NEW NAME, SAME GREAT SERVICE!
WHY THE CHANGE?

• 2014 WEF FORMAL NAME CHANGE

• MWEA AS A MEMBER ASSOCIATION TO WEF EMBRACED THE CHANGE

• GREATER FOCUS ON PRODUCTS AND BENEFITS OF TREATMENT REFLECTING CHANGING PARADIGM IN THE WATER SECTOR.

• GRWRRF IS UTILIZING ENERGY RECOVERY FROM FINAL EFFLUENT FOR BLDG. HVAC

• SOLAR POWER PROJECT ON THE WAY – RFB AND DEVELOPMENT MEETINGS
WHY THE CHANGE?

• EFFORTS TO RECOVERY NUTRIENTS AND PRODUCTS HAVING SIGNIFICANT VALUE ECONOMICALLY AND FINANCIALLY.
  • EXAMPLE – BIOSOLIDS TO ENERGY PRODUCING LANDFILL

• CHANGE HELPS TO UNDERSCORE THE IMPORTANT ROLE THE GRWRRF CONTRIBUTES TO A SUSTAINABLE ENVIRONMENT
Q. How old is your water?

A. Older than the sun.

The water we are using today is the same water present from the beginning of time. The hydrological cycle continuously cleans and replenishes the water on earth that we all share. Water is who we are. We don’t make it – we recover it.

Our name has changed name to the “Grand Rapids Water Resource Recovery Facility” and are still “not for profit” continuing robust programs to actively maintain and preserve infrastructure and investing in our environment. We forecast future needs while expanding, practicing and promoting responsible sustainability. We utilize leading edge technology to maximize recovery of water, nutrients and energy making significant contributions to a safer, healthy ecosystem.

Some of our programs include:

- Heating and cooling facility buildings with final effluent water energy
- LED lighting
- Recycle bio-solids
- Utilize final effluent water in facility operations
- Engaged in a significant solar project
- Take back pharmaceutical public program
- Rain gardens throughout the city
- “Biggest Loser” award winner for energy reduction
- Community supported partnerships on “green projects”
- Storm water management projects
FACTS AND FIGURES
GRWRRF OPERATES AND MAINTAINS:

- 54 SANITARY SEWAGE LIFT STATIONS
- 9 STORMWATER STATIONS
- 4 METER STATIONS
- 4 RAIN GAUGES
- 1,100 MILES OF SANITARY SEWER
- 23,347 SANITARY SEWER MANHOLES

- 383 MILES OF STORM SEWER
- 11,355 STORM SEWER MANHOLES
- 17,800 CATCH BASINS
- 7 AIR QUALITY MONITORS LOCATED THROUGHOUT WEST MICHIGAN WHICH ANALYZE ABOUT 50 PARAMETERS EACH.
DATA ON PERMITTED 413 AND 433 IU’S

413 and 433 data

- Past # of IU's
- 2016 # of IU's
- Parameter violations
- Reporting violations

ELECTROPLATERS METAL FINISHERS

- 6 4 3 1
- 52 29 19 4
DATA ON PERMITTED 413 IU'S

Electroplaters violation summary

2010 2011 2012 2013 2014 2015

parameters Reporting
DATA ON PERMITTED 433 IU’S

Metal Finishers violation summary

Parameters  Reporting

2010  2011  2012  2013  2014  2015
WRRF PLANT DATA

Average Total Pounds of metals (Cr, Cu, Ni, Zn) per Day

Fiscal Year

Influent Total
Final Effluent Total
Linear (Influent Total)
Linear (Final Effluent Total)
ELECTRONIC REPORTING

- 2010 FIRST MENTION OF ELECTRONIC REPORTING TO IU’S
- 2014 EPA CROMERR APPROVAL – 1ST IN THE NATION!
- 2015 CONTRACT SIGNED
- 2016 DEVELOPMENT HAS BEGUN!
- NOT THERE YET.
LINKO EXCHANGE

**PHASE 1 - MVP**

- **Jan 2016** Blueprint created
- **April 2016**
  - Development phase
  - 39 weeks
- **Jan 2017**
  - Phase 1 Complete and online

**Phase 2 – Additional Reports**

- **Jan 2017** Blueprint created
- **April 2017**
  - Development phase
  - 39 weeks
- **Oct 2017**
  - Phase 2 complete
LINKO EXCHANGE
PHASE 3

Oct 2017 Blueprint created
Jan 2018 Development Phase 26 weeks
July 2018 Phase 3 complete
ELECTRONIC REPORTING
PHASE 1

IU DATA ENTRY

Report submitted to Linko – COR created

Review OK

Report reviewed by IPP

Data imported into Linko database
ELECTRONIC REPORTING
PHASE 2

Contract Lab report

Linko Exchange but not submitted (only IU can submit reports)

Review by IU

Review OK

Report submitted to Linko – COR created

Data imported into Linko database

Database
PHASE 2
MORE FEATURES

LIMITED COMPLIANCE REVIEW PRIOR TO SUBMITTAL

Lab analysis results → Permit Limits → Compliance

Additional reports available for submission

• Permit application
• TOMP
• Slug Control Plan
• Accidental Discharge notification
PHASE 3
COMMUNICATIONS

IPP can send:
• Notifications
• Reminders
• Enforcement letters
• Permit renewal letters
• City analysis
• Invoice details

IU can send:
• Significant process changes
• Enforcement responses
• Official documents
REPORTING CHANGES

• KEEP QUARTERLY SAMPLING REQUIREMENTS BUT REMOVE QUARTERLY REPORTING
  • BASED ON COMPLIANCE HISTORY
  • MUST MEET REQUIREMENTS OF PERMIT:
    • 24 HOUR NOTIFICATION FOR EXCEEDANCES
      • MUST SEND LABORATORY REPORT WITH CERTIFICATION TO IPP IMMEDIATELY
    • 30 DAY RESAMPLING REQUIREMENTS
    • MONTHLY AND 4 DAY AVERAGES
    • MUST SUBMIT AVERAGE DAILY AND DAILY MAX FLOWS FOR EACH MONTH ON SEMIANNUAL REPORT
IMPORTANT.....

• FAILURE TO NOTIFY IPP WITHIN 24 HOURS IS A SEPARATE VIOLATION

• FAILURE TO PERFORM QUARTERLY SAMPLING RESULTS IN SNC

• SEMIANNUAL REPORT MUST INCLUDE (SEE PERMIT FOR FULL REQUIREMENTS!)
  • LABORATORY REPORTS FOR ALL SAMPLING IN REPORTING PERIOD
  • SIGNED CERTIFICATION STATEMENTS
  • MONTHLY FLOW INFORMATION
EPA 2014 EFFLUENT GUIDELINE PROGRAM PLAN

• PUBLISHED JULY 2015

• EPA TO CONDUCT PRELIMINARY STUDY OF METAL FINISHING INDUSTRY

• INVESTIGATE CHANGES IN METAL FINISHING CHEMISTRIES

Section 5—Continued Review of Select Industrial Categories

At the time the existing ELGs were developed, metal finishers used base metals such as aluminum, magnesium, iron, and tin. In addition to those metals, they are now using metals such as titanium, zirconium, vanadium, and also nanocomposites. Metal finishers are also employing alternative metal finishing processes and chemicals. These changes may introduce additional pollutants into metal finishing wastewater that EPA did not consider in the development of the 1983 Metal Finishing ELGs.
EPA regional pretreatment coordinators noted they have observed that smaller facilities, with smaller volumes of wastewater, can achieve zero discharge by implementing cost-effective alternatives. These alternatives include technologies such as evaporation tanks, which combined with storage and reuse, eliminate wastewater discharges. A 2008 study observed an increasing trend towards wastewater minimization practices during metal finishing operations at both small and large facilities throughout the industry (Chalmer, 2008). Larger facilities may use some of these practices, but because of the larger volumes of water used, they may not completely eliminate discharges. The extent of the use of the technologies identified in Table 5-11 is unknown.
5.1.3 Potential ELG Applicability Issues and Other Considerations

As part of the 2014 Annual Review, EPA discussed with regional EPA pretreatment coordinators any noticeable changes to the metal finishing industry over time and whether those changes may be impacting the POTW treatability of metal finishing wastewater. The regional pretreatment coordinators indicated that they have not encountered recent issues with POTW treatability of metal finishing wastewater; this includes issues involving nickel, chromium, and zinc, which were identified as pollutants of concern in the 2012 Annual Review (U.S. EPA, 2014a).
However, the regional pretreatment coordinators provided observations on issues arising from the implementation of the Metal Finishing ELGs. They noted some key topic areas for EPA’s consideration:

- **Misapplication of the limits in permit applications.** Unlike other metal-related industries (e.g., aluminum forming, iron and steel), the Metal Finishing ELGs are concentration-based and are easier to apply in wastewater permits than the production-based standards. As a result, the regional pretreatment coordinators have observed the application of the Metal Finishing ELGs for wastewater generated from operations that should be regulated by other ELGs. Additionally, the pretreatment coordinators noted that POTWs may still be implementing 40 CFR Part 413 pretreatment standards for metal finishing wastewater. Most metal finishing facilities should be covered by 40 CFR Part 433 pretreatment standards, not 40 CFR Part 413 standards. The scope of facilities still regulated under 40 CFR Part 413 should be limited to job shops and IPCB manufacturers that were considered existing at the time of the 1983 promulgation of the Metal Finishing ELGs.

- **Applicability of the 46 metal finishing unit operations.** The regional pretreatment coordinators also noted that there is uncertainty about the applicability of the existing ELGs and how to determine which of the 46 metal finishing operations listed in the 1983 Metal Finishing ELGs would apply to current industry practices, including:

  - Whether using acid for cleaning and preparing metal surfaces prior to metal finishing would constitute “acid cleaning” or “acid etching”;
Section 5—Continued Review of Select Industrial Categories

- When the use of phosphoric acid or chromic acid constitutes “cleaning” and when it is “conversion coating”;

- Whether the use of brighteners during cleaning would be considered “acid cleaning” or “bright dipping,” which is identified in the Metal Finishing ELGs as a form of etching; and

- How the rule applies to new processes and process chemistries.

New source criteria development. The Metal Finishing ELGs identify new sources as new sites that are discharging wastewater. Pretreatment coordinators suggested that additional guidance is needed to specify the criteria for identifying new sources. Existing facilities that develop new or revise existing processes question whether certain process changes classify them as new sources. Similarly, ACWA commented that a facility covered under the PSES for the Electroplating Category (40 CFR Part 413) may upgrade its plant incrementally, which makes it difficult to determine when the plant is a new source and subject to the Metal Finishing ELGs (40 CFR Part 433) (ACWA, 2013). Additionally, metal finishing operations have expanded to product markets that did not exist during the development of the ELGs. Pretreatment coordinators noted products such as solar panels and cell phone screens as newer metal finishing applications that require interpretation as to their applicability under the Metal Finishing ELGs.
EPA’s continued review of the Metal Finishing Category identified several topics that require further review:

- **Potential new pollutants of concern** not currently regulated, including transition metal coatings and nanoscale particles that are becoming more common in metal finishing operations.

- The characteristics of current metal finishing wastewater discharges, including:
  - The need for hexavalent chromium limits in addition to total chromium limits to explicitly limit the discharge of the more toxic form of chromium.
  - Treatment technologies available for metal finishing wastewater and the more stringent discharge concentrations these technologies can achieve.

- The prevalence of and the potential pollutants of concern associated with wastewater generated from the use of wet air pollution control devices, which may contribute additional pollutants to metal finishing wastewater.

- The need for clarifying descriptions of metal finishing operations listed in the ELGs to help permit writers properly apply the Metal Finishing ELGs, specifically:
  - Providing guidance to help distinguish between metal finishing operations, such as etching and chemical milling, acid cleaning, chemical conversion coating, and similar cases in which the same acid is used for different functions.
  - Clarifying how the Metal Finishing ELGs apply to current industry practices (i.e., practices that evolved after the promulgation of the Metal Finishing ELGs) that may use chemical alternatives (e.g., alternatives to hexavalent chromium, phosphate-free formulations) and are not specifically identified in the ELGs.
  - Clarifying applicability of the Metal Finishing ELGs to newer manufacturing operations that use metal finishing, such as solar panel manufacturing and cell phone manufacturing.

- **How advanced wastewater treatment technologies are used and the prevalence of zero discharge practices in the industry.**
### Appendix C - Categorical Limits

#### Title 40: Protection of Environment

#### PART 433—METAL FINISHING POINT SOURCE CATEGORY

**Subpart A - Metal finishing subcategory**

433.15  Pretreatment standards for existing sources (PSES).

<table>
<thead>
<tr>
<th>Pollutant or pollutant property</th>
<th>Maximum for any 1 day</th>
<th>Monthly average shall not exceed</th>
<th>Milligrams per liter (mg/l)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cadmium (T)</strong></td>
<td>0.69</td>
<td>0.26</td>
<td></td>
</tr>
<tr>
<td><strong>Chromium (T)</strong></td>
<td>2.77</td>
<td>1.71</td>
<td></td>
</tr>
<tr>
<td><strong>Copper (T)</strong></td>
<td>3.38</td>
<td>2.07</td>
<td></td>
</tr>
<tr>
<td><strong>Lead (T)</strong></td>
<td>0.69</td>
<td>0.43</td>
<td></td>
</tr>
<tr>
<td><strong>Nickel (T)</strong></td>
<td>3.98</td>
<td>2.38</td>
<td></td>
</tr>
<tr>
<td><strong>Silver (T)</strong></td>
<td>0.43</td>
<td>0.24</td>
<td></td>
</tr>
<tr>
<td><strong>Zinc (T)</strong></td>
<td>2.61</td>
<td>1.48</td>
<td></td>
</tr>
<tr>
<td><strong>Cyanide (T)</strong></td>
<td>1.20</td>
<td>0.65</td>
<td></td>
</tr>
<tr>
<td><strong>TTO</strong></td>
<td>2.13</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Appendix C – Categorical Limits

40 CFR part 413 Electroplating Point Source Category

**Subpart A – electroplating of Common Metals subcategory.**

<table>
<thead>
<tr>
<th>Pollutant or pollutant property</th>
<th>Maximum for any 1 day</th>
<th>Average of daily values for 4 consecutive monitoring days shall not exceed</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CN, T</strong></td>
<td>1.9</td>
<td>1.0</td>
</tr>
<tr>
<td><strong>Cu</strong></td>
<td>4.5</td>
<td>2.7</td>
</tr>
<tr>
<td><strong>Ni</strong></td>
<td>4.1</td>
<td>2.6</td>
</tr>
<tr>
<td><strong>Cr</strong></td>
<td>7.0</td>
<td>4.0</td>
</tr>
<tr>
<td><strong>Zn</strong></td>
<td>4.2</td>
<td>2.6</td>
</tr>
<tr>
<td><strong>Pb</strong></td>
<td>.6</td>
<td>.4</td>
</tr>
<tr>
<td><strong>Cd</strong></td>
<td>1.2</td>
<td>.7</td>
</tr>
<tr>
<td><strong>Total metals</strong></td>
<td>10.5</td>
<td>6.8</td>
</tr>
</tbody>
</table>
NASF COMMENT – NOV 17, 2014

• REVISIONS OF ELG’S ARE NOT NECESSARY

• NASF MET WITH EPA

• POTW’S MAY IMPOSE MORE STRINGENT LOCAL LIMITS
  • HEX CHROME (DAILY 0.72)
THANK YOU FOR YOUR TIME

• QUESTIONS ?