

SUMMARY
FEDERAL REMEDIATION TECHNOLOGIES ROUNDTABLE

System Planning Corporation Building
Rosslyn, Virginia
November 30, 1992

Introduction

Dr. Walter W. Kovalick, Jr., Director of EPA's Technology Innovation Office (TIO), opened the meeting and welcomed all participants. He said the focus topic for this meeting would be evaluation centers and new technologies.

Roundtable agencies represented by meeting participants included:

Nuclear Regulatory Commission (NRC)
U.S. Dept. of Defense (DoD)
U.S. Department of Energy (DOE);
U.S. Department of Interior (DOI), Bureau of Mines;
U.S. Department of Interior (DOI), U.S. Geological Survey (USGS);
U.S. Air Force (USAF);
U.S. Navy (USN);
U.S. Army Secretariat;
U.S. Army Corps of Engineers (USACE);
U.S. Army Toxic and Hazardous Materials Agency (USATHAMA);
U.S. Environmental Protection Agency (EPA);

A complete list of participants and other attendees is included as an attachment to this summary.

Dr. Kovalick updated Roundtable members on several TIO initiatives. He indicated that the role of the Roundtable as a forum for interagency coordination and cooperation has been highlighted in a variety of Congressional testimony over the last few months. This includes Dr. Kovalick's testimony in September before the House Committee on Public Works and Transportation, a copy of which was provided to all Roundtable members and associates prior to the meeting. In addition, he cited testimony in July by the General Accounting Office (GAO) before the Senate Committee on Governmental Affairs. The GAO statement, which has been provided to Roundtable members and associates, was prepared to comment on proposed legislation to establish a National Environmental Technologies Agency. The GAO reinforced the Roundtable's coordinative role and suggested that any further step toward consolidating federal efforts to promote the development and commercial application of environmental technologies should build off the existing Roundtable structure.

Update on Roundtable Documents

Dr. Kovalick said that newly printed copies of the updated Roundtable documents — *Synopses of Federal Demonstrations of Innovative Site Remediation Technologies*, *Accessing Federal Data Bases for Contaminated Site Clean-up Technologies*, and *Federal Publications on Alternative and Innovative Treatment Technologies for Corrective Action and Site Remediation* — are now available. Copies were provided for pick up by participants in the Roundtable meeting. In addition, he said Roundtable members

wishing to order bulk copies should contact Dan Powell of TIO, 703/308-8827.

A copy of the latest draft of the "Technology Contacts" brochure was provided to all Roundtable members and associates. Dr. Kovalick indicated that a final draft will be prepared shortly and sent to each Roundtable member for final approval. He suggested that member-agencies may "ride" the EPA printing request to order additional quantities of the brochure for their own use. He asked that agencies wishing to order bulk quantities contact Dan Powell.

Dr. Kovalick said that a few changes have been proposed to the Roundtable Charter. A copy of the changes were provided to Roundtable members and associates. He explained that the changes would make the Charter less EPA-oriented and asked for members to contact him within two weeks (by mid-December) if they have comments. When the changes have been finalized, a copy of the new Charter will be provided to each Roundtable member.

Coordinated Planning for Federal Research and Development Activities

Alfred W. Lindsey, Director, EPA/ORD Office of Environmental Engineering and Technology Demonstration (OEETD), reminded participants that at the last meeting there was agreement to pursue a new avenue to satisfy the continuing need for coordination and information exchange among agencies — a series of focused sessions on specific cleanup-related topics. He said a subcommittee, comprised of representatives from the DoD/USACE, DOE, the Bureau of Mines, and EPA, met Sept. 22 to begin work on this initiative. The subcommittee decided not to attempt joint budget planning to support the sessions; each agency will sponsor sessions on topics relevant to its area of focus. In addition, the sessions would be open to Roundtable members and would not involve states or private industry. Each agency will hold one session during 1993. The EPA-sponsored session will focus on separation technologies; DOE's on TCE and Technical Information Systems; DoD's on-site sensor techniques. A topic for the session to be sponsored by the Bureau of Mines has yet to be determined. Announcements of dates for the sessions will be sent to all Roundtable members as will any reports or proceedings generated from the sessions. Mr. Lindsey indicated that Mike Mastracci of OEETD will serve as the secretariat for this interagency effort; the subcommittee will function as a steering group. Mr. Lindsey said the effort hopefully will evolve into a self-sustaining network.

National Bioremediation Field Research and Demonstration Initiative at Wurtsmith AFB

Mr. Lindsey briefed participants on the proposed formation of a National Center for Bioremediation Research and Development. The Center would focus exclusively on scientific research associated with the use of biotechnology for the decontamination of hazardous substances in wastes, soils, sediments, and surface and ground waters. It would be established on the current site of the Wurtsmith Air Force Base in Michigan, which is scheduled for closure in 1993. Because of its consistent hydrogeology and because a number of long-term pump-and-treat operations already are underway, the base provides a good testbed for controlled research and testing, Mr. Lindsey said. As proposed, field research programs at the facility would be supported and conducted by the five EPA Hazardous Substance Research Centers (HSRCs), state and federal agencies (and associated laboratories), and private corporations or consortia of corporations. Scientific oversight would be provided by the Great Lakes and Mid-Atlantic HSRCs, and a non-profit corporation would administer the program and the on-site research facilities.

Col. Fellows asked what would be the next step in the process of making the facility available. Dr. Kovalick indicated that the next step is funding for the opening of the facility which includes instrumentation, physical plant operation, and administration. He said this is anticipated to require \$3-\$5

million in the first year, and, hopefully, funding will be supplied by EPA, DoD, the Air Force and other agencies that would benefit from the availability of such a facility.

Mr. Lindsey indicated that Steve Lingle of OEETD is the staff contact for further information on this project. Mr. Lingle can be reached at 202/260-4073.

Supercritical Water Oxidation Program

Jaffer Mohiuddin of the U.S. Department of Energy described DOE's Supercritical Water Oxidation (SCWO) Program. The purpose of the program is to further the development and testing of supercritical water oxidation technology primarily to treat mixed wastes—containing hazardous and radioactive constituents—which are a significant problem at DOE sites. Mr. Mohiuddin said DOE has chosen to focus on this technology, because SCWO offers a viable option to incineration for treating mixed wastes; high destruction efficiencies, in excess of 99.99 percent, have been demonstrated using the technology; and effluents from the process are relatively benign.

DOE plans to continue and expand the work underway on SCWO and will be conducting specific studies related to corrosion, scaling, and materials. The agency plans to construct a non-radioactive pilot-scale plant during Fiscal Year 1993 at a site to be determined. Mr. Mohiuddin said the target date for demonstration of the non-radioactive plant is 1995, and it is anticipated that the demonstration will provide the necessary process data for follow-up construction of a radioactive pilot plant to demonstrate SCWO as a viable process for treating mixed wastes by the year 2000.

Mr. Mohiuddin stressed that DOE has established its national program to develop this technology on a fast track, because it recognizes the promise of SCWO for treatment of a broad spectrum of hazardous and mixed wastes. He indicated that DOE has structured the program to maximize coordination of DOE efforts with those of other federal agencies, industry, and academia in order to leverage necessary resources, eliminate duplication, and facilitate technology transfer.

Update on Public-Private Partnership Project at McClellan AFB

Margaret Kelly, Deputy Director of TIO, provided a brief overview of a project to facilitate full-scale demonstration and evaluation of innovative technologies at federal facilities. The effort was originally undertaken in response to comments by major corporations, engineering consulting firms, and others — as well as a recommendation from the National Advisory Council for Environmental Policy and Technology (NACEPT). Comments from the private sector indicated that a lack of data on real-world performance of innovative technologies keeps these firms from selecting and recommending use of these technologies. In addition, cleanup professionals have expressed interest in developing cost and performance data on “treatment trains” that are designed with cleanup of a site to required levels as the endpoint and in the need for information on demonstration results sooner than that available through EPA's SITE program. About the same time as these comments were being received, NACEPT recommended the use of federal facilities to test and evaluate innovative treatment technologies.

The project combines elements of an enhanced demonstration program with testing at federal facilities, and provides benefits for all the parties involved. The federal agencies involved get the benefit of additional technical expertise in design, performance evaluation, as well as funding for evaluation. The federal agencies also stand to gain “economies of scale” at other facilities; other EPA Regions and states may accept results of the treatability studies with more confidence because they were part of the partnership project. Corporate partners have the potential for improved credibility with their Regional and state project managers. They also get additional information on cost-effective technologies for their own

sites without assuming the risk or cost of potentially unsuccessful tests. Everybody benefits because EPA will expedite the siting of the treatment trains that will serve as treatability studies at the facility, potentially moving that site more quickly to a ROD and to cleanup.

The first effort under the project has been undertaken at McClellan Air Force Base, California. Partners are EPA (Region 9, the Office of Federal Facilities Enforcement, the Office of Research and Development, and TIO), California EPA, the U.S. Air Force, Clean Sites, Inc. (the facilitator for the project), and potential corporate partners, including Dow, Beazer East, Inc., Southern California Edison, Monsanto, Xerox, AT&T, and DuPont. Ms. Kelly indicated that the Cooperative Research and Development Agreement (CRDA) between EPA and private sector participants will be signed in December, and a Memorandum of Understanding (MOU) among government agencies which is required to enable this project will be signed later.

Waste sources at McClellan include an industrial waste treatment plant, an industrial waste line, a burn pit, a PCB spill area, a plating shop, and fuel/solvent disposal pits. Soil and ground water would be involved. Contaminants include semi-volatiles, PCBs, and PNAs. Under the partnership concept, the Air Force will provide the cleanup and the corporate partners will pay for the evaluation through the SITE Program.

This is just the first of what EPA hopes will be a series of such efforts, Ms. Kelly said. A second project is just beginning at the Army's Fort Myer, Virginia. Other potential sites being explored include federal facilities at CBC Gulfport, Mississippi (Navy), Mechanicsburg, Pennsylvania (Navy), Pearl Harbor, Hawaii (Navy), and Dahlgren, Virginia (Army). She indicated that EPA also is working with the U.S. Department of Energy (DOE) to identify possible sites at DOE facilities.

Matrix for Evaluation of Site Remediation Technologies

Bruce Neilsen of the U.S. Air Force Environics Laboratory, Tyndall AFB, Florida, briefed participants on a cooperative project between the Air Force Environics Laboratory and EPA/TIO to develop a matrix of site remediation technologies to assist project managers choose the best remediation alternatives for detailed assessment prior to remedy selection and to highlight areas where improved data about the technology is required. He indicated that the manager of this project for the Air Force is Maj. Robert LaPoe of the Environics Laboratory at Tyndall. Maj. LaPoe can be reached at 904/283-6035. The EPA project manager is John Quander of TIO, 703/308-8845.

The finished products of the project will include a poster-size matrix and an accompanying reference guide which will explain the ratings given each technology and will provide sources of information on which ratings are based. Mr. Neilsen indicated that, to date, more than 30 innovative technologies, along with a few conventional technologies, have been identified for inclusion in the matrix. Technologies for *in situ* soil and ground-water remediation, *ex situ* soil and ground-water remediation, and emission/off-gas treatment are included. The conventional technologies, including incineration and solidification/stabilization, are being included for comparison purposes. Mr. Miller asked how the list of technologies was chosen and how "innovative technologies" was defined for this process. It was explained that "innovative technologies" have been defined as those for which there is a limited history of use at hazardous waste sites and for which cost and performance data are not well documented. The technologies in each category were selected for the matrix based on a survey of technology-related literature and discussions with the Air Force and EPA. The effort was to select a representative range of technologies in each category that could be effectively presented in the poster format. Mr. Koglin pointed out that no monitoring and sensing technologies are included in the list and suggested that, if none can be added, they should be considered as part of the "Automation Potential" characteristic.

The technologies in the matrix will be rated against each of 18 characteristics, ranging from cost to institutional acceptability. Mr. Neilsen said that a system to be used as the basis for these ratings is now being designed. The ratings themselves will be based on a review of research, demonstration/use results, and other information available about each technology as well as consultation, as necessary, with technology-specific experts. In response to a question from Mr. Shutte, it was explained that the reference guide will document the “reliability” of the information used in rating the technologies—e.g., indicating the biases of any experts consulted for or against some technologies, or indicating the limits of the information available about that technology.

Mr. Neilsen said that the drafts of the matrix and reference guide are due to be completed late in January 1993 and submitted for review by a panel of experts early in February. Mr. Lindsey suggested that peer review, by technology-specific specialists as well as site restoration personnel, will be important for this project and asked if reviewers had been chosen. Mr. Neilsen explained that EPA and the Air Force are in the process of selecting invitees currently. There was general agreement among participants that the Roundtable members could be very helpful in suggesting experts to be invited to review the documents. Mr. Marsh said that a similar matrix of technologies is to be developed under the “California Initiative” to be discussed later in the meeting. He said that someone from that group should be involved in the review process for the Air Force-EPA matrix and suggested that the projects should be closely coordinated. He also suggested that this project would be of interest to the Remediation Technology Development Forum, a joint DoD-DOE-EPA-private sector effort, and the public-private partnership on technology development between federal agencies and the Western Governors' Association.

Mr. Neilsen explained that following the expert panel review, the matrix and reference guide will be finalized and distributed, late in March 1993, to Air Force and EPA remediation project managers. In response to a question, Ms. Kelly indicated that any requests for copies of the matrix and reference guide should be sent to Maj. LaPoe or Mr. Quander.

In response to a request from the participants, a copy of Mr. Neilsen's presentation materials is included as an attachment to this summary.

Status of the Roundtable Site Characterization and Monitoring Subgroup

Site Characterization and Monitoring Subgroup Chairman Eric Koglin, EPA/EMSL-LV, said the Subgroup met for the first time in June and all members of the Roundtable received a copy of the minutes from that meeting. He said a second meeting is scheduled for tomorrow (Dec. 1). On the agenda will be discussion of the Subgroup charter, products to be developed (including possibly a matrix of characterization and monitoring technologies), and a planned demonstration of the cone penetrometer which was developed by DoD. He said the purpose of the demonstration is to provide credible information to acquaint regulatory agencies with the capabilities of the technology. No site for the demonstration has been chosen, but it is expected that it will be a non-DoD site.

Mr. Koglin introduced Lary Jack who has replaced him as the manager of the portion of the Superfund Innovative Technology Evaluation (SITE) Program at EPA/EMSL-LV focusing on monitoring and measurement technologies. Mr. Koglin indicated that he is now charged with development and implementation of the proposed Consortium for Site Characterization. As envisioned, the Center would be jointly sponsored by EPA, DoD, and DOE, but the goal is to attract substantial participation from industry and academia. The primary purposes of the Center would be to identify and the most cost-effective characterization and monitoring tools available for hazardous waste site cleanup and facilitate the process for getting innovative technologies approved for use. While the Center would be administered by EPA's Environmental Monitoring Systems Laboratory in Las Vegas, the work of technology evaluation

and validation would be shared among all participating organizations. Mr. Koglin said that he estimates that it will take about a year to get the Center established and operational.

Mr. Marsh said that the Remediation Technology Development Forum has identified site characterization and monitoring as one of its major thrusts and that there is a need to coordinate these efforts. The Forum is an informal organization established to set priorities for innovative site cleanup technology needs. It has grown out of a meeting, called "Project Listen," in which representatives from industry, government, and academia identified needs as well as a number of disparate efforts underway. Meeting participants offered to participate in consortia to attack some of the issues identified. Mr. Marsh said that the goal of the site characterization and monitoring activities of both the Forum and the Roundtable are identical, except for the involvement of the private sector in the Forum, and that he intends to explore with the Site Characterization and Monitoring Subgroup the possibility of combining the two efforts.

Mr. Koglin said that a summary of the site Characterization and Monitoring Subgroup meeting would be prepared and distributed to all Roundtable members.

Ground-Water Issues/Initiatives

Rich Steimle of TIO, who serves as chairman of the *In Situ* Ground-Water Treatment technologies Subgroup of the Roundtable, reported that the Subgroup held an organizational meeting in July and all members of the Roundtable received a summary of the meeting. The Subgroup charter has been signed by participating agencies and a workplan has been developed. The major activity planned by the Subgroup is a joint demonstration of an *in situ* ground-water technology. Potential sites for the demonstration are being reviewed and the Subgroup is expected to select a site, and at least one back-up site, during its meeting on Dec. 3. Mr. Steimle indicated that the demonstration is planned for sometime in 1993, assuming necessary negotiations for use of the site and enabling and funding agreements can be completed. He said the Subgroup would keep the Roundtable members apprised of progress.

Mr. Steimle said TIO is pursuing establishment of a clearinghouse to improve coordination of research, development, and application of *in situ* ground-water technologies. A fact sheet summarizing this proposal was provided to Roundtable members and associates prior to the meeting, he said. This clearinghouse, to be called the Ground-Water Remediation Technology Research Information Center, would track public and private research and perform regular analyses to determine areas where more research and funding is needed. The clearinghouse would be located at EPA's Robert S. Kerr Environmental Research Laboratory (RSKERL) in Oklahoma. An advisory panel, made up of technology-specific experts, and a guidance committee, made up of technology users from the public and private sector and representatives of industries that have ground-water problems, would provide input on clearinghouse management and operations. The first meeting of the guidance committee is planned for January 1993. Mr. Steimle indicated that nominees for the advisory panel would be sought from DOE, DoD, and DOI/USGS.

Dr. Kovalick said that the primary need for such a center stems from the fact that there is limited exchange of information among researchers working on ground-water issues and private companies which also are involved in research and development in this area. These companies rarely publish the results of their projects. Mr. Shutte questioned whether this was an activity that might be better handled by the private sector, such as through a trade/professional association. Dr. Kovalick said that these associations tend to be driven by the interest of their respective members and that currently there is no one association which represents people involved in ground-water remediation R&D. In addition, he said he has found relatively little interest among the various existing associations in serving as a clearinghouse for this

information. Mr. Koglin indicated that the National Ground-Water Association is in the process of reorganizing and suggested it could be more open now to an activity like this. Mr. Newsome also suggested the concept be explored with the American Society of Chemical Engineers.

Mr. Marsh indicated he thinks there is a real need, but he is concerned about the uncoordinated development of this type of facility on various subjects—e.g., one on ground water and a separate one on site characterization and monitoring. He suggested that a broader structure might be needed. Subject-specific activities, such as those discussed during the meeting, could be developed as subsets under the broader, “umbrella” structure. It also was suggested that efforts be made to determine if there are similar “centers” abroad and what information exchange arrangements would be appropriate and possible.

Status of the Western Governors' Association MOU on Technology Development

Greg Evans, Coleman Energy and Environmental Systems, reported on the status of the joint federal-state project to develop technical solutions to environmental restoration and waste management problems shared by states, commercial interests, and the federal government. The project was enabled by a MOU signed in 1991 by DoD, DOE, DOI, EPA, and the Western Governors' Association (WGA), which represents 20 western states and territories. The MOU calls for development of joint solutions over a five-year period. WGA's primary objectives in this project are to expedite cleanup of federal sites in the West and to establish a model for state-federal-industry-community partnership on cleanup decisions that can be used in other areas of the country as well.

The partners have agreed to conduct a federal-state demonstration program. The plan is to develop program criteria, select candidate technologies for demonstration, and choose three to six demonstration sites by June 1993. The objective is to begin in-field work by third quarter 1993. Mr. Evans indicated that meeting that objective probably will involve choosing sites where demonstrations already are planned. Federal funding for the demonstration program is being proposed under DoD's Strategic Environmental Research and Development Program (SERDP).

Federal participants have established three working groups in specific areas of emphasis in the project—workforce planning, technology needs and emerging technologies, and regulatory barriers. Stakeholder workgroups addressing these and other areas are expected to be created beginning in February 1993. A Federal Advisory Committee to Develop On-Site Innovative Technologies for Environmental Restoration is being created under the project to coordinate activities and serve as the primary vehicle for recommending additional projects to implement MOU tasks. DOE will be the host agency with the DOE Deputy Assistant Secretary for Technology Development serving as Designated Federal Official.

California Initiative — Expedited Base Closure

Jim Marsh of DoD explained that the California Initiative is cooperative effort among DoD, EPA, DOE, the Western Governors' Association, and California EPA (Cal/EPA) to expedite closure of military bases in the state and accelerate environmental cleanup at these and other federal sites in California. The project is directed at matching available technologies with contamination problems commonly found at California's closing bases. Under the action plan developed for the project, Cal/EPA will summarize the site characterization data currently available on closing bases in the state and identify contamination problems common to these facilities. The intention is to assemble teams of technical experts to work with Cal/EPA to develop a matrix that lists appropriate technologies available for application to these problems.

Mr. Marsh indicated that James Strock, California Secretary for Environmental Protection, has sent a letter to Dr. Kovalick seeking the assistance of the Federal Remediation Technologies Roundtable in this

effort. (See copy enclosed) Cal/EPA is asking the Roundtable to provide technical experts identified from among its member-agencies to help develop the matrix. Mr. Strock also is requesting assistance in assembling teams of treatment technology experts to provide site-specific technical assistance in using the matrix to identify and select appropriate remediation technologies.

Mr. Marsh feels that the project being implemented under the MOU with WGA should be the umbrella for coordination of this project and, possibly, the Air Force-EPA matrix project. He said some other regions of the country in which military base closures are imminent are looking to the California Initiative for a model for how to proceed.

Mr. Newsome asked if the technology matching under the California Initiative was limited to innovative technologies or involved both innovative and conventional technologies. Mr. Marsh indicated that the California project will be looking at both. Mr. Newsome pointed out that the California project could, in effect, result in the development of "presumptive remedies." He said that in his opinion the concept of "presumptive remedies" is at odds with the Roundtable focus of promoting acceptance and use of innovative technologies.

Mr. Marsh indicated that DoD and Cal/EPA are open to feedback about whether the initiative fits in with the Roundtable objectives and, if not, suggestions about other appropriate avenues. Mr. Edward said that the project might fit better with the work EPA's Office of Federal Facilities Enforcement is doing relative to the Superfund Accelerated Cleanup Model (SACM) and offered to provide DoD more information on that effort.

Dr. Kovalick indicated that he would send a letter to Mr. Strock before the holidays to indicate that his request has been received and is being considered. He said he probably would call a special meeting after the first of the year to frame the Roundtable's formal response.

Proposed Innovative Environmental Technology Policy Forum

Jim Edward of EPA/OFFE provided a brief overview of OFFE's role in promoting use of innovative technologies by federal agencies. He indicated that, while OFFE's role in this area is still evolving, its activities fall into four major areas:

Encouraging federal agencies, EPA Regions, and states to use innovative technologies to prevent pollution, achieve compliance, and clean up sites. Among other activities, OFFE is considering joint sponsorship of a national interagency conference on federal government innovative technology development to help focus the direction of future federal efforts.

Serving as the primary EPA point of contact for use of innovative technologies at federal facilities under enforceable agreements (IAGs, FFA, etc.) with EPA. For example, OFFE is the lead EPA office involved in the WGA project and is working with DOE to define a long-term role in environmental technology development for DOE national laboratories.

Actively helping to disseminate results of innovative technology demonstrations throughout the federal community and identifying opportunities for application of innovative technologies at federal facilities. The office has joined EPA/TIO in encouraging EPA Regions to cooperate with the U.S. Air Force on the use of bioventing for remediation of JP-4 contaminated soils. (See memorandum enclosed). OFFE is currently developing a policy framework document outlining its current and future efforts related to technology innovation.

Ensuring that innovative technology projects are consistent with existing enforcement agreements and encouraging incorporation of conditions which facilitate use of innovative technology into new enforcement agreements. OFFE has drafted guidance on the FY 93 Federal Facilities Multi-Media Compliance/Enforcement Initiative encouraging incorporation of innovative technology conditions in federal enforcement and cleanup agreements.

Mr. Edward said a major new initiative for OFFE is the proposed Innovative Environmental Technology Policy Forum. As envisioned, the meeting would bring together federal decision makers and public and private technology developers and users to obtain consensus on key elements of a cohesive federal strategy for promoting and facilitating the use of innovative environmental technologies. It would provide an opportunity for information exchange and developing new interagency and public-private partnerships. Moreover, the Forum would demonstrate the high level of federal commitment to fostering and encouraging the use of innovative technologies, Mr. Edward said.

He asked for feedback from the Roundtable members on the concept for the Forum. A concept paper was provided to participants prior to the meeting. He said OFFE is about two months behind the tentative time schedule in the concept paper, but they hope to assemble a management team and bring on a contractor to provide planning and logistics support after the first of the year.

Mr. Edward also updated the Roundtable members on the status of the interagency—DoD, DOE, EPA—effort to identify and overcome barriers adversely affecting environmental programs at federal facilities. The initiative, called the “Experts Group,” began in 1991. Officials from the participating agencies established interagency work groups to focus on specific issue areas, including compliance and enforcement, waste management, environmental restoration, and pollution prevention. Mr. Edward said reports and recommendations from the work groups have just been completed and indicated that copies have been provided to each participating agency. He brought a few copies to the meeting, but indicated that further distribution of the reports is the responsibility of each of the participating agencies.

Other Business

In response to a question, Dr. Kovalick indicated that the “market study” being prepared by EPA/TIO is being finalized and would be printed in December. He said Roundtable members would receive a copy early in January.

Donna Kuroda indicated that she would provide a copy of the “Call for Papers” for the 1993 meeting of the Water Environment Federation for inclusion in the meeting summary. The group has established a Federal Facilities Program which would offer an opportunity for presentations by Roundtable member-agencies.

The meeting adjourned.

Participants
FEDERAL REMEDIATION TECHNOLOGIES ROUNDTABLE
November 30, 1992

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