

**ROCKY FLATS SITE
REGULATORY CONTACT RECORD**

Purpose: Replace Mound Site Plume Treatment System (MSPTS) media and maintain/repair discharge gallery.

Contact Record Approval Date: 1/14/11

Site Contact(s)/Affiliation(s): Scott Surovchak, U.S. Department of Energy (DOE); John Boylan, S.M. Stoller (Stoller); Rick DiSalvo, Stoller

Regulatory Contact(s)/Affiliation(s): Carl Spreng, Colorado Department of Public Health and Environment (CDPHE); Vera Moritz, U.S. Environmental Protection Agency (EPA)

Discussion: A routine maintenance activity to remove the MSPTS spent treatment media (zero valent iron [ZVI] filings) and replace it with new ZVI media is scheduled for January-February 2011. The last MSPTS media replacement was performed in 2006. See Contact Record 2010-07, which provides information about the MSPTS and the planned media replacement. The scope of the work was also discussed at a consultation meeting with DOE, CDPHE, EPA and Stoller staff on December 13, 2010. The work is summarized in this Contact Record.

The PVC piping in the two treatment cells will also be removed with the media (it is, by design, sacrificial). New PVC piping will be installed as part of the media replacement, but the piping configuration will be changed slightly to prepare for future plumbing changes, should they be desired, to allow easier field operational alignment to provide either up flow or down flow of water through the media. Although the system plumbing was improved in 2006 to allow both of these flow configurations, the currently proposed upgrades will provide improved components within the treatment cells; if desired in the future, additional components will be installed between cells to finalize these plumbing improvements. The end result of the completion of these plumbing improvements will be to provide for easier adjustments to flow configuration, and will eliminate subsurface valves that have proved problematic in some cases. The flexibility to switch the flow directions based on treatment system monitoring results allows flow characteristics to be optimized within the media as conditions warrant.

As discussed in Contact Record 2010-07, additional measures to reduce effluent concentrations of residual volatile organic compounds (VOCs) have been considered. In conjunction with the media replacement, a solar powered pump will be installed in the existing effluent metering manhole (which is approximately 5 feet diameter by 10 feet deep) to pump water from the bottom of the manhole up and through a spray nozzle (also situated within the effluent manhole). This optimization measure will reduce the residual low levels of VOCs via air stripping. Effluent water will only be sprayed within the manhole void space. The air space in the manhole will be vented using small vents installed in the lid and/or side of the manhole, as appropriate, and solar powered fans may assist in promoting ventilation. Data will be collected to help inform improvements in pump rate and spray pattern in order to optimize the effectiveness of this simple air stripping design. If these efforts lead to the conclusion that this air stripper does not perform satisfactorily or is not cost-effective, the RFLMA parties will consult on the feasibility of other air stripper designs.

The work will include excavation to approximately 4 to 5 feet below the ground surface to perform maintenance and make repairs as necessary on existing effluent discharge gallery components including the terminal section of discharge gallery pipe situated adjacent to FC-4 and the surrounding gravel drain. The work includes removing existing piping and aggregate, cleaning any excessive biological or mineralogical detritus, and replacing the piping components and aggregate. This work will be conducted generally within the footprint of the existing discharge gallery components. Attachment 1 shows the general location of the components to be excavated. Excavation at some locations along the run of the 2-inch pipe from the french drain manhole to the gravel drain components may also be done to investigate conditions and to verify locations for updating as-built drawings.

This excavation work will exceed the 3-foot depth limit specified by Rocky Flats Legacy Management Agreement (RFLMA) institutional control (IC) 2 (RFLMA, Attachment 2, Table 4, Control 2); thus, the procedures require preapproval.

The objective of IC 2 regarding excavations with a depth that exceeds 3 feet is to maintain the current depth to subsurface contamination or contaminated structures. These ICs also result in achieving compliance with the CDPHE risk management policy of ensuring that residual risks to the site user are at or below 1×10^{-6} . As discussed below, the proposed work achieves the risk management policy goal.

Excavation will be reduced to the extent feasible, and soils will be returned to approximately the preexisting grade. Excess soils and aggregate from the excavation after the new discharge gallery is installed will be used in the immediate area to reduce the potential for ponding, enhance drainage away from the treatment cells and associated components, and improve the road servicing the MSPTS. The best management practices in the *Erosion Control Plan for Rocky Flats Property Central Operable Unit, DOE-LM/1497-2007* (July 2007) will also be implemented to provide erosion controls for the construction area so that run-on and runoff will be minimized.

The MSPTS is expected to be shut down for several weeks to accomplish the work. Water within the treatment cells at the start of the project will be pumped out through the MSPTS effluent manhole. Water from precipitation in the excavation that may impact the construction work, or that accumulates in the treatment cells during the work, will be pumped to the ground in the area west of the excavation area. If water that collects in the MSPTS collection trench needs to be managed to reduce the levels in the trench, it will be transferred to the East Trenches Plume Treatment System.

CDPHE has requested that the following information related to ICs be included in contact records for soil excavation:

1) Provide information about any remaining subsurface structures in the vicinity so that the minimum cover assumption will not be violated (or state that there are none if that is the case).

The work is at the MSPTS. Except for MSPTS-related components, there are no other subsurface structures in the immediate vicinity.

2) Provide information about any former IHSSs/PACs [Individual Hazardous Substance Sites/Potential Areas of Concern] or other known soil or ground water contamination in the vicinity (or state that there is no known contamination).

The Mound Site Plume and Oil Burn Pit #2 Plume are upgradient of the MSPTS. There are no former IHSSs or PACs in the vicinity of the excavation area. Several former IHSSs or PACs are north, east, and south of the work area, but are not near the area to be disturbed. All of these were dispositioned by CDPHE and EPA approved "No Further Action Recommendations", and thus do not pose risk of contamination. These IHSSs/PACs are:

- Former IHSS 190, Caustic Leak (also referred to as the Central Avenue Ditch);
- Former IHSS 192, Anti-Freeze Discharge;
- Former PAC 900-1311, Septic Tank East of Building 991; and
- Former PAC 900-1312, OU 2 Water Spill.

The discharge gallery components function to carry the treated effluent water from the MSPTS. When flow to the MSPTS is shut down for the work, the effluent will stop. The volume of residual effluent in the components, if any, will be small. Contact Record 2010-07 includes an evaluation of MSPTS effluent concentrations and provides the basis for the conclusion that the effluent does not pose any significant risk to human health or the environment.

3) Resurvey any new surface established in subsurface soil, unless sufficient existing data is available to characterize the surface (or state that the excavated soil will be replaced and the original contours restored).

When completed, the surrounding soil will be generally consistent with the existing grade, with some very minor improvements to facilitate drainage and prevent ponding at the treatment cells.

Closeout of Contact Record: This contact record will be closed when the work is completed and post-construction revegetation and erosion controls are in place.

Resolution: Carl Spreng, CDPHE, approved this contact record.

Contact Record Prepared By: John Boylan and Rick DiSalvo

Distribution:

Carl Spreng, CDPHE
Scott Surovchak, DOE
Linda Kaiser, Stoller
Rocky Flats Contact Record
File



