
Review of Radiological Conditions at Six Vicinity Properties (VPs) and Two Drainage Ditches at the Niagara Falls Storage Site (NFSS), New York

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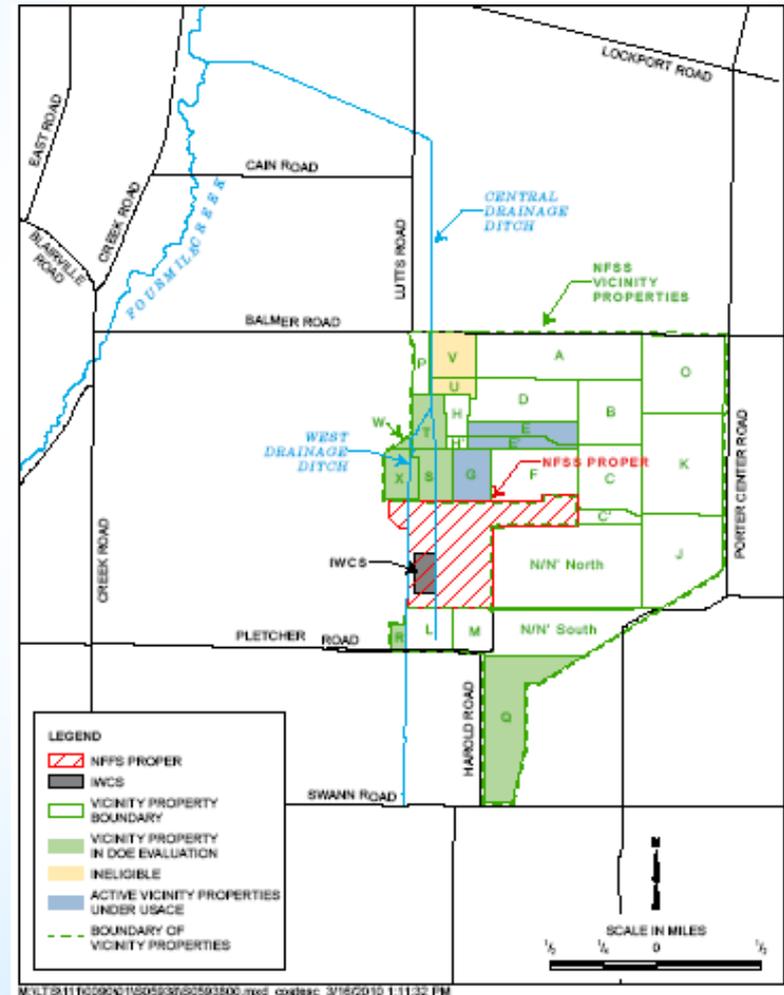
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Locations of the Six NFSS VPs and Two Drainage Ditches

Rationale for properties selected for specific evaluation

- **Accessibility to public:** VP-Q, VP-R, VP-X, Central Drainage Ditch (CDD), and West Drainage Ditch (WDD)
- **Stakeholder interest:** VP-X
- **Adjacent to VP-X and NFSS proper, borders CDD:** VP-S, VP-T, and VP-W



Objectives of the DOE Review

- Ensure U.S. Department of Energy (DOE) records of Formerly Utilized Sites Remedial Action Program (FUSRAP) activities at the NFSS VPs are complete
- Review documentation of the assessment, remediation, and verification of the completed VPs—focusing on six VPs—to confirm those properties meet DOE cleanup criteria
- Determine if new information indicates the need to refer a completed VP to U.S. Army Corps of Engineers (USACE) for assessment
- Provide stakeholder support to
 - Maintain and provide access to records
 - Respond to requests for information
 - Capture findings in a report for stakeholders and future stewards



Review of Historical NFSS Documentation

Early decontamination work

- **1970 to 1971:** Radiological surveys indicate 6.5 acres of the approximately 1,300 acres formerly occupied by the U.S. Atomic Energy Commission (AEC) exceed the 50 μ R/hr exposure rate

As a result of the surveys, 15,000 to 20,000 cubic yards of contaminated material were moved to the central NFSS and stockpiled in 1971

- **1971:** Aerial survey identifies pseudo wollastonite or cyclo-wollastonite slag within the greater Niagara Falls area originating from non-Manhattan Engineering District (MED)/AEC related activities
- **1972:** Following a review of the AEC data, New York Department of Health places land-use restrictions on all of the excessed properties
- **1978:** Follow-up aerial survey indicates no significant offsite gamma radiation except for drainage ditches
- **1979:** DOE launches a systematic review of the VPs, performing a comprehensive radiological analysis of each VP



Assessment, Remediation, and Verification Activities

- 1981–1985** Oak Ridge Associated Universities and Oak Ridge National Laboratories comprehensive radiological surveys find that gamma exposure rates on 21 of the 26 VPs exceed FUSRAP guidelines; most contamination is located on the NFSS proper and associated drainages
- 1983–1986** DOE remediates 23 of 26 affected VPs and the associated drainages
- 1983–1984** Supplemental residual contamination guidelines developed for the CDD
- 1983–1989** Independent verification survey performed for each remediated VP
- 1991** DOE certifies the completed VPs meet criteria for FUSRAP waste



DOE Definition of FUSRAP Waste

■ FUSRAP waste

- Generated by MED/AEC activity, generally occurring from the early 1940s through the 1960s
- Radioactive contaminants are primarily low-level uranium, thorium, and associated decay products
- Not addressed under another program such as Comprehensive Environmental Response, Compensation, and Liability Act; Nuclear Regulatory Commission; or DOE Office of Environmental Management

■ Non-FUSRAP waste

- Generated prior to the 1940s or after the 1960s
- Not related to MED/AEC activity
- Characteristics are unlike known FUSRAP waste for a given site (process knowledge)



Additional Radiological Materials at NFSS

- **Knolls Atomic Power Laboratory Separations Process Research Unit:** waste stored on Lake Ontario Ordnance Works from 1952 to 1954; DOE will review records and discuss internally to determine a path forward
- **University of Rochester materials:** materials were buried on VP-G, an active VP, and will be evaluated by USACE to determine FUSRAP eligibility
- **Slag:** metals separation and pseudowollastonite slag were commonly used in the Niagara Falls area as construction material; determination being made by state and federal agencies



Conclusions

- Project records adequately describe final radiological conditions on the completed VPs
- Radiological surveys were comprehensive and thorough
- The completed VPs meet DOE standards for FUSRAP waste that allow unrestricted use
- Other radioactive materials remaining on the NFSS VPs will be addressed
- If DOE is informed of additional contamination on the completed VPs, DOE will follow procedures in accordance with the memorandum of understanding between DOE and USACE



Stakeholder Input on the Completed NFSS VPs

- Report is posted on the DOE-LM public website:
<http://www.LM.doe.gov/Niagara/Vicinity/Documents>
- DOE will accept comments to the report provided by stakeholders received by April 23, 2010
- Comments should be sent by e-mail to
Bob.Darr@LM.doe.gov
- The final version of the document will be posted to the DOE-LM website after April 23
- A responsiveness summary will accompany the report (DOE responses to grouped comments by topic)



How to Contact DOE

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