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TWO MINUTE TRAINING

TO: CH2M HILL PLATEAU REMEDIATION COMPANY

FROM: PAUL W. MARTIN, RCRA Subject Matter Expert
CHPRC Environmental Protection, Hanford, WA

SUBJECT: RCRA AND NEW POINT OF GENERATION

DATE: MAY 21, 2020

<u>CHPRC Projects</u>	<u>CH PRC - Env. Protection</u>	<u>MSA</u>	<u>Hanford Laboratories</u>	<u>Other Hanford Contractors</u>	<u>Other Hanford Contractors</u>
Richard Austin Tania Bates Rene Catlow Richard Clinton Larry Cole Laura Cusack John Dent Lorna Dittmer Stuart Hildreth Mike Jennings Stephanie Johansen Sasa Kosjerina Melvin Lakes Richard Lipinski Stuart Mortensen Dave Richards Phil Sheely Connie Simiele Jeff Westcott	Jeff Bramson Bob Bullock Frank Carleo Danielle Collins Bill Cox Jeanne Elkins Ryan Fisher Jonathan Fullmer Barry Lawrence Diane Leist Mitch Marrott Stewart McMahand Brian Mitcheltree Anthony Nagel Linda Petersen Sean Sexton Dave Shea Kat Thompson Wayne Toebe Eric Trotta Daniel Turlington Dave Watson	Brett Barnes Michael Carlson Mike Demiter Kip George Jerry Cammann Jeff Ehlis Garin Erickson Panfilo Gonzalez Jr. Dashia Huff Mark Kamberg Jon McKibben Saul Martinez Matt Mills Carly Nelson Michelle Oates Eric Pennala Jon Perry Christina Robison Christian Seavoy David Shaw John Skogleie Lana Strickling Greg Sullivan	(TBD) <u>DOE RL, ORP, WIPP</u> Mary Beth Burandt Duane Carter Al Farabee Tony McKarns	Bill Bachmann Dean Baker Scott Baker Lucinda Borneman Paul Crane Tina Crane Ron Del Mar John Dorian Mark Ellefson Darrin Faulk Rob Gregory James Hamilton Andy Hobbs Ryan Johnson Megan Lerchen Mike Lowery Michael Madison Terri Mars Cary Martin Grant McCalmant Steve Metzger Tony Miskho Tom Moon Chuck Mulkey Kirk Peterson	Dan Saueressig Joelle Moss Glen Triner Greg Varljen Julie Waddoups Jay Warwick Ted Wooley

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TWO MINUTE TRAINING

SUBJECT: RCRA and New Point of Generation

Q: (This will be a “Read it once; read it twice; then read it real slow”, Two Minute Training so hang on!)

A RCRA hazardous waste Treatment, Storage and Disposal (TSD) incinerator treats a D002 characteristic hazardous waste with one underlying hazardous constituent (UHC) for acetone that is above the universal treatment standard (UTS) at [40 CFR 268.48](#). Other heavy metal UHCs are also present in this wastestream but at levels less than the UTS so do not require treatment. Following incineration, the original wastestream meets the land disposal restrictions (LDR) treatment standards for the D002 characteristic (deactivation) and the acetone UHC (treat wastewater to less than 0.28 mg/l). The treatment residual exhibits no characteristics; however, the heavy metal UHCs that previously did not require treatment have been concentrated by the incineration process and now exceed their respective universal treatment standards. Must the TSD treat the incinerator ash for the UHCs that now exceed UTS?

A: The incinerator ash is a new point of generation since a fully treated residual has been generated. No treatment for the UHCs in the incinerator ash is required unless a characteristic is exhibited. However, since the ash does not exhibit any characteristics of hazardous waste, the TSD is not required to treat any UHCs, even if the UHCs now exceed UTS. If the incinerator ash did exhibit a new characteristic, e.g., a heavy metal such as D008 for lead, then any UHCs reasonably expected to exceed the UTS levels would require treatment. Note that if the incinerator process had not treated the D002 characteristic due to a malfunction, the treatment residual would not be a new point of generation since all required treatment was not completed. The partially treated D002 residual would be considered an intermediate step in the treatment of the D002 since more treatment would be required to address the characteristic and the acetone UHC. Intermediate-step treatment residuals are not newly generated hazardous wastes for LDR purposes.

As semi-clarified in the May 11, 1999 Federal Register ([64 FR 25408](#)) on page 25411:

“Under [Sec. 268.2\(i\)](#), the only UHCs that must be treated and that must meet the Universal Treatment Standards (UTS) are those determined to be present above UTS levels in the original waste—either via testing or generator knowledge. Because the treatment process results in non-hazardous residuals, the treatment facility is not responsible for additional testing to determine if any different underlying hazardous constituents are added or created during the treatment process itself. Furthermore, only the original UHCs must meet the UTS.”

Therefore, once the TSD has treated the original wastestream to meet all LDR treatment standards (D002 and the acetone UHC) the TSD in this scenario is not required to treat any UHCs in the treated residual.

SUMMARY:

- A treatment residual that meets the all the original LDR treatment standards, is a new point of generation.
- If the treatment residual at this new point of generation has met all the original LDR treatment standards, and does not exhibit any characteristics, no further LDR determinations or treatment are required.
- If the treatment residual at this new point of generation has met all the original LDR treatment standards, and does exhibit any characteristics, LDR determinations and applicable treatment of UHCs are required.

Excerpts from the May 11, 1999 Federal Register and EPA Waste Analysis Plan guidance are attached to the e-mail. If you have any questions, please contact me at [Paul W. Martin@rl.gov](mailto:Paul_W_Martin@rl.gov) or at (509) 376-6620.

FROM: Paul W. Martin

DATE: 5/21/2020

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TWO MINUTE TRAINING – ATTACHMENT

SUBJECT: RCRA and New Point of Generation

Waste Analysis at Facilities that Generate, Treat, Store, and Dispose of Hazardous Wastes, [EPA 530-R-12-001, April 2015](#)

LDRs: Underlying Hazardous Constituents

Applicability of UHCs to Treatment Residuals

Generators of characteristic hazardous wastes are required to identify any and all underlying hazardous constituents reasonably expected to be present above their concentration-based levels (see Table in 268.48) at the point of generation. Thus, metal constituents that did not qualify as UHCs in the original waste are concentrated to above UTS levels during treatment, treaters are not expressly required to further treat the residuals such that those metal constituents meet UTS levels. If, however, the residual exhibits a characteristic due to a new property (e.g., concentrated metals now exceed one or more of the constituent-specific Toxicity Characteristic thresholds), residuals exiting the treatment unit would be considered a new point of generation and the full suite of UHCs must be reconsidered and identified, as appropriate. **See 64 FR 25411 (May 11, 1999) for additional clarification.**

25411 Federal Register / Vol. 64, No. 90 / Tuesday, May 11, 1999 / Rules and Regulations

The Agency has received several inquiries concerning treating TC metal wastes and the potential for finding underlying hazardous constituents at levels above the UTS in the treatment residuals that were either not present in the waste prior to treatment or may have been present but only at levels below the UTS. This would occur, for example, if the treatment process is such that certain underlying hazardous constituents (UHCs) might be more concentrated in treatment residuals than in the original waste.

Two illustrative scenarios are useful. The first involves a D007 chromium waste that is incinerated. Trace quantities of lead are present in the original waste, but at levels below the UTS (thus, lead is not a UHC under 40 CFR Sec. 268.2(i)). The resulting ash is no longer characteristic for chromium, but lead is now present at levels above the UTS. The second involves a D008 lead wastewater that contains no underlying hazardous constituents as generated, but that is treated with dithiocarbamate, a metal precipitating agent. Dithiocarbamate is also a hazardous constituent that appears on the list of potential UHCs in Sec. 268.48. The dithiocarbamate assists the stabilization of the lead but, after treatment, is present at levels above the UTS in the treatment residuals.

In both of these cases, the treatment residuals (ash and sludge) demonstrate that the original waste is decharacterized. **Under Sec. 268.2(i), the only UHCs that must be treated and that must meet the Universal Treatment Standards (UTS) are those determined to be present above UTS levels in the original waste—either via testing or generator knowledge. Because the treatment process results in non-hazardous residuals, the treatment facility is not responsible for additional testing to determine if any different underlying hazardous constituents are added or created during the treatment process itself. Furthermore, only the original UHCs must meet the UTS.**

However, if in either case the treatment residual is also characteristic by having constituents that are not only above the UTS level but also above the TC level, then the residual is a newly-generated hazardous waste for LDR purposes. This result is consistent with the definition of generator at Sec. 260.10: “Generator means any person, by site, whose act or process produces hazardous waste identified or listed in part 261 * * * ” The result is also consistent with the key LDR principle that hazardous wastes must meet LDR treatment standards to minimize threats before the wastes are land disposed. See, e.g., *Chemical Waste Management v. EPA*, 976 F. 2d 2, 16-18 (D.C. Cir. 1992) (treatment must include treatment for both characteristic property and for underlying hazardous constituents). For these reasons, the Agency regards generation of a new characteristic treatment residual as being a new point of generation for LDR purposes. This newly-formed hazardous waste would have to be treated to below the characteristic, and any underlying hazardous constituents would have to be treated to below their UTS levels.¹

¹ This analysis is consistent with the so-called change of treatability group principle first stated at 55 FR at 22661, col. 2 (June 1, 1990). That principle states that LDR prohibitions remain attached to the initial waste as long as the waste remains within the same treatability group (normally wastewater or nonwastewater). Thus, if a characteristic wastewater is treated and a non-wastewater sludge is generated from the treatment process, the prohibition for the wastewater does not automatically apply to the sludge. *Id.* The situation discussed in the text above, however, involves the status for this hypothetical sludge if it itself exhibits a characteristic of hazardous waste. EPA views such a characteristic sludge as being newly generated for LDR purposes.

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TWO MINUTE TRAINING – ATTACHMENT

SUBJECT: RCRA and New Point of Generation

25412 Federal Register / Vol. 64, No. 90 / Tuesday, May 11, 1999 / Rules and Regulations

Thus, in the first scenario above regarding a decharacterized waste with lead in the ash, if the lead is present in the ash at or above TC levels (i.e., a new D008 waste has been generated), the lead must be treated to UTS levels. Furthermore, the treater has generated the new hazardous waste for LDR purposes and is responsible for a new determination of UHCs that are present and that require treatment to UTS levels. The same is true in the second example if the dithiocarbamate treatment sludge is characteristic.

EPA notes further, however, that in determining whether a treatment process has generated a new hazardous waste for LDR purposes, the Agency looks to the entire treatment process, not to each component part. In general, as explained below, the determination of whether a new hazardous waste is generated—i.e., whether a new point of generation for LDR purposes is created—is made at the completion of the treatment process. Thus:

(i) For residuals that are the end product of a one-step treatment process or the end product of a treatment train, the treater has the obligation to ensure only that the original UHCs meet UTS standards and that the treatment residuals are not themselves characteristic. If a treatment residual in this scenario does not meet the treatment standards for the original characteristic (i.e., when treatment is ineffective or incomplete) and requires further treatment, EPA does not consider the treatment residual to be newly generated for LDR purposes. Such a treatment residual, however, cannot be land disposed until it meets the treatment standard applicable to the original waste. This situation would normally involve re-treating the waste residuals on-site. Any UHCs added or created by the treatment process are not required to be treated because there is no new point of generation for LDR purposes. However, as noted above, if the treatment residuals are themselves characteristic due to a new property (for example, the formerly characteristic chromium D007 waste is now characteristic only for D008 lead), then the treater must make a new determination of the UHCs present—either through knowledge or additional testing. This is the same obligation that attaches to any generator of a hazardous waste.

(ii) For treatment residuals that appear only at intermediate steps of a treatment train, there is no obligation to determine UHCs or to determine whether the residual is itself characteristic. Intermediate-step treatment residuals are not newly generated hazardous wastes for LDR purposes. Thus, even when an intermediate treatment residual is sent off-site for further treatment (such as incinerator ash going offsite for stabilization and landfilling), our current regulations at Sec. 268.7(b)(5) require only that the UHCs identified at the LDR point of generation be identified. There is no such requirement for any new UHCs that may be added or created during the preceding steps of the treatment process.

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DATE: 5/21/2020

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