

Long-Term Stewardship Challenges Posed by Vicinity Properties in the Formerly Utilized Sites Remedial Action Program – 23245

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ABSTRACT

The Formerly Utilized Sites Remedial Action Program (FUSRAP) was established by the US Atomic Energy Commission (AEC) in 1974 to identify and remediate sites where radioactive contamination remained from the Manhattan Project and early AEC operations. After approximately 20 years of remedial actions performed by AEC and its successor, the US Department of Energy (DOE), in 1997 Congress transferred the responsibility for FUSRAP cleanups to the US Army Corps of Engineers (USACE) and was directed to use the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) to remediate FUSRAP sites. DOE remained responsible for determining eligibility of sites for FUSRAP and ensuring that remediated sites remain protective of human health and the environment through long-term stewardship.

As of August 2022, there are 34 FUSRAP sites under DOE Office of Legacy Management (LM) stewardship for long-term surveillance and maintenance, while there are an additional 21 sites that continue to be remediated by USACE. Many of these FUSRAP sites include vicinity properties where FUSRAP-eligible contaminants have been deposited, stored, disposed, placed, or otherwise come to be located. The concept of a vicinity property dates from uranium mine tailings cleanup that began in 1972 and in subsequent legislation of the Uranium Mill Tailings Radiation Control Act of 1978 (UMTRCA). UMTRCA defined “processing sites” to include both uranium mill sites and any other property “in the vicinity of such site” that AEC determined to be contaminated with residual radioactive materials. The earliest FUSRAP surveys cited UMTRCA cleanup guidelines, as such the term “vicinity property” was adopted by FUSRAP.

Of the 34 completed FUSRAP sites managed by LM, 5 of those sites have a combined total of 115 vicinity properties. The number of completed FUSRAP vicinity properties managed by LM will nearly triple over the next decade due to the transition of the remaining 21 sites and may number greater than 1000 vicinity properties associated with FUSRAP sites by 2038. By that time, these vicinity properties will be located in five states and cover a variety of land uses including, municipal rights-of-way, industrial, commercial, and residential.

Vicinity properties pose unique challenges and opportunities for LM and for the stewardship of these sites into the future. Challenges include:

1. Efficiently managing the magnitude of records associated with these cleanups to ensure accurate and efficient responses to stakeholder inquiries.
2. Ensuring compliance of institutional controls in multiple states.
3. Coordination of long-term stewardship activities with potentially hundreds of property owners and other relevant stakeholders.

These challenges, along with other outside factors such as changes in land use, changes in regulations, and changes in communities, all being considered when developing and implementing the budget and programmatic enhancements to FUSRAP.

This session will examine the current best practices for vicinity properties, evaluate future challenges, as

well as provide some of LM's resolutions through recommendations and case studies on FUSRAP sites, as its vicinity property portfolio continues to grow.

INTRODUCTION

The Formerly Utilized Sites Remedial Action Program (FUSRAP) is a multiagency program whose purpose is to remediate sites where contamination remains from the Manhattan Project and early US Atomic Energy Commission (AEC) operations. FUSRAP was initiated in 1974 by the AEC using the implied authority to protect the health and safety of the public granted under the Atomic Energy Act of 1954 [1]. Upon creation of the US Department of Energy (DOE) in 1977, FUSRAP sites were remediated using DOE orders and standards of the Uranium Mill Tailings Radiation Control Act (UMTRCA) [2].

After approximately 20 years of DOE remedial activities, Congress transferred the responsibility for FUSRAP cleanups to the US Army Corps of Engineers (USACE) in 1997. USACE was directed to use the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) [3], and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) [4] to remediate FUSRAP sites. DOE remains responsible for determining eligibility of sites for FUSRAP and ensuring that remediated sites remain protective of human health and the environment through long-term stewardship.

The concept of a vicinity property predates CERCLA and can be found in uranium mine tailings cleanup beginning in 1972 and in the subsequent legislation of UMTRCA. UMTRCA defined "processing sites" to include both contaminated uranium mill sites and any other property "in the vicinity of such site" that DOE determined to be contaminated with residual radioactive materials [2]. FUSRAP was established in 1974 by the AEC using the implied authority of the Atomic Energy Act of 1954 [5].

DOE's definition of "vicinity property" appears in early FUSRAP guidance as, "A real property in the vicinity of a radioactive materials processing site that has become contaminated by radioactive materials emanating from the site..." [5]. USACE's definition of a "vicinity property" is slightly more expansive in that a property is "... known or suspected to be contaminated with radioactive and/or hazardous substances ..." [6]. Furthermore, USACE is responsible for designating new vicinity properties [6]. The difference in definitions has resulted in different totals for the number of vicinity properties associated with each site [7].

The most similar term to vicinity property under CERCLA is the "contiguous property owner" defined in Section 107(q) as "essentially victims of pollution incidents caused by their neighbor's actions." The US Environmental Protection Agency believes that the definition applies even if the property is not located immediately next door [8]. The term is not identical to FUSRAP usage though; under CERCLA a contiguous property owner "cannot cause, contribute or consent to the release or threatened release", whereas under FUSRAP often there has been no burden placed on the vicinity property owner if they had contributed to the release. At some sites, many vicinity properties were impacted by voluntary use of FUSRAP material as construction fill, similar to UMTRCA vicinity properties.

There are 21 active FUSRAP sites currently being remediated by USACE and 34 completed FUSRAP sites under stewardship by DOE [9]. There are currently 115 vicinity properties associated with completed FUSRAP sites. Programmatically, the number of DOE Office of Legacy Management (LM) FUSRAP vicinity properties is dwarfed by the number associated with the two LM-administered UMTRCA programs, which number greater than 8000 as shown in Table 1. Unlike FUSRAP, the states maintain records of VP cleanups under the UMTRCA programs.

TABLE I. Vicinity Properties in Various LM Regulatory Programs

Regulatory Program	No. of Vicinity Properties
FUSRAP	115
CERCLA/RCRA	441
UMTRCA Title I	163
UMTRCA Title II	8030
Total	8701

The number of vicinity properties associated with FUSRAP will approach 300 by 2026. As shown in Table 2, the number of vicinity properties overall will triple in 10 years and may be greater than 1000 by 2038. DOE stewardship responsibilities are perpetual.

TABLE II. FUSRAP Vicinity Properties

DOE Site Name	Transfer Year	No. of Vicinity Properties	Cumulative Total
Niagara Falls Storage Site Vicinity Properties	1992	23	23
Oxford, Ohio, Site	1997	4	27
Toledo, Ohio, Site	2001	1	28
Wayne, New Jersey, Site	2007	31	59
Colonie, New York, Site	2019	56	115
Hazelwood, Missouri, Site	2025	8	123
Maywood, New Jersey, Site	2029	92	215
Middlesex South, New Jersey, Site	2030	39	254
St. Louis, Missouri, Site	2032	38	292
Niagara Falls Storage Site	2038	3	295
Berkeley, Missouri, Site	2039	~900	~1203

In the 1980s, DOE developed a protocol for certification of FUSRAP vicinity properties including an independent verification, issuing a certification summary, sending notification letters to property owners, and publishing a certification notice in the Federal Register [10]. The protocol was very similar to the protocol that DOE developed for UMTRCA vicinity properties under a memorandum of understanding with the US Nuclear Regulatory Commission [11]. Modern protocols used by USACE follow the CERCLA process and include characterization surveys using guidance from the *Multi-Agency Radiation Site Survey and Investigation Manual (MARSSIM)* [7]. Public notifications about planned remedial actions occur when the decision documents are produced.

MANAGEMENT OF COMPLETED VICINITY PROPERTIES

Vicinity properties pose unique challenges and opportunities for LM and for the stewardship of these sites into the future. Challenges include efficiently managing the magnitude of records associated with these cleanups to ensure accurate and efficient responses to stakeholder inquiries.

LM is creating internet content including story maps to inform the public about the cleanup of vicinity properties. Figure 1 shows the vicinity properties of the Colonie, New York, Site. Land use, ownership,

REFERENCES

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