Upper Columbia River Remedial Investigation and Feasibility Study Status Report

April 21, 2015 Spokane, WA

Laura Buelow, Project Manager, U.S. EPA Marc Stifelman, Toxicologist, U.S. EPA Site is located within Washington State

Significant source of pollution in Canada 10 miles north of border

Study area extends 150 miles south to Grand Coulee Dam







RI/FS: Remedial Investigation / Feasibility Study

- The Remedial Investigation is a detailed study of the site to identify the nature and extent of pollution.
- The Feasibility Study is a description and analysis of potential cleanup alternatives for a site, including no-action.

EPA's Superfund process for listed sites (after RI/FS)

Proposed Plan

Record of Decision





2009 - Citizens for a Clean Columbia (Technical Advisory Grant)

2006-ongoing – Remedial Investigation or "RI": The *Remedial Investigation* is a detailed study of the site to identify the nature and extent of pollution.



Completed

- Tribal and recreational use surveys
- Fish tissue study
- Sturgeon
- Surface water study
- Beach studies

Ongoing

- Sediment study
- Bossburg study
- Soil sampling (residential and upland soils)

Upcoming

- Benthic studies
- Additional studies as needed based on results
- Human health risk assessment
- Ecological risk assessment

Will it need to be cleaned up?

Feasibility Study or "FS": The *Feasibility Study* follows the completion of the Remedial Investigation. It is a description and analysis of potential cleanup alternatives for a site, including no-action.

EPA's Superfund process for listed sites (after RI/FS)

Proposed Plan – The *Proposed Plan* contains the summary of the Remedial Investigation and Feasibility Studies and presents EPA's preferred option to address pollution. This is shared with the public and comments are encouraged. **Record of Decision** – After careful consideration of public comments on the *Proposed Plan,* a decision on the cleanup is issued. Remedial Design / Remedial Action – Technical specifications for cleanup are designed – requires a new agreement called Administrative Order on Consent or Unilateral Order **Bossburg Flats**



Sediment

- 10 Decision Units (DUs)
- 27 Cores

Soil

- 6 DUs
- 18 Cores







Soil Sampling

Boundaries for the Upper Columbia River Soil Studies, 2014



Besichen Siail Souchtudy

Determine in the eetherdemaks belbachand kerselsiofinntertealsoil from the Trailemistien in soil anduchefinesitheentiaterraipreittiefs toatcenty ataonse which ceoulto pæospeleproblems to people or the environment. Collect data to use in human beatth datatoesserientuman health and ecological risk

assessment.

Randomly determine increments for sampling



Incremental Composite Sampling

- Decision unit laid out with 30 flagged locations
- 30 "increments" combined into 1 bucket
- Repeat two more times for replicates
- All soil sieved to get fine fraction
- Sieved fraction spread out onto slab
- 30 aliquots from slab taken and combined into 1 jar
- Entire sample in jar analyzed



















Residential Soil: Lead Concentrations Adjusted for Relative Bioavailability



- 74 Properties
- 247 Decision Units
- 561 Incremental Composite Samples
- 413 Discrete Samples
- 17,243 holes in the ground



Upland Soil: Lead Concentrations





Upland Soil (# DUs)

<125 ppm (1)

125-250 ppm (3)



Lead Results for Residential and Upland Soil Studies





SRC



"Removal actions" could occur at any point in the process if studies show contamination levels of immediate concern.

Removal / cleanup when studies show levels of concern

Northport Removal Action

In 2004, EPA initiated a removal at the Le Roi smelter

29 properties had soil removed

94 properties had exposure reduction measures

65 properties had no action





Path Forward

- EPA is working to provide Time-Critical Removal Actions to properties with the highest lead levels.
- Highest priority are properties where young children live or visit.
- EPA believes Teck Metals should fund the removals and expand the residential soil sampling.
- Ultimately, a Record of Decision will determine if additional cleanup is necessary.
- Soil Safety Guidelines- copies available.

Questions?

