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FUSRAP



Gateway to Excellence

St. Louis Oversight Committee Meeting *Corps Update*

9 MAY 03



May 2003

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Agenda



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- **Mississippi Valley Division**
- **Progress Report**
- **North County FS/PP**
- **Community Interactions**
- **Taskers**
- **Questions**

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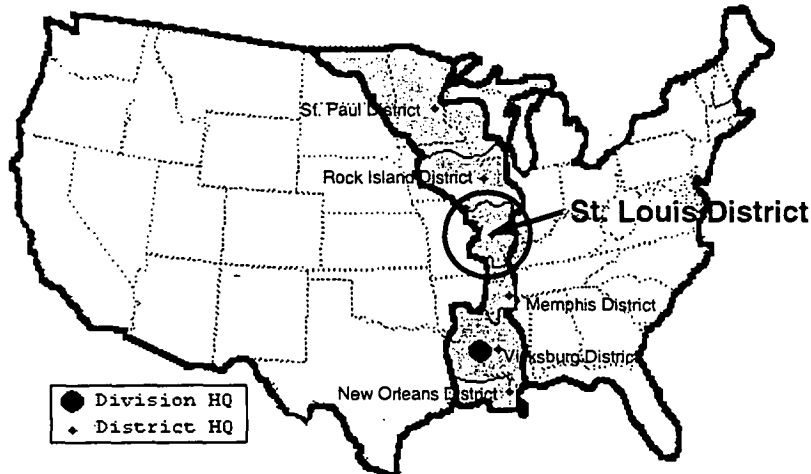


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Mississippi Valley Division



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Progress Report St. Louis Downtown Site (SLDS)



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- **Remedial Investigation -**
 - Groundwater Remedial Action Alternatives Assessment for high levels of U in a well at Plant 6W.
 - Document is currently under Regulator Review - comments are due 23 MAY
 - Groundwater Technical Working Group meeting to discuss GRAAA - 14 MAY.
- **Remedial Design**
 - **Pre Design Investigation** - Currently ongoing at PSC Metals and Plant 7N/S, Thomas and Proetz report is pending and the McKinley Bridge report is due 22 MAY for internal review.
 - **Plant 7E** - Currently working response to comments
- **Remedial Action**
 - **Plant 1 - 3,724 cyds remediated** - Post Remedial Action Report - internal review comments are being addressed. Next step will be regulator review.
 - **VP's**
 - **Midwest Waste (4,800 cyds)** - RAS (Remedial Action Summary Report) is due in JUL 03. (Will be grouped in a PRAR with Heintz Steel)
 - **Heintz Steel** - Remediation began in late APR, 3 areas excavated to date - 2 backfilled, 45 cyds removed.
 - **Plant 6E / 6E1/2 (27,000 cyds) began 3 DEC 00 - 22,987 cyds remediated to date**
 - Continuing excavation. Completion date is late MAY 03.
 - **MI Plant 7E (2,000 cyds), is next for RA this FY.**
 - **Rail Shipments off SLDS**
 - 4,712 cyds shipped / 13,000 planned.

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Progress Report Hazelwood Interim Storage Site (HISS)/Latty Avenue / SLAPS VPS



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- **HISS / Latty Avenue**
 - Requesting removal of NPDES permit at HISS.
 - Letter sent to MDNR, no response to date. An on-site meeting was held in APR.
 - Completed Characterization of VP 8C & 40A – Document is under internal review
 - GIFREHC Roof Replacement
 - Final Status Survey is currently under regulatory review – comments are due 30 MAY.
 - Rail Shipments off HISS
 - 450 cyds shipped to date / 500 cyds planned
 - **SLAPS VP's**
 - Data Evaluation
 - Assessment of the 30 DoE remediated properties. Finalizing response to comments.
 - Characterization
 - 90% complete with the characterization of Boeing owned properties (9 properties).
 - Completed Characterization of VP 8C & 40A
 - Designs are on hold and expected to be completed in FY03
 - 56/57/58/59/1C & Pershall & I-270 ROW + 9/10/11/12 & Ballfield hotspots
 - MSD support in FY04 - Sewer line project along Eva and Frost next FY
 - Property Owner Support – Requested for improvements at VP 4(C) and 5 (C)
 - Expanding the site loadout pad
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Progress Report St. Louis Airport Site (SLAPS)



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- **Remedial Design**
 - Work Descriptions for Phases 4 / 5 and Phase 6 - Coordination with the utilities / railroad for relocation support is ongoing and will be incorporated into the document.
- **Removal Actions**
 - Began Phase I (IA5) excavation 10 DEC 01 - 97,500 cyds shipped to date
 - 50 cyds remain. A portion of 1 Survey Unit (SU27) remains – expect MAY completion.
 - Completed remediation of Survey Units 15 and 16, adjacent to McDonnell Blvd.
 - 12,247 cyds removed
 - Continued Phase II (IA-2) excavation - 50,000 cyds expected
 - Approximately 101,207 cyds have been excavated to date
 - Status of Corps Proposal for Selenium (Se) discharge limits
 - Working response to MDNR comments, treating water to MSD standards and using Best Management Practices (dust suppression, lined excavations, etc..) in the interim
 - Rail Shipments off SLAPS
 - 67,000 cyds shipped to date / 75,000 planned.

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Progress Report Other Issues



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- **Long Term Stewardship**
 - Meeting was held 30 APR. Next meeting in JUL
 - Currently reviewing North County Haul Road information.
 - Next step is to meet with City Planners of Hazelwood, Berkeley and Florissant
- **DoE Program POC's interactions**
 - Sent DOE a copy of the FS/PP, invited them to the Public Meeting
- **New MDNR Cooperative Agreement**
 - Completed
- **National Academy of Sciences visit site**
 - Provide a site briefing and tour on 12 MAY
- **CERCLA 5 year Review for all St. Louis FUSRAP Sites**
 - Ongoing. Site interviews and tours are in progress.

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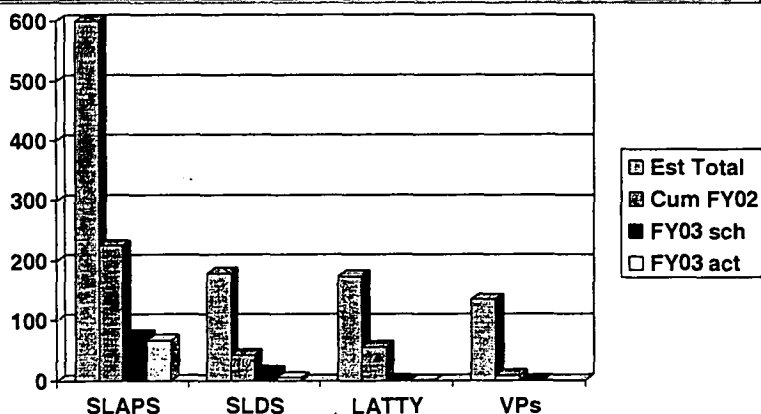


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Volume Removed Using Environmental Documents



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Note 1. All volumes are exsitu. Exsitu volume = Insitu volume plus 20% for excavation and 25% for swell prior to Transportation and Disposal
Note 2. SLDS volumes do not include Inaccessibles

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North County FS/PP



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- **The North County Feasibility Study / Proposed Plan**
 - **Approved for release by the MVD Commander**
 - **Release date of 1 MAY**
 - Posted in Federal Register, Mailing List letters sent, Ads placed in local papers, copies placed in libraries, copies sent to Oversight Committee, Regulators and DOE.
 - **Public Review Period – 1 – 30 MAY**
 - **Public Meeting – 29 MAY**
 - Hazelwood Civic Center East, 8969 Dunn Road
 - 6 – 9 pm
 - 6 – 7 – Poster Session
 - 7 – Formal Presentation of Alternatives followed by oral comments from attendees
 - 9 pm – Civic Center closes

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Summary of North County Site FS/PP Alternatives



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Alternative	Description	Cost (in Millions)
1 – No Action	Leave the North County Site as is and maintain periodic environmental monitoring	\$1.5
2 – Partial Excavation and Capping at SLAPS and HISS	Excavate soils from the VP's and dispose of out of state. Cap SLAPS and HISS and use institutional controls to limit access to contaminated areas.	\$205

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Summary of North County Site FS/PP Alternatives



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Alternative	Description	Cost (In millions)
3 – Partial Excavation and Treatment at SLAPS	Excavate impacted soils from the VP's and HISS, then consolidate and treat these soils at SLAPS. Use institutional controls to limit access to contaminated areas.	\$284
4 – Institutional Controls (No further excavation)	Use institutional controls such as deed notices, land use restrictions and zoning restrictions to limit future land use at SLAPS, HISS and the VP's.	\$129

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Summary of North County Site FS/PP Alternatives



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Alternative	Description	Cost (In millions)
5 – Excavation with Institutional Controls under Roads, Bridges, Railroads and Other Permanent Structures	Excavate impacted soils from SLAPS, HISS and the VP's. Place Institutional Controls to restrict land use of soils under roads, bridges, railroads and other permanent structures.	\$223
6 – Excavation at all Properties	Excavate impacted soils from all locations, regardless of accessibility, for out of state disposal.	\$286

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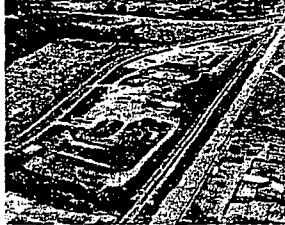


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North County Site FS/PP Preferred Alternative



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- Alternative 5 preferred.
- Excavate accessible surface soils and sediments to a criteria of 5/14/50 and accessible subsurface soils and sediments to 15/15/50.
- Excavate sediments below the Coldwater Creek mean water gradient to 15/43/150
- Ship above criteria soils and sediments off site to a licensed disposal facility.
- Implement appropriate institutional controls under roads, bridges, railroads and other permanent structures to ensure protectiveness.

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FS/PP Alternative #5 Proposed Criteria



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Contaminant Of Concern	Ra-226 pCi/g	Th-230 pCi/g	U-238 pCi/g
Media			
Surface soils and sediments	5	14	50
Subsurface soils	15	15	50
Soils and sediments below the mean water gradient of Coldwater Creek	15	43	150

Basis for Proposed soil criteria (all numbers above background)

- 5 pCi/g of Ra-226 is ARAR / protective of human health and the environment
- 14 pCi/g of Th-230 decays to 5 pCi/g of Ra-226 over time

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North County FS/PP Cleanup Criteria



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- **Soils and sediments are the media of concern**
 - The proposed cleanup criteria for soils and sediments results in unlimited use / unrestricted exposure (No institutional controls)
- **Groundwater and surface water are not media of concern**
 - Short term groundwater monitoring will be conducted to ensure effectiveness of source removals and determine if Long-Term groundwater monitoring is necessary.
 - To be conducted for HZ-A - Unit 2 and HZ-E - Unit 4.
 - For surface water the USACE will maintain compliance with the HISS NPDES permit and SLAPS NPDES permit equivalent.

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North County FS/PP Institutional Controls



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- **To be documented in the site Long Term Stewardship Plan**
- **Impacts areas under roads, bridges, railroads and other permanent structures (e.g. buildings)**
 - Institutional Controls would be implemented to ensure the use of this property remains the same.
 - Latty, Hazelwood, Pershall, McDonnell, Banshee, Eva, Frost, I-270 impacted
 - Currently analyzing the Haul Roads used for the transport of waste.
 - Continue to operate under existing Utility Support process, property owner notification, visual site inspections in addition to IC's.
 - **FUTURA Buildings**
 - Avoid disturbing the area under the active manufacturing buildings
 - **Railroads**
 - Norfolk Southern
 - **Bridges**
 - May be impacted along Coldwater Creek

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Community Interactions



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- **Recent Events**
 - Team members recently completed interviews with KMOX and the Post Dispatch over the release of the North County Site FS/PP
 - The site newsletter is scheduled to be published in May
- **Upcoming Events**
 - North County Site FS/PP Public Meeting – 29 MAY

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Taskers



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- **Old Taskers**
 - Provide the Oversight Committee a briefing on the FS/PP when appropriate (Complete)
- **New Taskers**

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Questions



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Questions?

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**Proposed Plan List of Radiological
Remediation Goals For Unrestricted Land Use at
FUSRAP St. Louis North County Sites**

Top 6" of soil	U-238: 50 pCi/g	Ra-226: 5 pCi/g	Th-230: 14 pCi/g
Soil below 6"	U-238: 50 pCi/g	Ra-226: 15 pCi/g	Th-230: 15 pCi/g
Sediment in Coldwater Creek below mean water gradient:	U-238: 150 pCi/g	Ra-226: 15 pCi/g	Th-230: 43 pCi/g
Surfaces of building materials:	to be completed...		

Note: the criteria is to be applied to the average concentration over a 100m² area.
The proposed plan uses this cleanup criteria as remediation goals which will decide, in the Post Remedial Action Report, if Unrestricted Land Use goals is achieved.

The Following Table of Concentrations/Risk was provided on page D-33 of the Feasibility Study
of the North St. Louis County Site
It is used for general information purposes.

Table D-8. Comparison of Relevant Soil Concentrations for Radionuclides

Receptor	Analyte	Units	Background UTL ₉₅	Detection Limit ^a	Soil Concentration by Risk Level			
					1x10 ⁻⁶	1x10 ⁻⁵	1x10 ⁻⁴	3x10 ⁻⁴
Industrial	Ac-227	pCi/g	0.82 ^b	-	0.98	9.8	98	294
Industrial	Pa-231	pCi/g	2.17 ^b	-	1.9	19	190	570
Industrial	Pb-210	pCi/g	1.55 ^c	-	15	150	1500	4500
Industrial	Ra-226	pCi/g	1.55	2.8	0.071	0.71	7.1	21
Industrial	Ra-228	pCi/g	1.24	-	0.15	1.5	15	45
Industrial	Th-228	pCi/g	2.04	-	0.53	5.3	53	159
Industrial	Th-230	pCi/g	2.89	2120	11	110	1100	3300
Industrial	Th-232	pCi/g	1.83	1.8 ^d	0.072	0.72	7.2	22
Industrial	U-234	pCi/g	2.22	-	170	1700	17000	51000
Industrial	U-235	pCi/g	0.25	-	1.8	18	180	540
Industrial	U-238	pCi/g	2.02	39	7.3	73	730	2190
Residential	Ac-227	pCi/g	0.82 ^b	-	0.3	3.0	30	90
Residential	Pa-231	pCi/g	2.17 ^b	-	0.5	5.0	50	150
Residential	Pb-210	pCi/g	1.55 ^c	-	1.8	18	180	540
Residential	Ra-226	pCi/g	1.55	2.8	0.019	0.19	1.9	5.7
Residential	Ra-228	pCi/g	1.24	-	0.048	0.48	4.8	14.4
Residential	Th-228	pCi/g	2.04	-	0.16	1.6	16	48
Residential	Th-230	pCi/g	2.89	2120	2.4	24	240	720
Residential	Th-232	pCi/g	1.83	1.8 ^d	0.018	0.18	1.8	5.4
Residential	U-234	pCi/g	2.22	-	25	250	2500	7500
Residential	U-235	pCi/g	0.25	-	0.5	5	50	150
Residential	U-238	pCi/g	2.02	39	1.9	19	190	570

^a Limits for surface scanning using a 2-inch by 2-inch NaI detector (NUREG 1507)

^b No reported result above detection limits. Background likely similar to that of U-235

^c No value reported. Assumed to be in equilibrium with Ra-226, the nearest long-lived parent radionuclide

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for field screening equipment. Lab has much lower values.

**Record of Decision for the St. Louis Downtown Site
Cleanup Criteria (for VPs and bulk of Mallinckrodt) on Page 45.**

$$\frac{\text{greater of Ra-226 or Th-230}}{5} + \frac{\text{greater of Ra-228 or Th-232}}{5} + \frac{\text{U-238}}{50} \text{ (all isotopes above background)} < 1$$

in the top 15 cm (6 in) or

$$\frac{\text{greater of Ra-226 or Th-230}}{15} + \frac{\text{greater of Ra-228 or Th-232}}{15} + \frac{\text{U-238}}{50} \text{ (all isotopes above background)} < 1$$

from the 6" to 4 or 6 feet. Taken together, these are called the composite criteria. Soil that meet the above criteria do not need to be removed.

Note: this criteria is used to decide if soil is to be removed.

Deciding if Unrestricted Land Use Goals are Achieved

According to the St. Louis Downtown Site Record of Decision on Page 69 and 70

"A post-remedial action assessment will be performed to describe the level of risk remaining from MED/AEC contaminants following completion of remedial activities."

"Final determinations as to whether institutional controls and use restrictions are necessary will be based on calculations of post remedial action **risk derived** from actual residual conditions. Five year reviews will be conducted per the NCP for residual conditions that are unsuitable for unrestricted use."

"Institutional controls may include land use restrictions for those areas having residual concentrations on contaminants unsuitable for unrestricted use. This determination will be made based on **risk analysis** of the actual post-remedial action conditions."

"For residual conditions requiring use restrictions after the period of active remediation, coordination with property owners and local land use planning authorities will be necessary to implement deed restrictions or other mechanisms to maintain industrial/commercial land use."

"**Protactinium-231 (Pa-213) and actinium-227 (Ac-227)** will be included in the analyses for the post-remedial action residual site risk; and..."

The Values to Be Used in the Post-Remedial Risk Analysis is not specified HOWEVER a Table with Risk Values / Preliminary Remediation Goals was provided on page 44. Please refer to the back of this sheet.

Table 7-2. Soil Preliminary Remediation Goals and Risk-Based Concentrations for Potential Radionuclides of Concern in SLDS Soils Based on a Long-Term Worker (Industrial/Construction) Scenario

Radionuclide	Cancer Risk			
	1×10^{-4} (PRG)	1×10^{-5}	1×10^{-6}	3×10^{-4} ^(a)
	PRG Concentration (pCi/g)			
Ac-227	0.2	2	21	64
Pa-231	0.2	2	22	65
Ra-226+D	<BKG	<BKG	4	11
Th-230	<BKG	<BKG	10	30
Th-232+D	<BKG	<BKG	3	7.6
U-235	0.8	8	80	239
U-238+D	2.6	26	262	787

Notes:

1. Exposure and intake parameters are based on references and Mallinckrodt site-specific assumptions as described in Appendix C of the Feasibility Study. The resultant concentrations are significantly more conservative than risk values derived using Risk Assessment Guidance for Superfund default values. For comparative purposes, concentrations calculated using RAGS equate to 99, 16, 47, 12 and 1200 pCi/g for Ac-227, Pa-231, Ra-226+D, Th-230, Th-232+D, and U-238+D respectively for the 3×10^{-4} risk level that EPA has determined equates to 15 mrem/y and is consistent with the high end of the acceptable risk range.
 2. Calculations include contributions from decay and ingrowth of radioactive progeny to 1,000 yrs. The most limiting value for each decay chain is shown (ie, Th-232 includes the contributions from Ra-228, Th-228, and other progeny, and the PRG is based on the most limiting concentration in this decay series in the 1,000 year period).
 3. <BKG indicates that the calculated PRG value is less than background for St. Louis site soils.
- ^(a) EPA risk assessment guidance indicates that PRGs are typically for risks of 10^{-4} . However, OSWER Directive 9200.4-18 specifically indicates that 3×10^{-4} is considered consistent with the high end of the acceptable risk range.
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Year ID

00 3819

Further Info?

☐

Operating Unit

St. Louis Sites

Site

Area

MARKS Number

FN:1110-1-8100g

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Public Affairs/Community Relation

Secondary Document Type

Public Meeting Minutes/Transcripts

Subject or Title

St. Louis Oversight Committee Meeting - Corps Update - 9 May 2003

Author/Originator

Company

FUSRAP

Date

5/9/2003

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Company (-ies)

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Comments

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☐ Madison

☐ Downtown

☐ Iowa

ETL

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