



## DEPARTMENT OF THE ARMY

BUFFALO DISTRICT, CORPS OF ENGINEERS  
1776 NIAGARA STREET  
BUFFALO, NEW YORK 14207-3199

REPLY TO  
ATTENTION OF

Executive Office

JUL 02 2012

Dear Interested Citizen:

The U.S. Army Corps of Engineers is releasing the updated Baseline Risk Assessment for the Landfill Operable Unit of the Tonawanda Landfill Vicinity Property to the Linde Formerly Utilized Sites Remedial Action Program (FUSRAP) Site, located in the Town of Tonawanda, New York. The report is available on the Buffalo District website at: [www.lrb.usace.army.mil/fusrap/landfill](http://www.lrb.usace.army.mil/fusrap/landfill).

The Corps is the lead Federal agency for this project, executing FUSRAP in accordance with governing Federal law, including the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP).

In 2009 through 2011 additional soil, groundwater, sediment and surface water sampling was conducted by the Corps on the Landfill Operable Unit of the vicinity property, to confirm the levels and extent of uranium, radium and thorium in the Landfill Operable Unit. Data from this sampling was used to update the Baseline Risk Assessment to ensure that it accurately reflects the potential for human exposure to FUSRAP-related materials in the Landfill Operable Unit, given the Landfill's proximity to residential property.

The updated Baseline Risk Assessment concludes the following:

1. That for the current use of the Landfill Operable Unit, as it is currently configured, risks to human health from potential exposures to FUSRAP-related material are within the acceptable limits established in the NCP.
2. If the surface of the landfill is not maintained and is allowed to erode over time, exposing FUSRAP-related material that is currently buried, then risks to trespassers or other users on the site could increase above the NCP acceptable risk range within the 1,000-year evaluation period.

OFFICE: Executive Office

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SUBJECT: Updated Baseline Risk Assessment for the Landfill Operable Unit of the Tonawanda Landfill Vicinity Property

Based on the analysis provided in the updated Baseline Risk Assessment the Corps' next step will be to prepare a Feasibility Study for the Landfill Operable Unit. The Feasibility Study will develop remedial alternatives which would be appropriate to mitigate potential future unacceptable risks from exposure to the buried FUSRAP-related material in the Landfill Operable Unit.

An updated fact sheet for the Tonawanda Landfill Vicinity Property and a fact sheet regarding Risk Assessments are enclosed. In addition to being available on the web, the updated Baseline Risk Assessment has been placed in the Administrative Record File for the Tonawanda Landfill Vicinity Property which is available for review in the Tonawanda Public Library, 333 Main Street, Tonawanda, NY 14150. The Administrative Record File is also available for review by appointment at the Buffalo District Office Library located at 1776 Niagara Street in Buffalo, New York.

A copy of this letter with the report is being provided to your elected and agency representatives.

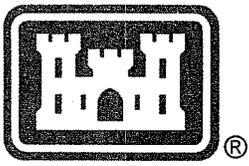
The project delivery team will be available to answer your questions regarding this project during an Availability Session on Tuesday, July 17, 2012, between 2:30 and 4:30 p.m. and between 6 and 8 p.m., at VFW Post 7545, 110 Elgin Street, Tonawanda, NY 14150. For further information on the Landfill Operable Unit of the Tonawanda Landfill Vicinity Property, please call (800) 833-6390 or e-mail [fusrap@usace.army.mil](mailto:fusrap@usace.army.mil).

Sincerely,



Lieutenant Colonel, Corps of Engineers  
District Commander

Enclosures



# Tonawanda Landfill Vicinity Property

Tonawanda, NY

U.S. Army Corps of Engineers  
Buffalo District

Building Strong<sup>®</sup>

June 2012

## Formerly Utilized Sites Remedial Action Program (FUSRAP)

FUSRAP was initiated in 1974 to identify, investigate, and clean up or control sites throughout the United States that were contaminated by activities related to the Nation's early atomic weapons and energy programs during the 1940s, 1950s, and 1960s. Congress transferred execution of FUSRAP from the U.S. Department of Energy to the U.S. Army Corps of Engineers in 1997. When implementing FUSRAP, the Corps follows the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP).

## Site Description and History

The Tonawanda Landfill Vicinity Property consists of two parcels owned by the Town of Tonawanda: the Town of Tonawanda Landfill and the Mudflats. The Tonawanda Landfill Vicinity Property covers approximately 170 acres in the Town of Tonawanda, Erie County, New York. The Vicinity Property is bordered by a residential area within the City of Tonawanda, a railroad line, Interstate 290 and East Park Drive. A National Grid utility corridor separates the Landfill and Mudflats.

Waste disposal at the landfill by the Town of Tonawanda began during the 1930s and continued through 1989. Records indicate that the landfill was principally used for the disposal of construction and demolition material, yard waste, incinerator ash, and municipal waste.

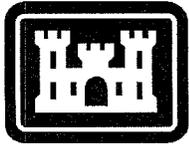


As the result of a radiological survey performed in 1991 by the Department of Energy (DOE), a portion of the Landfill and Mudflats were designated together into FUSRAP as a vicinity property of the Linde FUSRAP Site.

## Corps of Engineers Activities

The Corps of Engineers Buffalo District completed a Remedial Investigation of the Tonawanda Landfill Vicinity Property in 2005. This effort was in addition to previous investigations performed by the DOE in the 1990s. During the Remedial Investigation, the Corps sampled and tested soil, surface water, sediment, and groundwater of the vicinity property for uranium, radium, and thorium. Small, isolated locations within the vicinity property were found with levels of uranium, radium and thorium above background levels, similar to radioactive material found at other FUSRAP sites in Tonawanda. A Baseline Risk Assessment was conducted as part of the Remedial Investigation to determine the risk to human health associated with exposure to these radionuclides.

The Baseline Risk Assessment, conducted in 2005 using information available at that time, concluded that risks to human health, for the current and reasonable future site uses in both the Landfill and Mudflats, were within the limits established in the NCP.



**US Army Corps  
of Engineers®**

# ***Fact Sheet***

## **Risk Assessment**

### **U.S. Army Corps of Engineers**

This is one in a series of fact sheets that provides information about regulatory, technical, and other issues related to the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). This fact sheet discusses risk assessment: what it is and how it is used in making cleanup decisions.

### **What is Risk?**

Risk is the chance that some harmful event will occur. In the case of environmental cleanups, we think of risk as the potential for a negative health impact as a result of exposure to contamination.

### **What is Risk Assessment?**

Risk assessment is the process used to determine the potential for a negative health effect to occur as a result of exposure to hazardous materials. A risk assessment should be able to answer the questions: "*What is the problem, and how bad is it?*" Under DERP-FUDS and FUSRAP, risk assessment information helps determine what actions should be taken to clean up the site. Risk assessments are one type of information considered in risk management.

### **How is Risk Calculated in the Risk Assessment?**

Risk is a function of how much of a contaminant enters a person's body (exposure), and how dangerous a contaminant is to humans (toxicity). If there is no exposure, then there is no risk. The calculation for determining risk may be expressed as:

$$\text{Risk} = \text{Exposure} \times \text{Toxicity}$$

**Exposure.** Exposure to contamination may occur from many routes, including drinking contaminated water, breathing contaminated air, eating contaminated foods, or accidentally inhaling or ingesting contaminated soil particles. Exposure can also occur through direct contact between contaminants and skin.

The concentration of the contaminant in the water, air, sediment, or soil that is contacted at the point of exposure is one factor that will determine level of exposure. Another factor that will determine the level of exposure is the type of activity and land-use taking place at the point of exposure. For example, a person that lives directly on a contaminated site will most likely obtain a greater exposure to the contamination than a person who works at or only occasionally visits a contaminated site.

**Toxicity.** The U.S. Environmental Protection Agency and other government agencies have compiled the toxicity of many hazardous compounds in readily available, standardized data-bases. Not all compounds have well understood toxicity values. Special consideration is given to populations such as pregnant women and children that may be especially susceptible to a contaminant's toxic effects.

**Uncertainty.** Although risk assessment is a science, it is not a perfect one. Most scientists agree that there is a great deal of uncertainty associated with risk assessment; however, to compensate for this uncertainty, the risk assessment process is deliberately conservative. That is, it errs on the side of safety when calculating potential risks to people.