Beyond the Headlines... The Corps Story

September 13, 2008 ~ LOOW RAB: Working for you – Lewiston-Porter Sentinel – Guest Editorial – LOOW RAB Steering Committee.

Statement:

"The Remedial Investigation Report (RIR) has reported substantial chemical and radiological data about the Niagara Falls Storage Site (NFSS), but has yet to address the area of most concern, the interim waste containment structure (IWCS) and the area immediately outside of it."

Fact:

The Corps is addressing the IWCS. The RIR addresses the entire NFSS including the IWCS. The RIR provides the technical foundation for the next phase, the feasibility study, which identifies and evaluates long-term clean-up alternatives for the IWCS and contaminants outside the IWCS.

Our understanding of contamination outside the IWCS was developed through the analysis of hundreds of surface and subsurface soil and water samples. During the investigation the Corps concluded that:

- these samples could be collected safely without posing unnecessary risks to our workforce or the public, and

- the data from these samples were critical to the report since there was very little historical information on contaminant conditions outside the IWCS.

Our understanding of contamination inside the IWCS and the effectiveness of the IWCS structure was developed through a number of methods but did not include collecting soil or water samples or measurements inside the IWCS. During the investigation the Corps concluded that:

- collection of soil and water samples within the IWCS would require drilling through the protective clay cap and cut-off walls which are the primary protective structures containing the wastes. The IWCS cap was designed and is maintained to ensure that it properly retards radon emissions and inhibits infiltration of water (in the form of precipitation) that would enhance leaching of contaminants into groundwater.

- drilling through the IWCS clay cap and cut-off walls would greatly increase the chances of exposure to contaminants for the workers and the public and greatly increase the possibility of contaminant migration.

- the value of the information to be gained from these samples and measurements was not worth the potential risks to the health and safety of our workforce and the public and the potential increase in the migration of contaminants, and

- it is possible to develop an understanding of contaminant conditions inside the IWCS by conducting historical research, by using other technologies, and by applying very protective assumptions to our engineering evaluations.

The two technologies used in the RIR were:

- an extensive multi-technology geophysical survey, which used non-intrusive imaging techniques to infer the conditions below the cap, and
- a site-specific groundwater model which was created to evaluate the potential, under both present and conservative conditions, for the radioactivity in the residues to leach to on-site

groundwater and then also evaluate whether or not any radioactivity would ever migrate off site in the groundwater.

In addition to these technologies, the Corps relies upon annual environmental surveillance to evaluate any radon emissions from the IWCS cap, at the cap's surface itself, the fence line surrounding the IWCS, and the fence line surrounding the entire NFSS property. The Environmental Surveillance Technical Memorandums are published yearly, explaining this monitoring and demonstrating that radon gas emissions are comparable to background levels. The groundwater monitoring program also was expanded around the IWCS to include a lower water-bearing zone well immediately down gradient of the IWCS. More information about the environmental surveillance program may be found at: http://www.lrb.usace.army.mil/fusrap/nfss/index.htm#Documents.

Statement:

"The Niagara Falls Storage Site differs significantly from other radioactive radium contaminated sites in the United States because it contains most of the radium left from the Cold War with more than 90 percent of the high activity residues placed in the building foundations of a former Lewiston water treatment plant as a wet sand and clay mixture."

Fact:

The10-acre Interim Waste Containment Structure (IWCS) on the Niagara Falls Storage Site (NFSS) property contains over 250,000 cubic yards of radioactive residues and contaminated soil and debris from a 1980's U.S. Department of Energy waste consolidation effort.

Of greatest concern are the approximate 4,000 cubic yards of waste containing high-activity residues with radon-generating Radium-226 that are contained in the IWCS. Radon gas naturally occurs in the environment. Additional information regarding radon can be found on the Environmental Protection Agency's website at http://www.epa.gov/radon/pubs/citguide.html#overview.

The Radium-226 residues in the IWCS were hydraulically slurried into the foundation of a former freshwater treatment building and subsequently dewatered prior to being covered by over 129,000 cubic yards of low-level contaminated soil, and topped with a cap consisting of three feet of compacted clay, topped by one foot of fill and six inches of topsoil. The thickness of the cap was calculated based on how fast the radon gas moves from the interior of the IWCS and decays as it reaches the IWCS cap.

Radon has a half-life of 3.8 days (http://www.epa.gov/rpdweb00/radionuclides/radon.html); meaning that half its radioactivity will be decayed in 3.8 days. Radon gas decays into other radionuclides that are not gaseous (i.e., isotopes of polonium, bismuth, and lead) but rather are solid particles. These solid particles are caught in the solid cap that covers the IWCS. Radon emanating from the IWCS cap is within federal limits as demonstrated by results from our Environmental Surveillance Program. Under this program 180 canisters of activated charcoal capture radon emissions over a 24-hour period and the radon captured by the canisters is analyzed to ensure that the radon flux meets the US Environmental Protection Agency standard. To date, the radon flux results are well below this limit. These measurements are recorded in our Environmental Surveillance Technical Memoranda, found at http://www.lrb.usace.army.mil/fusrap/nfss/index.htm#Documents

In addition to retarding radon emissions, the IWCS was designed to retard infiltration of water from precipitation, thereby inhibiting the migration of contamination to groundwater. In 1991 the Department of Energy cut into the top foot of compacted clay on a section of the IWCS, placed additional contaminated material on top and then placed more compacted clay on top of that. This provides additional protection, inhibits rain water from infiltrating the IWCS and retards radon gas emissions to well below federal standards.

Maintenance is routinely performed on the IWCS cap to ensure no cracking of the clay cap occurs. Environmental surveillance has been conducted on site since 1981 to monitor radon gas emissions, external gamma radiation, and radiological constituents in sediment, surface water, and groundwater. No levels of concern have ever been approached for these constituents.

Statement:

"The Corps has not responded to calls from the community, federal, state and local elected officials along with RAB members for a facilitator to recognize the LOOW RAB and its function under the 2003 operating guidelines which the Corps approved. Instead the Corps has decided to cherry pick through federal regulations, utilizing only those that will best serve their interests."

Fact:

The Corps outreach program is based upon public input and executed in accordance with federal laws and regulations, including the Corps decision to seek public input in a Department of Defense (DoD) Restoration Advisory Board (RAB) in conformance with federal regulations promulgated in 2006, and its determination that there was not sufficient interest within the community to establish an official DoD RAB based on the DoD criteria in 32 Code of Federal Regulations 202.2.

The Corps continues to engage the independent volunteer-based community group (retaining the name "LOOW RAB") through our outreach program and gives serious consideration to their input along with input received from other individuals and organizations in the community.

The Corps is planning and structuring its outreach program to address public concerns on all DoD and FUSRAP-related environmental issues at the NFSS and LOOW site. Please send an e-mail to derpfuds@usace.army.mil and tell us what your concerns are, how you would like to be involved in the decision-making process for the site, how often you want to hear from us and what methods or activities you would like us to sponsor in our outreach program. You may also mail a letter to: USACE, Attn: Special Projects Team - Outreach, 1776 Niagara Street, Buffalo, NY 14207, or call us at 716-879-4438 to be interviewed. This information may be used to help develop community relations plans for other sites within the Buffalo District.

Information regarding the legal process, required community input, and renewal timeframes required to establish an official DoD RAB for the former LOOW Site are available on our website at: http://www.lrb.usace.army.mil/derpfuds/loow-nfss/#Community.