

## **The Continuously Evolving Land Use Control Climate in FUSRAP - 12285**

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### **ABSTRACT**

In recent years the topic of Land Use Controls (LUCs) has become much more prevalent in the Formerly Utilized Sites Remedial Action Program (FUSRAP) for a number of reasons. Some regulatory agencies have been placing much more emphasis on this topic than they historically did. Also as the FUSRAP has matured, more sites are approaching a point in the project lifecycle that LUCs are needed to be implemented. There are many issues, some site specific, some agency specific, and some programmatic, that may arise when addressing LUCs on a FUSRAP site. These issues can span the life of a project from planning to implementation. As the emphasis on LUCs increases at a fast pace, USACE is faced with the task of developing consistency in how we respond, and at the same time leaving enough latitude for projects to accomplish their individual missions while taking into consideration the site specific concerns.

The Land Use Controls arena encompasses a large number of tools to address the matter at hand. There are numerous mechanisms that can accomplish Land Use Control goals, some of which include administrative controls and engineering controls. This paper will discuss some of the mechanisms being utilized by USACE at our FUSRAP projects. Having a better understanding of how LUCs are currently being handled in the FUSRAP will be beneficial to project delivery teams in order to make the best decisions moving through the project lifecycle. Being aware of LUC requirements and options at an early stage in a project will help a team effectively plan for and execute the chosen alternative for remedial action.

There are a number of guidance tools from various other agencies that exist for consideration during Land Use Control planning and implementation. The USACE is currently evaluating these guidance tools to determine applicability and impact to FUSRAP projects. Some of these tools are under review at Army and the Department of Defense. Critical to this evaluation is internal team coordination as well as coordination and input from stakeholders.

### **INTRODUCTION**

The term Land Use Control (LUC) in regard to real property is broadly interpreted to mean any restriction or control, arising from the need to protect human health and the environment, that limits use of and/or exposure to any portion of that property, including

water resources. LUCs include any type of physical, legal, or administrative mechanism that restricts or limits access to a property. Physical mechanisms encompass a variety of engineered remedies to contain or reduce contamination and/or physical barriers to limit access to property, such as fences, signs, or walls. The legal mechanisms used for LUCs are generally the same as those used for institutional controls (ICs) as discussed in the National Contingency Plan (NCP). ICs are a subset of LUCs and are primarily legal mechanisms imposed to ensure the continued effectiveness of land use restrictions imposed as part of a remedial decision. Legal mechanisms include restrictive covenants, negative easements, equitable servitudes, and deed notices. Administrative mechanisms include notices, adopted local land use plans and ordinances, construction permitting or other existing land use management systems that may be used to ensure compliance with use restrictions [5]. A layered approach to LUCs to include LUCs from multiple mechanisms may be required to meet all the needs of a project.

Legal mechanisms and administrative mechanisms, together, form what is commonly known as Institutional Controls (ICs). Although the Department of Defense or Department of the Army have not reviewed and endorsed it, the EPA has guidance that contains good general LUC information. The EPA guidance defines ICs as non-engineered instruments, such as administrative and legal controls that help to minimize the potential for human exposure to contamination and/or protect the integrity of a response action. EPA divides ICs into four categories: proprietary controls, governmental controls, enforcement and permit tools with IC components, and informational devices. It is important to note that DOE policy does not attempt to define the term “institutional controls” (ICs) which has already been stated to be a subset of LUCs, because DOE states there are diverse, and often inconsistent, meanings, depending on the driver for the controls [8]. However, DOE does present an IC classification system that is very similar to EPA’s guidance in DOE implementation guidance [9].

Restrictions or controls on land use, in some cases, may also be needed before making an environmental restoration decision. LUCs may be used while conducting environmental restoration investigations or during implementation of cleanup activities. Reasons for using LUCs may range from site security for property and equipment; safety concerns typical for a construction or industrial area, and concerns about potential exposure to possible contamination. LUCs used for a specified period of time or necessary until completion of specific environmental restoration activities are often called cleanup LUCs or interim LUCs.]

The Department of Energy (DOE) created FUSRAP in the 1970’s to identify, investigate, and cleanup or control residual contamination remaining at sites where work was performed as part of the nation’s early atomic energy program. Congress authorized and authorizes USACE to conduct cleanup work at FUSRAP sites pursuant to the Energy and Water Development Appropriations Acts and other Acts. In 1998, Congress determined that the response actions at FUSRAP sites “shall be subject to the administrative, procedural, and regulatory provisions of the Comprehensive

Environmental Response, Compensation, and Liability Act (42 U.S.C. 9601 *et seq.*), and the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR part 300).” [13]

Under the terms of the MOU between USACE and DOE dated 17 March 1999, USACE will be responsible at FUSRAP sites for a two-year period beginning after site closure, construction complete, or remedy complete. Therefore, USACE is responsible for documenting, implementing, and managing LUCs from inception to two years after site closure. After this two-year period, DOE resumes full responsibility for long-term stewardship of the site to include LUC management. Close coordination with DOE during the review will be necessary to ensure that any impacts to the maintenance or management of LUCs resulting from the review are communicated to DOE [1]. As previously stated, DOE has existing guidance on the use and implementation of ICs [8, 9] that should be considered as a part of USACE’s implementation of the response action for all FUSRAP sites that require LUCs as a part of the remedy or as the final remedy. Since DOE will ultimately be responsible for the LUCs after transfer of the FUSRAP site, USACE should incorporate to the maximum extent possible, DOE policy and guidance for LUC development, implementation and enforcement when LUCs are included in the remedy.

The process for evaluating, developing, establishing, and implementing LUCs may present legal and technical issues for a project. Property ownership as well as local and state laws and regulations will have impacts on the LUCs chosen for a site. Many LUCs are generally defined by state and local law. This can be a serious obstacle for our FUSRAP projects to overcome since in many cases, the Government does not own the FUSRAP sites so we do not have total control over the LUCs we place on a property. A property owner, whether residential, commercial or municipality, must voluntarily accept the LUCs proposed by USACE as part of any selected remedy. A situation where the Government places a LUC on a property they do not own severely limits the level of enforceability we can genuinely have in terms of the LUC. The legal mechanisms for establishing LUCs are generally defined by state and local law and for FUSRAP sites that are not government owned, USACE may lack the authority to establish some routine types of LUCs. For example, USACE does not have the authority to place a deed notice on a property without property owner’s consent. Office of Counsel will often be the most appropriate office to spearhead negotiations with property owners about this issue. The nature of property ownership (i.e. public or private) may affect what types of LUCs are possible and appropriate. Many types of LUCs are solely within the jurisdiction of state and local governments (e.g., zoning) or the private property owner.

Consideration of LUCs should happen as early in the project lifecycle as possible. This early coordination can include gathering input from real estate, engineering, project management and Office of Counsel personnel and ultimately extending to regulators, landowners, and local government officials. Certain LUCs are defined by the property laws of the state where the property is located and therefore can vary from state to state and county to county. For example, the State of New York Environmental Conservation

Law, Title 36, Article 71, requires an environmental easement be granted to the State of New York. The State of New Jersey Administrative Code, NJAC 7:26E-8.2, requires a deed notice be placed on the property. The differences in these requirements are legally significant, as one mechanism is intended to transfer a real property interest to the grantee, and the other does not. Office of Counsel may want to investigate the willingness or conditions the landowner might have in order to obtain agreement to some type of LUC or if other legal mechanisms might become necessary in trying to implement the necessary LUCs to ensure the protectiveness of the remedy. Early involvement by Office of Counsel to guide a Project Delivery Team on what options they have for LUCs is critical.

Some of the current guidance available includes:

- EP 200-1-20 Establishing and Maintaining Land Use Controls for Munitions Response Sites, 15 May 2011 Pending
- DOD policy memorandum, January 17, 2001, Policy on Land Use Controls Associated with Environmental Restoration Activities
- DOE Policy DOE P 454.1, Approved: 4-9-03, Use of Institutional Controls
- DOE Guide DOE G 454.1, Approved: 10-14-05, Institutional Controls Implementation Guide for Use with DOE P 454.1, Use of Institutional Controls.
- EPA Guidance, Sample Federal Facility Land Use Control ROD Checklist with Suggested Language, June 2005.
- EPA Guide (Interim Final), November 2010, Institutional Controls: A Guide to Planning, Implementing, Maintaining, and Enforcing Institutional Controls at Contaminated Sites, OSWER 9355.0-89.

There has been considerable emphasis at some of our FUSRAP sites on the EPA guidance, the Federal Facility Land Use Control ROD checklist. This checklist was published in November 2008 by EPA's Federal Facilities Restoration and Reuse Office. This is part of their Office of Solid Waste and Emergency Response (OSWER), but the checklist is not an OSWER directive. This document is guidance only.

With no concrete FUSRAP LUC guidance in place, we have the luxury of finding guidance that most appropriately meets our needs. However this brings inconsistency to how LUCs may be applied at FUSRAP sites.

## **RESULTS**

As guidance continues to be developed and the FUSRAP continues to mature, below are examples of what USACE is currently doing at our FUSRAP sites to address LUCs.

### **New York District (NAN) LUC Implementation**

The FUSRAP Maywood Superfund Site (FMSS) in Maywood, New Jersey is one of the more prominent FUSRAP sites in terms of duration and funding. The FMSS is a complex site and that is evident in the LUC arena. The site is located in a highly

developed area of northeastern New Jersey. Portions of the FMSS are radiologically impacted from work by Maywood Chemical Works (MCW) dating back to 1916. The DOE conducted radiological surveys of close to 350 properties potentially impacted by MCW operations and eventually 88 properties would be designated as part of the NPL listed site. The 88 properties are a mix of residential, commercial, municipal, and state of Federal Government owned. DOE began addressing 64 properties under what was called Phase 1, all of which are residential and cleaned up to unrestricted use criteria. When the FUSRAP transferred, the work on these properties was turned over to USACE along with the 24 properties that USACE would address under their ROD. The Soils and Buildings ROD for FMSS requires LUCs to be implemented for properties where FUSRAP waste concentrations in inaccessible soils remain above cleanup criteria or where remediation has been completed in accordance with established restricted use cleanup criterion. The Maywood ROD specifies that a Land Use Control Implementation Plan be completed for the site, and this document is currently going thru regulator review. The main EPA comments to date have revolved around application of the EPA ROD Checklist discussed earlier in this paper. Main comments from the State of New Jersey revolve around the enforceability of deed notices and need for a layered approach to LUCs. A separate LUCIP will be prepared for groundwater to provide consistency with the approach of having separate soils and groundwater RODs. The deed notice process at the FMSS has been a learning curve. Deed notices are thoroughly coordinated with property owners prior to being sent to NJDEP for approval. The approach for the Maywood FUSRAP project is for the USACE to file deed notices for individual properties, with the property owner consent. Only one of the currently 13 Phase 2 properties addressed under the ROD expected to require a deed notice is owned by the Federal Government.

The Colonie FUSRAP Site in Colonie, New York is an 4.73 hectare FUSRAP project for the New York District. The site was cleaned up by DOE and USACE under an Action Memorandum; however, 2.2 hectare parcels still contain material above the ROD criteria for lead at depth. New York State DEC will require a LUC for these 2 parcels and that LUC will be achieved likely by an administrative control. The LUC will restrict any excavation activities beneath 2.75 meters deep. The Federal Government is the property owner for this site.

Construction was completed in 2002 for the Wayne Interim Storage Site (WISS) in Wayne, New Jersey. In 2008 EPA wrote a Five-Year Review Report that stated ‘the implemented remedy has left all groundwater and soils suitable for use without restriction, except for two suspected sub-soil areas which are currently not accessible.’ The areas in question were located beneath a roadway to which the USACE could not gain access for characterization and remediation. A deed restriction for these areas was planned until funds were made available through the American Reinvestment and Recovery Act (ARRA) of 2009 to allow the USACE to work with the county to remediate the areas. The ability to address the previously inaccessible soils will allow the site to be closed out and de-listed from the National Priorities List without the need for any LUCs.

The New Brunswick Laboratory Site in New Brunswick, New Jersey was addressed by the DOE under FUSRAP. The DOE requested technical and management support capabilities of USACE to evaluate if additional work was required prior to the property meeting federal disposal requirements. The property was never formally transferred to USACE under FUSRAP. The DOE Office of Legacy Management filed a deed notice restricting the use of the property with Middlesex County, New Jersey to impose an excavation restriction on the property. The DOE LM will confirm every two years that the controls remain effective, in accordance with the State of New Jersey regulations found at New Jersey Administrative Code Section 7:26E, Technical Requirements for Site Remediation, Subchapter 8, “Engineering and Institutional Controls.”

#### Buffalo District (LRB) LUC Implementation

The Buffalo District's Seaway FUSRAP Site is a closed commercial landfill maintained by the landfill operator. The landfill is partially closed under New York State regulations, but areas containing FUSRAP material remain uncapped. The selected remedy in the ROD is to cap these areas in place. During the Proposed Plan comment period, several comments by the New York State Department of Environmental Conservation (NYSDEC) requested USACE to include detailed information in the ROD as to the specific LUCs the USACE would implement and how those would be enforced. The basic response was that detail on specific LUCs was not appropriate for a ROD. The ROD, which did not require State regulator approval, did state however that a Land Use Control Implementation Plan (LUCIP) would be developed during the remedial design. The project is currently waiting on funds to implement the remedy. A preliminary LUCIP has been drafted and is in the early stages of internal USACE review, including review by the USACE Environmental and Munitions Center of Expertise (EM CX). USACE has had preliminary discussions with NYSDEC regarding LUCs to be implemented, but the document is not in a complete draft state at this time. The LUCIP will review what existing LUCs are already in place on the site, including engineering controls such as the landfill cap and administrative controls such as deed notices and existing NYSDEC regulations for landfills, and determine what additional LUCs would need to be implemented to ensure protectiveness of the FUSRAP remedy.

#### New England District (NAE) LUC Implementation

At the New England District's Shpack site in Norton, MA, the FUSRAP cleanup was implemented in accordance with the EPA's ROD for the site. The FUSRAP work was the first step in the site cleanup. The approach at this closed landfill is that since the USACE remediated the radiological concerns, the responsible parties can now safely cleanup the chemical contaminants. The FUSRAP action was essentially an interim removal in the CERCLA process. Any LUCs that may be implemented will not be part of the FUSRAP work.

For the Combustion Engineering Site in Windsor, CT, the property owner is remediating the site in accordance with an NRC decommissioning plan. The final reuse for the site is unrestricted in all of the FUSRAP areas so there are no LUCs associated with the

FUSRAP work. We started investigating but CE didn't like the pace so they took it over under their decommissioning program and will cost recover.

#### Baltimore District (NAB) LUC Implementation

The only Baltimore District FUSRAP project is the W.R. Grace site. Although this site is implementing some cleanup criteria using industrial scenarios, there are no plans of implementing any LUCs.

#### Philadelphia District (NAP) LUC Implementation

The DuPont Chambers Works FUSRAP Site is within the Philadelphia District boundaries. The unique aspect of this project is that the anticipated FUSRAP response action affects only two distinct areas within the 283 hectare active chemical manufacturing plant in Deepwater, NJ. The Feasibility Study is complete and the project is following the CERCLA process with plans to issue to the Proposed Plan this year. One of the Feasibility alternatives proposes that no additional LUCs would be used except those that the property owner currently has and will have in place. DuPont Chambers Works provides security and limits access to the property. DuPont implements a number of land use controls by the nature of the property being an active industrial site. All FUSRAP work assumes the best and most reasonable future land use for the property will continue to be industrial with groundwater not used as a potable source. There are no plans to clean up to unrestricted levels; instead remediation goals were developed based on a construction worker being the reasonably maximally exposed receptor. DuPont is addressing non-FUSRAP contamination on the site through its HSWA permit and corrective action requirements at the same time that the FUSRAP work is being performed by the USACE. During the FUSRAP remedial action for soil, LUCs would be utilized to assure protectiveness. These LUCs include continuing the existing restrictions onsite and installing new access restrictions; maintaining fencing and signs; and periodically inspecting the site to ensure land use restricts are being enforced. For the groundwater alternative, a long-term stewardship plan would be developed to address requirements for future monitoring and maintenance of LUCs.

## RESULTS

With guidance on LUCs available from a number of entities, the USACE now has the opportunity to develop consistency in determining how LUCs are handled on FUSRAP projects. The FUSRAP ER, ER 200-1-4, is currently being revised and will broadly touch on LUCs. This broad approach was a result of recognizing the magnitude of variances and site specific components that come into play when applying LUCs to our FUSRAP sites.

As land use controls scenarios continue to arise on our FUSRAP sites, the methods for how our project teams address those will continue to evolve. The Program is continuing

to develop guidance on how to address LUCs. In the interim, our FUSRAP projects can share lessons learned on the LUCs they are implementing.

## REFERENCES

- [1] DOE, Memorandum of Understanding (MOU) between U.S. Department of Energy (DOE) and U.S. Army Corps of Engineers (USACE) regarding program administration and execution of FUSRAP, 17 Mar 99
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- [13] Energy and Water development Appropriations Act, Pub. L. N.O. 105-245, 112 Stat 1838, 1998.