

Road Map for the Lincoln Park Superfund Site/Cotter Uranium Mill Narrative

Purpose and Background

The purpose of this Road Map is to describe the manner in which the State of Colorado (State), the Cotter Corporation (Cotter), and the U.S. Environmental Protection Agency, Region 8 (EPA) will work together to ensure that all cleanup tasks at the Lincoln Park Superfund Site (Site) meet the requirements of the 1988 Consent Decree/Remedial Action Plan (CD/RAP), Cotter's operating license, and the Comprehensive Environment Response, Compensation and Liability Act (CERCLA or Superfund).

The Site is final on the Superfund National Priorities List (NPL) and includes the Cotter Corporation Uranium Mill (Mill) and the surrounding area as depicted on Figure 1. The Cotter Corporation holds a Radioactive Materials License (License) issued by the State of Colorado. The EPA listed the Site on the NPL as a result of contamination that was released from the Mill and came to be located beyond the facility boundaries. A number of investigations and response actions have occurred at the Site under Superfund, the License and a Consent Decree/Remedial Action Plan (CD/RAP), which the State of Colorado entered into with the Cotter Corporation in 1988, to settle natural resource damage claims related to the Mill. In a 1986 memorandum of agreement between the State of Colorado and the EPA, the State of Colorado was designated as the lead agency and the EPA as the support agency for purposes of accomplishing the Superfund response actions at the Site.

Many investigations, studies and interim response actions have been completed since the Site was listed on the NPL. The State of Colorado, Cotter and EPA agree that the final response actions at the Site must accomplish four main objectives:

- Protection of human health and the environment.
- Allow for termination of the Colorado Radioactive Materials License, after successful completion of all necessary activities and transfer of a portion of the property to the US Department of Energy(DOE) Legacy Management program for long-term surveillance under a US Nuclear Regulatory Commission (NRC) license;
- Successful completion of all activities required under the CD/RAP and, ultimately, termination of the CD; and
- Successful completion of all necessary activities required under Superfund and in accordance with the associated regulations, so that the EPA can delete the Site from the NPL.

The State, Cotter and EPA also agree that all three regulatory frameworks (License, CD/RAP and Superfund) are of equal importance and must be honored. Therefore, in order to achieve these objectives, the State, Cotter and EPA must demonstrate that all investigations and response actions are consistent with License termination, CD/RAP termination and Superfund requirements. Completion of this consolidated set of requirements will lead to final site closure.

Integration of License, CD/RAP and Superfund Activities

The State, Cotter and EPA are summarizing and documenting completed work and investigations to identify areas requiring future work and provide detail necessary for remedy decisions, regardless of the applicable regulatory framework. In order to facilitate a focus on specific areas or problems, the Site will be addressed by Operable Units (OUs). Actions within an OU address a specific problem, and may include interim or early actions, as well as provide a basis for final remedy selection. At this time, the State and EPA propose three OUs for the Site:

- OU1: The Cotter Uranium Mill facility and surrounding area, including the Shadow Hills Golf Course
- OU2: The residential area in Lincoln Park as defined in the 2002 Record of Decision
- OU3: All other areas where contamination from the Mill came to be located that are not already included in OU1 or OU2.

It may become apparent as information is compiled that the above operable unit designations may need to be modified to meet the requirements of Superfund, the License and CD/RAP.

A conceptual site model (CSM) is used to: 1) develop a general understanding of the Site to evaluate potential risks to human health and the environment and, 2) assist in identifying and setting priorities for the activities to be conducted at the Site. The CSM, the results of the CD/RAP Legacy Report and information collected in other investigations, will be used to evaluate the completeness of site characterization in each of the OUs. If site characterization is lacking, the State, Cotter and EPA will collaborate on the development of additional studies to fill data gaps. If site characterization is determined to be complete, a feasibility study will be completed including an analysis of remedial alternatives and Applicable or Relevant and Appropriate Requirements (ARARs). Once the feasibility study requirements are met, the State and EPA will select a preferred remedy after public comment and document the selected remedy in a decision document for each OU. The Superfund public participation process will be followed throughout the remedy selection process. Remedial designs and remedial actions will occur after selected remedies are documented in a decision document.

License Termination Process

Radioactive materials licenses specify the possession and management requirements for radioactive materials. Uranium recovery licenses are relatively complex and address requirements for operations and closure. At the time of issuance, the license identifies operational modes, radiation and environmental protection mechanisms and final closure requirements either in the license or reference documents. Corrective action is required for contamination associated with the mill operations. Licensing is largely performance-based, with the specific process used to achieve compliance determined between the regulator and the licensee.

The license and reference documents are re-evaluated every five years in a renewal process that has become more elaborate over the last fifteen years. The 2004 license decision, which received significant public input, included decommissioning steps to be performed for license termination. These steps include:

- cleanup of contaminated soils and placement in the primary impoundment,
- closure of the primary and secondary impoundments in-place for transfer as a final repository to the DOE for long-term surveillance and maintenance, and
- remediation of contaminated groundwater.

The goal of site closure is unrestricted use for the site with the exception of the final repository.

Currently, various license-driven actions have been undertaken related to site closure, including interim closure of the secondary impoundment, dewatering of the primary impoundment, and demolition of the mill with placement in the primary impoundment. Additional license-specific actions for termination relate to remaining facility demolition, impoundment reclamation, soil characterization and removal, and groundwater remediation.

License termination requires a documentation of the completion of remedial and decommissioning activities, evaluation of alternative standards for soil or groundwater contamination (if unrestricted use cannot be achieved), a Completion Review Report submitted to the NRC for review and acceptance, completion of a long-term surveillance and monitoring plan by the DOE for acceptance by the NRC, transfer of long-term care funds to the DOE, completion of transactions necessary to transfer property ownership, and state license termination and placement of the site and material under the NRC general license.

Consent Decree Completion

The Consent Decree (CD) provides the legal structure for the State and Cotter to evaluate and implement an adequate and cost-effective remedy that will effectively protect the public health, welfare and the environment associated with the Cotter mill as a result of civil action in the US District Court. It defines processes, roles and responsibilities, financial arrangements and legal jurisdiction for implementing the remedy as defined in the accompanying Remedial Action Plan (RAP). The CD finds that the actions under the CD/RAP comply with and are not inconsistent with the requirements of the National Contingency Plan. The Consent Decree has been the primary legal document for implementing the Superfund-related actions at this site.

The CD affirmed the license directive for Cotter to construct a hydrologic barrier beneath the SCS Dam to intercept contaminated groundwater from flowing into Lincoln Park. The RAP defined thirty additional tasks to be performed. The CD states that the facility will be decommissioned, closed, reclaimed and monitored pursuant to the Radiation Control Act and any other applicable statute, regulation or ordinance. Once the goals of the CD/RAP have been completed, Cotter can apply to the court for termination of the CD. State concurrence is required.

Superfund Deletion Process

The Superfund process follows the activities of characterization of the problem (remedial investigation; RI), assessment of alternatives (feasibility study; FS), remedy selection (Proposed Plan, Record of Decision; ROD), implementation (remedial design and remedial action; RD/RA), and long-term surveillance (operation and maintenance; O&M). Remedy effectiveness is evaluated on a five-year cycle following implementation.

In order for any portion of the site to be deleted from the NPL, that portion must be included in a decision document in accordance with Superfund requirements, and the remedy selected in that decision document must have been effectively implemented. Full site deletion from the NPL can only be proposed after all remedies have been implemented and cleanup standards have been achieved for all OUs. State concurrence is required, and deletion of all or portions of the site can only occur after a formal public comment period.

An RI and FS were completed in 1986, and numerous other studies, reports, decisions and remediation were completed subsequently. Part of the process to be followed as described in this proposed Road Map, is to determine what criteria have changed in the intervening years and whether additional work or documentation is required to satisfy the procedural and technical requirements of Superfund, as well as the other processes.

Given the work already completed at the site, the State and EPA will evaluate progress towards successful remediation and the adequacy of the processes followed. If site characterization is lacking, then the State and EPA will continue to collaborate with Cotter on the design of additional studies to fill data gaps. If site characterization is determined to be complete and adequately documented, a feasibility study will be completed including an analysis of remedial alternatives and Applicable or Relevant and Appropriate Requirements (ARARs). Once the feasibility study requirements are met, the agencies will work to select a preferred remedy and to document that decision in a Record of Decision for each OU. The Superfund public participation process will be followed throughout the remedy selection process. Remedial designs and remediation will occur after selected remedies are documented in a Record of Decision.

Road Map – The Conceptual Path Forward

Although staffs from the State, Cotter and EPA have been collaborating for years on work progress and direction, the complex nature of the Cotter/Lincoln Park site and the significant amount of work that has been completed makes it difficult to follow the interaction of the various existing and proposed projects. The attached tables attempt to identify how legacy and existing tasks relate to License termination, CD/RAP completion and Superfund deletion. The three attached documents to this proposed Road Map assist with understanding this integrated approach to address and document work at the Site:

- Table 1 - a Summary Road Map
- Table 2 – a Detailed Road Map including many of the completed investigations and work, and
- Figure 1 - an Aerial Figure of the Site.

The following processes will be used to satisfy the requirements of the license, CD/RAP, and Superfund:

Evaluate Existing Information

The determination that the necessary actions and documentation have been performed to close the Site necessitates a review of the legacy and existing activities to verify completion or determine if additional work is necessary. Cotter is currently preparing documentation of the completion of the RAP tasks, referred to as the “RAP Legacy Report”. The State and EPA will evaluate this information to determine which areas of the RAP have been fulfilled, identify data gaps, identify areas requiring more documentation or more work, etc.

Given the work already completed at the Site, the State and EPA will evaluate progress towards successful remediation and the adequacy of the processes followed. If site characterization is lacking, then the State, Cotter and EPA will continue to collaborate on the design of additional studies to fill data gaps in a manner consistent with Superfund Remedial Investigation guidance documents. The already-completed conceptual site models and risk assessments will be evaluated during this step to determine if additional risk evaluation may be needed for certain areas or media, and whether the existing site models are adequate.

Review of Site-Wide Documents

At the beginning of this Road Map Process, EPA and the State will conduct a comprehensive review of the following documents:

- Quality Assurance Project Plan (QAPP)
- Sampling and Analysis Plan (SAP)
- Health and Safety Plan (HSP)
- Community Involvement Plan (CIP)

These reviews will be conducted to assure that all over-arching procedures used to gather data at the site meet current requirements of CERCLA and the Radioactive Materials Licensing Rules. Cotter will be required to update the documents as necessary to address any State or EPA comments. The CIP will be updated to include the newly revitalized Community Advisory Group (CAG).

Site Characterization

As the need for additional information is identified, the State and EPA will collaborate with Cotter to determine what is necessary to provide that information. The approach will be documented in a work plan meeting the applicable requirements to be reviewed and approved by the State in consultation with EPA. Study results will be documented, risk evaluated, and reports developed consistent with appropriate requirements. In some cases, the results of multiple activities, both legacy and current, will be combined to provide the clearest definition of the problem. In these cases, interim documents will be provided showing the results of the current work. Final study results will be compiled into a formal, final document (remedial investigation report) addressing all the prior and current work to provide a basis for subsequent evaluation. These reports will be subject to a structured public comment process.

Alternative Evaluation

The remedial investigation report serves as the problem definition statement and the basis for developing and evaluating alternatives to remedy the problem. The feasibility assessment will identify and screen alternative remedial actions against a variety of criteria in a manner consistent with both license and Superfund requirements. These reports will be subject to a structured public comment process.

Remedy Selection

A Proposed Plan will be developed that details the preferred remedy. The proposed plan will be subject to a formal public comment process. A Superfund Record of Decision (ROD) will be completed for the proposed remedy and will include a responsiveness summary describing how comments received during the public comment period were addressed.

Remedy Implementation

Cotter will implement the remedy in accordance with the selected remedy in the ROD and any other applicable requirements. Once the remedy is completed, several different activities will occur, including the determination of "construction completion" under the Superfund process, preparation for DOE transfer, CDPHE license termination, CD/RAP termination and Superfund deletion.

If during the evaluation step, it is determined that a sufficient remedial action has been completed, all documentation has been submitted and the requirements have been met for a particular problem, then the State and EPA will determine the most efficient way to document the task completion. This may occur under a No Action ROD, or may be wrapped into a ROD for the OU that the activity occurred within.

Community Involvement

A great deal of work will be developed and implemented that will lead to the milestones described above. This is why community involvement will continue to exceed the minimum requirements of the state and NRC requirements for radioactive materials sites, and Superfund requirements. The agencies' commitment to the community is to engage in the most interactive and understandable process as possible. Two way communication is very important, and for it to be successful technical information is provided to the community in the most understandable, clear and concise language as is possible. In turn, community comments are welcome and reviewed for merit on the topic for

which comment has been requested. The agencies also commit to provide explanation about why a comment or suggestion may or may not have influenced agency decisions on that document or process.