MEMORANDUM FOR RECORD

DATE: 28 February 2018

SUBJECT: Formerly Utilized Sites Remedial Action Program (FUSRAP)
Utility Policy Revision 3 dated 28 February 2018

This policy outlines the methods used by the U.S. Army Corps of Engineers (USACE) to ensure the radiological safety and protection of utility personnel and property owners at the FUSRAP St. Louis Sites (SLS) during all intrusive, repair, etc. work activities in areas suspected or known to be contaminated with Manhattan Engineer District/Atomic Energy Commission (MED/AEC) residual radiological contamination. Utility personnel are defined as workers who must perform work activities at the SLS, i.e. utility workers, road crews, construction workers, etc.

The USACE includes personnel who work for the U.S. Army Corps of Engineers and the duly appointed representative under contract with the USACE at the SLS.

To ensure worker safety at the SLS, the USACE will perform monitoring that may include but is not limited to some or all of the following measures:

- Contamination control measures
- Air monitoring
- Selection of PPE
- Radiological surveys (personnel, area, and equipment)
- Collection of soil samples
- Management of contaminated soils
- Decontamination of personnel and equipment

The framework set forth in this policy is effective immediately and should be followed for all related work activities performed by the USACE in conjunction with private and public service organizations/companies that perform work activities at the SLS. This policy is intended to promote site wide consistency and to delineate the responsibilities and measures to be followed by the USACE and by utility personnel during planned and unplanned activities at the SLS.

Bruce Munholand
FUSRAP Program Manager
FORMERLY UTILIZED SITES REMEDIAL
ACTION PROGRAM (FUSRAP)
UTILITY POLICY

The United States Army Corps of Engineers, St. Louis District (USACE) has the responsibility to remediate several sites in the St. Louis, Missouri area that have residual radioactive contamination that resulted from former Manhattan Engineer District (MED) and Atomic Energy Commission (AEC) activities. During remediation of the MED/AEC contaminated areas at the St. Louis FUSRAP Sites (SLS), private and/or public service companies (known as "utility personnel") and property owners may need to perform improvements, repairs, or other work activities on properties that are included in the SLS. The SLS are those properties that are part of the St. Louis Downtown Site (SLDS) (see figure 1), and the North St. Louis County (see figure 2) FUSRAP Sites. This policy has been prepared to protect the utility personnel who perform work activities at the SLS.

This policy delineates the responsibilities and measures to be followed by the USACE and utility personnel during planned and unplanned work activities at the SLS. A planned activity is work that has been scheduled in advance (i.e., preventative or scheduled maintenance, scheduled utility line construction or repairs, etc.). An unplanned activity is any event that prior knowledge of the need for the work or repairs is not known (i.e., water or gas line rupture, accidents involving utility lines or poles, etc.). It is advisable that private and/or public service companies establish a Point-of-Contact (POC) with the USACE before performing any work at the SLS.

Figures 3 and 4 illustrate the process that the USACE follows to ensure an appropriate response to work requests or notifications. This process ensures that utility personnel are monitored during work activities at the SLS suspected of being contaminated with residual MED/AEC radioactive contamination. Should the work conditions become unsafe due to the presence of MED/AEC contamination above release criteria; the USACE will notify the POC of the private and/or public service company that radiological contaminants are present and recommend that work activities be stopped until appropriate precautions have been put in place to minimize exposure to utility personnel.

The basic limit for the annual radiation exposure (excluding radon) received by an individual member of the general public is 100 millirem/year (mrem/yr) (NRC regulation 10 CFR 20 Subpart D). In implementing this limit, USACE applies As Low As Reasonably Achievable (ALARA) principles to set site-specific guidelines. The USACE performs sampling, surveying, and monitoring activities to obtain an exposure for utility personnel working at the SLS. The results and dose are sent to the private and/or public service company of the utility personnel.

This policy provides control methods to ensure radiological safety and protection during all work activities at the SLS. This policy also applies to all contractors responsible for providing support to a participating private and/or public service company conducting maintenance at the SLS.

This policy includes requirements for radiological monitoring of utility personnel, equipment and vehicles prior to starting, during, and at the completion of any work activities in areas suspected or known to be contaminated with MED/AEC radiological contamination at the SLS.

The monitoring may include, but is not limited to:
1. Contamination control measures
2. Air Monitoring (Only when USACE involvement requires excavation or hauling)
3. Selection of Personal Protective Equipment (PPE)
4. Radiological surveys (personnel, area, and equipment)
5. Collection of soil samples
6. Management of contaminated soils
7. Decontamination of personnel and equipment

I. The Responsibilities of USACE:
   1. Determine if the utility work requires FUSRAP support. Provide qualified health physics (HP) technician to monitor activities and provide support at the job site when necessary.
   2. Perform radiological surveys and collect soil samples as appropriate to determine the levels of radioactive MED/AEC contamination encountered by non-radiological workers.
   3. Make recommendations on, and provide PPE as needed.
   4. Make recommendations on contamination control measures to be utilized during work activities.
   5. Survey and decontaminate equipment as necessary, and provide survey results to the private and/or public service company within a reasonable amount of time of the release survey.
   6. Provide a utility support summary report that contains monitoring/sampling data to the private and/or public service company within 90 days from the end of the activity. Provide monitoring/sampling results and dose received by each utility personnel to the private and/or public service company to enable the utility to ensure that the worker has not exceeded 100 mrem/yr (NRC regulation 10 CFR 20 Subpart D). Figures 3 and 4 are flowcharts that indicate how the USACE will respond during planned and unplanned activities.
   7. For planned events where advance notice has been given, coordinate with the private and/or public service company/utility personnel at an agreed time and place. For unplanned activities, respond as soon as reasonably possible of notification from the private and/or public service company/utility personnel.
   8. Be available on a 24-hour basis to respond to unplanned activities within the SLS boundaries that are defined in figure 1 and figure 2.
   9. Provide upon request, a radiation awareness briefing at the USACE facility for non-radiological workers/utility personnel.
   10. Provide proper management (including disposal) of MED/AEC contaminated soils and media generated on or near the SLS sites during work activities.
   11. Provide appropriate equipment and material to support monitoring, sampling, decontamination, and disposal.
II. The Responsibilities of the Private and/or Public Service Company/Utility Personnel:

1. Provide approximately 1 week lead-time for planned work at or near the SLS in order for the USACE to provide a more thorough analysis of site characterization data to determine if it is safe for utility personnel.

2. Coordinate all work at the SLS with property owners.

3. Provide qualified personnel, equipment, and materials necessary to conduct work within the SLS MED/AEC contaminated properties, including excavation equipment, transportation for the excavation equipment, tools, repair materials, backfill, a truck to stage/transport potentially contaminated soils, etc. At no cost to the company, the USACE will survey, and decontaminate as necessary, the equipment for release after it has been used on the contaminated sites. USACE will not compensate for loss of use during decontamination and release.

   Note: Historical data, composite soil samples, and direct reading instruments will be used to prevent private and/or public service company/utility personnel from transporting DOT Class 7 or Class 9 materials.

III. Notification

Before beginning work site excavations in the areas outlined in Figure 3 and Figure 4, the company/utility personnel must contact the USACE from the list provided on page 9 of this document. The contacted person will ensure that the appropriate qualified HP technician responds to the work site and provide additional information on the site conditions associated with the proposed work. If the first person on the contact list cannot be reached, proceed down the list until contact is made. As personnel changes occur, the attachment will be revised and reissued to all companies subject to this policy.

IV. Response Times

For planned events where advance notice has been given, the USACE will coordinate with the company/utility personnel at an agreed to time and place. For unplanned activities, an HP technician will respond as soon as reasonably possible.

V. Planned Work Procedures

1. The utility company will provide the location or a detailed plan in advance if possible.

2. The USACE Health Physicist will assess the relative risk associated with each planned work activity prior to responding to the request for the USACE support. A preliminary radiological survey will be conducted to determine if evidence of elevated activity exists in the work area.

3. In the event that MED/AEC radiological contamination exists in the work area prior to start of work or during the activity, work activities will stop and the USACE will mobilize to further assess the suspected areas, as appropriate. The work activity may start (or continue) upon approval of the USACE Health Physicist.
VI. Unplanned Situations
In the event that an unplanned situation exists (e.g., a gas leak) that requires immediate response by the participating company/utility personnel prior to the arrival of the USACE, the following provisions are recommended to ensure radiological protection.

1. The participating company/utility personnel should only perform immediate response actions (i.e., isolating the source of an emergency) prior to the arrival of the USACE. Further activity in a potentially MED/AEC contaminated area, beyond the immediate response actions, should follow the flowchart as outlined in Figure 4.

2. Recommended PPE during the immediate response actions are a Modified Level D with taped interfaces at the gloves and boots until the USACE arrive to evaluate radiological conditions in the work area. See Section X. Personal Protective Equipment (PPE) for a description of Modified Level D Protection.

3. All other provisions (i.e., surveying, contamination controls, decontamination of equipment, soils management, soil sampling, soil misting etc.) set forth in this policy for work activities at the SLS shall be followed (Figure 4) upon arrival of the USACE.

4. The USACE will attempt to coordinate with the company/utility personnel to ensure that any materials required, for radiological protection in an unplanned situation, is available upon the arrival of the USACE. These materials may include, but are not limited to, clean plastic, Tyvek coveralls, PVC or nitrile gloves, appropriate outer work gloves, and chemical resistant pull-on outer boots.

VII. Pre-Job Briefing
A pre-job briefing shall be conducted upon USACE arrival, with all utility personnel involved with the work activity. The briefing may include, but is not limited to, the following information:

1. Utility Support Informational Handout (see page 13) is distributed to utility personnel by the USACE provided HP technician.

2. USACE establish the name of the company and the workers present.

3. Potential radiological hazards of the area and methods of controlling such hazards.

4. Appropriate work controls and precautions to be taken during the performance of work, including PPE requirements.

VIII. Radiological Monitoring
In work areas that the USACE knows or suspects are contaminated with MED/AEC contaminated materials:

1. The USACE will provide a qualified HP Technician to monitor activities as needed at the job site.
2. The USACE will monitor activities and recommend work practices that are in compliance with all applicable regulatory requirements pertinent to radiological safety.

IX. Contamination Control
During planned and unplanned activities, some contamination control measures may be implemented to protect USACE and utility personnel. In general, because the radioactive contamination tends to adhere to soil particles, contamination can be controlled by implementing some or all of the following practices as determined by the USACE.

The USACE will recommend contamination control measures to be implemented for the protection of the utility personnel (i.e., PPE).

Contamination control measures will also be used to prevent/minimize equipment and tool contamination, and thus minimize/eliminate the need for decontamination. The USACE may line excavated work areas with plastic to minimize personal contact with contaminated soils. The USACE may tape or cover tools to minimize contact with contaminated soils.

Excavation activities shall be performed by the utility company. Once excavated, work areas in wet soil can be lined with plastic. The USACE will determine the proper disposal for radioactive wastes generated during work activities and manage the wastes generated as appropriate (See Section XV Contaminated Soils Management).

Decontamination of contaminated worker-owned tools and equipment is the responsibility of the USACE. Tools and equipment will be surveyed, and decontaminated as appropriate, by the USACE (See Section XIII Decontamination).

X. Personal Protective Equipment (PPE)
The USACE will determine if utility personnel require PPE above Level D to be worn inside the work area. It is the responsibility of the non-radiological worker/company supervisor to ensure that non-radiological workers wear the PPE recommended by the USACE. The USACE will supply the additional PPE required above Level D protection (i.e. Tyvek coveralls, gloves, and boot covers), where applicable. Level D protection includes the following:

Level D Protection:
Steel toe/shank work shoes, safety glasses, hard hat, work gloves, and coveralls.

Modified Level D Protection:
Level D protection with the addition of Tyvek coveralls, PVC or inner gloves, appropriate outer work gloves, and chemical resistant pull-on outer boots or boot covers.

Modified Level D PPE will be required if initial surveys and/or historical data indicate that there is MED/AEC radioactive contamination. The USACE will monitor conditions such that the utility personnel will never require more than Modified Level D protection. Should the USACE determine that a higher level of protection is required; the USACE will inform the company/utility personnel that work should not be permitted to start or should be stopped until the suspect area has been further assessed and/or remediated, as appropriate.
XI. Soil Sampling
1. During excavation activities, the removed soil and bottom of the excavation (when no evidence of a situation that could result in possible cave-ins, slides, hazardous atmospheres, or other hazardous condition is identified) will be surveyed for radiological contaminates. A composite soil sample may be collected from the removed soil, and analyzed. A biased soil sample may be collected from the excavation at the location with the most elevated readings from the survey. The results of these informational samples will be included in the utility support report.

2. Contamination control measures may also be used to prevent/minimize equipment and tool contamination, and thus minimize/eliminate the need for decontamination. The USACE may line excavated work areas with plastic to minimize personal contact with contaminated soils. The USACE may tape or cover tools to minimize contact with contaminated soils.

3. The USACE may request the assistance of the company/utility personnel to stage the soils that are suspected to be MED/AEC contaminated to allow sampling prior to shipment to a licensed disposal facility.

4. Soil samples collected will be analyzed by the St. Louis FUSRAP Analytical Laboratory for the contaminants-of-concern for the SLS.

5. The soil sampling analytical data may be utilized to modify and prescribe controls for on-site activities.

XII. Radiological Surveys
1. Personnel coming into contact with contaminated soils will be surveyed for radioactive contamination prior to exiting the area of concern. The survey will be conducted by an HP technician.

2. Prior to being released for unrestricted use, equipment that may have contacted removable contamination shall be surveyed.

3. The appropriate radiological survey will be performed on all available equipment. The survey results will be included with the summary report (see section XV).

4. The HP technician monitoring the activity will notify utility personnel if radioactive contamination is found or suspected during any radiological survey. Potentially contaminated personnel or equipment should remain at their location until released by the HP technician to avoid contamination spread to non-contaminated surfaces/personnel.

5. HP technicians shall follow applicable monitoring, decontamination, notification, and documentation requirements when responding to suspect personnel or equipment.
XIII. Decontamination

1. Contamination Control/prevention is preferred over decontamination. If possible, use contamination control measures (See Section XI) to minimize/eliminate the need for decontamination.

2. Decontamination of contaminated utility worker-owned tools and equipment is the responsibility of the USACE. Tools and equipment will be radiologically surveyed, and decontaminated as appropriate by the USACE. Radiological surveys for unrestricted release may be delayed if extensive decontamination efforts are necessary.

XIV. Contaminated Soils Management

1. The USACE is responsible for the proper management (including disposal) of MED/AEC contaminated soils and materials generated during work activities on the SLS.

2. In cases where the soil cannot be put back into the excavated area, the soil will be staged in the vicinity of the excavated area, or in a location designated by the USACE, and covered/managed by the USACE. This may include staging soil in trucks supplied by the utility company until the soil has been analyzed to determine soil management options.

XV. Utility Support Summary Report

A utility support summary report of the USACE activities and the field survey/soil sample data will be provided to the company of the utility personnel within 90 days from the end of the work activity. The USACE will include as part of the summary report, a dose assessment for the workers involved with the work activity at the SLS.

A utility support summary report shall not be submitted when USACE is notified of underground utility activities and determines no support is needed.

A utility support summary report may be submitted when no soil samples are collected, but a radiological survey was performed. Report submittal shall be determined by the USACE on a case by case basis.

A utility support summary report shall be submitted when soil samples are collected.

XVI. Training

Utility workers on the SLS properties are not required by 29 CFR 1926.65 (e) to have the Hazardous Waste Operations Training. Utility workers are not expected to experience exposure above 100 millirem per year. Therefore, utility workers are not Radiation Workers as described by the Nuclear Regulatory Commission (NRC) 10 CFR Part 19.
Upon arrival at a planned or unplanned work activity area, an HP technician will give a briefing along with a copy of the Utility Support Informational Handout (see Attachment 1) to the utility personnel on radiological safety/protection concerns specific to the work area and recommendations related to health physics and radiological safety/protection. Provisions for Unplanned Situations (Section VI) with regard to radiological safety/protection should be employed in the event that the participating utility personnel require immediate response to the emergency situation prior to the USACE arrival. Recommendations may include soil misting to eliminate fugitive dust and the use of PPE such as Tyvek coveralls to minimize potentially contaminating personnel clothing.

Upon request the USACE will conduct a radiation awareness briefing at the USACE facility at the Latty Avenue Project Management trailers or SLDS Project Trailers. This briefing covers the basic principles of radiation, radioactive contamination, and remedial activities at the SLS. The briefing will be provided at no cost. However, worker/utility personnel salaries during the time required to attend the briefing will be the responsibility of the respective company. More extensive training can be provided as requested or required.

XVII. Amendments
This policy represents the best efforts by the USACE to protect human health and the environment at the SLS. As new information is made available or new requirements are established that could impact this policy, amendments may be offered by the USACE or by the participating private and/or public service companies for discussion and possible inclusion.

XVIII. The USACE Limit of Responsibility
This policy and any internal procedures adopted for policy implementation is intended solely as guidance for employees of the USACE. This policy does not constitute rule making or final action by the USACE and may not be relied upon to create a right or a benefit, substantial or procedural, enforceable by law or in equity, by any person. This policy does not affect the rights or liabilities of the named private and/or public service companies under applicable law.
## USACE Contact List

### North County Sites

**Primary**
- William Viehweg
- Work: (314) 731-8074
- Cell: (314) 452-3486
- [William.Viehweg@usace.army.mil](mailto:William.Viehweg@usace.army.mil)

**Secondary**
- Vick James
- Work: (314) 260-3930
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- [Vick.L.James@usace.army.mil](mailto:Vick.L.James@usace.army.mil)

### St. Louis Downtown Sites

**Primary**
- Susan Adams
- Work: (314) 669-0115
- Cell: (314) 422-7205
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## Company Contact List

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<thead>
<tr>
<th>Company Name</th>
<th>Contact Information</th>
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<tbody>
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Lambert St. Louis Airport

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Operations Center

24 Hr. Emergency: (314) 426-8041

Verizon

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Figure 3
Planned Utility Activities

Utility company submit work description

USACE review work description

Does the work area present a potential concern for utility workers?  

USACE notifies the utility company; Work begins without USACE support

No

Yes

USACE mobilizes and provides monitoring support as determined necessary in the field

Utility work complete

USACE issues summary report, if necessary
Figure 4
Unplanned Utility Activities

Utility company notifies USACE of unplanned activity

Emergency?

Yes
Utility follows Section VI until USACE arrives

No
USACE mobilizes to the site. Health Physicist scans work area

USACE notifies the utility company. Work begins without USACE support

Does the work area present a potential concern for utility workers?

Yes
USACE mobilizes and provides monitoring support as determined necessary in the field

No
Utility work complete

USACE issues summary report, if necessary