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Environmental Protection
Agency

Office of Solid Waste
and Emergency Response
Washington, DC 20460

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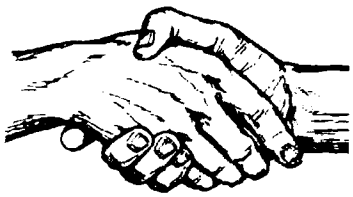
June 1991

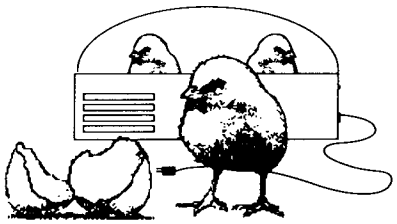
EPA Innovative Hazardous Waste Treatment Technologies

A Developer's Guide To Support Services

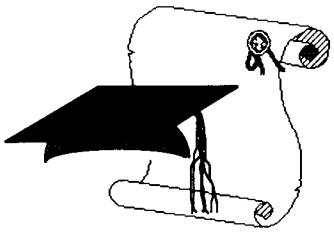
ASSISTANCE PROGRAMS



TECHNOLOGY INCUBATORS AND TEST AND EVALUATION FACILITIES



UNIVERSITY-AFFILIATED HAZARDOUS WASTE RESEARCH CENTERS



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INNOVATIVE HAZARDOUS WASTE TREATMENT TECHNOLOGIES

A DEVELOPER'S GUIDE TO SUPPORT SERVICES

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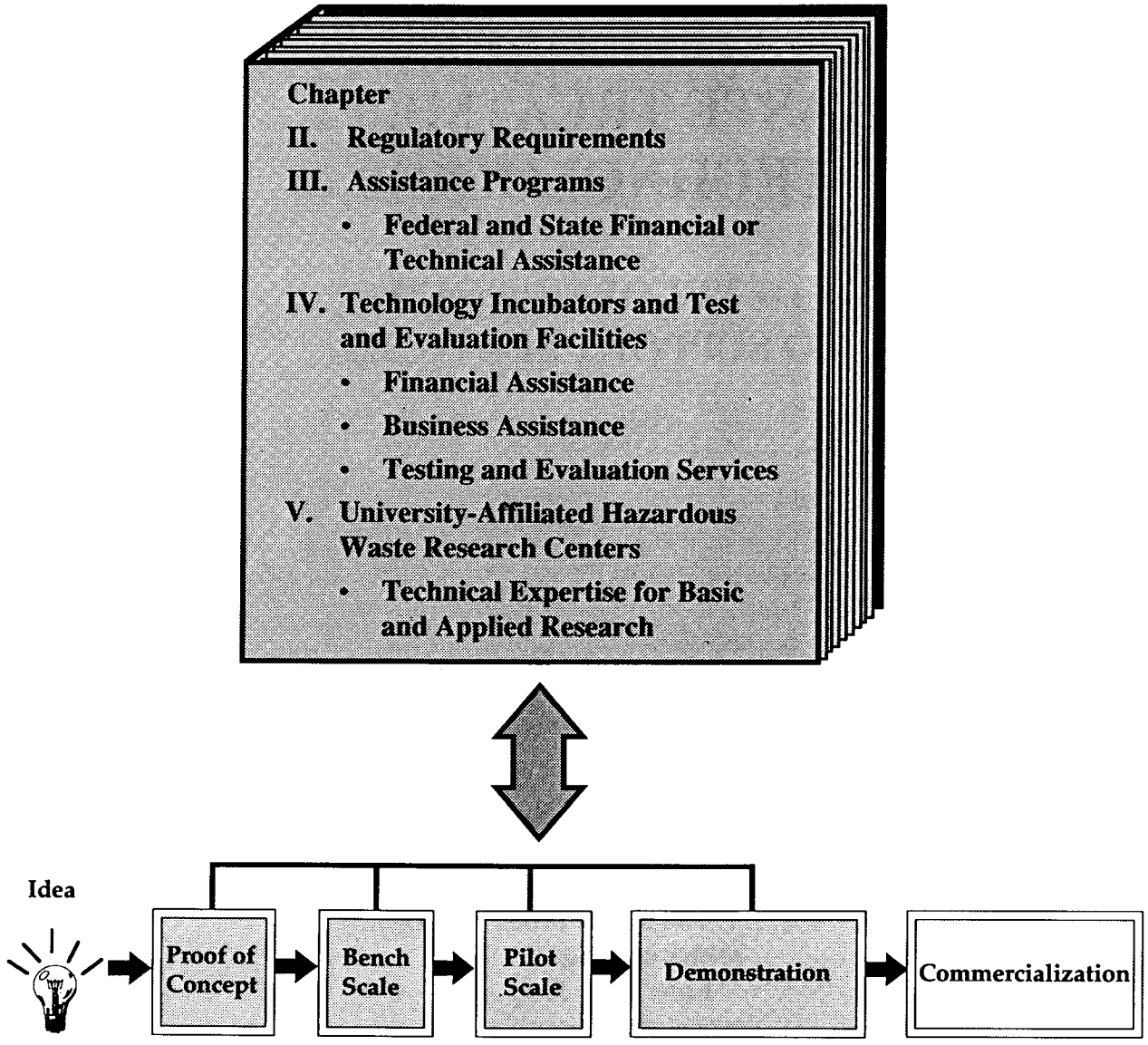
Chapter
II. Regulatory Requirements
III. Assistance Programs
• Federal and State Financial or Technical Assistance
IV. Technology Incubators and Test and Evaluation Facilities
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V. University-Affiliated Hazardous Waste Research Centers
• Technical Expertise for Basic and Applied Research
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Bench Scale
Pilot Scale
Demonstration
Commercialization

FOREWORD

In the most recent amendments to the hazardous waste site remediation statute (the Superfund Amendments and Reauthorization Act - SARA), Congress expressed a preference for permanent remedies that reduce the toxicity, mobility, and/or volume of contaminants. Achievement of this goal requires the development and application of innovative approaches to hazardous waste treatment.

EPA recognizes the challenges faced by hazardous waste treatment technology developers and vendors. This booklet provides information on sources of assistance and support in bringing technologies from the proof of concept stage to the commercialization stage. It includes information on sources of grant funding and technical assistance, and identifies incubators, test and evaluation facilities, and university-affiliated research centers that can provide a range of technology development and evaluation services.

It is our hope that this information will be useful to both new and established developers of treatment technologies. Your comments and suggestions for future editions are welcome. The form on page 34 can be used to make such suggestions or to order additional copies of the booklet.

Walter W. Kovalick, Jr., Ph.D.
Director,
Technology Innovation Office
Office of Solid Waste and Emergency Response

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NOTE:

This booklet is intended to be used as a point of departure for technology developers seeking assistance. Inclusion in this booklet or the mention of trade names, commercial firms, or ventures does not constitute an endorsement by the U.S. EPA. In addition to the resources identified in this booklet, developers of innovative hazardous waste treatment technologies are encouraged to contact local programs, facilities, and universities not listed.

TABLE 1 -- SERVICES FOR DEVELOPERS

TYPES OF SERVICES	NATURE OF SERVICES
• **Financial Assistance**	Identification of alternative funding sources, including venture capital, government grant programs, and joint venture opportunities for technology developers.
• **Market Analyses**	Environmental market analyses for candidate technologies to define the size and nature of the applicable market. Analyses include recommendations on further developmental activities, as well as time and money likely to be required for commercialization.
• **Testing and Evaluation**	Demonstration and testing programs at various scales for promising technologies. Evaluation of technical feasibility or status, including projects such as prototype development and testing, and scale-up design. Facilities may provide test bays with secondary containment systems and/or analytical services.
• **Technical Assistance**	Technical expertise in a variety of science and engineering disciplines to assist in all stages of development through basic and applied research.
• **Permitting and Regulatory Assistance**	Assistance in addressing permitting and regulatory requirements by providing personnel with permitting expertise or, in some cases, providing permitted laboratory facilities.
• **Administrative Support**	Office space, office equipment, secretarial support, and other administrative assistance.
• **Training and Technology Transfer**	Assistance in working with universities and other public research institutions to strengthen technological skills and approaches.