November 17, 1999

At the last Oversight Committee Meeting, Sharon mentioned that the likely clean-up criteria for the North County ROD would be based on 40 CFR 192. I received the enclosed correspondence involving the Linde FUSRAP site in Tonawanda, New York, which I thought, might be of interest. Apparently, the Buffalo District did some case by case determination under the above citation that caused concern in the State of New York and EPA.

I'm not suggesting St. Louis would do anything like this. But the case by case approach leaves a lot of flexibility to the decision-maker. We should learn more on December 10th.

Dave Wagoner

New York State Department of Environmental Conservation
Division of Solid & Hazardous Materials
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John P. Cahill
Commissioner

Post-it® Fax Note 7671	Date 11-5	# of pages ▶ 5
To Ken Alkema	From Paul Merges	
Co./Dept. Envirocare	Co.	
Phone #	Phone #	
Fax #	Fax #	

NOV 08 1999

Mr. George B. Brooks
Deputy District Engineer for Project Management
U.S. Army Engineering District, Buffalo District
1776 Niagara Street
Buffalo, NY 14207-3199

Dear Mr. Brooks:

Re: Linde FUSRAP Site, September 1999 Draft Record of Decision

This letter responds to the most recent proposed Linde Record of Decision, which was sent to this Department on September 16, 1999 by Raymond Pilon. His letter transmitted a third draft of the Record of Decision (ROD) for the Linde FUSRAP site in Tonawanda, New York. In his letter, the Corps asked that we review the revised draft ROD and consider if there is cause for modification to the Department's position, which was presented in our August 23, 1999 letter to you. Mr. Pilon provided additional information (a one-page fax) to John Mitchell of this Department on September 29, 1999.

Our August 23, 1999 letter listed several issues that prevented our concurrence with the August 12, 1999 draft ROD. In particular, we could not concur with the proposed averaging over 6,000 cubic meters in assessing the remediation, the future use of the site as only industrial/commercial, and the 600 pCi/g decontamination criterion for uranium.

The September 1999 draft ROD proposes to average residual radionuclide concentrations over 100 square meters, in layers of 15 centimeters. This proposed averaging would be acceptable to this Department and would resolve the averaging issue.

Our concerns regarding the future use of the land remain. The proposed ROD sets a goal of meeting a benchmark dose of 8.8 mrem/y for surfaces, under a commercial/

industrial worker scenario. We believe that the scenarios the Corps adopts for such a dose should be consistent with those used by other federal radiological agencies (DOE, NRC, and EPA). Applying their subsistence farmer scenario, including the drinking water pathway, would result in a cleanup criterion of about 60 pCi/g, which we could support. This Department will evaluate the completed remediation, based on a residential scenario, to determine whether radiation doses will be below the 10 mrem/y level set in our *Cleanup Guideline for Soils Contaminated with Radioactive Materials*, Division of Solid & Hazardous Materials Technical Administrative Guidance Memorandum 4003 ("TAGM 4003"). If we find that the site does not meet our TAGM-4003, we will not be able to agree that the site can be released for unrestricted use.

The September 1999 draft ROD proposes new uranium criteria based on the recently adopted 10 CFR 40, Appendix A, Criterion 6(6). In the specific comments enclosed in our August 23, 1999 letter, we stated that the process of developing those criteria should be documented, with the details discussed and agreed upon by the landowner, the State, local governments, and other interested parties. To date, this has not occurred. We appreciate the explanations provided by telephone to our staff on September 27, 1999, and the RESRAD input data your staff provided. However, our concern was that the process of applying this regulation for the first time in the country was being done without the public's being informed or allowed to comment. Absent a public review of the derivation of the uranium criteria, our comment stands.

The comments we presented in our August 23, 1999 letter regarding the 600 pCi/g criterion for uranium also apply to the newly derived uranium criteria presented in the September 1999 draft ROD, which are 554 pCi/g surface, and 774 pCi/g, subsurface. As we have informed the Corps in recent meetings and conversations, these criteria are so high as to be unacceptable. This Department has overseen a number of decontaminations at radioactively contaminated sites in New York State. We have also worked closely with several federal agencies in their cleanups of such sites. We have never seen proposed, nor have we agreed to, decontamination criteria of such magnitude. Doing so, we believe, would set a very dangerous precedent and would be in conflict with the mission established for this Department in State Law.

In addition, we are unaware of any federal remediation which "free released" a site at such high levels. We requested the Corps to provide us documentation where it has been used, and the information from Mr. Pilon confirms that cleanup levels of this magnitude have not been applied at any other site in the country. Indeed, the USEPA's September 23, 1999 letter to the Corps regarding the draft ROD lists several sites across the country where significantly lower uranium decontamination criteria apply.

This Department has an obligation to protect not only the environment, but also the economic health of New York State. We are deeply concerned about the effect that an incomplete cleanup could have on Praxair, an important employer in the Town of Tonawanda, and on future uses of the property.

We understand you are confident that the residual levels of uranium at the site will be far below the 554 pCi/g and 774 pCi/g criteria presented in the draft ROD. In light of that expectation, we suggest that the Corps revisit its application of the ARAR found in 10 CFR 40.

As you know, that ARAR contains two parts: the benchmark dose derivation and the application of ALARA. The benchmark dose calculation produced the 554 and 774 pCi/g criteria. The next step is to adjust those figures, based on consideration of ALARA.

ALARA is defined in state and federal regulation as,

> "ALARA" (as low as reasonably achievable) means making every reasonable effort to maintain exposures to radiation as far below the dose limits in this part as is practical consistent with the purpose for which the licensed activity is undertaken, taking into account the state of technology, the economics of improvements in relation to state of technology, the economics of improvements in relation to benefits to the public health and safety, and other societal and socioeconomic considerations, and in relation to utilization of licensed radioactive materials in the public interest. [6 NYCRR 380-2.1(a)(5)]

As stated in the NRC's *Draft Guidance on the Benchmark Dose Modeling for the Radiological Criteria for License Termination of Uranium Recovery Facilities*, "In conjunction with the activity limit [derived from the radium benchmark dose], the ALARA principle is considered in setting cleanup levels."

According to the supplemental information provided to us by Mr. Pilon on September 29, 1999, after the remediation of the Linde site, "the 95% upper confidence level (UCL_{95}) concentration for the residual total uranium would be less than 60 pCi/g." If this is true, then decontaminating the site to 60 pCi/g is clearly achievable and, hence, it is ALARA. Therefore, we could only concur with a ROD that unequivocally stated that the uranium decontamination criterion would be at least as low as 60 pCi/g.

We support the Federal Government's mission to remediate the Linde Site. This support is based on the success of the Ashland 2 remediation and the August 1999 draft work plans for the Linde site, which you have provided to our staff for review. As stated in staff's comments to the Corps, we concur with the intent of those draft work plans to remove from the site all soils containing uranium at concentrations greater than 60 picocuries per gram. We encourage the Corps to move ahead with remediation of the Linde site as proposed in the August 1999 work plans.

Thank you for the opportunity to review this draft ROD. We look forward to working with the Corps to resolve the remaining issues.

Sincerely,

Stephen Hammond, P.E.
Director
Division of Solid & Hazardous Materials

cc: P. Giardina, USEPA
D. Conroy, Praxair

COE FUSRAP - Linde

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FILE COPY

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
290 BROADWAY
NEW YORK, NY 10007-1866

SEP 2 3 1999

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To Ken Alkema	From Paul Merges
Co.	Co.
Dept.	Phone #
Fax #	Fax #

Mr. Raymond Pilon
U.S. Army Corps of Engineers, Buffalo District
1776 Niagara Street
Buffalo, New York 14207-3199

Dear Mr. Pilon:

We have received a copy of the proposed Record of Decision (ROD) for the Linde Site and offer the following comments.

We are concerned about the uranium cleanup levels the Army Corps of Engineers (ACE) proposes to use for the remedial action for the Linde Site in the Town of Tonawanda, New York. The U.S. Environmental Protection Agency (EPA) Region 2 office has been involved in radiological cleanups of Formerly Utilized Sites Remedial Action Program (FUSRAP) sites since the Program's inception in the 1970s. Several FUSRAP sites are also Superfund sites, and thus being remediated by the ACE with EPA oversight.

It is our understanding that the cleanup numbers you propose for total uranium at the Linde site are: 554 pCi/g for surface contamination and 774 pCi/g for subsurface contamination. These numbers were derived assuming the future land use will be commercial/industrial. The ROD indicates that the cleanup levels will be lowered proportionately to take into account the presence and contribution of risk from other radionuclide contaminants present in the soil, such as radium and thorium.

The uranium cleanup levels you propose for the Linde site are significantly higher than any uranium soil concentrations allowable for similar remedial actions. For the Wayne and Maywood, New Jersey, FUSRAP sites, which are NPL sites being remediated by the Army Corps of Engineers Manhattan District, the level is 100 pCi/g total uranium. Your proposed levels are more than five to seven times higher. Total uranium numbers used or proposed for other contaminated sites in the country are: background (Uravan, CO, UMTRCA site), 30 pCi/g (Naturita, CO, UMTRCA site), 40 pCi/g U-238 (Kellex, NJ, FUSRAP site) and 60 pCi/g (New Jersey proposed soil remediation standard, Table 1A).

Although commercial/industrial is the current use, this assumption for future land use would prevent the local community from considering other uses such as recreational or residential. The Northeast has seen a number of former industrial sites being converted to nonindustrial use. This option would be precluded by your proposed cleanup levels.

In addidon, the high concentrations left in the Linde soil raises other issues of whether the present and future property owners can find any place that will accept these "remediated" soils should the property owners need to remove excess soil as part of a construction project.

Our experience with radiological site cleanups shows that cleaning up to a level much lower than the uranium levels proposed in this ROD is readily achievable and can significantly reduce risk. As such, the proposed cleanup levels do not meet the basic Federal Radiation Protection Guidance principle of being as low as reasonably achievable (ALARA).

You indicated in your response to the New York State Department of Environmental Conservation (NYSDEC) comments on the draft proposed ROD that remediating the site to compliance with levels for unrestricted use, i.e., residential use, would increase the cost of the remedial action at Linde by $15-million. Should the site need to be remediated again, either because of a change in land use or the loss of institutional control, the cost will likely be much higher to restart the cleanup. It would be an unfortunate legacy for the ACE Buffalo District to remediate the Linde site only to have a successor agency or NYSDEC determine in the near future that the site will need additional remedial action. This is likely because the proposed uranium soil levels do not meet the Federal Radiation Protection Guidance principle of ALARA and are not sufficiently protective. We would remind the ACE that several FUSRAP sites have required second or third round of remedial action because the original cleanup levels chosen did not offer adequate radiation protection.

Finally, the ROD states that groundwater will be addressed separately from this ROD. The groundwater impact from the Linde site should be addressed in this ROD in order to determine the contribution of contaminated groundwater to the Linde site's overall residual risk. Further, EPA requires that groundwater quality meet the Maximum Contamination Levels (MCLs) in 40 CFR141 for current and potential future sources of drinking water.

In summary, we believe the proposed ROD as currently drafted does not offer adequate public health protection from the risks associated with radiation for the following reasons: (1) the uranium cleanup levels selected do not meet the Federal Radiation Protection Guidance principle of ALARA and these levels are far higher than any used recently; (2) groundwater protection is not addressed; and (3) the proposed uranium cleanup levels more than likely delay the costs associated with adequate radiation protection rather than resulting in a cost savings.

We appreciate your consideration of our comments. If you have any questions or need more information, please contact me at (212) 637-4010.

Sincerely,

Paul A. Giardina, Chief
Radiation & Indoor Air Branch

c: R. Aldrich, NYSDOL
P. Merges, NYSDEC
K. Rimawi, NYSDOH

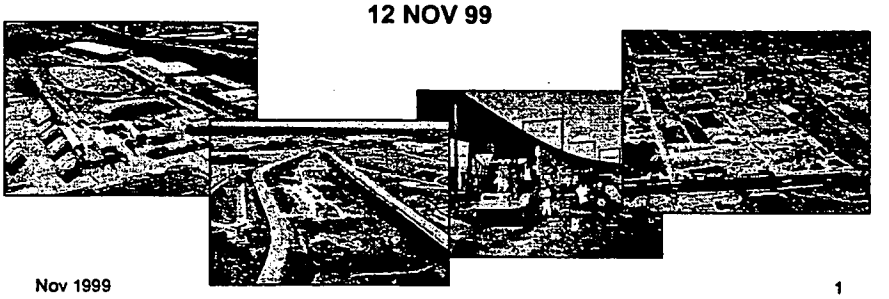
US Army
Corps of Engineers
St. Louis District

FUSRAP

Gateway to Excellence

St. Louis
Oversight Committee Meeting
Corps Update

12 NOV 99



US Army
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Agenda

Gateway to Excellence

- **Mississippi Valley Division**
- **Progress Report**
- **FY00 Remediation Goals**
- **Community Interactions**
- **Taskers**
- **Questions**

US Army
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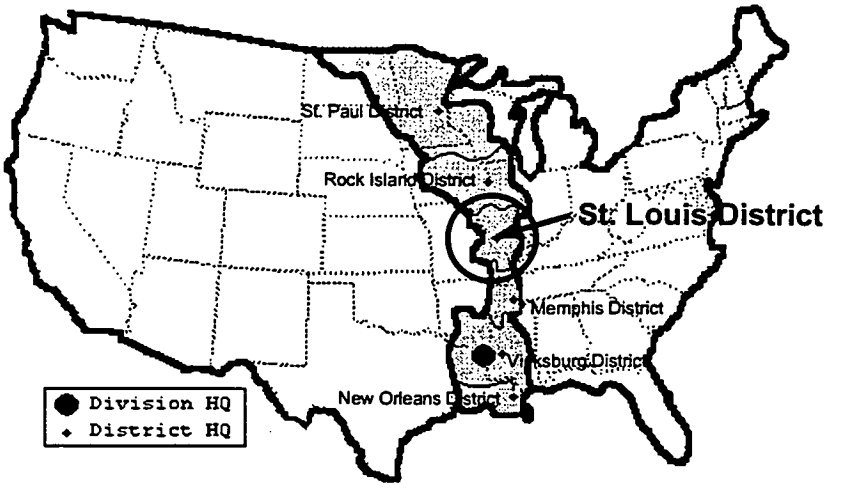
Mississippi Valley Division

Gateway to Excellence



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Progress Report
St. Louis Airport Site (SLAPS)

Gateway to Excellence

- **Construction Progress**
  - **Hotspot remediation, backfilling and shipments of soil from the East End continue**
    - 2,600 cyds shipped to date / 40,000 scheduled
    - Stone and Webster will begin shipment of asbestos 22 NOV - 1,500 cyds
- **South Ditch regrading complete / North Ditch regrading to start next week**
- **Backfilling portions of the East End**
- **Rail Shipments off SLAPS and Eva**
  - 61 gondola railcars shipped to date in FY 00 (5,200 cyds)
- **Radium Pits Schedule - remediation begins in MAR 00**
  - Test Pit data finalized

Nov 1999

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Progress Report
Radium Pits

Gateway to Excellence

- **Radium Pits Test Pit Information**
  - Conducted 8/9 SEP by SLAPS TERC
  - 2 pits dug - each 6 feet by approximately 20 feet deep
- **Purpose**
  - Determine the level of radioactivity & geotechnical characteristics of the soil
- **Results (up to 20' deep / sampling every 3')**
  - Area impacted is approximately 26,000 - 29,000 cyds (2 acres)
  - Thorium concentration encountered - 197 pCi/g to 42,072 pCi/g
  - Radium concentration encountered - 7 pCi/g to 1,839 pCi/g
  - Perched water entered both excavations at 12'
- **Test Pit Conclusions**
  - Suspected areas of high radiation (100,000 pCi/g) not encountered.
  - Blending of high concentration excavated soils with less contaminated excavated soils will occur to meet Envirocare waste acceptance criteria.
  - Pockets of high Radon were not encountered

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

Gateway to Excellence

- **HISS Eastern & Railspur Spoils Pile Removal (12,650 cy total).**
  - **Contractor on board for Eastern Piles**
    - Received contractor's updated plans on 1 NOV
    - Expect Notice To Proceed by end of NOV
      - Contractor resolving bonding issues
      - Corps of Engineers resolving GIFREHC issues
        - SLAPS TERC to construct equipment loadout pad upon approval to proceed by GIFREHC attorneys
    - FY00 removal is 0 cyds to date
  - **Supplementary Pile Plans and Specifications due 1 MAR**

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Progress Report
SLAPS Vicinity Properties

Gateway to Excellence

- **Lab delivered to site on SUPERVALU (VP38) property**
  - SLAPS TERC to tie in sewer by 17 NOV
  - Lab to be in place and operational @ 22 NOV
  - Removal of remainder of trailers from HISS TBD
- **VP38 (Supervalu) remediation scheduled - 1 MAR start (1,500 cyds)**
- **Remediation strategy**
  - Developing priorities for characterization plan by end of NOV
- **Utility Company coordination**
  - Annual meeting is scheduled for 6 DEC

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Progress Report
North County ROD

Gateway to Excellence

- **Six Alternatives**
  - **Excavated volumes range from 0 to 465,000 cyds**
  - **Cost ranges from $400,000 to $344,000,000**
- **Likely cleanup criteria**
  - **Based on 40 CFR 192**
  - **Site specific derivation**
  - **Volumes appear similar**
  - **Thorium 230 is present at the highest concentrations**
- **PRARS will be issued by Investigative Area on SLAPS and elsewhere by individual property or property grouping.**
  - **Co-location of radionuclides and chemicals**
    - Risk for radionuclides is more restrictive
    - Removal of rad = removal of chemicals to a protective level
- **Contaminants of Potential Concern (COPC's)**
  - **Will differ by area (SLAPS and contiguous property, HISS/Latty, Other VP's, Coldwater Creek)**
- **Will brief in greater detail in the future**

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Progress Report
St. Louis Downtown Site (SLDS)

Gateway to Excellence

- **IT Corp. design activities**
  - **Plant 1 Remedial Design - Current completion is 9 DEC**
    - Expected volume is 1,500 cyds
    - Site preparation work (Slab removal) to begin @ 17 NOV
    - Subsurface remediation & sheet piling scheduled to start 15 DEC
  - **Plant 6E 90% Design to MVS 15 DEC**
    - Currently doing design and finalizing characterization for both 6E and 6E 1/2
- **IT Corp. remediation efforts**
  - **Plant 2 began on 6 JAN with slab break up. Subsurface excavation ongoing (8,500) - 65% complete.**
    - Completion date for Plant 2 is being reevaluated (5,500 cyds remain)
    - CoE & Mallinckrodt agreed on a path forward.
    - Night shift remediation / UXO avoidance work will begin 15 NOV.
  - **Contractor currently remediating the final hotspot in Plant 2**
- **595 cyds shipped this FY / 9,600 scheduled**

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Progress Report
Other Issues

Gateway to Excellence

- **North County Feasibility Study/ Proposed Plan**
  - FS/PP comments received from HTRW-CX 1 NOV
    - Issue relevant portions to regulators on 11 NOV
      - Discussion to follow on 17 NOV
    - Brief to Oversight Committee at DEC meeting
  - Groundwater TWG meeting was held 26 OCT
  - Formal release for regulator review @ 3 DEC
  - USEPA Remedy Review Board in JAN 00
- **Site A/E Contract - Proposals in**
- **Finalized FY00 scopes of work**
  - Negotiated with SLDS TERC 4 NOV, SLAPS TERC in 3 weeks
- **Program Review Meeting comments**
- **DoE Program POC's (HQ level) provided by HQUSACE**
  - No site contact to date

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FY00 Remediation Goals

Gateway to Excellence

Site	FY00 Volume Plan (cyds)	Strategy
SLAPS	40,000	Radium Pits – 29,000 East End – 9,500 Asbestos – 1,500
SLDS	8,500	Plant 2 – 5,500 Plant 1 – 1,500 Plant 6/6E – 1,500
Latty / HISS	12,500	Railspur Piles – 4,300 East Piles – 8,200
VP's	1,500	VP38 – 1,500
Total	62,500	Based on $45.0 budget

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Community Interactions

Gateway to Excellence

- **Recent Events**
  - Web site being updated
  - Newsletter being prepared
- **Upcoming Events**
  - Newsletter to be distributed in DEC

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Taskers

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- **Old Taskers**
  - Monitoring of personnel before and after the Radium Pits to Ms. Price (Pending due to schedule change.)
  - Input from Mr. Larson to MVS on minimizing inaccessible soils
- **New Taskers**

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Questions

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