36678 13

SCOPE OF WORK

HUDSON RIVER PCB REASSESSMENT RI/FS

EPA WORK ASSIGNMENT NO. 013-2N84

DECEMBER, 1990

REGION II

ALTERNATIVE REMEDIAL CONTRACTING STRATEGY (ARCS) FOR HAZARDOUS WASTE REMEDIAL SERVICES

EPA Contract No. 68-S9-2001

TAMS CONSULTANTS, Inc.

SCOPE OF WORK
HUDSON RIVER PCB REASSESSMENT RI/FS

TAMS CONSULTANTS, INC.

Prepared for

US ENVIRONMENTAL PROTECTION AGENCY

1.0 INTRODUCTION

1.1 Site Location and Description

The Hudson River originates in the Adirondack Mountains in Essex County, New York, and empties into the Atlantic Ocean at the Battery in New York City. The river's 17 major tributaries drain 13,365 square miles of land located in eastern New York State and in parts of Vermont, Massachusetts, and Connecticut. The lower river, from its mouth in the upper New York Harbor to its confluence with the Mohawk River near Albany, is a tidal estuary subject to periodic fluctuations in water level. This 150-mile reach is maintained and regulated as a Federal waterway by the U.S. Army Corps of Engineers to provide waterborne access to the Port of Albany and the New York State Barge Canal. The river above Albany is a high gradient, fresh water stream confined by 15 dams. The 40-mile reach between Albany and Fort Edward is officially under the jurisdiction of the New York State Department of Transportation (DOT).

1.2 Site History

Polychlorinated biphenyls (PCBs) were discharged into the Hudson River for 30 years, ending in 1977, from two General Electric facilities located in Hudson Falls and Fort Edward, New York. Floods in 1976 and 1983 washed much of the contaminated sediment down river following removal of the Fort Edward Dam. In 1983, USEPA conducted a feasibility study to evaluate remedial alternatives for addressing the contamination. The feasibility study defined 40 "hot-spots" of PCB contamination in the river sediments and five Remnant Deposits in the former dam pool of the Fort Edward Dam. The Record of Decision (ROD) issued on September 25, 1984, selected, among other things, an interim "No Action" alternative for the contaminated sediments in the river.

In December 1989, USEPA announced that it would conduct a reassessment of its No Action decision for the Hudson River PCB site. EPA considered it appropriate to engage in a comprehensive reassessment of the No Action alternative as to the river sediments at this time for a number of reasons. First, the Superfund Amendments and Reauthorization Act of 1986, which was enacted after the ROD was issued, established a preference for remedies which permanently and significantly reduce the volume, toxicity or mobility of the hazardous substances

involved and which utilize both permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable. Moreover, the advances that have been made and the information that has been developed in the last several years with respect to techniques for treating PCB-contaminated materials at several other sites in the country encourage reevaluation of alternative remedial actions.

Finally, reassessment of the No Action decision proved to be in accordance with the EPA document entitled "Performance of Five-Year Reviews and Their Relations to the Deletion of Sites From the National Priorities List (NPL)." That document indicates that as a matter of policy, EPA will ensure that the five-year reviews referred to in Section 121 (c) of CERCLA are conducted for both pre- and post-SARA RODS.

1.3 Overall Approach

The overall approach to the Reassessment RI/FS for the Hudson River PCB deposits will be to gather information in an efficient manner and in sufficient extent to support an informed decision regarding which new remedy, if any, appears more appropriate than the current, no-action alternative. The primary area under consideration for this reassessment is the approximately 40-mile long reach of river between Hudson Falls and Federal Dam at Troy, N.Y. However, the effects of the contaminated sediments on the lower Hudson (estuary) must also be considered.

The process as outlined in the Interim Final "Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA" (USEPA, October 1988) represents the methodology that the Superfund program has established for characterizing sites and evaluating cleanup options. To some degree a similar process will be followed for this reassessment. However, because of the nature of the contamination, the events which have occurred over the past 15 or so years, the data which have been collected, and the number and variety of parties interested in both the upper and lower Hudson, the reassessment process for the upper Hudson River PCB site will be interactive and dynamic. For instance, two events are expected to occur by mid-1991 which may have significant impact on the study. These are:

- Experimental scale testing of the biodegradation of PCBs in the upper Hudson by the General Electric Corporation; and

- Application for permits for the siting of a hazardous waste facility in New York State, as well as other permits for dredging and upland disposal submitted by the New York State Department of Environmental Conservation - Project Sponsor Group (PSG).

As a result, the Reassessment RI/FS program must remain somewhat flexible. To achieve high quality results in a timely and cost-effective manner, the reassessment program will incorporate available knowledge concerning this site and other PCB-

contaminated riverine sites, as well as research and field demonstration of biodegradation of PCBs. In addition, the establishment of the Hudson River PCB Oversight Committee comprised of knowledgeable and interested persons, will enhance the Agency's efforts by providing independent input to the reassessment by scientists, concerned citizens, regulators and others.

CERCLA establishes general standards for determining the necessary degree of cleanup of a Superfund site and for selecting a remedial action, and expresses Congress's preference for remedial actions implementing treatment "which permanently and significantly reduces the volume, toxicity or mobility of the hazardous substances, pollutants, and contaminants" at the site. Not surprisingly, Congress expressed a preference for avoiding remedial actions involving the "offsite transport and disposal of untreated hazardous substances or contaminated materials." In accordance with CERCLA, USEPA must select a remedial action that is protective of human health and the environment, that is cost-effective, and that utilizes permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable.

This reassessment will follow the criteria established by law. For this project, these factors are complex and interrelated, and achieving a workable solution in a timely manner will require participation by interested and affected parties.

2.0 PROPOSED SCOPE OF TECHNICAL SERVICES FOR REASSESSMENT

The scope of services has been established in three phases. Each phase includes certain of the tasks identified in the Interim Final "Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA." However, the scope is subdivided differently to better suit this Reassessment. Generally, the three phases are as follows:

- Phase 1: Preliminary Reassessment
- Phase 2: Further Site Characterization and Analysis
- Phase 3: Feasibility Study

In order to allow interested parties to be familiar with the developments of the project during each phase, TAMS recommends that a separate Work Plan be prepared at the outset of each phase. When a comprehensive Work Plan is prepared once at the beginning of a project, later tasks are usually not scoped in detail due to the lack of complete data or information. In this case, each Work Plan will include a rationale and the reassessment tasks to be performed in that phase, and will be prepared at a consistent level of detail. Because the reassessment process is dynamic, this procedure will provide USEPA, NYSDEC, and the Oversight Committee established for the project, a means to better direct and influence the process.

2.1 Preliminary Reassessment (Phase 1)

As previously proposed, Preliminary Reassessment (Phase 1) will begin following acceptance of a Phase 1 Work Plan. This Plan will be submitted within 21 days of EPA approval of the Scope of Services, and will outline the general approach (three separate phases and work plans) proposed for the project, as well as the purpose and approach to the individual work items for this phase. The Plan will serve as a tool for assigning responsibilities and establishing the schedule and budget for Phase 1.

2.1.1 Site Characterization

Since a large amount of information and data have already been collected, no field studies will be conducted during Phase 1. More appropriately, office studies will be conducted to perform an initial site characterization. These studies will include:

- Characterization of the nature and extent of contamination (waste types, concentrations, distribution) based on the 1976-1977 and 1984-1985 studies;

- Summarization and evaluation of recent data on PCB levels in fish and macroinvertebrates in the Hudson River;

- Evaluation of water quality data;

- Evaluation of air quality data;
- Evaluation of aquatic resources of the Upper Hudson including potential for recreational fishing;
- Limited evaluation of other sources of possible PCB contamination within the Hudson; and
- Evaluation of the validity of the data used to calculate the mass flux of PCBs over the Troy Dam.

As a part of the site characterization task, information regarding PCB biodegradation will be updated. The effort of information collection will be performed with the use of commercial computerized database search services and the library references available in-house, at the EPA Region II library and at other public information centers.

2.1.2 ARARs

Next, a comprehensive identification of applicable or relevant and appropriate (Federal and State) requirements (ARARs) that will influence cleanup of the PCBs in the Hudson River will be made. The focus of the identification will be on potential action levels (chemical-specific ARARs) and location-specific factors.

ARARs must be applied when considering the acceptability of present and future conditions under the no-action alternative from a health perspective. Consideration will be given to several key health-related ARARs that are particularly relevant to the Hudson River situation. These include:

- Fish advisory levels -- FDA, State or other
- Drinking water requirements -- Federal MCLs or State requirements
- Ambient water quality criteria -- Federal and State

In addition, EPA is considering various approaches to establishing sediment contaminant criteria. The applicability of such criteria will be considered, depending on their state of development at the Agency.

Based on the identification of the ARARs and the requirements of the NCP, remedial action objectives will be specified, describing areas or volumes of media to which containment, treatment or removal actions may be applied.

2.1.3 Review of PCB Accumulation Model

During the Reassessment RI/FS, TAMS will utilize existing data to the maximum extent possible. Concurrently, TAMS will review and/or develop models to simulate the anticipated effects of various remedial action alternatives. Although there are

certain inherent limitations to these models, they are useful in determining important factors which can affect or be affected by remediation.

Based on the information available, there does not exist a bioaccumulation model for the upper Hudson River aquatic environment. A significant freshwater community exists there, is subject to PCBs from sediment and water, and is restricted from fishing. During Phase 1, TAMS will determine the need for developing a PCB uptake model for key species resident above Federal Dam. This determination will be based on a complete review of the model developed by Thomann, etc. al. (1989) for the lower Hudson, as described below.

During this phase of work a thorough review of the Hudson River PCB accumulation model developed by R. V. Thomann, et. al., (1989) will be undertaken. Two simulations were presented in the modeling: one for no action and one for instantaneous elimination of the upstream load from contaminated sediments. The "no action" indicates a continued decline to mean of 2.0 ug/g(w) by 1994 and 1.0 ug/g(w) by 2004. The instantaneous removal would not significantly decrease the time to wait for 50% of striped bass to be below 2.0 ug/g(w) which is estimated to be by 1992. Each component of the model will be analyzed, including its input data base, its computational scheme for transport of both sediment borne PCBs and water column dissolved PCBs, its PCB homolog module, and its striped bass food web component.

TAMS will either request that the model be run with alternative input assumptions, or if this proves difficult, we will independently develop components of the model to test its sensitivity to differing inputs. For instance, it may be desirable to test the advective/dispersion module under flow conditions differing from those identified in the Thomann report.

In addition to evaluating the model in its current form, we will also identify areas which may have been either inadequately treated or totally neglected. For instance, a criticism by NYSDEC is that the model does not address uptake of PCBs in resident fish populations below Federal Dam. PCB levels in these populations exceed those in the migratory striped bass and, therefore, remediation of the hot spots may have an important benefit for these populations. Methods for applying the Thomann model to resident populations will be evaluated in Phase I.

2.1.4 Sediment Transport Modeling

During Phase 1, Thomann's model will also be investigated to determine applicability and sensitivity of yearly time step and constant yearly flow conditions. Use of such approximations has serious limitations in predicting certain natural processes. For example, such models cannot predict entrainment, transport and deposition of PCB-contaminated sediments due to flood events, which appears to be a dominant mechanism in contamination of the remaining Hudson River, downstream of the "hot-spots."

Dynamic riverine sediment transport models, such as STREAM (Borah, 1989 and Borah et. al., 1982), IALLUVIAL (Karim and Kennedy, 1982), FLUVIAL-12 (Chang, 1985) and several others, have the capabilities of predicting the dynamic effects of various flow conditions, which are bed/bank scour, and transport and deposition of sediment mixtures. These models are based on solutions of mathematical expressions representing physical principles of water flow and its interactions with the sediment. The models require input data on river geometry and sediment characteristics, and time varying inflows of water and sediment. The models also require calibration of certain model parameters by closely predicting water flows, sediment concentrations/discharges and changes in bed elevations at various observed locations.

Once the dynamic model is calibrated, it will be ready to predict flow conditions (discharge, flow depth, velocity, etc.), sediment concentrations, sediment discharges and bed elevation changes (scour or deposition) at given locations or cross-sections under future natural or man-made conditions. Therefore, the model can help in the present RI/FS in two ways:

- The model can eliminate certain data collection. For example, the model can be calibrated and verified with the available (1984 and earlier) data. The model can be used to predict the sediment conditions at the unknown/unsampled locations in present or future times; and

- The model can predict flow and sediment conditions (entrainment, transport and deposition of PCB contaminated sediments) over the Federal Dam in Troy, and will help to determine the effects of PCB contamination existing in the upper Hudson and the lower Hudson.

2.1.5 Baseline Risk Assessment

Human health and ecological risks will be evaluated in this phase of the work using only existing data (i.e., a "baseline risk assessment"). Assessments for the upper Hudson River and for the lower river will be performed separately. Deficiencies in the existing data and the resultant sensitivity of the risk assessment will be evaluated in order to form a basis for decisions regarding modeling needs and new data collection in the Phase 2 work.

A previous EPA-sponsored study (NUS, 1984) included a human health risk assessment. It was concluded that use of the river as a drinking water source was acceptable because intake measurements at the Waterford water treatment plant were well below the NYS drinking water standard for total PCBs, which at that time was 1 ppb. However, it is reported that individual homes may draw water directly from the Hudson River; this exposure route will also be verified and evaluated in this study. It was also concluded, albeit only qualitatively, that fish consumption probably poses the most significant PCB health risk on the river.

The work planned for this current effort will be more quantitative than that cited above and will follow EPA's most recent Superfund risk assessment guidelines (EPA RAGS Manual). Also, for informational purposes, some of the current issues regarding PCB toxicity will be discussed; i.e., whether PCBs are epigenetic or genetic carcinogens, and the difference in cancer potencey between PCB congeners.

The exposure pathways assumed to be the most significant and which are planned for evaluation in the Phase 1 work include:

- consumption of Hudson River fish
- drinking water
- inhalation (PCB volatilization from the river)
- dermal/ingestion contact from recreation in the river.

Because it is speculated that fish consumption may pose the most significant health risk, the extent and quality of the available fish database may be an issue. Based on a preliminary review of the database, there are considerably more fish contaminant data available from the lower river and these data are more recent than for the upper river. This will be a factor in our recommendations for Phase 2 work. Air, water column, sediment and drinking water data exist for the upper and lower Hudson and these data will be used for the other exposure scenarios, as they are available.

The baseline risk assessment will be conducted assuming that fishing restrictions do not exist. Historical creel survey results will be reviewed to determine whether they are still appropriate, or if not, appropriate values will be developed. A creel survey is a tally of local fishermen's catches, summarizing the number and type of fish caught, frequency, location, potential use, etc.

Ecological endangerment will also be evaluated using the most recent guidance (EPA RAGS Manual, Part 2). Aquatic and terrestrial flora and fauna will be considered. Elements to be included will be disruption of natural species/communities, unhealthful tissue levels and food chain effects.

The results of the Phase 1 baseline risk assessment will be a quantitative estimate of human health risks, for the pathways and caveats discussed above, under present conditions. The potential or measured ecological impacts will also be described. The sensitivity of the results to identified data deficiencies will be delineated along with recommendations for resolving these deficiencies.

2.1.6 Schedule and Deliverables

It is expected that four calendar months will be required to complete the activities proposed in Phase 1. At the completion of Phase 1, a report will be submitted for review. The report will include the findings of Phase 1, including a comprehensive Baseline Risk Assessment, results of modeling and bioaccumulation studies, status

of biotechnology and recommendations for Phase 2 and a draft Work Plan for Phase 2.

2.2 Further Site Characterization and Analysis (Phase 2)

2.2.1 Field Sampling and Surveys

The work performed during Phase 1 will determine the need for additional sampling such as bathymetric surveys for dynamic riverine modeling, bottom sediment contamination and particle size, water quality data and limited fish sampling in the upper Hudson. If any field work is required, TAMS will prepare a sampling and analysis plan to be submitted prior to finalization of the Phase 2 Work Plan. The plan will consist of a field sampling plan, a quality assurance project plan and a health and safety plan. The plan will meet the requirements of appropriate guidance documents.

2.2.2 Modeling

Risk assessment activities under Phase 2 of the project will also focus on existing conditions in the lower and upper Hudson, but with refinements, if any, determined to be necessary from the Phase 1 work. The same approach will be used as described under Phase 1 but with the refined information.

Refinements of the input information may include new field sampling results, model predictions or a combination of the two. As modeling will be required to predict future conditions under remedial alternative scenarios (Phase 3), it is anticipated that this will play a role in Phase 2 refinements. One possible area may result from the need to enhance the limited up-to-date information on fish contaminant levels in the upper river. A model of bioaccumulation, based on observed water or sediment levels, may be needed. This could be based on bioaccumulation factors obtained from the scientific literature including the Thomann model or it could be based on deriving site specific fish-to-water or fish-to-sediment ratios from the historical (e.g. 1976-79) upper Hudson data.

The results of the Phase 2 baseline.risk assessment will parallel those from Phase 1 with a discussion of how data deficiencies were improved and the impact on the refined results.

Results of the modeling effort in this Phase will be used to predict the risk reduction benefits of remediating the upper Hudson's PCB hot spots. Since it is not likely that all of the river's PCBs could be remediated, the methods developed during this phase will permit us to estimate risk reduction benefits from remediating various fractions of the contaminated sediments.

Dynamic riverine modeling will also be refined in this step if it is determined by studies in Phase 1 that additional field surveys and sampling are required for more accurate predictions.

2.2.3 Biotreatment Study Review

The General Electric Corporation is scheduling a field testing program to demonstrate biodegradation of PCBs in situ in the Hudson River sometime in 1991 (Environmental Sciences and Technology, January 1990). The details of the test program have not been revealed, yet the concepts of the test are based on laboratory tests of PCB active bacteria including both aerobic and anaerobic species.

The testing program is a first-of-the-kind in nature, which may provide significant knowledge of the self-cleaning potentials existing in the river. As a part of Reassessment RI/FS effort, the in situ testing program will be observed by TAMS so that the data and experience may be utilized, as appropriate, in the screening and assessment of remedial alternatives, to the extent that the program occurs before the Reassessment RI/FS is completed.

2.2.4 NYSDEC Activities Oversight

During this phase TAMS will meet and discuss with the DEC - Project Sponsor Group (PSG) the status and outcome of permit applications and siting and dredging studies being performed by Consultants to the PSG. This information will be utilized in the final reassessment work performed in Phase 3.

2.2.5 Treatability Studies

During Phases 1 and 2, TAMS will perform a preliminary scoping of remedial alternatives to identify additional testing requirements. Technologies that meet remedial action objectives and pass an initial screening may require treatability studies. TAMS will evaluate whether it is appropriate to conduct treatability studies on treatment technologies, and will oversee such studies.

2.2.6 Report and Schedule

A Phase 2 report will be submitted for review and comment and will state the work performed in Phase 1 and 2. It is estimated that 8 to 12 months would be required for this phase; the actual length of time will be dependent on the amount of additional sampling and testing required, and the weather.

2.3 Feasibility Study (Phase 3)

2.3.1 Remedial Alternatives Screening

After completion of the previous phases, the preliminary remedial action objectives will be refined and developed or, if appropriate, eliminated. Based on the then-established remedial response objectives and the results of the risk assessment, the initial screening of remedial alternatives will be performed according to the procedures recommended in "Interim Final Guidance for Conducting RI/FS under

CERCLA" (USEPA, October 1988), as well as the NCP. The subtasks during the screening process will accomplish the following objectives:

- Development of remedial response objectives and general response actions;
- Identification and screening of remedial technologies and process options; and
- Development and screening of remedial alternatives.

2.3.1.1 Development of Remedial Action Objectives and General Response Actions

Based on the data collected, the remedial action objectives will be developed. Prior to the development of these objectives, any significant site problems and contaminant pathways identified in the previous phases will be examined. Considering these problems and pathways, the remedial response objectives that would eliminate or minimize substantial risks to public health and the environment will be developed further. ARARs will be refined by considering site-specific conditions. Based on the response objectives, general response actions will be delineated to address each of the site problem areas. These response actions will form the foundation for the screening of remedial technologies. General response actions considered will include the No Action alternative as a baseline against which all other alternatives can be compared.

2.3.1.2 Identification of Applicable Technologies/Process Options and Development of Alternatives

Based on the remedial action objectives and each identified general response action, potential treatment technologies and their associated containment or treatment and disposal requirements will be identified. A prescreening of these potential treatment technologies for suitability as part of remedial alternatives will be conducted. Where several process options exist for a particular technology, the process options for which most data exists and whose capacities/constraints most closely match site conditions will be selected for further detailed evaluation. The final selection of a process option will occur during development of a Record of Decision or during the Remedial Design.

Technologies that could prove extremely difficult to implement, might not achieve the remedial objective in a reasonable time, or might not be applicable or feasible based on the site-specific conditions will be eliminated from further consideration. The development of alternatives requires combining appropriate remedial technologies in a manner that will satisfy the response objectives.

Treatment alternatives will be developed in each of the following categories:

- An alternative for treatment that would eliminate, or minimize to the extent feasible, the need for long-term management (including monitoring) at the site;
- Alternatives that would use treatment as a primary component of an alternative to address the principal threats at the site;
- An alternative that relies on containment with little or no treatment, but is protective of human health and the environment by preventing potential exposure and/or by reducing mobility; and
- A No Action alternative.

2.3.1.3 Screening of Remedial Alternatives

The list of potential remedial alternatives developed above will be screened. The objective of this effort is to reduce the number of technologies and alternatives for further analysis while preserving a range of options. This screening will be accomplished by evaluating alternatives on the basis of effectiveness, implementability and cost as specified in the most recent USEPA guidance document (USEPA, 1988). These screening criteria are briefly described below:

-- Effectiveness Evaluation

Using the refined methodology developed in Phase 2, human health and ecological risks associated with each remedial alternative, including the no action alternative, will be evaluated. Both short term risks, associated with the implementation of a remedy and the time period required for stabilization thereafter, and risks over the long term, after remediation transient conditions are stabilized, will be evaluated.

It is anticipated that the same exposure pathways described under Phase 1 will be of concern for the remedial alternative evaluation.

Additional pathways associated with treatment and disposal of any wastes (e.g. dredge spoil) will also be considered.

-- Implementability Evaluation

The implementability evaluation will be used to measure both the technical and administrative feasibility of constructing, operating and maintaining a remedial action alternative. In addition, the availability of the technologies involved in a remedial alternative will be considered.

Innovative technologies will be considered throughout the screening process if there is a reasonable belief that they offer potential for comparable treatment performance or implementability, fewer or lesser adverse impacts than other available approaches, or lower costs for similar levels of performance than demonstrated technologies.

-- Cost Evaluation

Cost evaluation will include estimates of capital costs, annual operation and maintenance (O&M) costs, and present worth analysis. These conceptual cost estimates are order-of-magnitude estimates, and will be prepared based on:

- Preliminary conceptual engineering for major construction components; and
- Unit costs of capital investment and general annual operation and maintenance costs available from USEPA documents and from TAMS' in-house files.

2.3.2 Detailed Evaluation of Remedial Alternatives

The remedial alternatives that pass the initial screening will be further evaluated. The evaluation will conform to the requirements of the NCP. It will consist of a technical, environmental and cost evaluation, as well as an analysis of other factors, as appropriate. The detailed evaluation will follow the process specified in the NCP and the "Interim Guidance for Conducting RI/FS under CERCLA" (USEPA, October 1988).

The NCP identifies a set of nine evaluation criteria have been developed that are to be applied in the evaluation of each remedial alternative. These are:

- Short-Term Effectiveness
- Long-Term Effectiveness
- Reduction of Toxicity, Mobility, or Volume through Treatment
- Implementability
- Cost
- Compliance with ARARs
- Overall Protection of Human Health and the Environment
- State Acceptance
- Community Acceptance

2.3.3 Feasibility Study (FS) Reassessment Report

The FS Reassessment report will be prepared to summarize the activities performed and to present the results and associated conclusions for all phases of

the project. The FS report will be prepared and presented in the format specified in "Interim Final Guidance for Conducting RI/FS under CERCLA."

In the report the feasible technologies and process options for site remediation will be identified for each general response action, and the results of the remedial technologies screening will be described.

Remedial alternatives will be developed by combining the technologies identified in the previous screening process. The results of the initial screening of remedial alternatives with respect to effectiveness, implementability and cost will be described.

A detailed description of the cost and non-cost features of each remedial action alternatives passing the initial screening of the previous section will be presented. A detailed evaluation of each remedial alternative with respect to each of the evaluation criteria will be presented. A comparison of these alternatives will also be presented.

2.3.4 Schedule

It is estimated that six to eight months will be required to prepare the Final FS Reassessment Report.

3.0 COMMUNITY/PUBLIC PARTICIPATION

3.1 Approach

TAMS Consultants, Inc. proposes to develop a Community Interaction Program (CIP) that supports the Hudson River Reassessment RI/FS effort. This program shall combine the outward flow of information for continuous public education and the active solicitation of input from the public and is intended to supplement the entire decision-making process.

The Community Interaction Program involves four major groups. Three of them, the Government Liaison Group, the Citizen Liaison Group, and the Environmental Interest Liaison Group, are intended to be working groups which feed into the CIP Steering Committee. The Steering Committee in turn links the public to the management of the Reassessment RI/FS process by representation on the Hudson River PCB Oversight Committee.

All public concerns, issues, and questions will initially be presented in the three working Liaison Groups and will flow from there upward to the CIP Steering Committee. The responsibility of the Steering Committee is to manage the diverse public participation effort and to ensure that issues of import to any part of the public which are presented by the Liaison Groups are heard, and all opinions considered. To that end, the Steering Committee will forward such issues and opinions to the Oversight Committee.

The return flow of information from the Oversight Committee to the Steering Committee and thence to the Liaison Groups will achieve the overall objective of maintaining a productive two-way flow of communication between the public and project team.

The schedule of CIP activities shall be designed to complement the three-phase work structure of the project itself, with the beginning and end of each phase serving as natural milestones for specifically scheduled public interaction. Other activities will be scheduled during each phase as appropriate. The entire CIP is intended to be flexible enough to allow for additional activities and/or changes in activities as required.

3.2 Work Elements

3.2.1 Basic Community Relations Activities

Establish and maintain information repositories.

Information repositories should be established prior to the initiation of the Reassessment RI/FS so that the public has access to all published documentation pertaining to the project from outset to completion. Several information repositories have been established for earlier projects described in Chapter 2. Because of the

unusually large geographic area involved in the Reassessment RI/FS, however, several additional locations should be established in order to provide convenient access for everyone.

Identify the EPA contact.

A single contact at the USEPA to handle all inquiries from the public and the media ensures accuracy and uniformity in responses. Ms. Ann Rychlenski, Public Affairs Specialist and Community Relations Coordinator for the EPA, has been designated the Community Relations contact for the Hudson River PCB Reassessment RI/FS. As specified by the structure of the Community Interaction Program, Ms. Rychlenski will chair the CIP Steering Committee and also be a representative on the Hudson River PCB Oversight Committee. Those positions should enhance her ability to maintain a coordinated flow of information among interested parties.

Conduct public meetings.

Generally, public meetings are held at the outset and completion of an RI/FS, with EPA always having the option to hold additional meetings if appropriate. In the case of the Hudson River PCB Reassessment RI/FS, several factors may influence the timing and number of public meetings.

An initial kick-off public meeting will be conducted by the USEPA in Saratoga Springs, NY, in December 1990, to explain the reassessment project. The actual Reassessment RI/FS work will be performed in three phases, the first being analysis of existing data, modeling, and risk assessment. The first point at which to address the public on the technical aspects of the project will be at the end of Phase 1. Multiple meetings may be necessary at each appropriate milestone in the project to accommodate the large number of people and the large geographic area involved.

Establish and maintain mailing lists.

An initial mailing list of over 400 names (private citizens, citizen groups, environmental groups, and governmental officials at all levels) has already been compiled. This list will be updated based upon sign-in sheets from meetings, referrals, and individual requests to be included. For this project, because interest is deemed to be so high, mailings will go to portions of the public in various locations in a surrounding geographic area of over 7300 square miles. Some organizations in New York City are also included.

There will be two types of mailings. "Direct involvement" mailings are intended both for the public that is located within the 82-mile corridor along the Hudson River from Hudson Falls south to below Albany, and for those who may not physically reside in that corridor but who are directly involved in or have indicated high interest in the issues at hand (i.e., NY Commercial Fisheries Association, Nyack, New York). Direct involvement mailings will invite participation in the appropriate

Liaison Group as part of the committee structure of the Community Interaction Program (Citizen Liaison, Government Liaison, or Environmental Interest Liaison).

Informative mailings will go to addressees on the direct involvement list and also to those outside that specific geographic corridor but in the area roughly bounded by Poughkeepsie, New York, on the south and Schroon Lake on the north. Many private residents, governmental officials, and citizen and environmental groups in that area have indicated a desire to be kept informed. Mailings announcing public meetings will go to these addressees.

Prepare updates and technical summaries.

EPA updates, also called "fact sheets," and technical summaries are essential tools for informing the public about the Superfund process and specific project activities and progress. An initial update generally kicks off the RI/FS process and another follows the Feasibility Study to describe alternative recommendations prior to the public comment period. Additional updates and technical summaries may be published at any time during the process at EPA's discretion. All updates and summaries must be on file at the information repositories.

Provide press releases to local media.

EPA will provide press releases to initiate the Reassessment RI/FS project, to announce meetings, to update the public on significant events and findings during the Reassessment RI/FS, and to disseminate any other information as required during the project.

Obtain permission from property owners to do any off-site sampling or testing on private property.

Property owners should be contacted at least two weeks in advance to obtain permission for any sampling activity deemed necessary on private property. The request should be in writing, either mailed or hand delivered, and should contain information explaining the sampling to be done, the identity of those expected to be on the property doing the testing, and the name of the EPA contact in case questions arise. EPA community relations staff may, at the discretion of the EPA Project Manager, be asked to assist with these contacts.

Hold a public comment period for consideration of the proposed plan (required activity).

A minimum thirty-day public comment period must be held to allow the public to express opinions on the EPA's preferred alternative for remediation of the Hudson River PCB site. Community input should be encouraged and taken into consideration by EPA in the ultimate decision on how the site will be addressed during remedial design and remedial action.

Prepare a Responsiveness Summary (also required).

EPA must prepare a Responsiveness Summary to document all public concerns and issues raised during the public comment period on the draft Feasibility Study. The Responsiveness Summary must also contain the responses made by EPA and any other applicable party. It is part of the Record of Decision on the PCB site and will be part of the public record at the information repositories.

Revise the Community Relations Plan after a Record of Decision (ROD) is signed (also required).

Once the ROD is issued for the Hudson River PCB Reassessment RI/FS, the Community Relations Plan must be updated to reflect community relations/public participation activities recommended during the remedial design and remedial action phases of the project, and to assess the Community Integration Program and, specifically, the Community Relations Plan to date.

3.2.2 CIP-Specific Community Relations/Public Participation Activities

Establish the three CIP Liaison Groups - Citizen, Governmental, and Environmental Interest.

Using the extensive mailing list developed prior to the start of the Reassessment RI/FS, send written invitations to individuals and groups explaining the project and the CIP structure and function and inviting them to participate.

Assist the Liaison Groups in start-up activities wherever necessary (i.e., establishing meeting schedules and agendas, electing the Chairperson and Co-chairs, etc.).

Although these groups will manage themselves once they are established, EPA should assist them if they need set-up help in order to ensure that the group will be productive and able to represent its portion of the public effectively once the project gets underway.

Explain the structure and function of the overall CIP to the public.

Whether a person or group is directly involved in the Reassessment RI/FS study process by participating in a Liaison Group or is less directly involved, EPA's approach to community relations and public participation must be explained to the public. This can be done in initial mailings, at initial meetings of the Liaison Groups and CIP Steering Committees, via updates or through formal press releases, at EPA's discretion.

Chair the CIP Steering Committee.

The EPA Community Relations Coordinator for the Hudson River Reassessment RI/FS will chair the CIP Steering Committee for the purpose of coordinating the two-way flow of information between the public as represented by the Liaison Groups and the Hudson River PCB Oversight Committee.

Ensure continuous communication among Liaison Groups and between the CIP Steering Committee and the Groups.

The EPA Community Relations Coordinator should oversee the flow of information to ensure that all information is shared among groups to avoid redundancy, that all questions and issues raised by the Liaison Groups are answered promptly and accurately, and that progress reports and technical updates are forwarded to the Liaison Groups from the Oversight Committee.

3.2.3 Optional Community Relations/Public Participation Activities

A number of effective public outreach activities are available for implementation at the discretion of EPA. These activities are self-explanatory and are less likely to be utilized. They are therefore included in this section as a list only, with limited accompanying detail.

- Public opinion polls/surveys
- Project Telephone - ongoing telephone number to record comments and questions
- Project Box Number for receipt of written comments and/or questions
- Appearances on public television, radio, and/or call-in programs
- Educational seminars for adults
- Educational programs for area schools
- Displays for libraries, municipal halls, etc.
- Use of regularly scheduled Hudson River events as opportunities for educating the public about the Hudson River PCB Reassessment RI/FS.