

Identifying and Characterizing a Categorical Industrial User

Metal Finishing – 40 CFR 433
CWT – 40 CFR 437

Al Garcia

EPA Pretreatment Workshop

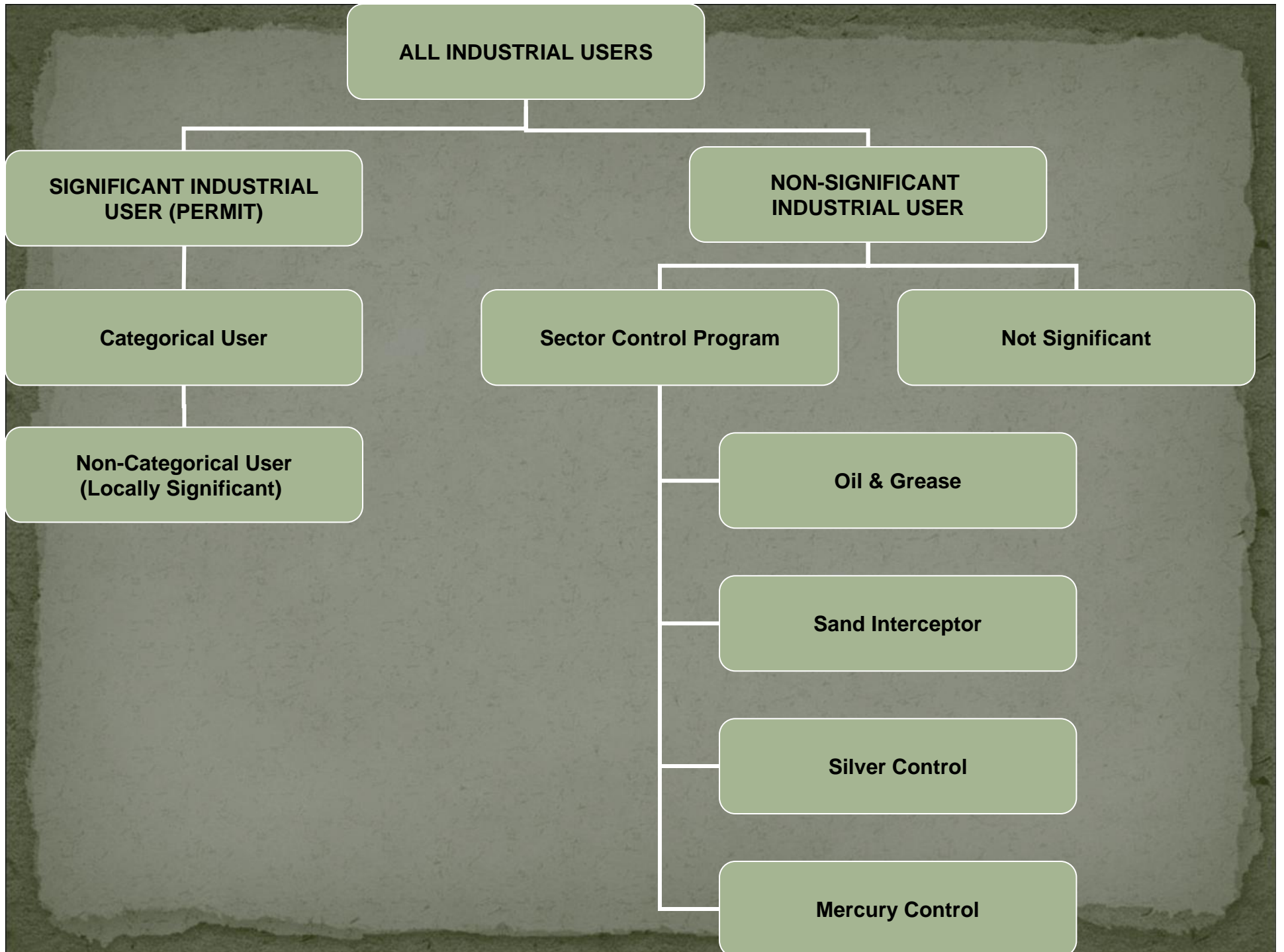
Cody, WY

May 13, 2009

Characterizing Industrial Users

Based on information and data gathered from:

- Industrial Waste Survey
- Facility Inspection
- Follow Up Activities
- Notification of IUs of applicable Pretreatment Standards or Requirements



Useful Tools for Characterizing CIUs

- Code of Federal Regulations
 - Metal Finishing – 40 CFR 433
 - Centralized Waste Treatment – 40 CFR 437
- <http://www.epa.gov/waterscience/guide/industry.html>
- Development Documents
- Preambles to proposed and final rulemaking
- Rulemaking response to comments
- Guidance Manuals
- Peer programs
- State and EPA Pretreatment Coordinators

Permitting Process

Statement of Basis

- Characterization of facility
 - Raw materials and storage
 - Process Use
 - Wastestreams Generation and Management
- Categorical Determination
- Permit Conditions and Limitations
 - Federal Regulations
 - Local Authority

Metal Finishing Categorical Regulations

40 CFR 433

- 6 core processes
 - Electroplating
 - Electroless Plating
 - Etching and Chemical Milling
 - Anodizing
 - Coating (chromating, phosphating, passivation, metal coloring)
 - Circuit Board MFG
- 40 ancillary operations

40 MF Ancillary Operations

- Cleaning,
- Machining,
- Grinding,
- Polishing,
- Tumbling,
- Burnishing,
- Impact Deformation,
- Pressure Deformation,
- Shearing,
- Heat Treating,
- Thermal Cutting,
- Welding,
- Brazing, Soldering,
- Flame Spraying,
- Sand Blasting,
- Other Abrasive Jet Machining,
- Electric Discharge Machining,
- Electrochemical Machining,
- Electron Beam Machining,
- Laser Beam Machining,
- Plasma Arc Machining,
- Ultrasonic Machining,
- Sintering, Laminating,
- Hot Dip Coating,
- Sputtering,
- Vapor Plating,
- Thermal Infusion,
- Salt Bath Descaling,
- Solvent Degreasing,
- Paint Stripping,
- Painting,
- Electrostatic Painting,
- Electropainting,
- Vacuum Metalizing,
- Assembly,
- Calibration,
- Testing, and
- Mechanical Plating.

Exemptions from MF Regulation

- Metallic plate making and gravure cylinder preparation conducted within or for printing and publishing facilities; and
- **Existing** indirect discharging job shops and independent printed circuit board manufacturers which are covered by 40 CFR part 413.
- **Aug 31, 1982**

MF Pollutants of Concern

- Heavy Metals
- pH
- Total Toxic Organics
 - Volatile and Semi-volatile Organics
- Cyanide (total and amenable)

Potential Facilities

- Machine Shops
- MFG facilities with painting operations
- Circuit Board Assembly and MFG
-
- Auto Dealerships
- Jewelry stores

Metal Finishing v Electroplating

Basis	Metal Finishing	Electroplating
Regulation	40 CFR 433	40 CFR 413
Applicability	<ul style="list-style-type: none">•Captive Shop MF•New Source Job Shops•August 31, 1982 –job shop platers and independent Circuit Board MFG	8 subparts
Limits	<ul style="list-style-type: none">•7 metals•Cyanide•TTO (TOMP)•pH	<ul style="list-style-type: none">•6 metals•Total metals (Cu, Ni, Cr, Zn)•Cyanide•pH•TTO (TOMP)
Long Term Average	Monthly	4-day

Chrome Plating

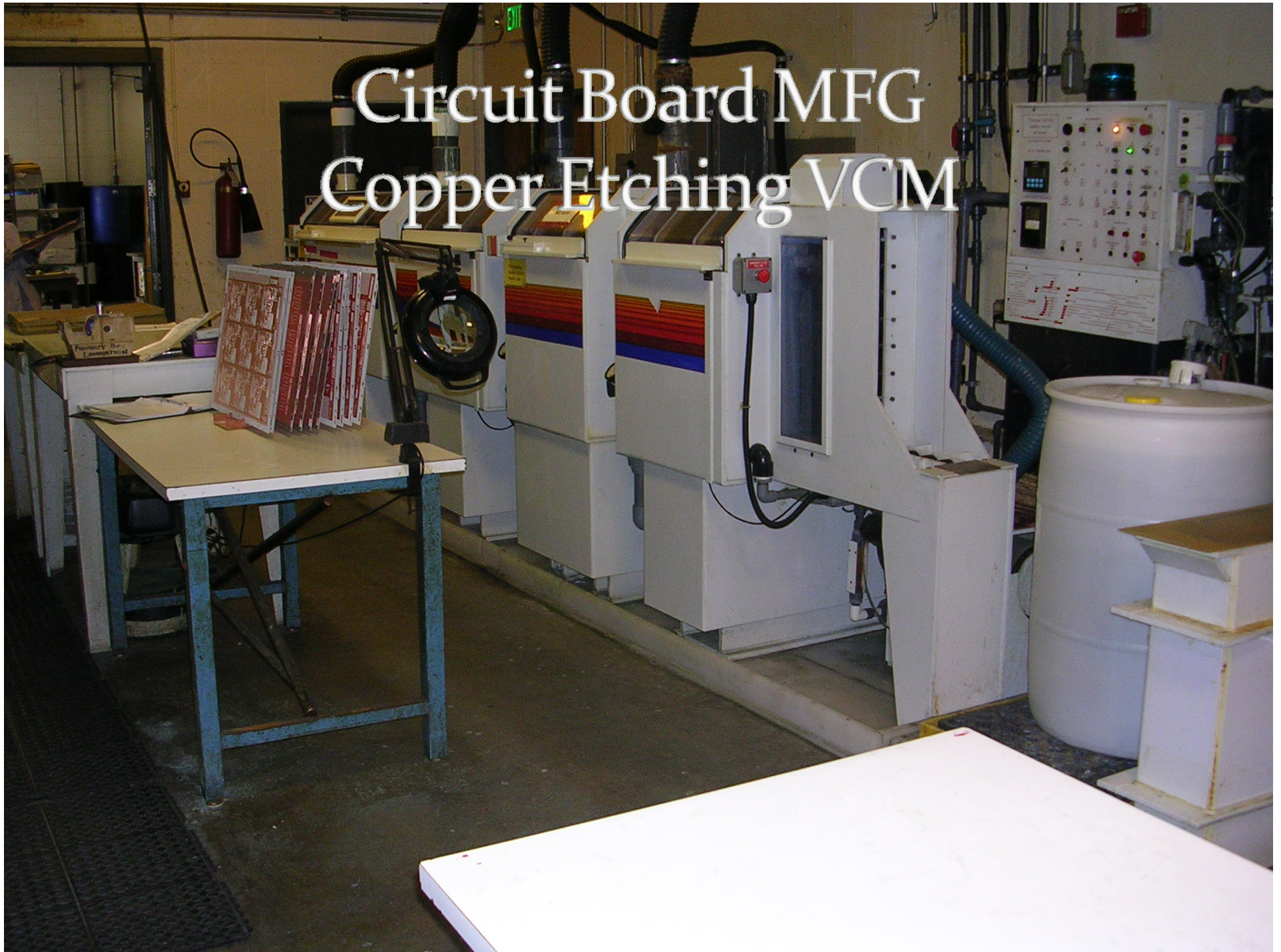
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Electroless Copper Plating



Circuit Board MFG

Copper Etching VCM



Slug Control



WARNING



TANK EQUIPMENT, INC.
(303) 457-0513

Treatment Technologies

TREATMENT

05.09.2007 14:08

Treatment Technologies

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Treatment Technologies

The image shows an industrial water treatment setting. In the foreground, a large white cylindrical tank is partially visible, with a yellow pipe running horizontally across it. To the left, there are several white plastic buckets, some labeled '50 LBS.' and 'TABLETS'. In the background, more tanks and mechanical equipment, including pumps and valves, are visible against a tiled wall. The overall scene is dimly lit, with some equipment appearing to be in operation.

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Treatment Technologies



EPA Documents

- *Metal Finishing Effluent Guidelines Home Page*

<http://www.epa.gov/waterscience/guide/metalfinishing>

- *Guidance Manual – Electroplating and MF*

<http://www.epa.gov/waterscience/guide/electroplating/files/guidance.pdf>

- *Development Document*

<http://www.epa.gov/waterscience/guide/electroplating/files/guidance.pdf>

Zero Discharge CIUs

- Categorical defined processes
 - Wastewater generation
- Wastewater Management
- Notification
- Certification
- Enforcement of permit violations

Centralized Waste Treatment

40 CFR 437

- Does the discharging facility accept wastes, wastewater, or used materials from off-site for treatment and/or recovery?
- Is the activity appropriately considered treatment and recovery?
- Are the off-site wastes generated from industrial applications?
- Are the types of pollutant removed and the treatment technologies employed similar to those evaluated during development of the CWT rule?
- Are resulting wastewaters discharged directly to waters of the U.S. or indirectly to a POTW?

Centralized Waste Treatment Facility

A facility that accepts for treatment (for disposal, recycling or recovery of material) any hazardous or non-hazardous industrial wastes, hazardous or non-hazardous industrial wastewater, and/or used material received from off-site.

Centralized Waste Treatment

Regulated Wastewaters

Materials received from off-site (waste receipts)
and wastewater generated from CWT
operations

Centralized Waste Treatment

Effluent Limitations and standards developed for the CWT operations depending on type of wastewater received (4 Subparts)

- Metals
- Oily
- Organic
- Mixed

Centralized Waste Treatment

- Categorical Limitations developed based on specific technologies.
- No specific treatment technology required
- Exception: Mixed Subcategory
 - Comply with each set of restrictions separately or,
 - Demonstrate equivalent treatment

Centralized Waste Treatment

Non-Regulated Process Operations

- **POTWs**
- Thermal Drying of POTW biosolids
- Sanitary/Toilet wastes
- Food Processing wastes
- Grease interceptors – not sand/oil
- Traditional Solvent Recovery
- Scrap Metal Recyclers
- Transfer Stations and Recycling Centers
- Product Stewardship

Centralized Waste Treatment

Regulated Wastewaters

- Listed wastes – *Handout 1*
- Characteristic Wastes-wastes from non-specific sources or not listed in Table 1
 1. OG greater than 100mg/L – **Oily Subpart**
 2. OG less than 100mg/L but metals greater than the 4 indicator metals – **Metals subpart**
 - Cadmium (Cd) – 0.2mg/L
 - Chromium (Cr) – 8.9mg/L
 - Copper (Cu) – 4.9 mg/L
 - Nickel (Ni) – 37.5 mg/L
 3. Any other wastes – **Organics Subpart**

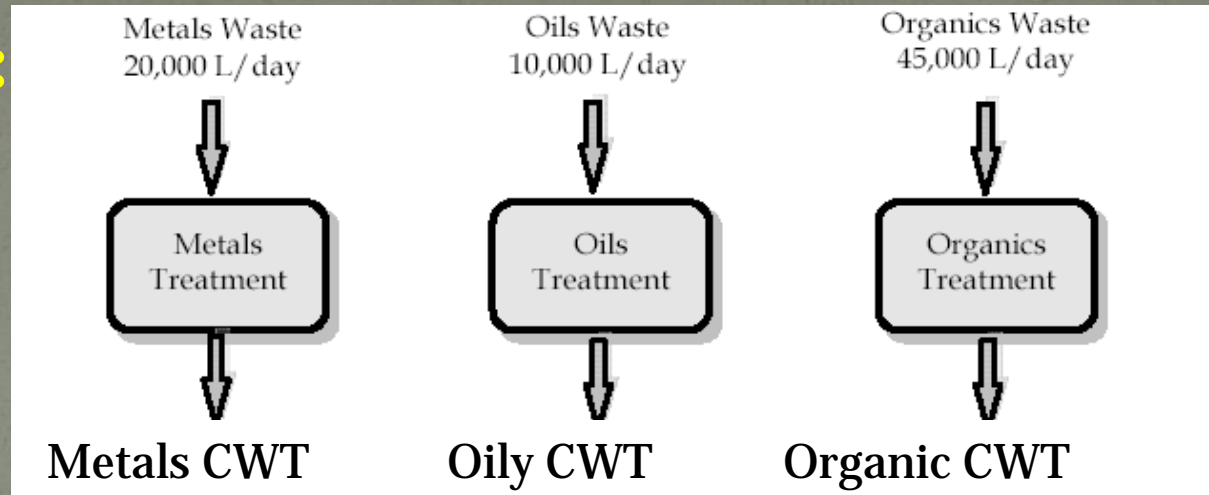
Centralized Waste Treatment

Mixed Subpart

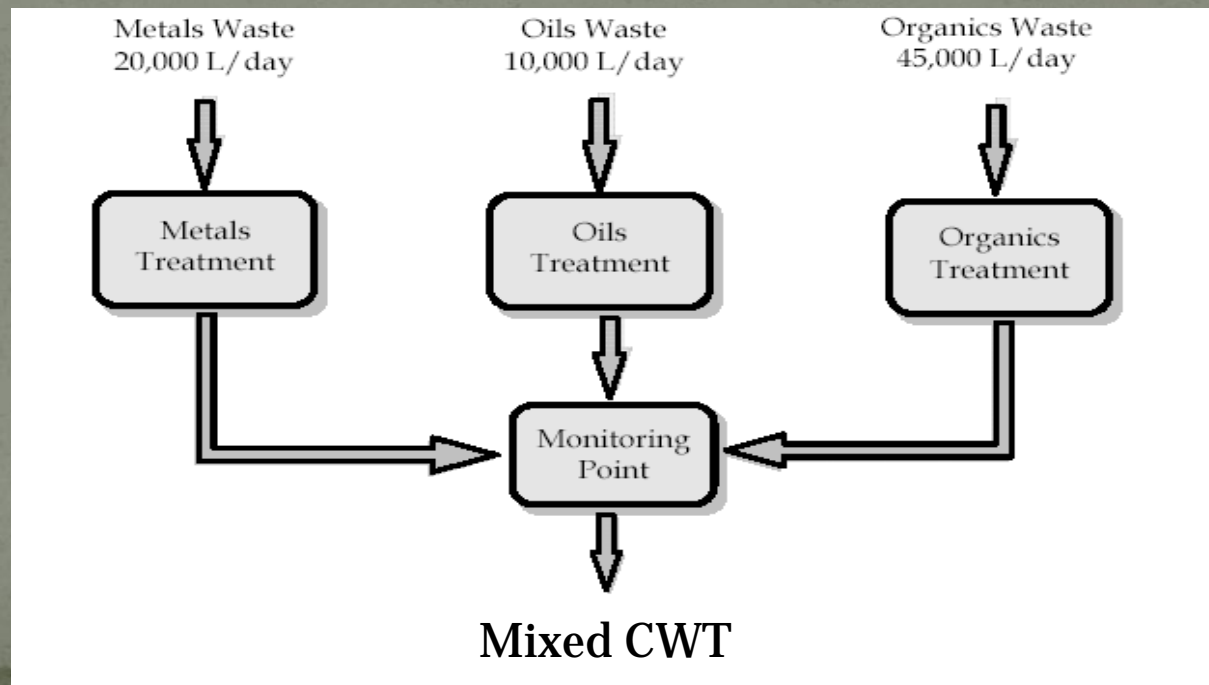
- Receipt of wastes from any combination of metal, oily, or organic subparts.
- Treatment options:
 - Segregate wastes
 - Commingle wastes – must demonstrate equivalent treatment

Mixed Subpart Options

Option 1:



Option 2:



Centralized Waste Treatment

Demonstrated for each applicable subpart

1. Submit an initial certification statement
 - Description of categorized wastes
 - Description of treatment technologies
 - Supporting data/information for equivalent treatment
2. Submit periodic certification statements
3. Maintain on-site compliance documentation

Centralized Waste Treatment

- CWTs are not typical – no product produced
- Only factor for sub categorization of the CWT industry is **type of waste received for treatment or recovery**
- CWT does not mandate specific treatment technologies
- Therefore, receipt of offsite wastewater determines if a facility is a CWT

EPA Documents

- *Small Entity Compliance Guide*

http://www.epa.gov/waterscience/guide/cwt/CWTcompliance_guide.pdf

- *Development Document*

<http://www.epa.gov/waterscience/guide/cwt/final/develop/index.html>

- *CWT Effluent Guidelines Home Page*

<http://www.epa.gov/waterscience/guide/cwt/>