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Alexander B. Grannis
Commissioner

May 1, 2009

Mr. John P. McAuliffe, P.E.
Program Director, Syracuse
Honeywell
5000 Brittonfield Parkway, Suite 700
East Syracuse, NY 13057

Re: Onondaga Lake Bottom Subsite Onondaga County, NY
Draft Onondaga Lake Dredging, Sediment Management and Water Treatment Initial Design Submittal, Dated February 3, 2009 (734030)

Dear Mr. McAuliffe:

We have received and reviewed the above-referenced document, which was transmitted by your February 3, 2009 letter to my attention, and have enclosed comments that we have generated based on our review of the document. Please provide us with a letter containing responses to our comments such that the response letter is received by us on/or before June 19, 2009. In addition, please distribute the Draft Onondaga Lake Dredging, Sediment Management and Water Treatment Initial Design Submittal, including a copy of this letter and the enclosed comments, to the various document repositories as discussed in the governing consent decree.

If you have any questions relating to our enclosed comments, or would like to set up a meeting to discuss the enclosed comments, please contact me or Robert Edwards at 518-402-9676.

Sincerely,

(original signed)

Timothy J. Larson, P.E.
Project Manager

Encl.

cc: T. Milch, Esq, - Arnold & Porter - w/encl.
ec: R. Nunes - USEPA, NYC - w/encl.
J. Davis - NYSDOL, Albany - w/encl.
M. Sergott - NYSDOH, Troy - w/encl.
J. Heath, Esq.- w/encl.
G. Jamieson, HETF/Onondaga Nation - w/encl.

Comments on "Draft Onondaga Lake Dredging, Sediment Management & Water Treatment Initial Design Submittal" Prepared by Parsons, O'Brien & Gere, and Anchor Environmental for Honeywell, February 2009

General Comments

G.1 In many sections of this Initial Design Submittal (IDS), there is an indication that an item/component was not included in this IDS but would be included in the Final Design. It is not clear why these items/components can not, or should not, be included in the intermediate design rather than the final design. NYSDEC and Honeywell need to schedule a meeting/confernce call to discuss this issue.

G.2 Please use the correct site names as per the existing orders (ie. Waste Beds 1-8, Waste Beds 9-15, etc.) in all future design documents. Discrepancies between site names has caused confusion to reviewers and the public as to what site Honeywell is referring to.

G.3 The document states in several locations that numerous assessments and evaluations were made regarding various aspects of the design. These assessments should be referenced or attached as appendices in the next design submittal.

G.4 This report does not contain any text or figures providing details regarding the remedial areas of SMU 5 that are in the ROD. These areas must be addressed in the next design submittal.

Specific Comments

Typically, page numbering corresponds to complete paragraphs on a page, and begins with the first full paragraph on a page. Paragraph numbering includes the last paragraph on a page, even if that paragraph continues onto the next page. Bullets are considered part of the paragraph introducing them, unless otherwise noted.

Executive Summary

We have no comments on the Executive Summary.

Section 1 Site Description and Design Process Overview

1.1 Page 1-1, Paragraph 2. The purpose of this comment letter is to provide comments on the IDS and have those comments addressed in future design submittals rather than have the IDS revised and resubmitted for approval. This IDS will be placed in the document repositories for the site and therefore the IDS will be available for public review.

1.2 Page 1-5, Paragraph 3, Fourth Bullet, Section 1.4. Wastebed B/Harbor Brook is the correct name of the NPL subsite as stated in the governing consent order. The correct site name should be used in future design documents.

1.3 Page 1-6, Paragraph 1, Fourth and Fifth Bullets, Section 1.4. Wastebeds 1-8 and Wastebeds 9-15 are the correct site names that should be used in future design documents.

1.4 Page 1-7, Fourth Bullet. Although nitrate addition was discussed in the Onondaga Lake Remedial Design/Remedial Action Consent Decree, it was not part of the remedy discussed in the ROD.

1.5 Page 1-8, Paragraph 2, Sentence 3, Section 1.5. In the third sentence, "establishment of the final dredging volumes" should be changed to "establishment of dredging volumes" since this is referring to the Capping IDS, not the final design.

Section 2 Community Protection and General Project Requirements

2.1 Page 2-1, Section 2.1.1. The final Onondaga Lake Remedial Design Citizen Participation Plan was release in March 2009 and all citizen participation discussions in future design documents should be consistent with the final Citizen Participation Plan.

2.2 Page 2-2, Section 2.1.1.1. The topic of generating an Annual Summary of Activities need to be discussed with NYSDEC.

2.3 Page 2-6, Paragraph 4, Section 2.2.2. Although the text indicates that local ordinances include requirements pertaining to noise, vibration, dust, and odors, no such ordinances are specified in Table 2.1. This discrepancy should be addressed in future design submittals.

2.4 Page 2-7, Section 2.3. This section discusses the incorporation of sustainability concepts into all aspects of the project. However it states that this is not a regulatory project requirement. It should be noted that as of March 17, 2009, EPA Region 2 established its Clean and Green Policy which encourages sustainable practices at Region 2 cleanup sites, including Superfund, Brownfields and EPA-managed RCRA corrective action sites. The full policy can be found at :

http://www.epa.gov/region02/superfund/green_remediation/policy.html.

Under this policy certain green remediation technologies will serve as touchstone technologies. These include:

- Purchase 100% of electricity from renewable sources
- Concrete made with Coal Combustion Products (CCP) replacing a portion of traditional cement
- Clean diesel fuels and technologies
- Methane capture at landfill sites

2.5 Table 2.1. The Part 750 SPDES regulations were revised in 2003. While previously, the regulations were contained in Parts 750-757, the regulations were revised to contain

everything in 6 NYCRR Part 750 and Parts 751-757 were deleted. The table should be revised in future design submittals to reflect this.

2.6 Table 2.1, Page 2 of 8, Bullet 8 under the "Potential Supporting Documentation" column. The eighth bullet indicates "Hydrogeologic report (Completed for SCA)." However, although geotechnical and settlement reports have been completed for the SCA, a complete hydrogeologic report has been completed (and one is not listed in Table 1.1). Please clarify.

2.7 Table 2.1, Page 8 of 8. Please verify that the text is complete for the last bullet on the page under the "Comments" column.

Section 3 In-Lake Site Characterization

3.1 Page 3-1, Paragraph 3, Section 3. The last sentence of this paragraph states that the Phase IV data will be incorporated into the Final Design. Since the in-lake sediment and porewater data from Phase IV (2008) are currently available and the bench-tests results are expected to be available during the first half of 2009, the Phase IV data should be incorporated into the Capping and Dredge Volume IDS and the Sediment Management Intermediate Design.

3.2 Page 3-2, Section 3.1. It should be noted that the NYSDEC and EPA have not determined the appropriateness of the proposed remediation areas and dredge volumes and we are awaiting the opportunity to engage in these discussion with Honeywell.

3.3 Page 3-2, Section 3.1. Design documents still need to meet ROD and Consent Decree requirements regarding remedial work in each SMU. Therefore, the SMU concept and boundaries need to be maintained until dredge prisms and cap designs are finalized.

3.4 Page 3-3, Paragraph 1. The remedial approach for area S-48 must be included in the intermediate design. Also, it is unclear what the last sentence in this paragraph means. How will the remediation of the shallow groundwater at Waste Beds 1-8 impact the "dredge without capping" areas in the lake?

3.5 Page 3-3, Paragraph 2, Sentence 3, Section 3.1. It is stated that the barrier wall "reduces groundwater upwelling such that capping is effective all the way to the shoreline." This will need to be verified by a monitoring program.

3.6 Page 3-3, Paragraph 3. The lateral boundaries of the ILWD are known and are not influenced by the "overlying sediment layer." Figure 3.3, referenced in this paragraph, does not accurately depict the extent of dredging in the ILWD.

3.7 Page 3-5, Section 3.3, Paragraph 4. This paragraph is misleading. The ILWD was formed by the discharge of Solvay Process wastes and other wastes to the lake. Calcite is a component of the Solvay process wastes, however, there are many other constituents that make up the ILWD.

3.8 Page 3-6. The text refers to additional data needs. The required collection of additional field data needs to be included in the Phase V PDI work plan such that the data can be collected this year.

3.9 Page 3-7, Paragraph 2, Sentence 4, Section 3.4. Based on SMU3 lake sediment data and Wastebeds 1 through 8 data, phenol and methylphenol should be added to the list for Remediation Area B.

3.10 Page 3-7, Section 3.5. The text states that additional characterization of the shoreline of the lake is necessary. This work needs to be added to the Phase V PDI work plan.

3.11 Page 3-8. The parcel of land described in the 3rd paragraph is owned by NYS not Onondaga County. Also, the area is not an official public boat launch.

3.12 Page 3-10, Paragraph 2, Section 3.7. Exceedances of surface water standards for chlorinated benzenes were also documented in the Onondaga Lake RI and discussed in the Onondaga Lake ROD (page 42).

3.13 Page 3-10, Section 3.8. This section should have stated that the provided text is an overview of aquatic and wildlife habitat and that the Remedial Design Elements for Habitat Restoration provides much more detail on this topic and is scheduled to be submitted as part of the Capping Design IDS.

3.14 Page 3-11, Paragraph 2, Section 3.8. The text states, “No restrictions or limitations on remediation activities...as listed in Table 2.1." Please provide detailed rationale to support this statement.

3.15 Page 3-13, Paragraph 3, Sentence 4, Section 3.12. Ninemile Creek was rerouted during the early 1900's and is a major 20th century modification.

3.16 Page 3-14, Section 3.1.2. The text needs to be expanded to state that "Honeywell, NYSDEC, and the USEPA, will continue to coordinate with the Onondaga Nation....".

3.17 Table 3.2. For Remediation Area C, the 90th percentile values for some of the parameters are significantly less than the average values. (For naphthalene, it appears that this is a result of the magnitude of the maximum value at Station S435 in SMU 2.) These values should be confirmed. Also, total PCBs should have been added to this table since PCBs are included in the cleanup criteria. In addition, the table should have indicated how non-detections were handled to calculate these statistics.

3.18 Section 3 Figures. Section 3 should have included a figure depicting the remedial areas in SMU 5. The response to comment letter and the intermediate design must include a figure depicting these areas.

3.19 Figure 3.1 and other figures showing remediation areas. A note should have been added to the figures to indicate that remediation areas in SMU 8 are not shown since dredging is not anticipated beyond the 30-ft water depth and those areas would be addressed by thin-layer capping (or potentially isolation capping where the ILWD extends into SMU 8) and monitored natural recovery (MNR).

3.20 Figure 3-3. The area on the figure that is marked as "preliminary dredge area" in SMU 1 (remediation area D) does not depict the area to be dredged in the ROD or any dredge proposal offered by Honeywell. This depiction is very misleading and will likely cause much confusion to anyone reviewing this figure, including the public. The note that the "dredge area for ILWD removal to be determined" is not sufficient.

3.21 Figure 3.4. In the hard copy, the labels for the caps are blacked out. In the PDF file, they show as "Residual Cap" for Dredge Area 1 and "Isolation Cap" in Dredge Area 2. However, the text below the "Dredge Area" labels should be switched; Dredge Area 1 should be "...will not be capped" and Dredge Area 2 should be "...will be capped." Also, all design drawings should clearly state the vertical datum (i.e., ft NAVD88).

Section 4 Engineering Analysis and Design

4.1 Page 4-2, Section 4.1, General and Table 3.1. Future design submittals, associated with the development of dredge prisms, should take into account and specifically address the geotechnical characteristics of the ILWD.

4.2 Page 4-3, Paragraph 3, Section 4.1.1.2. Since dredging in areas which will not be capped (for isolation) is essentially a "dredge-to-clean" scenario, post-dredging confirmatory sampling will need to be conducted prior to placement of the backfill material and habitat layer to ensure that remedial criteria are met. Details such as the thickness of the backfill layer and the associated habitat layer need to be provided in future design submittals since these issues have either not been discussed with NYSDEC and/or resolved.

4.3 Page 4-4, Paragraph 3, Section 4.1.2. The text should have indicated that wetlands will be created at Waste Beds 1-8 (e.g., aquatic habitat that will be created there as compensation for the loss of lake surface area due to the construction of the Willis barrier wall.)

4.4 Page 4-6, Section 4.1.3. NYSDEC and Honeywell need to discuss in the very short term the schedules associated with addressing upland source conditions (e.g., Geddes Brook/Ninemile Creek, Waste Beds 1-8, and Waste Bed B/Harbor Brook), as well as the sequencing and schedule of in-lake remedial activities. As an initial step, Honeywell should submit detailed schedules (with a similar level of detail as the schedules previously provided) for addressing all of the upland source areas. The identification and resolution of schedule issues should then lead to the development/refinement of sequencing of the in-lake activities.

4.5 Page 4-6, Section 4.1.3. The intermediate design should include more details of the proposed sequencing of dredging and be based on future discussions by the Dredging and SCA Operations Work Group. Any evaluations regarding this activity should not wait until the final design.

4.6 Page 4-6, Paragraph 4, Section 4.1.3. The text states that "final isolation capping operations will lag dredging operations by approximately one year...". This topic requires further discussion with the NYSDEC. It is anticipated that, at a minimum, some form of initial capping will need to be done following the completion of dredging in areas that will require

an isolation cap. This will be necessary to minimize the exposure of the “new” bottom surface until the isolation cap is completed.

4.7 Page 4-9, Paragraph 2, Section 4.1.4.2. The list of disadvantages for hydraulic dredging should have included the difficulties that can be encountered when working in debris- or cobble-laden areas.

4.8 Page 4-10, Paragraph 1, Section 4.1.4.3. It is indicated that future evaluations will be needed to determine if hydraulic dredging would be feasible for areas containing hard, crusty material. Since the ILWD represents the largest dredge volume of any of the remediation areas, this concern could have a significant impact on dredge efficiency, schedule, and cost. Therefore, NYSDEC and Honeywell need to discuss how and when these future evaluations will be conducted. Any data needs associated with this issue need to be included in the PDI Phase V Work Plan so that the data can be collected this year.

4.9 Page 4-10, Section 4.1.4.3. The text states that it is anticipated that mechanical dredging techniques may be used in specific locations. The intermediate design needs to include a detailed description of these areas and include figures depicting these areas of the lake. The text should provide the proposed methods of transferring the dredged material to the SCA.

4.10 Page 4-10, Section 4.1.5.The dredge volume used for this design document should have been the volume provided in the ROD (but adjusted by subtracting the estimated volume that is behind the Willis barrier wall). Preliminary dredge prisms are not scheduled to be determined until the submittal of the capping IDS (or related submittals) which is to be submitted later in 2009. Therefore, it is premature to recalculate dredge volumes at this time. Also, the design did not provide any justification to support the assumptions presented in the design that the range of sediment to be removed is between 1,600,000 and 2,653,000 CY.

4.11 Page 4-10, Paragraph 3, Sentence 3, Section 4.1.5. The final selection of equipment should be determined by the contractor. As a general rule NYSDEC does not approve specific pieces of equipment associated with remedial construction when a PRP is financing the remedial construction.

4.12 Page 4-11, 7th bullet, Section 4.1.6. The text states: "The optimal dredge cut thickness for cutter suction dredges is typically defined as approximately two-thirds of the cutter diameter." The text also states for specific dredges "... the approximate optimal cuts are between 2.0 to 2.3 ft". Are these statements correct since the text elsewhere refers to "Cutterhead dredges with suction diameters ranging from 6 to 24 inches"?

4.13 Page 4-12 to 4-13, Section 4.1.6. The text states that several evaluations were conducted to support the estimation of hydraulic dredging production rates but that key data is still lacking to complete some of these evaluations. In particular, the text states that the geotechnical characteristics of the ILWD “crusty material” is unknown. This is a critical data gap and the necessary field work and testing that will be required to fill this data gap must be conducted during the upcoming field season.

4.14 Page 4-13, Solids concentration. The selection of a slurry solids content of 10% for designing this project is very optimistic. The NYSDEC is unaware of any environmental dredging project that maintained a dredge slurry solids content of 10% . The typical percent solids for environmental dredging projects is more in the range of 3% to 7%, not 5% to 15% as stated in the text. This is a critical issue since the proposed solids content of 10% is the basis for the design of many of the critical components of the dredging portion of this project. The slurry pipeline water treatment plant and project schedule are all tied to this assumption. If the dredge maintained a 7% solids average rather than the assumed 10%, then the project schedule would be in jeopardy. Merely increasing the dredging rate to compensate for the lower percent solids would exceed the design capacity for the slurry pipeline and the treatment plant as envisioned. The intermediate design documents must include a revised percent solids estimate and associated design changes, or lay out what operational methods or contingency plans could be enacted to maintain the project schedule.

4.15 Pages 4-14 and 4-15, Production rates and project duration. The text states that a 10% solids content was used in the calculations regardless of sediment type and conditions in the different areas in the lake . The text also lists several factors that would require dredging at a reduced rate. How were these factors reflected in the project schedule? A review of the supporting documentation provided does not reflect this reduced rate of dredging. This needs to be clarified in the intermediate design.

4.16 Page 4-14, Paragraph 4, Section 4.1.6 and associated tables. The estimates presented herein should also be presented for the maximum dredge volume to allow for a determination and presentation of potential ranges of the sizes and numbers of dredges, pipelines, and booster pumps that may be needed to dredge and transport the maximum volume over the same four-year duration.

4.17 Page 4-14, Paragraph 4, Section 4.1.6. The factors that result in an estimated dredge-up time of 70% should be presented and discussed. Does this assumed up-time reflect time for repositioning, refueling, shift changes, maintenance, silt curtain deployment, failure of booster pumps, debris, hard crusts, etc.? The intermediate design submittal (and preferably, interim documentation) should describe the derivation of the 70% up-time assumption, and to what time-frame it applies.

4.18 Page 4-15, Paragraph 1, Section 4.1.6. How has the assumption that dredging will start out at a reduced rate and increase during the first dredging season been incorporated into the calculation that 3.34 dredge seasons are required to complete the project?

4.19 Page 4-16, Data Gaps. Please include any data collection or tests in the PDI Phase V Work Plan.

4.20 Page 4-17, Section 4.2.2 and Figure 4.3. More detail needs to be provided in the intermediate design regarding debris removal.

4.21 Page 4-18, Section 4.2.3. regarding piles, within remedial areas, NYSDEC's preference is to have the piles removed, to the extent feasible and appropriate.

4.22 Page 4-18, Paragraph 3, Sentence 4, Section 4.2.3. The debris management plan must include areas that contain debris and concentrations of contaminants that exceed the cleanup criteria, and what measures will be taken to remove or otherwise manage the debris to allow the remediation to be successfully completed.

4.23 Page 4-19. The project schedule needs to include debris clearing and management. The schedule also needs to include the time frame to set up the shoreline facilities required for this task.

4.24 Page 4-20. The project schedule needs to include the time frame for the removal of in lake utilities , both Honeywell and non-Honeywell owned. Honeywell and NYSDEC will need to discuss each of the utilities in regard to which ones may need to be removed.

4.25 Page 4-20, Paragraph 1, Section 4.2.4 and Table 4.4. Reference to Table 4.3 should have referred to Table 4.4.

4.26 Page 4-20, Section 4.2.5. If additional data needs to be collected for utility management (pipeline), that data collection needs to be included in the PDI Phase V Work Plan.

4.27 Page 4-21, Section 4.2.4.2. Regarding the culverts in Remediation Area C. Please explain the statement, “These culverts are both currently in use, and actively discharge to the lake.” What are the contents of the discharges from Tributary 5A and the pumphouse?

4.28 Page 4-23, Section 4.2.4.6. The discussion regarding the Sun and Mobil pipelines is unclear.

4.29 Page 4-23, Section 4.2.4.7. In the second paragraph of this section, the fourth sentence refers to two outfalls. The fifth sentence refers to "the outfall". Which is correct?

4.30 Page 4-24, Section 4.2.4.8. The outfall "identified near the northern boundary of Remediation Area E" and the "line of magnetic anomalies" should have been shown on Figure 4-3.

4.31 Page 4-24, Section 4.3. Specifics regarding performance and compliance monitoring will need to be discussed in future meetings with Honeywell and NYSDEC. More details regarding this monitoring needs to be included in the intermediate design.

4.32 Page 4-28, Section 4.4, Slurry transport and operations. This section seems to only address the dredging operations in “remediation areas” C, D and E. There is no information regarding the dredging in SMU’s 3 &4 (remediation areas A&B) and SMU 5. For example, the text states that the maximum distance from the dredge to the shoreline facilities (located at Waste Bed B) is 4,000 feet. However, the distance between SMU 4 and Waste Bed B is far greater than 4,000 feet. The areas requiring remediation in SMU 5 are even farther away than that. The intermediate design must include details regarding these areas too.

4.33 Page 4-29, Section 4.4.3.; Figure 4.6; and Page 4-55, Section 4.7.1.1. The conceptual plans for the pipeline route indicate a “floating pipeline” in Ninemile Creek in order to accomodate road and rail crossings. To the maximum extent possible, the pipeline in this section of

NMC should be moved above the water level. In addition, the text discusses a "future need to upgrade and/or create new access roads for construction, operation, and maintenance of the slurry pipeline and potentially for booster pump facilities." These structures should also avoid, if possible, disturbances to the bed or bank of the stream.

4.34 Page 4-31, Paragraph 3, Section 4.4.4. Potential frictional head loss from piping/manifolds/header system for filling of geotextile tubes (all stacks/lifts) should be presented and considered to determine booster pump requirements.

4.35 Page 4-32, Paragraph 4, Section 4.4.4 and Figure 4.7. Based on the proposed hydraulic grade line shown, it appears there is no redundancy in the pump system to allow for clearing the pipeline in the event of a booster pump failure. Has consideration been given to sizing the pumps to allow "pump-through" across a failed booster pump to allow for the clearing of solids prior to shut-down for maintenance? If not, how will pipeline cleanout be handled in the event of a booster pump failure, and what is the impact to productivity should a pump failure occur?

4.36 Page 4-40, Paragraph 3, Section 4.5.3.4. Additional details on dewatering should be provided in future design submittals, including potential types/strengths of geotextile tube material, estimated total number of tubes for various dredge volumes up to the ROD-specified volume, methods of stacking the tubes up to the total number of lifts, and worker safety considerations/measures for placement and operation up to five or six stacks (lifts).

4.37 Page 4-50, Paragraphs 1 and 2, Section 4.6.4. It is stated in the first paragraph that the dredge shutdown would range from 17 to 32 days (for 15 events) with an effluent holding capacity of one day (roughly 6M gallons), consistent with Appendix H. Appendix H also presents an estimated shutdown of 10 to 17 days (for 7 events) based on a holding capacity of two days (roughly 13 M gallons). This should also be discussed in the text and carried forward into further design evaluations as a potential method of increasing annual production.

4.38 Page 4-51, Section 4.6.4. The report notes that 50% sodium hydroxide will be stored on site. We note that the freezing point for this solution is 40F. Will a heated building be necessary to prevent crystallization or will the tanks contain an in-vessel heating system?

4.39 Page 4-52, Section 4.6.4. What is the anticipated amount of sludge that will be generated?

4.40 Page 4-52, Section 4.6.5.1. Will any pre-loading be necessary prior to the construction of the WTP on Wastebed 13? If so, when will the pre-loading take place?

4.41 Page 4-53, Paragraph 5, Bullet 4, Section 4.6.5.3 (second full bullet on page 4-54). It is stated here that cold weather operation will not be required. However, on page 4-41 it is stated that the pre-treatment system would operate in the winter. In addition, with geotextile tube covers/blankets (see Appendix I), it is anticipated that the geotextile tubes would continue to drain in the winter. Please clarify.

4.42 Page 4-55, Section 4.7, Upland facilities & locations. Figure 4.10 depicts the Ballfield site as a potential support zone. However, the text does not include this area.

4.43 Page 4-55, Paragraphs 4 and 5, Section 4.7.1.1. The descriptions of potential pipeline locations relative to existing structures is hard to follow. A more detailed map and photographs of the pipeline areas, crossings, and potential booster pump locations need to be included in the Intermediate Design.

4.44 Page 4-56, Paragraph 2, Sentence 2, Section 4.7.1.1. It is not clear exactly what the 15,000 ft length represents, based upon the sentence, as written. The text indicates that this is the distance from the mouth of Ninemile Creek to the SCA but the “likely preferred route” shown on Figure 4.6 does not include Reach AB of lower Ninemile Creek from its mouth to I-690. Future design submittals should discuss the pipeline distances for all lengths of the pipeline from the most distant dredge areas to the Wastebed B support area to the SCA.

4.45 Page 4-59, Section 4.7.2.1. The description of DSA #1 and DSA #2 should have included a discussion of the stained materials that were present beneath the dredge spoils at DSA #1 and DSA #2.

4.46 Page 4-60, Paragraph 2, Section 4.7.2.3 and Figure 4.10. Load restrictions on the upland side of the Willis/Semet wall section are presented. Since the design of the Wastebed B/Harbor Brook IRM barrier wall is ongoing and the Wastebed B area appears to be the optimal support area, a potential layout of the roads and support areas as well as loading estimates for each of these areas should be considered in the ongoing design of the Wastebed B barrier wall and hydraulic containment system. In addition, the data gap related to geotechnical limitations identified in the third full paragraph on this page should be addressed as soon as possible.

4.47 Page 4-60, Paragraph 2, Last Sentence, Section 4.7.2.3. Any modifications to the barrier wall design and/or associated load limitations must be submitted to NYSDEC for review and approval prior to implementation.

4.48 Page 4-60, Section 4.7.3. Why does the text state "It is anticipated that the Settling Basin B area would be utilized....."? The text should have acknowledged that the siting at this location has been determined.

4.49 Page 4-60, Paragraph 5, Section 4.7.3 and Figure 4.9. Since the same area within the eastern portion of Wastebed 13 is proposed for both the slurry preconditioning (i.e., hydrocyclone, gravity thickener, polymer addition, oil-water separators) and the WTP and the size of this area is limited, a conceptual sizing/layout of all of these facilities should be provided with an indication of the grading and sub-base plans.

4.50 Page 4-62, Section 4.8, General. There is no discussion of the air dispersion modeling that has been completed to date and potential future uses of that modeling. At a minimum, the modeling and associated on-site meteorological data should be used to evaluate potential critical receptor locations for monitoring.

4.51 Table 4.5. Although Note 1 indicates that the range of influent concentrations presented is “based on EET testing of settled supernatant,” it is unclear as to what data these “SCA WTP Preliminary Estimated Untreated Influent” concentrations are based on. For example, according to the Honeywell Phase II Pre-Design Investigation SCA Supernatant Treatability

Testing Report (O'Brien & Gere, 2008b), the maximum mercury value reported for the effluent elutriate testing (EET) data in Tables 1c through 30c is 2.9 mg/L (Table 15c, SMU-4, Site 40062) and the maximum mercury value reported for the supernatant data (in the sediment/water mixture) in Tables 49c through 53c is 3.8 mg/L (Table 51c). However, Table 4.5 of the IDS shows the maximum mercury value expected in the influent to be 0.94 mg/L. Please clarify.

4.52 Figure 4.1. This figure should have shown the return of captured solids to the slurry preconditioning area from the WTP. This needs to be corrected in future submittals. (Also note that Fig 4.1 refers to Fig 4.9 for the WTP, but that figure is Fig 4.8.)

Section 5 Subcontracting Strategy

We have no comments on Section 5 - Subcontracting Strategy.

Section 6 Design Submittal and Construction Schedule

6.1 Page 6-1, Section 6. NYSDEC is continuing to review the schedule. Please revise the schedule to include dates of other remedial design/construction activities (e.g., capping area determination, dredging volume determination, SCA construction/operation, Water Treatment Plant design/construction) that may impact the dates included in schedule.

Appendices

C.1 Appendix C, Page C-2, Paragraph 2. The ROD volume noted for the ILWD was based on an 84-acre estimate of the size of the ILWD. The maximum volume should now be estimated based on the 100-acre estimate of the size of the ILWD within the littoral zone (not including ILWD area in SMU 8). In addition, the SMU volumes estimated in the ROD should have been used, with the exception of the volume reduction based on the location of the Willis Avenue IRM Barrier Wall (see Onondaga Lake ESD).

D.1 General. Text within this appendix states that these calculations are for preliminary design purposes. Therefore, it is our understanding that these calculations will be refined in the intermediate design.

D.2 Appendix D, Production Rate Calculation, Sheet 2 of 4. Since these calculations involve transport of water and solids it is believed that "SG_f" should be changed to "SG_w". In addition, please clarify why SG_m was solved for "iteratively" when it is believed that it can be solved for algebraically:

$$SG_m = (SG_s \times SG_w) \div (C_w \times [SG_w - SG_s] + SG_s)$$

Also, remove "assuming" before $SG_w = 1$, and this translates to:

$$SG_m = SG_s \div (C_w \times [1 - SG_s] + SG_s)$$

D.3 Appendix D, Friction Loss Calculation, Sheet 1 of 2. A copy of Figure 10-2 from Turner (1996), which was used to estimate the friction factor (C), should be provided. The text presents a range of estimated friction losses based on a range of slurry specific gravities (and thus C values). There should also be some discussion as to how the C values and estimated friction losses would change for other particle sizes (e.g., medium sand, silts) and whether this impacts the number and size of booster pumps.

G.1 Appendix G, Section 2.0, Sheet 1 of 6, and Figure 2. A basis for the assumption of a 20-acre dewatering area during operations and 5-acre dewatering area during winter shutdown should be provided. This assumption, used to estimate the volume contribution from a 100-year storm, should also be noted on Figure 2 of this appendix. In addition, the figure should also show the potential range in volumes from both a 10-acre and 30-acre dewatering area to supplement what is shown based on a 20-acre area to evaluate the potential range of storage capacities.

H.1 It would be helpful if this document provided the actual number of days that the Metro influent exceeded the target volume for the time period reviewed. It would be a useful check to verify the report's conclusions. Also, it was unclear what the actual maximum flow for the WTP shutdown would be. Is it 118 MGD or 126MGD? These issues need to be included in the intermediate design submittal.

Reference

O'Brien & Gere, 2008. Final Report: Phase II Pre-Design Investigation SCA Supernatant Treatability Testing. Prepared for Honeywell, Syracuse, New York. June. (Received March 2009)