RESPONSE TO PUBLIC COMMENT
South Hadley Water Pollution Control Facility
MA0100455

From November 29, 2001 to December 28, 2001 the United States Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (MA DEP) solicited Public Comments on a draft NPDES permit, developed pursuant to an application from the Town of South Hadley Board of Selectmen for the South Hadley Wastewater Treatment Plant. After a review of the comments received, EPA has made a final decision to issue the permit authorizing the discharge. The following response to comment describes the changes and briefly describes and responds to the comments on the draft permit. A copy of the final permit may be obtained by writing or calling Doug Corb, United States Environmental Protection Agency, 1 Congress Street, Suite 1100 (CPE), Boston, Massachusetts 02114-2023; Telephone (617) 918-1565

A) Comments submitted by Greg Kereakoglow, DPW Superintendent, Town of South Hadley, dated December 27, 2001.

Comment #1: Flow limit - The draft permit includes a permit limitation for an annual average flow of 4.2 MGD. The Town requests that a footnote be added to the permit to indicate that this represents a correction to the previous permit, rather than a modification of permit requirements. The indicated flow is based on the approved design flow for the POTW that is an annual average value.

Response: The permit footnotes describe the method for calculating the annual average flow and indicate that this is now a state certification requirement. The flow limit in the previous permit was taken from the facilities plan and applied as a monthly average limit. Changing the limit to an annual average will smooth out operating peaks and allow for better planning based on annual average flows, rather than peak monthly flows.

Comment #2: Mass-Based Loading Limit - Mass loading limits for monthly and weekly BOD_5 and TSS were not included in earlier permits. These limit for were derived by multiplying the monthly and weekly concentration limit by the annual average flow rate (4.2 mgd) and a conversion factor of 8.34 to arrive at a mass loading value.

We take exception to this approach since it incorrectly uses an annual average flow to compute weekly and monthly mass limits. Since average monthly and average weekly flow can be significantly greater than average annual flows, any mass limit should be based on flows that correspond with the loading frequency in question, i.e., maximum monthly flow and maximum weekly flow. The historical data for this facility indicates a maximum daily peaking factor of more than twice the draft permit annual average flow.

The estimated peaking factor for monthly maximum flow is 1.5 times average annual flow. Proposed maximum weekly flow conditions, with a mass based limit of 1576 lbs/day for BOD_5 and TSS would result in a required effluent concentration of 23 mg/l. We are concerned that an effluent BOD_5/ TSS limit of 23 mg/l may not be able to be reliably achieved at maximum day flow conditions.

Neither the previous nor the current permit contains a weekly flow limit, so there is no basis to compute a weekly mass limit. For these reasons, the mass loading limits should be removed from the draft permit, implemented as an annual average mass limit or adjusted to reflect the design maximum monthly and weekly flow conditions for the facility.

Imposing a weekly and monthly mass limit will also unreasonably restrict facility discharges without a technical basis for establishing the new limit. Neither the permit nor the fact sheet provides the regulatory basis for including mass loading limits in this permit. The concentration limits used for computing the mass based limits are technology based limits and are unrelated to water quality of the receiving stream. The concentration limits do not reflect the mass BOD or TSS that the receiving stream can assimilate during this period without water quality impairment. Limits have not been developed based on a wasteload allocation to prevent stream quality degradation. Therefore, we again request that the mass limits be removed from the permit since they impose a new limit that was never intended in the original facility permit and was not considered in the basis of design for this facility.

We also note that mass based limits are not necessary to comply with EPA's anti-degradation requirements. Administrative permit corrections are permitted as a matter of EPA policy without impacting anti-degradation concerns.

Response: As noted by the commenter, the regulations found at 40 CFR Section 133.102 require that BOD and TSS limitations be expressed as concentrations. However, the regulations found at 40 CFR Section 122.45 do not preclude mass limits where appropriate (40 CFR Section 122.45 (f)(1) and (2). Expressing limitations in terms of concentration and mass encourages proper operation of a treatment facility. Concentration limits discourage the reduction in treatment efficiency during low discharge flow periods, and mass limits discourage higher loads being discharged into the receiving water during periods of high discharge flow.

Given the change of the flow limit from a monthly average to an annual average, we believe that it is necessary to include mass limitations for BOD and TSS in order to satisfy antidegradation requirements. If mass limits were not included, the permit would authorize a significant increase in the mass discharge of BOD and TSS over the mass authorized in the previous permit (i.e. the previous permit

contained a monthly average flow 4.2 MGD and monthly average BOD and TSS limits of 30 mg/l. If the permittee discharged at the flow and concentration limits, the discharge would be a monthly average mass of 1051 lbs/day). The monthly average flow rate for POTW's with adequate I/I controls should not be significantly greater than the annual average flow.

B) Comments submitted by Cindy Delpapa, Stream Ecologist, DFWELE Riverways Program, dated December 26, 2001.

Comment #3: The Fact Sheet notes the problems the State of Connecticut is having with nitrogen. The South Hadley facility is required to monitor for Total Kjeldahl and nitrate/nitrite quarterly. The recently issued draft permit for the Northampton Wastewater Treatment facility also discharges in the Connecticut River but it is required to monitor monthly. The more frequent monitoring required of Northampton WWTP seems advisable, (given the nitrogen sensitivity of Long Island Sound, the lack of information on the nitrogen loadings of this facility and the many point and nonpoint sources contributing to nitrogen loads in the Connecticut River) for the South Hadley plant, too.

Response: A review of the monitoring frequency required for other Connecticut River WWTPs indicates that based on the potential loading of nitrogen, WWTPs above 1 MGD are generally required to monitor total Kjeldahl nitrogen and nitrate/nitrite monthly. The monitoring frequency for the South Hadley WWTP has been changed to 1/Month.

Comment #4: The Northampton plant also has different pH requirements than the South Hadley facility. The state water quality classification for B waters cites a pH range of 6.5-8.3 s.u. The Northampton facility has a slightly modified range with a lower pH of 6.3 s.u. while the South Hadley facility has an even lower limit of 6.0 s.u. Why the lack of consistency and the much lower limit (logarithmic scale) for the South Hadley facility? The fact sheet states the community is working on corrosion control including measures to increase the pH so that having a consistent limit on these neighboring Connecticut River point dischargers should be easily met.

Response: The pH ranges for some of the WWTPs discharging to the Connecticut River has been lowered based on the individual requirements of each plant. The range for the South Hadley WWTP is the same as the Holyoke WWTP on the western shore of the river. Based on monitoring data from 1998 to 2000, the pH was below 6.3 four times. The limits in the permit are within the secondary treatment requirements of 6.0 to 9.0 in 40 CFR 133.102(c), and the available dilution in the river will not cause a violation of the water quality standards.

Comment #5: The inclusion of load limits, in addition to concentration, for BOD and TSS are

welcome. While we do not support the change in the monthly average flow calculations to a rolling average, nor understand why this does not constitute backsliding, the addition of a loading limit will help offset the problems associated with the new calculation methodology.

Response: See Response to Comment #2.

Comment #6: The infiltration and inflow requirements of the permit are a welcome addition given this systems I&I problem and the existence of combined sewer overflows. The town is making progress in the correction of its infrastructure deficits. The requirement to identify and prioritize areas that will provide increased aquifer recharge as a consequence of I&I improvements and to do education and outreach are especially commendable.

Response: Control of I/I will reduce peak flows and enable the permittee to meet the mass based limits for BOD_5 and TSS.

The following words (underlined and in bold print) were added to Page 10, Paragraph b., of the final permit. The words were omitted from the permit due to typographical error. The addition of these words is necessary to insure compliance with the State Water Quality Standards, as stated at 40 CFR §122.44(d)(1)(i).

b) The discharges shall not cause **or contribute to** violations of Federal or State Water Quality Standards.