Detroit Water and Sewerage Department

Wastewater Master Plan

DWSD Project No. CS-1314

Industrial Waste Control Division, Ordinance 34-96

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Industrial Waste Control Division, Ordinance 34-96

1. Purpose and Scope

The purpose of this technical memorandum is to provide information related to a review of the "City of Detroit, Water and Sewerage Department, Industrial Waste Control Division, Ordinance 34-96." The ordinance is required as one of six (minimal) elements of the DWSD's pretreatment program. That program is a condition of the National Pollutant Discharge Elimination System (NPDES) permit held by the city's wastewater treatment plant. The ordinance went into effect December 30, 1996. Four consultants provided comments and reviews. To prepare this technical memorandum, the review of Ordinance 34-96 was requested of the St. Paul, Minn., office of Camp, Dresser, & McKee and the Detroit office of Hinshon Environmental Consulting (HEC).

The DWSD Industrial Waste Control Division program applied to 13,171 industrial dischargers who generated Year 2000 revenue of $9,726,402. In 1990, 10,992 dischargers generated revenue of $2,981,407. There were 403 significant industrial users (SIUs) in April 2001. A significant industrial user is statutorily defined as one that has a discharge of 25,000 gpd or more of process water or has discharges subject to the national categorical pretreatment standards.

Grease trap waste disposal is also a component of DWSD Ordinance 34-96 and that subject in the context of its relationship with federal and state law is discussed in this technical memorandum.

2. Identification of Components

Detroit Water and Sewerage Department Industrial Waste Control Division, Ordinance 34-96 was reviewed and compared with the current Code of Federal Regulations.

Ordinance 34-96 was adopted to protect the environment, public health and safety, and prevent pollution. The ordinance as adopted includes amendments to the Code of Federal Regulations to improve the efficiency, operation and implementation of the Industrial Pretreatment Program and to place new responsibilities on industrial users for conducting self-monitoring and waste minimization activities. It also includes administrative items.

The ordinance's specific objectives are:

- To prevent the introduction of pollutants into the wastewater system which will interface with the operation of the system or contaminate the result

sludge, or will pose a hazard to the health or welfare of the People or of employees of the City of Detroit Water and Sewerage Department;

- To prevent the introduction of pollutants into the wastewater system which will pass inadequately treated through the system into receiving waters, the atmosphere of the environment, or otherwise be incompatible with the system;

- To improve the opportunity to recycle or reclaim wastewater or sludge from the system in an economical and advantageous manner; and

- To provide for the recovery of the costs from users of the wastewater collection and treatment system sufficient to administer regulatory activities and meet the costs of the operation, maintenance, improvement or replacement of the system.

The ordinance also:

- Prohibits the discharge into sewers of fats, oils or grease greater than 2000 mg/l. Increased use of process water or dilution is not permitted as a substitute for adequate treatment.
- Prohibits the discharge of groundwater into sewers unless a permit is issued.
- Requires permits for SIUs to discharge to the sewer system and also requires SIUs to conduct a waste minimization assessment or audit.
- Requires that a list of all industrial users in significant noncompliance with pretreatment requirements be published in a newspaper.

3. Findings

The DWSD Ordinance 34-96 was reviewed against the "legal authority" criteria, which are delineated in 40 CFR - Chapter I - Part 403. EPA has proposed additional rules that may affect Ordinance 34-96. DWSD is considering changes to Ordinance 34-96. Some adjustments in the current ordinance would meet the requirements in the Code of Federal Regulations and the DWSD NPDES permit and could address the proposed EPA regulations.

Legal Authority is one of six elements necessary for an approved Pretreatment Program under the NPDES permit requirements. The other elements are: Procedures, Funding, Local Limits, Enforcement Response Plan and List of SIUs.

Ordinance 34-96 provides the legal authority for administration of the city's Pretreatment Program. As excerpted from the EPA document "Introduction to the National Pretreatment Program":

> "The POTW is required to operate pursuant to legal authority in Federal, State or local courts, which authorizes or enables the POTW to apply and enforce any pretreatment regulation developed pursuant to the Clean Water Act (CWA)."

At a minimum, the legal authority must enable the POTW to:

- Deny or condition discharges to the POTW;
- Require compliance with pretreatment standards and requirements;
- Control IU (Industrial User) discharges through permits, orders, or similar means;
- Require IU compliance schedules when necessary to meet applicable pretreatment standards and/or requirements and the submission of reports to demonstrate compliance;
- Inspect and monitor IUs;
- Obtain remedies for IU noncompliance; and
- Comply with confidentiality requirements.

The DWSD Ordinance 34-96 was reviewed against these seven "legal authority" criteria, which are delineated in 40 CFR - Chapter I - Part 403. The citation for the legal authority section of the regulation is 403.8 (f)(1)(i) through (vii). (See attached.)

A proposed federal rule for the General Pretreatment Regulation, 40 CFR Part 401, "Streamlining the General Pretreatment Regulations for Existing and New Sources of Pollution," was published in the Federal Register on July 22, 1999, but has not been finalized. Publication is expected within the next two years. The change in administrations has delayed the finalization of this regulation. EPA is currently conducting additional evaluations on the impacts of low pH discharges. Some of the issues addressed in the proposed rule are:

- Authorization of temporary excursions below pH 5.0.
- Equivalent Mass Limits as an alternative to Concentration Limits for categorical users.
- The use of flow-based concentration limits in lieu of mass limits where flow is variable.
- Consideration for exemption from non-significant categorical users from the definition of Significant Industrial User.
- Waiver of sampling for indicator pollutants when that pollutant is not expected to be present.
- Clarification of the sampling requirements in 40 CFR 403.12, specifically, use of grab and/or composite samples.
- Removal credits as they affect sewage sludge and overflows.
- Electronic filing and storage of reports.
- Use of General Permits.
- Clarification of Best Management Practices.
- Three modifications to the Significant Non-Compliance provision.

DWSD is currently updating and amending the Sewer Use Ordinance in response to requirements set forth in the NPDES Permit, which took effect in October 1997. These changes are expected to include the incorporation of new Local Limits (including new provisions to deal with pollutants where discharges will be restricted to "non-detectable" levels), and the establishment of enforcement authority adequate to satisfy Section 403.8(f)(1)(VI)(A) of the federal regulations.
Upon completion of these revisions and acceptance of the changes by MDEQ, DWSD will seek adoption of revised ordinances with the same language from all suburban customer communities.

3.1 Grease

Ordinance 34-96 sets specific requirements on grease in the sewer system. Grease is a problem in most sewer systems.
Los Angeles does not have a sewer ordinance and is reported to have 6000 sewer backups a month due to grease. Local, state and federal regulations have been developed to address grease. Regulatory issues and other concerns are presented here to help understand why grease receives special consideration by sewerage systems.

Grease traps capture the oil and grease from the flow of wastewater by slowing down the flow of greasy water through the grease trap and allowing the grease and oil to separate out of the water and float to the top of the trap. The water continues to flow down the drainpipe to the sewer while baffles prevent the accumulated grease and oil from flowing out of the grease trap. Liquid waste containing oil and grease dumped directly into the sewer can block the system and cause wastewater to back up.

Grease in the wastewater system is a statewide concern. An overview of the Detroit, State and federal issues is presented here.

3.1.1 DWSD

Section 56-3-59.1 of the City of Detroit Water and Sewerage Department Industrial Division regulation sets a maximum of 2000 mg/l of fats, oils and grease in wastewater discharging to the sewerage system. DWSD staff members have indicated that grease is not a problem in the DWSD sewer system.

DWSD permits issued to septage haulers include a limitation of 2000 mg/l of fats, oils and grease per load for each hauler. Septage haulers are not authorized to dispose of grease trap waste of any greater consistency into the Detroit sewerage system.

3.1.2 Federal Regulations

Grease trap waste is not covered under federal regulation 40CFR 503 which governs domestic septage.

Rather it is covered by federal regulations Part 257 as non-domestic septage. This regulation sets up difficult compliance standards for the disposal of grease trap waste by land application.

3.1.3 Michigan Regulatory Issues

MDEQ Waste Management Division (WMD), supports grease trap waste being regulated under Michigan, Part 121, Act 451 as a liquid industrial waste.
A 1995 WMD memo classified grease traps as septic tanks and restricted their cleaning to licensed septage haulers. The grease could be disposed of by mixing it with septage and treating it in the same manner as domestic septage.

The WMD Policy Paper on the Regulation and Management of Grease Trap Waste suggested statutory changes to prohibit land application of grease trap waste. Options for disposal were; POTW, solidified and landfilled, and land application as a last resort.

The SWQD has taken over licensing of septage haulers from the WMD. Under SWQD policy, licensed liquid industrial waste haulers, not septage haulers, are permitted to pump grease traps. Any land application of grease must comply with the federal regulation 40CFR Part 257.

3.1.4 Comments on grease

The Michigan Water and Environment Septage Subcommittee meetings of March 5, and April 16, 2002 produced the following comments on grease trap waste.

- Grease creates problems in the collection system. Los Angeles has no limit on grease discharges and has 6,000 backups per month due to grease.
- Pacific Biodiesel uses grease for fuel for diesel engines.
- A company (TORVAC/Darling) that collects and treats grease trap waste is looking for a place in the Detroit area to set up a treatment system to treat grease trap waste.
- Grease trap waste is a mixture of grease and other items such as hair. This mixture makes it difficult to clean for other uses. 98% of grease trap waste goes to land disposal.
- One supplier has used an enzyme product to break down grease in a pump station. The product is called Enzyclean.
- Grease traps are felt to be ineffective.
- Mixing grease trap waste with compost material has benefited the compost.

4. Conclusions on Sewage Use Ordinance 34-96

For the most part, DWSD Ordinance 34-96 is in compliance with the federal standard. Possible discrepancies are cited here:

1. Compliance schedules for IUs must meet Pretreatment Standards according to 403.8 (f)(1)(iv)(A). Sec. 56-3-66.1 (f)(1)(b) of the DWSD ordinance states that compliance

schedules "may" be developed, and indicates that the IU and the DWSD "may come" to agreement on the terms on the schedule. This language may not be strong enough to comply with 403.8 (f)(1)(iv)(A), which states that the POTW require the development of a compliance schedule by each IU for the installation of technology required to meet applicable Pretreatment Standards and Requirements.

2. Federal regulations require that the POTW be able to obtain remedies for noncompliance by any IU with any Pretreatment Standard or Requirement. This includes the capability for the POTW to seek injunctive relief and assess civil or criminal penalties.

The current fine in the DWSD ordinance is $500 per day per violation, consistent with current statutory limitations for Michigan municipalities. Section 403.8 (f)(1)(vi)(A) of the federal regulation calls for a minimum of $1,000 per day per violation. The disparity between penalty levels required by federal regulation and authorized by state law is an item to be addressed by DWSD in response to the 1997 NPDES Permit requirements.

3. Sec.56-3-59.1 (b)(1) and (2) establish the maximum allowable levels of various compatible and non-compatible pollutants that can legally be discharged into the sewer system. However, DWSD must modify the Ordinance and the allowable pollutant concentrations in response to the evaluation of Local Limits including the calculation of the Maximum Allowable Headworks Loading (MAHL) at the wastewater treatment plant. This review and revision of Local Limits is currently underway and, when completed, will need to also establish appropriate mechanisms to effectively regulate pollutants whose discharge must be at levels less than detectable using current approved laboratory analytical techniques.

The federal ordinance governing the discharge of wastewater will likely need revision sometime in the next five to eight years, depending on EPA's expediency in publishing the "Streamlining Rule." The publication of the rule would require modifications to some elements of the DWSD's Pretreatment Program.

DWSD provides wastewater service to 76 suburban customer communities, and administers the Industrial Pretreatment Program in the service area pursuant to delegation agreements, which have been approved by each suburban customer. Each customer is required to adopt a local Sewer Use Ordinance, which is consistent with, and at least as restrictive as, the Detroit Ordinance. From a practical perspective, it is difficult and cumbersome to secure timely adoption of updated Sewer Use Ordinances from each suburban municipality when changes need to be made. Some consideration may need to be given to establish a process to simplify and streamline the process whereby suburban municipalities can automatically amend their Ordinances to be compatible with DWSD's.

5. References

DWSD Industrial Wastewater Flows, CH2M Hill 2001.

Summary of Operating Statistics for Fiscal Year Ending June 30, 2000.

Rene Valera, DWSD Industrial Pretreatment Program

City of Detroit Water and Sewerage Department Industrial Waste Control Division, Ordinance 34-96,Chapter 56.

City of Detroit Water and Sewerage Department Industrial Control Division, Ordinance 34-96

Introduction to the National Pretreatment Program, Overview of the National Pretreatment Program, p.9, Legal Authority

Code of Federal Regulations, Article 403.8 Pretreatment Program Requirements: Development and Implementation by POTW

Memo dated February 28, 2002 from Larry Aubuchon
Interoffice Communication dated August 2, 1995 from Jim Sygo, Waste Management Division