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John P. Cahill
Commissioner

SEP 2 9 1999

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To USACE	From NYSDEC	
Co./Dept.	Co.	
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Judith Leithner, Ph.D.
U. S. Army Engineering District, Buffalo District
1776 Niagara Street
Buffalo, New York 14207-3199

Dear Dr. Leithner:

Re: Niagara Falls Storage Site *Draft Final Field Sampling Plan, Draft Final Quality Assurance Project Plan* and the *Draft final Site Safety and Health Plan* for the Remedial Investigation, Lewiston, NY (September 1999)

This letter transmits the New York State Department of Environmental Conservation's comments on the above listed Draft Final project plans for the Remedial Investigation of the Niagara Falls Storage Site, Lewiston, NY (September 1999). These documents were sent directly by Maxim Technologies, Inc. to our offices, followed by your September 28, 1999 email message to Mr. John Mitchell requesting our review. Our comments are enclosed.

Thank you for the opportunity to comment on this document. If you have any questions or need further information, please contact me at the above telephone number.

Sincerely,

Paul J. Merges

Paul J. Merges, Ph.D.
Director, Bureau of Radiation & Hazardous Site Mgt.
Division of Solid & Hazardous Materials

Enclosure
cc:w/encl. - Lieutenant Colonial M. Feierstein, USACE
P Giardina, USEPA
R. Aldrich, NYSDOL
K. Rimawi, NYSDOH
J. Fiore, USDOE

New York State Department of Environmental Conservation's
Comments on the September 1999
Draft Final Field Sampling Plan
for the
Remedial Investigation at the Niagara Falls Storage Site
October 28, 1999

Comment 1: As the USACE's advances the CERCLA cleanup of the Niagara Falls Storage Site, it should be acknowledged in each document that the USACE's CERCLA remediation of this site will include the removal and off-site disposal of the high activity wastes in a federal repository designed to meet special requirements of high level radioactive wastes. In addition, the removal of these radiologically very high activity wastes should precede the remedial activities on the site since there is a strong probability that their exhumation, treatment, packaging, and shipping will recontaminate other areas of the site. Removal and off-site disposal of the high activity wastes at NFSS has been advocated by the State of New York and the U.S. Environmental Protection Agency for many years.

Comment 2: Section 1.1.1, page 1-5, first line - proper title of the Corps District which developed the first nuclear weapons was "Manhattan Engineer District".

Comment 3: In Section 1.1.3, Regional Geology, the discussion of rocks of the Median, Clinton, Lockport and Salina Groups can be removed since the rock formations are not present beneath the Niagara Falls Storage Site. In addition, structural contour and/or isopach (unit thickness) maps of the geologic units described in this Section would be helpful.

Comment 4: In Section 1.1.3.2, it should be noted that the "Brown Clay Unit" is referred to as a silty clay glacial till at other adjacent sites.

Comment 5: In section 1.4 Sampling Approach and Strategy, the twelfth bullet on page 1-27 states, "radiological parameters, consisting of total uranium, thorium, and radium, selected isotopes, and gross alpha and beta activity," On page 1-28, the sixth bullet goes on to state, "Analysis of all soil, sediment, groundwater, and surface water samples for all radiological analytes cited above;" Both of these bullets should reference Table 1.4.7-1. It is not appropriate to use gamma spectroscopy to obtain Th-230 data. While Th-228 and Th-232 are obtainable by gamma spectroscopy, Th-230 requires alpha spectroscopy.

Comment 6: As part of the discussion of hydrogeology in Sections 1.1.4.1, 1.1.4.2 & 1.1.4.3, groundwater contour maps of the three flow zones should be added.

Comment 7: The second to last sentence in Section 1.1.4 is incorrect. Groundwater from the uppermost two flow zones do not discharge to the Niagara River.

Comment 8: In the third paragraph of Section 1.1.4.1, it is stated, "This groundwater extraction has a more pronounced effect on the upper water-bearing zone than the lower water-bearing zone." Please provide supporting documentation, as this statement contradicts the responses to pumping at adjacent properties.

Comment 9: The first paragraph of Section 1.1.4.2 calls the lower water-bearing unit a confined aquifer and the "first regulatory-defined aquifer below the NFSS." The Department considers the lower water-bearing unit to be semi-confined and hydraulically connected to the upper flow zone. The Department also considers both the upper and lower flow zones to be the "uppermost aquifer". The interconnection of the two flow zones is supported by the observation stated in the last sentence of the second paragraph in this section.

Comment 10: Please define how the longer residence time of groundwater in the lower flow zone, as stated in last sentence of the fourth paragraph in Section 1.1.4.2, was determined.

Comment 11: In section 1.4.4.1, Surficial Soils, the second paragraph states, "The surficial sample will be collected from the interval 0 to 14 inches (0 to 36 cm) below the surface. However, the top two inches (5 cm) will be excluded from samples, due to extensive earthmoving and re-grading, volatility of some organic compounds when in contact with the air, and potential analytical interferences related to presence of detritus, vegetative matter, and debris." DEC's preferred interval for surficial soil samples for radiological analysis is always from 0 to 6 inches. In addition, with the exception of large rocks, vegetative matter and debris, minimal material should be excluded from the sample. Mr. Mitchell's recollection of discussions at the Niagara Falls Storage Site Technical Planning Workshop was that the surfacial radiological soil sample could be collected adjacent to the core, there-by providing more material for other analysis from the core and allowing for the appropriate collection of the radiological sample.

Comment 12: It should be noted that the Department has not made a determination on whether the "USEPA Region IX Risk-Based Screening Levels", identified in Section 1.4.5, are applicable as an ARAR.

Comment 13: In section 1.4.5.1, Radiological Parameters, a sentence states, "Gross alpha and beta radiation are specifically included in potential ARARs, and are considered 'indicator parameters'." This statement is true for water samples; however, for soil samples it is this Department's position that this analysis in unnecessary.

Comment 14: In Section 3.3.1 and in Appendix D, NYSDEC's TAGM 4003, Cleanup Guideline for Soils Contaminated with Radioactive Materials, needs to be incorporated.

Comment 15: The third paragraph of section 4.0, Field Activities, discusses the possible use of a gamma radiation walkover survey. As discussed during the October 21, 1999 conference call, it was agreed by all parties that a 30 feet by 30 feet area will be gamma radiation walkover surveyed with-in the vicinity of the designated sampling location to locate the highest surface radiological contamination, if any is identified. As also stated by Bureau staff during that conference call, just because surface sampling does not identify any areas of surfical contamination, this Bureau would not agree to any statement about the lack of surficial contamination until a more through radiological survey was completed. This radiological survey is currently scheduled in the second phase of the remedial investigation. At that time, the entire site should have a gamma radiation walkover survey performed on it because of advances in technology and lower instrument sensitivity since it was last performed. However, at a minimum, areas with known radioactive residue storage, ditches and previously uninvestigated areas must be radiologically surveyed.

Comment 16: To better characterize the IWCS, the field activities in Section 4.1.1 should include sampling upper flow zone wells in the vicinity of the unit. Groundwater in the upper flow zone would be the first to be impacted by a release from the unit. In addition, figures which show all monitoring wells in the vicinity of the IWCS and the potentiometric surface of the groundwater flow zones are needed to be presented and reviewed to determine if the proposed sampling is appropriate.

Comment 17: Please identify the areas of concern, stated in the third paragraph of Section 4.1.2 , in the vicinity of Building 401 with respect to the proposed sampling locations. Also, Figure 4.1-5 of the LOOW History Search Report (EA, 1998) identifies a power station North of Building 401. This area should be investigated.

Comment 18: Maxim Technologies, Inc. should provide documentation to this Department as to the presence/absence of contamination due to sewer lines in the former Acidification Area (Section 4.1.4, third paragraph), since the sewers are not proposed to be investigated. If this documentation is not available then these sewer lines need to be investigated.

Comment 19: Comments on Section 4.3.2:

- Borings should be advanced to the top of the "gray clay unit".
- The PVC pipe used in the temporary wells cannot be reused without extensive decontamination.
- A cap placed on the end of the temporary well casing may be helpful in lowering the turbidity of collected groundwater samples.

- A sample collection study performed at the CWM Chemical Services facility located immediately north of the NFSS, indicated that the collection of groundwater samples at time periods up to 48 hours after purging a well does not adversely affect sample concentrations. Given the extensive list of analytes and associated sample volumes, an extended sample collection time period may be needed.

Comment 20: Comments on Section 4.3.2.1:

- Soil borings should be continuously sampled using a 3" diameter, 2' long split spoon sampler. This sampler will provide greater soil volume for sampling and has higher likelihood of collecting discrete depth samples than a 5' long device. (If you "push a stone" with a 2' sampler a shorter interval is not recovered than if the same thing happens to a 5' sampler.)
- Samples for volatile organic analysis should be placed in sample containers immediately.
- The use of plastic bags may result in phthalate contamination of semi-volatile organic compound samples.
- This section should include a discussion on what levels would trigger additional sampling so that the decision between the Maxim's Engineer/Geologist with concurrence of the USACE site representative would be easier in the field and have included our input. A possible radiological sampling trigger would be that an additional sample would be collected from the interval where the radiological instrument count rates are greater than three times background were identified during down hole gamma logging.
- In addition, this section should discuss how the extracted soil will be handled until the down hole logging for radiological constituents is completed.
- This section should discuss the interval the subsurface sample will be collected. This Department's preference is that all samples collected for radiological analysis represent a 6-inch interval.

Comment 21: Please remember that the geotechnical samples proposed in section 4.3.2.2 are of a lower priority than analytical samples.

Comment 22: All groundwater monitoring wells proposed to be samples as proposed in section 4.4.2 should have the construction and boring logs reviewed to determine usability.

Comment 23: The survey proposed in section 4.6, should be tied into an existing survey of the property.

Comment 24: Please add a discussion on the decontamination pad to section 7.1.3.

Comment 25: Please modify Table 1.4-1 to include the sampling of wells monitoring the upper flow zone.

Comment 26: The container proposed for Volatile TCL Organics, listed in Table 4.2-1, is not appropriate for soil samples.

Comment 27: Comments on Table 4.3-1:

- Please explain the criteria used to determine whether or not samples for a full suite of analytical parameters are collected at a boring.
- Soil Boring 308 (and associated groundwater sample) should be analyzed for a full suite of parameters, due to the previous detection of contamination near building 430.

Comment 28: Please clarify the time frame that Figure 1.1.1-1 represents. A significant number of additional structures were present at the site as part of the Lake Ontario Ordnance Works.

Comment 29: Figure 1.1.3-1 should be replaced since 90% of the stratigraphic column is not present (or relevant) to the NFSS.

Comments on the September 1999
Draft Final Quality Assurance Project Plan
for the
Remedial Investigation at the Niagara Falls Storage Site
October 28, 1999

Comment 1: In Section 3.1.4, ARARs, and in Appendix D, TAGM 4003, Cleanup Guideline for Soils Contaminated with Radioactive Materials, needs to be incorporated.

Comments on the September 1999
Draft Final Site Safety & Health Plan
for the
Remedial Investigation at the Niagara Falls Storage Site
October 28, 1999

We have no comments on this Plan.