During 2002, MSD was very active in implementing Project XL. MSD received authorization to implement Project XL starting June 1, 2002. MSD continued the substantial monitoring program required by the Project XL Final Project Agreement and evaluated the collected data in light of Pretreatment Performance Measures. A Stakeholder Work Group including representatives from the industrial sector, the regulatory sector, local environmentalists and several advisors was formed. The Work Group was very active in developing key aspects of the project. MSD also presented the progress of this project to a meeting of the full Stakeholder group on April 30, 2002.

MSD, with input from the Stakeholder Work Group, determined pollutants of concern (POCs) for the Jeffersontown sewershed/Chenoweth Run watershed as follows:

Copper – Wastewater Treatment Plant (WTP) effluent concentrations were regularly above the threshold and occasionally above the water quality criteria. (Note: The threshold for the pollutants was established as 70% of the applicable water quality criteria.)

Cyanide (Amenable) – WTP effluent concentrations were periodically above the threshold.

Lead – WTP effluent concentrations were periodically above the threshold and occasionally above the water quality criteria.

– **Mercury** – WTP effluent concentrations were consistently above the water quality criteria, potentially due to analytical limitations.

BOD – Parameter is listed on KPDES permit for the Jeffersontown WTP. (MSD is reliably in compliance.)

TSS – Parameter is listed on KPDES permit for the Jeffersontown WTP. (MSD is reliably in compliance.)

Ammonia – Parameter is listed on KPDES permit for the Jeffersontown WTP. (MSD is reliably in compliance.)

Total Phosphorus – Parameter is listed on KPDES permit for the Jeffersontown WTP. (MSD is reliably in compliance.)

The work group also developed Industrial User Agreements which were applied in lieu of permits for select industrial users. The work group determined eligibility of industries based on several factors, including discharge of pollutants of concern and compliance records. Thirteen industries were determined to be eligible, twelve of these opted for the less rigorous agreement. MSD also issued new, more rigorous Significant Industrial User (SIU) permits to four industries.

The stakeholder work group also identified supplemental environmental projects where industries that received an agreement in lieu of a permit can donate half of their savings from the previous permit relationship. A list of the projects follows:

Clean Up Chenoweth Run (City of Jeffersontown)

Gaslight Festival booth to Educate Public Regarding Pollutant Reduction (Kentucky Pollution Prevention Center)

Streamside Corridor Habitat Restoration Project – Chenoweth Run Creek, Clem Property (Future Fund, Inc.)

Stomwater best management Practices for Chenoweth Run (Kentucky Waterways Alliance, Inc.)

Mapping of Local Sinkholes and Springs in the Chenoweth Run Watershed (Kentucky Geologic Survey)

Review of analytical results from collection system and industrial monitoring indicates that a significant portion of the pollutants of concern comes from sources other than permitted industries. Therefore, MSD began efforts to reduce Pollutants of Concern through non-traditional means. Some of the efforts in 2002 included:

MSD began working closely with Kentucky Pollution Prevention Center (KPPC) to help locate unregulated sources of POCs in the industrial and commercial community. KPPC will also assist MSD in any future efforts associated with pollution prevention in the residential sector.

MSD made a pollution prevention (P2) audit a requirement of all the IU agreements and SIU permits. These P2 audits are scheduled to be complete in 2003.

MSD is also initiating dialog with the Louisville Water Company (LWC) to explore possibilities of further reducing the corrosive properties of the drinking water.

Several of the stakeholder-approved environmental projects have pollution prevention themes. The Gaslight Festival booth and Chenoweth Run clean-up projects will serve to educate the public about ways to reduce pollution, especially for POCs.

MSD looks forward to 2003 when additional progress can be made on holistic approaches to reduce the discharge of pollutants of concern. MSD will have less effort associated with overseeing the discharges from inconsequential industries that will allow MSD to invest more effort in employing non-traditional techniques in reducing the POCs.

MSD completed an EPA Grant project for the Development of Pretreatment Performance Measures. The objective of this project was to develop, implement, and assess specific Performance Measures designed to measure the environmental impact of the Pretreatment Program in the Jeffersontown Sewershed/Chenoweth Run Watershed area. MSD has also been selected to participate in the Project XL (e**X**cellence in **L**eadership) program.

With information gained from the Performance Measures, and with the regulatory flexibility provided by the Pilot Project, resources can ultimately be shifted to address the greatest environmental concerns in the watershed. MSD's strategy is to take better information and reallocate resources with this XL program to create environmental benefits according to a specific prioritization strategy.

As part of Project XL, MSD has committed to produce an Annual Report for EPA, Kentucky Department of Environmental Protection (KYDEP) and project stakeholders. The annual report is due each April 1. The USEPA approved XL projects for 5 Publicly Owned Treatment Works (including MSD) on October 3, 2001 as documented in the Federal Register. MSD modified their Wastewater Discharge Regulations (WDRs) on October 1, 2002 to provide the local authority for the project. In addition, the KPDES permit was reissued for the Jeffersontown facility, including authorization to implement the XL project, on June 1, 2002. Statutes were passed at the Kentucky legislature providing the State regulatory authorization on December 12, 2002. MSD has used the date of June 1, 2002 as the official start of this XL Project.

MSD has continued to implement the project approach for data collection as detailed in the Final Project Agreement (FPA). This report will document the continued data collection and interpretation. The modifications to the pretreatment program have been placed into effect on January 1, 2003, such that all data collected in 2002 can still be considered baseline information. This report will provide an excellent baseline of pre-project conditions for comparison as the project is implemented. MSD will be able to provide more commentary on the results of the project in future annual reports.

This document will address the status of the project as of December 31, 2002. Data will be presented from 1999 through 2002, however data evaluation will focus on 2002 information. In 2002 MSD worked very closely with a stakeholder workgroup in initiating this project.

The report is comprised of the following sections:

Section 1 – Introduction
Section 2 – Background
Section 3 – Enforceable Commitments
Section 4 – Voluntary Commitments
Section 5 – Aspirations
Section 6 – Project Milestones
Section 7 – Status of Other Reports

MSD operates the Jeffersontown (J-Town) Regional Wastewater Treatment Plant (WTP). The facility has a rated capacity of 4 mgd and serves all of Jeffersontown including several industrial parks. MSD operates a pretreatment program for the WTP that includes permitting industries with categorical and local limits. At the beginning of 2002 there were seven Significant Industrial Users (SIUs) and 22 industries with General Permits. Of the seven SIUs, three are regulated as categorical industries. As shown on Figure 2.0-1 some of the companies ceased operation in 2002.

Project XL is a national pilot program that allows state and local governments, businesses and federal facilities to develop with EPA innovative strategies to test better or more cost-effective ways of achieving environmental and public health protection. In exchange, EPA will issue regulatory, program, policy, or procedural flexibilities to conduct the experiment. There are eight Project XL selection criteria:

1. Produce superior environmental results beyond those that would have been achieved under current and reasonably anticipated future regulations or policies;
2. Produce benefits such as cost savings, paperwork reduction, regulatory flexibility or other types of flexibility that serve as an incentive to both project sponsors and regulators;
3. Supported by stakeholders;
4. Achieve innovation/pollution prevention;
5. Produce lessons or data that are transferable to other facilities;
6. Demonstrate feasibility;
7. Establish accountability through agreed upon methods of monitoring, reporting, and evaluations; and
8. Avoid shifting the risk burden, i.e., do not create worker safety or environmental justice problems as a result of the experiment.

The Final Project Agreement (FPA) for MSD's XL project was signed by MSD, USEPA, and KYDEP on September 28, 2000. The FPA documents the enforceable commitments, voluntary commitments and aspirations for the project. The FPA calls for a five year effort and requires annual reporting that will include:

- Assess the Pretreatment Program (as it applies to the Jeffersontown area) relative to the Pretreatment Program,
- Re-evaluate the list of Pollutants of Concern based on current data and criteria identified in Section VII.B.1 of the FPA,
- Re-evaluate the SIU status based on current data and criteria identified in Section VII.B.2 of the FPA, and
- Prepare and submit a Performance Assessment Report to EPA and KYDEP.

In addition, the annual report will address the following items required on a semi-annual basis:

- A summary of data collection efforts,
- Updated trend charts of all monitored pollutants
- Narrative discussion on trends.

3.1 Monitoring

Substantial monitoring data has been collected during 2002. Treatment plant influent and effluent data was generally collected three days per week for conventional pollutants, in accordance with KPDES permit requirements. Special quarterly sampling took place in February, June, August and November. The quarterly sampling events were one week long and included sampling at the treatment plant influent, effluent, biosolids, collection system manholes, and significant industrial users. Industrial users not considered significant by MSD were sampled during only one of the quarters. Stream samples from upstream and downstream were collected on one day during each of the quarterly sampling events. Specifics on the sample locations, parameters, and dates are included in Appendix A.

3.2 Industrial User (IU) Agreements

MSD developed indirect user agreements with stakeholder involvement for those IUs that meet the criteria for less regulatory oversight. The process of developing these IU Agreements was documented in the minutes from five stakeholder workgroup meetings conducted in 2002. A copy of the minutes from these meetings is included in Appendix B.

MSD met with the eligible industries during the fall of 2002 to discuss the IU agreements. Of the 11 industries qualifying for an IU agreement, ten of these industries have been issued an IU Agreement in lieu of a SIU permit. The remaining industry eligible for an IU agreement elected to have a SIU permit. There were two categorical industries eligible for an Non Categorical Industrial User (NCIU) Agreement and both have been issued such an agreement. There were three industries who did not qualify for IU or NCIU agreements. These three industries have been issued SIU permits. Copies of the four SIU permits have been forwarded to EPA and are included in Appendix C.

The effective date for all 10 IU Agreements, two NCIU Agreements and 4 SIU Permits is January 1, 2003.

3.3 Reallocation of Resources

MSD has committed to developing a plan for reallocation of freed industrial resources with the involvement of stakeholders. While MSD was granted the regulatory flexibility in 2002, no substantial changes have been made to the pretreatment program in 2002. As changes are implemented in 2003, the approach will result in freed resources that can then be invested in the stakeholder-approved projects. MSD will report on resource reallocation in future annual reports.

MSD, with the assistance of our stakeholder work group, has identified five environmental projects where IUs and NCIUs can elect to donate half of their savings from the previous permit relationship. Copies of the environmental project fact sheets are included in Appendix D. A summary of the projects appears in the following table:

No.	Project Name	Project Sponsor	Funding Requested
1	Clean Up Chenoweth Run	City of Jeffersontown	$2500 Annually
2	Gaslight Festival booth to Educate Public Regarding Pollutant Reduction	Kentucky Pollution Prevention Center	$775 Annually
3	Streamside Corridor Habitat Restoration Project – Chenoweth Run Creek, Clem Property	Future Fund, Inc.	$448 Annually
4	Stomwater best management Practices for Chenoweth Run	Kentucky Waterways Alliance, Inc.	$10,000 Annually
5	Mapping of Local Sinkholes and Springs in the Chenoweth Run Watershed	Kentucky Geologic Survey	$10,000 One Time

In addition to the above projects, industry can donate half of their savings to an internal Supplemental Environmental Project as approved by MSD.

Industries with IU and NCIU Agreements will begin contributing to these projects in 2003. Based on the agreements, the total annual contribution to the above projects is expected to be $6,155. MSD will report on the actual contributions in future annual reports.

3.4 Semi-annual Reports

MSD prepared and submitted semi-annual reports in October 2001 and 2002. The reports acknowledged data collection efforts and data management concerns.

3.5 Assessment of Performance Measures

3.5.1 Effluent Measures

A. Conventional Pollutants vs. NPDES Limits

The performance of the J-Town WTP with respect to conventional permit limits is shown on Figures 3.5-1 through 3.5-8. The figures depict the plant performance against the monthly average limits and against weekly average limits. The monthly average limits are compared to a 30-day moving average and the weekly average limits are compared to the seven-day moving average. BOD, TSS and NH3-N limits have been in effect for the entire period. The effluent limit for total phosphorus has only been in effect since November 2000. Both ammonia and phosphorus effluent limits are seasonal. The data trendline plotted in the figures represents a moving average of the data. If a single data point is above the limit line, it may not constitute a violation unless that data point coincided with the end of a calendar week.

In 2002, the facility was in compliance with all limits for BOD, TSS, NH3-N and Phosphorus with the exception of BOD in March 2002. The facility exceeded monthly and weekly BOD permit limits due to high influent flows.

B. Biomonitoring vs. NPDES limit

Table 3.5-1 presents the results of quarterly biomonitoring for the J-Town WTP. The facility has not experienced toxicity during 2002.

Table 3.5-1 – Biomonitoring for J-Town WTP

	CHRONIC		ACUTE	
DATE	Water Flea	Fathead Minnow	Water Flea	Fathead Minnow
Jan-98	NA	PASS	NA	NA
Jun-98	NA	PASS	NA	PASS
Sep-98	NA	PASS	NA	NA
Dec-98	NA	PASS	NA	NA
Mar-99	NA	PASS	NA	NA
Jun-99	NA	FAIL (1.4)	NA	NA
Sep-99	NA	FAIL (4.4)	NA	NA
Jan-00	NA	PASS	NA	NA
Feb-00	NA	PASS	NA	NA
Mar-00	NA	PASS	NA	NA
Apr-00	NA	PASS	NA	NA
May-00	NA	PASS	NA	NA
Jul-00	NA	PASS	NA	NA
3rd Qtr 2000	NA	PASS	NA	NA
4th Qtr 2000	NA	PASS	NA	NA
1st Qtr 2001	NA	PASS	NA	NA
2nd Qtr 2001	NA	PASS	NA	NA
3rd Qtr 2001	NA	PASS	NA	NA
4th Qtr 2001	NA	PASS	NA	NA
1st Qtr 2002	NA	PASS	NA	NA
2nd Qtr 2002	PASS	PASS	NA	NA
3rd Qtr 2002	NA	PASS	NA	NA
4th Qtr 2002	NA	PASS	NA	NA

Metals and Organics vs. Water Quality Criteria

Quarterly monitoring of the effluent has been conducted between 1999 and 2002. The results have been compiled into a database and several trend charts. Throughout the quarterly events, the effluent was sampled for all priority pollutant organics (VOCs, semi-volatiles, pesticides, and base neutral compounds) during one day of each quarter. The organic scans have not detected a single compound in the effluent during that time. As such, no graphics have been prepared for organics in the effluent vs. water quality criteria.

The treatment plant effluent was sampled for seven consecutive days each quarter. Composite samples were collected and analyzed for metals and Cyanide (amenable to chlorination). The data has been assembled into a database and trend charts have been created to display the concentration of specific metals against the lowest water quality criteria. The facility discharges into Chenoweth Run, a zero flow stream during dry weather. The consequence of this is no allowable dilution of the effluent can be included when computing typical water quality thresholds for toxic compounds. The lowest water quality criteria were presented in the J-Town Background Report and were based on an average WTP effluent hardness of 211 mg/L.

Figures 3.5-9 through 3.5-15 display the metals and cyanide data collected since 1999. The data has been normalized by dividing the concentration in the effluent by the lowest water quality criteria. The figures demonstrate Arsenic, Cadmium, Chromium, Iron, Nickel, and Zinc were not present in the effluent above water quality criteria. The following parameters had multiple exceedances above the threshold set in this project for concern (which is 70% of the water quality criteria):

- Copper was regularly above the threshold and occasionally above the water quality criteria.
- Lead data collected in 2002 suggest an elevated discharge of lead compared to previous monitoring data. This trend is cause for concern and will be investigated. Influent data collaborated the increase in loading.
- Mercury was consistently above the water quality criteria and very often not detected in the effluent (Note: the lowest limit of detection for mercury is over 500% of the water quality criteria).
- Monitoring for selenium in 2002 suggest very low levels.
- Silver data collected in 2002 demonstrate consistently low levels.
- Cyanide (Amenable) was not measured at concentrations higher than the water quality criteria in 2002.

C. Aesthetic Quality

The operators of the J-Town WTP note any aesthetic concerns over the effluent quality in their daily log book. MSD created a form for the operators to more regularly record daily observations of effluent aesthetics. These forms are maintained as a record of the effluent quality during this project. There were no compromises of effluent aesthetic quality in 2002.

3.5.2 Biosolids Measures

A. Metals vs. 503 Regulations

Samples of the biosolids generated at the J-Town facility were taken daily for seven days during each quarterly sampling event. The samples were analyzed for metals and total solids. The results were converted into mg/KG concentrations for direct comparison to exceptional quality criteria in the EPA 503 regulations. MSD selected the 503 regulation concentrations in lieu of the state regulations since they offer a more national perspective in this study and MSD is currently not required to meet any standards. Certain state-regulated metals require lower concentrations for land application. However, MSD does not land apply biosolids. The data collected over the last three years were entered into a database and trend charts were prepared.

Figure 3.5-16 displays the normalized concentration of all metals in the J-Town biosolids. The threshold selected for biosolids was 90% of the exceptional quality sludge criteria from the 40 CFR 503 regulations. With the exception of two data points for copper, all 2002 concentrations were below the 90% threshold criteria. This data indicates there are no metals of concern in the J-Town biosolids.

3.5.3 Other Measures

A. Chronic Maintenance Concerns in Collection System

MSD utilizes Hansen, a specialized computer program, to track maintenance problems in the collection system. Data are recorded in Hansen for any complaints or maintenance concerns for the collection system. None of the collection system maintenance concerns in 2002 were attributed to industrial discharges.

B. Chronic Maintenance Concerns at WTP

MSD utilizes System Accounting Process (S.A.P.), a computer program, to track maintenance problems at their treatment facilities. Data are recorded in S.A.P. for any non-routine maintenance performed at the J-Town WTP. Of the maintenance concerns recorded in 2002, none were attributed to industrial discharges. MSD also creates an incident response form for any unusual incident noted. Four such incidents were observed in 2002, one for grease, one for excess solids in a clarifier, and two for oil sheen. Upon investigation of these incidents, none were attributed to industrial discharge and none were chronic in nature.

3.6 Re-Evaluation of Pollutants of Concern

"Pollutants of concern" (POC) is a phrase coined for this project for parameters in the wastewater for which the utility should exercise heightened concern due to the data evaluation from the performance measures review. The following criteria for the determination of POCs were established with stakeholder involvement.

A parameter would be considered a POC:

1. If there have been multiple exceedances of any of the Performance Measures.
2. If the data shows an increasing trend for that parameter toward any of the Performance Measures;
3. If concentrations of that parameter in the receiving stream are near water quality criteria (even though the pollutant source may not be pretreatment related);
4. If that parameter is listed as a reason for the stream to be on the States 303d list;
5. If the parameter has a numeric limit on the Wastewater Treatment Plant's NPDES permit.

Table 3.6-1 identifies the current J-Town Pollutants of Concern based on these criteria and the data collected over the past three years.

Table 3.6-1 J-Town POC Selection

Parameter	Frequent Exceedances of the PM	Increasing Trend toward PM	Approaching Stream WQ	Parameter noted on 303d list	NPDES Permit limit
Arsenic	No	No	No	No	No
Cadmium	No	No	No	No	No
Chromium	No	No	No	No	No
Copper	**Yes**	No	No	No	No
Cyanide	**Yes**	No	No	No	No
Iron	NA	NA	No	No	No
Lead	**Yes**	No	**Yes**	No	No
Mercury	**Yes**	No	**Yes**	No	No
Nickel	No	No	No	No	No
Selenium	No	No	No	No	No
Silver	No	No	No	No	No
Zinc	No	No	No	No	No
BOD	No	No	NA	No	**Yes**
TSS	No	No	NA	No	**Yes**
Ammonia	No	No	NA	No	**Yes**
Phosphorus	No	No	NA	**Yes**	**Yes**

Stream data collected in 2002 is included in Appendix E. Mercury and Lead concentration in Chenoweth Run are elevated.
The pollutants of concern for the J-Town system, based on the data collected from 1999 through 2002, are:

- Copper
- Cyanide (Amenable)
- Lead
- Mercury
- BOD
- TSS
- Ammonia
- Total Phosphorus

No new POCs were added to the list based on 2002 monitoring. In fact, Silver and Selenium were removed from the list based on the most current data. Lead concentrations in 2001 and 2002 were also generally higher than previously noted.

MSD has graphed the POC mass loadings to the influent of the treatment plant. Appendix F contains influent mass loading figures for POCs. These figures represent some of the useful output from the database of results MSD has established.

3.7 Reevaluation of SIUs

The criteria MSD has selected to determine if an industrial user is a Significant Industrial User (SIU) includes any of the following:

- If the user discharges greater than 5% of flow or loading of a pollutant of concern to the WTP,
- If the user has been in significant noncompliance (SNC) at any time during the preceding two years,
- If the user has a reasonable potential to adversely impact the WTP,
- If the user has the potential to discharge uncontrolled slug loads.

Table 3.7-1 displays the industrial contributions as a percentage of the treatment plant influent. The industries that contribute greater than five percent of the plant influent are identified. Based on a review of the data collected in 2002, no new SIUs were identified.

3.8 Performance Assessment Report

MSD has committed to providing a Performance Assessment Report to EPA and KYDEP on an annual basis. MSD intends this Annual Report to satisfy this commitment. MSD has submitted annual reports in April 2001, April 2002 and April 2003.

3.9 Biennial Report on Costs and Reallocation

MSD has tabulated the baseline costs incurred to perform the project monitoring for the past several years. Details of the cost assessment appear in the Appendix G to this report. The following is a brief summary of cost differences:

Description of Program	Monitoring Costs
MSD's Historical Program (Prior to Grant Project)	$40,600
MSD's Revised Program (Since initiation of Grant Project)	$217,700 in 1999 $212,000 in 2000
MSD's New Streamlined Program	$113,600 in 2001 $127,400 in 2002 $127,800 in 2003

The cost of monitoring and data collection actually increased as a consequence of this new performance measure approach, as seen above. MSD's historical program included only limited industrial and minimal treatment plant influent, effluent and biosolids monitoring. No collection system or stream monitoring was included. The revised and streamlined programs include more extensive monitoring of the treatment plant influent, effluent and biosolids; new monitoring of the collection system; more (but refined) monitoring of industrial discharges; and receiving stream monitoring. The revised and streamlined programs include both concentration and flow determinations at each location to allow calculation of mass loadings. MSD initiated an extensive one- to two-year data collection effort that enabled MSD to determine actual pollutants of concern. The long-term annual costs for the "streamlined" program are less than the costs to establish pollutants of concern but more than MSD's historical approach. The increased investment will result in better and more meaningful data.

The 2002 monitoring costs were slightly higher than the 2001 monitoring costs because MSD has elected to perform more extensive quarterly monitoring for the industries considered SIUs in accordance with the project specific definition.

The projected monitoring costs for 2003 are slightly lower than in 2002 because MSD reduced the permit status of 12 industries from a permit to an agreement, thus requiring less sampling. MSD will also sample SIUs for one week each quarter and will focus on the pollutants of concern. This new approach relies on the collection system and treatment plant influent monitoring to detect increases in non-POCs. Table 3.9-1 lists the industries, parameters and frequency of sampling proposed in 2003.

As the Project XL pilot project is implemented in J-Town, MSD anticipates a further reduction in monitoring costs, as efforts are further refined.

4.1 Pollution Prevention

MSD has made the voluntary commitment to educate the public regarding pollution prevention (as appropriate). MSD has begun to work closely with Kentucky Pollution Prevention Center (KPPC). Several working meetings have been held with MSD and KPPC staff since 2001. KPPC is researched potential sources of the Pollutants of Concern (POCs) (industrial, commercial and residential) and will recommend follow-up investigations to MSD to help locate unregulated sources of POCs in the industrial and commercial community. KPPC will also assist MSD in any future efforts associated with pollution prevention in the residential sector. MSD made a pollution prevention (P2) audit a requirement of all the IU agreements and SIU permits. These P2 Audits are scheduled to be complete in by mid-2003. MSD will summarize the findings of these audits in future annual reports.

MSD is also initiating dialog with the Louisville Water Company (LWC) to explore possibilities of further reducing the corrosive properties of the drinking water. Based on early discussions, it appears there is not much room for adjustment. MSD may collect some tap water samples in the J-Town area to attempt to quantify the extent copper and lead leaching from water lines and plumbing. MSD will report on the findings of this effort in future annual reports.

Several of the stakeholder-approved environmental projects have pollution prevention themes. The Gaslight Festival booth and Chenoweth Run clean-up projects will serve to educate the public about ways to reduce pollution, especially for POCs. MSD is participating in both of these projects by furnishing in-kind labor and debris disposal.

4.2 Stakeholder Meetings

MSD has made the voluntary commitment to hold one formal stakeholder meeting per year. MSD has scheduled the annual stakeholder meeting for April 28, 2003 from 4:00 to 6:00 PM at the Jeffersontown Public Library. MSD will present the content of this annual report to the stakeholders at the meeting and solicit discussion on the implementation of this project.

The stakeholder work group was reactivated in 2002 to participate in revising the permitting of IUs and SIUs. A total of five meetings were held during the process of determining the eligibility of IUs for agreements and drafting the IU and NCIU agreement language. Copies of the minutes from these meetings are included in Appendix B.

MSD held a general stakeholder meetings on April 30, 2002. A summary of this meeting is included in Appendix H.

5.1 Reduce POC loadings on an annual average basis

MSD aspires to reduce the annual mass discharge of pollutants of concern. The pollutants of concern for the J-Town system, based on the data collected in 2002, are:

- Copper
- Cyanide (Amenable)
- Lead
- Mercury
- BOD
- TSS
- Ammonia
- Total Phosphorus

MSD has monitored the discharge of these POCs during 2002 as presented in Section 3. MSD's regulatory modifications became effective on January 1, 2003 with the reissuance of SIU permits and IU/NCIU Agreements. MSD's attainment of this aspiration will need to be measured in the long-term.

Figure 5.1-1 presents the mass contribution of POCs by collection system manhole. This information will be utilized in targeting specific sources for reduction. As mentioned in Section 4.1, MSD has identified several initiatives aimed at reducing the contributions of POCs. In 2003, MSD plans to refine the following POC reduction initiatives:

POC	**Reduction Initiatives Under Consideration**
Copper	Work with the water company to make the drinking water less corrosive. Educate plumbers and designers about copper piping. Educate the public on the use of copper sulfate root killers. Minimize copper discharge from cooling towers, circulating hot water and closed loop refrigerant systems. Review industrial pollution prevention audits for possible source reduction. Perform a pollution prevention audit on MSD facilities within the sewershed .
Lead	Work with the water company to make the drinking water less corrosive. Review industrial pollution prevention audits for possible source reduction. Perform a pollution prevention audit on MSD facilities within the sewershed.
Mercury	Implement BMPs for Dentist offices with in the sewershed. Work with KPPC on mercury thermometer exchange. Educate the public about mercury at the Gaslight festival. Check with analytical laboratories on their practices to capture mercury-laden wastes. Investigate medical laboratories in the sewershed. Review industrial pollution prevention audits for possible source reduction. Perform a pollution prevention audit on MSD facilities within the sewershed.
Cyanide	Review industrial pollution prevention audits for possible source reduction. Perform a pollution prevention audit on MSD facilities within the sewershed.
BOD, TSS, NH3, P	No specific measures are required at this time since MSD's treatment facilities can reliably achieve compliance with effluent limits.

The average annual mass discharge of the identified pollutants of concern are listed in Table 5.1-1. MSD will use these effluent discharges as a baseline to measure the future success of the project. Success will be determined as keeping the conventional and nutrient discharges below KPDES permit limits and by actual reduction of the annual mass discharge of other pollutants.

Table 5.1-1 Estimated Annual Average Effluent Loading (lb/yr)(1)

Pollutant of Concern	1999 Annual Mass	2000 Annual Mass	2001 Annual Mass	2002 Annual Mass
CBOD (2)	94,904	107,025	37,279	55,034
TSS (2)	154,483	126,269	64,316	95,945
NH_3-N (2)	36,186	33,492	19,405	8802
Phosphorus (2)	20,423	16,343	6671	10,077
Lead	31	60	76	97
Copper	172	140	88	153
Mercury	1	1	2	1
Selenium	18	35	15	7
Silver	132	30	52	7
Cyanide (amenable)	32	38	19	49

(1) Calculated using average daily loading where data was available x 365 days/yr.
(2) Mass permit limits equate to 243,528 lb/yr BOD, 365,292 lb/yr TSS, 85,235 lb/yr NH3-N and 18,265 lb/yr for Phosphorus are KPDES monthly average concentrations and 4 mgd rated capacity.

5.2 Maintain Non-POCs Below Thresholds

MSD aspires to maintain the discharge of pollutants that do not meet the project definition of a pollutant of concern below the thresholds established in the EPA grant to study Pretreatment Performance Measures. Based on the data collected in 2002, all the non-POCs have been maintained below the set thresholds. Silver and selenium have been removed from the list of pollutants of concern.

5.3 Holistic Watershed Management Approach

This project, along with the EPA grant project to study pretreatment performance measures on a watershed basis, is allowing MSD to look at the Chenoweth Run watershed on a more holistic basis. MSD has evaluated the impact of the WTP discharge on the watershed and has identified performance measures to regularly monitor the impact. An important aspect of this project includes identification of stressors in Chenoweth Run upstream of the discharge from the Jeffersontown WTP. MSD intends to proactively manage their program to address the identified stressors. MSD aspires to expand the holistic approach to watershed health from this project to other watersheds in Jefferson County.

The Project XL team is actively pursuing a more cooperative working relationship with other departments within MSD. The MSD Wet Weather Area Team prepares an annual report titled 'WATERS of Jefferson County' that summarizes other holistic watershed initiatives. The project XL team is working with the personnel responsible for preparation of this report to share information collected on the Chenoweth Run. An excerpt from the July 1, 2001 – June 30, 2002 WATERS report is included in Appendix I.

Through this project MSD has succeeded in developing a more holistic approach to managing the pretreatment program. It is MSD's intention that this approach will lead to improved water quality more quickly and in a more cost-effective manner than any other approach.

6.1 Performance Measure Monitoring

MSD has committed to continuing monitoring for performance measures in the Jeffersontown sewershed as begun with the EPA grant project for the duration of the XL project. MSD has continued monitoring during 2002 as reported in Section 3.1 of this report.

6.2 Determination of Eligible IUs

In 2002 MSD identified the IUs that no longer qualify as an SIU under the FPA definition. This effort was accomplished within three months of the effective date (June 1, 2002) or by September 1, 2002. Please refer to Section 3.2.

6.3 Execution of Site Specific Agreements with Eligible IUs

MSD executed agreements (in lieu of permits) with 12 of the 13 IUs that no longer qualify as an SIU under the FPA definition. This effort was accomplished within seven months of the effective date (June 1, 2002) or by December 31, 2002. The FPA required this effort to be completed within six months of the effective date. MSD encountered significant delay in attempting to execute all agreements between the holidays. Please refer to Section 3.2.

6.4 Issue New SIU permits

MSD executed revised permits with their SIUs and one IU (as redefined in the FPA) in 2002. This effort was accomplished within seven months of the effective date (June 1, 2002) or by December 31, 2002. The FPA required this effort to be completed within six months of the effective date. MSD encountered significant delay in attempting to execute all agreements between the holidays. Please refer to Section 3.2.

6.5 Review Industry Compliance

MSD has reviewed the compliance status of monitored industries for the period ending December 31, 2002. The following industries are in good standing according to the federal definition of SNC:

- Clark Detroit Diesel
- Ryder Truck
- HL Lyons
- Papa Johns Foods
- Print Tex
- IED
- Adam Matthews
- Beechmont Press
- Bramco Brandies
- Cummins Cumberland
- Dispensers Optical
- Southern Standard Carton
- White Castle
- Winston Products
- Lantech
- Russtech

The following industries are in Significant Non Compliance according to the current federal definition of SNC (reason given in parentheses):

Jones Plastic & Engineering (Zinc)

Several industries in the J-Town system have ceased operation in 2002. These include:

Georgia Gulf	Kroger
Waukesha Cherry-Burrell	DCE
Derby Cone	

6.6 Updated List of Pollutants of Concern

The list for Pollutants of Concern is to be updated annually according to the FPA Section IX.E. MSD presented the current list of POCs in Section 3.6. MSD proposes to take silver and selenium off the lost of POCs based on the data collected in 2002. The POCs will be updated annually in future reports.

MSD has prepared several reports in association with the Pretreatment Performance Measures 104(b)(3) Grant project. The reports are titled:

"Pretreatment Performance Measures in a Watershed-Based Management System Project Summary Report EPA Grant No. CX 0826669-01-0", dated April 2002.

"Report on Pretreatment Performance Measures, West County Sewershed, Report EPA Grant No. CX 0826669-01-0", dated April 2002.

"West County Sewershed Background Report" dated January 2002.

The Project Summary Report is directly related to the Jeffersontown sewershed. The two West County reports do not discuss Jeffersontown or Chenoweth Run.

ANNUAL REPORT ON

PROJECT XL
JEFFERSONTOWN SEWERSHED/CHENOWETH RUN WATERSHED
PRETREATMENT REINVENTION PROJECT

(Reporting Period: January 1 – December 31, 2002)

Louisville and Jefferson County
Metropolitan Sewer District
700 W. Liberty Street
Louisville, KY 40203

with assistance from Strand Associates, Inc.

April 2003

Appendix A - Summary of Data Collection Efforts for 2002

Location	Parameter	Year 2002 Data Collection Efforts
J-Town WTP Effluent	Flow	Daily and continuously
	Conventionals	Three days per week per KPDES Permit plus daily samples during weekly events below
	Nutrients	Three days per week per KPDES Permit plus daily samples during weekly events below
	Metals & CN	Daily samples during weeks of February 11-17, June 10-16, August 12-18, November 4-10
	Organics	One samples during weeks of February 11-17, June 10-16, August 12-18, November 4-10
	Others (O&G)	Daily samples during weeks of February 11-17, June 10-16, August 12-18, November 4-10
	Biomonitoring	Tests during months of each quarter
J-Town WTP Biosolids	Flow	Daily volumes
	Nutrients	Daily samples during weeks of February 11-17, June 10-16, August 12-18, November 4-10
	Metals & CN	Daily samples during weeks of February 11-17, June 10-16, August 12-18, November 4-10
J-Town WTP Influent	Flow	Daily and continuously
	Conventionals	Three days per week per KPDES Permit plus daily samples during weekly events below
	Nutrients	Three days per week per KPDES Permit plus daily samples during weekly events below
	Metals & CN	Daily samples during weeks of February 11-17, June 10-16, August 12-18, November 4-10
	Organics	One samples during weeks of February 11-17, June 10-16, August 12-18, November 4-10
	Others (O&G)	Daily samples during weeks of February 11-17, June 10-16, August 12-18, November 4-10
Collection System MH1, MH2, MH3, MH4, MH5, MH6	Flow	Daily and continuously since approximately July 2000 for MH 1-4, weekly during sampling events for MH5 and 6.
	Conventionals	Daily samples during weeks of February 11-17, June 10-16, August 12-18, November 4-10
	Nutrients	Daily samples during weeks of February 11-17, June 10-16, August 12-18, November 4-10
	Metals & CN	Daily samples during weeks of February 11-17, June 10-16, August 12-18, November 4-10
	Organics	One samples during weeks of February 11-17, June 10-16, August 12-18, November 4-10
	Others (O&G)	Daily samples during weeks of February 11-17, June 10-16, August 12-18, November 4-10
Industries tributary to CS MH (See lists below)	Flow	Daily during sampling period (see industry list)
	Conventionals	Daily samples during sampling period (see industry list)
	Nutrients	Daily samples during sampling period (see industry list)
	Metals & CN	Daily samples during sampling period (see industry list)
	Organics	none
	Others (O&G)	Daily samples during sampling period (see industry list)
Chenoweth Run upstream and downstream	Flow	One daily during periods of February 11-17, June 10-16, August 12-18, November 4-10
	Conventionals	One daily sample during periods of February 11-17, June 10-16, August 12-18, November 4-10
	Nutrients	One daily sample during periods of February 11-17, June 10-16, August 12-18, November 4-10
	Metals & CN	One daily sample during periods of February 11-17, June 10-16, August 12-18, November 4-10
	Others (O&G)	One daily sample during periods of February 11-17, June 10-16, August 12-18, November 4-10

Industries tributary to MH1 include:

Beechmont Press (2/11, 4/18, 7/29, 11/18 – Conventionals & Metals),
Bramco Brandies (1/21, 7/29 – Conventionals & Metals & O&G),
Cummins Cumberland (2/21, 7/29 – Conventionals & Metals & O&G),
Dispensers Optical (4/15, 4/29, 10/29 – Conventionals & Metals),
Jones Plastic & Engineering, Kroger (1/21, 4/15, 9/3 – Conventionals & Metals & O&G),
Lantech (2/14,6/10-13, 8/12-15, 11/4-7 – Conventionals & Nutrients & Metals & CN),
Russtech (1/3, 5/23, 10/8 – Conventionals & Metals & O&G & CN),
Southern Std Carton (3/27 – Conventionals & Metals & O&G)

Industries tributary to MH2 include:

Clark Detroit Diesel (4/15 – Conventionals & Metals & O&G),
Ryder Truck (1/21, 7/29 – Conventionals & Metals),
White Castle Distributing (2/11-17, 6/10-16, 8/12-17, 11/4-10 – Conventionals & Metals),
Winston Products (1/21, 4/15, 7/29, 11/5-7 – Conventionals & Metals & CN),

Industries tributary to MH3 include:

IED (2/3, 3/15, 6/25 – Conventionals & Metals & O&G & CN)

Industries tributary to MH4 include:

H.L. Lyons (2/7, 2/10, 2/14, 5/1, 6/10-14, 7/21, 10/30, 11/4-7 – Conventionals & Metals & CN),
Papa Johns Foods (2/12-14, 6/10-16 – Conventionals & Metals & CN),