

MERCURY MINIMIZATION— Where Is The Best Effort?

Mercury Switch Informational
Meeting

June 1, 2005

Why Is A Wastewater Utility Involved With Mercury?

- NPDES Permit requirement
- System is a logical collection point
- Industrial Pretreatment Program monitors and controls toxics
- Technical staff is knowledgeable and committed to waste control and reduction activities

How Does A Wastewater Utility Collect and Remove Mercury (Hg)?

- Collection System
 - Residential Waste
 - Industrial Waste
 - Commercial Waste
 - Trucked Wastes (Septage/Porta-Potty/Grease Trap Waste)
 - Stormwater (Sometimes)

How Does A Wastewater Utility Collect and Remove Mercury (Hg)?

- Treatment System
 - Screening
 - Grit Removal
 - Settling/Floatation (Solids/FOG's)
 - Biological/Chemical Nutrient Removal
 - Disinfection
 - Discharge (Surface Water/Ground Water)

How Does A Wastewater Utility Collect and Remove Mercury (Hg)?

- Process Control System
 - Process Sampling and Monitoring
 - Influent/Effluent Monitoring
 - Biosolids Monitoring

How Does A Wastewater Utility Collect and Remove Mercury (Hg)?

- Management and Administration
 - NPDES Permit Requirements/Reporting
 - Local Sewer Use Ordinance
 - Industrial Pretreatment Program
 - Residuals Management Program
 - Recordkeeping and Reporting

What Does A Wastewater Utility Produce?

- Clean Water
 - Michigan Water Quality Standards
 - NPDES Permit
 - Local Sewer Use Ordinance
 - Industrial Pretreatment Program
 - Industrial Self-Monitoring

What Does A Wastewater Utility Produce?

- Biosolids and Landfill Materials
 - NPDES Permit
 - Local Sewer Use Ordinance
 - Industrial Pretreatment Program
 - Residuals Management Program
 - Fats, Oils, and Greases Control

Why Is Mercury An Issue?

- Water Impacts (Plant Discharge)
- Land Impacts (Biosolids Disposal)
- Air Impacts (Odors, Emissions)
- Process Impacts (Biological Systems)
- Human Impacts (Staff and Visitors)

Where Does Mercury Come From in a Wastewater Plant?

- Human Waste (75%)
 - Urine and Feces
 - Household Materials Disposal
- Industrial Wastes (13-15%)
- Dentists (13-15%)
- Process Chemicals
- Laboratory Equipment/Operations

How Do You Monitor It?

- Influent
 - Required Limit—200 ppt
- Effluent
 - Required Limit—2.3 ppt
 - Detection level requires “clean room” techniques
- Biosolids

Why Is Grand Rapids Involved with the Mercury Switch Project?

- It's Cost Effective
- It's Good Customer Service
- It's Good Regional Leadership
- It's Good Industry Practice
- **WE ALL BENEFIT!!**