Tanning Salons and Other Improper Lamp Disposal Cases in Connecticut

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Solid Waste Advisory Committee
Case Background

- On-site disposal of fluorescent lamps

- Sectors
  - Research labs, medical offices, property management firms, schools, tanning salons, lamp manufacturers

- Commonalities
  - Disposal of significant quantities
  - Disposal occurred over a duration of time
  - Disposal resulted in lamp breakage

- Improper lamp disposal as primary violation
- Most often inspection stemmed from a complaint
- Violations addressed through formal enforcement action
In addition to recognizing the federal Universal Waste Rules for managing waste lamps:

- **RCSA Section 22a-209-17** *(Mercury-containing Lamps)*
  - CT solid waste regulation
  - Requires compliance with **40 CFR 273** when managing lamps that contain any amount of mercury
Characteristics of Mercury

- Mercury is a heavy metal that can accumulate in living tissue.

- Exposure to mercury, when released into the environment through spills or incineration, can be toxic to humans and wildlife, or cause other health effects such as neurological and reproductive disorders.

- Once released to the environment, mercury is persistent and can take on different forms.
  - Elemental mercury breaks into smaller droplets which can go through small cracks and/or become strongly attached to certain materials. At room temperature, exposed elemental mercury can evaporate to become an invisible, odorless toxic vapor. If heated, it is a colorless, odorless gas.
Tanning Salon: Case Synopsis

- Small business chain operating in CT

- Locations operate out of strip shopping centers

- Each salon averages 15 - 17 beds, 30 - 50 lamps per bed

- Low & high pressure lamps - low pressure lamps 6’ in length ranging from 80 - 160 watts exceeding the sun’s natural intensity of the UV spectrum by 2-5 times.

- Generation rate: approximately 18 lamps per month (per salon)

- Very Small Quantity Generator
Tanning Salon: Case Synopsis

- Informed via anonymous complaint
  - Breaking tanning lamps and bulbs in the dumpster behind the building

- DEEP inspection found evidence of broken lamps in dumpster
  - On-going practice since salon’s establishment
  - Dumpster leased, after mixing with MSW stream, incineration at CT trash to energy plant
  - Common aggregation point for 3,000 lamps/year
Tanning Salon: Resolution

- Lamps tested, results for mercury < TCLP
- Dumpster decontaminated at cost of $5,000 to company
- Consent Order
  - $11,800 penalty
  - Lamp management plan (all locations)
  - Mercury investigation & cleanup
  - Business recycling profile (all locations)
- Compliance representative of this business sector?...
- Responsibilities of solid waste transporters?...
Other Lamps Disposal Cases

- **Specialty textile manufacturer**
  - Several hundred lamps disposed in on-site trash compactor
  - “Green-tip”
  - Decontamination & assurance by wipe-sampling
  - CO: $19,150 penalty, lamp management plan, mercury investigation

- **Laboratory**
  - Decontamination & assurance by air monitoring
  - CO: $14,700 penalty, lamp management plan, mercury investigation

- **Outpatient surgery center**
  - Couple hundred lamps disposed in on-site trash dumpster, property management firm
  - CO: $6,600 penalty, lamp management plan, mercury investigation
  - “Background” mercury levels
Other Lamps Disposal Cases

• **Trade school**
  • Couple hundred lamps disposed in on-site, shared dumpster
  • Several in-state campus locations
  • CO: $4,550 penalty, lamp management plan (all campuses), mercury investigation & cleanup, SEP

• **Energy auditor**
  • Outdoor storage of boxed lamps awaiting pick-up for disposal
  • Spill response
  • CO: $20,630 penalty, lamp management plan (new location)
Other Lamps Disposal Cases

- Lamp manufacturer
  - Pre-dates Universal Waste Regulations and state specific regulation regarding mercury-containing lamps
  - Potentially several thousand pounds of off-spec lamps disposed in on-site trash dumpster over years
  - Dedicated dumpster, to be taken out of service at end of active life
  - CO: $75,000 penalty, Mercury investigation & remediation
  - Repeat violations in 2007

- Lamp manufacturer
  - Same timeframe, similar findings - multiple sites
  - Spill response - elemental mercury visible
  - Widespread mercury contamination requiring remediation, multi-media
  - Permanent injunction, penalty, cost recovery > $1M
Final thoughts...

- Knowledge of non-compliance via complaints
- Compliance sectors: Businesses with multiple locations & heavy lighting needs
- “Green-tip” bulb education
- Wipe samples v. air monitoring
- Mercury “background” levels
- Potential presence of lead and barium?
- Encourage education through generator training forums, website publications, SEPs, ... other?
Questions?

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