RESPONSE TO COMMENTS FOR:
RUSSELL VILLAGE WASTEWATER TREATMENT PLANT, RUSSELL, MA
NPDES PERMIT #MA 0100960

On April 6, 2005, the U.S. Environmental Protection Agency ("EPA") and the Massachusetts Department of Environmental Protection ("MADEP") (together, the "Agencies") released for public notice and comment the draft for National Pollutant Discharge Elimination System ("NPDES") permit for the Russell Village Wastewater Treatment Plant. The permit authorizes the discharge from the wastewater treatment plant to the Westfield River.

The public comment period for the draft permit ended May 5, 2005.

Comments were received during the comment period from: 1. Westfield River Watershed Association and 2. Massachusetts Division of Fisheries, Wildlife and Environmental Law Enforcement [MAFW&ELE]-Riverways Program

The comments and responses are given below.

A. Westfield River Watershed Association comments:

Comment A.1:

This draft permit includes requirements for the permittee to address infiltration and inflow. We support this because it seems likely, given the variable flows seen at this plant over the year, that I&I is an issue and a problem. The permittee is specifically required to have public outreach about I&I and most specifically on private inflow and we support this.

Response A.1:

The Agencies agree that the infiltration and inflow program is valuable.

Comment A.2:

The Fact Sheet says"the facility consistently achieves the (flow) limit" This is not true- it has had six monthly violations in the past five years. One violation was 79% greater than that permitted flow limit (.303 mgd vs .24 mgd permitted).

Response A.2:

Although there have been a few violations of the facility's flow limit, we believe that these may have been attributed to excessive I/I. EPA has established new I/I Control Plan to aid in the control of I/I infiltration and the agencies would expect that the permittee's control and elimination of I/I would result in consistent compliance with the flow limit.

Comment A.3:

In addition to the above [comment A.2], *the plant had a failure in 2000 of its whole effluent toxicity (WET) test and another, less severe but still significant, failure in 2002. In the past the facility had to perform these WET test much more frequently than once a year, (quarterly). Given the failures to meet toxicity limits, it is premature to reduce the testing to only once per year and quarterly testing should remain in place.*

Response A.3:

EPA has reviewed the (toxicity testing) results and concluded that it was unclear what caused these failures. These could have been attributed to the toxicity of the effluent but, also it could have been due to the dilution water used and/or laboratory housekeeping practices, etc. EPA believes that one failure per year is not enough reason for small municipalities to be subject to quarterly toxicity requirements, especially since these discharges are greatly diluted in the receiving water. The Agencies believe that the individual permit parameters are sufficient to assure that Water Quality Standards of the receiving stream are being met.

Comment A.4:

We would like to have a report requirement for the daily maximum BOD and TSS and also for flow. This is especially pertinent for this facility because of the periodic high flows that come close to or exceed the design flow of the plant.

Response A.4:

The Agencies agree. The final permit will include a daily maximum monitoring requirement for flow, BOD, and TSS.

Comment A.5:

In the draft permit, footnote #2 puts forward a requirement for the permittee to report the daily maximum and minimum flow rates but the 'chart' (Part A.1) does not have the report requirement listed for daily maximum. This should be included.

Response A. 5:

EPA will add this requirement to the final permit.

Comment A.6:

Footnote #5 calls for a 24 hour composite sample to consist of at least 24 grab samples over a 24 hour period. It would be best to have these samples be flow proportional, if applicable to this plant, because it would more accurately characterize the flows.

Response A.6:

Part II Section E of the NPDES regulations requires the permittee to conduct flow proportional composite sampling. For municipal plants like Russell with small discharge flows, 24 hour (equal volume) composite sampling is acceptable to the Agencies if there in fact be periods when flow is not passing

through the treatment plant. In this situation, the permittee should make the composite appropriate for the time period when flow is actually leaving the facility.

B. MAFW&ELE- Riverways Program comments: [note: The Riverways Program comments and the Westfield River Watershed Association comments are found to be synonymous, therefore, in some instances the responses to the Riverways Program comments will be found in the responses to the comments by the Westfield River Watershed Association]

Comment B.1:

This facility serves a larger population according to the information in the Fact Sheet accompanying the draft permit. With a customer base of 910 the facility's 2004 flow data shows the per capita contribution of wastewater varies markedly from a relative low of 112 gallons per person per day (gppd) to a high of 227 gppd reflecting monthly average flows varying 50+% over the course of a year. Does this facility accept industrial flows, septage or some other seasonal component that would account for this great variability and the relatively high per capita volume? Is it possible the 910 figure is the number of households, not customers, served by this plant?

Response B.1:

The estimated number of residents at the Russell Village increased from 910 to 1,135 due to the discovery of 30 unaccounted connections and an unaccounted sanitary flow connection from a Massachusetts Turnpike Authority's rest area, overlooked by the municipality.

No industrial flows are reported by the WWTP operator. Also, the sewer system (as it was reported in the permit application) is believed to be 100% separate sanitary.

Comment B.2:

The monthly data supplied seems to show a consistent seasonal pattern indicative of high rates of infiltration and inflow and it may be I&I responsible for both the variation in flows and the high per capita wastewater contribution. The strong I&I program requirements in the draft permit will make inroads should the flow variability be primarily due to excessive I&I and is a welcome addition to the permit. A reduction in I&I will allow the facility to operate more efficiently and will lessen the likelihood of the design flow being taxed during weather- related high flow events .

Response B.2:

See response A.1 above.

Comment B.3:

Perhaps the I &I permit requirements could require the permittee to include milestones for I &I reduction and a timeline for attaining the improvements to the system as part of the assessment work required.

Response B.3:

Although the Agencies do not believe that such a condition should be imposed at this time, the agencies expect the annual I/I report to show progress in removing excessive I/I from the sewer system.

Comment B.4:

Another concern about the flow variability which is related to a change in the permit is the new calculation methodology for calculating the monthly average flow. Under the new method, the monthly flow will actually be an annual average that will result in a dampening of the peak flow months because they will be averaged with lower flow months- typically the summer months. Monthly average flows that would exceed the permitted flow limit under the existing flow limit would not be exceedances under the new calculation method. It is our opinion that this change is back sliding and is counter to the intent of the anti- backsliding regulation of the Clean Water Act and the anti-degradation statutes and does not meet requirements for exceptions. The addition of load limits for BOD and TSS does mitigate what amounts to a flow increase on some level but the dilution ratio will still reflect a conservative and protective monthly average -7Q10 calculation that is not reflective of the annual averaging flows proposed in the draft permit.

There is one final point concerning the Russell Village WWTP flow. The Fact Sheet (pg 4) states "the facility consistently achieves the (flow) limit" but the discharge monitoring data showing the monthly flow averages, (based on a month-long average of actual daily flow) at the facility shows six monthly violations in the past five years. One violation was 79% greater than that permitted flow limit, (0.303 mgd vs. 0.24 mgd permitted). This monthly flow information provides valuable insight in to the plant. The information indicates there are problems to be addressed and this early warning provides the permittee the luxury of some time to begin remediating the issues before the problem(s) grow. This is an additional argument to maintain a monthly average that is not calculated under the new annual average methodology.

Response B.4:

Typically, the facilities plans on which the agencies base flow limits include design flows expressed as annual averages. MADEP adopted a policy establishing flow limits in POTW permits as an annual average in order to account for seasonal flow variations, particularly those associated with high flow and high groundwater which commonly occur in the spring time. See June 12, 2000, MADEP-DWM NPDES Permit Program Policies Related to Flow and Nutrients in NPDES Permits ("Flow Policy").

The use of the annual average flow to calculate weekly and monthly mass loading limits will tend to offset any increase in loading that might otherwise occur as a result of the new definition of the flow limit. On the other hand, the use of average weekly or monthly flows to calculate mass limits would compound the potential for greater pollutant loadings, because the magnitude of such flows in any given month or week can be significantly higher than average annual flow value. Another mitigating factor is that the peak flows will not coincide with the critical receiving water flow of 7Q10. Peak flows occur in the spring and fall as a result of high ground water and high infiltration and inflow rates.

The facility may have been in non-compliance of the monthly average existing flow limit, but is expected that they will not be in violation of the average annual flow limit.

Comment B.5:

The compliance record for this plant indicates there are a few challenges facing this facility. As mentioned, the Russell WWTP has had flow exceedances. It also had a disturbing failure in 2000 of its whole effluent toxicity (WET) test and another, less severe but still significant, failure to meet WET

toxicity
limit in 2002. Based on the discharge monitoring data it appears the current permit for this facility required quarterly WET testing. Given the recent WET test exceedances of LC_{50}, it may well be premature to reduce the testing to only once per year. We urge the EPA to reconsider the WET testing schedule reduction and maintain a quarterly testing schedule or a more modest reduction to bi-annual testing.

Response B.5:

See response A.3 above.

Comment B.6:

BOD and TSS are important pollutant parameters- particularly TSS in a facility that employs UV light to disinfect its effluent. We would like to suggest a report only requirement for the daily maximum BOD and TSS. This report only requirement would be especially helpful and pertinent for this facility with its periodic high flows that come close to or exceed the design flow of the plant. The daily maximum would provide information to interested parties regarding the performance and efficiency of this facility and progress on I&I reduction. We would like to advocate for this report only requirement for all three of these facilities [Russell, Woronoco, Huntington] *as it will provide a more complete record about each of the plants and will require no additional monitoring or sampling effort on the part of the permit holder.*

Response B.6:

See response A.4 above.