

New York State Department of Environmental Conservation

Division of Solid and Hazardous Materials, 9th Floor

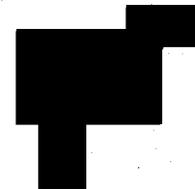
625 Broadway, Albany, New York 12233-7250

Phone: (518) 402-8651 • FAX: (518) 402-9024

Website: www.dec.ny.gov



NOV 26 2008



Lieutenant Colonel [REDACTED]
Commander
United States Army Corps of Engineers
1776 Niagara Street
Buffalo, New York 14207

Dear Lieutenant [REDACTED]:

Re: Addendum to the Feasibility Study for the Seaway Site (April 2008) and
Proposed Plan for the Seaway Site Tonawanda, New York (April 2008)

The New York State Department of Environmental Conservation (Department) received the proposed plan for the Seaway Site and the Addendum to the Feasibility Study (AFS) for the Seaway Site for review on August 28. During the time period since the last version of the AFS, the United States Army Corps of Engineers (Corps) had evaluated a variation of the partial removal alternative. Unfortunately, this evaluation did not show any substantial benefits over the previously considered alternatives. The Department has had several exchanges of correspondence on earlier versions of these documents. Based on our recent review, we find that the AFS is basically unchanged from the draft 2005 version and as such the Department still has unresolved issues with it.

The Department's comments on the current document include the cleanup criteria, the identification of applicable, relevant and appropriate requirements, the reliance on institutional controls that are not designed for radioactive waste disposal sites, and the lack of commitment to federal responsibility for maintaining land use controls, or resources for operation and maintenance of the site, during the 1,000 year control period. It is still the Department's position that only Alternative 2, Complete Excavation with Off-Site Disposal, could meet the two threshold criteria of overall protectiveness of human health and the environment, and be compliant with federal and State environmental regulations.

Further, the Department maintains that the subject document has not demonstrated that a full and comprehensive assessment of the true costs for the 1,000 year lifetime of the site was considered in the Corps' assessment of the various alternatives. If this was done adequately, the Department believes that the off-site removal alternative for all of the Manhattan Engineering District (MED)- related wastes would be shown to be the preferred alternative. Thus, the Department concludes, based on the information in these documents and knowledge of the waste characteristics in the subject site, that Alternative 2 is the State's preferred alternative. In addition, we anticipate that this is the only option that would receive broad community

SEA_0033

acceptance, in part due to the fact that this is the only option that would eventually allow for uses for the site that would benefit the local community.

If the Corps continues to pursue Alternative 6 as their preferred alternative, containment and institutional controls, we have three main concerns:

- (1) Land Use Control Plan. The continued reliance on Department land use controls. Our comments on the 2000 Draft Addendum to the Feasibility Study led to a March 2, 2006 meeting in Buffalo. This meeting was followed up by a March 16, 2006 letter from [REDACTED] discussing, among other topics, land use controls. Based on these communications, and some initial proposed language changes, the Department was of the opinion that the next version would include a detailed discussion focusing on actions the Federal Government would be implementing in the Land Use Control Plan (LUCP) as supplement to our requirements. Unfortunately, the LUCP was not contained within the AFS nor was an additional document supplied for review. As we have stressed on numerous occasions previously, in order for the Department to consider accepting a proposal that would leave MED-related radioactive material in the landfill, we would need to see and accept the LUCP. A significant related concern is that it is our understanding the United States Department of Energy Office of Legacy Management will not implement any action not specified in the record of decision (ROD). Therefore, it is imperative that the LUCP and its related monitoring requirements be included in the decision documents.
- (2) Cleanup Criteria. The Department cannot concur with the cleanup criteria presented in the proposed plan. The Department does not support the use of surface and subsurface cleanup criteria at radiological sites. The shortcomings of this type of dual standard can be clearly seen as a result of the implementation of the Corps remedy for the Linde Site. At that site, Praxair, Inc. has been inappropriately burdened with long-term stewardship of residual subsurface contamination left by the Federal Government. They have been forced to contract with health physics consultants to determine if excavation activities at the site intrude into subsurface contamination and, in fact, have already been faced with dealing with soil contamination levels that do not meet the site's surface criteria. This is a clear example of how the use of surface and subsurface criteria can place unreasonable responsibility upon the site owner. This is particularly true when the property owners do not have experience in dealing with radioactive material. Closure of former MED sites should not place the property owner in the position of having to hire health physics consultants to deal with radioactive materials left behind by, and belonging to, the Federal Government.

Lieutenant Colonel [REDACTED]

3.

- (3) **Subsurface Cleanup Criteria.** The current document is proposing that the subsurface cleanup criteria for uranium is above the 0.05-percent by weight limit requirement for licensing. It is the position of the Department that if the Federal Government leaves material on-site that exceeds this limit, they are obligated to retain physical and financial responsibility for the control of this material and the site.

Please see our detailed comments enclosed with this letter.

Thank you for the opportunity to comment on these documents. If you have any questions or need further information, please contact either [REDACTED] of the Bureau of Hazardous Waste & Radiation Management, at [REDACTED]

Sincerely,

[REDACTED]

Director
Division of Solid & Hazardous Materials

Enclosure

cc: w/encl. - [REDACTED], USEPA, Reg. 2
[REDACTED], NYSDOH
[REDACTED], Erie Co.

New York State Department of Environmental Conservation
Division of Solid & Hazardous Materials
Bureau of Hazardous Waste and Radiation Management

**Comments on the Proposed Plan
for the Seaway Site
Tonawanda, New York
April 2008**

General Comments

- (1) As stated in the cover letter, notwithstanding that the Department's and the Corps' preferred alternative are different, our secondary problem with the Corps' preferred alternative is the heavy reliance on land use controls. It is recognized that this Department commented on the 2000 Draft Addendum to the Feasibility Study with regard to institutional controls and land use controls. These comments led to a March 2, 2006 meeting in Buffalo, followed up by a March 16, 2006 letter from [REDACTED]. The Corps did propose some minor language changes; however, based on the Department's expressed concerns we thought that in the next version there would be a more in depth and detailed discussion focusing on actions the Corps would be implementing in the Land Use Control Plan (LUCP) as a supplement to our requirements. The LUCP, as written, gives the perception to the general reader and the State that because the 6 NYCRR Part 360 regulations are in place at the site, the Department is the only entity regulating this material. In fact, it is not until almost the end of the document, in the third paragraph of Section 7, that there is even a mention of the LUCP. The LUCP needs to clearly address the responsibility of the Corps and the Federal Government early on, and be consistent throughout the various sections of the plan.

To demonstrate this, in each of the following examples there is no mention either before or after the cited quote that additional oversight by the Federal Government will be applied by the utilization of the government's LUCP.

In Section 3.5, Land Use Controls and Future Land Use, the last sentence of the first paragraph states: "As a location subject to 6 NYCRR Part 360 and 6 NYCRR Part 375 the Seaway Site is subject to land use controls enforceable by NYSDEC."

In Section 5.3 and Section 5.4, it again states: "This alternative would also include ensuring that land use controls required pursuant to 6 NYCRR Part 360 are in place to prevent future access to and disturbance of the contained waste."

Additionally, especially in Section 6.2, Results of the Evaluations, the paragraph discussing Compliance with ARARs, where one sentence shows a clear-cut distinction of responsibilities by stating: "These barriers include long-term surveillance and maintenance of capped areas by the Federal government and ensuring that the land use controls required pursuant to 6 NYCRR Part 360 are in place to prevent future access to and disturbance of the contained waste."

It should be understood that 6 NYCRR Part 360's typical post-closure care period for a landfill is 30 years, and is typically the responsibility of the landfill owner, in this case the

radiological wastes of concern here are the responsibility of the Federal Government. Under the State's current solid waste management regulations, there is currently controversy surrounding the service life of a landfill's containment system.

Long-term impacts from erosion and the service life of the containment system's components, such as geomembranes and clay barriers, raises the concern for the potential need for possible replacement in less than 200 years if the interred waste mass has not been demonstrated by that time to not represent a threat to the environment or public health. As written, the proposed plan fails to adequately detail the matters of assessing and taking into consideration the costs for implementing the unprescribed institutional controls at this site for the next 1,000 years. Much more information is needed for the Corps to fully and accurately assess the feasibility for of the proposed preferred alternative.

The Proposed Plan should point to Section 2.6.3 in the Addendum to the Feasibility Study for the Seaway Site (AFS). This Section of the addendum should be revised to provide a clear, comprehensive description of the specific measures that the Federal Government would implement to control use of the site and maintain the cover and leachate collection system for 1,000 years (i.e., the LUCP). The Department strongly requests the Corps provide the State with the opportunity to review and comment on the LUCP prior to the ROD being signed. It is imperative for the State's concurrence that the ROD be sufficiently prescriptive about land use controls that would be needed at this site due to the State's understanding that the United States Department of Energy, Office of Legacy Management (DOE-LM) will not implement anything not specified in the ROD (see Comment 9 below).

Specific Comments

- (2) In the Executive Summary, on page 2, the first sentence states: "Long-term surveillance and maintenance of contained MED/AEC-related waste would be performed by the Federal Government." Since there is a heavy reliance on 6 NYCRR Part 360, it should be noted that 6 NYCRR Part 360 does not contain the term surveillance. 6 NYCRR Part 360 does discuss maintenance and monitoring. Therefore, for clarity, the sentence should be changed to read: "Long-term monitoring, and maintenance of contained MED/AEC-related waste would be performed by the Federal Government." The only way to determine if Formerly Utilized Sites Remedial Action Program (FUSRAP) material is affecting the environment is to monitor for it. Radiological monitoring for FUSRAP-related radium, thorium and uranium is not the responsibility of New York State or the landfill owner (BFI), thus it is required that these requirements must be addressed in detail in the site Environmental Monitoring Plan. Therefore, if the Corps opts not to perform complete excavation of the FUSRAP material, the Corps would need to prepare a long-term monitoring and maintenance plan to address the area where FUSRAP or DOE-LM wastes remain buried, and commit to carrying out that plan over the next 1,000 years.
- (3) The Department sees the LUCP and the long-term monitoring and maintenance plan as two distinct documents having two different objectives and agrees with the Corps' March 16, 2006 response to our land use controls issues when they said: "If the Corps selects a remedy that does rely on the existing land use controls, USACE will prepare a Land Use Control Plan which delineates which land use controls are being relied upon,

who currently has responsibility or authority over them, what needs to be controlled, what reviews and frequency of reviews will be necessary, under what conditions would warrant notification to various agencies identified within the plan or changes to the plan, etc.” This plan would compliment what the Department sees as the long-term monitoring and maintenance plan which states the contaminants of concern, associated analytical methods for detecting them, and a frequency to test for them throughout the 1,000 year period. The Department sees the contaminants of concern as being at a minimum Ra-226/228, thorium isotopes, uranium isotopes and radon. With regard to the maintenance portion of the plan, it should discuss frequency of inspections and tasks to be performed during those inspections, such as looking for evidence of cracking and erosion of the landfill’s containment barriers. We would expect the Corps plan to be no less stringent than BFI’s plan. For example, BFI’s Post-Closure Monitoring and Maintenance Plan calls for inspections to be performed “...at least quarterly and after unusually heavy rainfall, severe frost, droughts or earthquakes.”

- (4) For clarity, on page 2-4, in Table 1, the entry for the year 1930 should be worded: Seaway begins to be used as a solid waste disposal site.
- (5) On page 3-6, in section 3.4.3, Surface Water, the discussion is focused on leachate. The title of the section should be changed to Leachate.
- (6) On page 3-7, section 3.5, Land Use Controls and Future Land Use, that the landfill has been designated as an inactive hazardous waste disposal site pursuant to 6 NYCRR Part 375 is discussed. The landfill is listed as a Class 4 site. The only significance of this listing is that remediation has been completed and only operation/monitoring/maintenance requirements apply. In this case, closure was done pursuant to 6 NYCRR Part 360 and so those are the applicable Operations, Maintenance & Monitoring requirements.
- (7) We cannot concur with the cleanup criteria presented in this Proposed Plan. The cleanup criteria currently being proposed for uranium is above the 0.05-percent by weight limit requirement for licensing and is thus unacceptable. This Department does not agree with the use of surface and subsurface cleanup criteria at a radiologically contaminated site within the State. The Corps’ use of surface and sub-surface criteria presumes: 1) a clear demarcation between these levels; 2) future excavation activities at the site will not bring subsurface soils at levels exceeding the surface criteria to the ground surface; and 3) site LUCPs will remain in effect for the full 1,000 years of the modeled assessment period. The Department does not accept these presumptions and points to existing problems at the Linde site as an example. Use of such criteria places an unreasonable burden upon the property owner to keep subsurface material subsurface. This is particularly true in this case since the property owners have no experience in dealing with radioactive material. Additionally, it is not the responsibility of the owner to hire health physic consultants to deal with potential health or environmental threats posed by waste belonging to the Federal Government, as is already the case at the Linde site.
- (8) In Section 7, the second paragraph discusses capping the landfill once remediation is complete. Department Region 9 staff has expressed concern here and requests an opportunity to review and comment on the Corps’ “Closure Plan,” which would include landfill final cover design, that needs to address the concern of landfill gas venting and control, and specific regulatory material and construction requirements. The specific

landfill closure and post-closure care requirements are contained in the appropriate provisions of 6 NYCRR Part 360-2, Landfills.

- (9) In Section 7, in the third paragraph, the Land Use Control Plan (LUCP) is mentioned. The sentence reads: "Long-term surveillance and maintenance of MED/AEC-related contaminated material contained in capped areas would be performed by the Federal Government in accordance with a Land Use Control Plan that would be developed by the Corps during the completion of the ROD." Does completion of the ROD mean during the work being carried out under the ROD prior to its completion, or during development of the ROD prior to it being signed? If the Corps decides to use Alternative 6 as the preferred alternative in spite of State and local opposition, both the LUCP and/or the long-term monitoring and maintenance plan would need approval from us, for the Department to consider endorsing this the alternative. Based on the information provided so far, the Department will need to see a demonstration of the feasibility of Alternative 6 over the other alternatives that reflect the true costs associated with the implementation of the LUCP under the proposed plan. Beyond this, the document would also need to provide a commitment for the Federal Government to cover the the long-term costs throughout the 1,000 year term as part of the feasibility analysis.

**Comments on the Addendum to the
Feasibility Study for the Seaway Site
Tonawanda, New York
April 2008**

Cleanup Criteria

- (1) The Department cannot concur with the cleanup criteria presented in this Addendum to the Feasibility Study for the Seaway Site (AFS). A concentration of 0.05 % by weight is equivalent to approximately 339 picocuries uranium/gram (pCi U/gram) for natural uranium, or 116 picocuries thorium/gram (pCi Th/gram) for natural thorium [US NRC Notice of Proposed Rule, 10 CFR Part 40, "Transfers of Certain Source Materials by Specific Licensees," August 28, 2002; FR55176]. Furthermore, source material in concentrations equal to or exceeding 0.05% by weight is subject to general licensing as source material, and must be remediated. The State cannot concur with the Corps' determination that no further remediation is needed if source material is present at or above that concentration. There is no option for averaging this result over a larger area or volume.

Applicable and Relevant and Appropriate Requirements

- (2) The Department has had several exchanges of correspondence on earlier versions of these documents and apparently still have unresolved issues with regard to the application of 10 CFR Part 40 (Part 40). The Department believes that the Corps has continued to pick and choose what parts of Part 40 are to be used. As an example, the Corps has found most of Appendix A to Part 40, Criteria Relating to the Operation of Uranium Mills and the Disposition of Tailings or Wastes Produced by the Extraction or Concentration of Source Material From Ores Processed Primarily for Their Source Material Content, to be inappropriate requirements. The very basis for the application of this is addressed in the Appendix, discussed at the beginning of the document, and is excerpted as follows:

"I. Technical Criteria

Criterion 1--The general goal or broad objective in siting and design decisions is permanent isolation of tailings and associated contaminants by minimizing disturbance and dispersion by natural forces, and to do so without ongoing maintenance. For practical reasons, specific siting decisions and design standards must involve finite times (e.g., the longevity design standard in Criterion 6). The following site features which will contribute to such a goal or objective must be considered in selecting among alternative tailings disposal sites or judging the adequacy of existing tailings sites:

(Which includes)

Remoteness from populated areas;"

Furthermore, Section 3.1.1.2 states that: "In addition, the requirements are well suited to the site because the purpose of the regulations is to manage residual radioactive material at inactive mill tailings sites similar in nature to the Seaway site."

The Seaway site is by no means in an unpopulated area; however, the Corps based on limited information, is still proposing that these radioactive materials could be left in a landfill for a duration that greatly exceeds the regulatory authority that the State mandates for landfills regulated under 6 NYCRR Part 360. The Department is of the opinion that there are a great many differences between what would be required during a post-closure care period of a solid waste landfill from that which would be appropriately required in the closure and maintenance of a closed uranium mill tailings pile. Many comments have been submitted about the various applications of certain sections of this regulation in the past, with the Corps supplying responses that fail to adequately address the Department's concerns, and based on the limited information presented in the subject documents, the Department's position on these concerns remains unchanged.

Land Use Controls/Institutional Controls

- (3) In several locations within the AFS for the Seaway site there are discussions on what, at a minimum, is contained in the Land Use Control Plan. The AFS states: "....USACE will prepare a Land Use Control Plan that, at a minimum, documents (1) which controls are necessary for protectiveness and why, (2) under what conditions would changes to the land use controls be warranted, (3) which federal, state, or local entities are responsible for maintaining the controls during given time frames, (4) frequency of reviewing current conditions to assess whether changes to either the land use controls or to the Land Use Control Plan are necessary for ensuring continued protectiveness, and (5) the necessary data needs for assisting in reviews of the continued adequacy of controls and of continued protectiveness and the federal government will be responsible for maintaining the Land Use Control Plan."

In the above quote we are focused on the operative word "documents." The LUCP for Item 5 must do more than merely document the necessary data needs. At a minimum, the LCUP for Item 5 (or through a separate long-term monitoring and maintenance plan) must specify the analytical parameters and locations where the Corps will collect samples. Analytical parameters, at a minimum, will be isotopic thorium, isotopic uranium and radium 226/228 analysis. Locations would include all the monitoring wells closest to the FUSRAP material and include analysis of leachate samples. This monitoring will also need to address any passive landfill gas vents required by the 6 NYCRR Part 360 requirements that are placed within this area, in this case at a minimum yearly radon measurements would need to be made as well. See Comment 5 below.

Long Term Effectiveness

- (4) In Section 6, in the subsection on the top of page 64 entitled Long-term Effectiveness and Permanence, and elsewhere in the AFS, statements are made that alternatives 2, 4 and 6 all provide equal long-term protection since they all include the disposal of the MED/AEC material either at an off-site disposal facility or at the Seaway Landfill. The paragraph goes on to state: "All disposal alternatives, including at the site will be subject to long-term governmental controls related to a permanently closed waste disposal

facility. The site closure standards at the Seaway landfill, and those at any possible off-site disposal location, are considered to be equivalent in their long-term reliability and protective design standards designed to preclude releases to the environment and protect the public from contact with the materials." Until the Corps develops a detailed LUCP, the only governmental control the Department sees mentioned in the document refers to the 6 NYCRR Part 360 requirements. As discussed above, 6 NYCRR Part 360's post-closure care period controls fall far short of that which would be required if the radioactive materials are left in place. In addition, the Seaway site was not evaluated for such a long-term reliability and protective design standards for this duration. The climate and population base around this site clearly warrants serious consideration to use other, more appropriately designed disposal sites that were specifically sited, designed, constructed, operated, and regulated for the disposal of radioactive material as a more secure and better suited final burial place for this material.

Other Comments

- (5) In Section 2.2.8 Radon, the third paragraph is very misleading. The paragraph discusses radon emanation using alternative 4 from both the previous feasibility study addendum and this version. The comparisons made may be true, but then the paragraph goes on (top of page 26) to state, talking about the old alternative 4: "The Assessment also concluded that the 0.5 pCi/L standard would be met in the case of construction of multiple passive landfill gas vents as part of the capping Areas A, B and C as long as the vents are constructed at the proper height above the cap and at the proper distance from the property line." With the additional material identified in the Corps' 2001 characterization, and with no additional removal of any material from Areas B and C, the calculated radon emanation does not appear to be conservative enough. It should be noted that because of the solid waste interred at this site the Department's 6 NYCRR Part 360 regulations will require landfill gas vents to be installed in this section of the landfill to minimize the potential landfill gas migration after the final cover system is installed. Therefore, the Corps needs to incorporate radon monitoring into their LUCP and its long-term monitoring and maintenance plan.
- (6) In Section 2.6.3, Future Land Use Controls, the numbered recommended restrictions listed on page 43, numbers 3 through 6, are a good start to the kind of information the Department would have liked to have seen in the AFS with regard to requirements other than New York State regulations which will be implemented at the site.
- (7) In Section 5.7, Implementability, for alternatives 4 and 6 the statement: "Use of land use controls is considered feasible based on the fact that they already exist and that the USACE would prepare a Land Use Control Plan should this remedy be selected" is shortsighted. There are land use controls in place, but they are not designed to be effective for radioactive contaminants. In order to effectively carry out implementation of an effective LUCP, the Federal Government should consider taking title to the land and the radioactive waste, in conformance with Section 83 of the Atomic Energy Act.
- (8) In Appendix E, the third paragraph of Subsection Remedial Action Alternatives states: "Under both alternatives the existing landfill cap and leachate collection system must be maintained in order for the remedies to be effective, because cost and engineering concerns prevent the FUSRAP Site from being segregated from the remaining portions of the existing capped Landfill Site. A separate collection system for the FUSRAP Site,

isolated from the rest of the landfill, is economically infeasible. In addition, failure in the existing landfill cap or collection system will negatively impact any separate collection system placed around Areas A, B, and C." This paragraph makes it clear that the Corps understands how important the cap is for the entire site. Therefore, it is the Department's position that the Corps understands that their long-term monitoring and maintenance plan will need to be written to at least mirror BFI's plan at a minimum for the protracted post-closure period of 1,000 years. Understanding the physical service life of the landfill's containment system, this plan should include the fact that the landfill's final cover system will likely need to be repaired and/or replaced numerous times during the 1,000 year period.

- (9) In Appendix E, the second paragraph of Subsection Lands Required for Accomplishment of Alternatives states: "A right-of entry, also, will be used to provide temporary access for the containment and partial excavation alternatives. However, these alternatives, also, require permanent access to the Site for monitoring, operation and maintenance of the cap and leachate collection system." The third paragraph goes on to state: "To accomplish these long term objectives, land use controls (LUC's) must be imposed. Although the development and approval of a Land Use Control Plan for the Seaway Landfill FUSRAP Site will occur after execution of the Site's Record of Decision, the discussion of LUC's especially those enforceable through legal action, need to be developed during the project feasibility phase." As stated in our previous comments, the Department would like the opportunity to review and comment on the LUCP prior to the ROD being signed. For the most part, the documents point to a heavy reliance on 6 NYCRR Part 360 for land use controls, which the Department has determined are not acceptable in and of itself. The Department is of the position that the ROD needs to be very prescriptive with respect to the LUCP and the long-term monitoring and maintenance because it is our understanding that the United States Department of Energy, Office of Legacy Management will not implement anything not specified in the ROD.
- (10) Section G.2.1.1, Schedule, contains errors. Due to re-arranging the alternative numbers since the last version of this document, the associated alternative and operation and maintenance (O&M) cost periods are wrong. For example the third sentence states: "Alternative 6 assumes no O&M period since it included full excavation." Obviously this is wrong, as Alternative 6 is Containment.