



August 14, 2006

John G. Haggard  
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Dear John:

As we indicated in our letter of November 2005, Phase 1 of the Hudson River remediation and habitat replacement and reconstruction project is clearly an essential step toward recovery of the River and its environs. That letter outlined our concerns about remedial activities proposed in General Electric's draft Intermediate Design Report (IDR), which we explained might cause an increase in injuries to natural resources. After reviewing General Electric's draft Final Design Report (FDR), we feel it is important to reiterate and expand upon our concerns and urge General Electric to avoid some of the natural resource injuries that we anticipate would result from implementation of the Phase 1 remedy as currently designed.

Our concerns with the FDR are similar to the concerns we had with the IDR, including the volume and type of backfill to be used, restrictions on nearshore dredging, potential for significant capping/armoring of the river bottom and shoreline, and over-reliance on natural recovery of submerged aquatic vegetation beds without adequate measures in place to assure corrective actions if necessary. We are also very concerned that the proposed criteria for habitat replacement and reconstruction success do not hold the project to a standard that would assure true recovery of the target habitats. Addressing these concerns could significantly reduce General Electric's potential natural resource damage liability.

Once implementation of the remedy is complete, it is essential that the Upper Hudson River be capable of supporting a diverse aquatic and semi-aquatic community, and that especially sensitive or unique habitats identified by the natural resource agencies are reconstructed in their pre-remedial locations. As we noted in our November letter, post-dredging bottom elevations and sediment distribution will be key to the ability of the river ecosystem to recover. In light of the details provided in the FDR, we are particularly concerned with the depths being designed for aquatic bed reconstruction, unnecessary hardening of the river bottom and shoreline, and the type of backfill material selected for plant re-establishment as well as for unvegetated areas. Overall, because the design for backfill and cap types, material composition and shoreline stabilization

appears to be based on a hydrologic model incorporating pre-dredging bathymetry, the design may not accurately represent the conditions these materials will be subject to once dredging is completed, leading to unnecessary hardening of the river bottom and shoreline. Uncertainty about the final depths of sediment removal and the limits of the photic zone in the post-dredging environment may result in over-predicting the appropriate depth for re-establishing aquatic vegetation beds, reducing both the spatial distribution of submerged and floating aquatic vegetation and the vigor and functionality of these beds.

As in the IDR, it appears from our review of the FDR that significant amounts of PCBs could remain in shallow water areas beneath caps, which may also be armored to reduce loss of cap material from extreme flows. The result of such capping would likely be sediment substrates with limited abilities to support a diversity of aquatic habitats, leading to ecosystem impairment and especially severe consequences for fringing wetlands and beds of submerged and floating aquatic vegetation, some of the more biotically rich habitat types in this stretch of the River. A more hardened river bottom would likely encourage zebra mussel colonization and expansion within the Upper Hudson, which could have adverse and cascading effects for native species. Hardening of shoreline areas to stabilize banks could reduce the usage of these habitats by terrestrial and semi-aquatic species, as well as their overall functionality. Also, the significant quantities of PCBs left in the river environment in this manner would potentially further increase the scope of injuries to natural resources, and negatively affect the future remedy addressing contamination of the floodplain.

Given the scale and complexity of the Hudson River remediation, it is essential that adequate adaptive management measures are put into place, so that corrective actions can be taken if preliminary results fall short of habitat replacement and reconstruction goals. The Trustees believe that natural resource damage liabilities could be reduced if adaptive management procedures: 1) incorporate effective threshold triggers for meaningful corrective actions should passive and/or active re-vegetation efforts prove unsuccessful, 2) adopt a measure of success that requires that target habitat replacement and reconstruction areas not be left significantly impaired, and 3) assess specific habitat replacement and reconstruction areas rather than comparing data on a river reach scale. Failing to include these elements in the adaptive management plan could result in the loss of important foraging, breeding, nursery, and adult habitat for resident and migratory species. The 25/50 rule for defining successful habitat replacement and reconstruction – that is, 50% of the target station values exceeding the 25<sup>th</sup> percentile of the reference data – is an unusually low standard, and virtually ensures that most target areas will be left significantly impaired.

The Trustees are concerned that the River perform its functions and provide a commensurate level of services after habitat replacement and reconstruction is complete. An important consideration will be the replacement of a distribution of habitats and a range and diversity of functions roughly comparable to pre-remedial conditions throughout the Phase I area. The suggestion in the adaptive management plan that site-specific goals may be modified if habitat replacement and reconstruction efforts are unsuccessful appears to permit substitution of one habitat type for another. Similarly, the FDR provides for an alteration of the definition of reference habitat based on post-dredging site information, which may tend to compromise the

degree to which the project's defined success actually reflects recovery of habitat to pre-remedial conditions.

Finally, we are concerned that the Functional Capacity and Habitat Suitability Indices do not appear to have been adequately calibrated, validated or verified. These models are the basis for determining habitat replacement and reconstruction success, and incorrect relationships contained in the models could bias any future assessment of habitat recovery.

In sum, we have significant concerns regarding the breadth of the injury to natural resources that are likely if the proposed FDR design is implemented. As we noted in our November letter, addressing these concerns as part of the remedy would be to General Electric's advantage, by reducing the damages accrued due to interim service losses related to injuries caused by the remedy. It would also minimize the disruptions to the local community associated with post-remedy restoration activities, allowing a swifter return of a healthy river ecosystem and associated human uses. The Trustees believe that many of the natural resource injuries related to implementation of the remedy can be avoided or minimized through modifications of the Final Design. This can be achieved by drafting and implementing a Final Design that is more sensitive to issues raised here as well as to those specific concerns identified in our respective letters to EPA on the FDR. We strongly believe there is mutual benefit to the natural resources, EPA, GE, the local community, and the public at large in advancing the complementary goals of remediation and restoration of the Hudson River as early in the process as is technically practicable, thereby reducing the timeframe for returning this River of historic and national importance to a sustainable condition for the biota and habitats it supports. We suggest we use this opportunity to discuss these issues in a timely fashion. If you agree, please contact Tom Brosnan at (301) 713-3038 ext.186 or Robert Foley at (413) 253-8732.

Sincerely,

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National Oceanic and Atmospheric Administration

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