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1320.	Treated Hazardous Waste Used as Dust Suppressant	FEB 28, 2019
1321.	Decharacterized RCRA Waste - Manifesting and LDR Reporting	ENCORE MAR 7, 2019
1322.	Decharacterized Hazardous Waste Listed Solely for Non-Toxic Characteristics	ENCORE MAR 14, 2019
1323.	Decharacterized Wastes, ≤90-Day Accumulation Time Limits and LDR Storage Prohibition	ENCORE MAR 21, 2019
1324.	Decharacterized Wastes and the LDR Dilution Prohibition	ENCORE MAR 28, 2019
1325.	PCB Decontamination Standard with No Decontamination Performed	ENCORE APR 4, 2019
1326.	PCB Manifest Relief a.k.a., When is a PCB Manifest Not Required?	ENCORE APR 11, 2019
1327.	PCB Manifest Relief a.k.a., When is a PCB Manifest Not Required? – The Sequel	ENCORE APR 18, 2019
1328.	PCB Concentrations and Micrograms per Centimeters Squared (µg/cm <sup>2</sup> )	ENCORE APR 25, 2019
1329.	Operating Record vs. Operating Log	ENCORE MAY 2, 2019
1330.	Operating Records Not Referenced in the “Operating Record” Regulations	ENCORE MAY 9, 2019
1331.	Washington State Used Oil and Mixtures with Other Materials	ENCORE MAY 16, 2019
1332.	Used Oil Filter Regulation – The Feds vs. Washington State	ENCORE MAY 23, 2019
1333.	Printed Circuit Board Recycling – Shredded vs. Whole	ENCORE MAY 30, 2019
1334.	Universal Waste Alkaline Batteries and Self-Transportation	ENCORE JUN 6, 2019
1335.	Universal Waste Lithium Batteries and Self-Transportation	ENCORE JUN 13, 2019
1336.	RCRA Hazard Labeling – A Random Scenario	ENCORE JUN 20, 2019
1337.	Regulatory Status of Chromated, Copper, Arsenate, (CCA) Wood as Wood Mulch	ENCORE JUN 27, 2019
1338.	Unused Paraformaldehyde - U Listed Hazardous Waste or Not?	ENCORE JUL 3, 2019
1339.	The Hazardous Waste Characteristic of Reactivity (D003)	ENCORE JUL 11, 2019
1340.	Central Accumulation Areas and Signage Requirements	ENCORE JUL 18, 2019
1341.	RCRA EPA Identification Numbers – Site Specifics	ENCORE JUL 25, 2019
1342.	RCRA EPA Identification Numbers – Transporters	ENCORE AUG 1, 2019
1343.	Paint Wastes and the Applicability of the F001-F005 Listings to Ingredients	ENCORE AUG 8, 2019
1344.	F Listings and Ingredients in Commercial Chemical Product Formulations	ENCORE AUG 15, 2019
1345.	PCB Containers and ≥50 ppm	ENCORE AUG 22, 2019
1346.	CERCLA Hazardous Substances – The Petroleum Exclusion	ENCORE AUG 29, 2019
1347.	PCB Concentration Assumptions for Use vs. PCB Disposal	ENCORE SEP 5, 2019
1348.	RCRA LR One-Year Storage Prohibition vs., PCB One-Year Disposal Time Limit	ENCORE SEP 12, 2019
1349.	Regulatory Status of PCB Remediation Wastes Disposed Prior to April 18, 1978	ENCORE SEP 19, 2019
1350.	Regulatory Status of PCB Remediation Wastes Disposed Prior to April 18, 1978 – A Follow-Up	ENCORE SEP 26, 2019
1351.	PCB Waste Regulation and April 18, 1978 vs. July 2, 1979	ENCORE OCT 3, 2019
1352.	PCB Waste Storage Limitations and the One-Year Extension	ENCORE OCT 10, 2019
1353.	PCB Waste Storage Limitations and the PCB Radioactive Waste Exemption	ENCORE OCT 17, 2019
1354.	LDR One-Year Storage Prohibition and Generator Permitted Storage	ENCORE OCT 24, 2019
1355.	LDR Notification/Certification and Generator Permitted Storage	ENCORE OCT 31, 2019
1356.	Disposing of PCB Ballasts with PCB Potting Material	ENCORE NOV 7, 2019
1357.	Fluorescent Light Ballasts and PCB Annual Reporting	ENCORE NOV 14, 2019
1358.	Multiple Characteristic Hazardous Waste Codes and Underlying Hazardous Constituents	ENCORE NOV 21, 2019
1359.	Multiple Characteristic and Listed Hazardous Waste Codes and the “in lieu of” LDR Principle	ENCORE NOV 26, 2019

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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:** Multiple Characteristic and Listed Hazardous Waste Codes and the “in lieu of” LDR Principle

**DATE:** NOVEMBER 26, 2019

<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>
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## TWO MINUTE TRAINING

**SUBJECT:** Multiple Characteristic and Listed Hazardous Waste Codes and the “in lieu of” LDR Principle

**Q:** Last week’s Two Minute Training (2MT) referenced the “in lieu of” principle, which apparently determines when the land disposal restrictions (LDR) treatment standards for listed hazardous waste codes will take precedence over certain characteristic waste codes. Please elaborate.

**A:** [40 CFR 268.9](#) basically states that if a hazardous waste is both listed (F, K, U, or P) and characteristic (D001 through D043), the waste must be treated to meet the land disposal restriction (LDR) treatment standard for each hazardous waste code. The exception is when the treatment standards for the listed waste code specifically address the treatment standard for the constituent that causes the waste to exhibit the characteristic. Then, the treatment standard for the listed waste code will override, i.e., operate in lieu of, the treatment standard for the characteristic waste code.

As an example, a customer generates a wastewater treatment sludge from chrome electroplating. The applicable listed hazardous waste code is F006. Due to the presence of chrome, the waste also exhibits the characteristic for chromium, D007. Per [40 CFR 268.40](#), the F006 waste code has LDR treatment standards for cadmium, chromium, lead, nickel, silver, and cyanides. The D007 waste code has LDR treatment standards for chromium. Since the D007 chromium constituent is specifically addressed in the F006 LDR treatment standards, there is no need to include the D007 characteristic waste code. On the other hand, if the F006 sludge exhibited the characteristic of mercury, the D009 waste code would apply since F006 does not include a specific LDR treatment standard to address mercury.

Also note that if this F006 listed hazardous waste exhibited the characteristics of ignitability (D001), corrosivity (D002) or reactivity (D003), any of those codes could continue to apply since these “ICR” waste codes generally have specified technology treatment standards e.g., CMBST, DEACT, and not specific constituent treatment standards. The only exception is D003 and the “Reactive Cyanides Subcategory” which includes a specific constituent treatment standard for cyanide (590 mg/kg for total cyanides and 30 mg/kg for amenable cyanides). Since F006 also includes the same LDR treatment standards for cyanides, the F006 would override the D003 waste codes – in that specific case. All other D003 subcategories with LDR treatment standards of “DEACT” or “DEACT and meet 268.48 standards”, are not addressed by the F006 treatment standards and so in those cases, the D003 waste code would also apply.

### SUMMARY:

- The “in lieu of” principle means that in certain cases, the listed hazardous waste code treatment standard will override a characteristic hazardous waste code treatment standard.
- This principle only applies if the treatment standards are specifically addressed in both the listed and characteristic hazardous waste codes.
- F006 and D007 both have treatment standards for “chromium” so the F006 hazardous waste code overrides the D007 hazardous waste code.

Excerpts from 40 CFR 268.9 are attached to the e-mail. If you have any questions, contact me at [Paul W. Martin@rl.gov](mailto:Paul.W.Martin@rl.gov) or at (509) 376-6620.

FROM: Paul W. Martin

DATE: 11/26/19

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## TWO MINUTE TRAINING – ATTACHMENT

**SUBJECT:** Multiple Characteristic and Listed Hazardous Waste Codes and the “in lieu of” LDR Principle

### 40 CFR §268.9 Special rules regarding wastes that exhibit a characteristic

(a) The initial generator of a solid waste must determine each EPA Hazardous Waste Number (waste code) applicable to the waste in order to determine the applicable treatment standards under subpart D of this part. This determination may be made concurrently with the hazardous waste determination required in §262.11 of this chapter. For purposes of part 268, the waste will carry the waste code for any applicable listed waste (40 CFR part 261, subpart D). In addition, where the waste exhibits a characteristic, the waste will carry one or more of the characteristic waste codes (40 CFR part 261, subpart C), except when the treatment standard for the listed waste operates in lieu of the treatment standard for the characteristic waste, as specified in paragraph (b) of this section. If the generator determines that their waste displays a hazardous characteristic (and is not D001 nonwastewaters treated by CMBST, RORGS, OR POLYM of §268.42, Table 1), the generator must determine the underlying hazardous constituents (as defined at §268.2(i)) in the characteristic waste.

(b) Where a prohibited waste is both listed under 40 CFR part 261, subpart D and exhibits a characteristic under 40 CFR part 261, subpart C, the treatment standard for the waste code listed in 40 CFR part 261, subpart D will operate in lieu of the standard for the waste code under 40 CFR part 261, subpart C, provided that the treatment standard for the listed waste includes a treatment standard for the constituent that causes the waste to exhibit the characteristic. Otherwise, the waste must meet the treatment standards for all applicable listed and characteristic waste codes.

(c) In addition to any applicable standards determined from the initial point of generation, no prohibited waste which exhibits a characteristic under 40 CFR part 261, subpart C may be land disposed unless the waste complies with the treatment standards under subpart D of this part.

(d) Wastes that exhibit a characteristic are also subject to §268.7 requirements, except that once the waste is no longer hazardous, a one-time notification and certification must be placed in the generator's or treater's on-site files. The notification and certification must be updated if the process or operation generating the waste changes and/or if the subtitle D facility receiving the waste changes.

(1) The notification must include the following information:

(i) Name and address of the RCRA Subtitle D facility receiving the waste shipment; and

(ii) A description of the waste as initially generated, including the applicable EPA hazardous waste code(s), treatability group(s), and underlying hazardous constituents (as defined in §268.2(i)), unless the waste will be treated and monitored for all underlying hazardous constituents. If all underlying hazardous constituents will be treated and monitored, there is no requirement to list any of the underlying hazardous constituents on the notice.

(2) The certification must be signed by an authorized representative and must state the language found in §268.7(b)(4).

(i) If treatment removes the characteristic but does not meet standards applicable to underlying hazardous constituents, then the certification found in §268.7(b)(4)(iv) applies.

(ii) [Reserved]