Inspecting Companies that Claim the Closed-Loop Recycling Exemption
OVERVIEW OF THE REGULATORY ISSUES ASSOCIATED WITH THE CLOSED LOOP LOOP EXEMPTION
Your Presenter for Part One

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RCRA Terminology 101: From Secondary Materials to Hazardous Waste

• 40 CFR 261.2 defines “solid” waste, etc.
• To be a hazardous waste, a waste must first meet the definition of a “solid waste.”
• Materials that may or may not be a “solid waste” are referred to as “secondary materials.”
• Thus, there is a spectrum of regulatory status:
  ○ Secondary Material → Solid Waste → Hazardous Waste
  ○ Can also think of it in terms of a Venn Diagram.
• Types of secondary materials: spent materials, sludges, by-products, commercial chemical products, and scrap metal.
What is the “Closed Loop Exemption”?

- Term sometimes used in the general sense.
- Specific exemption: 40 CFR 261.4(a)(8).
- The following are not a solid waste:
  “Secondary materials that are reclaimed and returned to the original process or processes in which they were generated where they are reused in the production process provided:
  (i) Only tank storage is involved, and the entire process, through completion of reclamation is closed by being entirely connected with pipes or other comparable means of conveyance;
  (ii) Reclamation does not involve controlled flame combustion (such as occurs in boilers, industrial furnaces, or incinerators);
(iii) The secondary materials are never accumulated in such tanks for over twelve months without being reclaimed; and,
(iv) The reclaimed material is not used to produce a fuel, or used to produce products that are used in a manner constituting disposal.
Closed Loop Eligibility Criteria

- **All** the following criteria must be met:
  1. Must be “reclaimed” – see definition in 40 CFR 261.2.
  2. “Returned to the original process in which they were generated” and “reused in the production process.”
  3. “Only tank storage is involved.”
  4. “Entire process ... is closed ... by being entirely connected with pipes or other means of conveyance.”
  5. No combustion (of the secondary material).
  6. No storage > 12 months w/o reclamation (Spec. Accum).
  7. Cannot be used to produce a fuel.
  8. Cannot be used in products applied to the land (UCD).
History and Intent of the Provision

  - Discussed in pages 25441 - 25443 of final rule preamble.
  - EPA added it in response to comments that many existing closed loop tank systems would be pulled into the new tank rules – “tens of thousands” of tanks.
  - Only other option for these tanks was to obtain a variance under 40 CFR 260.31(b).
  - EPA felt that tanks meeting the closed loop criteria met the variance standards and should be exempt by rule.
  - Part of production process; not a waste management activity.
Clarifications in Final Rule Preamble

- **Acceptable uses of reclaimed material:**
  - As a feedstock.
  - As a purifying agent to remove contaminants from feedstock.
  - Other **production-related** purposes (e.g., a reaction medium to dissolve chemicals or a chemical reactant).

- **Does not have to return to the same unit operation from which it was generated, but must go back to the same part of the process.**

- “Production process” = directly relates to manufacturing or other primary operations of the site.
  - Does not include ancillary or secondary activities.
Clarifications in Final Rule Preamble (Cont.)

- Closed-loop reuse of dry-cleaning solvent can qualify for the exemption because cleaning is the primary purpose of the operation.
- Materials used to clean equipment (e.g., solvents returned and reused as degreasers) would not qualify because not part of the production process.
- Pipes are not the only acceptable means of conveyance, but any other means must be closed.
- Tanks need not be closed-topped.
- Despite the exemption, closed loop processes can still generate a HW (e.g. dry cleaning still bottoms).
EPA Interpretations Since Promulgation

**Numerous documents on RCRA On-Line:**

- Dry cleaning machines that continuously recycle cleaning solvent meet the closed loop exemption (RO 12732).
- “Production process” means activities that tie directly into the manufacturing operation or that are primary to the operation of the establishment (RO 12788).
- If a portion of the original secondary material is discarded rather than being returned to the process, only the portion that is returned to the process is exempt (RO 13239).
- Exemption does not apply to materials that are trucked because such conveyance is not “closed” (RO 11468).
More documents from RCRA On-Line:

- Exemption does not apply to oil being returned to a refinery where it will be used as a fuel (RO 11732).
- Although the exemption does not prohibit the use of open-topped tanks, the exemption may not apply to such tanks if their use results in loss or damage of product (e.g., vaporization, exposure to dust, weather) (RO 13591).
- Catalyst that is reclaimed and returned to the production process for reuse could qualify for the exemption because it contributes directly to the production process (RO 13715).
- If some of the recovered product cannot be returned to the production process, the exemption is voided (RO 14089).
Documentation of Claims – 40 CFR 261.2(f)

- Applies to “Respondents in actions to enforce Subtitle C of RCRA…”
- Persons claiming a material is not a solid waste or is conditionally exempt from regulation must be able to:
  - Demonstrate there is a known “market or disposition” for the material;
  - Show that they meet the terms of the exclusion or exemption;
  - Provide appropriate documentation to demonstrate the material is not a solid waste or is exempt from regulation;
  - Show they have the necessary equipment to recycle/reclaim the materials.
Similar Exemptions to Closed-Loop

- Use/Reuse Exemption.
  - 40 CFR 261.2(e) [a material-based exemption]

- Totally-Enclosed Treatment Facility Exemption.
  - 40 CFR 264.1(g)(5), etc. [a unit-based exemption]

- Wastewater Treatment Unit Exemption (unit-based).
  - 40 CFR 264.1(g)(6), etc. [a unit-based exemption]

- Recycling Exemption (permit-based).
  - 40 CFR 261.6(b) & (c) [a permit-based exemption]

- Generator Treatment in Accumulation Tanks & Ctrs.
  - 40 CFR 262.34(a) – (d) [a permit-based exemption]

- One or more of the above may apply in some cases.
CASE STUDIES INVOLVING THE CLOSED LOOP EXEMPTION
Your Presenter for Part Two

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Case Study #1: Freeport McMoran Copper & Gold ("FMC&G")

- Copper wire manufacturer – inspected in 2013.
- Rinse water containing sulfuric acid and copper (from a copper rod pickling process) was being processed on-site to reclaim copper, acid, and water.
- This rinse water would be a characteristic hazardous waste if not otherwise exempt/excluded from HW regulation.
Company did not consider this material to be a solid waste (“SW”)

- Claimed rinse water was a “primary feedstock” for their industrial process - not a “secondary material.”
- Company did not agree that “closed loop” exemption needed to be applied, but indicated that they met all the 40 CFR 261.4(a)(8) eligibility criteria.

CT DEEP reviewed the company’s process flow to determine if the process satisfied the criteria for the closed loop exemption.
Conclusions

- CTDEEP could not agree with the company’s regulatory position that rinsewater was a production process feedstock in and of itself.
- However, we found that the closed-loop recycling exclusion criteria were being met. No enforcement action resulted from the regulatory differences.
- However:
  - CT DEEP position was reiterated to the company in writing.
  - If the closed loop exclusion criteria are no longer met the material may need to be managed as a SW/HW.
  - Company must document claims per 261.2(f).
Case Study #2: PTI, Inc.

- Aerospace parts manufacturer – inspected in 2009.
- Inspection found HW process waters (acidic/metal bearing) were being treated on-site for reuse at the facility - “Process Water Reclaim System.”
  - Resulted from discontinuation of a permitted WWTS.
  - Process water neutralization, evaporation, condensation, H₂O return to process.
  - System originally designed to reuse rinse water in their Acid Rinse Process.
  - Use shifted to fume scrubber, chrome vents, floor washes, tank washes (due to a customer specification).
Case Study #2, Cont.

- HW treatment would require a permit if treatment not otherwise excluded/exempt.
- Initial claim - process waters going to Process Water Reclaim System not “discarded material.”
  - However, initial engineer/designer no longer with the company.
- CTDEEP requested documentation of claims per 40 CFR 261.2(f).
- Secondary claim (by contracted consultant/engineer)
  - Believed system might meet Totally Enclosed Treatment Facility criteria.
CT DEEP Evaluation of Process

- System appeared to be relatively “tight” (closed).
- CT DEEP considered that closed loop exemption might apply (even though the company didn’t claim it).
- Some questions/concerns raised with respect to the “totally enclosed” standards.
- Company reevaluates system and considers other options.
- Company choose to reactivate a WWTS, subpart J tank used in interim to store waste waters.
Questions?