September 29, 2000

Harry T Stewart, P.E., Director
New Hampshire Department of Environmental Services
Water Division
6 Hazen Drive, Box 95
Concord, New Hampshire 03302-0095

SUBJECT: **Notification of Approval of (lower) Sugar River TMDL**

Dear Mr. Stewart:

Thank you for your submittal of a Total Maximum Daily Load (TMDL) for the lower Sugar River, NH. The final TMDL includes four documents: (1) the Sugar River Wasteload Allocation Study, Sunapee to Claremont, NH, dated March 1993, (2) the Sugar River TMDL Study, dated March 1996, (3) a letter from Gregg Comstock, NHDES, to Bob Urban, Dufresne-Henry, Inc., dated Aug. 8, 2000, and (4) a letter from Gregg Comstock, NHDES, to Alison Simcox, EPA New England, Sept. 28, 2000.

The Sugar River was included on New Hampshire's 1998 303(d) list because of its potential to be impaired by insufficient dissolved oxygen (DO). TMDLs are developed for carbonaceous biochemical oxygen demand ($CBOD_5$) and ammonia nitrogen (NH_3-N) for summer and winter seasons. Approval of this TMDL fulfills New Hampshire's obligation for TMDL development for the Sugar River (File #93 on Tier 5 of New Hampshire's 1998 303(d) list).

The U.S. Environmental Protection Agency (EPA) has determined that the (lower) Sugar River TMDL meets the requirements 303(d) of the Clean Water Act (CWA), and of EPA's implementing regulations (40 CFR Part 130).

The submittal from New Hampshire includes all of the required elements of a TMDL, including:

-loading capacity,	-load allocations	-seasonal variation
-wasteload allocations,	-margin of safety	-public participation process

The submittal also includes other pertinent information necessary for EPA to conduct its review:

-submittal letter	-analytical method used and analysis documentation
-applicable state water-quality standards	-future monitoring plans
-description of pollutant sources	

New Hampshire DES (and EPA New England) solicited public comments from July 17, 2000 through August 15, 2000 on the draft TMDL. New Hampshire DES provided adequate opportunity for public involvement during the development of the lower Sugar River TMDL, and responded to comments received during the comment period. Also, EPA New England

responded in the agency's "response to comments" to comments made by the City of Claremont concerning TMDL implementation in their upcoming permit reissuance. This response document will be included with Claremont's NPDES permit reissuance documents.

My staff and I look forward to continued support from the State of New Hampshire in the implementation of this TMDL, the results of which will be included in the soon-to-be reissued NPDES permit for Claremont's POTW.

Sincerely,

Linda M. Murphy, Director
Office of Ecosystem Protection

Enclosure: Decision Document (EPA New England's TMDL Review)

cc: Paul Currier, NH DES
Gregg Comstock, NH DES
Ronald Manfredonia, EPA
Roger Janson, EPA
Carl Deloi, EPA
Alison Simcox, EPA

October 30, 2003

EPA NEW ENGLAND'S TMDL REVIEW

TMDL: **Sugar River**
(From Coy Paper dam in Claremont downstream to the Connecticut River)
Water Body File and Id. No: File #93, NHR80104130
Connecticut River Watershed

STATUS: Final

IMPAIRMENT/POLLUTANT: An almost two-mile segment of the Sugar River located below the Coy Paper Company Dam in Claremont, NH, has the potential to be impaired by insufficient dissolved oxygen (DO). Currently the principal source of oxygen-depleting pollutants is the Claremont Publicly Owned Treatment Works (POTW).

The TMDL is proposed to address potential violations in New Hampshire's Water Quality Standards (WQSs) for DO, based on two oxygen-depleting pollutants: carbonaceous biochemical oxygen demand ($CBOD_5$) and ammonia nitrogen (NH_3-N). TMDLs are developed for $CBOD_5$ and NH_3-N for summer and winter seasons for low-flow conditions.

REVIEWER: Alison Simcox, Ph.D. (617-918-1684) E-mail: simcox.alison@epa.gov

BACKGROUND: The New Hampshire Department of Environmental Services (NHDES) submitted to EPA New England a Total Maximum Daily Load (TMDL) for the Sugar River (dated March 1996) to (1) establish the pollutant loading that the lower Sugar River can assimilate without violating WQSs for DO, and (2) develop the basis for discharge limits for the Claremont Publicly Owned Treatment Works (POTW) for existing and potential future conditions. The Claremont POTW operates under a National Pollution Discharge Elimination System (NPDES) permit, which is in the process of being reissued by EPA New England and will include results from this TMDL. The final TMDL consists of the following documents:

1. *Sugar River Wasteload Allocation Study, Sunapee to Claremont, NH* (NHDES-WSPCD-93-1, March 1993).

2. *Sugar River Total Maximum Daily Load Study* (NHDES-WSPCD-96-5, March 1996).

3. Letter from Gregg Comstock, NHDES, to Bob Urban, Dufresne-Henry, Inc., Aug. 8, 2000 (Response to questions regarding modeling for draft NPDES permit for Claremont POTW).

4. Letter from Gregg Comstock, NHDES, to Alison Simcox, EPA New England, Sept. 28, 2000 (Response to questions regarding TMDL submittal).

The following is a summary of EPA's review, which determined that the submission meets

statutory and regulatory requirements of TMDLs in accordance with Section 303(d) and 40 CFR Part 130.

REVIEW ELEMENTS OF TMDLs

Section 303(d) of the Clean Water Act (CWA) and EPA's implementing regulations at 40 C.F.R. § 130 describe the statutory and regulatory requirements for approvable TMDLs. The following information is generally necessary for EPA to determine if a submitted TMDL fulfills the legal requirements for approval under Section 303(d) and EPA regulations, and should be included in the submittal package. Use of the verb "must" below denotes information that is required to be submitted because it relates to elements of the TMDL required by the CWA and by regulation.

1. Description of Waterbody, Pollutant of Concern, Pollutant Sources and Priority Ranking

The TMDL analytical document must identify the waterbody as it appears on the State/Tribe's 303(d) list, the pollutant of concern and the priority ranking of the waterbody. The TMDL submittal must include a description of the point and nonpoint sources of the pollutant of concern, including the magnitude and location of the sources. Where it is possible to separate natural background from nonpoint sources, a description of the natural background must be provided, including the magnitude and location of the source(s). Such information is necessary for EPA's review of the load and wasteload allocations which are required by regulation. The TMDL submittal should also contain a description of any important assumptions made in developing the TMDL, such as: (1) the assumed distribution of land use in the watershed; (2) population characteristics, wildlife resources, and other relevant information affecting the characterization of the pollutant of concern and its allocation to sources; (3) present and future growth trends, if taken into consideration in preparing the TMDL; and, (4) explanation and analytical basis for expressing the TMDL through surrogate measures, if applicable. Surrogate measures are parameters such as percent fines and turbidity for sediment impairments, or chlorophyl a and phosphorus loadings for excess algae.

The Sugar River, located in Sullivan County in southwestern New Hampshire, flows a distance of about 27 miles from the outlet of Lake Sunapee and through the towns of Sunapee, Newport and the City of Claremont, where it discharges into the Connecticut River, which forms the border between New Hampshire and Vermont. This TMDL is developed for approximately two miles of the Sugar River from Coy Paper Company dam in Claremont to the river's confluence with the Connecticut River.

The segment is on the 1998 303(d) list of threatened and impaired waters for two pollutants: dissolved oxygen (DO) and bacteria. The previous list (1994) listed the Sugar River for copper, lead, and toxics (based on a Whole Effluent Toxicity (WET) test of river water). This TMDL primarily addresses potential impairments caused by insufficient DO. The TMDL also addresses previously reported metals and toxics exceedences by noting that results of sampling in 1995 met standards for copper and lead. NHDES now attributes failure of the WET tests to naturally occurring fungus in the river water (1996 TMDL study, p. ix).

NHDES listed this segment of the Sugar River for DO as a Tier 5 waterbody, meaning that water-

quality standards for DO currently are not violated. The potential for violations exists if the Claremont POTW were to discharge at full design capacity with technology-based (secondary treatment) limits.

NHDES identified two potential point sources of oxygen-depleting pollutants to the threatened river segment: (1) a wastewater treatment facility (WWTF) operated by company that has gone out of business (Coy Paper Company), and (2) a currently operating POTW for the City of Claremont. In addition, NHDES identified stormwater as the primary source of nonpoint pollution to the river segment.

The Claremont POTW currently is the primary source of oxygen-depleting pollutants to the lower Sugar River. Available dilution for the Claremont POTW is 6.7-to-one under design flow conditions at the POTW (3.89 MGD) and 7Q10 flow in the Sugar River (i.e., the lowest mean flow for seven consecutive days that will occur, on average, every 10 years) just above the outfall. In general, EPA New England considers rivers with less than a ten-to-one dilution ratio to be 'effluent-dominated' streams that have the potential to exceed state water-quality standards, especially DO.

NHDES used an EPA dissolved-oxygen deficit model (EPA-600/6/82-004a, 1982) to calculate existing pollutant loading to the river. Most parameter values in the model were based on values used in the 1993 WLA study (document #1 under 'Background'). Some parameter values, however, were modified (e.g., 7Q10 low flow and river velocity) when the model was rerun in May/June 2000 to take into account revisions to New Hampshire's water-quality criteria. A brief description of the modified model is given below; further descriptions are given in document #3 and #4 under 'Background' and in EPA's Fact Sheet associated with the draft NPDES permit for the Claremont POTW.

Flows used for the Claremont POTW and former Coy Paper WWTF were based on design flows used in the most recent NPDES permits. The model was calibrated and verified using field measurements and water-quality data. Water-quality data incorporated into the model represents the cumulative impact from both background and anthropogenic sources (see document #4 under 'Background' - NHDES response to EPA Comment #3). Natural background loadings were not separated from nonpoint sources in the total nonpoint source load. Modeling results indicate that total pollutant loading from all nonpoint sources (as well as other upstream point sources) is minor compared to loading from the Claremont POTW.

Important assumptions made in developing the TMDL are the assumptions made in the model, which consists of an analytical equation applied at the discharge location of the Claremont POTW. Because calculations are made at a single location, advection and dispersion of the pollutant as water moves downstream are not modeled. The river reach at the modeled location is assumed to be well-mixed both laterally and vertically. The model assumes a value of the reaeration coefficient based on literature values, and includes an estimated value of the 7Q10

low flow. The sediment oxygen demand (SOD) rate was assumed to equal zero based on the relatively high velocities in the Sugar River and the fact that no significant organic deposits were noted in the river during field investigations. Modeling done in 1996 assumed a value of 0 mg/L/day for photosynthesis (P). Reruns of the model done in May/June 2000 included a value for P for summer average monthly conditions of 0.85 and 0.50 mg/L/day for reaches 1 and 2, respectively. (Maximum day runs still assumed P = 0 to represent early morning conditions.) (See documents #3 and #4 under 'Background').

The TMDL is expressed for two seasons, summer and winter, for two pollutants: $CBOD_5$ and NH_3-N. $CBOD_5$ is a well-established measure of the consumption of oxygen in an aqueous solution, and the presence of ammonia nitrogen in a waterbody, such as the Sugar River, indicates that DO levels have the potential to be depleted. Ammonia is a pollutant in its own right, being a form of nitrogen that, at sufficiently high levels, can be toxic to fish. Ammonia is produced during decomposition of organic nitrogen, a process that consumes oxygen.

Assessment: EPA New England concludes that the TMDL document adequately characterizes the lower Sugar River, the potential impairment and its causes. NHDES has used the best available information, including the 1993 Wasteload Allocation Study, which is considered to be part of the final TMDL. EPA New England agrees with NHDES that the analytical approach and model chosen by NHDES are adequate, and that the TMDL includes an adequate description of important assumptions.

2. Description of the Applicable Water Quality Standards and Numeric Water Quality Target

The TMDL submittal must include a description of the applicable State/Tribe water quality standard, including the designated use(s) of the waterbody, the applicable numeric or narrative water quality criterion, and the antidegradation policy. Such information is necessary for EPA's review of the load and wasteload allocations which are required by regulation. A numeric water quality target for the TMDL (a quantitative value used to measure whether or not the applicable water quality standard is attained) must be identified. If the TMDL is based on a target other than a numeric water quality criterion, then a numeric expression, usually site specific, must be developed from a narrative criterion and a description of the process used to derive the target must be included in the submittal.

In 1996, New Hampshire's criterion for Class B waterbodies, such as the Sugar River, required that these waters have a dissolved oxygen content of not less than 75 percent of saturation. Since the 1996 TMDL study was prepared, revisions have been made to New Hampshire's DO criteria. According to Env-Ws 1703.07(b), "...Class B waters shall have a DO content of at least 75 percent of saturation, based on a daily average, and an instantaneous minimum DO concentration of at least 5 mg/L."

The target DO level (i.e., minimum allowable DO) for the TMDL was set equal to 75 percent of the DO saturation value. At 25 degrees C, 75 percent of saturation corresponds to about 6.1 mg/l

DO (document #1 under 'Background').

Option 1 in the TMDL establishes loadings assuming no discharge from the former Coy Paper facility. Maximum day $CBOD_5$ and NH_3-N loads were determined using a minimum DO target level in the water-quality model of 75 percent saturation.

Assessment: EPA New England concludes that NHDES has adequately described New Hampshire's WQSs for DO, and has established TMDLs for $CBOD_5$ and NH_3-N at levels that will assure that current WQSs for DO in the lower Sugar River will be met.

3. Loading Capacity - Linking Water Quality and Pollutant Sources

As described in EPA guidance, a TMDL identifies the loading capacity of a waterbody for a particular pollutant. EPA regulations define loading capacity as the greatest amount of loading that a water can receive without violating water quality standards (40 C.F.R. § 130.2(f)). The loadings are required to be expressed as either mass-per-time, toxicity or other appropriate measure (40 C.F.R. § 130.2(i)). The TMDL submittal must identify the waterbody's loading capacity for the applicable pollutant and describe the rationale for the method used to establish the cause-and-effect relationship between the numeric target and the identified pollutant sources. In most instances, this method will be a water quality model. Supporting documentation for the TMDL analysis must also be contained in the submittal, including the basis for assumptions, strengths and weaknesses in the analytical process, results from water quality modeling, etc. Such information is necessary for EPA's review of the load and wasteload allocations which are required by regulation.

In many circumstances, a critical condition must be described and related to physical conditions in the waterbody as part of the analysis of loading capacity (40 C.F.R. § 130.7(c)(1)). The critical condition can be thought of as the "worst case" scenario of environmental conditions in the waterbody in which the loading expressed in the TMDL for the pollutant of concern will continue to meet water quality standards. Critical conditions are the combination of environmental factors (e.g., flow, temperature, etc.) that results in attaining and maintaining the water quality criterion and has an acceptably low frequency of occurrence. Critical conditions are important because they describe the factors that combine to cause a violation of water quality standards and will help in identifying the actions that may have to be undertaken to meet water quality standards.

NHDES used an EPA dissolved-oxygen deficit model (EPA-600/6/82-004a, 1982) to establish the loading capacity of the lower Sugar River for $CBOD_5$ and NH_3-N under various river flow and point-source discharge scenarios. Supporting documentation for the TMDL analysis (basis for assumptions used in model, strengths and weaknesses of the model, results of water quality modeling, etc) is included in the 1993 WLA study and the August and September 2000 NHDES letters (documents #3 and #4 under 'Background'), which are part of the final TMDL.

For modeling purposes, the river segment was divided into 2 reaches: the Coy Paper WWTF to the Claremont POTW and the Claremont POTW to the Connecticut River. DO was modeled for dry and wet conditions. Dry-weather conditions were defined as the 7Q10 low flow; wet-weather conditions were defined as summer average flow, which is the average daily flow that occurs between July 1 and September 30. Modeling indicated that the allowable loading (i.e., loading capacity) of the river is lowest during dry-weather conditions (see Table 1).

Consequently, TMDLs were based on the dry-weather conditions.

Loading capacities for $CBOD_5$ and NH_3-N were also estimated for future scenarios to assess the impact of a resumption of discharge from the Coy Paper Company Facility.

Modeling showed that allowable loading of either $CBOD_5$ or NH_3-N in reach 2 depends on loading of $CBOD_5$ and NH_3-N and concentration of DO in reach 1. This means that reactivation of the Coy Paper discharge would reduce allowable loading from the Claremont POTW even further.

Table 1: TMDL values under Option #1 (i.e., no discharge from Coy Paper facility, 7Q10 flow)

	Summer (June1-Oct 31)			Winter (Nov1-May31)		
	Av monthly	Av weekly	Max Daily	Av monthly	Av weekly	Max Daily
$CBOD_5$ (lbs/da)	811	1298	1460	811	1298	1460
NH_3-N (lbs/da)	234		367	354		993

These TMDL values are based on a recent rerun (May/June 2000) of the DO model, which was done to update the TMDL values given in the 1996 TMDL study following revisions to New Hampshires' DO criteria.

Assessment: EPA New England concludes that the TMDLs have been set at levels that should maintain applicable water-quality standards, and that NHDES has used a reasonable approach to establish a relationship between pollutant loading and water quality. We also concur that it is reasonable to set TMDLs for two seasons, with TMDLs for NH_3-N during the summer season set at lower levels than during the winter season (see TMDL Review Element # 7, 'Seasonal Variation').

4. Load Allocations (LAs)

EPA regulations require that a TMDL include LAs, which identify the portion of the loading capacity allocated to existing and future nonpoint sources and to natural background (40 C.F.R. § 130.2(g)). Load allocations may

range from reasonably accurate estimates to gross allotments (40 C.F.R. § 130.2(g)). Where it is possible to separate natural background from nonpoint sources, load allocations should be described separately for background and for nonpoint sources.

If the TMDL concludes that there are no nonpoint sources and/or natural background, or the TMDL recommends a zero load allocation, the LA must be expressed as zero. If the TMDL recommends a zero LA after considering all pollutant sources, there must be a discussion of the reasoning behind this decision, since a zero LA implies an allocation only to point sources will result in attainment of the applicable water quality standard, and all nonpoint and background sources will be removed.

Modeling results given in the 1996 TMDL study show that the threatened impairment caused by discharge of $CBOD_5$ and NH_3-N is predominantly due to point-source pollution. For this reason, no NPS load reductions are recommended in the TMDL to meet water quality standards.

Estimates of existing NPS loading were based on estimates of pollutant loadings from each land use in the Sugar River watershed. Model results indicate that existing NPS loadings to the threatened river segment are 35 lbs/day $CBOD_5$ and 20 lbs/day NH_3-N during wet-weather conditions (i.e., summer average flow) (1996 TMDL study, p. IV-3).

Assessment: EPA New England believes the approach used by NHDES to estimate background pollutant loads is reasonable. We agree that NPS loadings appear to be minor relative to point-source loadings to this river segment, and it is reasonable to assign an allocation to point sources only. EPA also agrees that it is not possible to separate natural background from nonpoint sources and that attempting to do so would add little value to the analysis.

5. Wasteload Allocations (WLAs)

EPA regulations require that a TMDL include WLAs, which identify the portion of the loading capacity allocated to existing and future point sources (40 C.F.R. § 130.2(h)). If no point sources are present or if the TMDL recommends a zero WLA for point sources, the WLA must be expressed as zero. If the TMDL recommends a zero WLA after considering all pollutant sources, there must be a discussion of the reasoning behind this decision, since a zero WLA implies an allocation only to nonpoint sources and background will result in attainment of the applicable water quality standard, and all point sources will be removed.

In preparing the wasteload allocations, it is not necessary that each individual point source be assigned a portion of the allocation of pollutant loading capacity. When the source is a minor discharger of the pollutant of concern or if the source is contained within an aggregated general permit, an aggregated WLA can be assigned to the group of facilities. But it is necessary to allocate the loading capacity among individual point sources as necessary to meet the water quality standard.

The TMDL submittal should also discuss whether a point source is given a less stringent wasteload allocation based on an assumption that nonpoint source load reductions will occur. In such cases, the State/Tribe will need to demonstrate reasonable assurance that the nonpoint source reductions will occur within a reasonable time.

The Sugar River TMDL includes wasteload allocations (WLAs) in terms of mass loads (lb/day) for low-flow conditions, with discharge from Claremont POTW at design flow; these WLAs are

approved herein. WLAs were also estimated for for potential future conditions (simultaneous discharge from both the Coy Paper WWTF and the Claremont POTW) for planning purposes.

NHDES has determined that the Claremont POTW is currently the major source of oxygen-depleting pollutants, and that it is appropriate to assign the entire WLA to the Claremont POTW to meet the goal of maintaining State water-quality standards.

Assessment: EPA New England concludes that the WLAs are acceptable and reasonable. The TMDL study identifies the Claremont POTW as the dominant source of pollutant loading to the river, and WLAs have been set so that water quality standards will be met.

6. Margin of Safety (MOS)

The statute and regulations require that a TMDL include a margin of safety to account for any lack of knowledge concerning the relationship between load and wasteload allocations and water quality (CWA § 303(d)(1)(C), 40 C.F.R. § 130.7(c)(1)). EPA guidance explains that the MOS may be implicit, i.e., incorporated into the TMDL through conservative assumptions in the analysis, or explicit, i.e., expressed in the TMDL as loadings set aside for the MOS. If the MOS is implicit, the conservative assumptions in the analysis that account for the MOS must be described. If the MOS is explicit, the loading set aside for the MOS must be identified.

A MOS accounts for any lack of knowledge concerning the relationship between effluent limitations and water quality. NHDES provided a margin of safety (MOS) by using conservative modeling assumptions.

In the modeling scenario used to develop the WLAs (Option #1), a MOS is provided by use of design-flow conditions at the point source in conjunction with low streamflow conditions (7Q10), a combination of conditions that currently is unlikely to occur in any year. With an average flow equal 1.7 million gallons a day (MGD) and design flow equal to 3.89 MGD, flow from the facility currently averages 44 percent of design flow.

Follow-up monitoring will be conducted to assess the adequacy of the TMDL before the Claremont POTW reaches its design flow. If monitoring indicates that violations of water-quality standards are likely to occur, the TMDL will be revised accordingly.

Assessment: Adequately addressed.

7. Seasonal Variation

The statute and regulations require that a TMDL be established with consideration of seasonal variations. The method chosen for including seasonal variations in the TMDL must be described (CWA § 303(d)(1)(C), 40 C.F.R. § 130.7(c)(1))

TMDLs for $CBOD_5$ and NH_3-N are established for both summer and winter. NH_3-N limits are less stringent in winter because N-BOD decay is significantly reduced during non-summer

months. The TMDLs are established to be most protective of the summer season, which is the season when impairment is most likely to occur.

Assessment: Adequately addressed.

8. Monitoring Plan for TMDLs Developed Under the Phased Approach

EPA's 1991 document, Guidance for Water Quality-Based Decisions: The TMDL Process (EPA 440/4-91-001), recommends a monitoring plan when a TMDL is developed under the phased approach. The guidance recommends that a TMDL developed under the phased approach also should provide assurances that nonpoint source controls will achieve expected load reductions. The phased approach is appropriate when a TMDL involves both point and nonpoint sources and the point source is given a less stringent wasteload allocation based on an assumption that nonpoint source load reductions will occur. EPA's guidance provides that a TMDL developed under the phased approach should include a monitoring plan that describes the additional data to be collected to determine if the load reductions required by the TMDL lead to attainment of water quality standards.

Monitoring will be performed by the Claremont POTW as required by the NPDES permit. The monitoring plan specifies sample station locations, parameters, timing, frequency for both ambient and effluent monitoring.

Assessment: Adequately addressed.

9. Implementation Plans

On August 8, 1997, Bob Perciasepe (EPA Assistant Administrator for the Office of Water) issued a memorandum, "New Policies for Establishing and Implementing Total Maximum Daily Loads (TMDLs)," that directs Regions to work in partnership with States/Tribes to achieve nonpoint source load allocations established for 303(d)-listed waters impaired solely or primarily by nonpoint sources. To this end, the memorandum asks that Regions assist States/Tribes in developing implementation plans that include reasonable assurances that the nonpoint source load allocations established in TMDLs for waters impaired solely or primarily by nonpoint sources will in fact be achieved. The memorandum also includes a discussion of renewed focus on the public participation process and recognition of other relevant watershed management processes used in the TMDL process. Although implementation plans are not approved by EPA, they help establish the basis for EPA's approval of TMDLs.

Prediction that the TMDLs will meet water quality standards is based on point-source control to improve water quality in the almost two-mile segment of the Sugar River above the confluence with the Connecticut River. The TMDL report identifies the Claremont POTW as the primary source of oxygen-depleting pollutants in this river segment. Reductions in $CBOD_5$ and NH3-N point-source loadings will be controlled through a NPDES permit issued by EPA.

Nonpoint sources currently contribute relatively minor amounts of oxygen-depleting pollutants; therefore, the TMDL does not rely on NPS controls to meet water quality standards in the potentially non-attaining segment.

As mentioned under TMDL Review Element #6 above, follow-up monitoring will be conducted

to assess the adequacy of the TMDL before the Claremont POTW reaches its design flow. If monitoring indicates that violations of water-quality standards are likely to occur, the TMDL will be revised accordingly. This may result in a need to modify the NPDES permit under 40 CFR 122.62 (a)(2), as a revised TMDL would constitute new information not available at the time of permit reissuance. As mentioned in the cover letter to the 1996 TMDL study, the City of Claremont also has the option to explore the viability of discharging to the Connecticut River.

Assessment: Adequately addressed.

10. Reasonable Assurances

EPA guidance calls for reasonable assurances when TMDLs are developed for waters impaired by both point and nonpoint sources. In a water impaired by both point and nonpoint sources, where a point source is given a less stringent wasteload allocation based on an assumption that nonpoint source load reductions will occur, reasonable assurance that the nonpoint source reductions will happen must be explained in order for the TMDL to be approvable. This information is necessary for EPA to determine that the load and wasteload allocations will achieve water quality standards.

In a water impaired solely by nonpoint sources, reasonable assurances that load reductions will be achieved are not required in order for a TMDL to be approvable. However, for such nonpoint source-only waters, States/Tribes are strongly encouraged to provide reasonable assurances regarding achievement of load allocations in the implementation plans described in section 9, above. As described in the August 8, 1997 Perciasepe memorandum, such reasonable assurances should be included in State/Tribe implementation plans and "may be non-regulatory, regulatory, or incentive-based, consistent with applicable laws and programs."

The WLA in the TMDL will be implemented through issuance of a new NPDES permit. The Claremont POTW is responsible for performing monthly water-quality monitoring as a requirement of its NPDES permit. Water-quality limits in the permit assure that State water-quality standards for DO will be met. If needed, monthly monitoring data may be used to refine the TMDLs if water quality standards in the Sugar River are not being attained.

Average monthly limits in the new NPDES permit were determined using a DO target of 7.0 mg/l. This gives EPA New England added assurance that WLAs will be met.

Assessment: Adequately addressed.

11. Public Participation

EPA policy is that there must be full and meaningful public participation in the TMDL development process. Each State/Tribe must, therefore, provide for public participation consistent with its own continuing planning process and public participation requirements (40 C.F.R. § 130.7(c)(1)(ii)). In guidance, EPA has explained that final TMDLs submitted to EPA for review and approval must describe the State/Tribe's public participation process,

including a summary of significant comments and the State/Tribe's responses to those comments. When EPA establishes a TMDL, EPA regulations require EPA to publish a notice seeking public comment (40 C.F.R. § 130.7(d)(2)).

Inadequate public participation could be a basis for disapproving a TMDL; however, where EPA determines that a State/Tribe has not provided adequate public participation, EPA may defer its approval action until adequate public participation has been provided for, either by the State/Tribe or by EPA.

EPA New England and NHDES (Water Division) solicited public comments from July 17, 2000 through August 15, 2000 on the draft TMDL. EPA received one set of comments from the City of Claremont. (Although postmarked August 16, 2000, officially outside the comment period, EPA responded to these comments.) In addition, a consultant hired by the City of Claremont (Bob Urban of Dufresne-Henry, Inc.) corresponded with NHDES (Gregg Comstock) during the public-comment period. Mr. Comstock's reply to Mr. Urban is listed as document #3 under 'Background' in this TMDL review.

Assessment: EPA New England concludes that NHDES has done an adequate job of involving the public during the development of the TMDLs for the lower Sugar River, and has provided adequate opportunity for public comment on the TMDLs.

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