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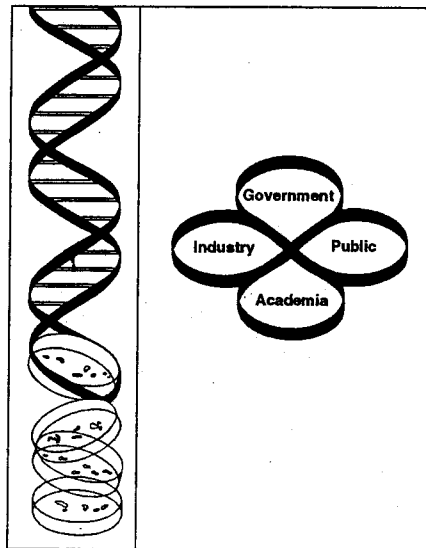
United States
Environmental Protection
Agency

Office of Research and
Development
Washington, DC 20460

EPA/600/F-93/001

 **EPA Bioremediation
Action
Committee**

*Following the successful application of
bioremediation on oil-contaminated
beaches at Prince William Sound, Alaska,
the BAC has been an effective instrument
in fostering the expansion of bioremediation
technologies for the prevention and
treatment of hazardous pollutants.*



SM-X3

The Bioremediation Action Committee (BAC)

The Bioremediation Action Committee is a partnership of experts from government, industry, academia, and the public dedicated to expanding the use of bioremediation in the treatment, control, and prevention of environmental contamination. Chaired by EPA's Office of Research and Development (ORD), the BAC provides a proactive forum to facilitate the advancement of both the science and practical field application of bioremediation.

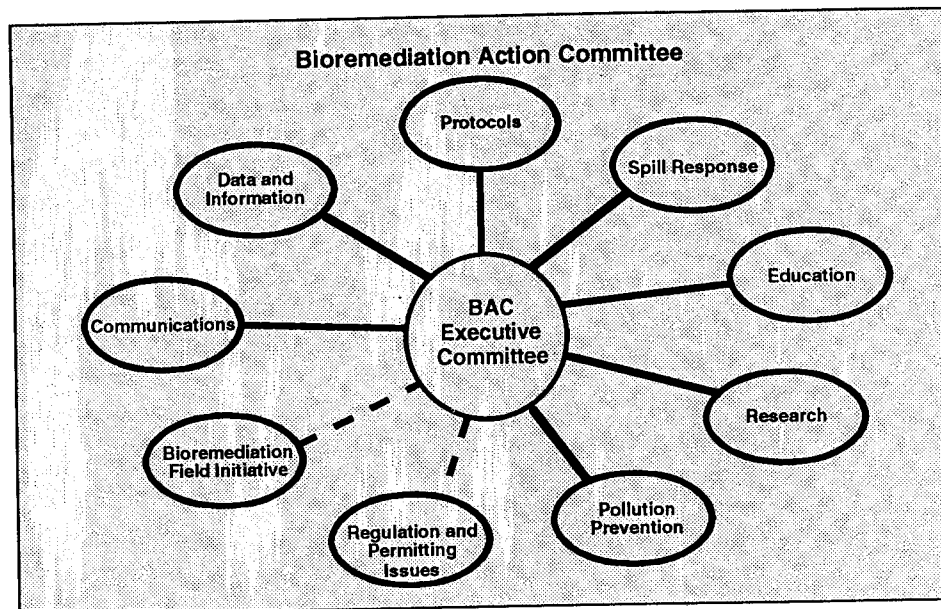
The BAC was established in 1990 on the recommendation of more than 100 leaders in the field of bioremediation at an EPA/Industry meeting on environmental applications of biotechnology. It is a working body where participating individuals and organizations collaborate to reach objectives defined by the committee. Membership is open to any interested party.

Addressing participants at the Second EPA/Industry Meeting on Environmental Applications of Biotechnology in 1991, former EPA Administrator William K. Reilly expressed the charge of the BAC as follows: "I think we should develop, to the extent we can, a national bioremediation response capability for oil spills...we should continue to develop aggressively the full potential of bioremediation to treat our hazardous wastes and clean up our abandoned sites... and we should creatively develop the potential of biotechnology to prevent or reduce pollution in the industrial and agricultural sectors through product and process improvements."

BAC Functions

The BAC advances the development of bioremediation through a variety of functions, including:

- Coordinating activities across organizations
- Transferring information
- Identifying priorities
- Conducting projects to accomplish committee goals



The work of the BAC is carried out principally through the nine action areas shown above.

BAC Subcommittees

Communications

Actively promotes the increased acceptance and use of bioremediation. Informs technical and nontechnical communities of the latest processes and technological advancements. Conveys the accomplishments of the BAC to the user community.

Data and Information

Collects and reviews information about bioremediation for inclusion in a central database accessible to state and federal waste cleanup decision makers, industry, and the public. Information includes technical, performance, and cost data from various research, field applications, and case studies. The information resides in EPA's Alternative Treatment Information Clearinghouse (ATTIC) database, an on-line, key word searchable repository.

Protocols

Develops standard protocols for testing the applicability, effectiveness, and safety of bioremediation products and treatment techniques for oil spill response and hazardous waste cleanups. Works with EPA and its ORD laboratories to develop and validate test methods and QA/QC procedures that assist decision makers evaluate and select bioremediation products and applications.

Spill Response

Promotes and coordinates the incorporation of bioremediation in oil and hazardous substance spill contingency response plans across the United States. Subcommittee members collaborate with national and regional response teams and area committees to develop interim guidance and bioremediation response plans tailored to their unique needs.

Education

Reviews existing approaches to bioremediation education and promotes training that adequately prepares scientists, engineers, and technicians for the field. Consults with academia to develop curricula integrating biological sciences, chemistry, and engineering to provide the diverse knowledge required.

Research

Identifies priority areas of research needed to provide the scientific basis for future growth in bioremediation technology. Reviews current federal, state, academic, and industrial bioremediation research to determine consistency, overlap, and additional needs. Information gathered is used to develop recommendations on which topics should be further investigated.

Pollution Prevention

Investigates and promotes applications of biotechnology that reduce or eliminate toxic wastes generated by industrial processes. Working closely with industry, evaluates industry-specific technology demonstrations and field applications and prepares case studies documenting how biotechnology is being used to prevent pollution at the source.

EPA Affiliated Activities***Regulation and Permitting Issues***

The BAC serves as a forum to exchange information between EPA and other interested parties on developments and issues regarding regulations and permitting affecting bioremediation. This is an issue and information sharing activity, not one of consensus recommendations to EPA.

Bioremediation Field Initiative

The Bioremediation Field Initiative is an EPA program intended to assess and document the performance of full-scale bioremediation field applications, in coordination with the Regions and states, and to create a database on progress in bioremediation.

Representative BAC Accomplishments

- Developed "Interim Guidelines for Preparing Bioremediation Spill Response Plans," distributed to response officials through National and Regional Response Teams.
- Completed the "EPA Region 6 Bioremediation Spill Response Plan," a contingency plan for evaluating, implementing, and monitoring bioremediation in response to oil spills along the Gulf of Mexico.
- Developed a set of protocols for testing the effectiveness of oil spill bioremediation products for use on open water, beaches, and marshes.
- Published a report on "States Use of Bioremediation: Advantages, Constraints, and Strategies."
- Published "Bioremediation Case Studies," a compendium of private sector bioremediation activities.
- Developed a database on bioremediation including over 150 sites where progress toward use is being monitored and updated.
- Sponsored a workshop with U.S. EPA, state environmental agency officials, and petroleum industry representatives to discuss the use of bioremediation for underground storage tank and other petroleum contaminated site cleanup.
- Published a report on "High Priority Research on Bioremediation."
- Convened a two-day meeting between industry and academia to discuss bioremediation education interfaces and identify knowledge, skills, and abilities needed at different educational/training levels.
- Identified pollution prevention case studies on the biological destruction of methylene chloride and phenolics in a production process to prevent releases.

BAC Participants

Individuals from the following organizations have participated in EPA/Industry Meetings and major BAC meetings.

ACADEMIA

Cook College
Cornell University
Maryland Biotechnology Institute
Princeton University
Rice University
Rutgers University
Texas Research Institute
University of Louisville
University of Michigan
University of Tennessee
Westchester Community College

ASSOCIATIONS

American Petroleum Institute
American Society for Microbiology
American Wood Preservers Association
Applied Biotreatment Association
Assoc. of Biotechnology Companies
Chemical Manufacturers Association
Hazardous Waste Treatment Council
Industrial Biotechnology Association
National Petroleum Refiners Association

ENVIRON. ORGANIZATIONS

Environmental Defense Fund
Friends of the Earth
National Wildlife Federation
FEDERAL ORGANIZATIONS
Army Corps of Engineers
Department of Defense
Department of Energy
Department of Health & Human Services
National Oceanic & Atmospheric Admin.
U.S. Coast Guard

INDUSTRY/CONSULTANT/OTHER

Allied Signal, Inc.
Alpha East, Inc.
Alpha Environmental, Inc.
American Cyanamid
Amgen
ASCI Corporation
BASF Corporation
BDM International, Inc.
Bioscience Management, Inc.
BioTrol, Inc.
CCJM
Celgene Corporation
Chevron Research & Technology Co.
Clean Sites, Inc.
DEVO Enterprises, Inc.
DuPont Company
Eastman Kodak Company
EBASCO Services
Ecova Corporation
EG&G Idaho, Inc.
ENSR Corporation
Enviroflow, Inc.
Envirogen, Inc.
Environmental Dynamics, Inc.

INDUSTRY/CONSULT/OTHER (CONT)

Environmental Remediation, Inc.
Environment Today
Exxon Research & Engineering Company
Fluor Daniel
Gamett Fleming, Inc.
Genencor, Inc.
General Electric Corporation
General Motors Research Laboratories
Groundwater Technology, Inc.
Graver Chemical
Halliburton NUS Environmental Corp.
Hunter Biosciences, Inc.
ICF, Inc.
InterBio
IT Corporation
JML Biosciences
Labat-Anderson, Inc.
Marine Spill Response Corporation
Merck and Company, Inc.
Microbial Solutions
Mimirs Wells
Mobil Oil Corporation
Monsanto Company
MSRC
National Environ. Technology Appl. Corp.
Novo Nordisk Biotechnologies, Inc.
Nugen
OHM Remediation Services Corp.
Phillips Petroleum
Pflko and Associates
Polybac Corporation
Radian Corporation
Remedial Technologies Field Services
RETEC
RMT, Inc.
SEA Consultants, Inc.
Solimar Corporation, Inc.
Sybron Chemical, Inc.
The Scientific Consulting Group, Inc.
Thorne Environmental, Inc.
Westinghouse Environmental/Geotechnical
Woodward-Clyde Consultants
STATE ORGANIZATIONS
National Governors' Association (working in cooperation with numerous state environmental regulatory agencies)
U.S. EPA
Office of Prevention, Pesticides, & Toxic Substances
Office of Research and Development
Office of Solid Waste & Emergency Response
Office of Water

BAC Contacts:

General Information
Mr. Kurt Jakobson, EPA/ORD
(202-260-5747)

BAC Executive Director
Mr. Stephen Lingle, EPA/ORD
(202-260-4073)

Regulatory/Permitting Issues (Wastes)
Dr. Walter Kovalick, EPA/OSWER
(703-308-8800)
Ms. Elizabeth Milewski, EPA/OPPTS
(202-260-6900)

Bioremediation Field Initiative
Dr. Fran Kremer, EPA/ORD
(513-569-7346)
Ms. Nancy Dean, EPA/OSWER
(703-308-8797)

Communications
Dr. Fran Kremer, EPA/ORD
(513-569-7346)

Data and Information
Mr. James Solyst, National Governors' A
(202-624-7739)

Protocols
Dr. Edgar Berkey, NETAC
(412-826-5511)

Spill Response
Mr. Stephen Luftig, EPA/OSWER
(202-260-2180)

Education
Dr. Rashalee Levine, DOE
(301-903-7920)

Research
Dr. Martin Alexander, Cornell University
(607-255-1717)

Pollution Prevention
Dr. George Pierce, American Cyanamid
(908-862-6000 - ext. 415)
Dr. Laura Meagher, Rutgers University
(908-932-6571)

ATTIC Systems Operator
(301-670-6294)