



Association of  
Metropolitan  
Sewerage Agencies

**To:** Members  
**From:** National Office  
**Date:** May 15, 2001  
**Subject:** AMSA SURVEY ON METAL PRODUCTS & MACHINERY GUIDELINES EFFECT ON POTWS

Thank you for taking the time to complete this survey. As you read in our *Fax Alert*, we are trying to supplement the data from the EPA Metal Products and Machinery Industry Phase II Publicly-Owned Treatment Works Survey originally compiled in 1996 to refute the estimated benefit of EPA's proposed guidelines. We have tried to ask questions that require easily obtainable information so that the survey would not require an extensive administrative burden. We estimate that this survey should take approximately 16 hours to complete.

The Metal Products & Machinery Proposed Effluent Guidelines are currently in a public comment period. The proposed guidelines do not consider a number of critical factors and have drastically under estimated many of the proposed guidelines. We would like your help in refuting these guidelines before they are finalized by providing real world information on the everyday technical operations of POTWs.

Although this survey was developed specifically for the 150 POTWs that EPA targeted in their original survey, the questions are applicable to all POTWs. Please disregard references to the 150 POTW survey, and complete the survey to the best of your ability. If you should have questions while completing the survey, please call Chris Hornback 202/833-9106 or Robin Davis 202/833-3280 of AMSA's National Office.

Please complete and return your survey **by May 23, 2001**. Surveys may be returned by fax or regular mail to:

Gary Martin  
URS Corporation  
263 Seaboard Lane, Suite 200  
Franklin, TN 37067  
Phone 615-771-2480  
Fax 615-771-2459

Thank you again for taking the time and effort to complete this information.

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# **AMSA SURVEY OF "MP&M 150 POTWS" MAY 2001**

## **1. Sewer Authority Identification**

A. NAME OF MUNICIPALITY OR SEWER AUTHORITY RESPONSIBLE FOR COMPLETING THIS SURVEY \_\_\_\_\_  
\_\_\_\_\_

B. PERSON TO CONTACT REGARDING THIS SURVEY:

Name: \_\_\_\_\_

Phone Number: \_\_\_\_\_

## **2. Sewer Authority Information**

A. Please indicate the number of individual treatment facilities with NPDES permits under the jurisdiction of the POTW, municipality, or sewer authority completing this questionnaire \_\_\_\_\_

B. In the original EPA MP&M survey of POTWs, did this sewer authority complete the questionnaire for this facility, or for all facilities under the jurisdiction of the sewer authority completing the questionnaire? One  All

Please circle the POTWs in Part C, below, for which a 1996 EPA survey was completed.

**C. General Information.**

Please provide the following information for each current POTW. Note: For simplicity, please use the number below corresponding to the POTW in later references to the POTW. Please attach additional sheets if more than 10 POTWs.

POTW No.	POTW Name	Permitted Capacity (mgd)	Average Daily Flow (mgd)
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

### 3. Current NPDES Limits

For each POTW listed in 2A, above, please provide current NPDES limits for the below-listed pollutants; all POTWs may not have NPDES limits for all of the listed parameters. Please copy the chart as necessary for multiple POTWs. For each pollutant, indicate in the last column whether the POTW was (Y) or was not (N) in compliance with the limit >95% of the time during calendar year 2000.

**PLEASE COPY THIS PAGE AS NECESSARY TO PROVIDE INFORMATION ON ALL POTWS**

**POTW Number (or Name):**

Pollutant mg/l	CURRENT NPDES Permit Limits				>95% Compliant? Y or N
	Daily Maximum	Weekly Average	Monthly Average	Quarterly Average	
Cadmium					
Chromium					
Copper					
Nickel					
Lead					
Selenium					
Mercury					
Cyanide					
Fluoride					
Zinc					
NH3-N					
NH3-N (Summer)					
NH3-N (Winter)					
Total Phosphorus					
Total Nitrogen					
BOD					
BOD (Summer)					
BOD (Winter)					
CBOD					
CBOD (Summer)					
CBOD (Winter)					
TSS					

## 4. Whole Effluent Toxicity (WET)

Please provide the information requested in the table below for each POTW regarding the NPDES WET Limit, if applicable.

POTW Number	Chronic Test			Acute Test		
	% Effluent	No. Tests/yr	% Passed per yr	% Effluent	No. Tests/yr	% Passed per yr

## 5. MP&M Industries Which Discharge to POTWs

At the time of the original EPA POTW survey, EPA was evaluating the “universe of MP&M industries” according to 16 industry sectors. Since that time EPA settled on a different regulatory and implementation approach which includes the following key regulatory subcategories for all industrial users:

Proposed Subcategory	Brief Description of Subcategory	Proposed Flow Cut-off gpd-5 day/ gpd-7 day
General Metals	Very broadly defined as a “catch all” category; may include facilities from 17 of 18 MP&M industrial sectors.	4000/2740
Metal Finishing Job Shops	Performs one or more of 6 operations (electroplating, electroless plating, anodizing, coating, etching/milling, and printed circuit board manufacturing) and owns not more than 50% of materials being finished. These facilities are currently covered by Metal Finishing and Electroplating regulations.	0
Printed Wiring Boards	Facilities that manufacture, maintain, or repair printed circuit boards, not including job shops (only includes captive shops). These facilities currently covered by Metal Finishing and Electroplating regulations.	0
Oily Waste	Similar to the General Metals Subcategory as a “catch all” subcategory for MP&M facilities discharging only oil-bearing wastewater, and DO NOT fit in another MP&M subcategory. Oily Waste facilities must discharge wastewater ONLY from EPA specified MP&M operations (e.g., alkaline cleaning, aqueous degreasing, floor cleaning, grinding, etc). Oily waste facilities are typically machine shops or maintenance and repair shops.	8000/5480

**A. Industrial Users (IUs) to be Affected by the Proposed MP&M Rule**

In the chart below, please provide information on the Industrial Users (IUs) for each POTW in the Sewer Authority. The abbreviated column heading identified by letters in the chart correspond to the description provided below. Please use the EPA flow cut offs shown in the above table.

(a) POTW No.	(b) No. of IUs	(c) Categorical General Metals Facilities (>1MGY)		(d) No. of Non-Categorical General Metals Facilities		(e) No. of Electroplating/ Metal Finishing Job Shops (Part 413/433)	(f) No. of Non-Categorical Oily Waste Facilities (>2MGY)	
		c.1 Part 433	c.2 All other Categoricals	d.1 Regulated	d.2 Unregulated		f.1 Regulated	f.2 Unregulated

- (a) Please provide the number (from question 3) of the POTW of the Sewer Authority for which information is being provided.
- (b) Please provide an estimate of the total number of Industrial Users (IUs) for each POTW in this column.
- (c) For each POTW, please indicate the estimated number of IUs which would fall into the proposed MP&M General Metals Subcategory which (c.1) are Metal Finishing (40CFR Part 433) facilities currently regulated by federal categorical regulations and (c.2) all other facilities currently regulated by a federal categorical pretreatment regulation (e.g., appliance manufacturing).
- (d) For each POTW, please indicate the estimated number of IUs which would fall into the proposed MP&M General Metals Subcategory which (d.1) are currently regulated by local POTW limits and (d.2) not currently regulated by local POTW limits.
- (e) Please indicate the number of electroplating facilities (40 CFR 413) and metal finishing facilities that discharge to the appropriate POTW.
- (f) For each POTW, please indicate the estimated number of IUs which would fall into the proposed MP&M Oily waste Subcategory which (f.1) are currently regulated by local POTW limits and (f.2) not currently regulated by local POTW limits

**B. Information on Cyanide Discharges from Existing Categorical Industrial Users (CIUs)**

Please provide the information requested in the chart below on electroplating/metal finishing facilities. The abbreviated column headings identified in the chart by letters correspond to the descriptions presented below.

(a) POTW No.	(b) No. CIUs With cyanide processes*	(c) Est. flow from CIUs With cyanide	(d) lbs Amenable CN Discharge To POTW	(e) lbs Total CN Discharge to POTW	(f) No. CIUs with on-site CN Treatment	(g) % CN facilities in compliance per year	(h) % CN facility flow in compliance	(i) No. of Facilities Dispose CN off site

\* CIU includes electroplaters, metal finishers, all others

- (a) Please provide the corresponding number of each POTW (from question 2) for which information is being provided.
- (b) For each POTW, please indicate the number (or estimate) of categorical industrial users (CIUs) which use cyanide served by the POTW.
- (c) Please indicate the estimated flow from ALL CIUs using cyanide; this includes electroplating, metal finishing, and all other CIUs using cyanide.
- (d) Please estimate the lbs of amenable cyanide discharged from categorical industrial users (CIUs) to each POTW.
- (e) Please estimate the lbs of total cyanide discharged from categorical industrial users (CIUs) to each POTW.
- (f) Please indicate the number of CIUs which use cyanide and treat cyanide on-site prior to discharge to the POTW.
- (g) Please indicate the number of cyanide facilities that are CIUs which are currently in compliance with categorical pretreatment limits.
- (h) Please indicate the total flow from all CIUs who use cyanide which are currently in compliance with categorical pretreatment limits.
- (i) Please indicate the number of CIUs using CN which dispose of cyanide off-site (e.g., use service of a Centralized Waste Treatment facility) and do not discharge cyanide to the POTW.

**C. Projected Compliance of All Affected IUs with Proposed MP&M Limits**

- (1) The existing Metal Finishing (40 CFR 433) and Electroplating (40 CFR 413) standards are presented in the table on Page 8. For each parameter, please provide the POTW local limit in the second column, if applicable.



PLEASE PROVIDE POTW LOCAL CONCENTRATION LIMITS IN SECOND COLUMN  
(OR CONCENTRATION RANGE FOR SEWER AUTHORITIES WITH MULTIPLE POTWS)

Comparison of Existing Metal Finishing and Electroplating Standards With Proposed MP&M Effluent Discharge Limits														
Regulated Parameters	POTW Local Limits	Metal Finishing (40 CFR 433)			Electroplating (40 CFR 413)		General Metals		Metal Finishing Job Shops		Printed Wiring Boards		Oily Wastes	
		Dly Max (mg/l)	Mo Ave. (mg/l)	Dly Max (mg/l)	Mo Ave. (mg/l)	Dly Max (mg/l)	Mo Ave. (mg/l)	Dly Max (mg/l)	Mo Ave. (mg/l)	Dly Max (mg/l)	Mo Ave. (mg/l)	Dly Max (mg/l)	Mo Ave. (mg/l)	
TOC (as indicator)		-	-	-	-	87	50	78	59	101	67	633	378	
TOP*		-	-	-	-	9	4.3	9	4.3	9	4.3	9	4.3	
Cadmium		0.69	0.26	1.2	0.7	0.14	0.09	0.21	0.09	-	-	-	-	
Chromium		2.77	1.71	7	4	0.25	0.14	1.3	0.55	0.25	0.14	-	-	
Copper		3.38	2.07	4.5	2.7	0.55	0.28	1.3	0.57	0.55	0.28	-	-	
Cyanide (T)		1.2	0.65	1.9	1	0.21	0.13	0.21	0.13	0.21	0.13	-	-	
Cyanide (A)		0.86	0.32	-	-	0.14	0.07	0.14	0.07	0.14	0.07	-	-	
Lead		0.69	0.43	0.6	0.4	0.04	0.03	0.12	0.09	0.04	0.03	-	-	
Manganese		-	-	-	-	0.13	0.09	0.25	0.1	1.3	0.64	-	-	
Molybdenum		-	-	-	-	0.79	0.49	0.79	0.49	-	-	-	-	
Nickel		3.98	2.38	4.1	2.6	0.5	0.31	1.5	0.64	0.30	0.14	-	-	
Silver		0.43	0.24	-	-	0.22	0.09	0.15	0.06	-	-	-	-	
Sulfide		-	-	-	-	31	13	31	13	31	13	31	13	
Tin		-	-	-	-	1.4	0.67	1.8	1.4	0.31	0.14	-	-	
Zinc		2.61	1.48	4.2	2.6	0.38	0.22	0.35	0.17	0.38	0.22	-	-	
TSS		-	-	-	-	-	-	-	-	-	-	-	-	
O&G (HEM)		-	-	-	-	-	-	-	-	-	-	-	-	

\* SEE ATTACHED LIST

## List of MP&M Total Organic Pollutant (TOP) Parameters

1. Acrolein
2. Benzoic acid
3. Carbon disulfide
4. Dibenzofuran
5. Dibenzothiophene
6. Isophorone
7. n-Hexadecane
8. n-Tetradecane
9. Aniline
10. Chloroform (trichloromethane)
11. Methylene chloride (dichloromethane)
12. Chloroethane (ethyl chloride)
13. 1,1-Dichloroethane
14. 1,1,1-Trichloroethane (methylchloroform)
15. Tetrachloroethene
16. 1,1-Dichloroethylene (vinylidene chloride)
17. Trichloroethylene
18. Biphenyl
19. p-Cymene
20. Ethylbenzene
21. Toluene
22. N-Nitrosodimethylamine
23. N-Nitrosodiphenylamine
24. Chlorobenzene
25. 2,6-Dinitrotoluene
26. Phenol
27. 4-Chloro-m-cresol (parachlorometacresol or 4-chloro-3-methylphenol)
28. 2,4-Dinitrophenol
29. 2,4-Dimethyphenol
30. 2-Nitrophenol (o-nitrophenol)
31. 4-Nitrophenol (p-nitrophenol)
32. Acenaphthene
33. Anthracene
34. 3,6-Dimethylphenanthrene
35. Fluorene
36. Fluoranthene
37. 2-Isopropyl-naphthalene
38. 1-Methylfluorene
39. 2-Methylnaphthalene
40. 1-Methylphenanthrene
41. Naphthalene
42. Phenanthrene
43. Pyrene
44. Benzyl butyl phthalate
45. Dimethyl phthalate
46. Di-n-butyl phthalate
47. Di-n-octyl phthalate
48. Bis(2-ethylhexyl) phthalate

- (2) By comparing existing effluent standards (whether categorical or local limits) to the proposed MP&M standards shown in the table on page 8, estimate the number of currently regulated SIUs that will be unable to meet the proposed MP&M standards for each proposed MP&M subcategory listed below. For each subcategory, please indicate the estimated number of SIUs believed to have Best Available Technology (BAT), or equivalent, as defined below for each subcategory.

MP&M Subcategory	Est. No. of Compliant SIUs	Est. No. of Non Compliant SIUs	Total SIUs	Est. No. of Non-Compliant SIUs With BAT In Place	
				No. w/ BAT or Equivalent	No. that exceed BAT
General Metals: IUs	_____	_____	_____	_____	_____
CIUs	_____	_____	_____	_____	_____
Metal Finishing Job Shops	_____	_____	_____	_____	_____
Printed Wiring Boards	_____	_____	_____	_____	_____
Oily Wastes	_____	_____	_____	_____	_____

**Definition of BAT for MP&M Subcategories**

- (a) **General Metals, Metal Finishing Job Shops, and Printed Wiring Board Facilities.** EPA selected “Option 2” as BAT, defined as follows.

Appropriate Segregation and Pretreatment of Wastestreams.

- **Oil-Bearing Wastewater.** Alkaline cleaning wastewater and water-based metal-working fluids (e.g., machining and grinding coolants) typically contain significant amounts of oil and grease. Chemical emulsion breaking followed by gravity separation of oil and water (oil/water separator or gravity flotation) effectively removes these pollutants.
- **Cyanide-Bearing Wastewater.** This wastewater requires preliminary treatment to destroy the cyanide, and can be accomplished by a variety of technologies including source control, in-line treatment, dead rinse, and alkaline chlorination.
- **Hexavalent Chromium-Bearing Wastewater.** Wastewater containing hexavalent chromium is generated by acid treatment, anodizing, conversion coating, and electroplating. This wastewater requires chemical reduction of the hexavalent chromium to trivalent chromium to allow further treatment chemical precipitation and sedimentation.

- **Hexavalent Chromium-Bearing Wastewater.** Wastewater containing hexavalent chromium is generated by acid treatment, anodizing, conversion coating, and electroplating. This wastewater requires chemical reduction of the hexavalent chromium to trivalent chromium to allow further treatment chemical precipitation and sedimentation.
- **Chelated Metal-Bearing Wastewater.** Electroless plating and some cleaning operations generated water that contains significant amounts of chelated metals. This wastewater requires chemical reduction to break the metal-chelate bond or reduce the metal-chelate complex to an insoluble state so that it can be removed during chemical precipitation.
- **Organic Solvent-Bearing Wastewater.** Segregation and treatment of solvent degreasing wastewater is necessary. Treatment is most often accomplished by off-site facilities.

Pollution Prevention, Recycling, and Water Conservation. Typical technologies include:

- Countercurrent cascade rinsing for flowing rinses
- Centrifugation and recycling of painting water curtains
- Centrifugation and pasteurization to extend the life of water-soluble machining coolants

Chemical Precipitation. This technology includes pH adjustment of wastewater with treatment chemicals to produce insoluble metal precipitates.

Gravity Settling. This technology involves the use of a clarifier for gravity settling of flocculated Metal precipitates.

**(b) Oily Waste Subcategory. EPA selected Option 6 for BAT, as defined below.**

Flow Control and Pollution Prevention. Technologies for the recovery/reuse of materials and water conservation, such as the following, must be implemented.

End-of-Pipe Chemical Emulsion Breaking. This technology includes the addition of chemicals such as acid, alum, and polymer to break the chemical emulsion.

Oil/Water Separation. Technologies must be employed for the effective separation of oil and water such as a gravity oil/water separator.

- Countercurrent cascade rinsing for all flowing rinses;
- Centrifugation and recycling of painting water curtains/ and
- Centrifugation and pasteurization to extend the life of water-soluble machining coolants.

**NOTE: Any industrial facility which has additional end-of-pipe treatment in place beyond what is described above (e.g., sand filtration, ion exchange, etc) is considered to have greater than EPA BAT treatment.**



## 6. POTW INHIBITION

If inhibition occurred at any of your POTWs with in the last 5 years, indicate to which type of “MP&M facility” it is attributed. If a single incident is due to multiple wastestreams, please indicate the percentage of responsibility for the inhibition attributed to each wastestream.

Electroplating Facilities/Metal Finishing Facility	_____
General Metals Facility –Categorical	_____
General Metals Facility – Non-Categorical	_____
Oily Waste Facility	_____

Please give a brief explanation of the problem and type of industrial discharge involved. [Attach additional sheets if necessary.]

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## 7. Biosolids Management

- A. Please complete the chart below to indicate how biosolids are managed at each POTW. The biosolids management techniques listed in the chart are described below. If more than one biosolids management technique applies, indicate the percentage of biosolids managed for each option.



**B. Why did this POTW choose not to “land apply” sewage biosolids?  
[Check all that apply.]**

- Land was not available for application of sewage biosolids
- Other biosolids use/disposal practices were less expensive than land application
- Sewage biosolids from this POTW did not meet one or more of the national land application sewage biosolids ceiling limits [from 40 CFR part 503] and cannot be land applied  
[Which one(s) did not meet?] \_\_\_\_\_
- Pathogen/vector reduction requirements could not be met at an acceptable cost
- Local regulations or opposition to land application
- OTHER



**C. Biosolids Characterization**

- (1) What percentage of your biosolids met the Land Application Pollutant Concentration Limits for every pollutant, and could be land applied without being subject to cumulative pollutant loading rates?  
\_\_\_\_\_
- (2) What percentage of your biosolids is under the Land Application Ceiling Limits, but over the Pollutant Concentration Limits for at least one parameter, and is therefore subject to cumulative pollutant loading rates? \_\_\_\_\_
- (3) Please provide the most recent analytical results for the Part 503 Metals for each POTW in the flow chart and indicate the year data obtained. Please include additional sheets if necessary.

Part 503 Metal	Part 503 Limit	POTW No. 1	POTW No. 2	POTW No. 3	POTW No. 4	POTW No. 5
Arsenic	75					
Cadmium	85					
Chromium	-					
Copper	4300					
Lead	840					
Mercury	57					
Molybdenum	75					
Nickel	420					
Selenium	100					
Zinc	7500					

Part 503 Metal	Part 503 Limit	POTW No. 6	POTW No. 7	POTW No. 8	POTW No. 9	POTW No. 10
Arsenic	75					
Cadmium	85					
Chromium	-					
Copper	4300					
Lead	840					
Mercury	57					
Molybdenum	75					
Nickel	420					
Selenium	100					
Zinc	7500					

## 8. Information to Project POTW Costs of MP&M Rule Implementation

### A. Estimate of MP&M Implementation and Successive Year Labor.

Please indicate in the following table of implementation activities the estimate of labor hours for both 1) implementing the MP&M rule and 2) annual or successive year labor hours following rule implementation. For sewer authorities with multiple POTWs, please provide the total labor hours for each activity for ALL POTWs.

Permitting Activity	Estimated Labor Hours	
	Implementation	Each Successive Year
Screening of Possible MP&M Facilities		
Guidance to Each Previous Unpermitted Facility		
Guidance to Each Currently Permitted Facility		
Issue Concentration-Based Permit		
Issue Mass-Based Permit for Unpermitted Facility		
Issue Mass-Based Permit at Facility Holding Concentration-Based Permit		
Conducting of All Public Hearings Required for New Permit Activity		
Inspect Each Facility for New Permit Development		
Compliance Related Activity Including Management of Self-Monitoring Data		
All Enforcement Related Activity		
Other Items		

Cost Items	Estimated Costs	
	Implementation	Each Successive Year
Analytical Costs		
Sampling Costs		
Other Administrative Oversight Costs		

- (1) Please indicate the average hourly raw labor rate for staff (non-management personnel); do not include indirect costs. \_\_\_\_\_
- (2) Please indicate the average hourly raw labor rate for All management personnel involved in industrial permitting and enforcement activity; do not include indirect costs. \_\_\_\_\_
- (3) Please indicate the mark-up factor on raw labor to account for all indirect costs, including overhead and benefits. \_\_\_\_\_
- (4) Please indicate the total estimated management labor hours for MP&M Rule: \_\_\_\_\_
- (5) Implementation \_\_\_\_\_ Successive Year \_\_\_\_\_

**B.** Some POTWs or sewer authorities may have difficulty in providing estimates for the above activities. While we strongly prefer an estimate of labor hours for the tabulated activities, we offer the alternative exercise of providing information on the most recent POTW industrial waste survey (IWS). Please provide the IWS information requested below.

How many hours did you spend on initial industrial waste survey activities during your last IWS? [Initial survey activities include: compiling master list (including names, addresses, phone numbers), retrieving water and sewer account numbers for all facilities on master list, reviewing water billing records, xeroxing IWS short form or IWS long form, mailing surveys, conducting telephone survey/initial screening, reviewing short/long forms]

(1) \_\_\_\_\_ HOURS

PLEASE DO NOT INCLUDE FOLLOW-UP SITE INSPECTIONS

- (2) How many facilities were on your initial master list? \_\_\_\_\_
- (3) How many new permits resulted from your last IWS? \_\_\_\_\_

**C. POTW Program Activities Beyond the Legally Mandated Minimum**

EPA assumed in their assessment of POTW administrative burden that POTWs perform only the minimum mandated requirements in their pretreatment programs. In reality, many, if not all, POTW Pretreatment Programs perform many activities at a greater frequency than legally mandated in order to effectively demonstrate compliance.

Included below is a list of those activities which are important to quantify pretreatment program effort beyond the federally mandated minimum. Please answer to the best of your knowledge and include any other cost items that have not been requested.

	Annual Frequency
Industry Sampling	_____
Sample Analytical	_____
Reports	_____
Inspection	_____
Enforcement	_____
Training	_____
Other	_____

Thank you for completing this survey. Please forward your completed survey to :

**Mr. Gary W. Martin**

**URS Corporation**

**263 Seaboard Lane, Suite 200**

**Franklin, TN 37067**

**Phone (615) 771-2480 Fax (615) 771-2459**

**e-mail [gary\\_martin@urscorp.com](mailto:gary_martin@urscorp.com)**

**Surveys must be submitted by May 23, 2001.**