# RESPONSE TO COMMENTS

## NPDES PERMIT No. MA0032573
## Northfield Mount Hermon School

On July 26, 2005, the U.S. Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (DEP) released for public notice and comment a draft National Pollutant Discharge Elimination System (NPDES) permit for the Northfield Mt. Hermon School in Gill, Massachusetts. The draft permit was developed pursuant to an application from the Northfield Mt. Hermon School for the reissuance of its permit to discharge wastewater to the designated receiving water, the Connecticut River. The public comment period for this draft permit expired on August 25, 2005. Comments were received from Ms. Cindy Delpapa, Steam Ecologist, of the MA Riverways Program in a letter dated August 22, 2005, and Ms. Andrea F. Donlon of the Connecticut River Watershed Council in a letter dated August 25, 2005.

After a review of the comments received, EPA has made a final decision to issue the permit authorizing this discharge. The following are the comments and EPA's response to those comments, including changes that have been made to the final permit from the draft as a result of the comments. The comment letters are part of the administrative record and are paraphrased herein. A copy of the final permit may be obtained by writing or by calling Mark Malone, EPA NPDES Permits Program (CMP), 1 Congress Street, Suite 1100, Boston, MA 02114-2023; telephone: (617) 918-1619.

Comments received from Ms. Cindy Delpapa, MA Riverways Program:

*Comment 1*

*The permittee is a boarding school operating on a limited basis during the summer months. In this instance, a deviation from the universal testing schedule for the watershed may be warranted. Rather than performing WET testing according to that schedule in early September shortly after school has started, it might be preferable to perform that test at some other time when the effluent may be more representative of the normal school operation.*

Response 1

Because the permittee is a boarding school, it is expected that the wastewater characteristics of the discharge will be fairly constant whenever school is in session. Holidays and vacations occur other times during the year interrupting school operations. Consequently, the requirement to conduct the WET test in September in accordance with the watershed schedule remains in the permit.

*Comment 2*

*The monitoring data shows great variability in the TKN concentrations. The reduction in sampling frequency from quarterly to twice per year may fail to capture the variability of the TKN concentrations. While sampling in the summer may be unnecessary, it is suggested that sampling three times per year to capture this variability would be desirable.*

Response 2

Variations in TKN concentrations are to be expected as nitrification periodically occurs in treatment facilities. As discussed in the Fact Sheet, the purpose of total nitrogen monitoring, comprised of the TKN and nitrate-nitrite monitoring requirements, is to assist in the development of a nitrogen control strategy for all tributaries to Long Island Sound. Data has been collected for several years. Considering the dilution factor of over 2,000 and the distance from the Sound, an additional sample per year would provide little additional benefit to the development of the nitrogen control strategy. Therefore, the TKN monitoring frequency will remain at twice per year.

*Comment 3*

*The use of an annual average monthly flow has the effect of dampening the reported average monthly flows for the Northfield Mount Hermon School facility which can have little, or no, flow during the summer months when the school is not in session. The facility should report the average monthly flow as the average of the daily flows for the reporting month.*

Response 3

The introduction of a rolling annual monthly average flow as the permit limit is to recognize that the design flow developed by engineers during facilities planning is calculated in that manner. We do agree that, because of the reduced summer flows, reporting the actual average monthly flows would be beneficial. Consequently, the requirement to report the actual average monthly flow has been added to the final permit.

*Comment 4*

*This permit will supersede the permit issued in April, 2002. Typically, EPA issues permits that will expire in 5 years. Why is this permit being reissued?*

Response 4

The term of current permit is only 3 years so that it would expire in the same year as other Connecticut River permits.

Comments received from Ms. Andrea F. Donlon of the Connecticut River Watershed Council.

*Comment 5*

*How did EPA arrive at the 7Q10 of 1,518 cfs at the outfall? Records for the nearest gaging station (Turners Falls, USGS Station No. 1167000) indicated a 7Q10 of 1,250 cfs which would result in a 7Q10 at the Northfield Mount Hermon School outfall of about 1,200 cfs.*

Response 5

The 7Q10 flow used in the draft permit is the same 7Q10 flow used to develop the current permit recently issued in 2002. According to the USGS website, the Turners Falls gaging station provides only a partial record for a period ending in 1981. Rather than using a 7Q10 based on older, incomplete data, we examined the data at the Montague City gage station (USGS Station No. 01170500) further downstream. This station provides a continuous record from 1904 to the present and the 7Q10 flow at that station is 1,690 cfs. Comparing the respective drainage areas at Turners Falls to Montague City would result in the following 7Q10 at Turners Falls.

7165 s.m. (Turners Falls) ÷ 7860 s.m. (Montague City) * 1750 cfs = 1541 cfs

With the additional adjustment because the Northfield Mount Hermon School discharge is further upstream, any difference in the 7Q10s used in the draft and current Fact Sheets would be insignificant. Considering the magnitude of the dilution factor and consistency from permit to permit, the 7Q10 used in the development of the current permit is still valid for the development of this permit's limits.

*Comment 6*

*This area is subject to wide fluctuations in river level due to the withdrawal and discharges of the Northfield Mountain Generating Station. Various agricultural water withdrawals also occur in the Connecticut River in this area. How would these withdrawals affect the 7Q10?*

Response 6

The Northfield Mountain Pumped Storage Project withdraws water from the Turner Falls pool below the Northfield Mount Hermon School discharge. As such, it would have no negative effects on the river flow at the point of the School's discharge. Since the water is released back to the River, it and any agricultural withdrawals would be reflected in the data at the gage station and no adjustment to the 7Q10 is necessary.

*Comment 7*

*If the 7Q10 were lowered for the reasons stated in Comments 5 and 6, would the reduction in dilution factor from 2,170 to 1,715 affect the determination regarding the Essential Fish Habitat?*

Response 7

It is not expected that a reduced dilution factor of 1,715 would affect the Essential Fish Habitat determination. It should be pointed out that the actual flows from the School are less than one-third the design flows which would result in a much greater actual dilution factor.

*Comment 8*

*Considering that Northfield Mount Hermon School is in the process of consolidating the two campuses, how will this change the impact of the wastewater discharge patterns for the permittee? Given this change it may not be reasonable to reduce the nitrogen and toxicity testing frequencies.*

Response 8

The permit limitations are based upon the design flow of the facility and not the actual flow. It is expected that the wastewater characteristics of the combined campuses and toxicity test results would be similar. See Response 2 above regarding the reduction of the nitrogen sampling frequency.