Connecticut Department of Energy and Environmental Protection

Connecticut Department of
ENERGY &
ENVIRONMENTAL
PROTECTION

LDR - Impermissible Dilution

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40 CFR 268.3 - Dilution Prohibition

Summary:

- No generator, transporter, handler, or owner or operator of a treatment, storage, or disposal facility shall in anyway dilute a restricted waste or the residual from treatment of a restricted waste as a substitute for adequate treatment to achieve compliance with the LDR treatment standards.

- Helpful Background Documents/Excerpts/US EPA Contact

- May 23, 1994, RO 13673: “dilution of wastes by the addition of other hazardous wastes or any other materials during waste handling, transportation, treatment or storage is not an acceptable method of treatment to reduce the concentration of hazardous constituents.”

- 55 FR 22532 (June 1, 1990): “The most obvious is when solid wastes are added to a prohibited waste to reduce concentrations but not volumes of hazardous constituents, or to mask their presence.”

- Elaine Eby @ Eby.Elaine@Epa.gov

July 2019 Dilution Event

Clean Harbors of Connecticut Inc.

HW (@ 500# lead and chrome bearing solids) treated (stabilization) in “Mix-Tub” for purposes of achieving acceptable LDR concentrations prior to land disposal of the waste.

July 23, 2019

8:26 am - 2,000# of NHW offloaded into Mix-Tub

10:15 am - @500# of HW (lead& chrome) added to Mix-Tub. Combined wastes (@2,500#) treated with @2,500# of treatment reagents (ferrous sulfate and Portland cement)

Sample taken to confirm treatment effectiveness

- July 24, 2019
- The contents of the Mix-Tub from treatment on activities conducted July 23, 2019, were transferred to Roll-off #CHRT24248, which already contained @ 30,000 of NHW solids
- Analytical received indicating waste treatment on July 23, 2019, was unsuccessful (received after combination of treated waste and NHW solids)

- July 25, 2019
- Based on the analytical results received on the July 24, 2019, the total contents of Roll-Off#CHRT24248 was transferred back into the Mix-Tub to further treat the comingled waste in an attempt to meet the LDR treatment standards. @ 5,200# of treatment reagents were added to Mix-Tub (Cement & Lime)
- Sample was taken and materials transferred back into Roll-OffCHRT24248

- July 26, 2019
- Analytical results received for waste treated in Mix-Tub on July 25, 2019.
- Results indicate second treatment attempt was unsuccessful with respect to meeting required LDR standards for lead

- July 31, 2019
- Based on the July 26, 2019, analytical results the previously treated waste (twice) contained in Roll-Off #CHRT24248 was transferred back into the Mix-Tub to attempt a third treatment of the material.
- @4,025# cement & @6,000# added to Mix-Tub as treatment reagents – mixed/treated & 3rd sample taken

- August 2, 2019

- Analytical results for wastes treated for third time on July 31, 2019, indicate that the lead concentrations were below the LDR standards.
- Treated waste was shipped off-site as NHW on August 8, 2019

- Weight Summaries:
- 500# of HW treated (solid HW - lead/chrome)

- Ended up being mixed with:
- 45,800# of NHW solids (32,000# and 13,800# treatment reagents)

- Conclusions:

- Relatively small amount of HW mixed with large amounts on NHW and treatment reagents = prohibited dilution & not waste minimization
- Treatment results not obtained prior to mixing treated waste with large amounts of NHW (*still failed)
- Write prescriptive Permit conditions to avoid debate

Company argued not dilution – not intentional

Questions?

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