New York State Department of Environmental Conservation
Division of Water, Room 310C
N.G. Kaul, Director
50 Wolf Road, Albany, New York, 12233-3500
(518) 457-7464

John P. Cahill
Commissioner

M E M O R A N D U M

****** N O T I C E ******

This document has been developed to provide Department staff with guidance on how to ensure compliance with statutory and regulatory requirements, including case law interpretations, and to provide consistent treatment of similar situations. This document may also be used by the public to gain technical guidance and insight regarding how the department staff may analyze an issue and factors in their consideration of particular facts and circumstances. This guidance document is not a fixed rule under the State Administrative Procedure Act section 102(2)(a)(I). Furthermore, nothing set forth herein prevents staff from varying from this guidance as the specific facts and circumstances may dictate, provided staff's actions comply with applicable statutory and regulatory requirements. This document does not create any enforceable rights for the benefit of any party.

Effective: March 1997

Reissued:

TO: Regional Water Engineers, Bureau Directors, Section Chiefs

SUBJECT: Division of Water Technical and Operational Guidance Series **(1.3.3)**
SPDES PERMIT DEVELOPMENT FOR POTWS (Originator: Mr. DiMura)

PURPOSE

To provide technical guidance for permit writers in drafting SPDES permits for Publicly Owned Treatment Works (POTWs).

DISCUSSION

This document provides the guidance necessary to draft a SPDES permit for a POTW of any size or classification. Areas that are not covered are SPDES Administration, Decentralization, Enforcement, Compliance, and Compliance Monitoring. These aspects of the SPDES permit program are covered elsewhere in the TOGS manual.
Guidance for certain procedures referred to in this TOGS can be found in the following TOGS:

1. **TOGS 1.1.1 - AMBIENT WATER QUALITY STANDARDS AND GUIDANCE VALUES**

2. **TOGS 1.3.1 - TOTAL MAXIMUM DAILY LOADS AND WATER QUALITY BASED EFFLUENT LIMITS**

3. **TOGS 1.3.2 - TOXICITY TESTING IN THE SPDES PROGRAM**

4. **TOGS 1.3.6 - PHOSPHORUS REMOVAL REQUIREMENTS FOR DISCHARGES TO LAKES AND LAKE WATERSHEDS**

5. **TOGS 1.3.7 - ANALYTICAL DETECTABILITY AND QUANTITATION GUIDELINES FOR SELECTED ENVIRONMENTAL PARAMETERS**

6. **TOGS 1.3.8 - NEW DISCHARGES TO PUBLICLY OWNED TREATMENT WORKS**

7. **TOGS 1.6.3 - COMBINED SEWER OVERFLOW (CSO) CONTROL STRATEGY**

This TOGS is constructed in a modular fashion, consisting of six Sections. Each Section covers a broad area of permit requirements. A detailed DISCUSSION and GUIDANCE is provided in each Section.

The following is an outline of Sections included in this TOGS:

I. MINIMUM REQUIREMENTS FOR SURFACE WATER DISCHARGES

II. GROUNDWATER DISCHARGES

III. INDUSTRIAL PRETREATMENT REQUIREMENTS

IV. STORM WATER/ SLUDGE/CSOs

V. SANITARY SEWER OVERFLOWS (SSOs)

VI. TOXIC POLLUTANT SURFACE WATER DISCHARGE REQUIREMENTS AND REQUIREMENTS FOR DISCHARGES TO THE GREAT LAKES SYSTEM

N. G. Kaul, P.E.
Director
Division of Water

Attachments
cc: TOGS distribution (Attached)

LIST OF APPENDICES

APPENDIX A - NPDES - Municipal Wastewater Treatment Facilities Minimum Sampling Frequencies

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APPENDIX P - Additional Specific Pretreatment Conditions for Metals

I. MINIMUM REQUIREMENTS FOR SURFACE WATER DISCHARGES

A. DISCUSSION

This section of the TOGS presents guidance on drafting the minimum permit requirements for POTWs which discharge to surface waters. Areas addressed include flow, BOD_5, $CBOD_5$, TSS, pH, settleable solids, nitrogen, phosphorous, disinfection, fecal coliform, chlorine (when used as a disinfectant), and minimum monitoring frequencies and sample types for these parameters.

The Clean Water Act (CWA) requires POTWs to achieve minimum technology-based treatment as defined in 40 CFR Part 133 for discharges to surface waters. These requirements have also been incorporated by reference in New York regulations at 6NYCRR 754.1(a). Additionally, some POTWs may be subject to regulations of interstate basin/compact agencies including:

* Interstate Sanitation Commission (ISC)

* International Joint Commission (IJC)

* Delaware River Basin Commission (DRBC)

  Ohio River Valley Water Sanitation Commission (ORSANCO)

  Susquehanna River Basin Commission (SRBC)

* New York City Watershed

Generally, basin commission requirements focus principally on water quality and not treatment technology. However, an asterisk (*) above denotes instances in which a commission's regulations contain explicit effluent limits which must be addressed during permit drafting.

Technology-based standards are the minimum levels of treatment required to be attained under Section 301 (b)(1)(B) of the CWA and ECL 17-0809 and are subject to more stringent water quality based limitations under Section 301 (b)(1)(C) and ECL 17-0811.

Once the minimum technology based effluent limitations are developed through application of the guidance which follows, the draft limits shall be subjected to a water quality assessment by the bureau of Watershed Management (BWM) The final permit limits shall be the more stringent of the technology based or water quality based limitation. Water quality based effluent limits are addressed in other guidance documents and are not discussed here.

B. GUIDANCE

1. **Flow:**

Pursuant to 40 CFR Part 122.45 (b)(1) and 6NYCRR 754.1 (a)(5)(ii), permit limitations, standards, or prohibitions shall be calculated based on the design flow of the POTW. Thus, flow should be limited in the permit as the *30-day average* design flow of the POTW and limitations for other pollutant parameters should be determined accordingly. A factor of 1.5 times the 30-day average limit is typically used to determine the 7-day average limit. Action levels, by their very nature, are intended to be representative of actual discharge levels and should therefore be based on actual rather than design flows.

Alternate means of limiting flow and flow based limitations can be considered for POTWs receiving flow from combined sewer systems. The use of a *12 month rolling average* (12-

MRA) flow limitation can be considered for these POTWs due to the expected peak flows the POTW will receive during wet weather, especially during spring thaw. Consideration can also be given to adjustment in the calculation of mass limitations during wet weather periods on a case by case basis.

As stated above, EPA regulations, require mass effluent limits to be based on design flow. However, the Department recognizes that the CSO BMPs in **Appendix E** require the maximum use of the POTW during wet weather. In accomplishing this objective, these BMPs require plant specific evaluation of the wet weather capabilities and the examination of the operation of allowable internal bypasses around the secondary treatment process. This will establish the maximum required flow to be treated by each process train.

Upon determination of the maximum treatable flow, the typical means of providing relief in wet weather for effluent limits is to allow the permittee, via a footnote on the effluent limits page, to exclude *flows that are bypassed around the secondary treatment process* in the calculation of concentration and mass effluent levels for reporting compliance provided. For example:

Design flow = 80 MGD (1)
Secondary treatment peak flow = 120 MGD
Primary treatment peak flow = 160 MGD

(1) The permittee must pass all flows up to 120 MGD through the secondary treatment process and must pass all flows up to 160 MGD through the primary treatment process. All flows exceeding 120 MGD are excluded from the calculation of mass effluent limits.

A 12-MRA effluent limit can be considered for POTWs serving separate sewer systems if all of the concentration and mass based effluent limits can be met *and* the facility has a DEC approved program for control of infiltration and inflow to the sewer system.

2. **Biochemical Oxygen Demand (BOD) and Total Suspended Solids (TSS):**

a. Minimum Requirements:

In most cases, the facility will be required to meet the traditional secondary treatment effluent limits specified in 40 CFR Part 133.102 for BOD_5 and TSS. These requirements must be achieved for all POTWs except as noted below under Special Considerations. BOD_5 and TSS shall be limited as follows:

the 30-day average effluent concentration shall not exceed 30 mg/l, the 30-day average percent removal shall be at least 85 %, and the 7-day average effluent concentration shall not exceed 45 mg/l.

b. Special Considerations:

(1) Equivalent Secondary Treatment: In order to qualify for consideration as "Equivalent Secondary Treatment" (40 CFR Part 133.105), an existing POTW must meet all of the following criteria:

(a) The principal treatment process is either a trickling filter or a waste stabilization pond; and

(b) The Treatment works provides significant biological treatment of Municipal Wastewater; and

(c) The BOD_5 and/or TSS "effluent concentrations consistently achievable through proper operation and maintenance" of the POTW can not meet traditional secondary treatment requirements.

"Effluent concentrations consistently achievable through proper operation and maintenance" for each parameter are defined in 40 CFR Part 133.101(f) as the 95th percentile value for the 30-day average effluent quality actually achieved by the POTW in a period of at least two years, excluding values attributable to upsets, bypasses, operational errors or other unusual conditions, and a 7-day average value equal to 1.5 times the 30-day average value derived above.

Existing facilities which qualify for treatment equivalent to secondary treatment shall have the following limits for BOD_5 and TSS:

> The 30-day average effluent concentration shall not be greater than 45 mg/l or the "effluent concentrations consistently achievable through proper operation and maintenance" of the POTW, whichever is more stringent; the 30-day average percent removal shall be at least 65%; and the 7-day average effluent concentration shall not be greater than 65 mg/l or 1.5 times the 30-day average limit, whichever is more stringent.

New facilities which employ trickling filters or waste stabilization ponds as the principal treatment process shall be designed to achieve the following requirements for BOD_5 and TSS under worst conditions of low and high flow, low temperature, and maximum loadings:

> The 30-day average effluent concentration shall not exceed 45 mg/l, the 30-day average percent removal shall be at least 65 %, and the 7-day average effluent concentration shall not exceed 65 mg/l.

Subsequent to facility operation, final effluent limitations shall be adjusted in accordance with the procedures for existing facilities which are noted above.

More stringent limitations may be required of new facilities if it is determined that proper operation and maintenance of the facilities considering its design capacity, climatic conditions and geography, would enable the treatment works to achieve the more stringent limitations.

For either existing or new facilities, seasonal effluent limitations may be considered on a case-by-case basis.

(2) *Waste Stabilization Pond TSS Adjustment*: In order to qualify for this provision, the POTW must:

(a) use a waste stabilization pond as the principal treatment process, and

(b) demonstrate that equivalent secondary treatment limits for suspended solids cannot be achieved.

Facilities which qualify may have effluent concentration limits for TSS of 70 mg/l on a 30-day average basis and 105 mg/l on a 7-day average basis. The minimum percent removal for suspended solids may also be adjusted on a case-by-case basis to reflect attainable percent removals (Ref: Part 133.103(c)). Seasonally adjusted limitations may apply.

(3) *Limit Adjustments Due To Industrial Contributions:* If the total flow or loading from an industrial category into a POTW exceeds 10 percent of the design flow or loading of the POTW, the BOD_5 and TSS limits for the POTW may be adjusted upward provided that the resultant discharge would not exceed the sum of the aggregate allowable loadings if the POTW and industrial source were discharging separately (Ref: Part 133.103(b)). In most cases, the actual performance of the POTW will be considerably better than the values obtained by summation of the sanitary and industrial loadings. For antibacksliding reasons, the effluent limitations established for the POTW should therefore be based upon either the aggregate loading or the POTW's actual performance (95th percentile method is recommended), whichever is more stringent.

(4) *Weak Influent Strength Percent Removal Adjustments For Separate Sewer Systems:* To qualify for this provision, the POTW must demonstrate three things:

(a) the allowable effluent concentration limits are being or are expected to be achieved;

(b) in order to meet the percent removal requirements, the POTW would have to meet an effluent concentration value which is at least 5 mg/l more stringent than otherwise would be required; and

(c) the weak influent is not attributable to "excessive I/I".

The determination of whether the weak influent is the result of excessive I/I will use the definition of excessive I/I in 40 CFR 35.2005(b)(16) plus the additional criterion that inflow is nonexcessive if the total flow to the POTW (i.e., base flows plus infiltration plus inflow) is less than 275 gallons per capita per day.

If these conditions are met, the permit writer may establish either a lower percent removal requirement for BOD_5 and TSS or an appropriate mass loading limit (Ref: Part 133.103(d)).

(5) *Percent Removal Adjustments For Combined Sewer Systems:* In cases in which a POTW is treating wastewater that is conveyed to the treatment plant via <u>combined</u> sewer collection systems, the minimum percent removals for BOD_5 and TSS as defined by either secondary treatment or equivalent secondary treatment may be adjusted during <u>wet weather</u> periods on a case-by-case basis to reflect attainable percent removals, if any (Ref: Part 133.103(a)).

Effective February 27, 1989, the permit writer may establish either a lower BOD_5 and TSS percent removal requirement or an appropriate mass loading to reflect weak influent strength in combined sewer systems during dry weather periods if three criteria are met. The first two criteria are identical to those specified above for separate sewer systems in section (B)(2)(b)(4)(a) and (b). The third criterion is that the weak influent is not the result of excessive

infiltration or clear water industrial discharges. The determination of whether the weak influent is the result of excessive infiltration is discussed in 40 CFR Part 35.2005 (b)(28) plus the additional criterion that either 40 gallons per capita per day or 1500 gallons per inch diameter per mile of sewer may be used as the threshold value for that portion of the dry weather base flow attributed to infiltration. Clear water industrial discharges must be controlled pursuant to 40 CFR Part 403 (Ref: Part 133.103(e)).

(6) *Percent Removal Calculations for Septic Tank Effluent Collection Systems:* An influent BOD_5 and TSS concentration of 200 mg/l should be assumed in the calculation of percent removals at treatment works which consist of multiple septic tank effluent collection with a centralized final treatment and disposal point. An appropriate note of explanation should be included in permits for these types of systems.

(7) *Carbonaceous BOD_5 ($CBOD_5$) Limits:* The permit writer has the option of substituting carbonaceous BOD_5 ($CBOD_5$) in lieu of traditional BOD_5 provided that the allowable limitation values of BOD_5 previously specified in this TOGS are reduced by 5 mg/l (Ref: Parts 133.102(a)(4) and 133.105(e)).

Whenever a POTW is experiencing a nitrifying effluent, it is appropriate to establish the oxygen demand limits as $CBOD_5$ rather than BOD_5. This is especially true if the POTW discharge is also limited in terms of Nitrogenous Oxygen Demand (NOD).

In the special case when it is not clear if a particular discharge is technology limited or water quality limited and it is therefore necessary to include both technology based BOD limits and water quality based Ultimate Oxygen Demand (UOD) limits in the same permit, the technology based limit should be written as $CBOD_5$ to maintain consistency of monitoring requirements since UOD is determined by measuring the $CBOD_5$ and TKN in the effluent and applying the formula: $UOD = 1.5\ CBOD_5 + 4.5\ TKN$.

(8) *Interstate Sanitation Commission (ISC):* As is usually the case, interstate compact agencies such as the ISC are concerned principally with the maintenance of water quality standards. The ISC effluent standards are patterned after the CWA *secondary treatment* requirements but additionally require that discharges of BOD_5 and TSS to waters of the Interstate Sanitation District be limited to 50 mg/l on a six consecutive hour basis for each parameter. While these 50 mg/l limitations are to be included in the permit, routine permittee compliance monitoring is not typically a permit requirement. It should be noted that Section 5.01 of the ISC regulations allows a waiver of the ISC BOD and TSS effluent limits only if minimum dissolved oxygen standards in the District are maintained at all times. Since these standards have not yet been attained, the ISC has not granted waivers of these requirements.

(9) *Delaware River Basin Commission (DRBC):* The DRBC also has effluent standards that are patterned after the CWA *secondary treatment* requirements.

Adjustments to the 85% BOD_5 removal requirement during periods of cold weather are explicitly recognized.

3. **Allowable Effluent pH Range:**

The effluent values for pH shall be maintained within the range of 6.0 to 9.0 S.U.. The allowable discharge pH may be adjusted beyond the range of 6.0 to 9.0 if the POTW demonstrates that inorganic chemicals are not being added to the waste stream as part of the treatment process and the adjustment is not attributable to contributions from industrial sources [Ref: 40 CFR Parts 133.102 (c) and 133.105 (c)].

4. **Settleable Solids:**

A properly designed and operated biological treatment facility without sand filtration should be capable of achieving less than 0.3 ml/l settleable solids as a daily maximum. A properly designed and operated physical/chemical treatment facility or a biological treatment facility with effluent sand filtration should be capable of consistently achieving less than 0.1 ml/l settleable solids as a daily maximum. The appropriate limitation should be included in the permit.

5. **Nitrogen:**

All POTWs with a design flow of 1.0 MGD or greater presently monitor for influent and effluent Ammonia and Total Kjeldahl Nitrogen (TKN). Dischargers to saline waters also are required to monitor for Nitrite and Nitrate. For discharges to fresh water, the monitoring information should be provided to BWM to determine if water quality limitations are necessary for Ammonia, UOD or TKN. If no water quality limitations are imposed, the permit writer may remove these monitoring requirements. For discharges to saline waters, these monitoring requirements should remain in the permits since studies for the New York Harbor and the Long Island Sound are still ongoing and need to track these sources of nitrogen.

6. **Phosphorus:**

TOGS 1.3.6 presents phosphorus removal requirements for wastewater discharges to lakes and lake watersheds. The TOGS applies to discharges to ponded waters (those waters with a "P" in the index number, 6NYCRR Parts 800-941) and their topographic watersheds, with the exception of Lakes Erie and Ontario if there is no intermediate ponded water between the discharge and the Great Lakes. The reader is referred to TOGS 1.3.6 for explicit guidance on this matter. Implementation of TOGS 1.3.6 for existing discharges necessitates the inclusion of phosphorus monitoring at the time of permit renewal in order to establish baseline phosphorus loadings prior to flow expansion. Permits for discharges with design flows greater than 1.0 MGD to saline waters shall require influent and effluent monitoring for Total Phosphorus and Orthophosphorus.

For POTWs which discharge within the New York City Watershed, NYSDEC will require phosphorus discharges to meet levels set forth in the New York City Watershed Rules and Regulations (NYC WR&R) Chapter 18 - 36(a)(8). Limitations have been developed for all the existing discharges within the watershed. New facilities will need to be constructed to meet these limitations.

For POTWs which discharge to Lakes Erie or Ontario or their respective drainage basins and are not subject to more stringent requirements under TOGS 1.3.6, New York State's implementation of the 1987 Great Lakes Water Quality Agreement (GLWQA) by the International Joint Commission (IJC) requires specific phosphorus control as follows:

30-Day Average Flow (MGD)

Design	**Actual**	**Guidance**
<= 1.0	**<= 1.0**	No phosphorus limitations will be imposed.
<= 1.0	**> 1.0**	If the Permittee is unable to reduce flows to 1.0 MGD or less, the permit should be modified to limit total phosphorus to 1.0 mg/l on an average 30 day basis. A schedule for achieving compliance with the new phosphorus limit may also be necessary.
> 1.0	**<= 1.0**	It is not necessary to limit phosphorus in the permit but the design and construction of the POTW will include provisions for achieving a 30-day average total phosphorus limit of 1.0 mg/l at such time as the discharge exceeds 1.0 MGD on an annual average basis.
> 1.0	**> 1.0**	The effluent concentration of total phosphorus will be limited to 1.0 mg/l on an average 30 day basis.

Notes:

a. The annual average flow described above shall include all fractions of the total flow (i.e., domestic plus commercial plus industrial plus infiltration plus inflow).

b. On a case-by-case basis, the permit writer may waive phosphorus controls for POTWs discharging to tributaries of the Great Lakes upon acceptable demonstration that the actual amount of total phosphorus which could reach the Great Lakes from the particular discharge is less than 8.34 lbs/day (on an average 30 day basis) due to transport phenomena, immobilization, or other causes.

7. **Disinfection, Fecal Coliform, and Chlorine Residual:**

The primary basis for the Department's disinfection requirements, fecal coliform and chlorine effluent limits is contained in three guidance documents:

- **Policies and Procedures Manual Item 9218.1** - Disinfection Practices for Wastes Containing Coliforms, August 20, 1976.
- Interpretive Guidance for PPM Item 9218.1, June 29, 1977.
- Chlorine Standard Interim Guidance for Application, TOGS 1.3.1.E, July 8, 1996, Attachment 1

Most of the language in these documents concerns water quality aspects of the disinfection and chlorination policies. It is intended that this TOGS will assimilate and replace those aspects of the documents which will be useful to municipal permit drafters in determining minimum **technology based** treatment requirements. Guidance on water quality based requirements may be found in other documents and is not addressed here.

a. Disinfection Requirements:

As stated in PPM Item 9218.1, the objectives of the Department's disinfection policy are to prevent the spread of disease in humans, to establish multiple barriers of protection of public health with each individual barrier being as positive as possible, and to minimize the deleterious effect of residual disinfectants on receiving water aquatic life.

(1) *Minimum Requirements:* Disinfection of all coliform and/or pathogen bearing wastes **discharged into or adversely affecting** waters as classified below should be required as follows:

Waters Classification	Disinfection Requirements
AA, A, A-Special, SA, and any waters tributary to AA	Year-round
B, SB	Seasonal unless there is adequate justification to support an exception. The season is defined for each case based on expected usage of the waters.

Waters Classification	Disinfection Requirements
C, SC, D, SD	Not allowed unless there is a "demonstrated public health need".

Notes:

(a) The permit writer may make the initial judgement concerning disinfection requirements by consulting the above table with respect to the waters classification for the stream that is the direct recipient of the discharge. Determination of adverse effects on downstream waters will be made by the Water Quality Evaluation Section or the public health agency which has jurisdiction.

(b) Exceptions to the seasonal disinfection requirements for Class B and SB waters must be supported by both the Regional Water Engineer and the public health agency having jurisdiction.

(c) Responsibility for the determination of "demonstrated actual public health need" lies with the local county health department or NYSDOH district office having jurisdiction. The Regional Water Engineer has the primary responsibility of soliciting the appropriate public health agency for it's determination. To avoid delays in permit processing, a useful technique when soliciting the public health agency is to state that disinfection will not be allowed at this facility unless the public health agency can show a "demonstrated actual public health need" by a specified date.

(2) Additional Requirements:

(a) Interstate Sanitation Commission (ISC): Effective July 1, 1986, the ISC amended Section 2.05(b) of its Water Quality Regulations to require year-round disinfection of coliform bearing wastes discharged into all waters of the Interstate Sanitation District with the exception of the Hudson River from the New York/New Jersey State Line opposite Hastings-on-Hudson to the Bear Mountain Bridge. This portion of the District shall require disinfection as appropriate for the stream classification in the above table.

(b) Delaware River Basin Commission (DRBC): The DRBC requires year-round disinfection of coliform bearing wastes discharged directly to the West Branch, East Branch, and Main Stem of the Delaware River. Disinfection requirements for discharges to all other streams in the Delaware River drainage basin shall be as appropriate for the stream classification in the above table.

b. Fecal Coliform Effluent Limitations:

The effectiveness of disinfection is usually measured by determining the number of fecal coliform colonies present in the discharge after the disinfection process and comparing the value to the applicable effluent standard. These effluent standards are technology based because they represent levels which can be consistently achieved by a properly designed and operated facility.

(1) Minimum Requirements: During periods when disinfection is required, fecal coliform should be limited as follows:

the geometric mean of samples taken within a 30 consecutive day period shall be less than 200 per 100 ml. and the geometric mean of samples taken within a 7 consecutive day period shall be less than 400 per 100 ml..

(2) Additional Requirements: In addition to the above effluent limitations, discharges of coliform bearing wastes to all waters of the Interstate Sanitation District in which disinfection is required shall also include the following effluent limitations for fecal coliform during periods when disinfection is required:

the geometric mean of samples taken within a 6 consecutive hour period shall be less than 800 per 100 ml. and no individual sample may contain more than 2400 per 100 ml..

While these coliform limits must be included in the permit, routine permittee compliance monitoring for these limits is not typically a permit requirement.

c. Residual Chlorine:

Disinfection is usually accomplished by the application of chlorine in one form or another but it is recognized that other agents such as bromine, ozone, and ultraviolet light may be used. To be effective, the

disinfectant must come in intimate contact with the organisms. This requires that the wastes must be treated for substantial removal of suspended solids prior to disinfection, and possible other considerations such as pH adjustment.

Since disinfection with chlorine is in wide use and chlorine is also a pollutant, it is appropriate for this TOGS to establish the appropriate technology based effluent limit for total residual chlorine (TRC) when chlorine is used as the disinfecting agent at a POTW.

If chlorine is used for disinfection the permit should include a daily maximum TRC effluent limit of 2.0 mg/l to prevent the excessive use of chlorine. This value may be adjusted upward on a case-by-case basis if necessary to ensure adequate disinfection. This limit is then subjected to water quality review and the more stringent limit applies (in accordance with other guidance documents which are not discussed in this TOGS).

When chlorine is used for disinfection, the DEC Operator's Training Manual recommends that a minimum TRC of 0.5 mg/l be present after 15 minutes contact time to ensure adequate disinfection. To prevent excessive usage of chlorine, a maximum TRC limit of 2.0 mg/l has been used in many permits. Thus, maintaining a residual in the range of 0.5 to 2.0 mg/l has been generally accepted as an appropriate "process control" indicator for effective disinfection. Stated another way it can be said that compliance with the fecal coliform effluent standard can be reasonably expected if a TRC of between 0.5 and 2.0 mg/l remains after 15 minutes contact time.

It is inappropriate to specify maintenance of a chlorine residual range in the chlorine contact tank as an effluent limit in a SPDES Permit. If the permit writer feels that it is necessary to specify this range and/or require the submission of this "process control" data, it can be included as an additional Special Condition.

d. New York City Watershed

Proposed regulations for the New York City Watershed POTW dischargers require minimum removal or inactivation of Giardia Lamblia Cysts of 99.9% and Enteric Viruses of 99.99% (NYC WR&R Chapter 18-36(a)(7)).

8. Minimum Monitoring Frequencies and Sample Types:

In order to promote consistency among facilities on a statewide basis, minimum monitoring frequencies and sample types for the parameters specified in this section should be in accordance with the 1973 DEC-EPA Agreement which is included as **Appendix A**. Deviation from this guidance is acceptable if warranted by special circumstances in the judgement of the permit writer.

The USEPA Interim Guidance for Performance - Based Reductions of NPDES Permit Monitoring Frequencies, April 19, 1996, provides a means to determine reduced monitoring frequencies based on compliance ability and actual discharge levels. Permit writers may consider reduced monitoring frequencies when modifying an existing SPDES permit based on the criteria contained in this EPA document.

II. GROUNDWATER DISCHARGES

A. DISCUSSION

Groundwater discharges currently account for 6% of the 600 POTW permits issued in the State. Although small in number, municipal groundwater discharges have been used as a cost effective alternative for smaller communities and for situations when surface water discharges are prohibited or effluent reuse is required. This section will provide guidance on development of effluent limitations for conventional and toxic pollutants.

Groundwater discharges from POTW's are not subject to secondary treatment requirements of 40 CFR Part 133, but are subject to the requirements of NYCRR Part 703 (Surface Water and Groundwater Quality Standards and Groundwater Effluent Limitations) except as noted in NYCRR Part 702.21. TOGS 1.1.2 provides a listing of effluent limitations for substances having an ambient water quality standard or guidance value and should be consulted prior to permit drafting.

Design of facilities for groundwater discharge are site specific and must be prepared by a professional engineer licensed to practice in New York State. The Department's "Design Standards for Wastewater Treatment Works", and State Guidelines For The Use of Land Treatment of Wastewater should be consulted.

B. GUIDANCE

1. **POTWS Discharging Less Than 30,000 GPD**

For discharges of sewage without the admixture of industrial waste, the groundwater effluent standards and limitations of 6NYCRR Section 703.6 are not applicable provided the following criteria are met:

a. The disposal system is a subsurface system, that has been designed and operated in accordance with Department standards.

b. Monitoring is conducted in accordance with Department requirements.

c. The system is designed to discharge, and discharges less than 30,000 GPD (monthly average).

For discharges that meet the above criteria, the review process for toxic pollutants should not conducted. The minimum recommended requirements will be effluent limitations and monitoring for flow and pH.

2. **Land Application of POTW Effluent**

POTWS with waste management systems utilizing land application techniques that have renovative capabilities are not subject to the groundwater effluent standards and limitations of 6NYCRR Section 703.6 providing the following criteria are met:

a. There will be no actual or potential public health hazard;

b. Applicable water quality standards will be met in saturated zones;

c. Applicable water quality standards will not be contravened in any adjacent waters of the State.

This exemption applies only to the point of discharge effluent limitations. Monitoring frequencies for groundwater as it enters and exits the site should be at least monthly before, during, and after the application period.

3. **Conventional Pollutants**

Secondary treatment requirements of 40 CFR Part 133 will not be included unless the POTW discharges to a navigable water (surface stream) prior to entering the groundwater. Effluent limitations for BOD5 and suspended solids generally will not be required. However, if in the permit writer's judgment, limitations are necessary to prevent nuisance conditions or enhance plant operation, they should be included. Since nitrogen is a component of all domestic wastewater, permits for POTWs discharging 30,000 GPD or greater will include an effluent limitation for nitrate of 20 mg/l (as N). Groundwater discharges in Nassau and Suffolk Counties are required to achieve an effluent standard for Total Nitrogen of 10 mg/l (as N).

Disinfection will not be required unless local public health concerns exist due to exposure or contact with effluent. When this occurs, disinfection requirements and effluent limitations for chlorine residual will be developed in accordance with Section I of this TOGS.

4. **Toxic Pollutants**

The following procedure is recommended for developing effluent limitations and monitoring requirements for toxic pollutants:

a. Review application, tabulate data, and review industrial contributors in accordance with Section V of this TOGS.

b. For any substance that is detected in the effluent and is included in Part 703.6, the effluent standard shall be incorporated directly into the permit.

c. For any substance that is detected in the effluent and has an ambient standard or is included as a guidance value in TOGS 1.1.1 for GA waters, the effluent limitation listed in TOGS 1.1.2 shall be incorporated directly into the permit.

d. Any substance that is detected in the effluent, but is not included as a standard in Part 703.6 or a guidance value in TOGS 1.1.1, will be sent to the Bureau of Monitoring and Assessment for review. *This is done to aid the Department in determining which substances may become candidates for the development of standards and/or guidance values.*

e. For a substance that has a standard listed as non-detectable, the permit will specify the analytical level of detection and the appropriate analytical method.

f. Monitoring frequencies shall be consistent with Section V of this TOGS.

III. INDUSTRIAL PRETREATMENT REQUIREMENTS

A. DEFINITIONS

1. **Categorical Industry**

An industry subject to standards promulgated by the USEPA pursuant to Section 308 of the Clean Water Act.

2. **Significant Industrial User is defined as:**

a. An industrial user subject to Categorical Pretreatment Standards; and

b. An industrial user that discharges an average of 25,000 gallons per day or more of process water (excluding sanitary , noncontact cooling water and boiler blowdown wastewater)

c. An industrial user that contributes a process waste stream which makes up 5 percent or more of the average dry weather hydraulic or organic capacity of the POTW; or

d. An industrial user having substantial impact, either singly or in combination with other contributing industries on the operation of the treatment works;

B. DISCUSSION

In New York State there are 56 municipal sewerage authorities that have USEPA approved local pretreatment programs as required by the General Pretreatment Regulations (40 CFR Part 403). There are numerous other municipal sewerage authorities that serve industrial dischargers that have been or will be required to implement a mini-program (something less than a full pretreatment program as described by Part 403).

The NYSDEC is required by Part 403 to assure, through the SPDES process, that USEPA approved pretreatment programs are implemented as approved. Each pretreatment municipality's permit has been modified to incorporate, as enforceable conditions of the permit, requirements that the permittee implement all of the elements of the approved pretreatment program. At the same time, adjustments to each pretreatment program may become necessary to address both changing conditions within individual programs and changes to state and national pretreatment strategies.

This Section describes the process for modifying approved programs, requiring new programs and requiring mini-programs through municipal SPDES permits.

Detailed guidance on the evaluation of new discharges to the POTW is specified in **TOGS 1.3.8 - NEW DISCHARGES to POTWs.**

C. GUIDANCE

1. **Modifications to Approved Programs**

The first step toward changing a pretreatment program is to determine that a change is necessary. Such a determination can be made by either the local pretreatment authority or Region II EPA. Once it has been determined that a pretreatment program must be modified, the modification must be classified as *substantial* or *non-substantial*. Determination of whether a program modification is *substantial* or *non-substantial* is under the authority of Region II EPA.

The General Pretreatment Regulations define *substantial* modifications as:

a. changes to the POTW's legal authorities;

b. changes to local limits which result in less stringent local limits;

c. changes to the POTW's control mechanism;

d. changes to the POTW's method for implementing categorical pretreatment standards;

e. a decrease in frequency of industrial user inspections or sampling by the POTW;

f. a decrease in the frequency of self-monitoring or reporting required of industrial users;

g. changes to the POTW's confidentiality procedures;

h. significant reductions in the POTW's pretreatment program resources (including personnel commitments, equipment, and funding levels); or

I. changes in the POTW's sludge disposal and management practices.

If a modification is determined to be *substantial* and is initiated by the permittee, then the permittee must submit an application for approval of the modification. The application should include:

a. A statement explaining why the program modification is being sought,

b. A detailed description of the portions of the program that would be effected by the modification (including the legal authorities, program description, or resource commitments) and

c. Other relevant support documents the permit drafter considers to be necessary.

If a modification is required by the EPA and information is needed to complete the modification and the permittee is uncooperative, then the applicable permit can be modified to require submittal of the above noted application. Such a modification would take the form of language in the special conditions section of the permit boiler plate on pretreatment program implementation **(see Appendix B)**.

Whether a change to a program is substantial or non-substantial it is subject to EPA review.

Review of modification requests, *substantial* or *non-substantial*, should be made using the following documents:

Guidance Manual on the Development and Implementation of Local Discharge Limitations Under the Pretreatment Program USEPA November, 1987

Guidance for Identification of Significant Industrial Users, 1989

Pretreatment Compliance Monitoring and Enforcement Guidance- USEPA September, 1986

NYSDEC Model Sewer Use Law- 1994 Edition

Upon approval by EPA, substantial modifications will be incorporated by permit modification. The modification(s) will be made to the first paragraph of the pretreatment implementation language by adding reference to the documents submitted supporting the modification. Boiler plate pretreatment implementation language is included as Appendix B.

Approval of non-substantial modifications can be by letter or verbally at the discretion of the Regional Water Engineer. Non-letter approvals should be documented by a note to the file.

2. **New Programs**

Where the design flow of a POTW increases to greater than 5 MGD and that POTW receives waste from significant industrial users, that POTW must develop a local pretreatment program in accordance with 40 CFR 403. Those POTWs must be notified in writing of their responsibility to develop a program.

A compliance schedule requiring program development will be put in the applicable permit(s) once the permittee has been officially notified of the need to develop a program. A compliance schedule similar to the one used for mini-pretreatment programs (**Appendix C**) should be used to require development of new programs.

The General Pretreatment regulations state that such development must be completed within one year. The one year deadline must be reflected in modifications requiring new program development.

3. **Mini Pretreatment Programs**

Where a local municipal authority does not have a USEPA approved pretreatment program, but serves industry(s) subject to federal standards (categorical industry), or has a non-categorical significant industrial user and the Regional Water Engineer feels that it would be beneficial, that local authority will be required to develop a mini pretreatment program.

Such a program will be required through permit modification utilizing the boiler plate contained in **Appendix C**. Reporting forms for industries under these programs are included in **Appendix D**.

IV. STORMWATER/SLUDGE/CSO'S

STORMWATER PERMITS

A. DISCUSSION

There are essentially three potential reasons that storm water run-off might need a SPDES permit authorizing its discharge into waters of the State:

(i) The existence of an Effluent Limitation Guideline for storm water run-off from the activity;

(ii) There are sufficient concerns from a water quality perspective that warrants a permit and greater regulatory oversight; or

(iii) The activity is one which is identified in the federal NPDES storm water regulations as needing a permit.

The first two items are covered elsewhere in this TOGS as they are the more "traditional" types of situations covered under a SPDES permit. The third item is discussed in greater detail below.

Under Section 402(p) of the Federal Water Pollution Control Act , as amended by the 1987 Water Quality Act, storm run-off from certain types of activities to waters of the United States are subject to permitting. There are two broad classes of activities: (1) discharges from certain municipal separate storm sewer systems; and (2) run-off

from sites which are industrial in nature. These activities are listed in the federal regulations under 40 CFR Part 122, subsection 122.26 which were initially published on November 16, 1990. Several changes have been promulgated since the initial regulations.

B. GUIDANCE

At the present time, there is one municipality in New York State subject to permitting for their storm sewer system. Most municipalities which were originally identified in the federal regulations as needing a permit have since been exempted because of their extent of combined sewers (which are already subject to permitting). This will probably change in the future when the Clean Water Act and/or federal regulations begin to target urbanized areas rather than relying exclusively on population thresholds.

Run-off from certain industrial sites are subject to permitting. These activities are listed in the federal NPDES regulations under 40 CFR Part 122, subsection 122.26(b)(14).

For discharges which are not considered as falling under items (i) or (ii), as noted at the beginning of this section, there are two general permits for storm water which were issued in 1993. Facilities (e.g. activities) may obtain permit coverage through a relatively simple process of submitting a one-page Notice of Intent to the USEPA contractor after which they are subject to the terms and conditions of the general permit. One provision, for example, is that the Department may require that an activity obtain an individual SPDES permit.

Because of the numbers of activities involved, the deadlines which existed and the relative lack of priority and concern for the activities in question, the Department allowed dischargers which already possessed an individual SPDES permit (e.g. for wastewater, etc.) to seek additional coverage under another SPDES permit (i.e. the general permit) for their storm water run-off component. Considering the fact that it has been an objective to issue only one SPDES permit for a particular facility, it was decided to "temporarily" address storm water via general permit coverage and eventually modify individual permits as time, resources and priorities allowed it to occur. When an individual SPDES permit is renewed or modified, and the facility has been also covered under the general storm water permit, the storm water run-off should be addressed under the individual permit and coverage under the general permit terminated upon issuance of the modified/renewed individual permit.

SEWAGE SLUDGE DISPOSAL

A. DISCUSSION

Section 405 of the Water Quality Act of 1987 specifies that the technical sludge standards (40 CFR 503) are to be implemented either through a NPDES permit, or through a permit issued under one of the federal programs listed under section 405 (f)(1), or through permits issued under an approved State sludge program.

Sludge disposal from POTWS in New York State is regulated by the Division of Solid Waste under 6 NYCRR Part 360 (permits for disposal) or 6 NYCRR Part 364 (permits for transport). Sludge management facilities at POTWS, with the exception of composting facilities, are exempt from solid waste permitting requirements if the facility processes only sewage sludge, septage, or leachate and storage is limited to less than 18 months.

NYSDEC has an agreement with the USEPA to reference other Programs' permits regarding the disposal of sludge. This will be accomplished by modification to the SPDES General Conditions with cross-reference made to Part 360, Part 364, and Part 201 (air contamination) permits.

B. GUIDANCE

Specific SPDES permit conditions for sludge management are not required since the Division of Solid Waste has been delegated regulatory authority for this activity. The general permit conditions will be adequate to meet SPDES program obligations. If, in the permit writer's judgement, conditions or limitations are necessary to prevent nuisance conditions or enhance facility operation they may be included in the SPDES permit.

COMBINED SEWER OVERFLOWS - (CSOs)

A. DISCUSSION

Pollution from combined sewer overflows is controlled with implementation of SPDES permit conditions in accordance with the Division of Water CSO Control strategy (TOGS 1.6.3) and the USEPA CSO Control Policy issued April 11, 1994. These strategies encompass two major elements: Best Management Practices (BMPs); and Additional Control Measures.

Best Management Practices are technology based requirements developed in accordance with best professional judgement. These are largely non-structural measures which are designed to maximize pollutant capture and removal from the combined sewer system and the host POTW as a whole. The State's thirteen BMPs are listed in the **Appendix E**. These BMPs are equivalent to the "nine minimum" control measures specified in the USEPA CSO control policy.

Additional Control Measures are water quality based permit requirements which are necessary for SPDES permittees which will be unable to mitigate serious water quality problems with the implementation of BMPs alone. DOW's Additional Control Measures are equivalent to the Long Term Control Plans specified in the USEPA CSO Control Policy.

B. GUIDANCE

All CSOs or POTWs serving collection systems with CSOs should be subject to the BMPs listed in **Appendix E** of this TOGS. This is accomplished by the inclusion of all applicable BMPS into the SPDES permit. Existing permits should be modified to include the BMPs via the Environmental Benefit Permit Strategy.

The need for Additional Control Measures is determined by the Priority Water Problem List. If the CSOs are a major contributor to a water quality problem, a compliance schedule for development of a Facility Plan to remediate the problem is developed and embodied in either the permit or a consent order.

SPDES permits for communities with sanitary sewer overflows (SSOs) should be developed in accordance with SSO guidance provided in Section V. of this TOGS..

V. SANITARY SEWER OVERFLOWS (SSOs)

A. DISCUSSION

Separate sanitary sewer collection systems are intended to collect municipal and industrial wastewaters and transport those flows to a wastewater treatment plant. A problem that faces some of these systems is the occurrence of discharges of untreated wastewater from the separate sanitary sewer systems before the headworks of a wastewater treatment plant. Such discharges are commonly known as sanitary sewer overflows (SSOs). SSOs occur due to a variety of factors but mainly because of: (1) infiltration and inflow from wet weather flows; (2) the design factors that limit capacity such as bottlenecks, undersized pumps or pipes, and lack of backup power; and (3) system blockages and failures such as cracked or corroded sewers.

SSOs can occur in many places in a collection system, including constructed overflow points at pump stations or other locations. They can also occur at unintended discharge locations such as manholes, breaks in a sewer, defective cleanouts or plugs, and building basements. The potential for SSOs varies significantly from system to system, based on factors including historic design and installation practices; operation, maintenance and rehabilitation; and topography soils, climate, and age.

SSOs can contain high levels of pathogenic organisms, suspended solids, floatables, oil and grease, nutrients, toxic and other pollutants. The major human health risks of most SSOs are pathogens. SSOs can also contribute to the impairment of aquatic life.

B. GUIDANCE

Guidance for implementation of the SSO Control Strategy is contained in sections A through C presented below. Guidance on the approval of temporary bypasses related to POTWs is specified in TOGS 1.6.2. It is also noted here that EPA is currently evaluating options for developing guidance and/or regulations to address SSOs. If and when EPA issues such guidance/regulations, the guidance contained in this TOGS may be modified to reflect any requirements of EPA.

C. DEFINITIONS

BYPASS - The intentional or unintentional diversion of waste stream(s) around any portion of a treatment facility for the purpose or having the effect of reducing the degree of treatment intended for the bypassed portion of the treatment facility.

SANITARY SEWER OVERFLOW (SSO) - The intentional or unintentional diversion of flow from a sanitary sewer collection system that occurs before the headworks of a sewage treatment plant.

UPSET - An exceptional incident in which there is unintentional and temporary noncompliance with permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities lack of preventative maintenance, or careless or improper operation. An upset constitutes a defense to an action brought for noncompliance with such permit limitations if the regulatory requirements of 40CFR 122.41(n) are met.

D. IDENTIFICATION

The NYSDEC SPDES Municipal Application Form NY-2A requires the reporting of all known discharge points, including those from sanitary sewers. The following information is required for each discharge point: Outfall number,

frequency of discharge, average duration, the street location, city, county, receiving waters and its class, USGS coordinates, and a description of the type of treatment provided, if any.

E. SPDES PERMITS

Unless authorized by a SPDES permit, SSOs are prohibited by the Clean Water Act and are therefore illegal. The principal regulatory basis for the consideration of the permitting of SSOs is contained in 40 CFR 122.41 (m) (4) which states :

" (4) **Prohibition of bypass**. (I) Bypass is prohibited, and the director may take enforcement action against a permittee for bypass, unless:

(A) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

(B) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, during normal periods of equipment downtime. and:

(c) The permittee submitted notices as required under paragraph (m) (3) of this section.

Therefore, under the above regulation, the Department should not be permitting any new SSOs without an enforceable instrument with a schedule of compliance. Since the SSO is in essence a permitted facility bypass, the permittee must prove that "There were no feasible alternatives...". In terms of "feasible alternatives", clearly the burden of proof lies with the permittee who must first examine the prevention of the bypass prior to the Department's consideration of issuing a SPDES permit. This could entail expansion or construction of a new POTW, expansion or construction of transmission or pumping facilities tributary to the host POTW, or the conducting of a sewer maintenance and rehabilitation program to ensure that permitted facilities remain in compliance and that overflows do not occur.

For those SSOs that meet the bypass criteria, the known permittee-controlled SSOs shall be listed in the SPDES permit with a statement that discharges from these points are prohibited except in accordance with Section 11.2 of the SPDES permit General Conditions. A sample permit page is included in **Appendix F** of this TOGS.

For those permittees having operating SSOs [other than an Overflow Retention Facility (ORF)], the permit should also include requirements for (a) Best Management Practices for SSOs (**Appendix G**); (b) abatement of the identified operating sanitary sewer overflows (**Appendix H**); and (c) continuous collection system maintenance (**Appendix I**). These are sample compliance schedules and they should be developed for each situation based on BPJ.

For permittees having an ORF(s), the pertinent discharge information should be listed on the cover page (Page 1) of the SPDES permit. Additionally, a page containing effluent limitations, routine monitoring requirements, and special conditions for ORFs should be included in the SPDES permit. A sample permit page containing BPJ based effluent limits and monitoring requirements is specified in **Appendix J.**

A table containing the different cases and compliance scenarios that a permit writer may encounter in the permitting of SSOs is contained in **Appendix K** of this TOGS and should be used to assist the permit writer in the SSO decision making process.

SS0 APPENDICES

Appendix F - List of Bypasses
Appendix G - Requirements for SSOs
Appendix H - Schedule of Compliance (SSO abatement)
Appendix I - Schedule of Compliance (Collection System Maintenance and Monitoring)
Appendix J - ORF Effluent Limits, Monitoring, and Special Conditions
Appendix K - Table of Permit Conditions for SSOs

VI. TOXIC POLLUTANT SURFACE WATER DISCHARGE REQUIREMENTS AND REQUIREMENTS FOR DISCHARGES TO THE GREAT LAKES SYSTEM

A. DEFINITIONS

1. Projected Effluent Quality (PEQ)

This is an estimation of the highest effluent value expected during the term of the permit based on best professional judgement. The PEQ is the *baseline load* used to compare to the receiving water waste load allocation in the reasonable potential analysis.

2. Reasonable Potential to Exceed Water Quality Standards

The process by which the PEQ is compared to the receiving water allowable load to determine if the discharge of the pollutant has the reasonable potential to exceed water quality standards.

3. Water Quality-Based Effluent Limit (WQBEL)

The WQBEL is an effluent limitation that is established when there is a *reasonable potential* to exceed water quality standards. The WQBEL is developed in accordance with the procedures in **TOGS 1.3.1 - TOTAL MAXIMUM DAILY LOADS AND WATER QUALITY BASED EFFLUENT LIMITS**.

4. Action Level

An action level is a numerical reporting level, accompanied by monitoring requirements. It is **not** an effluent limit. It is a triggering mechanism which, if exceeded, requires the permittee to notify the Department of such exceedence. The Department reviews the exceedence to determine the need for permit modification, to either increase the action level or to require a water quality based effluent limitation (WQBEL).

5. Whole Effluent Toxicity (WET)

Whole Effluent Toxicity (WET) is the aquatic toxicity of the effluent as measured in acute and/or chronic tests for both a vertebrate and invertebrate species as specified in **T.O.G.S. 1.3.2 - ACUTE AND CHRONIC TOXICITY TESTING IN THE SPDES PROGRAM.**

6. EPA Priority Pollutants

The most recently revised or updated list, developed by the EPA, in accordance with the Clean Water Act. (**Appendix L**)

7. Practical Quantification Level (PQL)

This is the lowest level that can be measured within specified limits of precision and accuracy during routine laboratory operations on most effluent matrices as listed in **TOGS 1.3.7 - NYSDEC Analytical Detectability and Quantitation Guidelines of Selected Environmental Parameters.**

B. DISCUSSION

Technology based effluent limits for POTWs are specified in Section I. of this TOGS. Federal technology based effluent limits (*40 CFR Part 133*) are currently required for only three parameters: BOD5, TSS, and pH. There are no federal technology based standards for toxic pollutant from POTWs. All other effluent limits for POTWs have as their basis the protection of water quality.

For toxic parameters, the Clean Water Act requires the implementation of technology based effluent limits through the issuance of Categorical Standards in the form of BAT standards for direct industrial discharges or pretreatment standards for industries served by municipal sewer systems.. For POTWS, the CWA implements control of toxics these requirements are implemented through the industrial pretreatment program and the issuance of industrial user permits.

Thus, the assessment of reasonable potential to exceed water quality standards is fundamentally different in that for direct industrial dischargers, the technology based effluent limit is usually used to estimate Projected Effluent Quality (PEQ). For POTWs, the Action Level is usually used to estimate PEQ.

In the absence of technology based requirements for toxic pollutants for POTWs , the guidance below provides methods for acquiring and assessing effluent data, calculation of action levels to be used in the reasonable potential analysis, and the inclusion of Water Quality Based Effluent Limits, special monitoring programs, and Whole Effluent Toxicity Testing.

Guidance necessary to comply with the Implementation Procedures required by ***Final Water Quality Guidance for the Great Lakes System*** is provided below. Procedures specific to discharges to the Great Lakes System only are specified in ***bold italics***.

C. GUIDANCE

1. **Review Applications (Identify and Verify Relevant Information)**

a. Published References: SPDES manuals, existing permit, engineering reports, applicable regulations, basin reports and plans, basin and/or interstate agreements, etc.

b. Qualitative and Quantitative Data: SPDES application form **NY- 2A**, especially **Section VIII - Significant Industrial Users** and **TABLE NY - 2A (Priority Pollutants)**. Review Industrial Chemical Survey (ICS), DMRs, compliance monitoring reports, and any other sampling efforts at the POTW and any contributing industrial user. It is recommended that the data be representative of current operations. As such, the calculation of PEQs should be based on effluent data from no more than the most recent

five years of operation. Verify analytical methodologies used in the analysis of toxic substances and other substances of concern.

2. **Tabulate all Quantitative and Qualitative Data**

a. Identify and tabulate those substances present in the POTW effluent which:

(1). are priority pollutants (listed in **Appendix L)** and/or

(2). have ambient water quality standards or criteria as listed in TOGS 1.1.1. (**Appendix M)**

3. **Calculate Projected Effluent Quality (PEQ) and Develop Monitoring Requirements.**

a. For substances identified in the effluent , PEQ must be developed and submitted for a water quality evaluation. PEQ development guidance is contained in Part 6 of this Section.

b. For substances identified in the effluent , verify whether or not an acceptable analytical methodology exists for each of the substances so identified and delete those for which no acceptable analytical methodology exists (a reference should be made in the file). If an acceptable analytical methodology exists, the permit writer should determine PEQ.

c. For substances identified in part 3.b., above, for which POTW effluent data is reported as a"less than" value greater than the Recommended Scan Detection Limit (TOGS 1.3.7) for that substance, the permit should then be modified to require monitoring of the POTW effluent for the substance (short-term, high-intensity) at the Recommended Scan Detection Limit (TOGS 1.3.7). The Scan Detection Limit and the analytical method for the substance should be specified in the permit. This data should then be used for development of PEQ, if necessary, and subsequent water quality analysis, etc..

4. **Reasonable Potential to Exceed Water Quality Standards Analysis**

a. For each substance for which a PEQ is developed, a Reasonable Potential analysis will yield one of the following situations:

(1) No Reasonable Potential exists to exceed water quality standards

(a) PEQ is acceptable; no WQBEL given.

(b) WQBEL is calculated and it is greater than PEQ.

(2) A Reasonable Potential exists to exceed water quality standards

(a) a WQBEL is specified, i.e. water quality limit is less than the PEQ.

(b) a WQBEL is specified below the PQL

(3) Reasonable Potential undetermined

(a) i.e. there is no water quality standard, guidance value, or "screening value".

(b) Effluent Toxicity Testing may also be recommended by the Quality Allocation Section for those parameters whose standard is based on aquatic toxicity. The following factors will determine the need for **considering** effluent toxicity testing in this case;

1. Uncertainties in the development of Total Maximum Daily Loads (TMDLs), wasteload allocations (WLAs), and WQBELs, caused by inadequate ambient and/or discharge data, high natural background concentration of pollutants, available treatment technology, etc.

2. The presence of substances for which water quality based effluent limits are below the PQLs.

3. The possibility of complex or synergistic interactions of chemicals.

4. The presence of potentially toxic substances for which ambient water quality standards or criteria do not exist.

5. Observed detrimental effects on the receiving water biota.

6. Toxicity or other testing done by DEC or EPA indicate a problem.

The permit writer should discuss each recommendation for inclusion of Toxicity Testing with the appropriate staff in the Bureau's of Watershed Management and Watershed Assessment and Research prior to inclusion of this condition in a draft permit. The final decision to include Toxicity Testing should be made by the permit writer.

When toxicity testing is included as a permit condition in lieu of water quality based effluent limits for specific chemicals, the PEQ/BPJ based WQ limit should be required as a minimum. Action levels will not be used for such parameters. Implementation of toxicity testing in a specific permit will follow Department guidance and procedures for "Acute and Chronic Toxicity Testing in the SPDES Permit Program." (TOGS 1.3.2)

5. **Incorporation of Reasonable Potential to Exceed Water Quality Standards Analysis Results Into Permit.**

a. Each of the Situations in part 4 of this section will be handled as follows:

(1) No reasonable potential exists to exceed water quality standards

(a) When no WQBEL is given, the PEQ is put into the permit as an Action Level.

(b) When a WQBEL is calculated, and is greater than the PEQ, the PEQ is put into the permit as an Action Level.

In these cases, the PEQ will be included in the permit as an Action Level with a monitoring frequency of *monthly to annually*. This would depend on the number of data points analyzed, detectability issues, and how close the PEQ is to the WQBEL. The permit writer should use BPJ to find an appropriate frequency for each individual permit situation.

(2) A Reasonable Potential exists to exceed water quality standards when:

(a) The WQBEL is less than the PEQ and is greater than most sensitive method detection level (TOGS 1.3.7).

1. Include the WQBEL in the permit with a monitoring frequency of weekly to monthly. Consideration should be given to the type of limit specified (i.e. daily max., monthly avg., etc.), and BPJ based monitoring frequency. When setting the monitoring frequency , consideration should be given to such factors as: the relative difference between the PEQ and the WQBEL, the size of the POTW discharge, the toxic nature of the pollutant and the variability of the discharge.

(b) WQBEL for Bioaccumulative Chemicals of Concern (BCCs) for Discharges to the Great Lakes System. { NOTE: THIS PROVISION IS CURRENTLY UNDER COURT ORDERED REEVALUATION}

(c) The WQBEL is below the Practical Quantitation Limit (PQL)

Effluent limits should not be set at level below the Practical Quantitation Limit (PQL) for the most sensitive EPA or DEC approved analytical method specified in TOGS 1.3.7. When the water quality evaluation specifies a WQBEL below detection levels, the effluent limit shall be set at the PQL for the most sensitive analytical method. This PQL - based limit will be specified in the permit as the **Compliance Level** along the analytical method required and the PQL (in concentration units, typically Fg/l). The permit will also specify the calculated WQBEL as the **Calculated Limit**. The permit fact sheet shall include the calculated WQBEL and refer to the pollutant specific Total Maximum Daily Load (TMDL) calculation which resulted in the recommended WQBEL.

All determinations of compliance should be made based on the on the **Compliance Level**. The **Calculated Limit** will remain the goal for compliance with receiving water quality standards.

It is recommended that the permit require a minimum of monthly influent and effluent sampling for any pollutant which has the WQBEL set at the PQL.

Consistent with 40 CFR 132, Appendix F, Procedure 8, when the discharge is tributary to the Great Lakes the permit should contain a requirement for the permittee to conduct a Pollutant Minimization Program (PMP) for WQBELs set at the PQL. The goal of the PMP is to achieve the calculated WQBEL.

For WQBELs based on the protection of aquatic life (acute or chronic toxicity) which are below the detection limit, the permit should require either a Whole Effluent Toxicity Testing (WET) program conducted in accordance with TOGS 1.3.2. or a PMP as described in the following two paragraphs. If required, the WET program constitutes a PMP for these WQBELs.

For WQBELs based on the protection of human health or wildlife which are below the detection limit, the permit should require the permittee to propose a PMP within six months after the effective date of the permit (EPD + six months) which contains pollutant mass balance and source track down using the EPA "Guidance Manual on the Development of Local Discharge Limitation Under the Pretreatment Program" as a guideline. The PMP should include an analysis of potential significant sources (at least five percent of the estimated headworks mass loading) of the pollutant including industrial and non-industrial sources, non-active hazardous waste sites, storm water runoff, and wet and dry atmospheric deposition.

If the PMP identifies controllable sources of the pollutant, it should include a schedule to reduce the amount of the pollutant to the maximum extent practicable. It is recommended that the PMP examine voluntary source reductions (domestic and non-domestic sources), product substitutions, and other pollutant minimization programs to reduce the pollutant loading to the system. (e.g. including but not limited to the following examples: household hazardous waste collection, dental and photo processing BMPs, sewer user notification on consequences of disposing toxic substances to the sewer system, and other pollution prevention methods.)

A PMP should not be required for a substance for which the Department has determined is ubiquitous in the environment and is not subject to effective reduction strategies, and for which the controllable sources are a de-minimus portions of the Waste Load Allocation (WLA) established pursuant to a TMDL.

A PMP need not be required if the permittee can demonstrate compliance with the calculated WQBEL by providing the following information:

- ***information that the substance is removed or destroyed by the treatment process***
- ***mass balance based on actual measured quantities of the origins of the substance and the pathways and partitioning of the substance through the collection system and treatment process***
- ***fish tissue studies or other biological studies in the vicinity of the discharge.***

(3) Reasonable Potential Undetermined Due to the Absence of a Water Quality Standard, Guidance Value or "Screening Value"

When the reasonable potential analysis cannot be completed in accordance with TOGS 1.3.1 due to the absence of a water quality standard, guidance value, or "screening value", the PEQ should be specified in the permit as an action level with BPJ-based monitoring frequency, applying such factors as those discussed in section (a)(2) above and the permit should require a one - year WET testing program in accordance with guidance provided in **TOGS 1.3.2.**

Additional permit requirements or pollutant reduction strategies will be determined based on the results of the WET testing program.

Consistent with 40 CFR 132, Appendix F, Procedure 5, when the discharge is to the Great Lakes system, and the reasonable potential analysis cannot be completed in accordance with TOGS 1.3.1 due to the absence of a water quality standard, guidance value, or "screening value" for a pollutant listed in 40 CFR TABLE 6. - A. [pollutants that are bioaccumulative chemicals of concern (BCCs)] (Appendix N), the PEQ should be specified in the permit as an action level with a BPJ-based monitoring frequency, applying such factors as those discussed in section (a)(2) above and the permit should contain a compliance schedule requiring the permittee to generate the data necessary to develop a water quality standard or guidance value.

If, after the submittal and review of such data and the adoption of a water quality standard or guidance value, the Department determines that there exists a reasonable potential to exceed water quality standards, the permit should be modified to include a WQBEL with a minimum of monthly effluent monitoring.

Consistent with 40 CFR 132 , Appendix F, Procedure 5, when the discharge is in the Great Lakes system, and the reasonable potential analysis cannot be completed in accordance with TOGS 1.3.1 due to the absence of a water quality standard, guidance value or screning value for a pollutant listed in 40 CFR 132.6 TABLE 6. -B. (pollutants that are not bioaccumulative pollutants of concern), the PEQ should be specified in the permit as an action level with a BPJ-based monitoring frequency, applying such factors as those discussed in section (a)(2) above and the permit should require a one year WET testing program to determine if reasonable potential exists to cause acute or chronic toxicity.

The need for additional permit requirements or pollutant reduction strategies will be determined based on the results of the WET program.

In these cases, the receiving water in the vicinity of the discharge will be referred as a priority site for consideration of biological assessment for purposes of planning the activities under the Rotating Intensive Basin Studies (RIBS) and ranking under the Priority Water List (PWL).

(4) Reasonable Potential - Intake Pollutants

Case I : The evaluation of intake pollutants is not necessary when the water quality evaluation establishes that there is no reasonable potential to exceed water quality standards and a WQBEL is not required.

Case II: When the water quality analysis recommends a WQBEL, a reasonable potential to exceed water quality standards does not exist *and the WQBEL is not required* if the following two criteria are met:

, *the permittee can demonstrate that no mass of the pollutant is added, and*

- *the permittee can demonstrate that the ambient concentration of the pollutant is not increased in the effluent/receiving water mixing zone*

Case III: When a TMDL has been established, due wholly or in part to high ambient background concentrations of the pollutant, and the two criteria above are not met, it may become necessary to evaluate the contribution of intake pollutants to the effluent loadings for establishing WQBELs, if the intake is from the "*same body of water"* as the discharge. The following procedures should used for consideration of intake pollutants:

An intake pollutant can be considered from the "*same body of water"* as the discharge if: it is determined that the intake pollutant would have reached the vicinity of the outfall location had it not been removed by the permittee. This may be determined based on the following criteria:

- *The concentration of the pollutant in the intake is similar to the ambient background concentration of the pollutant in the receiving water; and*

- *There is a direct hydrological connection between the source water (intake point), (which can be groundwater), and the discharge point ; and*

- *For inorganic intake pollutants, the water quality characteristics of the intake water and the receiving water are similar (e.g. hardness, pH, salinity)*

For POTWs, the concentration of the intake pollutant should be determined at the point of raw water intake to the municipal water supply prior to treatment. If there are other sources of water supplies for industrial users, the concentration of the pollutant should be determined at the industrial user water intake. For multiple sources, the concentration of the intake pollutant should be a flow weighted average of all significant (at least five percent of POTW influent flow) sources.

When the Reasonable Potential analysis indicates that the ambient background concentration of the pollutant in the receiving water exceeds the applicable water quality standard or guidance value, *and* the qualifying criteria for the "*same body of water"* are met, the WQBEL should be based on "no- net - addition" of the pollutant.

Since some POTWs may have several municipal water sources and industrial user water intakes, it may be unreasonable to coordinate intake water and effluent measurements. Therefore, the effluent limit should be set equal to the ambient background concentration, with influent and effluent monitoring based on BPJ, and the permit should require periodic monitoring program (e.g. every five years) to account for intake sources of the pollutant. *(Note: No-Net limits are only available if there is a pollutant specific TMDL or Phased TMDL for the receiving water.)*

(5) WQBELs and action levels will generally be expressed in terms of mass. Concentration-based conditions can be used if :

(a) Necessary to protect receiving water quality, usually in situations where the receiving water to effluent dilution is less than 10 :1, or

(b) Treatment plant flow variability exceeds 2.5 : 1.0 based on a comparison of the daily maximum flow to the monthly average flow .

(6) All permit effluent limitations and action levels for metals (40 CFR Part 122.45(c)) should be expressed as "Total Recoverable Metal" as defined in 40 CFR Part 136 unless:

(1) A technology standard is written in a dissolved or tri-valent form (chromium),or

(2) The only available analytical methods measure the dissolved or tri-valent form (Chromium).

6. **Projected Effluent Quality (PEQ) Development Methodology**

The PEQ is an estimation of the highest effluent value expected during the term of the permit based on best professional judgement. The PEQ is the *baseline load* used to compare to the receiving water waste load allocation in the reasonable potential analysis.

The preferred methods for developing the PEQ are the methods outlined in **Appendix O**. However, the method used depends heavily on the number of data points, the quality of the data, and the monitoring frequency in the permit. Caution must be used in setting numerical permit conditions based on insufficient data, or data that is of poor quality. It is generally desirable to require a short term, high intensity monitoring program in the permit rather than be put into a position of defending requirements based on poor data quality and/or quantity.

The PEQ can also be used in the permit as an Action Level . An action level is a numerical reporting level, accompanied by monitoring requirements. It is **not** an effluent limit. It is a triggering mechanism which, if exceeded, requires the permittee to notify the Department of such exceedence. The Department reviews the exceedence to determine the need for permit modification, to either increase the action level or to require a water quality based effluent limitation (WQBEL).

Type I action levels are those action levels developed with non-statistical methods. The permit page entitled "Type I Action Level Requirements" shall be used for these action levels. Type II action levels are those developed based on statistical methods and shall be listed on the permit page entitled "Type II Action Level Requirements."

7. **Pollutant Loading from Non-Industrial Sources**

a. Review of pollutant data in accordance with guidance may indicate significant loadings from non-industrial sources. This is typical of many POTWS. A few examples of substances usually encountered are copper, zinc, lead, and bis(2-ethyl hexyl)phthalate. In many of these situations the calculated WQBEL is based on a "Phased TMDL" under which the calculated WQBEL is planned to be achieved in a phased program of ambient and pollutant source assessment and implementation.

(1) A background sampling program should be considered when the following criteria are met:

(a) The PEQ is unacceptable and an apparently unattainable WQBEL is required.

(b) A review of the data indicates significant loadings from non-industrial sources.

(c) The WQBEL in question is based on aquatic toxicity.

(2) A short term monitoring program (6 - 12 months) will be included in conjunction with an effluent limit set equal to the PEQ. This PEQ - based limit will be specified in the permit as the **Compliance Level**. The permit will also specify the calculated WQBEL as the **Calculated Limit**. The permit fact sheet shall include the calculated WQBEL and refer to the pollutant specific Total Maximum Daily Load (TMDL) calculation which resulted in the recommended WQBEL.

All determinations of compliance should be made based on the on the **Compliance Level**. The **Calculated Limit** will remain the goal for compliance with receiving water quality standards. The calculated WQBEL should be listed in the permit fact sheet along with a brief reference to the TMDL which forms the basis for the WQBEL.

(a) The monitoring program may consider samples from the following locations as appropriate:

i. POTW influent and effluent

ii. Raw water supply(ies)

iii. Tap water

iv. Domestic sewage (i.e. sample from a manhole serving only residential users)

v. Stormwater run-off

vi. Wet atmospheric deposition

vii. Dry atmospheric deposition

viii.. Toxicity Testing shall also be considered for inclusion in this monitoring program

(b) The permittee should submit the results of the monitoring program in a report identifying the source of the pollutant and the effluent levels achievable towards meeting the calculated WQBEL. If the source of the pollutant is controllable (i.e. aquatic weed control or drinking water treatment or supply additives), alternative strategies to achieve the WQBEL must be proposed by the permittee. If the source of the pollutant is shown to be "non-industrial" and "non- controllable", the permit shall continue with the effluent limit equal to the PEQ. This assessment should be included in the phased -TMDL and documented in the permit file. Toxicity Testing results, if required, will also be evaluated in accordance with TOGS 1.3.2.

(3) If the WQBEL is based on standards for the protection of human health, the limit will be included in the permit and strategies for final compliance will be required. The only exception is when Department policy specifically develops alternative strategies. (**See Appendix P**).

8. **Compliance Schedules**

If the effluent level remains above the WQBEL after the implementation of the above procedures, a schedule to achieve compliance should be developed and specified in the permit. The permit should also include interim limits set equal to the PEQ for the period up until compliance with the final WQBEL is achieved. The compliance schedule should contain reasonable milestones based upon the permit writer's best professional judgement in consultation with the DEC Regional Office. Minimum requirements for compliance schedules are specified in 6 NYCRR Part 750.

If the water quality standard or guidance value which form the basis of the WQBEL are revised to be less stringent, then the WQBEL may be revised to be less stringent if :

It complies with the anti-backsliding provisions of the CWA [Sections 402 (o) (2) and (3)]; or,

It is consistent with the receiving water TMDL where applicable; or,

It complies with the Department's Antidegradation Policy (see Item 9. below)

For existing discharges to Great Lakes System, consistent with 40 CFR 132 Appendix F , Procedure 9, schedules for compliance with new or more restrictive WQBELs for GLI pollutants of concern:

- ***May allow up to five years to achieve compliance***
- ***Should include an interim limit***
- ***Should have interim milestones at least every twelve months***
- ***May allow the permittee up to two years to provide studies to modify water quality criterion. If the DEC modifies the water quality standard or guidance value, the permittee may be allowed up to five years to achieve compliance***
- ***Where necessary, compliance schedules may extend beyond the expiration date of the permit***

New discharges to the Great Lakes System should comply with the WQBEL upon the commencement of discharge.

9. **Antidegradation**

The protection of waters from the lowering of water quality is provided by the DEC Organization and Delegation Memorandum No. 85-40 Water Quality Antidegradation Policy (September 9, 1985). This Policy protects the existing quality of the waters in New York State unless the permittee demonstrates that the lowering of water quality is necessary to accommodate significant economic or social development in the affected area and the water quality will be adequate to support existing use after allowing the lowering of water quality.

Consistent with 40 CFR 132 Appendix E, prior to considering the approval of a new or increased discharge of BCCs to the Great Lakes Basin, the permittee must provide the following:

a. A description of all Pollution Prevention Measures taken to reduce the proposed discharge,

b. A description of all available treatment alternatives and associated costs for the new or increased discharge of the BCC, and,

c. A description of all of the social and economic benefits associated with the increased discharge.

APPENDIX A

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
MUNICIPAL WASTEWATER TREATMENT FACILITIES
MINIMUM SAMPLING FREQUENCY

DEC-EPA AGREEMENT
10/25/73

Influent and/or Effluent

PLANT SIZE MGD	FLOW	BOD_5	S.S.	pH [2]	RESI-DUAL CL_2 [2]	FECAL COLI-FORM [2]	SETT. SOLIDS ml/l [2]	TEMP. ^0C [2]	PHOSP-HORUS [1]	DO [1, 2]	NH_4 [1]	SAMPLE TYPE
< .05	Instant-aneous	2/year	2/year	1/day	1/day	2/year	1/day	1/day	2/year	2/year	2/year	GRAB
0.05 - 0.099	Instant-aneous	4/year	4/year	1/day	1/day	4/year	1/day	1/day	4/year	4/year	4/year	GRAB
0.100-0.499	Contin-uous	1/month	1/month	1/day	1/day	1/month	1/day	1/day	1/month	1/month	1/month	6 hour Composite
0.500-0.999	Contin-uous	2/month	2/month	1/day	1/day	2/month	1/day	1/day	2/month	2/month	2/month	6 Hour Composite
1.00 - 4.99	Contin-uous	1/week	1/week	2/day	2/day	1/week	2/day	2/day	1/week	1/week	1/week	24 hour Composite
5.00 -14.99	Contin-uous	2/week	2/week	3/day	3/day	2/week	3/day	3/day	2/week	2/week	2/week	24 hour Composite
>15.00	Contin-uous	1/day	1/day	6/day	6/day	1/day	6/day	6/day	1/day	1/day	1/day	24 hour Composite

1. To be included only when effluent limitations are imposed

2. Grab samples only.

APPENDIX B

SPDES No.: NY _____

PRETREATMENT PROGRAM IMPLEMENTATION REQUIREMENTS

A. DEFINITIONS. Generally, terms used in this Section shall be defined as in the General Pretreatment Regulations (40 CFR Part 403). Spe definitions apply to terms used in this Section (PRETREATMENT PROGRAM IMPLEMENTATION REQUIREMENTS):

1. Categorical Industrial User (CIU)- an industrial user of the POTW that is subject to Categorical Pretreatment Standards under 40 CFR Chapter I, Subchapter N;

2. Local Limits - General Prohibitions, specific prohibitions and specific limits as set forth in 40 CFR 403.5.

3. The Publicly Owned Treatment Works (the POTW) - as defined by 40 CFR 403.3(o) and that discharges in accordance with this

4. Program Submission(s) - requests for approval or modification of the POTW Pretreatment Program submitted in accordance wit 403.18 and approved by letter dated _____.

5. Significant Industrial User (SIU) -

   a. CIUs;

   b. Except as provided in 40 CFR 403.3(t)(2), any other industrial user that discharges an average of 25,000 gallons per da process wastewater (excluding sanitary, non-contact cooling and boiler blowdown wastewater) to the POTW;

   c. Except as provided in 40 CFR 403.3(t)(2), any other industrial user that contributes a process wastestream which make more of the average dry weather hydraulic or organic capacity of the POTW treatment plant;

   d. Any other industrial user that the permittee designates as having a reasonable potential for adversely affecting the POT violating a pretreatment standard or requirement.

6. Substances of Concern - Substances identified by the New York State Department of Environmental Conservations Industrial Ch substances of concern.

B. IMPLEMENTATION. The permittee shall implement a POTW Pretreatment Program in accordance 40 CFR Part 403 and as set forth in th Program Submission(s). Modifications to this program shall be made in accordance with 40 CFR 403.18. Specific program requirements

1. Industrial Survey. To maintain an updated inventory of industrial dischargers to the POTW the permittee shall:

   a. Identify, locate and list all industrial users who might be subject to the industrial pretreatment program from the pretreatm submission and any other necessary, appropriate and available sources. This identification and location list will be upda every five years. As part of this update the permittee shall collect a current and complete New York State Industrial Che (or equivalent) from each SIU.

   b. Identify the character and volume of pollutants contributed to the POTW by each industrial user identified in B.1.a above a SIU.

   c. Identify, locate and list, from the pretreatment program submission and any other necessary, appropriate and available s significant industrial users of the POTW.

PRETREATMENT PROGRAM IMPLEMENTATION REQUIREMENTS (continued)

2. Control Mechanisms. To provide adequate notice to and control of industrial users of the POTW the permittee shall:

   a. Inform by certified letter, hand delivery courier, overnight mail, or other means which will provide written acknowledgmen industrial users identified in B.1.a. above of applicable pretreatment standards and requirements including the requireme the local sewer use law, regulation or ordinance and any applicable requirements under section 204(b) and 405 of the F Act and Subtitles C and D of the Resource Conservation and Recovery Act.

   b. Control through permit or similar means the contribution to the POTW by each SIU to ensure compliance with applicable standards and requirements. Permits shall contain limitations, sampling frequency and type, reporting and self-monitorir described below, requirements that limitations and conditions be complied with by established deadlines, an expiration da five years from the date of permit issuance, a statement of applicable civil and criminal penalties and the requirement to c Limits and any other requirements in accordance with 40 CFR 403.8(f)(1).

3. Monitoring and Inspection. To provide adequate, ongoing characterization of non-domestic users of the POTW, the permittee sha

   a. Receive and analyze self-monitoring reports and other notices. The permittee shall require all SIUs to submit self-monito every six months unless the permittee collects all such information required for the report, including flow data.

   b. The permittee shall adequately inspect each SIU at a minimum frequency of once per year.

   c. The permittee shall collect and analyze samples from each SIU for all priority pollutants that can reasonably be expected levels greater than the levels found in domestic sewage at a minimum frequency of once per year.

   d. Require, through permits, each SIU to collect at least one 24 hour, flow proportioned composite (where feasible) effluent months and analyze each of those samples for all priority pollutants that can reasonably be expected to be detectable in levels greater than the levels found in domestic sewage. The permittee may perform the aforementioned monitoring in lie that the permittee must also perform the compliance monitoring described in 3.c.

4. Enforcement. To assure adequate, equitable enforcement of the industrial pretreatment program the permittee shall:

   a. Investigate instances of noncompliance with pretreatment standards and requirements, as indicated in self-monitoring re indicated by analysis, inspection and surveillance activities. Sample taking and analysis and the collection of other inform performed with sufficient care to produce evidence admissible in enforcement proceedings or in judicial actions. Enforc be conducted in accordance with the permittee's Enforcement Response Plan developed and approved in accordance 403.

   b. Enforce compliance with all national pretreatment standards and requirements in 40 CFR Parts 406 - 471.

   c. Provide public notification of significant non-compliance as required by 40 CFR 403.8(f)(2)(vii).

   d. Pursuant to 40 CFR 403.5(e), when either the Department or the USEPA determines any source contributes pollutants violation of Pretreatment Standards or Requirements the Department or the USEPA shall notify the permittee. Failure by commence an appropriate investigation and subsequent enforcement action within 30 days of this notification may resu enforcement action against the source and permittee.

PRETREATMENT PROGRAM IMPLEMENTATION REQUIREMENTS (continued)

5. Record keeping. The permittee shall maintain and update, as necessary, records identifying the nature, character, and volume of contributed by SIUs. Records shall be maintained in accordance with Part II. Section 10.3.a.

6. Staffing. The permittee shall maintain minimum staffing positions committed to implementation of the Industrial Pretreatment Prog with the approved pretreatment program.

C. SLUDGE DISPOSAL PLAN. The permittee shall notify NYSDEC, and USEPA as long as USEPA remains the approval authority, 60 days proposed change in the sludge disposal plan. NYSDEC may require additional pretreatment measures or controls to prevent or abate an i relating to sludge use or disposal.

D. REPORTING. The permittee shall provide to the offices listed on the Monitoring, Reporting and Recording page of this permit and to the Ch Compliance Branch; USEPA Region II; 26 Federal Plaza; New York, NY 10278; a periodic report, prepared and submitted in accordance periodic reporting format established by the Department in the document entitled NYSDEC POTW Periodic Pretreatment Report - 1994, th permittee's program activities over the previous year. This report shall be submitted to the above noted offices within 60 days of the end of t The reporting period shall be _____ [ANNUAL, TWICE PER YEAR, QUARTERLY], with reporting period(s) ending on _____ CONSISTENT WITH PRESENT REPORTING PERIOD].

The periodic report shall include:

1. Industrial Survey. Updated industrial survey information in accordance with 40 CFR 403.12(l)(1) (including any NYS Industrial Cl updated during the reporting period).

2. Implementation Status. Status of Program Implementation, to include:

   a. Any interference, upset or permit violations experienced at the POTW directly attributable to industrial users.

   b. Listing of significant industrial users issued permits.

   c. Listing of significant industrial users inspected and/or monitored during the previous reporting period and summary of re

   d. Listing of significant industrial users notified of promulgated pretreatment standards or applicable local standards who are schedules. The listing should include for each facility the final date of compliance.

   e. Summary of POTW monitoring results not already submitted on Discharge Monitoring Reports and toxic loadings from S parameter.

   f. A summary of additions or deletions to the list of SIUs, with a brief explanation for each deletion.

3. Enforcement Status. Status of enforcement activities to include:

   a. Listing of significant industrial users in Significant Non-Compliance (as defined by 40 CFR 403.8(f)(2)(vii)) with federal o standards at end of the reporting period.

   b. Summary of enforcement activities taken against non-complying significant industrial users. The permittee shall provide notice of significant violators as specified in 40 CFR Part 403.8(f)(2)(vii).

4. ADDITIONAL PRETREATMENT CONDITIONS

   [AS NEEDED}

APPENDIX C

Part I
Page of
Facility ID No.:

PRETREATMENT MINI SCHEDULE

A. (Where SIUs cannot be easily identified):

There are Significant Industrial Users of the permittee's municipal sewerage system. Therefore the permittee shall comply with the following schedule:

Industrial Survey

Within (four months suggested) of the effective date of this permit, the permittee shall submit the results of an industrial survey performed in accordance with the document entitled Guidance for Identification of Significant Industrial Users, NYSDEC 1989 The survey results shall include a final culled list of users, one Fast Report On Significant Industries completed through question 7 A including proposed industrial monitoring for each potential significant industrial user, all submitted Industrial Chemical Survey forms and proposed Sewage Treatment Plant (STP) monitoring.

B. (Where SIUs can be easily identified and discharge toxics):

(ABC) and (XYZ) are Significant Industrial Users of the permittee's municipal sewerage system. Therefore, the permittee shall comply with the following schedule:

Industrial Survey

Within (one month suggested) of the effective date of this permit, the permittee shall submit Fast Report On Significant Industries forms completed through question 7 A, completed Industrial Chemical Survey forms and proposed industrial monitoring for (ABC) and (XYZ) and proposed Sewage Treatment Plant (STP) monitoring.

C. (Where SIUs can be easily identified and discharge conventionals):

(ABC) and (XYZ) are Significant Industrial Users of the permittee's municipal sewerage system. Therefore, the permittee shall comply with the following schedule:

Industrial Survey

Within (one month suggested) of the effective date of this permit, the permittee shall submit completed Fast Report On Significant Industries forms for (ABC) and (XYZ).
(please note: if the permit writer chooses this option, the Treatment Plant /Industry Monitoring Section of this schedule should not be included in the permit).

Develop Procedures

Within (two months suggested) of the submission of industrial survey results, the permittee shall submit documentation of procedures for obtaining and ensuring compliance with applicable standards. Such procedures shall include requirements and schedules for discharge permits, industrial self-monitoring, compliance monitoring of industries by the permittee, on going STP monitoring and an enforcement program. Such procedures shall be equivalent to procedures described in the document entitled Pretreatment Compliance Monitoring and Enforcement Guidance, USEPA - September, 1986.

Treatment Plant/Industry Monitoring

Within (four months suggested) of DEC approval of proposed industrial monitoring and proposed STP monitoring, the permittee shall submit the results of that monitoring and a completed FROSIs for all SIUs.

Local Sewer Use Law

Within (two months suggested) of the submission of STP/industrial monitoring results, the permittee shall submit a draft local sewer use law equivalent to the DEC Model Sewer Use Law. Local limits for substance capable of causing SPDES permit violations, endangering municipal employees or limiting sludge disposal options must be included in the local law. Such limits shall be developed in accordance with document entitled Guidance Manual on the Development and Implementation of Local Discharge Limitations Under the Pretreatment Program USEPA November, 1987.
Within three months of approval by this Department, the permittee shall submit a copy of the enacted Law accompanied by proof of enactment.

Credit for Work Already Completed

Any of the above required tasks already completed by the permittee need not be repeated. If the permittee believes that a task or task(s) have been satisfactorily completed, documentation of the completed tasks should be submitted to NYSDEC for approval.

Implement Procedures

Within 9 months of enactment of its sewer use law, the permittee shall implement the procedures proposed under this schedule and approved by NYSDEC. At a minimum, the following activities shall be undertaken by the permittee:

1. Issue permits including limitations, monitoring requirements, and reporting requirements to its significant industrial users.
2. Enforce categorical pretreatment standards promulgated by the USEPA pursuant to Section 307 (b) and © of the Act and the local limits set forth in the POTW local sewer use law.
3. Carry out inspections and monitoring of significant industrial users to determine compliance with categorical standards and local limits.
4. Undertake enforcement actions in accordance with NYSDEC approved procedures.

Reporting Requirements

On (month) 28th of each year, the permittee shall submit completed FROSIs for each SIU to NYSDEC. Every third year, the permittee shall submit ICS forms completed by all SIUs to NYSDEC. At the same time the permittee shall notify the NYSDEC of any proposed significant changes to its implementing procedures or local sewer use law.

All pretreatment reports shall be submitted to the offices listed on the monitoring, recording and reporting page of this permit.

APPENDIX D

DIRECTIONS FOR COMPLETING FROSI:

In accordance with the POTW SPDES permit, a Fast Report On Significant Industries (FROSI) must be completed for each significant industrial user (SIU) tributary to the POTW treatment plant. An SIU is defined as follows:

(I) A categorical industry discharging process wastes to the POTW;

(ii) a non-domestic user having substantial impact, either singly or in combination with other contributing industries on the operation of the treatment works;

(iii) a manufacturing industry using, on an annual basis, more than 10,000 pounds or 1,000 gallons of raw material containing priority pollutants or substances of concern and discharging a measurable amount of these pollutants to the sewer system from the process using these pollutants * or;

(iv) a non-domestic user discharging more than five percent of the flow or load carried by the treatment plant receiving the waste.

* industries discharging measurable pollutants may be classified non-significant if the substances are not detectable at the STP.

Categorical industry - an industry subject to standards promulgated by the USEPA pursuant to Section 308 of the Clean Water Act. See FROSI supplement.

Much of the required information may have to be supplied by the system user. The form should be completed as follows:

For Question 1: enter the full name including corporate affiliation and plant location along with the street address.

For Question 2: detailed process description should include a description of process techniques in the simplest terms possible and product(s) description. This information is used to determine the potential for discharges from site activities and to determine the applicable federal standard.

For Question 3: monthly usage should be in gallons or pounds and be a yearly average or seasonal peak as appropriate (i.e. food processors) and should be so noted. For substances of concern, the answer to this question may simply be 'refer to attached Industrial Chemical Survey form`. For many industries subject to federal standards, this information is necessary to assign limits.

For Question 4: for some, this will be the same as the raw material usage. Again, yearly average figures should be used. Again, this information is frequently used to determine limits in accordance with federal standards.

For Question 5: flows should be in gallons per day calculated or estimated as yearly averages. Where seasonal peak flows are available, these should also be included. These flows will be used to check loadings to the POTW and for development of local limitations. The reported flows will also be used in developing flow limitations for inclusion in significant industrial users' discharge permits.

For Question 6: if an applicable federal standard has been determined from the attached table, enter that determination. If a determination cannot be made enter unknown or the common name (i.e. dairy, food processor).

APPENDIX D

For Question 7 A: please note if there is a monitoring station where wastewater samples are taken. If adequate flow monitoring fixtures are in place, please so note by writing in 'FLOW`.

For Questions 7 B - J: each of these sections address compliance issues. Sections E and F apply only to categorical industries. The compliance dates for these actions are summarized in the attached FROSI supplement.

For sampling results: Use the average of all sample results collected in the same fashion (grab or composite) for each month noted in which sampling was performed. If both grab samples and composite samples were collected for any one parameter, report the averages of the composite samples in the columns marked mo/yr and report the results of grab sampling in the comments column or on a separate sheet. Report results in mg/l or note alternate units. Flow must be reported. Please note also in the comments column, how flow was determined.

In any case, if additional sheets are needed to accurately answer the questions posed, please attach them to this form.

APPENDIX E

SPDES No.: NY _____

Part 1 Page __ of __

BEST MANAGEMENT PRACTICES FOR COMBINED SEWER OVERFLOWS

The permittee shall implement the following Best Management Practices (BMPs). These BMPs are designed to implement operation & maintenance procedures, utilize the existing treatment facility and collection system to the maximum extent practicable, and implement sewer design, replacement and drainage planning, to maximize pollutant capture and minimize water quality impacts from combined sewer overflows. The BMPs are equivalent to the "Nine Minimum Control Measures" required under the USEPA National Combined Sewer Overflow policy.

1. CSO Maintenance/Inspection - The permittee shall develop a written maintenance and inspection program for all CSOs listed on page(s) __of this permit. This program shall include all regulators tributary to these CSOs, and shall be conducted during periods of both dry and wet weather. This is to insure that no discharges occur during dry weather and that the maximum amount of wet weather flow is conveyed to the _____ POTW for treatment. This program shall consist of inspections with required repair, cleaning and maintenance done as needed. This program shall consist of e.g. (monthly/weekly) _____ inspections.

   Inspection reports shall be completed indicating visual inspection, any observed flow, incidence of rain or snowmelt, condition of equipment and work required. These reports shall be in a format approved by the Region __ Office and submitted to the Region with the monthly operating report (Form 92-15-7).

2. Maximum Use of Collection System for Storage - The permittee shall optimize the collection system by operating and maintaining it to minimize the discharge of pollutants from CSOs. It is intended that the maximum amount of in-system storage capacity be used (without causing service backups) to minimize CSOs and convey the maximum amount of combined sewage to the _____ treatment plant in accordance with Item 4 below.

   This shall be accomplished by an evaluation of the hydraulic capacity of the system but should also include a continuous program of flushing or cleaning to prevent deposition of solids and the adjustment of regulators and weirs to maximize storage.

3. Industrial Pretreatment - The approved Industrial Pretreatment Program shall consider CSOs in the calculation of local limits for indirect discharges. Discharge of persistent toxics upstream of CSOs will be in accordance with guidance under (NYSDEC Division of Water Technical and Operational Guidance Series **(TOGS) 1.3.8 New Discharges to POTWs**. For industrial operations characterized by use of batch discharge, consideration shall be given to the feasibility of a schedule of discharge during conditions of no CSO. For industrial discharges characterized by continuous discharge, consideration must be given to the collection system capacity to maximize delivery of waste to the treatment plant. Non-contact cooling water should be excluded from the combined system to the maximum extent practicable. Direct discharges of cooling water must apply for a SPDES permit.

   To the maximum extent practicable, consideration shall be given to maximize the capture of industrial waste containing toxic pollutants and this wastewater should be given priority over residential/commercial service areas for capture and treatment by the POTW. For new industry, these factors shall be considered in siting with preference to service by areas not tributary to CSOs or having sufficient capacity to deliver all industrial wastewater during all conditions to the POTW.

4. Maximize Flow to POTW - Factors cited in Item 2. above shall also be considered in maximizing flow to the POTW. Maximum delivery to the POTW is particularly critical in treatment of "first-flush" flows. The _____ treatment plant shall be capable of receiving the peak design hydraulic loading rates for all process units. The _____ treatment plant shall be capable of: receiving a minimum of _____ MGD through the plant headworks; a minimum of ____ MGD through the primary treatment works (and disinfection works if applicable); and a minimum of _____ MGD through the secondary treatment works during wet weather. The collection system and headworks must be capable of delivering these flows during wet weather. If the permittee cannot deliver maximum design flow for treatment, the permittee shall submit a plan and schedule for accomplishing this requirement within ____months after the effective date of this permit.

5. Wet Weather Operating Plan - The permittee shall maximize treatment during wet weather events. This shall be accomplished by having a wet weather operating plan containing procedures so as to operate unit processes to treat maximum flows while not appreciably diminishing effluent quality or destabilizing treatment upon return to dry weather operation. The wet weather operations plan shall be submitted to the Region __ Office for review and approval within __ months after the effective date of this permit.

6. Prohibition of Dry Weather Overflow - Dry weather overflows from the combined sewer system are prohibited. The occurrence of any dry weather overflow shall be promptly abated and reported to the NYSDEC Region Office __ within 24 hours. A written report shall also be submitted within fourteen (14) days of the time the permittee becomes aware of the occurrence. Such reports shall contain the information listed in the General Conditions (Part II), Section 5(b) of the SPDES permit.

7. Control of Floatable and Settleable Solids - The discharge of floating solids, oil and grease, or solids of sewage origin which cause deposition in the receiving waters, is a violation of the NYS Narrative Water Quality Standards contained in Part 703. As such, the permittee shall implement best management practices in order to eliminate or minimize the discharge of these substances. All of the measures cited in Items 1, 2, 4 & 5 above shall constitute approvable "BMPs" for mitigation of this problem. If aesthetic problems persist, the permittee should consider additional BMP's including but not limited to: street sweeping, litter control laws, installation of floatables traps in catch basins (such as hoods), booming and skimming of CSOs, and disposable netting on CSO outfalls. In cases of severe or excessive floatables generation, booming and skimming should be considered an interim measure prior to implementation of final control measures. Public education on harmful disposal practices of personal hygienic devices may also be necessary including but not limited to: public broadcast television, printed information inserts in sewer bills, or public health curricula in local schools.

8. Combined Sewer System Replacement - Replacement of combined sewers shall not be designed or constructed unless approved by NYSDEC. When replacement of a combined sewer is necessary it shall be replaced by separate sanitary and storm sewers to the greatest extent possible. These separate sanitary and storm sewers shall be designed and constructed simultaneously but without interconnections to maximum extent practicable. When combined sewers are replaced, the design should contain cross sections which provide sewage velocities which prevent deposition of organic solids during low flow conditions.

APPENDIX E

SPDES No.: NY_____

Part I, Page _____ of _____

9. Combined Sewer/Extension - Combined sewer/extension, when allowed should be accomplished using separate sewers. These sanitary and storm sewer extensions shall be designed and constructed simultaneously but without interconnections. No new source of storm water shall be connected to any separate sanitary sewer in the collection system.

   If separate sewers are to be extended from combined sewers, the permittee shall demonstrate the ability of the sewerage system to convey, and the treatment plant to adequately treat, the increased dry-weather flows.

   Upon a determination by the Region __ Regional Water Engineer an assessment shall be made by the permittee of the effects of the increased flow of sanitary sewage or industrial waste on the strength of CSOs and their frequency of occurrence including the impacts upon best usage of the receiving water. This assessment should use techniques such as collection system and water quality modeling contained in the Water Environment Federation Manual of Practice FD-17 Combined Sewer Overflow Pollution Treatment.

10. If, there are documented, recurrent instances of sewage backing up into house(s) or discharges of raw sewage onto the ground surface from surcharging manholes, the permittee shall, upon letter notification from DEC, prohibit further connections that would make the surcharging/back-up problems worse.

11. Septage and Hauled Waste - The discharge or release of septage or hauled waste upstream of a CSO is prohibited.

12. Control of Run-off - It is recommended that the impacts of run-off from new development in areas served by combined sewers or separate sewers be reduced by implementing practices and technologies included in the NYSDEC publication - **REDUCING THE IMPACTS OF STORM WATER RUNOFF FROM NEW DEVELOPMENT.**

13. Public Notification - Within ___ months of the effective date of this permit, the permittee shall install and maintain identification signs at all CSO outfalls owned and operated by the permittee. The permittee shall place the signs at or near the CSO outfalls and ensure that the signs are easily readable by the public.. The signs shall have **minimum** dimensions of eighteen inches by twenty four inches (18" x 24") and shall have white letters on a green background and contain the following information:

N.Y.S. PERMITTED DISCHARGE POINT
(wet weather discharge)
SPDES PERMIT No.: NY_____

OUTFALL No. :____

For information about this permitted discharge contact:

Permittee Name:

Permittee Contact:

Permittee Phone: ( ) - ### - ####

OR:

NYSDEC Division of Water Regional Office Address :

(The following language is site specific and included to protect waters based on receiving water classifications in Part 701 of the NYS Water Quality Regulations and the best usages defined there-in. This requirement is usually reserved for receiving waters of class B and higher).

The permittee shall implement a public notification program to inform citizens of the location and occurrence of CSO events. This program shall include a mechanism (public media broadcast, standing beach advisories, newspaper notice etc.) to alert potential users of the receiving waters affected by CSOs. The program shall include a system to determine the nature and duration of conditions that are potentially harmful to users of these receiving waters due to CSOs.

APPENDIX F

SPDES No.: NY _____

Part 1, Page ___ of _____

SANITARY SEWER OVERFLOWS PROHIBITED

In accordance with General Condition 11.2 of this permit and 40 CFR 122.41 bypass, of the collection and treatment system without treatm except when (1) the bypass is necessary to prevent loss of life, personal injury, public health hazard or severe property damage and (2) there is no fe the bypass and (3) the permittee complies with the notice requirements in General Condition 5.

Bypassing from the following sanitary sewer overflow points in the [NAME OF POTW] POTW that are known to or have the potential to be l prohibited except as noted above:

Outfall No.	Description	Latitude/Longitude	Receiving Stream/Class

BEST MANAGEMENT PRACTICES FOR SANITARY SEWER SYSTEMS WITH ACTIVE OVERFLOWS:

1. Dry weather overflows of the sewer system are prohibited. The occurrence of any dry weather overflow shall be promptly abated and repo NYSDEC regional office within 24 hours of detection. A written compliance report shall also be provided within five days of the time the per aware of the occurrence. Such reports shall contain the information listed in the General Conditions (Part II) Section 5(b) of this permit.

2. The permittee shall optimize the sewer system by operating and maintaining it to minimize the discharge of pollutants from overflows.

3. No new source of storm water shall be connected to any separate sanitary sewer in the collection system.

4. Sanitary sewer extensions shall be designed and constructed without storm sewer interconnections.

5. The permittee shall maximize flow up to the peak design capacity to the POTW Treatment Plant during periods of wet weather.

6. The permittee shall submit to the Regional Water Engineer a Monthly Overflow Report summarizing, for each day that an overflow occurs a an estimate of the total volume and duration of each overflow, measurements of the total amount of rainfall, a description of the source of ea visual observations of water quality at each outfall.

7. The permittee shall conduct a maintenance and inspection program of pumping stations and the overflow facilities at outfalls No. [ ] through shall consist of minimum monthly inspections with required repair, cleaning and maintenance done as needed. This is to insure that no dis during dry weather and that the maximum amount of wet weather flow is conveyed to the POTW treatment plant for treatment. All maintena program activities including visual observations of the condition of equipment and any repair work required shall be summarized and attache Overflow Report.

8. By attaching a letter to the monthly operating report, the permittee shall inform the Department of all reported instances known to the permitte backing up into houses or discharge of raw sewage from surcharging manholes onto the ground surface and the conditions (wet weather, etc) which caused this to occur.

9. If, there are documented, recurrent instances of sewage backing up into house(s) or discharge of raw sewage onto the ground surface fro manhole(s) the permittee shall, upon letter notification from DEC, prohibit further connections, except as provided below, that would make th surcharging/backup problems worse.

   Connections may be allowed by the permittee prior to long term remediation of the problem provided that the units to be connected had rec permits prior to determination of a recurrent surcharging/backup situation; or (1) 'reasonable relief measures' have been taken to reduce in rates and maximize sewage transmission in the area effected and (2) for each home equivalent to be connected, those measures will provi gallons per minute (GPM) additional sewage transmission capacity to the area effected by surcharging/backup problems and (3) if long ter necessary, the permittee has entered consent order negotiations or is in compliance with an enforceable (permit or consent order) schedul recurrent surcharging/backup problems. In the event that negotiations to enter into a consent order are unsuccessful, the DEC may, by let serve notice that all further connections that would make surcharging/backup problems worse will be prohibited.

   The 'reasonable relief measures' taken and the connections allowed shall be summarized in a letter attachment to the monthly operating rep

   'Reasonable relief measures' may include, but are not limited to, permanent disconnections of a sump pump, roof leader or a footing drain; elimination of inflow and infiltration from a manhole; repair of cracked pipe, bad joint or house lateral connection; cleaning of sewage transm as sewers, force mains, and siphons; pump rehabilitation; rehabilitation of vent risers; etc.

SCHEDULE OF COMPLIANCE

a) The permittee shall comply with the following schedule.

Action Code	Outfall Number(s)	Compliance Action	Due Date
		SANITARY SEWER OVERFLOW ABATEMENT	
01599, 00899	[XXX] - [YYY]	1. The permittee shall submit an approvable Engineering Report for abatement of discharges from Outfalls [XXX] - [YYY], including an approvable schedule.	EDP + 18 months
01599		2. Upon approval of the schedule contained in 1 above it shall become part of and enforceable under this permit.	

b) The permittee shall submit a written notice of compliance or non-compliance with each of the above schedule dates no later than 14 days followi date, unless conditions require more immediate notice under terms of the General Conditions (Part II), Section 5. All such compliance or non-c notification shall be sent to the locations listed under the section of this permit entitled RECORDING, REPORTING AND ADDITIONAL MONITOF REQUIREMENTS. Each notice of <u>non-compliance</u> shall include the following information:

1. A short description of the non-compliance;
2. A description of any actions taken or proposed by the permittee to comply with the elapsed schedule requirements without further delay and to limit environmental impact associated with the non-compliance;
3. A description or any factors which tend to explain or mitigate the non-compliance; and
4. An estimate of the date the permittee will comply with the elapsed schedule requirement and an assessment of the probability that the permittee will meet the next scheduled requirement on time.

c) The permittee shall submit copies of any document required by the above schedule of compliance to NYSDEC Regional Water Engineer at the under the section of this permit entitled RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS, unless otherwise sp or in writing by the Department.

SCHEDULE OF COMPLIANCE

a) The permittee shall comply with the following schedule.

Action Code	Outfall Number(s)	Compliance Action	Due Date
04339	001	COLLECTION SYSTEM MONITORING AND MAINTENANCE 1. Permittee shall submit an approvable plan for continuous ongoing sewer system assessment, flow monitoring, correction and maintenance including a schedule for such. 2. Begin implementation of the approved plan accordance with the schedule therein. 3. The schedule of actions contained in the approved plan shall, by this reference, be made part of this permit. 4. Submit an annual report no later than January 31st of each year detailing the actions taken the preceding year in accordance with the schedule specified in Compliance Action 1. above.	EDP+6 months DEC approval+3 months

b) The permittee shall submit a written notice of compliance or non-compliance with each of the above schedule dates no later than 14 days followi date, unless conditions require more immediate notice under terms of the General Conditions (Part II), Section 5. All such compliance or non-c notification shall be sent to the locations listed under the section of this permit entitled RECORDING, REPORTING AND ADDITIONAL MONITOR REQUIREMENTS. Each notice of non-compliance shall include the following information:

1. A short description of the non-compliance;
2. A description of any actions taken or proposed by the permittee to comply with the elapsed schedule requirements without further delay and to limit environmental impact associated with the non-compliance;
3. A description or any factors which tend to explain or mitigate the non-compliance; and
4. An estimate of the date the permittee will comply with the elapsed schedule requirement and an assessment of the probability that the permittee will meet the next scheduled requirement on time.

c) The permittee shall submit copies of any document required by the above schedule of compliance to NYSDEC Regional Water Engineer at the under the section of this permit entitled RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS, unless otherwise sp or in writing by the Department.

FLOW DISCHARGE PROHIBITION AND MONITORING REQUIREMENTS FOR OVERFLOW RETENTION FACILITY

During the period beginning EDP and lasting until EDP + 5 Years
the discharges from the permitted facility shall be limited and monitored by the permittee as specified below:

LIMITATIONS APPLY: [X] All Year [ ] Seasonal from _____ to _____
Outfall Number _____

EFFLUENT LIMITATIONS

Parameter	Time Frame	Limit	Unit
Solids, Settleable[3]	Daily Maximum	0.8	ml/l
Oil & Grease[3]	Daily Maximum	15	mg/l
Chlorine, Total Residual[3]	Daily Maximum	2.0	mg/l
Flow[1]	Daily Maximum	[1]	MG
Floatable Material	Daily Maximum	None	Visual Observ.[8]

ROUTINE MONITORING REQUIREMENTS

			Sample Location	
Parameter	Frequency	Sample Type	Influent	Effluent
Flow, MG[1][2]	Continuous	Recorder/Totalizer	X	
BOD,5-day mg/l	1/Each day of Overflow	Composite[5]	X	
Solids, Suspended mg/l	1/Each day of Overflow	Composite[5]	X	
Coliform, Fecal, No./100 ml	[4][6]	Grab		X
Solids, Settleable ml/l	[6]	Grab		X
Oil & Grease mg/l	1/Each day of Overflow	Grab		X
Chlorine, Total Residual mg/l	[6]	Grab		X
Floatable Material	[7][8]	Visual Observation	X	
Precipitation	Hourly	Auto, Recording Rain Gauge On Site		

[1] No discharge except as caused by excess flows associated with the design storm for the ORF.

[2] Flow shall be continuously recorded and totalized.

[3] Daily Maximum, Minimum shall be calculated based on the arithmetic mean of samples taken during any calendar day.

[4] No./100 ml calculated as the geometric mean of the grab samples taken during each day of overflow.

[5] Composite sample shall be a composite of grab samples, one taken every four hours.

[6] Grab samples to be taken every four hours during each event.

[7] Visual observation required every four hours during each event.

[8] Report number of days during the month where at least one visual observation indicates the presence of floatable material.

SPECIAL CONDITIONS FOR OPERATION OF OVERFLOW RETENTION FACILITY

1. The facilities shall be operated in conjunction with the tributary sewer system, pump stations and the POTW Treatment Plant to maximize pol
2. The permittee shall not divert to the retention tank unless either the peak hourly design flow or the maximum daily design flow [of the treatme sewage transmission system] are exceeded.
3. The permittee shall not discharge from the ORF unless the tank volume is full and the treatment process cannot accept additional wastewate
4. The contents of the tank, (i.e. captured wastewater) shall not be delivered to the POTW Treatment Plant at a rate which would exceed the pe hourly design flow or loading.
5. Flow shall not be delivered to the POTW Treatment Plant at a rate that will cause an upset as defined by General Condition 11.3 of this perm

APPENDIX K

MATRIX OF PERMIT CONDITIONS FOR SANITARY SEWER OVERFLOWS

CASE	COMPLIANCE	RESPONSE INSTRUMENT	APPENDIX F SSO LIST	APPENDIX G BMPS	APPENDIX H SSO ABATEMENT SCHEDULE	APPENDIX I COLLECTION SYSTEM MON & MAIN	APP. J ORF
POTW	YES	N/A	NO	NO	NO	NO	NO
! POTW ! ON SITE ORF ! NO REMOTE SSOS	YES	PERMIT	NO	YES	NO	NO	YES
	NO	CONSENT ORDER	NO	YES	NO	YES	YES
! REMOTE ORF ! NO OTHER SSOs	YES	PERMIT	NO	YES	NO	NO	YES
	NO	CONSENT ORDER	NO	YES	NO	YES	YES
! POTW ! ON SITE ORF ! REMOTE SSOs	YES	PERMIT	YES	YES	YES	YES	YES
	NO	CONSENT ORDER	YES	YES	YES	YES	YES
! NEW SSOs	NO	CONSENT ORDER	YES	YES	YES	YES	NO
! EXISTING SSO	YES	PERMIT	YES	YES	YES	YES	NO

Appendix L

USEPA Priority Pollutants (From: 40CFR Part 122, Appendix D)

GC/MS Volatile fraction compounds:

CAS #	Pollutant Name
00107-02-8	Acrolein
00107-13-1	Acrylonitrile
00071-43-2	Benzene
00075-25-2	Bromoform
00056-23-5	Carbon Tetrachloride
00108-90-7	Chlorobenzene
00124-48-1	Chlorodibromomethane
00075-00-3	Chloroethane
00110-75-8	2-Chloroethylvinyl ether
00067-66-3	Chloroform
00075-27-4	Dichlorobromomethane
00075-34-3	1,1-Dichloroethane
00107-06-2	1,2-Dichloroethane
00075-35-4	1,1-Dichloroethylene
00078-87-5	1,2-Dichloropropane
00542-75-6	1,3-Dichloropropylene
00100-41-4	Ethylbenzene
00074-83-9	Methyl Bromide
00074-87-3	Methyl Chloride
00075-09-2	Methylene Chloride
00079-34-5	1,1,2,2-Tetrachloroethane
00127-18-4	Tetrachloroethylene
00108-88-3	Toluene
00156-60-5	1,2-trans-Dichloroethylene
00071-55-6	1,1,1-Trichloroethane
00079-00-5	1,1,2-Trichloroethane
00075-01-4	Vinyl Chloride

GC/MS Acid Fraction Compounds:

CAS #	Pollutant Name
00095-57-8	2-Chlorophenol
00120-83-2	2,4-Dichlorophenol
00105-69-7	2,4-Dimethylphenol
00534-52-1	4,6-Dinitro-o-cresol
00051-28-5	2,4-Dinitrophenol
00088-75-5	2-Nitrophenol
00100-02-7	4-Nitrophenol
00059-50-7	p-Chloro-m-cresol
00087-86-5	Pentachlorophenol
00108-95-2	Phenol
00088-06-2	2,4,6-Trichlorophenol

GC/MS Base/Neutral fraction compounds

CAS #	Pollutant Name
00083-32-9	Acenaphthene
00208-96-8	Acenaphthylene
00120-12-7	Anthracene
00092-87-5	Benzidine
00056-55-3	Benz(a)anthracene
00050-32-8	Benzo(a)pyrene
00205-99-4	3,4-Benzofluoranthene
00191-24-2	Benzo(ghi)perylene
00207-08-9	Benzo(k)fluoranthene
00111-91-1	Bis(2-chloroethoxy)methane
00111-44-4	Bis(2-chloroethyl)ether
00102-60-1	Bis(2-chloroisopropyl)ether
00117-81-7	Bis(2-ethylhexyl)phthalate
00101-55-3	4-Bromophenyl phenyl ether
00085-68-7	Butylbenzyl phthalate
00091-58-7	2-Chloronaphthalene
07005-72-3	4-Chlorophenyl phenyl ether
00218-01-9	Chrysene
00053-70-3	Dibenz(a,h)anthracene
00095-50-1	1,2-Dichlorobenzene
00541-73-1	1,3-Dichlorobenzene
00106-46-7	1,4-Dichlorobenzene
00091-94-1	3,3'-Dichlorobenzidine
00084-66-2	Diethyl phthalate
00131-11-3	Dimethyl phthalate
00084-74-2	Di-n-butyl phthalate
00606-20-2	2,6-Dinitrotoluene
00117-84-0	Di-n-octyl phthalate
00122-66-7	1,2-Diphenylhydrazine
00206-44-0	Fluroranthene
00086-73-7	Fluorene
00118-74-1	Hexachlorobenzene
00087-68-3	Hexachlorobutadiene
00077-47-4	Hexachlorocyclopentadiene
00067-72-1	Hexachloroethane
00193-39-5	Indeno(1,2,3-cd)pyrene
00078-59-1	Isophorone
00091-20-3	Naphthalene
00098-95-3	Nitrobenzene
00062-75-9	N-nitrosodimethylamine
00621-64-7	N-nitrosodi-n-propylamine
00086-30-6	N-nitrosodiphenylamine
00085-01-8	Phenanthrene
00129-00-0	Pyrene
00120-82-1	1,2,4-Trichlorobenzene

GC/MS Pesticides fraction compounds:

CAS #	Pollutant Name
00309-00-2	Aldrin
00319-84-6	alpha-BHC
00319-85-7	beta-BHC
00058-89-9	gamma-BHC (Lindane)
00319-86-8	delta-BHC
00057-74-9	Chlordane
00050-29-3	4,4'-DDT
00072-55-9	4,4'-DDE
00072-54-8	4,4'-DDD
00060-57-1	Dieldrin
00959-98-8	alpha-Endosulfan
33213-65-9	beta-Endosulfan
01031-07-8	Endosulfan sulfate
00072-20-8	Endrin
07421-93-4	Endrin aldehyde
00076-44-8	Heptachlor
01024-57-3	Heptachlor epoxide
53469-21-9	PCB-1242
11097-69-1	PCB-1254
11104-28-2	PCB-1221
11141-16-5	PCB-1232
12672-29-6	PCB-1248
11096-82-5	PCB-1260
12674-11-2	PCB-1016
08001-35-2	Toxaphene

Dioxin:

01764-01-6	2,3,7,8-Tetrachlorodibenzo-p-dioxin[1]

Metals and Other Toxic Pollutants:

CAS #	Pollutant Name
07440-36-0	Antimony, Total
07440-38-2	Arsenic, Total
07440-41-7	Beryllium, Total
07440-43-9	Cadmium Total
07440-47-3	Chromium, Total
07440-50-8	Copper, Total
07439-92-1	Lead, Total
07439-97-6	Mercury, Total
07440-02-0	Nickel, Total
07782-49-2	Selenium, Total
07440-22-4	Silver, Total
07440-28-0	Thallium, Total
07440-66-6	Zinc, Total
00057-12-5	Cyanide, Total
01332-21-4	Asbestos

Notes: 1 Dioxin is not listed in Part 122, Appendix D, but is a priority pollutant.

Appendix M:
List of Other Pollutants with NYS Water Quality Standards and Guidance Values

1. Pollutants with promulgated USEPA/NYSDEC analytical methods:

A. Base/Neutral/Acid Compounds:

CAS Number	Parameter Name
00092-67-1	4-Aminobiphenyl
00062-53-3	Aniline
00140-57-8	Aramite
00106-47-8	4-Chloroaniline
00119-93-7	3,3'-Dimethylbenzidine
00122-09-8	","-Dimethylphenethylamine
00099-65-0	1,3-Dinitrobenzene
00122-39-4	Diphenylamine
00070-30-4	Hexachlorophene
01888-71-7	Hexachloropropene
00099-55-8	5-Nitro-o-toluidine
00088-74-4	2-Nitroaniline
00099-09-2	3-Nitroaniline
00100-01-6	4-Nitroaniline
00608-93-5	Pentachlorobenzene
NA	Phenols, Total
00106-50-3	1,4-Phenylenediamine
00298-02-2	Phorate
00095-94-3	1,2,4,5-Tetrachlorobenzene
00095-53-4	o-Toluidine
00099-35-4	1,3,5-Trinitrobenzene, sym-

B. Conventional Compounds and Metals:

CAS Number	Parameter Name
07664-41-7	Ammonia/ammonium
24959-67-9	Bromide
NA	Chloride
NA	Color
NA	Coliform, Fecal
NA	Coliform, Total
16984-48-8	Fluoride
NA	Nitrogen, Nitrate
NA	Nitrogen, Nitrite
NA	Methylene Blue Active Substances
07723-14-0	Phosphorus (as P), Total
NA	Radioactivity
NA	Alpha, Total
NA	Beta, Total
NA	Radium, Total
NA	Radium 226, Total
NA	Solids, Settleable
14808-79-8	Sulfate (as SO4)
NA	Sulfide (as S)
14265-45-3	Sulfite (as SO3)
NA	Cyanide, Amenable to Chlorination
07440-47-3	Chromium, Hexavalent
07439-90-5	Aluminum, Total
07440-39-3	Barium, Total
07440-42-8	Boron, Total
07440-48-4	Cobalt, Total
07439-89-6	Iron, Total
07439-95-4	Magnesium, Total
07439-98-7	Molybdenum, Total
07439-96-5	Manganese, Total
07440-23-5	Sodium, Total
07440-31-5	Tin, Total
07440-32-6	Titanium, Total
07440-62-2	Vanadium, Total

C. Volatile Organic Compounds:

CAS Number	Parameter Name
00067-64-1	Acetone
00107-05-1	Allyl chloride
00126-99-8	Chloroprene
00074-95-3	Dibromomethane
00110-57-6	trans-1,4-Dichloro-2-butene
00075-71-8	Dichlorodifluoromethane
00156-59-2	cis-1,2-Dichloroethylene
10061-01-5	cis-1,3-Dichloropropene
10061-02-6	trans-1,3-Dichloropropene
00106-93-4	Ethylene dibromide (EDB)
00107-21-1	Ethylene glycol
00591-78-6	2-Hexanone
00126-98-7	Methacrylonitrile
00078-93-3	Methyl ethyl ketone
00074-88-4	Methyl iodide(Iodomethane)
00080-62-6	Methyl methacrylate
00076-01-7	Pentachloroethane
00110-86-1	Pyridine
00100-42-5	Styrene
00630-20-6	1,1,1,2-Tetrachloroethane
00075-69-4	Trichlorofluoromethane
00096-18-4	1,2,3-Trichloropropane
00095-47-6	Xylene, Ortho- (1,2-)
00108-38-3	Xylene, Meta- (1,3-)
00106-42-3	Xylene, Para- (1,4-)

D. Pesticides:

CAS Number	Parameter Name
15972-60-8	Alachlor
00116-06-3	Aldicarb
00834-12-8	Ametryn
02032-59-9	Aminocarb (Metacil)
01610-17-9	Atraton
01912-24-9	Atrazine
00086-50-0	Azinphosmethyl
00101-27-9	Barban
01861-40-1	Benefin
00314-40-9	Bromacil
23184-66-9	Butachlor
00133-06-2	Captan
00063-25-2	Carbaryl
01563-66-2	Carbofuran
00075-99-0	Dalapon
00298-03-3	Demeton (-o)
00126-75-0	Demeton (-S)
00333-41-5	Diazinon
00096-12-8	1,2-Dibromo-3-chloropropane
01918-00-9	Dicamba
00094-75-7	2,4-Dichlorophenoxyacetic acid (2,4-D)
00088-85-7	Dinoseb
00298-04-4	Disulfoton
14484-64-1	Ferbam
02164-17-2	Fluometuron
01071-83-6	Glyphosate (Roundup)
00608-73-1	Hexachlorocyclohexanes
51235-04-2	Hexazinone
00465-73-6	Isodrin
33820-53-0	Isopropalin
00143-50-0	Kepone
00121-75-5	Malathion
08018-01-7	Mancozeb
12427-38-2	Maneb
16752-77-5	Methomyl
00072-43-5	Methoxychlor
00298-00-0	Methyl parathion
00094-74-6	2-Methyl-4-chloro-phenoxyacetic acid; MCPA
21087-64-9	Metribuzin
02385-85-5	Mirex (Hexachloropentadiene)
00142-59-6	Nabam
23135-22-0	Oxamyl
00056-38-2	Parathion
00082-68-8	Pentachloronitrobenzene
01610-18-0	Prometon
01918-16-7	Propachlor
00139-40-2	Propazine
00122-42-9	Propham
00122-34-9	Simazine
05902-51-2	Terbacil
13071-79-9	Terbufos
00093-76-5	2,4,5-Trichlorophenoxyacetic acid
01582-09-8	Trifluralin
12122-67-7	Zineb
00137-30-4	Ziram

APPENDIX M:
Other Significant Pollutants with NYSDEC Standards/Guidance Values

2. Pollutants without promulgated USEPA/NYSDEC analytical methods:

CAS Number	Pollutant Name
00079-06-1	Acrylamide
00079-10-7	Acrylic acid
01646-88-4	Aldicarb sulfone
01646-87-3	Aldicarb sulfoxide
68391-01-5	Alkyl dimethyl benzyl ammonium chloride
NA	Alkyl diphenyl oxide sulfonates
00095-84-1	2-Amino-para-cresol
02835-99-6	4-Amino-meta-cresol
02835-95-2	5-Amino-ortho-cresol
NA	Aminomethylene phosphonic acid salts
26445-05-6	Aminopyridine
00504-29-0	2-Aminopyridines
00462-08-8	3-Aminopyridines
00504-24-5	4-Aminopyridines
00108-44-1	3-Aminotoluene
00106-49-0	4-Aminotoluene
00100-66-3	Anisole
NA	Aryltriazoles
00103-33-3	Azobenzene
00098-87-3	Benzal chloride
00271-61-4	Benzisothiazole
00098-07-7	Benzoic trichloride
25973-55-1	2-(2-hydroxy-3,5-di-tert-pentylphenyl)Benzotriazole
00092-52-4	1,1'-Biphenyl
00542-88-1	Bis(chloromethyl)ether
NA	Boric acid, Borates and Metaborates
00108-86-1	Bromobenzene
00074-97-5	Bromochloromethane
31600-69-8	4-(1-methylethoxy)-1-Butanol
15798-64-8	cis-2-Butenal
00123-73-9	trans-2-Butenal
01190-76-7	cis-2-Butenenitrile
00627-26-9	trans-2-Butenenitrile
00112-34-5	Butoxyethoxyethanol
05131-66-8	Butoxypropanol
NA	Butyl isopropyl phthalate
02008-41-5	Butylate
00104-51-8	n-Butylbenzene
00135-98-8	sec-Butylbenzene
00098-06-6	tert-Butylbenzene
05234-68-4	Carboxin
00133-90-4	Chloramben
00118-75-2	Chloranil
NA	Chlorinated dibenzofurans
00460-35-5	3-Chloro-1,1,1-trifluoropropane
00095-69-2	4-Chloro-o-toluidine
00095-79-4	5-Chloro-o-toluidine
00095-51-2	2-Chloroaniline
00108-42-9	3-Chloroaniline
00098-56-6	4-Chlorobenzotrifluoride
00109-69-3	1-Chlorobutane
00107-30-2	Chloromethyl methyl ether
00088-73-3	2-Chloronitrobenzene
00121-73-3	3-Chloronitrobenzene
00100-00-5	4-Chloronitrobenzene
01897-45-6	Chlorothalonil
00095-49-8	2-Chlorotoluene
00108-41-8	3-Chlorotoluene
00106-43-4	4-Chlorotoluene
00506-68-3	Cyanogen bromide
00506-77-4	Cyanogen chloride
13560-89-9	Dechlorane Plus
08065-48-3	Demeton (Systox)
00103-23-1	Di(2-ethylhexyl)adipate
10222-01-2	2,2-Dibromo-3-nitrilopropionamide
03252-43-5	Dibromoacetonitrile
00583-53-9	1,2-Dibromobenzene
00108-36-1	1,3-Dibromobenzene
00106-37-6	1,4-Dibromobenzene
00594-18-3	Dibromodichloromethane
01476-11-5	cis-1,4-Dichloro-2-butene
00328-84-7	3,4-Dichlorobenzotrifluoride
00075-71-8	Dichlorodifluoromethane
00075-43-4	Dichlorofluoromethane
00078-99-9	1,1-Dichloropropanes
00142-28-9	1,3-Dichloropropanes
00594-20-7	2,2-Dichloropropanes
00563-58-6	1,1-Dichloropropene
00098-87-3	"," -Dichlorotoluene
32768-54-0	2,3-Dichlorotoluenes
00095-73-8	2,4-Dichlorotoluenes
19398-61-9	2,5-Dichlorotoluenes
00118-69-4	2,6-Dichlorotoluenes
00095-75-0	3,4-Dichlorotoluenes
25186-47-4	3,5-Dichlorotoluenes
00076-12-0	1,2-Difluoro-1,1,2,2-tetrachloroethane
00100-18-5	1,4-Diisopropyl benzene
00577-55-9	1,2-Diisopropylbenzene
00099-62-7	1,3-Diisopropylbenzene
00121-69-7	N,N-Dimethyl aniline
01861-32-1	Dimethyl tetrachloroterephthalate
00087-59-2	2,3-Dimethylaniline
00095-68-1	2,4-Dimethylaniline
00095-78-3	2,5-Dimethylaniline
00087-62-7	2,6-Dimethylaniline
00095-64-7	3,4-Dimethylaniline
00108-69-0	3,5-Dimethylaniline
01875-92-9	Dimethylbenzylammonium chloride
00538-39-6	4,4'-Dimethylbibenzyl
04957-14-6	4,4'-Dimethyldiphenylmethane
05197-80-8	Dimethylethylbenzylammonium chloride
00068-12-2	Dimethylformamide
25321-14-6	Dinitrotoluene (mixed isomers)
00602-01-7	2,3-Dinitrotoluene
00619-15-8	2,5-Dinitrotoluene
00610-39-9	3,4-Dinitrotoluene
00618-85-9	3,5-Dinitrotoluene
00957-51-7	Diphenamid
00530-50-7	1,1-Diphenylhydrazines
00085-00-7	Diquat dibromide
02439-10-3	Dodecylguanidine acetate
13590-97-1	Dodecylguanidine hydrochloride
00479-18-5	Dyphilline
00145-73-3	Endothall
53494-70-5	Endrin ketone
00107-07-3	Ethylene chlorohydrin
00075-21-8	Ethylene oxide
00096-45-7	Ethylenethiourea
00133-07-3	Folpet
00093-14-1	Guaifenesin
06108-10-7	Hexachlorocyclohexanes (epsilon)
00302-01-2	Hydrazine
07783-06-4	Hydrogen sulfide
00123-31-9	Hydroquinone
02809-21-4	1-Hydroxyethylidene-1,1-diphosphonic acid
29761-21-5	Isodecyl diphenyl phosphate
00098-82-8	Isopropylbenzene
00527-84-4	2-Isopropyltoluene
00535-77-3	3-Isopropyltoluene
00099-87-6	4-Isopropyltoluene

APPENDIX M:

Other Pollutants with NYSDEC Standards/Guidance Values

2. Pollutants without promulgated USEPA/NYSDEC analytical methods (continued):

NA	Isothiazolones, total
NA	Linear alkylbenzene sulfonates
00149-30-4	Mercaptobenzothiazole
00079-41-4	Methacrylic acid
04013-34-7	[1-Methoxyethyl]benzene
03558-60-9	[2-Methoxyethyl]benzene
NA	Methylbenz(a)anthracenes
06217-18-6	Methylene bisthiocyanate
00101-14-4	4,4'-Methylene-bis-(2-chloroaniline)
00101-61-1	4,4'-Methylene-bis-(N,N'-dimethyl)aniline
01807-55-2	4,4'-Methylene-bis-(N-methyl)aniline
00126-39-6	2-Methylethyl-1,3-dioxolane
00611-15-4	2-Methylstyrene
00100-80-1	3-Methylstyrene
00622-97-9	4-Methylstyrene
00098-83-9	"-Methylstyrene
00100-61-8	N-Methylaniline
00098-92-0	Niacinamide
04726-14-1	Nitralin
00139-13-9	Nitrilotriacetic acid
00088-72-2	2-Nitrotoluene
00099-08-1	3-Nitrotoluene
00099-99-0	4-Nitrotoluene
04685-14-7	Paraquat
40487-42-1	Pendimethalin
00101-84-8	Phenyl ether
00637-50-3	3-Phenyl-1-propene
00766-90-5	cis-1-Phenyl-1-propene
00873-66-5	trans-1-Phenyl-1-propene
00095-54-5	1,2-Phenylenediamine
00108-45-2	1,3-Phenylenediamine
00100-63-0	Phenylhydrazine
14838-15-4	Phenylpropanolamine
01918-02-1	Picloram
59536-65-1	Polybrominated biphenyls (PBBs)
00709-98-8	Propanil
00103-65-1	n-Propylbenzene
NA	Quaternary ammonium compounds
07440-24-6	Strontium 90
34014-18-1	Tebuthiuron
00634-66-2	1,2,3,4-Tetrachlorobenzenes
00634-90-2	1,2,3,5-Tetrachlorobenzenes
02136-79-0	Tetrachloroterephthalic acid
05216-25-1	",",",4-Tetrachlorotoluene
00109-99-9	Tetrahydrofuran
00058-55-9	Theophylline
00137-26-8	Thiram
00095-80-7	Toluene-2,4-diamine
00095-70-5	Toluene-2,5-diamine
00823-40-5	Toluene-2,6-diamine
29385-43-1	Tolyltriazole
00615-54-3	1,2,4-Tribromobenzene
00056-35-9	Tributyltin oxide
00634-93-5	2,4,6-Trichloroaniline
00087-61-6	1,2,3-Trichlorobenzenes
00108-70-3	1,3,5-Trichlorobenzenes
00075-69-4	Trichlorofluoromethane
00093-72-1	2,4,5-Trichlorophenoxypropionic acid (Silvex)
00598-77-6	1,1,2-Trichloropropane
13116-57-9	cis-1,2,3-Trichloropropene
13116-58-0	trans-1,2,3-Trichloropropene
07359-72-0	2,3,4-Trichlorotoluene
56961-86-5	2,3,5-Trichlorotoluene
02077-46-5	2,3,6-Trichlorotoluene
06639-30-1	2,4,5-Trichlorotoluene
23749-65-7	2,4,6-Trichlorotoluene
00098-07-7	",","-Trichlorotoluene
00088-66-4	",",2-Trichlorotoluene
00094-99-5	",2,4-Trichlorotoluene
13940-94-8	",",4-Trichlorotoluene
02014-83-7	"-2,6-Trichlorotoluene
00102-47-6	"-3,4-Trichlorotoluene
26523-64-8	Trichlorotrifluoroethanes
00354-58-5	1,1,1-Trichloro-2,2,2-trifluoroethane
00076-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane
00108-67-8	Trimethylbenzenes
00526-73-8	1,2,3-Trimethylbenzenes
00095-63-6	1,2,4-Trimethylbenzenes
00108-67-8	1,3,5-Trimethylbenzenes
25551-13-7	Trimethylbenzenes (mixed isomers)
01463-84-6	2,3,6-Trimethylpyridines
00108-75-8	2,4,6-Trimethylpyridines
00602-29-9	2,3,4-Trinitrotoluene
18292-97-2	2,3,6-Trinitrotoluene
00610-25-3	2,4,5-Trinitrotoluene
00118-96-7	2,4,6-Trinitrotoluene
00603-15-6	3,4,5-Trinitrotoluene
00115-86-6	Triphenyl phosphate
10028-17-8	Tritium
NA	Uranyl Ion

3. Principal Organic Contaminant groundwater standard:

The Principal Organic Contaminant (POC) groundwater standard applies to the following classes of compounds: (1) Halogenated alkanes (includes those compounds identified by *Freon, Genatron, Halon, CFC-* and *HCFC-* prefixes in their product names); (2) Halogenated ethers; (3) Halobenzenes and substituted halobenzenes; (4) Benzene and alkyl- or nitrogen-substituted benzenes; (5) Substituted unsaturated hydrocarbons (i.e. straight or branched chain unsaturated hydrocarbon containing one of the following: halogen, aldehyde, nitrile, amide); (6) Halogenated non-aromatic cyclic hydrocarbons. See 6 NYCRR Section 700.1 for additional information.

APPENDIX N

BIOACCUMULATIVE CHEMICALS OF CONCERN

NAME	CAS NUMBER
Chlordane (also CAS# 12789-03-6)	57-74-9
4,4'-DDD; p,p'-DDD; 4,4'-TDE; p,p'TDE	72-54-8
4,4'-DDE; p,p'-DDE	72-55-9
4,4'-DDT; p,p'-DDT	50-29-3
Dieldrin	60-57-1
Hexachlorobenzene	118-74-1
Hexachlorobutadiene; hexachloro-1,3-butadiene	87-68-3
Hexachlorocyclohexane; BHC	608-73-1
alpha-Hexachlorocyclohexane; alpha-BHC	319-84-6
beta-Hexachlorocyclohexane; beta-BHC	319-85-7
gamma-Hexachloroxcyclohexane; gamma-BHC; LINDANE	58-89-9
delta-Hexachlorocyclohexane; delta-BHC	319-86-8
Mercury	7439-97-6
Mirex; dechlorane	2385-85-5
Octachlorostyrene	29082-74-4
Pentachlorobenzene	608-93-5
Photomirex	39801-14-4
Polychlorinated Biphenyls; PCBs	A21000-00-0
2,3,7,8-TCDD	1746-01-6
1,2,3,4-Tetrachlorobenzene	634-66-2
1,2,4,5-Tetrachlorobenzene	95-94-3
Toxaphene	8001-35-2

APPENDIX O

Formula and Calculational Display Sheet for Normal and Lognormal Data Distributions		
Monthly Average and Daily Maximum Permit Limit Calculations, 95th and 99th Percentile		
Based on guidance from USEPA "Technical Support Document for Water Quality Based Toxics Control," 3/91.		
This worksheet shows the formulae taken from Table E-1 of the above document, and their use in		
calculating the effluent limitations. This sheet is for proofing and educational purposes only.		
Site Name:	**House of Chemical Goodies**	
SPDES No.:	**NY 000 0000**	
Outfall No.:	001	
Parameter:	Aluminiron	
Units:	mg/l	ln(mg/l)
11/1/93	2	@LN(B14)
12/1/93	0.5	-0.6931
1/1/94	4	1.3863
2/1/94	3	1.0986
3/1/94	5	1.6094
4/1/94	2	0.6931
5/1/94	0.5	-0.6931
6/1/94	4	1.3863
7/1/94	3	1.0986
8/1/94	5	1.6094
9/1/94	2	0.6931
10/1/94	0.5	-0.6931
11/1/94	4	1.3863
12/1/94	3	1.0986
1/1/95	5	1.6094
2/1/95	3	1.0986
3/1/95	5	1.6094
4/1/95	2	0.6931
5/1/95	0.5	-0.6931
6/1/95	4	1.3863
7/1/95	3	1.0986
8/1/95	5	1.6094
9/1/95	2	0.6931
10/1/95	0.5	-0.6931
11/1/95	4	1.3863
12/1/95	3	1.0986
1/1/96	5	1.6094
2/1/96	3	1.0986
3/1/96	5	1.6094
4/1/96	2	0.6931
5/1/96	0.5	-0.6931
6/1/96	4	1.3863
7/1/96	3	1.0986
8/1/96	5	@LN(B47)
Daily average and daily maximum permit limit calculations, normal and lognormal distributions (taken from Appendix E and Table E-1 of USEPA TSD for Water Quality Based Toxics Control)		
Note: Items in italics require the permit writer to input that information. All other info is calculated from the data listed above.		
Data range:	b14..b47	c14..c47
Minimum reported value	@MIN(@@(B53))	@MIN(@@(C53))
Maximum reported value	@MAX(@@(B53))	@MAX(@@(C53))
Number of data points	@COUNT(@@(B53))	@COUNT(@@(C53))
μ(y) (average of data set)	@AVG(@@(B53))	@AVG(@@(C53))
s(y) (std deviation of data)	@STDS(@@(B53))	@STDS(@@(C53))
t(y) (variance of data)	@VARS(@@(B53))	@VARS(@@(C53))
n (number of samples/month)		1
E(X) (daily average variable)		@EXP(C57+C59/2)
V(X) (variance variable)		@EXP(2*C57*C59)*(@EXP(C59-1))
μ(n) (n-day monthly average)		@LN(C61)-0.5*C64
t(n) (variance of average)		@LN((C62)/(C60*(C61)^2)+1)
s(n) (std deviation of average)		(C64)^0.5
cv(n) (coeff of variation)		(@EXP(C64-1))^0.5
Normal analysis:		
Permit Limits:	Aluminiron	
95% normal (monthly avg.)	(B57)+1.645*(B58)	mg/l
99% normal (daily max.)	(B57)+2.326*(B58)	mg/l
Lognormal Analysis:		
Monthly Average Permit Limit:		
95% lognormal	**mg/l**	**@EXP(C63+1.645*C65)**
99% lognormal	mg/l	@EXP(C63+2.326*C65)
Daily Maximum Permit Limit:		
95% lognormal	mg/l	@EXP((C57)+1.645*(C58))
99% lognormal	**mg/l**	**@EXP((C57)+2.326*(C58))**

The above calculations are based on Table E-1. Please report any discrepancies noted to Brian Baker, Bureau of Water Permits, at (518) 457-9598.

Table E-1. Daily Maximum Permit Limit Calculations

The daily maximum permit limit is usually the 99th upper percentile value of the pollutant distribution. In certain cases the 95th percentile value may be allowable. The following gives the formulas:

WITH ALL MEASUREMENTS > DETECTION LIMIT (based on lognormal distribution)

$\hat{X}_{.95}$ = 95th percentile daily maximum limit

= $\exp[\hat{\mu}_y + 1.645\ \hat{F}_y]$

$\hat{X}_{.99}$ = 99th percentile daily maximum limit

= $\exp[\hat{\mu}_y + 2.326\ \hat{F}_y]$

where

x_i = daily pollutant measurement i

y_i = $\ln(x_i)$

k = sample size of data set

$\hat{\mu}_y$ = $E(y_i) / k$ $\quad 1 \# i \# k$

$\hat{F}_y^2$ = $E[(y_i - \hat{\mu}_y)^2] / (k - 1)$ $\quad 1 \# i \# k$

$\hat{E}(X)$ = $\exp(\hat{\mu}_y + 0.5\ \hat{F}_y^2)$

$\hat{V}(X)$ = $\exp(2\hat{\mu}_y + \hat{F}_y^2)\ [\exp(\hat{F}_y^2) - 1]$

$\hat{cv}(X)$ = $[\exp(\hat{F}_y^2) - 1]^{½}$

From "USEPA Technical Support Document for Water Quality Based Toxics Control," Appendix E, Page E-15, March 1991

APPENDIX O

Formula and Calculational Display Sheet for Delta-Lognormal Data Distributions
Daily Maximum Permit Limit Calculations, 95th and 99th Percentile
Based on guidance from USEPA "Technical Support Document for Water Quality Based Toxics Control," 3/91.
This worksheet shows the formulae taken from Table E-1 of the above document, and their use in
calculating the effluent limitations. This sheet is for proofing and educational purposes only.

Site Name:	House of Chemical Goodies	
SPDES No.:	NY 000 0000	
Outfall No.:	001	
Parameter:	Aluminiron	
Units:	mg/l	ln(mg/l)
11/1/93	2	@LN(B14)
12/1/93	0.5	
1/1/94	4	1.3863
2/1/94	3	1.0986
3/1/94	5	1.6094
4/1/94	2	0.6931
5/1/94	0.5	
6/1/94	4	1.3863
7/1/94	3	1.0986
8/1/94	5	1.6094
9/1/94	2	0.6931
10/1/94	0.5	
11/1/94	4	1.3863
12/1/94	3	1.0986
1/1/95	5	1.6094
2/1/95	3	1.0986
3/1/95	5	1.6094
4/1/95	2	0.6931
5/1/95	0.5	
6/1/95	4	1.3863
7/1/95	3	1.0986
8/1/95	5	1.6094
9/1/95	2	0.6931
10/1/95	0.5	
11/1/95	4	1.3863
12/1/95	3	1.0986
1/1/96	5	1.6094
2/1/96	3	1.0986
3/1/96	5	1.6094
4/1/96	2	0.6931
5/1/96	0.5	
6/1/96	4	1.3863
7/1/96	3	1.0986
8/1/96	5	@LN(B47)

Daily maximum permit limit calculations, delta lognormal distribution
(taken from Table E-1 of USEPA TSD for Water Quality Based Toxics Control)

Note: Items in italics require the permit writer to input that information.
All other info is calculated from the data listed above.

Data range	b14..b47	c14..c47
k (number of data points)		@COUNT(@@(B53))
Minimum reported value	mg/l	@MIN(@@(B53))
Maximum reported value	mg/l	@MAX(@@(B53))
D (detection limit, units)	mg/l	@MIN(@@(B53))
k - r (number of detects)		@COUNT(@@(C53))
r (number of nondetects)		(C54-C58)
d (ratio of nondetects/total, delta)		(C59/C54)
u(y) (average of detects)		@SUM(@@(C53))/C58
s(y) (std deviation of detects)		@STDS(@@(C53))
t(y) (variance of detects)		@VARS(@@(C53))
E(X*) (daily average)		(C60*C57)+((1-C60)*@EXP(C61+0.5*C63))
V(X*) (variance)		(1-C60)*@EXP(2*C61+C63)*(@EXP(C63)-(1-C60))+C60*(1-C60)*C57*(C57-2*@EXP(C61+0.5*C63))
z*95 (adjusted Z-score, 95th %ile)		((0.95-C60)/(1-C60))*1.645
z*99 (adjusted Z-score, 99th %ile)		((0.99-C60)/(1-C60))*2.326
Daily maximum limit & units:	Aluminiron	
95th percentile	mg/l	@EXP(C61+(C66*C62))
99th percentile	**mg/l**	**@EXP(C61+(C67*C62))**

Note: If the calculated limit is less than the detection limit,the detection limit (i.e. the PQL) shall be used as the permit limit.

The above calculations are based on Table E-1. Please report any discrepancies noted to Brian Baker, Bureau of Water Permits, at (518) 457-9598.

APPENDIX O

Table E-1. Daily Maximum Permit Limit Calculations (continued)

WITH SOME MEASUREMENTS < DETECTION LIMIT (based on delta-lognormal distribution)

$\hat{X}_{.95}$ = 95th percentile daily maximum limit

= D * $ 0.95

= max [D, $\exp(\hat{\mu}_y + z^* \hat{F}_y)$] * < 0.95

with $z^* = M^{-1}[(0.95 - *) / (1 - *)]$

$\hat{X}_{.99}$ = 99th percentile daily maximum limit

= D * $ 0.99

= max [D, $\exp(\hat{\mu}_y + z^* \hat{F}_y)$] * < 0.99

with $z^* = M^{-1}[(0.99 - *) / (1 - *)]$

where

x_i	=	daily pollutant measurement i	
k	=	sample size of data set	
D	=	detection limit (as established by the laboratory)	
r	=	number of nondetects	(x_1, x_2, ... , x_r are # D)
k-r	=	number of detects	(x_{r+1}, x_{r+2}, ... , x_k are > D)
y_i	=	$\ln(x_i)$	for r+1 # i # k
*	=	r / k	
$\hat{\mu}_y$	=	$E(y_i) / (k - r)$	r+1 # i # k (excludes values # D from sum)
$\hat{F}_y^2$	=	$E[(y_i - \hat{\mu}_y)^2] / (k - r - 1)$	r+1 # i # k
$\hat{E}(X^*)$	=	$*D + (1 - *) \exp(\hat{\mu}_y + 0.5 \hat{F}_y^2)$	
$\hat{V}(X^*)$	=	$(1 - *) \exp(2\hat{\mu}_y + \hat{F}_y^2) [\exp(\hat{F}_y^2) - (1 - *)] + * (1 - *)D[D - 2 \exp(\hat{\mu}_y + 0.5 \hat{F}_y^2)]$	

From "USEPA Technical Support Document for Water Quality Based Toxics Control," Appendix E, Page E-16, March 1991

APPENDIX O

Formula and Calculational Display Sheet for Delta-Lognormal Data Distributions
Monthly Average Permit Limit Calculations, 95th and 99th Percentile
Based on guidance from USEPA "Technical Support Document for Water Quality Based Toxics Control," 3/91.
This worksheet shows the formulae taken from Table E-3 of the above document, and their use in
calculating the effluent limitations. This sheet is for proofing and educational purposes only.

Site Name:	House of Chemical Goodies	
SPDES No.:	NY 000 0000	
Outfall No.:	001	
Parameter:	Aluminiron	
Units:	mg/l	ln(mg/l)
11/1/93	2	@LN(B12)
12/1/93	0.5	-0.6931
1/1/94	4	1.3863
2/1/94	3	1.0986
3/1/94	5	1.6094
4/1/94	2	0.6931
5/1/94	0.5	-0.6931
6/1/94	4	1.3863
7/1/94	3	1.0986
8/1/94	5	1.6094
9/1/94	2	0.6931
10/1/94	0.5	-0.6931
11/1/94	4	1.3863
12/1/94	3	1.0986
1/1/95	5	1.6094
2/1/95	3	1.0986
3/1/95	5	1.6094
4/1/95	2	0.6931
5/1/95	0.5	-0.6931
6/1/95	4	1.3863
7/1/95	3	1.0986
8/1/95	5	1.6094
9/1/95	2	0.6931
10/1/95	0.5	-0.6931
11/1/95	4	1.3863
12/1/95	3	1.0986
1/1/96	5	1.6094
2/1/96	3	1.0986
3/1/96	5	1.6094
4/1/96	2	0.6931
5/1/96	0.5	-0.6931
6/1/96	4	1.3863
7/1/96	3	1.0986
8/1/96	5	@LN(B45)

Monthly average permit limit calculations for more than ten samples
(taken from Table E-3 of USEPA TSD for Water Quality Based Toxics Control)

Note: Items in italics require the permit writer to input that information.
All other info is calculated from the data listed above.

Data range	b12.b45	c12.c45
k (number of data points)		@COUNT(@@(B51))
n (number of samples per month)		4
Minimum reported value	mg/l	@MIN(@@(B51))
Maximum reported value	mg/l	@MAX(@@(B51))
D (detection limit, units)	mg/l	@MIN(@@(B51))
μ(y) (average of detects)		@SUM(@@(C51))/C52
s(y) (std deviation of detects)		@STDS(@@(C51))
t(y) (variance of detects)		@VARS(@@(C51))
E(X*) (daily average)(=E(Xn))		@EXP(C57+0.5*C59)
V(X*) (variance)		@EXP(2*C57+C59)*(@EXP(C59)-1)
V(Xn) (sample variance)		(C61/C53)
cv(Xn) (sample coeff. of variance)		(C62^0.5)/(C60)

Monthly Average Permit Limit	Aluminiron	
95th percentile	**mg/l**	**(C60)+1.645*(C62)^0.5**
99th percentile	mg/l	(C60)+2.326*(C62^0.5)

Note: If the calculated limit is less than the detection limit, the detection limit (i.e. the PQL) shall be used as the permit limit.

The above calculations are based on Table E-3. Please report any discrepancies noted to Brian Baker, Bureau of Water Permits, at (518) 457-9598.

Table E-3. Monthly Average Permit Limit Calculations for More Than Ten Samples

The monthly average permit limit usually is based on the estimates of the 95th percentile of the distribution of the average of the daily effluent values. These daily values are assumed to be lognormally distributed. For sample sizes larger than 10, the averages (represented by the random variable $\hat{X}_n$) are assumed to be normally distributed.

$\hat{X}_{.95}$ = 95th percentile n-day monthly average limit

= $\hat{E}(\hat{X}_n) + 1.645\ [\hat{V}(\hat{X}_n)]^{1/2}$

$\hat{X}_{.99}$ = 99th percentile n-day monthly average limit

= $\hat{E}(\hat{X}_n) + 2.326\ [\hat{V}(\hat{X}_n)]^{1/2}$

where

x_i = daily pollutant measurement i

y_i = $\ln(x_i)$

k = sample size of data set

$\hat{\mu}_y$ = $E(y_i) / k$ $\quad 1 \# i \# k$

$\hat{\sigma}_y^2$ = $E[(y_i - \hat{\mu}_y)^2] / (k - 1)$ $\quad 1 \# i \# k$

$\hat{E}(X)$ = $\exp(\hat{\mu}_y + 0.5\ \hat{\sigma}_y^2)$

$\hat{V}(X)$ = $\exp(2\hat{\mu}_y + \hat{\sigma}_y^2)\ [\exp(\hat{\sigma}_y^2) - 1]$

$\hat{E}(\hat{X}_n)$ = $\hat{E}(X)$

$\hat{V}(\hat{X}_n)$ = $\hat{V}(X) / n$

$\hat{cv}(X)$ = $\hat{V}(\hat{X}_n)^{1/2} / \hat{E}(\hat{X}_n)$

From "USEPA Technical Support Document for Water Quality Based Toxics Control," Appendix E, Page E-19, March 1991

APPENDIX P

SPDES No.: _____
Part 1, Page _ of ___

ADDITIONAL SPECIFIC PRETREATMENT CONDITIONS FOR METALS

1. QUANTIFICATION OF METALS

Commence a study to quantify sources of _____*(List Metals)*_____ at the permittee's POTW on or before EDP + ___ months. This study must include the following:

i) For each significant industrial user (SIU), an evaluation of which parameters that SIU discharges at levels greater than in the following table:

(The parameters and the discharge levels to be added as applicable)

ii) All sampling results for one year from each SIU where the discharge of one or more of the above noted metals is known or suspected.

iii) A determination of average daily wastewater flow from each SIU. Such determination shall be based on water meter readings or wastewater flow measurement for all SIUs;

iv) An estimation of uncontrollable loadings of each parameter derived from a minimum of twelve composite sampling and analysis events of residential wastewater. The minimum practicable detection levels for (*List Metals*)_____ shall be achieved through EPA method 9.2 extraction and analysis graphite furnace atomic absorption spectroscopy.

2. RAW WATER STUDY

The permittee shall obtain and submit to the Department copies of the Raw Water Studies upon their completion to be conducted by the water suppliers within the permittee's service area under the Safe Drinking Water Act. If individual water studies are not complete by EDP + 18 months, the permittee shall submit existing data obtained for these studies from the individual water departments.

3. REMOVALS STUDY

Commence a study to quantify removals of ____(*List Metals*)_____ through the POTW. This study must include collection and analysis of 12 monthly influent and effluent 24 hour composite flow proportioned composite samples for the above noted parameters. Effluent sample collection must lag influent sample collection by the hydraulic retention time of the treatment plant. The minimum practicable detection levels shall be achieved through EPA method 9.2 extraction of samples and analysis by graphite furnace atomic absorption spectroscopy.

4. GOAL

The goal of these additional Pretreatment Conditions is to have the discharge be able to meet the Calculated Water Quality based Effluent Limits.

Complete and submit the results of the studies listed in 1, 2, and 3 above to the offices listed on the Monitoring Reporting and Recording page of this permit on or before EDP + 18 months. The results of the Raw Water Studies shall be submitted to the Department within six months of their completion.

Calculated Water Quality Based Effluent Limits.

(*List Metals and Water Quality Based Effluent Limits*)