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PRINCIPAL THREAT WASTE

Fall 2024 SMWG Forum Panel Discussion

Moderator: Wardah Azhar, PhD, PE (Parsons)

Panelists: Bob Wyatt (NW Natural)
Sean Sheldrake (CDM Smith)
Tim Johnson (Anchor QEA)

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PANELIST INTRODUCTIONS

Bob Wyatt (NW Natural)

- Bob Wyatt is a Director for the Legacy Environmental Program at NW Natural. He specializes in developing strategies for issues that can arise at Superfund sediment megasites with multi-party groups consisting of both private and public organizations. *He was the Program Coordinator for the Lower Willamette Group during the Portland Harbor RI/FS, and currently serves as the Program Coordinator for the Gasco project area where treatment of PTW at the former MGP site is in preliminary remedial design following an in situ stabilization and solidification (ISS) pilot study.*

Sean Sheldrake (CDM Smith)

- Sean Sheldrake has over 32 years of experience as a sediment specialist and is a CERCLA policy expert, working for 29 years as a project manager for EPA where he led the cleanup of some of the country's largest, most complex Superfund cleanup sites. Now at CDM Smith, he focuses on solutions for a range of Superfund sites with a focus on site strategy and Superfund policy. *As an RPM, he implemented PTW guidance for mining sites, including Bunker Hill and Coeur d'Alene and groundwater cleanup source areas and for early actions at sediment sites such as Portland Harbor. He also helped other project managers strategize around PTW concepts as a policy advisor and CSTAG member to reduce risk early and maximize the longevity of cleanups.*

Tim Johnson (Anchor QEA)

- Tim Johnson is a principal scientist at Anchor QEA with more than 25 years of experience in addressing environmental liabilities and agency interactions for industrial, federal, and municipal clients. He brings strategic solutions to complex remediation challenges through an integrated approach using multidisciplinary teams of environmental, engineering, and sediment management experts. *He has extensive experience with NAPL, mercury, PFAS, PCBs, VOCs, and SVOCs at complex, high-profile sediment sites. Mr. Johnson was also one of the primary authors of the SMWG's document titled "The Need to Issue Principal Threat Waste Contaminated Sediment Guidance".*

NATIONAL OIL & HAZARDOUS SUBSTANCES POLLUTION CONTINGENCY PLAN (NCP)

40 CFR §300.30(a)(1)(iii) Expectations:

A. "EPA expects to use *treatment to address the principal threats posed by a site, wherever practicable*. Principal threats for which treatment is most likely to be appropriate include *liquids, areas contaminated with high concentrations of toxic compounds, and highly mobile materials*."

B. "EPA expects to use *engineering controls, such as containment, for waste that poses a relatively low long-term threat* or where treatment is impracticable."

C. "EPA expects to use *a combination of methods*, as appropriate, to achieve protection of human health and the environment. In appropriate site situations, treatment of the principal threats posed by a site, with *priority placed on treating waste that is liquid, highly toxic or highly mobile*, will be *combined with engineering controls (such as containment) and institutional controls*, as appropriate, for treatment residuals and untreated waste."

D. "EPA expects to use institutional controls such as water use and deed restrictions to supplement engineering controls as appropriate for short- and long-term management to prevent or limit exposure to hazardous substances, pollutants, or contaminants."

A GUIDE TO PRINCIPAL THREAT WASTE AND LOW LEVEL THREAT WASTES (USEPA 1991)

- "The concept of principal threat waster and low level threat waste as developed by EPA in the NCP is *to be applied on a site-specific basis* when characterizing source material."
- " "Source material" is defined as material that includes or contains hazardous substances, pollutants or contaminants that *act as a reservoir for migration of contamination* to ground water, to surface water, to air, *or acts as a source for direct exposure*."
- "Principal threat wastes are those *source materials considered to be highly toxic or highly mobile that generally cannot be reliably contained or would present a significant risk* to human health or the environment should exposure occur."
- "No "threshold level" of toxicity/risk has been established to equate to "principal threat"."

CONTAMINATED SEDIMENT REMEDIATION GUIDANCE FOR HAZARDOUS WASTE SITES (USEPA 2005)

Chapter 7: Remedy Selection Considerations

Highlight 7-1: NCP Remedy Expectations and Their Potential Application to Contaminated Sediment
EPA expects to use treatment to address the principal threats posed by a site, wherever practicable: • In general, wastes, including contaminated sediment, may be considered a principal threat where toxicity and mobility combine to pose a potential human health risk of 10^{-3} or greater for carcinogens (U.S. EPA 1991d). For these areas, project managers should evaluate an alternative that includes treatment. However, the practicability of treatment, and whether a treatment alternative should be selected, should be evaluated against the NCP's nine remedy selection criteria. Based on available technology, treatment is not considered practicable at most sediment sites
EPA expects to use engineering controls, such as containment, for waste that poses a relatively low long-term threat or where treatment is impracticable: • Containment options for sediment generally focus on in-situ capping. A project manager should evaluate in-situ capping for every sediment site that includes low-level threat waste. Where a containment alternative is clearly not appropriate for a detailed evaluation, project managers should evaluate ex-situ containment (i.e., disposal without treatment). It should be recognized that in-situ containment can also be effective for principal threat wastes, where that approach represents the best balance of the NCP nine remedy selection criteria

PANEL DISCUSSION TOPICS

1. Site-specific PTW determination
2. What is considered treatment?
3. Timing of PTW determination
4. What's next?

SITE-SPECIFIC PTW DETERMINATION

Existing Precedents

State Requirements

PTW Thresholds

WHAT IS TREATMENT?

Reactive Caps

Removal

Reliable Containment

Practicability

TIMING OF PTW DETERMINATION

Early Adoption in RI/FS

Consideration of Adaptive Management

Early/Interim Actions

WHAT NEXT?

Engaging with Regulators

Revised PTW Guidance?

Standardized Testing

CONCLUDING REMARKS