Document	EPA Response to Comments from Saratoga County EMC on Engineering Performance Standards – Public Review Copy Hudson River PCBs Superfund Site
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Reviewer	#	Comment	Topic	Response
Saratoga County Environmental Management Council	1	These performance standards and any subsequent remedial action should be predicated upon first eliminating all upriver PCB contributory sources. This includes GE's remediation of PCB sources to the river emanating from their Hudson Falls plant per consent order with NYSDEC. Please advise the Council of the chronology of eliminating this upstream source in relation to the beginning of Phase 1 dredging.	**Productivity** Upriver PCB sources	EPA recognizes the importance of reducing upstream sources of PCBs to the Hudson. In the ROD (e.g., p. v), USEPA noted the source control actions planned or underway by NYSDEC at GE's Hudson Falls and Fort Edward plant sites. EPA's Reassessment RI/FS, however, established the in-place sediments of the Upper Hudson as the primary source of PCBs to the river system. In other words, the sediments themselves are a continuing source of PCBs. EPA expects that some 150,000 pounds of PCBs will be permanently removed from the river system during dredging. Therefore, EPA determined that remediation of the sediments is necessary regardless of the timing of the source control measures at GE's plant sites. The New York State Department of Environmental Conservation (NYSDEC) is in the process of conducting a response action under New York State law to address the source of PCBs near Outfall 004 at GE's Fort Edward facility. NYSDEC also

				has issued a Proposed Plan for remediation of the ongoing release of PCBs from bedrock in the vicinity of GE's Hudson Falls facility. In the ROD, EPA assumed that remediation of the Hudson Falls bedrock would be completed by January 1, 2005. However, in the event that source control at Hudson Falls is not successfully implemented pursuant to New York State law, EPA has authorized the performance of an Engineering Evaluation/Cost Analysis to evaluate options for a Non-Time Critical Removal Action at Hudson Falls pursuant to CERCLA in order to ensure that the Hudson Falls source is addressed.
Saratoga County Environmental Management Council	2	The Council would like a detailed explanation of why EPA is discounting the PCB resuspension rates identified by the USGS in the Fox River PCB removal project. It is also troubling to note performance standard language which dismisses the high USGS PCB resuspension rates by stating there is a need to move monitoring station locations further downstream to "correctly represent dredging-related losses" (Sec. 2.2.2, Res. Per. St.). The Council feels that high concentrations of water-suspended PCBs, even for short distances downstream from dredging sites can cumulatively, over the course of the project, cause significant PCB increases to local fish populations. Please explain.	**Resuspension** Case studies	EPA addressed the USGS paper on the Fox River in its White Paper: Resuspension of PCBs During Dredging in the Responsiveness Summary, which is Part 3 of the 2002 Record of Decision for the Hudson River PCBs Site. The Saratoga County EMC is referred to the White Paper for the detailed explanation requested. The need to move monitoring stations further downstream is necessary in order to correctly measure the export rate (i.e., the PCB load to the downstream river section) during dredging. The near-field transport model indicates that much of the suspended solids settle close to the dredging operations. It is likely that these solids will be removed as the dredge moves downstream. Furthermore, as noted in Section 3.4.4 of the draft Resuspension

				Standard (p. 87), additional sediment sampling will be necessary if physical resuspension barriers are not used *may* [emphasis added] be required."
Saratoga County Environmental Management Council	3	Serious concerns arise about the lack of analytical evidence of a valid correlation of using turbidity and total suspended solids (TSS) as a "surrogate" for establishing downstream water column estimates for PCBs. This is especially egregious due to the presence of Saratoga County public drinking water sources which utilize the Hudson River in Halfmoon and Waterford. In the absence of such a valid correlation, how will EPA address the manner in which they will record suspended PCBs in a timely manner?	**Resuspension** Time relevant data	The monitoring plan set forth in the Resuspension Standard is sufficient to record suspended PCBs in a timely manner. The public water intakes have two protective features. First, the Total PCB concentrations will decrease downstream through settling and dilution by the addition of water from tributaries entering the river between the remedial area and the intakes. Second, the time for the impacted water parcel to travel from the remedial area to the water intakes is greater than 24 hours for River Sections 1 and 2, except at the highest flow rates. However, it is unlikely that dredging will be conducted at high flow rates, due to safety concerns. Since the turn-around time for PCB analysis is 24 hours, there is sufficient time for the operators of the public water intakes to take precautions if the concentration at the far-field stations is greater than the MCL. Contingencies for water supplies along with the warning procedures will be specified in the Community Health and Safety Plan (CHASP). TSS or turbidity levels, depending on the ability to correlate them, will give near real-time indications of resuspension. Although

				TSS is not expected to have a one-to-one correlation with PCB concentrations, it is anticipated that TSS will provide an indication of excessive resuspension and elevated PCB levels. Such TSS/turbidity levels may then be used to prompt further PCB sampling downstream and notification of water supplies. Dredging in River Section 3 is not anticipated until after Phase 1 dredging has been completed, and when EPA will have obtained site-specific data on the correlation between PCB resuspension and TSS/turbidity. Due to the close proximity of the dredge operation to the water intakes, it may be necessary to implement other water supply contingencies during this period. This issue will be further addressed during Remedial Design, particularly in the CHASP.
Saratoga County Environmental Management Council	4	<u>General</u> 1. The Executive Summary on page ES-2 indicates that the Performance Standards may need to be adjusted based on the Phase 1 results. However, EPA has not indicated whether the Standards may be made more or less stringent and the possibility that the Standards may be relaxed is of grave concern, especially so because of the emphasis EPA has put on completing the dredging in 6 years. It is understood that the draft Standards were used in the modeling used to obtain the results,	**Productivity** **Residuals** **Resuspension**	USEPA will evaluate the data gathered in Phase 1 and determine if changes are necessary to the performance standards or to the dredging operations in Phase 2. Discussion regarding refinements to each standard is presented in Section 4.0 of each standard. Any refinement of the standards, however, will be protective of human health and the environment. With regard to the completion of the dredging program, the USEPA recognizes

		namely the postulated achievement by dredging of lower PCB levels in fish sooner then the option of MNA, used by EPA to justify the ROD. If the Standards are relaxed, the advantage of dredging over MNA is lessened and could disappear entirely. This same concern exists regarding the statements in the Design Work Plan documents that GE is to inform EPA if GE concludes that Performance Standards cannot be met.		that the maximum benefit can be obtained by completing the operation as quickly and as "cleanly" as possible. However, the USEPA does not agree that less stringent standards would necessarily mean that the long-term benefits to the river from dredging would be on par with the Monitored Natural Attenuation (MNA) only scenario.
Saratoga County Environmental Management Council	5	The concern that the Standards may not be met is heightened by review of Volume 4. "Case Studies of Environmental Projects." A review of Volume 4 yielded 10 cases that provided useful information relative to the Draft Standards. None of the 10 cases were successful in meeting a 1 ppm residual PCB concentration and only 1 case achieved the production rate required by the Draft Standard for Dredging Productivity and this case had no residual requirement (only stated requirement was removal of 90% of PCBs, a much easier task than a 1 ppm residual) and no useful information on resuspension. It is noted that all 10 cases used some form of containment indicating the likelihood containment will be required in the Hudson River further impeding attempts to increase productivity. EPA is requested to indicate how EPA will respond if the Phase 1 results or information from the design work show that the Draft Standards cannot be met. Will EPA do further	**Productivity** **Residuals** Achieving target cleanup goals **Resuspension**	USEPA notes that the Reynolds Metals (now Alcoa) project in the St. Lawrence River met a 1 ppm residual criterion in 50% of the area initially dredged to the design grade, despite the fact that this project employed environmental buckets on derrick dredges with no ability to force the buckets closed in hard or boulder-filled sediments. Redredging of the area that did not meet the 1 ppm residual on the first attempt (i.e., the other 50% of the area) succeeded in achieving the 1 ppm target in half that area. Additional redredging attempts reduced the areas where the 1 ppm target could not be met to a very small number. It is expected that the design engineers for the Upper Hudson River project will use the lessons learned from the Reynold (Alcoa) site in selecting appropriate dredges for the Hudson. With respect to the Productivity Standard, USEPA further notes that at the Calamut

		modeling with relaxed but achievable Standards and re-evaluate whether or not it makes sense to proceed with Phase 2?		River in Gary, Indiana, US Steel Corporation is working to remove 750,000 cubic yards of sediment from February to December 2003, and currently has a production rate of approximately 70,900 cubic yards per month using two hydraulic dredges. In comparison, the Productivity Standard requires a production rate of about 480,000 cubic yards in 7 months, which is approximately 68,600 cubic yards per month. Representatives of the environmental dredging industry state that the estimated 2.65 million cubic yards can be removed from the Upper Hudson River in even less time than the ROD allows. USEPA believes that the engineering performance standards (which will be finalized after an independent peer review) will be achievable. In the highly unlikely event that a standard is not met, the standards require evaluation of the dredging operations and other circumstances in order to determine the cause of the non-compliance and to identify solutions. Because any failure to meet a performance standard will depend on the circumstances, it is not possible at this time to say what steps would be taken in the event of an inability to comply with a particular standard. Consistent with the ROD, the results of Phase 1 will be used to evaluate if any adjustments are necessary to the dredging

				operations in Phase 2 or to the performance standards. Such evaluation could include additional modeling. However, the evaluation between Phase 1 and Phase 2 is not intended to re-assess USEPA's 2002 decision to address the risks to people and ecological receptors associated with the PCBs at the site.
Saratoga County Environmental Management Council	6	2. The modeling that formed the basis for selecting dredging over MNA in the ROD assumed that actions had been taken to eliminate the continued input of PCBs at the Hudson Falls site. To date this has not been accomplished and seems unlikely to happen before Phases 2 (and even more unlikely before Phase 1). The modeling showed that the benefits to the PCB levels in fish from dredging were eliminated if the input at Hudson Falls is not controlled. Does EPA plan to proceed with dredging before the work to eliminate the input at Hudson Falls is completed?	**Productivity** **Residuals** Upstream source control **Resuspension**	The model forecasts developed for the ROD and the performance standards did not assume that the upstream input had been completely eliminated, but rather assumed that the input was reduced by about 10 fold. As documented by GE's monitoring program, releases from the upstream sources have been greatly reduced through ongoing remedial efforts (see response to Comment #1, above).
Saratoga County Environmental Management Council	7	<u>Draft Performance Standard for Dredging Resuspension</u> 1. P. 1 – It is stated that resuspension within containment is not part of this standard. How is protection provided against re-deposition on areas already dredged within the containment barriers?	**Residuals** Redeposition in the containment zone **Resuspension** Protection against	USEPA recognizes this as an issue that must be considered by General Electric Company's engineering design team. At a minimum, USEPA expects that dredging operations within a containment area will be completed from upstream to downstream so as to maximize the ability to remove PCBs that resettle. Internal sediment control barriers and other techniques may

			redeposition	be necessary to avoid recontamination. USEPA's approval of the remedial design documents will take into consideration the planned resuspension control measures as well as possible contingencies. In addition, the dredged areas within the containment areas would need to meet the Residuals Standard.
Saratoga County Environmental Management Council	8	2. PP. 5&6 – In Table 1-2 and 1-3, what do the numbers under "Laboratory Analysis" mean, especially when less than one and what do "number of operations" refer to in Table 1-4?	**Resuspension** Laboratory analyses	The numbers for "Lab Analysis" are samples per week. The "number of operations" refers to the number of crews performing work in the river (i.e., debris removal, backfilling, dredging).
Saratoga County Environmental Management Council	9	3. PP. 9&10 – It is not clear why only PCBs carried by sediment beyond 1 mile are important. Sediment settling out within one mile should also be considered, especially considering that a major part of the River is not being dredged. EPA should either include any resuspension or provide justification for only considering impacts of resuspension beyond 1 mile.	**Resuspension** Use of one mile	The far-field stations that are one mile or more from areas of remediation measure resuspension export. Export is the PCB load released to lower sections of the river. Sampling within one mile will overestimate the amount of resuspension export. PCBs in sediment that settles out in the vicinity of the dredge operations are expected to be captured as the dredge moves downstream. For this reason, EPA developed the Resuspension Standard to limit the PCB load transported over longer distances, called the PCB export. This is explained in the Resuspension Standard (p. 9), as follows: Most of this settling takes place within a few hundred yards of the dredge. Given the extent of the areas targeted for

				dredging in the Upper Hudson and the focus on depositional areas, it is expected that much of the material settling in the vicinity of the dredge will be collected during subsequent dredging passes. As discussed in Section 3.4.4 of the Resuspension Standard, modeling was used to analyze the impacts of dredging on non-target areas within one mile downstream of target areas. The analysis concluded that non-target areas downstream from the dredging may require sampling to ensure that elevated levels of PCBs have not been deposited, especially if the remedial areas are not contained.
Saratoga County Environmental Management Council	10	4. PP. 15&16 – The conclusion on P. 16 that two riverine sites successfully correlated TSS and turbidity is not justified by the information presented. The two riverine sites did bench tests and there is no evidence that the bench test results were confirmed in the field. In fact, the only evidence of a field test (Cumberland Bay) confirmed exactly the opposite, i.e., field testing did not confirm the bench test correlation. This failure in the sole attempt to confirm bench tests in the field should be a red flag to EPA. EPA should either abandon any plans for such a correlation or provide for field testing to confirm any laboratory determined correlation.	**Resuspension** Case studies	The Resuspension Standard does not depend on such a correlation, although it does provide for use of a correlation should one be established. If no reasonable correlation can be determined between turbidity and suspended solids, TSS samples will have to be taken at a high frequency. The text was provided to show that it is possible that a correlation may exist.

Saratoga County Environmental Management County	11	5. P. 17, Sect. 2.2.2 – Three sites are not many on which to base the important conclusions reached here. EPA is requested to provide further discussion showing how these three sites are similar enough to the dredge sites in this program to justify their use here. Also, it is difficult to see how 0.36 is close to 0.13 when there is almost a factor of 3 difference. It would seem EPA would want to be as conservative here for this important parameter as EPA is in using worst case values in determining PCB impacts on animals and birds. In this same regard, the rejection of the USGS data because the sampling was done too close (within 0.25 mile) is unconvincing. In the preceding Section, it is stated that TSS monitoring at 300 ft. is considered ok. Since the PCBs being transported are primarily attached to sediment, monitoring at 300 ft. should be ok. EPA is requested to provide the monitoring distances for the GE and New Bedford sites and to provide additional justification for rejection of the USGS data. At least, unless EPA can justify otherwise, the 0.36 value should be used.	**Resuspension** Case studies	The resuspension releases mentioned here are not used directly. The rate discussed in Attachment D (average source strength) was derived independently using the TSS-Chem model. The case studies were used to show that the anticipated release rate is reasonable. The distance of the near-field will be refined depending on the results of Phase 1. The distances were only considered close in that they did not represent levels that would be representative of contaminant export, given that additional settling would be expected to occur after 300 feet. These distances are site-specific. For other rivers, the different site conditions (flow rate, sediment type, etc.) could result in different locations for representative near-field and far-field. Note that while the best engineering estimates used in the development of the standard represent an export rate of 0.13 percent, the Action Level criteria of 300 and 600 g/day represent export rates equivalent to 0.5 and 1 percent of the mass of PCBs to be removed. Near-field monitoring at 100 m (approximately 300 ft.) and 300 m from the dredging operation is required by the standard. This monitoring is only for TSS, not PCBs, and is primarily needed as a real-time assessment of the dredging operations in terms of loss of suspended solids from the vicinity of the dredge. The thresholds are set at levels that would indicate

				unacceptable levels of contaminant export, but given the uncertainty in a semi-quantitative relationship between suspended solids and PCBs, PCB sampling at the far-field stations is required to confirm an exceedance. Unlike the Fox River study, PCB export is not determined from these near-field locations.
Saratoga County Environmental Management County	12	6. Sect. 2.2.4 P. 20 – On this page, the information presented in Attachment B is discussed. Examination of Table 19 of Attachment B indicates that an increase in the release rate to 3 times the assumed value will result in PCB releases 50 to 75% of base while release rates of 2% would result in increases of 150% or more of base load. This reinforces the need for answers to item no. 5. Also on p.5 of Attachment B, emphasis is placed on the need for extra care when river flow is low because concentrations will be higher. Isn't the true concern the mass of PCBs being transported which could be much greater at lower concentrations when the flow is high?	**Resuspension** Load at high flow	USEPA understands SCEMC's comment regarding the percentage of PCB release compared to the baseline load. The best engineering estimate of the resuspension export rate is approximately 86 g/day, or 0.13% of the PCB to be removed from the river bottom (69,800 kg). A release rate three times of the assumed value yields an export rate of approximately 300 g/day. From Table 19, the increase in PCB release ranges from 6 to 25 percent of the baseline load, however, not 50 to 75 percent. The 1 percent release rate would be equivalent to the 600g/day release and the PCB load increase was estimated to be less than 50%. The Resuspension Standard sets limits over the short term and over the long term (see Table 1-1). The control level of the resuspension criteria limits the far-field net PCB load to 65 kg/year during the dredging season. Therefore, flow and concentration (high and low) and the allowable mass being released are both included in the standard.

Saratoga County Environmental Management Council	13	7. P.51 – On this page, EPA notes that while PCB levels are the true concern, the time lag in getting the results from PCB samples requires a substitute parameter that can give immediate results. EPA has chosen TSS as this parameter. Hart Crowser, Inc., in their comments, have questioned EPA's attempt to provide a correlation between PCB concentration and TSS. Resolution of these concerns is vital if the resuspension standard is to have any meaning. This need is further emphasized by the review of case studies in Vol. 4. Only one case showed an attempt to correlate PCB concentration and TSS (Fox River N&O) and the attempt was a failure, showing no such correlation. Also, both Fox River N&O and Fox River SMU 56/57 Phase 1 showed downstream increases in PCBs while turbidity (expected to be related to TSS) showed no change.	**Resuspension** Time lag	TSS or turbidity levels, depending on the ability to correlate them, will give near real-time indications of resuspension. While TSS is not expected to provide a quantitative predictor of PCB levels, the relationship between the two parameters is expected to be positive. TSS/turbidity will provide an indication of excessive resuspension and thereby elevated PCB levels. As noted in the standard, PCB concentrations will be confirmed by sampling in response to elevated TSS. Elevated TSS levels will also initiate a higher frequency of PCB sampling. The correlation between TSS and turbidity will be site specific and may rely on laboratory studies in addition to the results of Phase 1. The case study data are discussed to demonstrate that correlations between TSS and turbidity have been developed for other sites, but this information does not guarantee that correlations in the Hudson River will be found, only that it is possible. There are some concerns regarding the results from the Fox River case studies mentioned, which are discussed in the Responsiveness Summary White Paper: Resuspension of PCBs During Dredging (USEPA, 2002). In particular, turbidity in the region was largely controlled by paper mill discharges in the area. In fact, turbidity from the paper mill was so great that turbidity typically

				decreased across the dredging area, indicating extensive settling of paper mill-related solids. No such turbidity source is known in the Upper Hudson.
Saratoga County Environmental Management Council	14	<u>Draft Performance Standard for Dredging Residuals</u> 1. P. 5- EPA states modeling showed a 1 ppm residual to be satisfactory. Were other concentrations evaluated and, if so, what were the results? Also on p.5, EPA discusses the use of statistics to determine action levels. How did this statistical analysis account for the known but undetermined large variation of PCB concentration over short distances in the TIP?	**Residuals** 1 ppm residual standard	In the 2000 Feasibility Study, USEPA used its fate and transport and bioaccumulation models to show that a 0.25 ppm Tri+ PCB surface sediment concentrations in the areas targeted for removal results in acceptable long-term recovery of fish body burdens. The 0.25 ppm Tri+ is based on an assumed 4 inch thick residual sediment layer of 1 ppm Tri+ PCBs that has been completely mixed with 12 inches of clean backfill. The 2002 ROD specifies both an anticipated residual of approximately 1 ppm Tri+ PCB concentration and 12 inches of clean backfill (where appropriate), so USEPA did revisit these assumptions in developing the Residuals Standard. USEPA used a statistical approach to derive Tri+ PCB concentrations that would be acceptable at individual sample locations and on a certification unit basis to meet the ROD criteria. In addition, in the Appendix D of the 2000 Feasibility Study, USEPA modeled the impacts of residuals with concentrations of 2 ppm and 5 ppm Tri+ PCBs. The statistical analysis discussed on p. 5 is based on post-excavation results from other case studies. The spatial variation in the

				pre-excavation sediments of the TIP is not relevant because this material will be removed during the remediation leaving a layer of sediment with different properties. It is assumed here that other sites have similar levels of pre-dredging variability and thus can be used to support the criteria developed for the Residuals Standard.
Saratoga County Environmental Management Council	15	3. P.6, Sect. 2.1.2 - This section says a review of case studies was used to assist in developing the standard. In view of the comment above that none of the case studies presented showed achieving 1 ppm, how does EPA justify using 1 ppm as the standard?	**Residuals** 1 ppm residual standard	The 1 ppm residual concentration is not based on an analysis of the case studies, but on the modeling analysis that was done for the FS. The case study data was used to demonstrate that the level of reduction planned for the sediments of the Upper Hudson is similar to that achieved by remedial efforts at other sites. The case study data were also used to develop the other components of the action levels, such as the expected statistical distribution of residual contamination.
Saratoga County Environmental Management Council	16	4. P.21, Sect. 2.2.7 – Please explain why the variances from the case studies are applicable to the Hudson River and why a 50% error in the estimate of the median is acceptable.	**Residuals** Case studies	The assumption has been made that the residual sediments created by the various remedial operations described in the post-dredging case studies would have a characteristic distribution. That is, in each case the contaminant of concern is generally tightly bound to particles and thus the normal mixing and disturbances that are part of the dredging process will produce a characteristic distribution of residual concentrations, regardless of the starting

				concentration. Thus, these data are used to demonstrate the general nature of residual contamination (e.g., log-normal) and the amount of variation that can be expected about the mean (i.e., the coefficient of variance). Given the general agreement among the various case studies, it is expected that similar conditions will be generated as a result of dredging the Hudson. A 50 percent error in the median value represents a range of 0.5 to 1.5 for the target concentration. This range of values rounds to the target concentration of 1 mg/kg. Requiring a lower error will increase sampling requirements with little benefit since median values in the range of 0.5 to 1.5 mg/kg are considered to satisfy the residuals target
Saratoga County Environmental Management Council	17	5. P.22 - Given the number of sites over 40 in Table 2-7, the average Sy may not be conservative as it may give too much weight to low values. Please explain further the use of the average value.	**Residuals** Case studies	As shown in Figure 2-6, the Sy values did not vary greatly from site to site and did not increase consistently with an increase in the average concentration. To estimate the variance for the Hudson River, the average value among the various case studies was chosen. Given the relatively small variation in Sy among the eight case studies with residual contamination less than 30 mg/kg (0.95 to 1.6), this is a reasonable approach. The sampling requirements will be reviewed at the end of Phase 1 when site-specific data are available.

Saratoga County Environmental Management Council	18	6. P.36- Please identify where monitoring of cap effectiveness and long term monitoring will be addressed.	**Residuals** Cap issues	Monitoring requirements for the cap will be specified during the Remedial Design, pursuant to the terms of the Administrative Order on Consent for Remedial Design.
Saratoga County Environmental Management Council	19	7. P.37 - If capping must be abandoned, will the model be used to predict impacts on PCB levels in fish?	**Residuals** Cap issues	USEPA will evaluate the impact to fish in the event that an area is out of compliance and cannot be capped (e.g., a non-compliant certification unit is in an area of the navigation channel or a shallow, rocky area where cap construction cannot readily be accomplished). It is expected that the overall benefits of the inventory removal will outweigh the impacts from a limited number of non-compliant areas that cannot be capped. As specified in the ROD (p. 61), USEPA expects to perform additional modeling that will use monitoring data as "input parameters in the mathematical models to evaluate progress of the natural attenuation processes against the original predictions."
Saratoga County Environmental Management Council	20	8. PP. 37&38 - Regarding AquaBlok™, how does the River current affect placement and (P.38), how does this material provide a "suitable habitat"?	**Residuals** Cap issues	The engineering contingencies listed in this section are provided as examples of technologies that may be considered under certain conditions if re-dredging fails to reduce the residual sediment concentrations in some areas, and are not intended to limit the options available to either the design team or the construction manager. The choice of capping material is a remedial design issue that will require consideration

				of cap placement and the resulting habitat. With respect to AquaBlok™, the material is a mixture of gravel and clay that together form a relatively impervious layer that can withstand relatively high water velocities. When AquaBlok™ is subjected to high water velocities, it forms an armoring layer comprised largely of gravel, protecting the mixture of clay and gravel below. The design team may evaluate the use of multi-layer caps to address the combined design objectives of isolation of residuals and compatibility with habitat.
Saratoga County Environmental Management Council	21	<u>Performance Standard for Dredging Productivity</u> 1. P.8, Sect. 2.2 – The information presented in this section does not inspire much confidence that the proposed dredging standard can be met. Please refer to General Comment 1 above [Comment #4 in this document].	**Productivity**	Section 2.2 describes the analyses performed in support of the Productivity Standard. These include thorough a review of the most current technologies available and information available from case studies of other dredging projects, which are summarized in Appendix A (Volume 4). Using all the available information (including site-specific information), EPA prepared a detailed example production schedule for the Upper Hudson dredging project using Primivera software. The example schedule is described in Section 2.2.3.2 and presented in Attachment 1. EPA believes that these analyses are adequate to demonstrate that the Productivity Standard can be met.