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General Electric Co's Preliminary Comments on **EPA's Phase II Work Plan and Sampling Plan**

Hudson River PCBs Reassessment RI/FS/July 1992

General Electric Co. is pleased to have this opportunity to offer preliminary comments on EPA's Phase II Work and Sampling Plan for the Hudson River PCBs Reassessment. GE is now preparing more extensive comments on the Phase II plan.

Throughout the reassessment process, GE has urged EPA to gather and analyze the best scientific information about every aspect of the river and to consider the whole picture -- rather than any one piece of data -- before rendering a final decision. EPA must weigh the continuing natural improvements in river conditions against the environmental consequences of any remedial option, and the agency must determine whether a remedy, such as dredging, would improve the river.

■ River Conditions Continue to Improve

GE believes that the dramatic improvements in river conditions testify to the wisdom of EPA's 1984 decision against dredging. In recent months, several positive developments have been reported :

■ The New York Department of Environmental Conservation reported that average levels of PCBs in striped bass in the lower river estuary dropped 50 percent between 1980 and 1990. The average 1990 concentration of 2.8 parts per million points to the likelihood that PCBs levels will drop below the FDA limit in the next two to four years.

■ DEC reported in September that mean PCBs concentration in striped bass from the New York Marine District was below 2 parts per million, and the agency is now considering a partial reopening of the commercial fishery in the Marine District. The declines in PCBs levels in striped bass also prompted the New York State Health Department to relax fish-consumption advisories in April.

■ GE has completed and made public a peer-re-

viewed research report on last summer's bioremediation experiment in the upper Hudson River. The report showed that naturally occurring microorganisms isolated in research caissons destroyed an average of 50 percent of the PCBs in the upper Hudson in only 10 weeks.

■ Work Plan Falls Far Short

At first blush, EPA's proposed Phase II Work and Sampling Plan appears to be an ambitious effort to gather substantial new data on the river. Upon closer scrutiny, however, it is clear that EPA's proposed effort is misdirected:

-- The Work Plan lacks sufficient detail for the public to determine whether the data-sampling and interpretation methods are reliable. EPA's goals are ill-defined.

--The proposed data-gathering and interpretation methods are unproven techniques that are of academic interest but require further investigation before they can be safely applied to such a critical project.

-- EPA needs to gather more information on the types of PCBs in upper-river fish to complement the additional data it proposes to collect on the types of PCBs in sediment and water.

Twelve years into the Superfund process, EPA has developed sophisticated internal guidance on gathering, handling and uses of data. The proposed Work Plan does not comply with EPA's own guidance in several instances.

The Work Plan contemplates drawing conclusions about more than 40 miles of Hudson River from a miniscule number of data points. EPA's discussion of other PCB sources is inadequate. GE believes the agency must perform a complete investigation of other past and present sources of PCBs to the river.

Had a potentially responsible party proposed such an approach at any Superfund site, EPA almost certainly would have rejected it and demanded a much more detailed and extensive Work Plan.

■ More Reliable Risk Assessment Proposed

EPA proposes to use a range-of-exposures method (sometimes called the Monte Carlo simulation) to assess potential human health risks posed by Hudson River PCBs. This method is believed to be more reliable than traditional single-point risk assessment methods because it gives weight to all risk factors based on their actual occurrence in the real world. Using Monte Carlo modeling techniques minimizes assumptions, resulting in a more realistic estimate of risks. The Monte Carlo method is recommended for use in recent EPA national guidance for the Superfund program. But this work plan says only that the Monte Carlo analysis "will provide an indication" for use in the risk assessment, suggesting that this potentially valuable analysis may play only an ancillary role.

GE urges EPA to conduct angler surveys to assemble current, Hudson River-specific fish-consumption data to use in the Monte Carlo analysis, and to avoid using outdated, non-local or exaggerated consumption data. The objective of these angler surveys should be to characterize the full distribution of total annual fish-consumption rates.

■ Ecological Risk Assessment Ill-Defined

EPA's proposed ecological risk assessment lacks clear goals and objectives. EPA must undertake the necessary site-specific analysis to establish whether there is a cause-and-effect relationship between the presence of PCBs in the upper Hudson River and potential harm to the ecology of the river.

■ Hudson Data Base Insufficient

We are encouraged that EPA recognizes in this work plan that the existing Hudson River data base is insufficient for proper characterization of the potential human health or ecological risks. While additional data collection is proposed, this plan contains neither clear objectives nor sufficient detail to judge the usefulness of that sampling. It is not at all clear that the proposed sampling methods will be proper for the data gathering that is necessary. Moreover, EPA's reliance on experimental -- in some cases, unproven -- data interpretation techniques is troubling. In light of the importance of the Hudson River Superfund site, and the consequences of poor data collection and interpretation, GE recommends that an open, independent peer-review group be convened, including EPA scientists and outside scientists, to evaluate the proposed data collection and analysis.

■ Untested Coring Technique Proposed

The Work Plan relies heavily on a technique for determining historical sediment conditions -- radionuclide analysis of high-resolution sediment cores -- that is fraught with uncertainty and has never been tested in a dynamic, riverine environment. High-resolution coring is a process in which tubes of sediment are extracted from the upper and lower river bottom. The proposed method of interpreting data from the cores would rely, in part, on samples that have been stored on laboratory shelves for decades with little understanding of how the original samples were taken, or the conditions in which they were maintained. It appears that EPA's conclusions in Phase II on the natural destruction and transport of PCBs may be based almost exclusively on this qualitative, unproven technique. GE urges EPA to clearly express its goals for this process. The agency must not allow this technique to replace the development of a proper quantitative model.

■ Better Model Needed to See PCB Fate

EPA has proposed to adopt a simplistic model to discern the fate and transport of PCBs in the river. The goal of this analysis must be to determine the kinds and quantities of PCBs that reach the food web through fish. To determine this answer, EPA plans to rely on a correlation analysis -- a questionable statistical technique -- rather than on collecting physical evidence for a detailed model of PCBs in the food web. A model is an essential part of the decision-making process. A faulty or overly simplistic model may well lead to a decision in which the EPA itself has little confidence.

■ PCB Congener Analysis Appropriate

EPA's decision to conduct congener-specific analysis of PCBs in water and sediment samples is in keeping with the improving scientific understanding of this family of 209 different chemicals. GE discharged only lower chlorinated forms of PCBs from the Hudson Falls and Fort Edward plants. We believe that congener-specific analysis will demonstrate that PCBs found in the upper river do not pose a risk to human health and the environment; that PCBs in the lower river originated from non-GE sources in the lower river, and that PCBs have naturally dechlorinated over time. We believe this congener-specific analysis should also be applied to EPA's Phase II studies of fish.

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