Barker, Michelle C LRB

From: Azzam.Nidal@epamail.epa.gov
Sent: Tuesday, July 29, 2003 11:49 AM
To: Rhodes, Michelle C LRB
Subject: EPA Comments
Attachments: Comments - Final GWS and Geophysical.wpd

Michelle,

Attached are the EPA comments on the FINAL Gamma Walkover Survey and Geophysical Survey for the Niagara Falls Storage Site dated, May 30, 2003. Should you have any questions, feel free to contact me.

(See attached file: Comments - Final GWS and Geophysical.wpd)

Best Regards,

Nidal Azzam, Health Physicist
EPA, Region II,
290 Broadway, 28th Floor
New York, NY 10007
212-637-4002

To: Michelle Rhodes, RI Project Engineer

Date: 7/29/03

Subject: EPA Comments - Niagara Falls Storage Site, FUSRAP Site
Gamma Walkover Survey and Geophyscial Survey for the Niagara Falls Storage Site - FINAL

Below are the EPA comments on the subject report. We understand that the report is in its final revision; however, we believe that it is prudent to bring such comments to your attention. Should you have any questions, feel free to contact me.

Best Regards,
Nidal Azzam, Health Physicist
EPA Region II
290 Broadway, 28th Floor
New York, NY 10007

GENERAL COMMENTS

1. Throughout the report the containment structure for the high concentration radioactive waste should be referred to as the Interim Waste Containment Structure (IWCS) and not as the Waste Containment Structure (WCS). The IWCS was constructed for a 25 to 50-year life span. Plans were made to upgrade the IWCS to 1,000-year life span, but have never been implemented. Furthermore, because the IWCS initial construction phase was performed in 1986, there are eight years remaining to reach the 25-year life span.

2. Throughout the report, suggest replacing the words "activity" or "gamma activity" by "count rate" or "gamma count rate", respectively, when referring to the gamma walkover survey results. It is not appropriate to refer to the NaI detector readings in counts/unit time as gamma activity.

3. In Sector 3, due to the proximity of the identified elevated gamma measurements (82,000 cpm maximum) to the Modern Landfill northern and western fence line, is there any plans to investigate the Modern Landfill for potential contamination? Or is there sufficient confidence to justify the omission of the Modern Landfill from further investigations, including subsurface investigations?

4. The geophysical survey concluded that the current integrity of the IWCS structure is intact and is not compromised. Where will the future integrity of the IWCS be addressed/evaluated such as an Environmental Impact Statement (EIS).

SPECIFIC COMMENTS
Volume 1

5. Section 1, Chapter 2 SITE HISTORY AND CONTAMINANTS, Section 2.0, Page 2-1, 2nd paragraph, states "... *The activity of the K-65 residue is approximately 574,000 pCi/g*".
Suggest replacing the word "activity" by "activity concentration". Also, is the 574,000 pCi/g an average concentration or a maximum concentration? Please specify. During the NFSS TPP Meeting held on June 3-5, 2003 a concentration of approximately 900,000 pCi/g was noted on the presentation slides.

6. Section 1, Chapter 4 CONTINUED REMEDIAL INVESTIGATION ACTIVITIES, Section 4.1, page 4-1, 4th paragraph states "... Figure 2.2 shows the locations of the Class 1 and Class 2 areas."
The Figure does not identify which areas are Class 1 and which areas are Class 2.

7. Section 2, Chapter 5 GAMMA WALKOVER SURVEY INVESTIGATION, Section 5.1.1, 1st sentence of 1st paragraph states "In open areas, the technician walked while swinging the NaI detector in a slight pendulum motion of approximately 0.5 meters on either side..."
This language may not represent the actual surveying method used during the GWS. During a GWS, the surveyors should be moving (not swinging) the detector from side to side in a serpentine (not pendulum) motion. By swinging the detector in a pendulum motion, the height of the detector is not maintained at a fairly fixed height from the ground surface and the speed of the detector is not maintained at a fairly uniform speed. This could result in reducing the sensitivity of the detector and the probability of identifying potentially contaminated areas, specially when the radiation levels are low (e.g., investigation level < 2 times background).

8. Section 2, Chapter 6 GAMMA WALKOVER SURVEY RESULTS, Section 6.0, 5th paragraph.
Because elevated gamma count rates were measured near the railroad tie and no removable alpha/beta contamination was measured, the elevated gamma measurements could potentially be associated with near surface or subsurface contamination (i.e., old contamination covered with decomposed organic or a potential undocumented fill area). Downhole gamma logging and subsurface sampling is suggested.

9. Section 2, Chapter 6 GAMMA WALKOVER SURVEY RESULTS, Section 6.0, 6th paragraph.
Because there is indeterminate length of cable covered with soil and no removable alpha/beta contamination measured, this could be a potentially undocumented fill area. Downhole gamma logging and subsurface sampling is suggested.

10. Section 2, Chapter 6 GAMMA WALKOVER SURVEY RESULTS, Section 6.1.2, 2nd paragraph.
Figure 6.7 Shows a maximum reading of 106,000 cpm that was found under a decomposed rail road tie. If this reading is within the designated Class 1 area, which I believe it is, then the 3rd line of the 2nd paragraph should read "... There are 8 areas of elevated readings up to 106,000 cpm on soil in the designated Class 1 area, the largest is .....".

11. Section 3, Chapter 9.0 ELECTRICAL IMAGING, Section 9.5.1.2, 1st paragraph states "... *Geophysical measurements were not made to directly assess fractures as part of the geophysical investigation...*"
Section 3, Chapter 15.0 INTEGRATED INTERPRETATION, Section 15.1.1.1, 1st paragraph states "... *Geophysical measurements were not made to directly assess fractures or closed dispersions as part of the geophysical investigation...*"
Section 3, Chapter 9.0 ELECTRICAL IMAGING, Section 15.1.1, 1st paragraph states "... *The objectives of the geophysical survey included the identification of fractures or closed dispersions on the WCS as well as potential voids and caverns....*"
The statements in Section 9.5.1.2 and Section 15.1.1.1 seem contradictory to the statement in Section 15.1.1. Please explain.