



DEPARTMENT OF THE ARMY
ST. LOUIS DISTRICT, CORPS OF ENGINEERS
8945 LATTY AVENUE
BERKELEY, MISSOURI 63134

REPLY TO
ATTENTION OF:

September 6, 2002

Formerly Utilized Sites Remedial Action Program

SUBJECT: Copies of Training Session Fact Sheets

Dear Neighbor:

The U.S. Army Corps of Engineers has been making progress toward cleaning up contamination left behind by the nation's early atomic energy program in north St. Louis County. This work has been accomplished under interim cleanup remedies. Soon, the Corps will release documents that will identify choices for the final cleanup of this contamination. You will have an opportunity to review these choices and identify the one you prefer. Based in part on input received from you, the final remedy will be selected. As you review these documents, you may encounter unfamiliar technical terms and concepts.

Although the Corps recently held two public training sessions to explain these ideas, we understand not everyone was able to attend. We believe the fact sheets handed out during these sessions may help you understand the technical terms and concepts used in these plans. We are enclosing copies of these fact sheets. Please keep them and refer to them as you review the final cleanup documents when they are released later this year.

Copies of this letter without the enclosures will be sent to training session attendees. If you have any questions or concerns, please call Ms. Jacqueline Mattingly at (314) 260-3924.

Sincerely,

A handwritten signature in cursive script, reading "Sharon R. Cotner".

Sharon R. Cotner
FUSRAP Program Manager

Enclosures

Letter w/o post sheet & enclosures

20 w/o

enclosures

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*Count
76 w/ first
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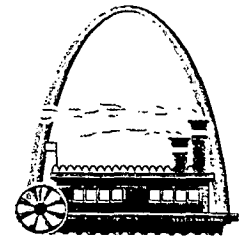
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U.S. Army Corps of Engineers
St. Louis District

St. Louis Sites Fact Sheet

WHAT IS FUSRAP?



"Gateway to Excellence"

The United States Army Corps of Engineers (USACE), St. Louis District, is conducting a radiological cleanup program for four Missouri sites (SLDS, SLAPS, SLAPS VPs, HISS). These sites contain soils contaminated with radium, thorium, and uranium as a result of activities associated with the Manhattan Engineer District/Atomic Energy Commission during the nation's early atomic program in the 1940s and 50s.

The FY 1998 Energy and Water Appropriations Bill, in which Congress transferred management of the Formerly Utilized Sites Remedial Action Program (FUSRAP) to the U.S. Army Corps of Engineers (USACE), was signed into law on October 13, 1997. Prior to the signing of this bill, FUSRAP had been managed by the U.S. Department of Energy.

The Corps of Engineers encourages private citizens to participate fully in the cleanup program.

To learn more about FUSRAP or to inquire about public involvement opportunities, contact the FUSRAP Project Office at (314) 260-3924 or write to the St. Louis District, Corps of Engineers, FUSRAP Project Office, 8945 Latty Avenue, Berkeley, Missouri 63134

The Formerly Utilized Sites Remedial Action Program (FUSRAP) is an environmental remediation program. It addresses radiological contamination generated by activities of the Manhattan Engineer District and the Atomic Energy Commission (MED/AEC) during development of the atomic weapons in the 1940s and 50s.

BACKGROUND

From 1942 to 1957, the Mallinckrodt Chemical Plant extracted uranium and radium from ore at the St. Louis Downtown Site (SLDS) in downtown St. Louis, Missouri. During this time and until 1967, radioactive process byproducts were stored at an area adjacent to the Lambert-St. Louis Airport, which is now referred to as the St. Louis Airport Site (SLAPS).

In 1966, the SLAPS wastes were purchased, moved, and stored at Latty Avenue. Part of this property later became known as the Hazelwood Interim Storage Site (HISS). During this move, handling and transportation of the contamination spread the materials along haul routes and to adjacent vicinity properties forming the St. Louis Airport Site Vicinity Properties (SLAPS VPs).

During the late 1950s and early 1960s, Dow Chemical Company in Madison, Illinois operated as a uranium extrusion and rod-straightening facility. Contamination is now in dust located on roof beams at the Madison Site.

HOW HAZARDOUS ARE FUSRAP SITES?

Even though FUSRAP sites contain levels of radioactivity above current guidelines, none of the sites pose an immediate health risk to the public or environment given current land uses. The contaminated materials have very low concentrations and people are not exposed to them for long periods of time.

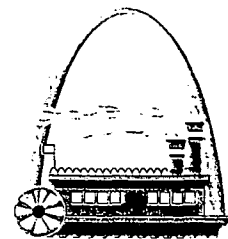
Although these materials do not pose an immediate hazard, they will remain radioactive for thousands of years, and health risks could increase if the use of the land were to change. Under FUSRAP, each site is cleaned to levels acceptable for the projected future use of the land such as residential development, industrial operations, or recreational use.



U.S. Army Corps of Engineers
St. Louis District

St. Louis Sites Fact Sheet

RADIATION BASICS



"Gateway to Excellence"

The United States Army Corps of Engineers (USACE), St. Louis District, is conducting a radiological cleanup program for four Missouri sites (SLDS, SLAPS, SLAPS VPs, HISS). These sites contain soils contaminated with radium, thorium, and uranium as a result of activities associated with the Manhattan Engineer District/Atomic Energy Commission during the nation's early atomic program in the 1940s and 50s.

Radiation is energy that travels in the form of waves or particles. Radioactivity is the property of some atoms to spontaneously give off energy. The atoms that make up the radioactive materials are the source of radiation. Ionizing radiation can be found in everything in nature in trace amounts—including people—but in high enough concentrations, it can cause chemical and/or physical changes in human tissue. While it is true that radiation can cause biological damage, it is important to keep the risks in perspective. We cannot eliminate radiation from our environment, but we can reduce our risks by controlling exposure.

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WHAT IS RADIATION?

Radiation is energy that travels in the form of waves or particles. Radiation is everywhere - in, around, and above the world we live in. Depending on how much energy it has, radiation is described as either non-ionizing (low energy) or ionizing (high energy). Non-ionizing radiation includes the sun and various electronic devices. Ionizing radiation can be found in everything in nature in trace amounts—including people. Every element such as carbon and potassium, as well as uranium and thorium has a radioactive form. Although ionizing radiation is all around us, in high enough concentrations it can present a health hazard if it is not properly controlled.

WHAT EFFECTS CAN RADIATION HAVE?

Because it can knock electrons from the atoms and molecules in its path, ionizing radiation can cause chemical and/or physical changes in human tissue. The effect of radiation on the body depends on how long the exposure was, how much energy was absorbed, and the type and number of cells that were affected. Most of the time, the cells can repair any damage themselves; however, sometimes they cannot. While there are billions of cells in the body, if enough are damaged, there is a risk of adverse health effects.

IS ALL IONIZING RADIATION THE SAME?

Ionizing radiation may be one of three types (alpha, beta, or gamma). Alpha particles can travel approximately 1-2 inches in air and can be blocked by a sheet of paper. Beta particles can travel 6-10 feet in air but can be blocked by a few millimeters of substance (i.e., clothing, glass, plastic, aluminum). Gamma particles can travel the farthest but may be stopped with lead or concrete.

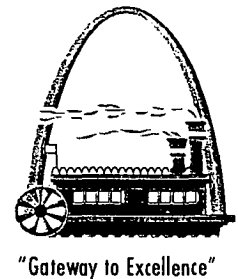
WHAT IS DOSE? HOW IS RADIATION MEASURED?

The dose is the quantity of radiation or energy received. A basic unit for measuring the amount of energy absorbed from radiation received is the *rad*. To show biological risk and the probability of harmful effect, rads are converted to *rems*. The rem reflects tissue dose and takes into account the type of radiation absorbed into the body and the likelihood of damage. Because exposure to radiation normally occurs in fractions of a rem, the commonly used unit of exposure is the *millirem (mrem)*. One rem equals 1,000 millirem.



St. Louis Sites Fact Sheet

RISK ASSESSMENT



The United States Army Corps of Engineers (USACE), St. Louis District, is conducting a radiological cleanup program for four Missouri sites (SLDS, SLAPS, SLAPS VPs, HISS). These sites contain soils contaminated with radium, thorium, and uranium as a result of activities associated with the Manhattan Engineer District/Atomic Energy Commission during the nation's early atomic program in the 1940s and 50s.

The risk assessment is a method used to quantify threats to human health and the environment. By examining the potential adverse effects caused by a hazardous substance, the risk assessment can help decide what needs to be cleaned up, where, and to what level. Risk assessments are comprised of two elements: the human health risk assessment and the ecological risk assessment. Together, they help determine the most effective way to clean up a site while reducing the overall risk to human health and the environment.

The Corps of Engineers encourages private citizens to participate fully in the cleanup program.

To learn more about FUSRAP or to inquire about public involvement opportunities, contact the FUSRAP Project Office at (314) 260-3924 or write to the St. Louis District, Corps of Engineers, FUSRAP Project Office, 8945 Latty Avenue, Berkeley, Missouri 63134

WHAT IS A RISK ASSESSMENT?

The risk assessment is a method used to quantify threats to human health and the environment. It is performed during the Remedial Investigation / Feasibility Study process required by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). By examining the potential adverse effects caused by a hazardous substance, the risk assessment can help decide what needs to be cleaned up, where, and to what level.

HOW ARE RISK ASSESSMENTS PERFORMED?

Risk assessments are comprised of two elements: the human health risk assessment and the ecological risk assessment. Together, they help determine the most effective way to clean up a site while reducing the overall risk to human health and the environment. The following sections describe these two parts of the risk assessment in detail.

HUMAN HEALTH RISK ASSESSMENT

The human health risk assessment determines the risk posed by the contaminants to people who live, work or play at or near the site. Below is a basic explanation of the four main parts of a human health risk assessment.

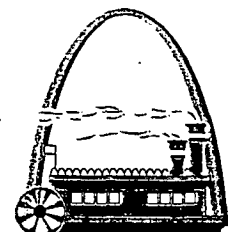
- **Data collection/evaluation** - determines what chemicals are present at a site, where they are present, what levels they are present in, and whether or not the chemicals are moving off the site.
- **Exposure assessment** - calculates ways people might be exposed to the chemicals identified at the site. People may be exposed to chemicals by breathing, touching, or consuming contaminated air, water, soil, or food. For each "pathway," the quantity of a chemical that someone could take into their lungs, digestive system, or absorb through their skin is estimated for the time the individual is affected by the site given its current and likely future uses. The estimates take into account how long, how often, and how many ways people could be exposed to site chemicals.
- **Toxicity assessment** - evaluates the health effects that exposure to site chemicals could cause. It includes an assessment of the increased risk of *cancerous effects*, and an assessment of toxicological thresholds for *non-cancerous effects* (such as rashes, eye irritation, breathing difficulties, or organ damage).
- **Risk characterization** - combines the results of the three steps above to identify the critical risks posed by the site and determine whether they are great enough to cause health problems for people at or near a site.



U.S. Army Corps of Engineers
St. Louis District

St. Louis Sites Fact Sheet

ARARs



"Gateway to Excellence"

The United States Army Corps of Engineers (USACE), St. Louis District, is conducting a radiological cleanup program for four Missouri sites (SLDS, SLAPS, SLAPS VPs, HISS). These sites contain soils contaminated with radium, thorium, and uranium as a result of activities associated with the Manhattan Engineer District/Atomic Energy Commission during the nation's early atomic program in the 1940s and 50s.

Applicable or relevant and appropriate requirements, or ARARs, refer to a federal or more stringent state standard, which is aimed at protecting human health and the environment during the cleanup, that has been found to be legally applicable or relevant and appropriate for the site. ARARs are identified on a site-by-site basis. Factors such as the hazardous substance present, the location, the physical features, and the remedies being considered determine which standards must be met.

The Corps of Engineers encourages private citizens to participate fully in the cleanup program.

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ARARS AND REMEDIATION GOALS

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) requires the selection of a remedial action that is protective of human health and the environment and complies with "applicable or relevant and appropriate requirements" (ARARs). The approach to determining protectiveness involves a risk assessment and consideration of both ARARs and "to-be-considered" materials (TBCs). While the subject of risk assessment is addressed in a separate fact sheet, the following information is furnished to provide a better understanding of the concept of an ARAR and how it influences remediation goals.

WHAT IS AN "ARAR"?

The term "ARAR" comes from the phrase "applicable or relevant and appropriate requirement," which appears in CERCLA. In addition to being protective of human health and the environment, CERCLA specifically requires remedial actions (or cleanups) to attain federal or more stringent state standards determined to be legally applicable or relevant and appropriate under the circumstances presented by the contaminants at the site, unless a waiver is granted. Put another way, an ARAR is

- a promulgated federal or more stringent state law or regulation;
- aimed at protecting human health and the environment during the cleanup at a site; and that
- has been evaluated and found to be legally applicable or relevant and appropriate for the site.

The National Oil and Hazardous Substances Contingency Plan (NCP), which explains how CERCLA is to be implemented, provides further guidance by defining the concepts of "applicable" and "relevant and appropriate." A requirement is applicable if the specific terms (or "jurisdictional prerequisites") of the law or regulation directly address the circumstances at a site. If not applicable, a requirement may nevertheless be relevant and appropriate if circumstances at the site are, based on best professional judgment, sufficiently similar to the problems or situations regulated by the requirement.

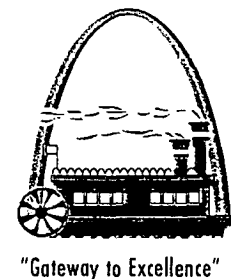
HOW ARE ARARS IDENTIFIED?

ARARs are identified on a site-by-site basis. It involves a two-part analysis: first, a determination of whether a given requirement is applicable; then, if it is not applicable, a determination of whether it is both relevant and appropriate. Factors such as the contaminants present,



St. Louis Sites Fact Sheet

RISK RANGE



The United States Army Corps of Engineers (USACE), St. Louis District, is conducting a radiological cleanup program for four Missouri sites (SLDS, SLAPS, SLAPS VPs, HISS). These sites contain soils contaminated with radium, thorium, and uranium as a result of activities associated with the Manhattan Engineer District/Atomic Energy Commission during the nation's early atomic program in the 1940s and 50s.

The CERCLA acceptable risk range is defined as the risk of one additional cancer in 10,000 to one additional cancer in 1,000,000 (or in scientific notation 10^{-4} to 10^{-6}). The risk range is used in the CERCLA process in three instances: the baseline risk assessment during the Remedial Investigation, development of remedial goals in the Feasibility Study, and in the documentation of protectiveness of the final site conditions during the Site Closeout.

The Corps of Engineers encourages private citizens to participate fully in the cleanup program.

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WHAT IS THE "ACCEPTABLE RISK RANGE" AND WHY IS IT USED?

Under the Comprehensive Environmental Restoration, Compensation, and Liability Action (CERCLA), the acceptable risk range is defined as risk falling somewhere between 1 additional cancer in 10,000 and 1 additional cancer in 1,000,000. It is used in three instances: the baseline risk assessment during the Remedial Investigation, development of remedial goals in the Feasibility Study, and in the documentation of protectiveness of the final site conditions during the Site Closeout. The risk assessment is used to quantify threats posed by a hazardous substance to human health and the environment. The results of the risk assessment are used to establish the basis for taking a remedial action and aid in the development of cleanup alternatives during the Feasibility Study. The condition of the site after cleanup is documented in the Post Remedial Action Report (PRAR), which ultimately becomes part of the final Site Closeout Report.

RISK RANGE IN THE RISK ASSESSMENT

Whether or not a risk is unacceptable is based on a comparison of the total current (and/or future) risks to the acceptable risk range. The acceptable risk range is defined as risk falling somewhere between 1 additional cancer in 10,000 and one additional cancer in 1,000,000. This range is commonly expressed as 10^{-4} to 10^{-6} . When the risk assessment indicates the total risk to an individual exceeds the 10^{-4} end of the risk range, action is generally warranted at the site. For sites where the total site risk to an individual, based on the reasonable maximum exposure or RME for both current and future land use, is less than 10^{-4} (the upper bound of the CERCLA risk range) action generally is not warranted unless there are non-cancer health effects or negative ecological effects that warrant action.

RISK RANGE IN THE FEASIBILITY STUDY

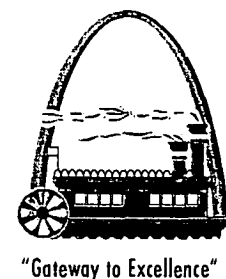
Once a decision has been made to take action, a Feasibility Study is conducted. As part of the Feasibility Study, cleanup levels (or remediation goals) are developed for the site. The first step in developing cleanup levels is to determine whether acceptable or reasonable and appropriate requirements (or ARARs) exist for the site. As a side note, ARARs at their simplest level refer to legal requirements for the cleanup of the site.

If an ARAR for a specific hazardous substance defines an acceptable level of exposure, compliance with the level in the ARAR will generally be considered protective even if it is outside the risk range. However, if there is the potential for exposure to multiple hazardous substances or pathways of exposure, and the individual ARAR levels for the substances or pathways add up to more than 10^{-4} , then compliance with the levels in the ARARs may not be protective.



St. Louis Sites Fact Sheet

CLEANUP



The United States Army Corps of Engineers (USACE), St. Louis District, is conducting a radiological cleanup program for four Missouri sites (SLDS, SLAPS, SLAPS VPs, HISS). These sites contain soils contaminated with radium, thorium, and uranium as a result of activities associated with the Manhattan Engineer District/Atomic Energy Commission during the nation's early atomic program in the 1940s and 50s.

There are basic actions required to carry out a cleanup under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA): sampling, remedy design, implementation, release, and ultimately final closeout. This fact sheet explains each of these actions and its purpose in the process.

The Corps of Engineers encourages private citizens to participate fully in the cleanup program.

To learn more about FUSRAP or to inquire about public involvement opportunities, contact the FUSRAP Project Office at (314) 260-3924 or write to the St. Louis District, Corps of Engineers, FUSRAP Project Office, 8945 Latty Avenue, Berkeley, Missouri 63134

While specific cleanup activities vary depending upon the final remedy selected, the basic process required to carry out a cleanup under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) is similar. Unless the "no further action" remedy is selected for a site, the cleanup process typically includes sampling (or Pre-Design Investigation), design (or Remedial Design), implementation (or Remedial Action), release (or Post Remedial Action Report), and ultimately final closeout/five year reviews. Many of the actions described herein are typical of cleanup activities for the cleanup of the St. Louis FUSRAP Sites under CERCLA. Let's look at each of these in turn.

SAMPLING (PRE-DESIGN INVESTIGATION)

The cleanup process begins with sampling (referred to as the Pre-Design Investigation) to identify the potential problem areas. The Corps collects data, conducts interviews and researches the historical use of the site to identify these areas. Potentially impacted areas could be the result of material storage, waste processing activities, or migration via wind or storm-water runoff.

A radiological walkover, using an instrument that detects radioactivity, is then conducted. A technician scans the site to determine whether areas of elevated radiological activity exist. Based on the results from the walkover, soil samples are collected to define the concentration and limits of contamination within any elevated areas located during the walkover. Systematic samples are collected to document concentrations within portions of the area that do not have elevated levels of contamination. The results of these activities are documented in the Preliminary Design Investigation Report.

DESIGN (REMEDIAL DESIGN)

Based on the Pre-Design Investigation Report, the remedial design develops the engineering approach and procedures required to safely carry out the selected remedy presented in the Record of Decision. Draft copies of the remedial design are provided to the Environmental Protection Agency (EPA) and Missouri Department of Natural Resources (DNR) for review and comment. Once their comments have been addressed, the document is finalized and cleanup work can begin.

IMPLEMENTATION (REMEDIAL ACTION)

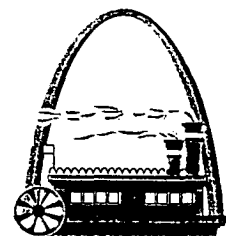
The remedial action implements the remedial design. The final remedy carried out at the site (for example capping, on-site disposal cell, treatment, or partial/complete excavation) is the one identified in the Record of Decision. Because each of these remedies may include excavation either as the remedy or a component of the remedy, this section will discuss the requirements of excavation as an example of how a remedial action is carried out.



U.S. Army Corps of Engineers
St. Louis District

St. Louis Sites Fact Sheet

RELEASE



"Gateway to Excellence"

The United States Army Corps of Engineers (USACE), St. Louis District, is conducting a radiological cleanup program for four Missouri sites (SLDS, SLAPS, SLAPS VPs, HISS). These sites contain soils contaminated with radium, thorium, and uranium as a result of activities associated with the Manhattan Engineer District/Atomic Energy Commission during the nation's early atomic program in the 1940s and 50s.

When a property is "released", it means that the cleanup of the property has met the goals identified in the Record of Decision. Two key terms are important when the USACE makes a determination of release for a property in the Post Remedial Action Report. These terms are restricted use and unrestricted use. This fact sheet explains these terms and the circumstances under which each is assigned.

The Corps of Engineers encourages private citizens to participate fully in the cleanup program.

To learn more about FUSRAP or to inquire about public involvement opportunities, contact the FUSRAP Project Office at (314) 260-3924 or write to the St. Louis District, Corps of Engineers, FUSRAP Project Office, 8945 Latty Avenue, Berkeley, Missouri 63134

When a property is "released", it means that the cleanup of the property has met the goals identified in the Record of Decision. The property's release status is documented in a Post Remedial Action Report (PRAR) prepared by the U.S. Army Corps of Engineers. This report documents the effectiveness of the cleanup, demonstrates compliance with the Record of Decision, and any restrictions placed on the future use of the property.

Before finalizing the PRAR, the U.S. Environmental Protection Agency (EPA), the Missouri Department of Natural Resources (MDNR) and the property owner receive copies of the document for review and comment. The Corps then addresses those comments, incorporates changes as required, and distributes the final document.

Two key phrases are important when the Corps makes a determination of release at a property in the PRAR. These phrases are "restricted use," and "unrestricted use and unlimited exposure".

RESTRICTED USE

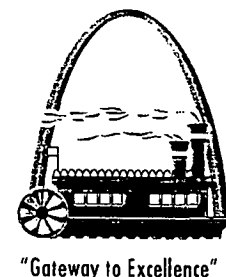
"Restricted use" refers to any remedial action that does not allow for unlimited use and an unrestricted exposure. Institutional controls (such as deed restrictions) or engineering controls (such as fences) are necessary to prevent an unanticipated land use change that could result in





St. Louis Sites Fact Sheet

LONG-TERM STEWARDSHIP



The United States Army Corps of Engineers (USACE), St. Louis District, is conducting a radiological cleanup program for four Missouri sites (SLDS, SLAPS, SLAPS VPs, HISS). These sites contain soils contaminated with radium, thorium, and uranium as a result of activities associated with the Manhattan Engineer District/Atomic Energy Commission during the nation's early atomic program in the 1940s and 50s.

"Long-term Stewardship" includes all activities necessary to protect human health and the environment at sites that have residual contamination present after "cleanup" is complete. Long-term stewardship includes all engineered and institutional controls designed to contain or prevent exposure to residual contamination, such as surveillance activities, record-keeping activities, inspections, site monitoring, maintenance of barriers and contaminant structures, access control and posting signs.

The Long-term Stewardship Plan is being developed for the FUSRAP St. Louis Sites now to allow plenty of time for technical, managerial and financial planning.

The Corps of Engineers encourages private citizens to participate fully in the cleanup program.

To learn more about FUSRAP or to inquire about public involvement opportunities, contact the FUSRAP Project Office at (314) 260-3924 or write to the St. Louis District, Corps of Engineers, FUSRAP Project Office, 8945 Latty Avenue, Berkeley, Missouri 63134.

WHAT IS LONG-TERM STEWARDSHIP?

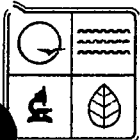
"Long-term Stewardship" includes all activities necessary to protect human health and the environment at sites that have residual contamination present after "cleanup" is complete. Long-term stewardship includes all engineered and institutional controls designed to contain or prevent exposure to residual contamination, such as surveillance activities, record-keeping activities, inspections, site monitoring, maintenance of barriers and contaminant structures, access control and posting signs.

WHY IS A LONG-TERM STEWARDSHIP PROGRAM NEEDED?

The U.S. Army Corps of Engineers has made significant progress in cleaning up contamination left behind in St. Louis from the nation's early atomic program. However, some areas cannot be remediated to levels that allow for unrestricted use because of prohibitive costs, and worker safety issues. Long-term stewardship will be required to ensure that remedies remain effective because of the nature of the contaminants involved. Long-term stewardship is being addressed as a discrete program to maximize the effectiveness of its implementation and to enable the measurement of performance.

HOW WILL THE LONG-TERM STEWARDSHIP PROGRAM BE IMPLEMENTED?

Long-term stewardship will be implemented as described in the Long-term Stewardship Plan. This plan is currently being developed and coordinated by representatives of the Corps, U.S. Department of Energy (DOE), U.S. Environmental Protection Agency (EPA), Missouri Department of Natural Resources (MDNR), local municipalities, utility companies, and the Oversight Committee. The community is also strongly encouraged to participate in the development of the long-term stewardship plan. In order to be effective, the Long-term Stewardship Plan will require community awareness of the exposure threat and assistance in establishing and maintaining the necessary controls. The long-term stewardship plan will identify activities necessary to ensure the continued protection of human health and the environment where residual hazards remain.



Information Sheet

Regulations Prohibiting the Disposal or Spread of Radiological Contamination

August 20, 2002

INTRODUCTION

One of the issues that has arisen at the Formerly Utilized Sites Remedial Action Program or FUSRAP sites is the potential dispersal of contamination during the construction of new buildings or utilities at the more than 80 Vicinity Properties. Vicinity Properties are not part of the heavily contaminated areas of FUSRAP where uranium production by-products were stored, but instead are neighboring properties suspected of contamination from airborne dust or spillage. Missouri state law and regulations prohibit this contamination from being placed within Missouri landfills.

KEY POINTS

- ♦ Missouri Solid Waste Regulations prohibit the placement of radiological waste, production by-products, or otherwise radioactively contaminated materials into Missouri landfills, except that naturally occurring radioactive materials may be accepted for disposal with prior written approval from the department.
- ♦ Use of these same materials, as "clean fill" at other Missouri properties is not specifically addressed; however this act is prohibited the same as any uncontrolled placement of a solid waste or contaminant. [Chapter 260.10 Revised Statutes of Missouri (RSMo) specifies disposal actions must be done only at state permitted disposal facilities.]
- ♦ Good records and technical services must be maintained to help landowners, utility companies, and municipalities identify contamination left after remedial actions by the USACoE, and to prevent its spread to other Missouri properties.

HISTORY

The Department of Natural Resources' rule pertaining to the Design and Operation of Sanitary Landfills within the state of Missouri was updated as of July 30, 1999. The rule, 10 Code of State Regulations (CSR) 80-3.010, as a whole, sets forth requirements to ensure that the design, construction and operation of sanitary landfills will protect public health, prevent nuisances and meet applicable environmental standards. The specific rule, 10 CSR 80-3.010 (3) (A) 2., was intended to prevent Missouri sanitary landfills from becoming the nation's radiological waste dumping grounds.

MISSOURI REGULATIONS

Radioactively-contaminated materials, as defined under 10 CSR 80-3.010 (3) (A) 2, are restricted from disposal of in Missouri. The regulation reads as follows:

(3) Solid Waste Excluded.

(A) Requirement. The following are excluded from disposal:

- 1. Regulated quantities of hazardous waste;*
- 2. Radioactive materials as follows:*
 - A. The tailings or wastes produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content as defined in the Atomic Energy Act of 1954, 42 U.S.C. section 2014(e)(2)(1996);*
 - B. Any radioactively-contaminated material used in or resulting from the cleanup of radioactively-contaminated sites;*

C. Any byproduct, source or special nuclear material regulated by the Atomic Energy Act of 1954;

FREQUENTLY ASKED QUESTIONS

Can I construct buildings or otherwise improve the FUSRAP vicinity property in my possession?

Yes!! Grading plans in many cases can be designed to allow development to continue while keeping all soils on-site or soils that are not contaminated can **be transported elsewhere within the state with no more restrictions than any other soils or debris.** The majority of soils within the FUSRAP properties will likely fall into this category.

Does FUSRAP radiological contamination include elements found naturally within soils? If so, how will the decision be made that my property has been contaminated?

Yes. The same radiological elements in FUSRAP contamination can be found in all North St. Louis County soils in trace amounts. Any soil on north St. Louis County FUSRAP properties with quantities of those elements exceeding what is expected to occur naturally will be considered contaminated by the department.

Who do I contact for help if I suspect my property is impacted by FUSRAP materials and I have questions about the applicability of Missouri Solid Waste Regulations?

Please call the Missouri Department of Natural Resources Florissant field office at (314) 877-3250. An alternative contact is available by calling the Jefferson City office at (573)751-3907.

CONTACTS

Larry Erickson
Missouri Department of Natural Resources
Federal Facilities Section
PO Box 176
Jefferson City, MO 65102
1-800-361-4827
(573) 751-3907

Eric Gilstrap
Jo Anne Wade
Jill Groboski
Missouri Department of Natural Resources
FUSRAP Field Office
917 North Hwy. 67, Suite 104
Florissant, MO 63031
(314) 877-3250

REFERENCES

Missouri Department of Natural Resources –
Federal Facilities Section:
<http://www.dnr.state.mo.us/alpd/hwp/ffss.htm>

Missouri Department of Natural Resources –
Solid Waste Management Program:
<http://www.dnr.state.mo.us/alpd/swmp/homeswmp.htm>

US Army Corps of Engineers – St. Louis
District:
<http://www.mvs.usace.army.mil/engr/fusrap/home2.htm>

FUSRAP Document Management System

Year ID

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Further Info?

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Operating Unit

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Site

Area

MARKS Number

FN:1110-1-8100g

Primary Document Type

Public Affairs/Community Relation

Secondary Document Type

Correspondence

Subject or Title

Transmittal of Copies of Training Session Fact Sheets

Author/Originator

Sharon Cotner

Company

CEMVS-PM-R

Date

9/6/2002

Recipient(s)

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Version

Final

Original's Location

Central Files

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Filed in Volume

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