



Connecticut Department of Energy and Environmental Protection



Tanning Salons and Other Improper Lamp Disposal Cases in Connecticut

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Presented by: Michelle Gore, CT DEEP
Solid Waste Advisory Committee



Connecticut Department of Energy and Environmental Protection

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



Regulatory Background

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?



Michelle Gore, Sanitary Engineer 3
Bureau of Materials Management & Compliance Assurance
Waste Engineering & Enforcement Division

michelle.gore@ct.gov

(860) 424 - 4160



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