



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
BUFFALO DISTRICT, U.S. ARMY CORPS OF ENGINEERS
1776 NIAGARA STREET
BUFFALO, NEW YORK 14207-3199

CELRB-PP-PM

July 19, 2000

SUBJECT: Responses to Questions Regarding the Former Lake Ontario Ordnance Works and Niagara Falls Storage Site

Joan T. Broderick, President
CoNxNs
830 River Road
Youngstown, NY 14174

Dear Ms. Broderick:

Thank you for the interest you have shown in the Lake Ontario Ordnance Works (LOOW) Site and the Niagara Falls Storage Site (NFSS). This letter responds to the concerns and comments you provided in regard to these sites during the Restoration Advisory Board meeting held April 12, 2000. I apologize for the delay in this response. Your comments and our responses follow.

Concerns Regarding "Comparison of 1997 Environmental Surveillance Technical Memorandum (ESTM) to 1998 ESTM with reference to LOOW's Phase 1, July 1999" The reports are analytical results and measurements obtained as part of an environmental surveillance program for Niagara Falls Storage Site (NFSS) and Phase 1 is remedial investigation of LOOW. Reasons – Low-level radioactive wastes and residues are stored in the waste containment structure (WCS). Former LOOW buildings are still in existence, are in disrepair and contain asbestos containing material."

Response

It is important to distinguish between the two projects being discussed here. NFSS is the site that has the Waste Containment Structure (WCS) containing the stored wastes and residues. In order to assure the safety of the WCS, the ESTMs are prepared after performing tests on soils and groundwater. So far, these tests demonstrate that nothing is leaking from the WCS.

The Lake Ontario Ordnance Site (LOOW) is a site containing chemical contaminants. There is no radioactive material on site.

Concerns Regarding Radon Gas

- p. 11 "...unlikely that radon 220 would be emitted from WCS, however, it is possible that radon 222 would be emitted."
p. 12 "Refer to Table 4. No Table 4 in my copy."

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Response to Concerns Regarding Radon Gas

We have attached revisions of both the 1997 and 1998 Environmental Surveillance Technical Memorandums. Table 4 shows that the results of Radon-222 Flux Monitoring are below the Environmental Protection Agency (EPA) standard of 20 pCi/m²/s. Table 3 shows that radon gas concentrations have values below the Department of Energy (DOE) limit of 3.0 pCi/L.

RadTrack detectors are placed five feet above the ground in the breathing zone. They detect alpha particles from both Radon-220 and Radon-222. The half-life of Radon 220 is 56 seconds. The half-life of Radon-222 is 3.82 days. The primary radionuclides in the WCS are Radium-226 and Thorium-230. Radon-222 is a daughter product of these two radionuclides, and it is most likely that the radon detected is Radon-222 because of this.

To clarify the technical explanation a bit more: Radon-220 could not be emitted under any conditions. Once Radon-220 is formed, it is half-gone in 56 seconds and disappears before it can be emitted. Radon-222 lasts long enough that it could be emitted if the WCS had no cap. The cap is designed so that essentially all of the Radon-222 becomes harmless by the time it reaches the surface of the WCS.

Concerns Regarding Groundwater Flow

- p. 16 "Regionally, groundwater in both the upper and lower groundwater systems and the bedrock system flows northwest toward Lake Ontario."
- p. 17 "Surface drainage from site originally entered 4 Mile Creek, 6 Mile Creek, and 12 Mile Creek which all flow northward to Lake Ontario. In 1940, a system of drainage ditches was installed to drain surface water to a central drainage ditch. The largest of these drainage ditches, the central drainage ditch, significantly influences groundwater flow in the upper"
- p. 18 "...upper groundwater systems responds more rapidly than lower groundwater system to seasonal fluctuations in groundwater recharge and the effects of watering the WCS to maintain appropriate soil-

"Generally, groundwater flows northwestward across the site..." Not in 1998 report, "An area of elevated groundwater elevations located in the vicinity of the western boundary of the WCS existed throughout 1997 during low groundwater elevation conditions. Additionally, groundwater flow in the eastern portion of the site in the lower groundwater system is influenced by dewatering activities on the adjacent property (Modern Landfill). In this portion of the site, groundwater flow is toward the east and southeast in the lower groundwater system."

Comment #1: There may be a good reason for changing groundwater flow, but why bother to reverse Figure 3, Figure 4, Figure 5 and Figure 6 in the 1998 report? The upper and lower groundwater flow charts have been transposed.

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Response to Comment #1: The 1997 Technical Memorandum was written by Bechtel National, Inc. contracting with the Department of Energy. Hydrologic data for this particular portion of the report was not available from Bechtel, therefore the draft report was left in its original format. Because the report was submitted to the Corps of Engineers for completion, report submission was later than it would have been if the DOE had completed it directly. The 1997 and 1998 reports were issued at very nearly the same time, each containing the appropriate year's data. Given this later submission, it made sense to use the same hydrogeologic figures in each report. Figures 5 and 6 of the 1997 report are the same potentiometric maps (Figures 3 and 4) that appear in the 1998 report.

Comment #2: Appearing on p. 19 of the 1997 report is the following: "Groundwater elevations during the seasonal high condition (Feb. 25, 1998)..." Why would 1998 evaluation be in 1997 report?

Response to Comment #2: See response to comment 1.

Comment #3: The groundwater flow direction & gradient for testing changed from July 17, 1997 to Feb. 25, 1998 from coming from WCS to going toward WCS. Why? This certainly would affect test results.

Response to Comment #3: Potentiometric Surface Maps generated by Bechtel International placed groundwater flow in the opposite direction than actually occurs. This error was corrected February 2000 and the report was re-posted at the Buffalo District's web page:
<http://www.lrb.usace.army.mil/fusrap/nfss/nfssdocs.htm>

Concerns Regarding 5.6.2.3 Groundwater – Radioactive Constituents

p. 20 '97

p.21 '98 Added information: "Historical & current analytical results for total uranium (with background not subtracted) in groundwater are summarized in Figure 7. No Figure 7 in my copy!

Response to Concerns Regarding 5.6.2.3 Groundwater – Radioactive Constituents:
 Reference to Figure 7 was eliminated in the corrected report. This was text that was a carry over from an earlier report. Since results for "total uranium without background subtracted" really tell the reader nothing about how the site itself is impacting the environment, it is useless. It is for this reason that it was eliminated. We simply missed removing the verbal reference from the text.

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Concerns Regarding Change in Wording –

p. 20 '97 "At all sampled locations, results were well below..."

p. 21 '98 "At all sampled locations, results were less than the DOE guideline."

Comment #1: Since the change in testing direction, does this mean coming from another site, CWM/Modern

Response to Comment #1: Comparison of results of 1997 and 1998 for groundwater – radioactive constituents are both well below the DOE derived concentration guide (DCG) for groundwater. Wording is not meant to indicate anything other than results are less than current DOE DCG for groundwater.

The Corps has no reason to believe that radioactive contaminants would be coming from either CWM or Modern. Chemical Waste Management handles chemical waste and Modern handles municipal waste. Also, see response to Point #2 above.

Concerns Regarding 5.6.2.3. Groundwater – Chemical Constituents/Metals

p. 21 '97 - Vanadium was detected in all eight wells sampled in 1997.

p. 22 '98 – Vanadium was detected in one of eight wells sampled in 1998.

Addition to 1998 report: "The 1998 environmental surveillance analytical results for metals in groundwater are presented in Table 10 and discussed below."

Response to Concerns Regarding 5.6.2.3. Groundwater – Chemical Constituents/Metals

Section 5.6.2.4 discusses Groundwater – Chemical Constituents/Metals.

There is variability from year to year in sampling results. Things like amount of rainfall (which percolates in the soil) cause this kind of variability. The text states for vanadium results have ranged from nondetect to 53.4 ug/L in the past. The 1997 and 1998 results fall within this range.

The addition to the 1998 report is not new, it is similar to the last sentence of the first paragraph of section 5.6.2.4.

Concerns Regarding Delay in Phase 2 Due to Lack of Funds

DERP-FUDS Fact Sheet

1. CWM property (Balmer Road)
2. CWM property (Areas A & B)
3. CWM property (Area C) – Report for March 2000 public review.
4. Underground Storage Tanks

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Response to Concerns Regarding Delay in Phase 2 Due to Lack of Funds

It is necessary to clarify that LOOW and Niagara Falls Storage Site are separate projects even though the sites are near each other. LOOW has chemical contamination on site and NFSS has radiological waste and a small amount of chemical contamination on site. Funding for LOOW is under the Defense Environmental Restoration Program for Formerly Used Defense Sites and funding for NFSS is under the Formerly Utilized Sites Remedial Action Program. Therefore, if one part of the NFSS work waits for funding, it does not follow that work will stop on the adjoining site.

Relative to the specific question on Phase 2 funds: This concern appears to originate from a statement in the January 2000 DERP-FUDS Fact Sheet which states "Phase 2 is currently delayed due to lack of funds." After the January 2000 fact sheet was published, Buffalo District received the funds necessary to award a contract task order to EA Engineering Science and Technology Inc. to conduct Phase 2. The Phase 2 Remedial Investigation is currently in progress.

An update on the status for these areas is listed below:

1. CWM Property (Balmer Road): The interim removal action (IRA) to remove the TNT wastewater pipeline and Chemical Waste Sewer (CWS) lines is funded and in progress. Severson Environmental Inc. has been awarded a contract task order valued at \$1.6 million to complete the removal of these pipelines. Work is scheduled to be substantially complete by October 2000.
2. CWM Property (Areas A & B): Funds to conduct an IRA are currently unavailable. Removal of these contaminants is on-hold pending receipt of funds.
3. CWM Property (Area C) - Report for March 2000 for public review: The Engineering Evaluation and Cost Analysis (EE/CA) for the Area-C Drum Trench and Trash Pit should be released for public review and comment in July 2000. The release was delayed because resolution of technical comments from the US Army Corps of Engineers (USACE) Hazardous, Toxic, Radiological Waste Center of Expertise (HTRW/CX) took longer than expected. Buffalo District has revised the document to satisfy their review and is awaiting final approval.
4. Underground Storage Tanks: Buffalo District is currently developing a strategy and preparing the documentation required to request funding for investigation of potential contamination from former Department of Defense underground storage tanks at LOOW.

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I hope that you will find that these responses have answered your questions. We have enclosed the revised Environmental Surveillance Technical Memorandums for the Niagara Falls Storage Site (1997 and 1998). Please feel free to contact our Public Affairs Office at (716) 879-4438 for assistance in reviewing these reports or for any further questions that you may have regarding the Niagara Falls storage Site and the former Lake Ontario Ordnance Works Site.

Thank you for your continued interest in these projects.

Sincerely,

Judith S. Leithner

Judith S. Leithner
Project Manager

Attachments (2)

CC: LOOW RAB Members (w/o att.)