

RESPONSE TO PUBLIC COMMENT

From May 24, 2004 to June 25, 2004, 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 a reapplication from the City of Lowell for, the Lowell Regional Wastewater Utility. 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 Betsy Davis, United States Environmental Protection Agency, 1 Congress Street, Suite 1100 (CMA), Boston, Massachusetts 02114-2023; Telephone (617) 918-1576.

A) Comment submitted by the City of Lowell, on June 23, 2004.

Comment#1: The permit should be subscribed to the "Lowell Regional Wastewater Utility". The Lowell Water Utility is a separate department in the City.

Response: This change has been made on the final permit.

Comment#2: The City requests that the DO limit and sampling requirements be removed from the permit. As discussed above, there is no DO problems along the Merrimack River and this additional sampling and analytical requirement is an unnecessary burden for the City. At a minimum, DO testing should be a reporting requirement, not a permit requirement.

Response: The DO limit in the draft permit has been removed and changed to a reporting requirement in the final permit.

Comment#3: The permit contains mass limits for BOD₅ and TSS. These were determined by multiplying the 12-month rolling average flow limit times the monthly and weekly concentration limits. The City requests that these limits should be removed from the permit. Justification presented in the fact sheet has no technical or water quality merit. If the monthly mass limit remains it should be a 12-month rolling average to be consistent with flow used to determine it.

Response: EPA and MA DEP have added BOD₅ and TSS mass loading limits to POTW permits for the last several years. As part of a policy change requested by MADEP, flow limits in MA NPDES permits are now expressed as an annual average, rather than a monthly average. The purpose of the change is to allow some variation in POTW flows in response to wet weather, and in recognition that the flow rate used as a monthly average is in most cases presented in the treatment plant planning documents as an annual monthly average.

Agreeing to relax the flow limit from a monthly average to an annual average caused concern that there would be a significant increase of pollutants discharged to the receiving water during months when the monthly average discharge flow exceeds the limit in the current permit. To prevent degradation of the receiving water, the Agencies agreed

to add mass limits based on the current design flow of the facility for both BOD₅ and TSS as a permit condition to ensure that existing controls on mass discharges are maintained.

The final permit includes monthly average mass limits for BOD and TSS only.

Comment#4: The City requests that the Maximum Daily BOD and TSS limits be removed from the permit to be consistent with the approach taken by MADEP for other communities with technology based permits. Maximum Draft limits are not a federal or state certification requirement. A Maximum Daily limit will also restrict the City's capability of maximizing wet weather treatment capacity (up to 112 mgd) to reduce the discharge of untreated CSOs.

Response: The Agencies are keeping maximum daily limits in several NPDES permits with high flows to help control the operation of the facility and prevent wash-outs.

Comment#5: TRC. The City requests that the continuous monitoring requirement for TRC be eliminated from the permit. The City's current practice of taking four (4) grab samples per days is adequate to characterize chlorination operations. The City's new chlorination system is flow-paced, remotely-operated, and will be monitored for any mechanical interruptions or malfunctions. Continuous monitoring of TRC will require the City to purchase new equipment and is a burden to the City's already constrained budget.

The EPA should also consider the detection limit of TRC, which is 20 mg/l. Other recent draft permits have indicated that any analytical value equal to or less than the detection limit should be expressed as zero.

Response: The language requiring TRC continuous monitoring is being added to all POTW permits to verify compliance with the TRC limit at all times.

Language stating that the TRC minimum detection limit for compliance purposes is 20 mg/l has been added to the final permit.

Comment#6: The City requests that the additional fecal coliform grab samples for every bypass condition be removed from the permit. The City already collects and analyzes flow samples for fecal coliform daily. Samples are taken on a regular schedule that is dictated by existing laboratory hours, limited sample hold times, and staff availability (to run the appropriate analyses). This sampling schedule is not modified for high flow conditions. Accordingly, these flow samples are often collected during bypass conditions and represent the type of blended flow quality that is achieved by the plant. The DMRs submitted to the agencies identify the days with bypass/blended flows when coliform samples were taken. The additional fecal coliform sampling requirement during every bypass conditions will require the City to add additional staff and/or costs to have laboratory personnel available during the odd hours when bypass conditions might occur. This is a significant burden and cost to the City. Accordingly, the City requests that this additional sampling requirement should be removed from the permit. Alternately, the City suggests that bypass condition fecal coliform testing only occur during regular laboratory hours when the minimum fecal coliform sample hold times and conditions can be met.

Response: Footnote 8 of the final permit has been modified. Additional fecal coliform samples shall be collected during bypass conditions that occur during regular laboratory operating hours. Operating hours at the laboratory are defined in the permit as Monday through Friday, 7:00 am to 3:00 pm.

Comment#7: The City requests that the testing requirement for chronic toxicity be removed from the permit. The City petitioned to remove chronic toxicity testing in the last permit and EPA agreed to exclude this requirement. The City has consistently met the acute toxicity requirement for its effluent; thus, there is no reason that the City exceeds the lower chronic toxicity requirement.

The City also requests that the additional requirement for two toxicity tests during bypass conditions be eliminated from the permit. Currently, toxicity testing is planned at least a month in advance to arrange for analysis with an appropriate outside laboratory. Thus, currently, the schedule for toxicity testing is not altered because of wet weather conditions. In the past, toxicity samples were collected during bypass conditions. The City has provided representative information of toxicity data during bypass conditions. In addition, toxicity testing was performed on untreated CSO discharges for the 1990 CSO Facilities Plan. Testing results indicated no observable effects. Accordingly, it is reasonable that a blended, treated, effluent should be less toxic. Finally, arrangements for toxicity testing of bypass conditions are difficult for WWTP staff and laboratories because of the unpredictable nature of wet weather events. Accordingly, the City requests that toxicity testing during bypass conditions be eliminated from the permit.

The City will be conducting full-scale testing to determine plant capacity during dry and wet weather flow conditions. In addition, in order to meet the Nine Minimum Control Measure requirement to maximize flow to the treatment plant during wet weather events, this 90-day flow limit may be exceeded. Maintaining this flow limit could impact the City's capability to maximize treatment of wet weather flows.

Response: The EPA's policy on toxicity testing takes low flow conditions into account when determining the type and number of toxicity tests specified in the permit. The policy requires 4 chronic and modified acute toxicity tests per year, one test per quarter, with two species, the *Cerodidaphnia dubia* and the *Pimephales promelas* for facilities with a dilution ratio between 10:1 and 20:1. The dilution ratio at the discharge is 19:1.

The *Cerodidaphnia dubia*, will be the only specie tested. Past tests have shown the *Cerodidaphnia dubia* is the more sensitive than the *Pimephales promelas*. The Agencies believe chronic and modified acute toxicity testing is necessary given this segment of the River is listed on the States' Integrated List of Waters as impaired for several pollutants.

Two additional toxicity tests during high flow events will remain a requirement of the final permit. We believe the extra tests are necessary given the discharge is upstream of several water supply intakes.

Comment#8: The City strongly disagrees with the EPA's interpretation of federal regulations with

regard to listing its regional communities as co-permittees and requiring the City to enforce its permit conditions on these regional communities. The existing Intermunicipal Agreements; (IMAs) between Lowell and the communities do not provide the City with any enforcement capabilities to meet these permit conditions. Accordingly, ownership of any potential violations of permit conditions is a significant concern for the City. In addition, as discussed above, the ownership and schedule for delivery of annual compliance reports for permit conditions should be defined better to relieve the City of any co-permittee violations. The EPA should separately permit these regional communities to address, as necessary, operations and maintenance and I/I reduction issues.

Response: The addition of Co-permittees to the permit does not require the LRWU to enforce the permit conditions that apply to the Co-permittees.

Part I. C Unauthorized Discharges, Part I.D. Operation and Maintenance of the Sewer System and Part I.E. Alternate Power Systems in the permit apply specifically to each Co-permittee's separate system.

The definition of POTW in 40 CFR 403.3, include any devices and systems used in the storage, treatment or recycling and reclamation of municipal sewage or industrial waste of a liquid nature. It also includes sewers, pipes and, other conveyances that convey wastewater to a POTW Treatment Plant.

Comment#9: As we have discussed, the City has concerns about the EPA's proposal to evaluate the timing of CSO improvements with I/I reduction. The EPA's approach appears to indicate that the City's progress will be evaluated within each CSO drainage basin. As the EPA is aware, the City's Revised Draft Long-Term Control Plan evaluated control requirements for each CSO and identified a Phase I program that will implement improvements in only a few key CSO basins over the next several year. This Phase I plan and implementation schedule was approved by EPA. Accordingly, there are some CSOs where no CSO abatement will be achieved in the EPA-approved Phase I Plan and/or CSO control will not be completed for several years. In addition, the incremental increase in sanitary flows that may occur in each separate CSO basin (with new sewer connections/ extensions) are very insignificant compared to the peaked combined flow generated by the basins. Accordingly, the theoretical impact of the new sewer connections on CSO discharges is really unreasonable to compute.

It is also unreasonable for the EPA to consider CSO abatement progress in this discrete manner. The improvements to the combined sewer system were selected by the City and EPA to holistically (and cost-effectively) reduce untreated CSO discharges from the Lowell collection system. A similar comparison should be made to ensure that new sewer connections to do holistically increase CSO discharges or reduce wet weather capacity system-wide.

Accordingly, we request that, at a minimum, Paragraph F (ii) be modified to reflect that the offset for impacts be determined for the CSO system as a whole versus each discrete CSO outfall. Likewise, similar modifications should be made to subparagraph b under the

Annual Report.

Response: EPA supports the City's CSO Revised Draft Long-Term Control Plan. We acknowledge that progress on CSO abatement is being addressed collectively rather than focusing on individual CSOs. The offset requirement in Section F. ii. of the final permit has been deleted as well as the reporting requirement under Section F. 3.b.

Fact Sheet Comments

Comment #10: Paragraph IV. - Design Flows. The wastewater treatment facility design flow limit is noted to be 112 mgd for combined flows. However, the reliable wet weather capacity of the WWTF is restricted due to existing hydraulic and process limitations. This has been documented in several reports and memoranda as part of the CSO Program. The City is completing modifications at the WWTF to improve its reliable capacity for wet weather treatment. Upon completion of these improvements the City will need to conduct a full-plant demonstration test to confirm resulting plant capacities. The Fact Sheet should be updated to describe these conditions.

Response: The flow limit in the final permit is based on the interim average design flow of the facility. Specific conditions for wet weather shall be included in the consent decree.

The purpose of a fact sheet is to briefly explain the rationale and assumptions used in developing the draft NPDES permit. It serves to explain conditions in the draft permit and changes made from the current permit to the draft rather than modifications being completed in the future at the facility.

Comment #11: Paragraph IV. - DO Limit. The City requests that the DO limit be removed from the permit as an effluent standard. The EPA did not include this parameter in the last permit because DO is been confirmed in a number of river quality analyses including in CSO Facilities Plans in Manchester and Nashua, New Hampshire and Lowell and Haverhill and for the GLSD in Massachusetts. The Army Corps of Engineers has also completed additional sampling as part of the river for the Merrimack River Coalition Study.

Our effluent receives adequate aeration (when river levels are low) based on the current outfall configuration. Thus, a DO effluent limit for our plant is unnecessary. Finally, collection of the grab sample once per day represents an additional burden and cost to our already constrained facility budget and staff, especially our laboratory personnel.

Response: See Response to Comment #2.

Comment#12: Paragraph VII. The City strongly disagrees with the EPA's interpretation of 40 CFR 122.41(d) and (e) to require Infiltration/Inflow reduction to address CSO abatement. The City also challenges the MADEP assertion that inclusion of I/I conditions in the draft permit is a formal State Certification requirement.

The City of Lowell owns and operates a combined sewer collection and treatment system. The quantity of I/I flow is small when compared to peak combined sewer flows and CSO

discharges in the Lowell system. Thus, the existing I/I does not cause a significant displacement of storage or treatment capacity during wet weather in Lowell that would otherwise control CSO discharges. In addition, past work indicates that only a small portion of I/I can be reasonably and cost-effectively reduced. The cost-effectiveness of I/I reduction on CSO abatement in the City is minimal compared to the control achieved by the City spending money on CSO-related improvements.

The City has already developed and submitted a CSO Long-Term Control Plan (LTCP) to reduce the discharges of untreated CSOs from the Lowell combined sewer system. The EPA has approved Phase I of the LTCP and the City is implementing this program. Although I/I reduction was considered in the LTCP, discrete system-wide infiltration reduction is very expensive and does not significantly or cost-effectively reduce CSOs. I/I reduction is a component of the LTCP and, over time, as the City implements its LTCP, I/I will be reduced. Accordingly, any further requirements for I/I reduction in Lowell should be reconsidered with respect to the money the City is spending to implement its Phase I CSO Program (\$65 million) and the discrete I/I reduction required in the permit for Lowell should be eliminated.

Response: An I/I program for a separate sewer system is now a requirement of all POTW permits and has been certified by the MA DEP in NPDES Permits. See 314 CMR 4.00 It reflects the MA DEP's Interim Infiltration and Inflow Policy that became effective on September 6, 2001. A copy of the Policy is on the States' webpage. @www.mass.gov/dep/brp/wm/wmregpol.htm.

See Response to Comment #9 address in regards to the City's LTCP.

Comment#13: The City is also concerned about the inclusion of system operation and maintenance requirements and I/I reduction investigations and goals for the Co-permittees in Lowell's permit. The City would like assurances from the EPA that the Co-permittees activities will not review and incorporate into its own permit compliance submittal. Accordingly, Co-permittee deliverables should be submitted to the City, DEP, and EPA by mid-February, at the very least, of each permit year so that the City has to time to incorporate this information into its annual report.

Response: Part I.D. Operation and Maintenance of the Sewer System of the final permit establishes a reporting requirement for each of the Co-permittee's separate sewers. The submittal date for the report is based on the effective date of the permit.

Reports submitted by the LRWU, such as an annual sludge report apply to operations at the treatment plant.

B) Comment submitted by the Massachusetts Riverways Program, on June 23, 2004.

Comment#14: We support increasing sampling frequency for fecal coliform and would even encourage a daily sample during warm weather months since the river is used extensively for recreation including by the Greater Lawrence Boating Program and if the sampling is occurring during the work week, weekend effluent conditions when recreational use might

be at its peak would not be characterized. Also, the receiving water, (segment MA84A-03, Duck Island to Essex Dam) is listed as impaired by pathogens on the State's Integrated List of Waters so there is already a known problem in this river segment. The requirement to have a once per day 'report only' increase in fecal coliform sampling during a bypass event is less acceptable given the impaired status of this water way, the down stream surface water supplies relying on the river as their source of potable water, and recreational uses. Hourly monitoring of fecal coliform during the length of the bypass should be considered since it would be protective of this impaired water body and downstream uses. Fecal samples taken during bypasses should be required to meet the limitations imposed during dry weather, regardless of the frequency of monitoring- bypass events should not be allowed to side step water quality standards.

Response: The increase in fecal coliform sampling in conjunction with the alarm requirement for the chlorination system is adequate to ensure compliance at all times

Comment#15: Sampling for BOD and TSS should also be increased during bypass events and when flows exceed 45 mgd. Twice daily sampling should be required during these bypass periods and effluent must meet the concentration and load requirements of the draft permit. The facility is required to meet 85% removal rates during dry weather only. Will suspension occur even when there are no bypass flows though the facility is operating beyond 32 mgd but not greater than 64 mgd? Will concentration and load limits be suspended during bypasses? At what point during the diversion of raw influent from the full wastewater treatment train will the bypass requirements of the NPDES permit begin and end? What is the definition of 'dry weather'? The facility should be required to meet 85% removal of BOD and TSS on all flows passing through the plant's primary and secondary treatment processes when a bypass is not occurring.

Response: The permittee is required to optimize the secondary treatment for flow coming into the plant during both wet and dry weather. Facilities with combined sewers usually can not meet the 85% removal requirement on a monthly average because the influent is too dilute during storm events. Due to the difficulties in separating wet and dry weather data, EPA New England does not typically include the 85% removal requirement in permits for facilities with CSOs. Pursuant to 40 CFR 133.103(a). Combined Sewers, the 85% removal requirement for BOD₅ and TSS have been removed from the final permit.

The secondary treatment regulations require a minimum of 85% removal efficiency for BOD₅ and TSS over a 30 day average unless special circumstances pursuant to 40 CFR 133.103 apply. The regulations at 40 CFR 133.103(a) allow a relaxation of the 85% removal requirement for facilities with combined sewer systems.

Comment#16: The receiving water is listed as impaired by several other pollutants in addition to pathogens: priority organics, nutrients and metals. The draft permit has no limits or even reporting requirement for nutrients despite the impaired status of the receiving water. The State will have to undertake and complete a TMDL for the Merrimack to set nutrient loads for all contributors. Without data about the contribution of nutrient loads from the many point source discharges, this task will be made difficult and result in potentially inaccurate load allocations because of a lack of definitive inputs into the model used to

determine loads. The facility should be required to monitor and report total phosphorus, ammonia, nitrate and TKN at least monthly using a 24 hour flow proportional composite sample. It is likely some if not all of these constituents are tested for during the toxicity tests performed quarterly. At a minimum quarterly reporting of nutrients would provide some data. Sampling should also occur during bypass events to more fully understand the loads associated with the high bypass flows.

Response: The segment of the Merrimack River that receives the LRWUs discharge is on the Massachusetts - Year 2002 Integrated List of Waters requiring a TMDL for nutrients as well as other pollutants. Quarterly reporting requirements for total ammonia nitrogen, nitrite/nitrate, and TKN have been added to the final permit. Monthly sampling for total phosphorus has been added to the permit. Two additional sampling requirements for total ammonia nitrogen, nitrite/nitrate, TKN and, Total Phosphorus have been added to the final permit during high flow events. For this permit, a high flow event is defined as xxx MGD.

Comment#17: Footnote #6. The facility is required to report inadequate chlorine concentrations and record information about such incidents which we certainly support, as mentioned above there are downstream water supplies and recreational areas. Elevated levels of chlorine are also problematic and can be harmful to aquatic life in the receiving water. The facility should also be required to record the amount of time the facility released effluent with TRC concentrations above permits limits either in the DMR or by highlighting the recording charts from the continuous analyzer submitted with the DMRs showing the number of hours of exceedances.

Response: The permittee is required to submit graphs showing the results from a continuous recorder. While the duration of peak chlorine discharges will not be recorded on the monthly DMRs, the graphs that show the duration of peak chlorine will be part of the official administrative record and can be obtained from EPA or MA DEP.

Comment#18: Footnote #5. The 24-hour composites require grab samples taken through one 24 hour period but the samples are not required to be flow proportional. The Fact Sheet indicates this facility has industrial users. Depending on their production hours, the flow at the facility could be variable in both volume and in composition depending on the percentage of flow generated by industrial users. A flow proportional composite sample would more fully mirror the composition of the effluent and should be considered as an amendment to the sampling protocol in the draft permit.

Response: Part II. Section E. of the General Requirements in the final permit defines composite sample as a sample consisting of grab samples at equal intervals and combined proportional to flow or a sample continuously collected proportionally to flow over a that same time period.

Comment#19: The monthly average flow of the facility was above the design flow of 32 mgd every month during 2003, a worse record than in 2002 which had several monthly averages below 32 mgd. The facility is chronically operating above its design capacity. The Fact Sheet did not state the CSO volumes or frequency of CSO events but, conservatively, millions of gallons per year are discharged into the Merrimack and Concord Rivers and

Beaver Brook from CSOs. The I/I remediation requirements in the draft permit are much needed to try to reduce flows to the facility benefitting daily operations and CSO frequencies and volumes. Hopefully I/I elimination can be accomplished expediently. The facility should not allow any additional hook up to the Greater Lowell Wastewater Utility until significant progress has been made on I/I removal given the seriousness of design flow excursions and CSO releases. Consideration should be given to requiring more than one to one ratio of I/I removal to influent addition.

Comment #20: The level of I/I in this system has an alternate side. There is probably exfiltration from the sewer infrastructure during period of drought or low groundwater levels. Priority to rectifying degraded infrastructure in areas near sensitive receptors, such as small streams or wetlands. This issue should be part of the prioritization criteria for deciding on I/I remediation projects.

Response: Maintaining the integrity of the infrastructure is an important component of the I/I program and, correcting structural problems will also address exfiltration in these areas. We recommend prioritizing local water quality problem areas due to exfiltration.

Comment#21: The permit requirements for CSO control, effluent limitations, and reporting are enthusiastically supported. We would like one augmentation considered relative to the nine minimum control technologies detailed in Attachment E. under control 7.e. Street cleaning is an important facet of pollution control. We would like to see this expanded to include sidewalks. In New England, with our snowy winters, a significant volume of sand and salt laden snow can be piled on the side of roads. During snow melt, this sediment and accumulated litter remains on the sidewalks beneath the snow piles and is not dealt with during street sweeping and is left to runoff into storm drains. Areas under bridges and sidewalks with pest waste pose and additional contribution of pollutants to stormwater runoff that could also be at least partially ameliorated by regular sidewalk sweeping.

Response: This is a good suggestion. We recommend it be implemented under number seven of the Nine Minimum Controls, Pollution prevention program that focus on contaminant reduction activities, listed in Part G.1 a.of the final permit.

C) Comment submitted by the Town of Tewksbury, on June 23, 2004.

Comment#22: Specifically our concerns focus on the infiltration/inflow(I/I) reduction requirements described on page 8 (Part I.D) of the permit These requirements include development and implementation of an I/I reduction plan and annual submission of an I/I summary report to EPA and MADEP. Given that the Tewksbury wastewater collection system is relatively new, having been entirely constructed over the past 23 years, and is well maintained, we do not feel that I/I is a significant problem within the Tewksbury system. We also do not feel that the limited I/I in the Tewksbury system contributes meaningfully to the combined sewer overflows (CSOs) in Lowell.

Response: We believe that reducing sources of I/I are necessary to help reduce flow exceedances at the LRUU. The Agencies realize that Infiltration/Inflow (I/I) is an ongoing challenge that

all Cities and Towns with collection systems have to address and we support the Town's effort at maintaining their collection system. An I/I Implementation plan is now a reporting requirement in all POTW permits.

We believe it is reasonable to request a Town to implement an I/I plan for their separate collection system, when the Town sends its wastewater to a Regional facility and, the treatment plant exceeds the design flow of the facility.

Comment#23: Tewksbury has made great efforts to monitor the construction of the sewer system and, to date, the levels of system I/I have been extremely low. As described in the town's EIR for Sewer Expansion, which was approved by the Massachusetts Secretary of Environmental Affairs in January 2004, the I/I for the town is far below the flow rate that is defined as being "Excessive I/I" by MADEP. Tewksbury is I/I flow during very wet periods is less than 1,000 gallons per day per inch mile (gpd/im), which is less than one- Tewksbury will prepare a report for submission under the NPDES permit requirements in Part I-D.3 which will document the low I/I flow rates on a town-wide basis. The plan will include discussion of the planned efforts by the town to resolve any violations of the NPDES permit and to limit I/I in the future through inspection and education. However, since the I/I rate in Tewksbury is minimal, the control program for I/I will be reduced so as to be proportional to the problem. We seek confirmation from EPA that the study and resolution of I/I issues will only be required in the cases where (1) violations of permit regulations occur due to excessive I/I only in Tewksbury, as is stated in the permit Under I-D.3, and that excessive I/I is understood to be the 4,000 gpd/im guideline used by MADEP and (2) I/I removal is cost effective and under the authority and control of the Town of Tewksbury rather than another governmental entity being either the Commonwealth of Massachusetts, City of Lowell or other co-permittee.

Response: We agree that decisions on I/I removal are within the authority of the Town however, for purposes of an NPDES permit, excessive I/I is defined by the EPA and MA DEP as a sanitary sewer overflow. For purposes of an NPDES permit, excessive I/I is defined as sanitary sewer overflows and flows that causes a POTW violation. A sanitary sewer overflow is untreated sewage overflows from a separate sanitary sewer collection system.

Comment#24: Tewksbury has an agreement with LRWU which allows the discharge of up to 4.25 million gallons per day (mgd) average daily flow to the Lowell system. Existing flows are well below this level. Tewksbury is currently undertaking an expansion of the sewer system which will increase the wastewater flow to Lowell over the next several years; however, even with this increased flow the total flow from Tewksbury will not exceed the 4.25 mgd authorized limit. Based on the wording in Part I F of the permit, it is our understanding that Lowell has a responsibility to undertake CSO improvements which take the additional service connections in Tewksbury into account. It is our view that this is fully Lowell's responsibility and that Tewksbury will not be held responsible to remove I/I as additional connections are made to the system and wastewater flow to Lowell increases. We seek confirmation of that understanding form EPA.

Response: The language in the final permit does not include the offset requirement in Section F.1.a.ii. However, the Agencies support the CSO control program in the City of Lowell

which should keep pace with new sewer connections such that the work accomplished by the CSO program will not be diminished.

Comment #25: We further seek confirmation from EPA that the separate sanitary wastewater flow from Tewksbury, with some inevitable minimal I/I, will not be considered to "contribute" to the CSO in Lowell.

Response: The CSOs in Lowell are being addressed in the City's Long Term CSO Control Plan. Page 1 of the final permit identifies the three sections in the final permit that the Town must address. These sections apply to the Town's separate collection system. Minimal I/I from the Town's separate sewer system will not be seen as contributing to CSOs in Lowell.

D) Comments submitted by Town of Dracut, Sewer Department, on June 24, 2004.

Comment #26: Our concerns focus on the infiltration/ inflow (I/I) reduction requirements described on Pages 7 and 8 (Part I.D) of the permit. These requirements include development and implementation of an I/I reduction plan and annual submission of an I/I summary report to EPA and MADEP. Given that the Dracut wastewater collection system is relatively new (primarily constructed over the past 25 years) and is well maintained, we do not feel that I/I is a significant problem within the Dracut system. Furthermore, we do not feel that the limited I/I in the Dracut system contributes meaningfully to the combined sewer overflow events (CSOs) experienced in Lowell.

Response: See response to Comment #21.

Comment#27: Dracut has made great efforts to monitor the construction of the sewer system and, to date, the levels of system I/I appear to be very low. The Comprehensive Wastewater Management Plan/Facilities Plan and Final Environmental Impact Report (CWMP) prepared in 2001 reported the I/I contribution is less than 2,000 gallons per day per inch-mile (gpd/im), which is less than the 4,000 gpd/irn MADEP guideline for detailed investigation and removal. Based on review of recent metering records, it appears that the I/I levels are still well below the threshold for excessive I/I. The Town is currently preparing a Supplemental Report to the CWMP which will include more recent flow data and an updated I/I assessment. We expect that this study will again confirm that current levels of I/I are very low.

Dracut will prepare a report for submission under the NPDES permit requirements in Part ID.3 which will document the low I/I flow rates on a town-wide basis (based on records from existing meters). The plan will include discussion of planned efforts by the town to resolve any violations of the NPDES permit and to limit I/I in the future through inspection and education. However, any program proposed for I/I reduction will be relatively small scale so as to be proportional to the low rate of I/I within the existing system. We seek confirmation from EPA that the study and resolution of I/I issues will only be required in the cases where (1) violations of permit regulations occur due to excessive I/I, as is stated in the permit under I-D.3, and that excessive I/I is understood to be the 4,000 gpd/irn guideline used by MADEP; and (2) I/I removal is cost effective.

Response: See Response to Comment # 22.

Comment#28: Dracut has an agreement with LRWU which allows the discharge of over 11.0 million gallons per day (mgd) average daily flow to the Lowell collection system and 3.6 mgd average daily flow to the Lowell treatment works. Existing flows are well below these levels at 1.57 mgd. Dracut is currently undertaking an expansion of the sewer system which will increase the wastewater flow to Lowell over the next several years; however, even with this increased flow, the total flow from Dracut to Lowell will not exceed the contractual limits.

Based on the wording in Part I. F. of the permit, it our understanding that Lowell has a responsibility to undertake CSO improvements, and that these improvements will consider **additional flow resulting from new service connections in Dracut (up to contract limits for flow to be conveyed from Dracut to Lowell). It is our view that Lowell has full** responsibility for these CSO improvements and that Dracut will not be responsible for I/I removal as additional connections are made to the system and wastewater flow to Lowell increases. We seek confirmation of that understanding from EPA.

Response: See response to Comment #23 and response to Comment #24.

Comment #29: We further seek confirmation from EPA that the separate sanitary wastewater flow from Dracut, with some minimal I/I, will not be considered to "contribute" to CSO events in Lowell.

Response: See Response to Comment # 23 and response to Comment #24.

E) Comment submitted by the Town of Chelmsford, on June 24, 2004.

Comment #30: Part I.C. Covered under current Chelmsford Sewer Use Rules and Regulations.

Response: Section I.C. Unauthorized Discharges is a standard permit condition in all NPDES permits, and, pursuant to 40 CFR 122.41, all conditions applicable to NPDES permits shall be incorporated either expressly or by reference in the permit.

Comment#31: Part 1 D. 2. The wording suggests that *all* overflows can be prevented, which is impossible to accomplish even if a collection system could be redesigned. At best, the possibility of an overflow can be minimized with proper design and preventative maintenance. How do you identify all potential and actual unauthorized discharges? Its impossible.

There is no accounting for a collection system's age or condition. Since our collection system is relatively new and still under construction, infiltration is a non factor. Inflow primarily from illegal sump pump connections on the other hand may be, even though illegal sump pump connections are checked for prior to connection permits being issued.

With about 8,000 sewer connections to date and even with unlimited manpower, how does

one go about inspecting for illegal sump connections or identifying specific violators effectively? A user could remove and then reinstall an illegal sump pump discharging to the system around any scheduled inspections. An educational public outreach program that includes structured fines and penalties for enforcement would be the only cost effective solution.

Response: The benefits of an effective operation and maintenance program will reduce unnecessary flow that is treated at the treatment plant and improve water quality in the River. We acknowledge that effectively enforcing illegal tie-ins is an on-going challenge for the Town however, it is part of maintenance and operation of the sewer system that should be addressed. We believe that an outreach and education program along with an enforcement strategy should be an integral component of any plan the Town implements.

Comment #32: A summary report which includes maps, descriptions of activities, and expenditures submitted to the EPA and MADEP would be very burdensome, I question the effectiveness of such submittals since only people familiar with a specific system could properly interpret the effectiveness of the data. On-sight record keeping is performed, but custom software would need to be developed and/or supplied to standardize reporting for proposed requirements.

Response: The summary report in the final permit includes information that is commonly available at most Sewer Departments and we do not think compiling the information for an annual report would be overly burdensome or costly. We will consider a standardized format in future permits. However for this issuance, the Town should provide an interpretation of the data in the summary report if necessary.

F) Comment submitted by the Merrimack River Watershed Council, on June 25, 2004.

Comment#33: A reasonable monitoring plan needs to be implemented for systems of the Massachusetts Municipal Co-Permittees in order to detect:

Unauthorized discharges of either water quantity or water quality prior to entry to the Lowell Regional Wastewater Utility treatment works.
Wet weather illegal sump pumps inflow activity.
Failures of the performance capacity of Pre-Treatment *Processes of Industrial Users*.
Uncontrolled microbiological growth during infrastructure low flow conditions resulting in odorific and *potentially* unhealthy aerosol components being released into the natural and residential ambient atmospheres.

Response: Part I.C. Unauthorized Discharges and Part I.D. Operation and Maintenance of the Sewer System of the final permit addresses unauthorized discharges and increased inflow activity. This permit only authorizes discharges from outfalls identified in the final permit to the Merrimack River and, any other discharges are unauthorized in accordance with Part II. General Requirements, Section D. 1.e.

Part I. Section D. Operation and Maintenance of the Sewer System requires each co-permittee implement a plan to control infiltration/inflow from their separate collection system. Eliminating illegal sump pumps hooked up to the collection system is part of an

I/I plan.

The permit requires proper operation and maintenance of the facility, which should minimize odor problems. MA DEP has authority under the State's air pollution laws to address nuisance odor issues.

Comment #34: Subsequent to any exceedance in discharge limits by Industrial Users, an unannounced on-site inspection should be performed by Lowell Regional Wastewater Utility staff or subcontract personnel to insure actual operation of the pre-treatment system. Continuous and chronic exceedances should result in an over-all evaluation of the appropriate design and operational capacity of the pre-treatment system. Necessary maintenance, repair and re-design of pre-treatment systems should be attentively enforced.

Response: The LRWUs pretreatment program was approved by EPA on December 9, 1998. Scheduled and unscheduled inspections at industrial facilities that discharge to the POTW are part of any approved Pretreatment Program. As part of their NPDES permit, the District has the responsibility to enforce the requirements of the Pre-Treatment Program such as an exceedance of capacity that could potentially impact the process at the treatment facility.

Comment #35: Chronic and unattenuated wet weather CSO discharge remains problematic. Monitoring programs and sampling protocols should be adjusted to include **single sample (non-composite) wet weather CSO discharge measurements** for the following parameters:

BOD mg/l
TSS mg/l
Fecal coliform cfu's
Toxicity.

Risk assessment and management based on **average monthly values does not address** possible and probable exposures of humans during primary and secondary contact recreation, and of fish, other aquatic life, and wildlife in their natural habitat **to maximum and peak levels of pollutants and pathogens.**

Response: The LRWU has developed a CSO Long Term Control Plan to address discharges from combined sewers and, the permittee is implementing Phase I of the Plan now. One of the primary objectives of the plan is to bring all wet weather combined sewer discharges into compliance with the Clean Water Act (CWA) and minimize impacts of CSOs on water quality, aquatic biota and human health. The poor quality of the CSO discharge at the LRWWU is well documented. The focus needs to be on reducing the frequency and volume of CSO discharges and not further monitoring.

Part I.F. the Nine Minimum Controls listed in the final permit requires public notification. The objective is to ensure the public receives adequate notification of CSO impacts on water use areas. In areas used for recreation, the permittee must inform the public of potential health risks associated with the use of the river.

Comment #36: Public notification of CSO outfalls and potential health risks should include elements suitable for local cable television, radio and newspapers in appropriate **local** languages. Anyone in a CSO wet weather discharge area will already be exposed to potentially harmful water through direct contact or aerosol before they ever see a sign or even if they do not ever *see* or read a sign.

Response: The permit requires notification signs for all CSO outfalls be located at areas where recreational activities take place. The signs must be visible from both land and water and readable by the public.

Language has been added to the final permit that requires public notification signs in the vicinity of a given outfall structure be in English. In areas where the primary language of a substantial percentage of the residents in the vicinity of an outfall structure is not English, the permittee shall place additional signs in languages that appropriately notify the community of the location of CSO outfalls.

G) Comments submitted by the Division of Marine Fisheries, on June 29, 2004.

Comment# 37: Recently, *Marine Fisheries* re-classified the Merrimack River from prohibited to conditional status for the purpose of harvesting shellfish. This re-classification is the result of reductions in fecal coliform levels in the receiving waters. In order to remain aware of potential sources of fecal coliform bacteria that may effect this new classification, *Marine Fisheries* request to be notified under “Section I. Reporting and Monitoring” within twenty-four hours when a permit excursion for fecal coliform or plant failure occurs. A twenty four hour notification of a permit excursion or plant failure should be sent to the following address and telephone number:

Division of Marine Fisheries
Shellfish Management Program
30 Emerson Avenue
Gloucester, MA 01930
(978)282-0308

Response: This address has been added to the final permit.