Document:	EPA Response to Comments from New York State Office of Attorney General on Engineering Performance Standards – Public Review Copy Hudson River PCBs Superfund Site
Document Date	October 10, 2003

Reviewer	#	Comment	Topic	Response
DOL	1	<u>1. The Draft Engineering Performance Standard should be modified to indicate a preference for dredging over capping.</u> The ROD (at 80) concluded that capping was less reliable than dredging: "The CAP-3/10/Select alternative is less reliable than the removal alternatives due to the potential for damage to the cap, thereby exposing PCBs. In addition, the CAP-3/10/Select alternative is vulnerable to a catastrophic flow event, such as might be seen during a 500-year flood or a dam failure. In general, the REM-3/10/Select and REM-0/0/3 alternatives are the most reliable, as there is little or no long-term additional maintenance associated with the remedial work." Further, use of the upper-bound criterion of 6 mg/kg could result in capping of areas as large as two acres in size with average PCB concentrations greater than 14 mg/kg, which could be inconsistent with the $3g/m^2$ MPA criterion for removal in River Section 1. The decision to cap in areas that meet the Action Level 3 criterion should not be made until two re-dredging attempts have been made, as discussed in the description of Action Level 4 (Part 2, Volume 2 of 4, page 2).	**Residuals** Cap issues	EPA agrees that dredging is preferable to capping and will ensure this preference is clearly stated in the text. It is important to distinguish between capping of PCB inventory (mass), as described in the capping alternative described in the ROD (p. 80), and the capping of residual concentrations of PCBs after the PCB inventory is removed. The Residuals Standard requires that the dredging cut lines established during remedial design be met prior to allowing capping, even where the mean concentration of the certification unit is less than 6 ppm. With the bulk of the PCB mass then removed during dredging, the role of the cap at a dredged location is only to contain the residual concentration of PCBs. Should some unforeseen event cause a cap to fail, the resulting spread of contamination would be much less than the capped inventory scenario rejected in the FS, because of the relatively small mass of PCBs and lower surface concentrations due to mixing with the capping material.

				The Residuals Standard permits capping of areas with average concentrations of 6 mg/kg Tri+ PCB or less without additional dredging attempts as long as the individual nodes are in compliance with the prediction limits. There are a few important considerations in allowing this scenario. First, the average concentration is the major factor impacting the water column conditions; the contribution of individual nodes is secondary. A single node in a 5-acre certification unit represents only 2.5 percent of the area. Second, all sub-aqueous caps designed and implemented for this project will be developed according to USEPA and USACE guidance documents and appropriately constructed to isolate the contamination. Third, at a given concentration, the MPA will vary depending on the thickness of the contaminated sediment and the solid specific weight (SSW) of the sediment. Estimates of the MPA in a 6-inch layer of sediment for 6 mg/kg Tri+ PCBs and 14 mg/kg Tri+ PCBs are provided below. For a reasonable range of SSW values at 6 mg/kg Tri+ PCBs, the MPA is well below the threshold value of 3 g/m^2. For the average condition of 6 mg/kg Tri+ PCBs or less, the thickness of contaminated sediment would need to be greater than one foot and have a relatively high SSW before the MPA threshold would be exceeded. For an individual node at 14 mg/kg Tri+ PCB, the MPA threshold for the 6 inch layer is only exceeded at the higher SSW values.

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<td>Typically, higher concentrations are associated with fine-grained material, which would have a SSW value of approximately 0.8 g/cc on average.

<table>
<tr><th colspan="3">6" Layer at 6 ppm</th></tr>
<tr><th>SSW g/cc</th><th>MPA g/m^2</th><th>% of 3 g/m^2</th></tr>
<tr><td>0.50</td><td>0.5</td><td>15%</td></tr>
<tr><td>0.75</td><td>0.7</td><td>23%</td></tr>
<tr><td>1.00</td><td>0.9</td><td>30%</td></tr>
<tr><td>1.25</td><td>1.1</td><td>38%</td></tr>
<tr><td>1.50</td><td>1.4</td><td>46%</td></tr>
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<table>
<tr><th colspan="3">6" Layer at 14 ppm</th></tr>
<tr><th>SSW g/cc</th><th>MPA g/m^2</th><th>% of 3 g/m^2</th></tr>
<tr><td>0.50</td><td>1.1</td><td>36%</td></tr>
<tr><td>0.75</td><td>1.6</td><td>53%</td></tr>
<tr><td>1.00</td><td>2.1</td><td>71%</td></tr>
<tr><td>1.25</td><td>2.7</td><td>89%</td></tr>
<tr><td>1.50</td><td>3.2</td><td>107%</td></tr>
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<td>DOL</td>
<td>2</td>
<td><u>GE should be required to obtain USEPA approval before capping a certification unit that does not meet Action Level 1 or 2 after being dredged to the design cut elevation.</u>
If the Performance Standard retains the option to cap after dredging to design cut elevations for Action Level 3, the decision whether to cap or re-dredge should not be GE’s Construction Manager’s alone. The Executive Summary indicates that the Construction Manager will,</td>
<td>Residuals
Cap issues</td>
<td>USEPA and/or its authorized representatives will be present on-site during the dredging to review all decisions with regard to cap selection and cap construction Because there is not yet a final consent decree or order requiring General Electric Company to perform the remedial action, it is not yet certain that the Construction Manager will be a representative of General Electric Company.</td>
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		in these circumstances, consult with the USEPA: "The cost of cap construction and maintenance should be balanced by the Construction Manager, in consultation with USEPA, against the cost of additional re-dredging attempts and their respective impacts on the schedule." (Part 1, Volume 1 of 4, page ES-14). However, this is the only place in the document where consultation with USEPA in regards to the decision to cap is mentioned. The Performance Standard itself should be clear that both consultation with and approval by USEPA are necessary. It is EPA's oversight responsibility to ensure that the preference in the ROD for dredging over capping is realized to the maximum extent possible.		While the field-based decisions to cap within a certification unit do not require formal USEPA approval, the Residuals Standard has been modified to require a Certification Unit Completion Report, which would describe, among other things, the circumstances leading to a decision to cap within a certification unit. Thus, USEPA will confirm compliance with the Residuals Performance Standard. As noted in Section 4.0 of the Residuals Standard, the use of non-dredging technologies (e.g. capping) during Phase 1 will be evaluated and may lead to a refinement of the Residuals Standard for Phase 2.
DOL	3	<u>The Performance Standard should expand the factors to be balanced in deciding whether capping or further dredging is the most appropriate course of action.</u> Currently, the Executive Summary only identifies two factors to be balanced by the Construction Manager, in consultation with USEPA, i.e., cost and impacts on the schedule. An expanded list of factors to be considered as set forth in the Performance Standard, including permanence of the remedy and ability to achieve the remedial objectives identified in the ROD. Omission of these factors would be inconsistent with the ROD.	**Residuals** Cap issues	The text has been revised to state that additional factors will be considered in evaluating whether to place a cap, such as the sediment texture, water depth, and location in the channel. USEPA does not believe that the contingency to cap in dredged areas with recalcitrant PCB concentrations in residual sediment is inconsistent with the 2002 Record of Decision.