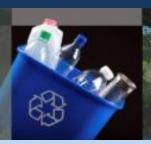
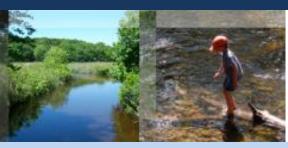


Connecticut Department of Energy and Environmental Protection











LDR - Impermissible Dilution

September 13, 2022 Paul Franson



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 <u>not</u> 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)

ample 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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