids (TSS) limit, we would ask that a limit of 15 mg/l be set rather than 7 mg/l. EPA's normal practice is to set TSS concentration limits equal to BOD limits.³ However, if permits include both CBOD (in lieu of BOD) and ammonia-nitrogen limits, the corresponding TSS limit can be set 5 mg/l higher than the CBOD limit. This would allow a summer TSS limit for Jaffrey of 15 mg/l. Because TSS is less of a concern in meeting water quality standards than BOD or CBOD, the permitted TSS limit matches the BOD limit.

Although the current permit sets a summer TSS limit of 7 mg/l, this limit has never been consistently achieved. The ability of the new treatment plant to consistently meet a TSS summer limit of 7 mg/l without the addition of an effluent filtration process is unlikely. The Town of Jaffrey and its advisors have worked with DES on the development of the TMDL and the resulting effluent limits for the past three years. The TSS limit contained in DES's Final TMDL, is 15 mg/l. Additionally, this limit was discussed with EPA and DES in a March 8, 2007

³ Our experience is that EPA and DES essentially always set a TSS limit at the same level as the BOD limit. We are aware of no permit where this has not been done.

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conference call, along with the reasons for requesting the 15 mg/l limit.⁴ Based on extensive water quality data and the modeling done as part of the TMDL since the issuance of the current permit in 2001, there is no indication of water quality standards exceedances at a 15 mg/l monthly average limit for TSS. Thus, EPA should reasonably find that a less stringent TSS standard may be included in the renewed permit for Jaffrey under 33 U.S.C. §1342 (B)(i) and (C). To require additional costly treatment like effluent filtration to address a TSS limit that is not soundly based on water quality concerns is not supportable. (See the Town's October 17, 2006 letter with attachments to Harry Stewart at DES re: Jaffrey WWTP Upgrade – Affordability for a discussion of the substantial and widespread economic and social impacts associated with the new plant, including a filtration component).

E. Aluminum (Al) limit:

We question the justification and necessity of a specific limit for aluminum. Aluminum (Al) is a naturally-occurring element. EPA indicates on page 12 of the Fact Sheet that the instream aluminum criteria was exceeded 68% of the time from 2001 through 2005. EPA accurately points to general DES water quality regulations on restoring water quality where pollutants already are present. However, EPA fails to address the specific DES standard for aluminum (and other toxic pollutants), which provides that the instream 0.750 and 0.087 mg/l standards shall apply “unless naturally occurring” (Env-Ws 1703.21(a and b)).

Given that there are no point source discharges upstream of the Jaffrey WWTP outfall and in the absence of any contrary data, the existing presence of aluminum must be presumed to be naturally-occurring and due to the soil/rock composition in the drainage area. As such, the aquatic life communities in the Contoocook system have adapted to the ambient aluminum. The draft limit proposed for Jaffrey at the surface water quality standards which are lower than ambient may cause stress to the aquatic life by reducing the aluminum. A more appropriate limit is one that reflects existing effluent quality to the extent that the drinking water source and, hence the wastewater source contains the same aluminum concentrations as the Contoocook. Further, the data in the EPA Fact Sheet on page 12 show that the effluent has generally less aluminum than the river. Thus, the wastewater treatment already reduces ambient aluminum to bring the river closer to standards. There is insufficient reason to impose an aluminum limit in Jaffrey's permit and we would ask EPA require only monthly monitoring and reporting of aluminum in the effluent.

F. Additional Comments

1. Monitoring frequency for TSS is shown as 1/Week³ and the superscript should be 2 or 1/Week².

⁴ This again raises an anti-backsliding issue. The analysis summarized in this section of our comments supports EPA's finding an exception to the anti-backsliding rule. 33 U.S.C. § 1342 (B) (i) and (C).

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2. With respect to lead limits there is a discrepancy in the minimum level (ML) between the permit value, 0.5 ug/L and the Fact Sheet value of 5.0 ug/L, and Attachment A (Freshwater Chronic Toxicity Test Procedure and Protocol), 5 ug/L.
3. Entries for lead in Attachment D, TR limit (last 2 columns) are reversed.
4. Monitoring frequency in the draft NPDES permit for Bis(2-Ethylhexyl) Phthalate indicates 2/month and the Fact Sheet indicates 1/month. The Fact Sheet should be corrected.

In addition to these comments, we have attached additional documents that we feel are relevant to this draft permit and should be taken into consideration prior to issuing a final permit. Our comments and supporting documents support permit terms that are realistic and achievable -- and protective of the Contoocook River

Despite our disagreement on certain key aspects of the draft permit, we remain confident that the Town, EPA and DES will be able to resolve the open issues prior to the issuance of a final permit and we would very much appreciate the opportunity to meet with you and your colleagues to achieve this goal.

We thank you again for the consideration you are giving this matter.

Sincerely your,



Randall W. Heglin
Acting Town Manager

Attachments

cc w/o attachments:

Jaffrey Board of Selectmen
Doug Starr, Jaffrey Town Engineer/Acting DPW Director
Brian Pitt, EPA
Dan Arsenault, EPA
Susan Willoughby, NHDES
Vic Krea, Wright-Pierce
Pat Kehrberger, HydroQual
George Dana Bisbee, Esq., Pierce-Atwood LLP

Appendix A

The reference documents on phosphorus cited in the Fact Sheet do not support 0.1 mg/l as a river standard as the basis for the proposed Jaffrey WWTP effluent limit.

The Fact Sheet implies that the "Gold Book" value of 0.1 mg/L instream is a standard. This is not the case. (FS, page 17). The USEPA *Quality Criteria For Water* issued in 1976 (commonly referred to as the Red Book) and repeated in the USEPA *Quality Criteria for Water* issued in 1986 (commonly referred to as the "Gold Book") do provide that "... a desired goal for the prevention of plant nuisances in streams or other flowing waters not discharging directly to lakes or impoundments is 100 µg/l total P." However, the Gold Book specifically states that a specific total phosphorus criterion to control nuisance aquatic growths is not presented (Gold Book at 241). On July 26, 2000, EPA reiterated that it has not set water quality criteria for nutrients (numeric or otherwise). 65 Fed. Reg. 46167. Rather, a rationale is presented to support a suggested criterion for a particular site and an implementation procedure to investigate and prevent the development of nuisance algal growth. As a starting point, the documents recommended that total phosphates as phosphorus should not exceed 50 µg/l in any stream at the point where it enters any lake or reservoir and stream conditions should not exceed 100 µg/l. The Gold Book goes on to specifically caution that the suggested target levels may not be appropriate and that natural conditions dictate the consideration of either a more or less stringent phosphorus level.

Natural conditions also dictate the consideration of either a more or less stringent phosphorus level. Eutrophication problems may occur in waters where the phosphorus concentration is less than that indicated above and, obviously, there would be a need in such waters to have nutrient limits that are more stringent. Likewise, there are those waters within the Nation where phosphorus is not now a limiting nutrient and where the need for phosphorus limits is substantially diminished. Such conditions are described in the last paragraph of this rationale.

(Gold Book at 241)

The Gold Book further states that: it should be recognized that a number of specific exceptions can occur to reduce the threat of phosphorus as a contributor to lake eutrophy: 1. Naturally occurring phenomena limit the development of plant nuisances; 2. Technological or cost-effective limitations may help control introduced pollutants; 3. Waters may be highly laden with natural silts or colors which reduce the penetration of sunlight needed for plant photosynthesis; 4. Some waters morphometric features of steep banks, great depth, and substantial flows contribute to a history of no plant problems; 5. Waters may be managed primarily for waterfowl or other wildlife; 6. In some waters a nutrient other than phosphorus is limiting to plant growth and the level and nature of such limiting nutrient would not be expected to increase to an extent that would influence eutrophication; and 7. In some waters phosphorus control cannot be sufficiently effective under present technology to make phosphorus the limiting nutrient.

No national criterion is presented for phosphate phosphorus for the control of eutrophication.

(Gold Book at 243) (Emphasis supplied).

Thus, the Gold Book does not prescribe any specific instream concentration for phosphorus yet, the Jaffrey draft permit phosphorus discussion (FS pages 13 through 17) is overly and improperly concerned about meeting 0.1 mg/L maximum instream phosphorus as a criterion.

Furthermore, EPA's various nutrient criteria guidance manuals state that the nutrient criteria must be based on "ecologically significant changes" and that one does not impose nutrient limits simply because a numeric nutrient value is exceeded, absent information from the "response variables" (algae, periphyton, secchi disc, etc.) that ecologically significant impairment is occurring. See *Development and Adoption of Nutrient Criteria into Water Quality Standards* EPA, November 14, 2001 at pp. 6, 13, 18:

- EPA Nutrient criteria are intended to protect against the adverse effects of cultural eutrophication, p. 6.;
- EPA ... developed criteria for causal and response variables from seasonal and annual median values, p. 13; and
- Nutrient criteria to be effective should address causal and response variables in a manner that reflects quantifiable measures... if a state demonstrates that algal growth in certain waters are all limited by phosphorus, then criteria could be initially established for phosphorus and appropriate biological and physical response variables (e.g., chlorophyll a and turbidity), p 18..

Thus, the EPA Maximum Instream Total Phosphorus Numeric "Criterion"= 0.1 mg/L (cited as the "Gold Book" standard) does not apply automatically to generate water quality-based limits absent information confirming that (1) nuisance levels of plant growth are present and (2) regulating phosphorus will result in a meaningful reduction in those nuisance algal/plant levels. The underlying EPA documents serving as the basis of the criteria confirm that this approach was necessary to ensure that nutrient criteria are properly applied are were not used to impose requirements where regulation of nutrients would not provide meaningful improvements. The application of phosphorus standards, therefore, requires consideration of site-specific factors in all cases, unlike other pollutants that may cause adverse impacts, regardless of location (i.e., toxics). As stated by EPA in *Development and Adoption of Nutrient Criteria into Water Quality Standards*;

Nutrients, unlike toxics, typically manifest their effects over an extended period of time, like a growing season or flow year. Therefore, when evaluating criteria attainment, it is important to ensure that the sampling period and frequency of sampling are adequate to reflect long term conditions, and to use an averaging period that represents that used for criteria development (e.g., a weekly, monthly, or seasonal median measurement taken over a year). EPA would not consider a single sample representative of the longer-term conditions that nutrient criteria are designed to reflect and protect. p 18.

In addition EPA's *Guidelines for Deriving Numerical Criteria for the Protection of Aquatic Organisms and Their Uses* (1985) explicitly states that developing nutrient criteria and assessing criteria attainment are based on an evaluation of long-term conditions, not daily conditions. EPA's recommendation is that nutrient criteria for all waters apply over the algal growing season.

The averaging period used to evaluate criteria attainment must represent that used for criteria development such as a growing season or flow year... *A single sample is not representative of the longer term conditions that nutrient criteria are designed to reflect and protect.* (Emphasis supplied)

The nutrient criteria guidelines also state "A statement of a criterion as a number that is not to be exceeded any time or place is not acceptable because few, if any, people who use criteria would take it literally and few, if any, toxicologists would defend a literal interpretation."(*Id.*).

INDEX OF ATTACHMENTS

COMMENT LETTER DATED MAY 21, 2007 FROM THE TOWN OF JAFFREY TO EPA – NEW ENGLAND NPDES PERMIT REAPPLICATION NO. NH0100595

A. TMDL and Draft Effluent Limits¹

¹*It is not clear exactly what documents are located in EPA's "administrative record" of this proceeding. The Town assumes that the NPDES permit application and related correspondence, the DES TMDL Study Report of May 2006 and the Town's (HydroQual's) July 2006 responsive report to the DES draft TMDL are part of the record. All of the listed attachments are in various EPA and DES files on this matter, but we are providing them to ensure that they are part of the administrative record. The Town may also refer in the future to other documents in EPA's files relating to the Town of Jaffrey's wastewater treatment plant.*

1. October 11, 2005 Letter with attachments from Jonathan B. Sistare (Town of Jaffrey) to Robert W. Varney (EPA)
2. October 19, 2005 Letter from Michael P. Nolin (NHDES) to Robert W. Varney (EPA)
3. November 23, 2005 Letter from (Robert W. Varney) EPA to Jonathan B. Sistare (Town of Jaffrey)
4. December 9, 2005 Email and attachments from HydroQual (Patricia Kehrberger) to Jaffrey and Wright-Pierce (copy of comments on TMDL analyses)
5. January 5, 2006 Letter from Robert W. Varney (EPA) to Jonathan B. Sistare (Town of Jaffrey)
6. January 19, 2006 Letter from Jonathan B. Sistare (Town of Jaffrey) to Robert W. Varney (EPA)
7. January 24, 2006 Email from NHDES (Margaret Foss) to HydroQual (Patricia Kehrberger)
8. February 9, 2006 Letter with attachments from Jonathan B. Sistare (Town of Jaffrey) to Harry Stewart (NHDES) – Preliminary Comments on NHDES TMDL Water Quality Model
9. July 27, 2006 Letter from Wright-Pierce (Vic Krea) to EPA (Joy Hilton)

10. September 28, 2006 Letter from Randall W. Heglin (Town of Jaffrey) to Robert W. Varney (EPA)
11. October 17, 2006 Letter and attachments from Randall W. Heglin (Town of Jaffrey) to Harry Stewart (NHDES) – Jaffrey WWTP Upgrade Affordability
12. November 13, 2006 Letter from Stephen S. Perkins (EPA) to Randall W. Heglin (Town of Jaffrey)
13. November 22, 2006 Letter from Victor S. Krea (Wright-Pierce) to Harry Stewart (NHDES)
14. November 30, 2006 Email from Dave Pincumbe (EPA) to Dan Arsenaault (EPA)
15. February 6, 2007 NHDES Final Contoocook River TMDL Permit Limits for Jaffrey WWTF
16. February 12, 2007 Comments from HydroQual, Inc. to DES – NHDES “Final Contoocook River TMDL Permit Limits for Jaffrey WWTF, 2/6/07”
17. February 23, 2007 Email from NHDES (Gregg Comstock) to the Town of Jaffrey (Randall W. Heglin) with attachments
18. March 15, 2007 Letter from EPA (Roger Jansen) to the Town of Jaffrey (Randall W. Heglin)

B. Administrative Order Quarterly Progress Reports to Joy Hilton, EPA – New England, Region 1 - Submitted by Victor Krea at Wright-Pierce

1. January 2005
2. April 2005
3. July 2005
4. October 2005
5. January 2006
6. April 2006
7. July 2006
8. October 2006
9. January 2007
10. April 2007

C. Peterborough WWTP – Draft TMDL

December 15, 2005 Draft TMDL prepared for Peterborough Wastewater Treatment Plant by Woodard & Curran