

<u>SUBJECT</u>		<u>DATE</u>
1188.	RCRA Empty Containers vs. TSCA PCB Decontaminated Containers - Scenario II	ENCORE AUG 11, 2016
1189.	RCRA Empty Containers vs. TSCA PCB Decontaminated Containers - Scenario III	ENCORE AUG 18, 2016
1190.	Product Spills and Waste Determinations	ENCORE AUG 25, 2016
1191.	Product Spills, Waste Determinations, and LDR	ENCORE SEP 1, 2016
1192.	Regulatory Status of Caustic Rinse Waters Contaminated with Trace Solvents	ENCORE SEP 8, 2016
1193.	Regulatory Status of Sand Blast Grit Contaminated with Trace Listed Solvents	ENCORE SEP 15, 2016
1194.	Hazardous Waste "F" Listings and Trace Contamination	ENCORE SEP 22, 2016
1195.	Hazardous Waste "F" Listings and Trace Contamination – Again!	ENCORE SEP 29, 2016
1196.	Hazardous Waste Determinations and Phase Separation	ENCORE OCT 6, 2016
1197.	Asbestos and DOT Relief	ENCORE OCT 13, 2016
1198.	PCB Containers and Concentration of PCBs	ENCORE OCT 20, 2016
1199.	PCB Analytical Waste Disposal Requirements	ENCORE OCT 27, 2016
1200.	PCB Analytical Waste Disposal Requirements – Water vs. Organic Liquids and Non-aqueous Inorganic Liquids	ENCORE NOV 3, 2016
1201.	Listed Waste Codes and Pre-RCRA Wastes	ENCORE NOV 10, 2016
1202.	Purpose of the ≤90-day Hazardous Waste Accumulation Exemption	ENCORE NOV 17, 2016
1203.	Used Oil Eligibility for Turkey and Ham Oils	ENCORE NOV 23, 2016
1204.	PCB Reporting and Recordkeeping Relief	ENCORE DEC 1, 2016
1205.	Defining Criteria for Household Waste Exclusion	ENCORE DEC 8, 2016
1206.	The Household Waste Exclusion and Renovation Debris	ENCORE DEC 15, 2016
1207.	'Twas the Night before Christmas – The Twenty-Fourth Annual Edition	ENCORE DEC 24, 2016
1208.	The Household Waste Exclusion and Renovation Debris – Part II	ENCORE DEC 29, 2016
1209.	Absorbent Additions and Treatment	ENCORE JAN 5, 2017
1210.	Frozen RCRA Wastewater - DOT Liquid or Solid When Manifested?	ENCORE JAN 12, 2017
1211.	DOT Marking Specifications for the "UN", "NA" and "ID" Markings	ENCORE JAN 19, 2017
1212.	Satellite Accumulation within a ≤90-day Accumulation Area	ENCORE JAN 26, 2017
1213.	Washington State-Only Dangerous Waste Markings – Accumulation vs. Pre-Transport	ENCORE FEB 2, 2017
1214.	RCRA Empty Tanker Trailers and Listed Waste Codes	ENCORE FEB 9, 2017
1215.	RCRA Empty vs. DOT Empty	ENCORE FEB 16, 2017
1216.	RCRA Empty vs. DOT Empty II	ENCORE FEB 23, 2017
1217.	Multiple Characteristic Hazardous Waste Codes and Underlying Hazardous Constituents	ENCORE MAR 2, 2017
1218.	Multiple Characteristic and Listed Hazardous Waste Codes and the "in lieu of" LDR Principle	ENCORE MAR 9, 2017

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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: MARCH 9, 2017

<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 Roni Ashley Tania Bates Rene Catlow Richard Clinton Larry Cole John Dent Brian Dixon Eric Erpenbeck Stuart Hildreth Mike Jennings Stephanie Johansen Jeanne Kisielnicki Melvin Lakes Jim McGrogan Stuart Mortensen Dean Nester Dave Richards Phil Sheely Connie Simiele Jennie Stults Jeff Westcott Jeff Widney	Ron Brunke Bob Bullock Bill Cox Laura Cusack Lorna Dittmer Ted Hopkins Sasa Kosjerina Jim Leary Rick Oldham Anthony Nagel Robert Nielson Linda Petersen Fred Ruck Ray Swenson Wayne Toebe Daniel Turlington Dave Watson Joel Williams	Brett Barnes Jerry Cammann Jeff Ehlis Garin Erickson Panfilo Gonzales Jr. Dashia Huff Mark Kamberg Edwin Lamm Candice Marple Jon McKibben Saul Martinez Jon Perry Christina Robison Lana Strickling Lou Upton	(TBD) <u>DOE RL, ORP, WIPP</u> Mary Beth Burandt Duane Carter Cliff Clark Tony McKarns Ellen Mattlin Greg Sinton Scott Stubblebine	Bill Bachmann Dean Baker Scott Baker Lucinda Borneman Paul Crane Tina Crane Jeff DeLine Ron Del Mar John Dorian Mark Ellefson Darrin Faulk Joe Fritts Lori Fritz Tom Gilmore Rob Gregory Gene Grohs James Hamilton Andy Hobbs Ryan Johnson Dan Kimball Megan Lerchen Richard Lipinski Charles (Mike) Lowery Michael Madison Terri Mars Cary Martin Marty Martin Grant McCalmant Steve Metzger Tony Miskho Matt Mills Tom Moon Chuck Mulkey Mandy Pascual Kirk Peterson	Jean Quigley Dan Saueressig Merrie Schilperoort Joelle Moss Glen Triner Greg Varljen Julie Waddoups Jay Warwick Kyle Webster Ted Wooley

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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 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 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 the 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 no specific constituent treatment standards. The only exception is for 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 this 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 these cases, the D003 waste code would also apply.

SUMMARY:

- The “in lieu of” principle means that in certain cases, the listed waste code treatment standard will override a characteristic waste code treatment standard.
- This principle only applies if the treatment standards are specifically addressed in both the listed and characteristic waste codes
- F006 and D007 both have treatment standards for “chromium” so the F006 waste code overrides the D007 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: 3/9/17

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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]

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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 268.40 Treatment Standards for Hazardous Wastes

Waste code	Waste description and treatment/Regulatory subcategory ¹	Regulated Hazardous Constituent	Wastewaters	Nonwastewaters
		Common name	Concentration ³ in mg/L; or Technology Code ⁴	Concentration ⁵ in mg/kg unless noted as “mg/L TCLP”; or Technology Code ⁴
D003 ⁹	Reactive Sulfides Subcategory based on 261.23(a)(5).	NA	DEACT	DEACT
	Explosives Subcategory based on 261.23(a)(6),(7), and (8).	NA	DEACT and meet §268.48 standards ⁸	DEACT and meet §268.48 standards ⁸
	Unexploded ordnance and other explosive devices which have been the subject of an emergency response.	NA	DEACT	DEACT
	Other Reactives Subcategory based on 261.23(a)(1).	NA	DEACT and meet §268.48standards ⁸	DEACT and meet §268.48 standards ⁸
	Water Reactive Subcategory based on 261.23(a)(2), (3), and (4). (Note: This subcategory consists of nonwastewaters only).	NA	NA	DEACT and meet §268.48 standards ⁸
	Reactive Cyanides Subcategory based on 261.23(a)(5).	Cyanides (Total) ⁷	Reserved	590
		Cyanides (Amenable) ⁷	0.86	30
F006	Wastewater treatment sludges from electroplating operations except from the following processes: (1) Sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc-aluminum plating on carbon steel; (5) cleaning/stripping associated with tin, zinc and aluminum plating on carbon steel; and (6) chemical etching and milling of aluminum.	Cadmium Chromium (Total) Cyanides (Total) ⁷ Cyanides (Amenable) ⁷ Lead Nickel Silver	0.69 2.77 1.2 0.86 0.69 3.98 NA	0.11 mg/L TCLP 0.60 mg/L TCLP 590 30 0.75 mg/L TCLP 11 mg/L TCLP 0.14 mg/L TCLP

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