

Mining for Gold in RCRA

Opportunities in Hazardous Waste Management

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Potential Golden Nuggets

Regulatory Exemptions

- Totally Enclosed Treatment Systems
- Elementary Neutralization

Abbreviated Permits

- Solvent Distillation Systems
- Abbreviated Permit for Silver Recovery Units
- Hazardous Waste Treatment in Tanks

Other

- Total Metal Analysis vs. TCLP Analysis
- SPCC Plan for Hazardous Matter
- Minimization of Labpacking
- MEDEP's Spent Wiper Policy
- Central Accumulation Facility for Universal Waste

First, consider these suggestions...

- When looking at alternatives – read regulations carefully
- Seek assistance from those who have experience
- Be weary of vendors promising nirvana
- Remember, not all exemptions allowed by EPA are allowed by the MEDEP

Golden Nugget No. 1: Totally Enclosed Treatment System (TETS)

Purpose: To treat hazardous waste (HW) on site without a permit

Regulatory requirements:

- Meet EPA's definition of TETS 40 CFR 260.10(a)
- Follow EPA's Regulatory Clarification on TETS (see handout)

Advantages:

- No permit required / Not counted against HW gen. rate
- Reduce HW shipped offsite / Achieve HW reduction goals
- Reduce long term HW liability

Disadvantages:

- TETS must be connected to process generating waste
- Treatment system must be totally enclosed

Golden Nugget No. 2: Elementary Neutralization

Purpose: To neutralize HW on site without obtaining a permit

For neutralizing up to 500 ml of laboratory HW

Regulatory requirements:

- MEDEP Chapter 856(6)(G)
- Corrosivity characteristic only

For neutralizing more than 500 ml of HW in Elem. Neutralization Unit

Regulatory requirements:

- MEDEP Chapter 856(6)(I)
- Corrosivity characteristic only
- Neutralization conducted in tank, tank system or container
- Included in SPCC Plan for Hazardous Matter
- Wastewater TP (POTW) must agree to receive treated effluent or
- Effluent is discharged to a licensed wastewater treatment system

Golden Nugget No. 2: Elementary Neutralization (cont.)

Advantages:

- Reduces quantity of HW shipped offsite and associated costs
- Helps in achieving HW reduction goals
- No HW waste treatment permit or permitting fees required
- Reduces long term liability associated with HW
- HW generated not counted against hospital's generator status
- No HW closure required upon termination of operations

Disadvantages:

- Only applies to waste having a corrosivity characteristic
- Periodic inspections of process and safety equipment required

Golden Nugget No. 3: Solvent Distillation Unit

Purpose: To distill waste solvents and reuse on site

Regulatory requirements:

- Abbreviated permit for beneficial reuse on site (Ch. 856 (11)(a)(4))
- Permit processing time by MEDEP – 1 to 3 months

Advantages:

- Reduce HW shipped offsite / Achieve HW reduction goals
- Purchase less virgin solvent and reuse on site
- Reduced long term HW liability

Disadvantages:

- No impact on generation rate / reuse solvent within 90 days
- Requires application, fee and annual permit fee

Golden Nugget No. 4: Abbreviated Permit for Silver Recovery System

Purpose: To recover silver from photographic developing operations

Regulatory requirements:

- Abbr. permit for precious metal recovery on site (Ch. 856 (11)(a)(9))
- Permit processing time by MEDEP – 1 to 3 months

Advantages:

- Reduce HW shipped offsite / Reduced long term HW liability
- Receive money for reclaimed silver / Achieve HW reduction goals
- Some silver recovery cartridges pass the TCLP test for silver

Disadvantages:

- No impact on hospital's HW generation rate / Periodic testing
- Requires application, fee and annual permit fee
- HW closure required upon termination of operations

Golden Nugget No. 5: Hazardous Waste Treatment in Tanks

Purpose: Treat HW on site in tanks

Regulatory requirements:

- Abbr. permit for treatment in tanks (CH 856(11)(A)(11) and 855(9)(D))
- EPA ID Number required
- Periodic inspections of process and safety equipment required
- Record quantity of HW treated

Advantages:

- Reduces HW shipped offsite / Achieve HW reduction goals
- Reduces long term liability / More than corrosivity characteristic

Disadvantages:

- Against HW generator status / Application, fee and annual fee
- Annual testing required / HW closure required upon termination

Golden Nugget No. 6: Total Metals (TM) Analysis vs. TCLP Analysis

Purpose: To save on analytical costs when analyzing wastes

Example of Potential Savings: 8 RCRA total metals (TM) = \$140
8 RCRA metals TCLP = \$250

Guidelines:

- Analyze as a last resort
- Analyze for TM analysis when sample contains less than 0.5% solids
- Analyze for TM analysis when sample is solid and conc. of heavy metals is suspected to be small
- Divide conc. of TM analysis by 20 and compare to TCLP limits
- Use as a screening tool when low metal conc. are suspect
- Can also be applied to volatiles (save: \$120/sample) and semivolatiles (save: \$100/sample)

Golden Nugget No. 7: Spill Prevention Control and Clean-up Plan for Hazardous Matter (HM)

Purpose: To qualify for reduced spill reporting requirements

Regulatory requirements:

- MEDEP Chapter 800(4)(a)(1)
- List of HM found in 40 CFR 117.3
- Without plan all spills of HM must be reported

Advantages:

- Report HM spills exceeding RQ or spilled outside scope of plan
- Avoid **costly** fines for not reporting
- Incorporate into Hazardous Waste Contingency Plan

Disadvantages:

- All qualified HM must be listed in plan
- Annual emergency response agreements are required

Golden Nugget No. 8: Minimization of Lab Packing

Purpose: Reduce HW disposal costs by bulking compatible waste and minimizing the use of lab packs

Regulatory requirements:

- Package safely with compatible waste in compatible containers
- Should be performed by qualified and experienced waste disposal contractor who is familiar with types of waste generated

Advantages:

- Significantly reduces packaging, manifesting and disposal costs

Disadvantages:

- Must track itemized waste for HW reduction goals
- Accurate identification of each waste stream is required
- Increased hazard of combining incompatible waste

Golden Nugget No. 9: MEDEP's Spent Wiper Policy

Purpose: To reduce generation of HW wipers and to reuse wipers

Regulatory requirements:

- Follow MEDEP's Guidance (see handout) for F-listed wipers
- Must document P2 options have been fully examined:
 - Physical cleaning methods; vacuuming and dry wiping; using alternative non F-listed solvents
- Manage in clear poly bags and/or inside containers allowing visual inspection
- Bags and/or containers must be marked identifying contents and full date
- Wipers must be non saturated
- Requirements for on-site and off-site laundry cleaners

Golden Nugget No. 9: MEDEP's Spent Wiper Policy (cont.)

Advantages:

- Manage wipers contaminated with F-listed solvents as non HW
- Wipers do not count against hospital's HW generator status

Disadvantages:

- Does not apply to wipers used to clean up HW spills
- Does not apply to wipers having HW characteristics

Golden Nugget No. 10: Central Accumulation Facility (CAF) for Universal Waste (UW)

Purpose: For multiple sites, ship and collect all UW on one site

Regulatory requirements:

- MEDEP Chapter 850(3)(A)(13)
- Register with MEDEP (if storing <5,000 kg on site)
- EPA ID Number (if storing >5,000 kg on site)
- Use log form (for SUWG or CAF) or Universal Bill of Lading when shipping to in-state CAF or consolidation facility
- Cannot ship PCB ballasts or residues from mercury spill kits
- Hospitals who self-transport follow Section 11 of Chapter 853

Advantages:

- Reduces transportation costs associated with UW Transporter
- Makes each shipment more economically feasible to recycle
- Request in-state consolidation facility to maintain cert. of recycling and file quarterly reports to the MEDEP

In Summary

- Significant savings can be realized with proper knowledge of state and federal HW regulations
- Use regulatory exemptions and abbreviated permits to your advantage
- Most savings are cumulative
- Not all exemptions allowed by the EPA are allowed by the MEDEP

Any Questions or Comments?

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