New York State Department of Environmental Conservation
Division of Environmental Remediation
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[redacted]
Acting Commissioner

December 17, 2010

[redacted]
Program Manager
U.S Army Corps of Engineers
Buffalo District
1776 Niagara Street
Buffalo, New York 14202

RE: Niagara Falls Storage Site Remedial Investigation

Dear [redacted]:

The New York State Department of Environmental Conservation (the Department) has reviewed the USACE's responses to public comments on the NFSS Remedial Investigation report, posted on the USACE Buffalo District's webpage on August 18, 2010. Included in the posting are responses to Department comments on the report dated September 10, 2008.

Upon review of the USACE response, the Department requests additional information and/or seeks to clarify several of the original Department comments. The responses are enclosed. The comment numbering corresponds to the numbering used by the USACE in its responses.

The Department looks forward to discussing the responses and further progress on the remedial process at the Niagara Falls Storage Site.

Sincerely,

[redacted]
Remedial Section B, Remedial Bureau E
Division of Environmental Remediation

cc: [redacted]

New York State Department of Environmental Conservation
Review of USACE Comment Responses

Comment No. 198:
The Response does not address the Department's comment. The Department believes that the understanding of the unconsolidated lithology and hydrology would be better served by using data obtained from soil borings/monitoring wells located in the vicinity of landfills SLF 1 through 6 and SLF 12 on the CWM property, wells installed by Acres International on the Syms Property and by EA Engineers on the former AFP 68.

Comment No. 203:
Please note that for a monitoring well to be representative of the Queenston shale, the well would need to be screened within the bedrock unit. The referenced wells are more representative of the glaciolacustrine silt/sand unit and the basal red (lodgement) till. Monitoring wells which partially penetrate the Queenston shale measure characteristics of the fractured top of the unit and not the bulk of the shale.

Comment No. 205:
The intent of the Department's comment was to inform the USACE that groundwater elevation data associated with the groundwater extraction wells is not representative of "static" conditions.

If the groundwater flow model was calibrated by using the "averaged" groundwater elevation from monitoring wells, then the model was not calibrated properly. Standard practice for model calibration involves comparing model output to real data. Since the facilities which now occupy a large portion of the former LOOW attempt to coordinate groundwater elevation measurements in the fall of each year, "point in time" groundwater elevation data is available. Therefore, a reasonable data set exists for the model to be evaluated against.

Comment No. 206:
The Department does not understand why review of water budgets developed for portions of the subject site would not be useful in better understanding of the hydrologic nature of the area. Please explain.

Comment No. 207:
Contrary to the response offered by the USACE, groundwater modeling performed by CWM was computer based and more than "rudimentary." The groundwater modeling performed by the disposal facilities used USEPA approved models and focused on leak detection and contaminant migration.

Comment No. 208:
The response to this comment indicates that the Central Drainage Ditch (CDD) east of the Interim Waste Containment Structure (IWCS) was considered as a recharge area for modeling purposes. The CDD is a known groundwater discharge point.

Comment No. 209:
The Department's interpretation of the USACE's response is that the hydraulic conductivity zonation, used for the groundwater model, was not based on actual field data but rather to better accomplish agreement between field data and model output.

Comment No. 210:
The Department is aware of the difficulty of accurately modeling the effect of the Central Drainage Ditch (CDD) with respect to groundwater discharge and recharge. However given the CDD's proximity to the Interim Waste Containment Cell, the need for accurately presenting the role of the CDD cannot be overstated.

Comment No. 211:
It should be stated that the groundwater model is a regional flow model for the purpose of long-term (hundreds of years) groundwater flow and migration. As such, the model is intended to evaluate and predict migration of point source contamination.

Comment No. 214:
The response does not address the comment. The Department's comment requested a description of the method/procedure used for sealing the underground utilities.

Comment No. 249:
The Department does not concur with the response. Regardless of the reasoning (conservative approach, statistical "power"), combining data from different flow zones is technically incorrect. The approach used (combining flow zones data) will raise the background concentrations for the LWBZ making statistical evaluation less sensitive (false negatives) and lower the background concentration for the UWBZ making statistical evaluation too sensitive (false positives). Data for each of the groundwater flow zones (upper and lower) should be evaluated separately due to the differing geochemical nature of the flow zones.

Comment No. 267:
The nature of the Department's comment concerned the concentration of tetrachloroethene (63 ppm) and the need for further investigation and consideration of remedial strategies, not its presence. Review of analytical data associated with the RI addendum investigation of this area further supports the Department's position on the need for remediation of contamination in this area.

Comment No. 270:
The Department's comment was meant to express the need to consider various aspects of the groundwater system when presenting data in a graphic form. (If contaminant distribution/occurrence doesn't agree with groundwater flow and transport knowledge, it should not be presented in such a format).

Comment No. 276:
The acid sewer, which MH35 is part of, passes adjacent to the well 415 area which also has VOC contamination. The Department is concerned that the sewer is serving as a migration pathway. In addition, the potential for leakage from either of the underground lines (acid, storm) impacting the other is also a concern.

Comment No. 277:
The response does not address the comment. The Department's comment concerned the contamination extent within the pipeline. This concern was not addressed as part of the RIR addendum, as additional pipeline samples were not collected.

Comment No. 283:
As stated elsewhere in the comments, groundwater quality data from the unweathered Queenston formation is not representative of groundwater quality of either the glaciolacustrine silt/sand unit (Zone 3) or upper till unit (Zone 1). Additional data points may add "strength" to a statistical evaluation, but the use of non-representative data and/or of a differing population, lessens the accuracy of the evaluation.

Comment No. 287:
To clarify the Department's original comment, based on the current understanding of the hydrology of the shallow flow zone, radionuclide detections at wells 302/302A and well 313 do not appear to be related to a common source. This is based on the knowledge of groundwater migration rates and flow directions. In addition, radiological data from well 313 indicates elevated Ra-228 (70.4 pCi/l) and U-238 (148 pCi/l) whereas wells 302/302A have a different ratio of radionuclides present (U-233/234 and U238 in equal amounts).

Comment No. 290:
The Department is disappointed that the opportunity to collect and remove "gamma emitting chips" identified in Trench 808 was not acted upon because the "focus of the investigations in the area were not radiological." The Department understands the limitations of the scope of work for investigations; however, the removal of identified radiological materials, (and disposal as IDW) can be cost effective in reducing risk.

Comment No. 292:
The Department understands efforts were made as part of the RI addendum to reevaluate the contamination south of the IWCS. However, the Department believes additional field work is necessary to support the conclusions presented by the USACE.

Comment No. 295:
To clarify the initial Department comment: The RI identified contamination in samples from several underground pipelines and manholes. The Department does not consider the investigation to date to be sufficient in determining the full extent or magnitude of the contamination. As such, a full evaluation of the needed corrective actions cannot be made at this time.