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Department of Energy

Oak Ridge Operations Office
P.O. Box 2001
Oak Ridge, Tennessee 37831 — 8723

August 5, 1996

Mr. Daniel Wall
Site Assessment and Federal
Facility Section - Superfund Branch
U.S. Environmental Protection Agency
Region VII
726 Minnesota Avenue
Kansas City, Kansas 66101

Dear Mr. Wall:

QUARTERLY PROGRESS REPORT FOR THE PERIOD APRIL - JUNE 1996 FOR THE FORMERLY UTILIZED SITES REMEDIAL ACTION PROGRAM (FUSRAP) ST. LOUIS SITE

The following items represent the significant activities and achievements related to the FUSRAP St. Louis Site for the period April through June 1996:

- There were no Federal Facility Agreement (FFA) milestones scheduled during this period; however, all other FFA required activities were completed as necessary. In addition, the EPA, DOE, and Missouri Department of Natural Resources (MDNR) project managers had monthly meetings and bi-weekly telecons to address technical, cost, and schedule issues related to the St. Louis Site.

- The disposal of the remaining contaminated soils from remediation activities at the St. Louis Downtown Site (SLDS) Plant 10 was completed during the month of April. These soils were stored and covered during the winter at SLDS Plant 7S. Approximately 3700 cubic yards of soil were loaded into 50 gondola rail cars and shipped to an offsite disposal facility.

- Planning for the next phase of remediation work at the SLDS continued during the quarter. The demolition of the 50 Series Buildings has been selected as the next SLDS projects for fiscal year 1996. The current plans are to begin demolition activities in mid-August to accommodate Mallinckrodt's production demands for Building 50.

  Mallinckrodt will be removing all process equipment, piping, and electrical components from the five buildings that make up the 50 Series prior to DOE's demolition of the buildings. All concrete, brick, and similar rubble from the demolition will be staged prior to being crushed at SLDS Plant 7E. These crushed materials are planned to be used as backfill during remediation of the 50 Series subgrade soils in fiscal year 1997. Other building demolition debris will be staged at SLDS Plant 7S, loaded into gondola cars, and shipped to offsite disposal facility.

- The cleanup of low-level radioactive contamination located mostly along road frontages at several St. Louis Airport (SLAPS) vicinity properties was initiated during the month of April. During the quarter, design excavations were completed on six commercial properties along Frost Avenue. The Independent Verification Contractor (IVC) has verified that these six Frost Avenue properties have been remediated to DOE guidelines and can be released without radiological restrictions. The cleanup of the remaining four properties planned for Fiscal Year 1996 are underway and are expected to be completed by early August. A cable detector is currently being used at these properties to locate buried utilities lines and piping during excavation activities. This device has proven to be extremely useful in confirming the locations of buried lines and identifying underground metallic obstacles in areas where utilities were not thought to be present.

  Approximately 3000 cubic yards from the Frost Avenue excavations have been staged and shipped this quarter from the Eva Road Staging Area. This area is located at the property on the corner of Eva Road and McDonnell Boulevard. This property is also one of the SLAPS vicinity properties that has existing radiological contamination on it.

- The St. Louis Site Remediation Task Force held its regular monthly meeting in April, May and June. Several task force working groups continued to meet to discuss cleanup priorities and interim cleanup activities, as well as whether select technologies should be applied to remediation of the St. Louis Site. The significant conclusions drawn by the Task Force to date are listed in Enclosure 1 to this report.

  At the April meeting, the Task Force used a software program, The Innovator, to express initial preferences for the remediation options for each of the 10 components of the St. Louis Site. The majority of participants voted for complete excavation and remote disposal as their preferred cleanup alternative for the site.

  In May, the Task Force heard a presentation from Les Price, director of DOE's Former Sites Restoration Division, about current budget trends. Mr. Price advised the Task Force that risk reduction has emerged as an important issue in budget discussions. He said Congress is considering cost effective risk-based cleanup solutions, rather than returning all contaminated sites to "greenfield" standards.

  The Task Force requested DOE to develop cost estimate and risk assessment information for each remediation alternative. That information was presented to the Task Force at its June 18 meeting. The receptors modeled for risk include, as appropriate, commercial employees, maintenance workers, ditch workers, security guards, recreational users and resident gardeners. Some of the modeled estimates for existing conditions show the potential for doses exceeding EPA and DOE guidelines. However, current actual doses are well within acceptable levels. The information provided to the Task Force also indicated that the third remediation option (hot spot removal and capping) resulted in a lower risk than the fourth remediation option (complete excavation) for the majority of the 10 components. Also at the June meeting, the Task Force

requested that DOE develop several cleanup proposals for the portion of the North Riverfront Trail that runs along the St. Louis Downtown Site. The City of St. Louis anticipates completing construction of the recreational walkway and bikeway in October 1996, and the Task Force is considering a recommendation to clean up the contamination in the proposed route of the Riverfront Trail. The Task Force is expected to make a final decision on cleanup options to support the construction of the Riverfront Trail during the month of July. A previous recommendation that DOE remediate the SLAPS ballfields to recreational use standards was officially withdrawn at the June meeting because of a lack of consensus among Task Force members about the cleanup plan. The Task Force voted to divert the fiscal year 1996 funds allocated to the SLAPS ballfields cleanup for continued remediation of the SLAPS vicinity properties along Frost and Hazelwood Avenues.

During the third quarter of 1996, the Task Force is scheduled to meet on July 16, July 23, August 20 and September 17. The schedule currently calls for the Task Force's final report to be submitted to DOE on September 24.

- As a result of the Task Force extending its schedule for completion of its recommendations, DOE has requested an extension of the Federal Facility Agreement (FFA) milestones for submittal of Feasibility Study and Proposed Plan/Record of Decision for the St. Louis Site. DOE proposed that the submittal of these milestones be delayed by approximately one year to accommodate the review of Task Force recommendations. All indications are that this proposed extension is acceptable to DOE and the EPA.

- Discussions continued between DOE and MDNR officials in an effort to resolve the notices of violation (NOV) issued by the state regarding stormwater discharge monitoring at SLAPS. Both DOE and the City of St. Louis continue to maintain that they are not legally obligated to obtain a stormwater permit.

- The Stone Container Corporation, tenant on property 2L adjacent to Hazelwood Interim Storage Site (HISS), continues to make plans to expand and pave the parking lot at their facility. This will involve excavating between 12" and 24" of soil from the southwest quadrant of the property. The majority of this soil is contaminated above the accepted radiological cleanup guidelines. Therefore, Stone Container plans to place these soils (about 4000 cubic yards) into a covered, engineered pile at the rear of the property. Work on the parking lot expansion is expected to be completed by the end of fiscal year 1996.

During this quarterly period, environmental sampling conducted by FUSRAP consisted of routine surveillance, radiological surveys, and sampling associated with ongoing site remediation activities. A summary of these sampling/surveying activities and the analytical results received to date is enclosed. As always, all raw data and analyses are available for EPA review and inspection to the extent that you request.

During the fourth quarter of fiscal year 1996, there are no scheduled FFA milestones. In the interim, DOE will continue to work with EPA and MDNR to implement appropriate interim removal actions and to facilitate the process of selecting the final cleanup remedy.

Please advise if you have questions or comments regarding this quarterly report.

Sincerely,

David G. Adler, Site Manager
Former Sites Restoration Division

Enclosure

cc: R. Geller (MDNR)

Enclosure 1
SIGNIFICANT CONCLUSIONS OF THE
ST. LOUIS SITE REMEDIATION TASK FORCE

The significant conclusions drawn by the task force to date include:

- A general agreement that the cleanup criteria (5/15 pCi/g for radium and thorium, 50 pCi/g for uranium-238) are protective and represent appropriate standards for St. Louis Site remediation;

- A consensus that the cleanup of SLDS Plant 10 is a beneficial interim removal action contributing positively to the overall St. Louis Site cleanup objectives;

- A consensus that cleanup of the pile of radioactivity contaminated soil on Latty Avenue vicinity property 3L is (was) a prudent interim removal action;

- A consensus that additional site stabilization activities at the St. Louis Airport Site are appropriate, including upgrading the fence and revegetating areas prone to erosion. While the Task Force originally supported an EPA recommendation to mitigate the exposure of a radiological hot spot along the northern fenceline, it concluded that the hot spot posed no imminent health risk and subsequently withdrew support for a removal action that would have shielded the hot spot and reduced the fenceline dose rates by a factor of twenty. EPA and MDNR subsequently agreed it would be appropriate to shift the funds for this activity to other St. Louis remediation work.

- A consensus that any additional FY-95 funding available for St. Louis cleanup work should be directed toward vicinity properties -- including completion of remediation of Property 3L (Quaker State property).

- A consensus on the budget priorities for FY96 and FY97 that recommends approximate spending allocations as follows:

  - $200,000/yr to evaluate local disposal options;
  - $200,000/yr to evaluate suitable locations for an in-state disposal cell;
  - $4,000,000/yr to remove contaminated soils from haul route properties;
  - $4,000,000/yr to restore/stabilize Airport-owned properties;
  - $4,000,000/yr to continue cleanup efforts at SLDS;
  - $200,000/yr to continue soil treatability investigations.

- A consensus that the Task Force should conduct routine publicity activities, including mailing news releases and notices of meetings to interested parities, to inform the public about its discussions. The publicity is being conducted by FUSRAP at the request of the Task Force.

- A consensus that the Task Force evaluate its membership and, where appropriate add members from stake holder groups that potentially may be impacted by activities as the St. Louis Site. The Task Force approached officials in the cities of Black Jack and Florissant, which are impacted by Coldwater Creek, as well as representatives of McDonnel Douglas Corporation, the U.S. Army Corps of Engineers, the City of Bridgeton, Southwestern Bell Telephone Company, and the Metropolitan St. Louis Sewer District. The City of Bridgeton, and the Metropolitan St. Louis Sewer District opted to join the Task Force as voting participants; the other stakeholder groups chose to only be added to the Task Force mailing list.

- A consensus that the Task Force use a matrix tool to develop remediation alternatives for various components of the St. Louis Site. These alternatives will be discussed as the Task Force develops its final recommendations.

- The Task Force used The Innovator to express initial preferences for cleanup options for each component of the St. Louis Site. Acknowledging the absence of cost estimate and risk assessment information, the majority of participants voted for complete excavation and remote disposal as their preferred cleanup alternative for the site.

- The Task Force discussed current budget trends and their potential impact on Task Force deliberations.

- The Task Force evaluated cost estimate and risk assessment information for the remediation alternatives for each of the component sites identified by the Task Force. The Task Force also agreed to reallocate funds originally set aside for remediation of the SLAPS ballfields to other St. Louis Site remedial actions.

Summary of Second Quarter 1996
Sampling and Analysis

The following is a summary of environmental data collected for FUSRAP sites in St. Louis, Missouri during the second quarter of calendar year 1996. Samples were collected and analyzed in support of environmental surveillance and post-remedial activities of the sites. A total of 464 samples were collected for various radiological and non-radiological analyses during the quarter. Preliminary evaluation of the data indicates results consistent with past characterization and environmental surveillance findings at the sites.

Groundwater

Seven groundwater samples were taken at HISS and four at the SLAPS ballfields in support of the routine environmental surveillance activities and analyzed for total uranium, thorium-230, thorium-232, and radium-226. Maximum concentrations at HISS were 25.62 pCi/L for total uranium, and 0.55, < 0.32, and 1.93 pCi/L for thorium-230, thorium-232, and radium-226 respectively. Maximum concentrations at the SLAPS ballfields were 12.02 pCi/L for total uranium, and 0.31, 0.35, and < 0.57 pCi/L for thorium-230, thorium-232, and radium-226 respectively.

Five groundwater samples from HISS and five from the SLAPS ballfields were also analyzed for water quality parameters. The range of results for HISS were as follows: sodium, 9540 to 126,000 mg/L; potassium, 1390 mg/L; calcium, 89,500 to 854,000 mg/L; magnesium, 44,300 to 324,000 mg/L; bicarbonate, 302 to 458 mg/L; carbonate, 4 mg/L; sulfate, 47.5 to 239 mg/L; chloride, 9.1 to 67.9 mg/L; nitrate/nitrite, 1.8 to 878 mg-N/L; total phosphorus, 0.05 to 0.095 mg/L, total dissolved solids, 495 to 7320 mg/L. The maximum inorganic results for the SLAPS ballfields was 0.17 mg/L selenium.

Environmental Surveillance - Surface Water and Sediment

Also in support of the routine environmental surveillance activities at HISS, seven surface water and seven sediment samples were collected from near-by Coldwater Creek. Maximum concentrations in surface water were 8.88 pCi/L for total uranium, and 0.68, < 0.31, and 0.52 pCi/L for thorium-230, thorium-232, and radium-226 respectively. Maximum concentrations in sediment were 2.19 pCi/g for total uranium, and 7.23, 1.3, and 2.72 pCi/g for thorium-230, thorium-232, and radium-226 respectively.

Stormwater Surveillance

Four stormwater samples were collected from the two outfalls at HISS to comply with the requirements delineated in the NPDES permit number MO-0111252. Samples are taken monthly to analyze for settleable solids and quarterly to analyze for chemical and radioactive contaminants. The concentration of settleable solids was less than 0.50 mL/L/hr, well below the 1.0 mL/L/hr permit requirement. The concentrations of total organic halides and total organic carbon were 0.0138 to 0.0268 mg/L and 9.9 to 11.2 mg/L respectively. The maximum concentrations of radioactive analytes were 25.39 pCi/L of gross alpha, 13.14 pCi/L of gross beta, 15.24 pCi/L of total uranium, 16.76 pCi/L of thorium-230, < 0.49 pCi/L of thorium-232, 0.76 pCi/L of radium-226, and 0.66 pCi/L of radium-228.

One stormwater sample was collected at SLAPS during the second quarter in support of routine environmental surveillance. The final data results are not available for inclusion into this report but will be reported in the report for the third quarter.

Environmental Surveillance Summary

The above radionuclide concentrations were less than the DOE derived concentration guide (DCG) reference values for all groundwater, surface water, and stormwater samples collected in the first quarter of 1996. The DCG is a reference value calculated in DOE Order 5400.5, "Radiation Protection of the Public and the Environment." The DCGs (for ingested water) for the radionuclide analytes included in the second quarter environmental surveillance are: total uranium, 600 pCi/L; thorium-230, 300 pCi/L; thorium-232, 50 pCi/L; and radium-226, 100 pCi/L; and radium-228, 100 pCi/L.

Characterization Samples

One sample of wood from the ceiling joists in the 50 series buildings at SLDS was collected and analyzed for TCLP (VOA, BNA/E, pesticides, herbicides and metals). None of the results exceeded the RCRA hazardous waste criteria.

Forty-one soil samples were collected in the second quarter to provide radioactive contamination concentration information and boundary delineation along the proposed North Riverfront Trail on the St. Louis City property between SLDS and the Mississippi River. The maximum concentrations were 83.2 pCi/g for uranium-238, 4923 pCi/g for radium-226, and 14.6 pCi/g for thorium-230.

Five investigative composite soil samples were collected from 2 residential properties along Buddy Drive. The maximum concentration of thorium-230 was 3 pCi/g.

Sixty-two soil samples were collected along a sewer line on SLAPS vicinity properties 26, 27, and 30. The maximum concentration was 35 pCi/g for thorium-230. In addition, 93 soil samples were collected in the second quarter to provide boundary delineation on the SLAPS vicinity properties 33, 34, 36, and 37. The maximum concentrations were 3.0 pCi/g for uranium-238, 2.8 pCi/g for radium-226, 75.7 pCi/g for thorium-230, and 1.5 pCi/g for thorium-232.

Post-Remedial Action Samples

During the second quarter, 215 post-remedial action composite samples were collected from the SLAPS vicinity properties 21, 22, 23, 24, 26, 27, and 30. The maximum concentration was 14.9 pCi/g for thorium-230. All results were below the criteria for subsurface soil, greater than 6 inches deep.

Special Study Samples

Sixteen soil samples were collected from under Frost Avenue to provide data necessary to perform a hazard analysis on soil left under the roadway. The maximum concentration was 700 pCi/g for thorium-230.

Formerly Utilized Sites Remedial Action Program (FUSRAP)

ADMINISTRATIVE RECORD

for the St. Louis Site, Missouri

U.S. Department of Energy