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## FY 1995 Accomplishments and Highlights: NIEHS Superfund Worker Training Program

Since the initiation of the Superfund Worker Training Grants Program in 1987, the National Institute of Environmental Health Sciences (NIEHS) has developed a strong network of non-profit organizations that are committed to protecting workers and their communities by delivering high-quality, peer-reviewed safety and health curriculum to target populations of hazardous waste workers and emergency responders.

The worker training program was originally authorized for five years (FY 87-91) by Congress with the passage of Section 126 of the Superfund Amendments and Reauthorization Act of 1986 (SARA). The program is administered by NIEHS through an interagency agreement with EPA. During October 1990, Congress reauthorized the Superfund program for an additional three years (FY 92-94), which included an authorization of \$20 million per year for the NIEHS Worker Training Program. For FY95, Congress provided \$23 million for the NIEHS Worker Training Program, which included a new initiative for pilot project to train minority youth for careers in the environmental restoration industry.

Through an Interagency Agreement, NIEHS received this \$23 million from the FY95 EPA appropriations to support cooperative agreements for providing model occupational safety and health training for workers and their supervisors that perform dangerous jobs in the nation's hazardous waste management and remediation programs, as well as for emergency responders to uncontrolled hazardous materials releases. The model program encourages innovation for training difficult-to-reach populations by addressing issues such as literacy, appropriate adult education techniques, training quality improvement and other areas unaddressed directly by the market place. The program enhances rather than replaces private sector training responsibility by demonstrating new and cost-effective training techniques and materials.

Target populations include both private and public sector workers. Public sector workers trained are primarily from state and local governments. Few Federal employees have been targeted as there are other means by which they may be trained.

During the first eight years of the Superfund Worker Training Program (FY 1987-95), the NIEHS has successfully supported twenty primary awardees. These represent over ninety different institutions who have trained over 500,000 workers across the country and presented nearly 25,000 classroom and hands-on training courses, which have accounted for over 8.0 million contact hours of actual training (See Appendix 1).

Through the encouragement of multi-state, university-based consortiums and the development of national non-profit organizations which have focused on specific workforce sectors, this NIEHS program has established technically-proficient curriculum materials and quality-controlled course presentations. These courses have been delivered to hazardous waste workers and emergency responders in every region of the country and have established new national

benchmarks for quality worker safety and health training. The program also has represented a major prevention education activity for NIEHS as technical scientific and basic research information is delivered to target populations with high risk toxic exposures.

During the past year (FY 1995), training delivery has been carried out in all regions of the country to all relevant target populations regulated under 29 CFR 1910.120. The eighteen primary worker training awardees, in conjunction with over seventy collaborating institutions, have delivered 5,348 courses, reaching 87,205 workers, which account for 1,463,222 contact hours of health and safety training, which ranges from 4 hour refresher programs through more complex train-the-trainer courses lasting up to 120 hours in duration.

For FY 1995, major program accomplishments of the Superfund Worker Training Program include:

**Completion of a peer-reviewed competition for new Worker Training awards for training of hazardous waste workers, emergency responders and minority workers---** After receiving concept clearance from the National Advisory Environmental Health Sciences Council (NAEHSC) at its May 1994 meeting, NIEHS developed a new Request for Applications (RFA) for cooperative agreements in order to make new awards based on this additional funding. A notice of availability was published in the NIH Guide to Grants and Contracts on Friday, October 28, 1994 announcing that NIEHS would be accepting new applications with a receipt date of January 20, 1995 and would be planning to fund 15 to 20 new cooperative agreements over the five year period, subject to the annual availability of funding. The Request for Applications (RFA ES 95-001) referenced authorized funding availability in a number of programs administered by NIEHS including the Superfund Worker Training Program (\$20 million from EPA) and a Minority Worker Training Program (\$3 million from EPA).

A program briefing was held for potential applicants in early December 1994, which resulted in the development of additional evaluation criteria for the Minority Worker Training Program and the establishment of a new receipt date (February 17, 1995) for applications. By the February 17, 1995 deadline, the NIEHS Division of Extramural Research and Training (DERT) had received thirty (30) completed applications for worker training cooperative agreements. Of the thirty applications, 17 were from current grantees of the NIEHS Worker Training Program and 13 were from newly competing institutions.

Based on the work of the Initial Review Group (IRG) in reviewing the twenty-four applications, all twenty four applications were recommended for further consideration, although some components in some applications were not recommended for further consideration. Priorities for funding are based on the rankings by the IRG as designated by the criteria in the Request for Applications (RFA ES-95-001) for assessing program merit and relevance. The proposed funding plan for twenty new awardees to support worker training activities has been developed based on the criteria established by the PHS Grants Administration Manual in Part 118 at 118.3(c). Budget adjustments in the proposed funding plan have been based on the training needs of high risk populations, national geographic coverage in training availability and the published program priorities for training support. A list of the new awardees and program descriptions are included in Appendix 2.

**Continued expansion of national training opportunities to underserved, low literate and non- English-speaking populations---** Based on review criteria established by NIEHS in 1992 and the President's Executive Order on Environmental Justice, the NIEHS Worker Training Awardees have been implementing special initiatives to ensure that disadvantaged populations who are exposed to hazardous waste and toxic materials will have meaningful access to high quality safety and health training. Many of the NIEHS Awardees have responded by translating curricula into appropriate languages and dialects for non-English speaking waste cleanup workers and forming partnerships with community organizations in contaminated regions with large minority populations. Efforts by all awardees have been made to incorporate environmental justice concerns into program development, outreach to high risk target populations, curricular modifications and training evaluation.

**Continuation of the first national Labor Market Study of Hazardous Waste Workers and Emergency Responders---** In conjunction with the EPA-Superfund Labor Task Force and EPA-OSWER staff, NIEHS has worked to develop a study protocol which can capture site specific, environmental restoration employment data and can describe the workforce which is involved in Superfund site cleanup projects. Through a supplemental award to the George Meany Center for Labor Studies, Rutenberg & Associates has implemented the study design to examine specific labor markets where Superfund cleanups have already been carried out. An Interim Final Report, which examines over 20,000,000 hours of site specific Superfund remediation work, is almost completed and will be reviewed by EPA, NIEHS and outside peer reviewers before it is released. With additional funds provided by OSWER, more data is being collected from the EPA emergency removal program to assure a representative database.

**National Program Evaluation Project ---** A a summer project, NIEHS supported a doctoral student as a summer intern to organize and summarize the program evaluation data which has been produced by individual awardees in the course of their training delivery. The significant resources that have been allocated for NIEHS training awards require that recipients demonstrate not only effective implementation, but also positive impacts on the health and safety of trained workers. The findings reported here clearly demonstrate that NIEHS grantees have responded to the challenge for program evaluation and have documented monumental changes in the health and safety of workers and communities across the United States. A summary of this longer report is included as Appendix 3.

**Award of a new contract for the continued operation and support for a national clearinghouse on hazardous waste worker training ---** A new RFP for operation of the clearinghouse function resulted in a new five year contract award after a lengthy competitive process which was completed in May 1995. NIEHS has continued to support the operation of the National Clearinghouse for Worker Safety and Health Training for Hazardous Materials, Waste Operations and Emergency Response through a contract with Ruth Rutenberg and Associates, with a subcontract to the George Meany Center for Labor Studies in Silver Springs, Maryland. The Clearinghouse functions as a link between awardees of NIEHS Worker Training cooperative agreements and other members of the general public who are concerned with quality worker health and safety training. Tasks of the Clearinghouse include, but are not limited to, the distribution of curricula, research work to support the development of the NIEHS Worker Training Program, cataloguing of training materials, and other information pertaining to worker

health and safety training for hazardous materials, waste operations, and emergency response, as well as other related activities. A summary of Clearinghouse activities is provided in Appendix 4.

**Minority Worker Training Program Development ---** The Minority Worker Training Program (MWTP) was established to provide a series of national pilot programs to test a range of strategies for the recruitment and training of young persons for work in the environmental field. Specifically the target population are those: who are in the age range of 18-25 years old; live near hazardous waste sites or in the community at risk of exposure to contaminated properties; and are either unemployed or underemployed. The different programs provide pre-employment job training, including literacy, life skills, environmental preparation including hazardous waste worker training and other related courses construction skills. Some training also includes enrollment in apprenticeship programs for construction and environmental remediation worker training. This program promotes partnerships or subagreements with academic and other institutions, with a particular focus on historically black colleges and universities, public schools and community-based organizations. This cooperative agreement provided funding for seven programs to train minority inner city youth to enter the environmental field. In addition, participating institutions must demonstrate ability to target youth likely to be candidates for environmental clean-up jobs. The EPA "brown-fields program in cities such as Cleveland, OH; Richmond, VA, Bridgeport, CT, etc. are likely target communities for this program. Seven new awards were made for this program which are detailed in Appendix 5.

**External Program Review --** In May 1995, NIEHS established a special External Panel of outside peer reviewers with a specific charge: 1) to review and evaluate the overall NIEHS Superfund Worker Training Program taking into consideration program quality, output, productivity and impact, and 2) to make any recommendations considered appropriate by the Panel with regard to future directions for the NIEHS program. The Panel has met twice at NIEHS, in June and October, 1995. During this process, the Panel reviewed extensive materials on the worker training program, analyzed the program in depth, and developed its findings, recommendations and conclusions. A final report from the External Review Committee will be completed by December 1995.

**Safety and Health Concerns of Emerging Environmental Restoration Technology --** A March 1995 technical workshop, organized by the Clearinghouse, was the first of two Innovative Technology workshops dealing with the integration of health and safety into the design of new environmental remediation technologies. At the end of that conference a working guidance document was developed. In November 1995, a second workshop on innovative technology will be held and participants will review and provide comments to the draft guidance documents to produce final guidance on the integration of safety and health into the design of technologies.

## **Summary**

In administering the Hazardous Waste Worker Training Program through an Interagency Agreement with the Environmental Protection Agency (EPA), the NIEHS ensures that the traditional peer review process of the National Institutes of Health (NIH) provides the essential framework for the oversight of grant application reviews, and guidance of the program with

grants management activities and ongoing program administration. Technical experts in toxicology, industrial hygiene, labor education and hazardous waste management from both the public and private sectors have played an ongoing role in assuring that NIEHS supported programs demonstrate high technical merit and adhere to stringent standards for quality control through periodic site reviews and an ongoing peer review process.

Based on the agency's program experience over the past eight years, the NIEHS has decided to continue to use cooperative agreements as the appropriate mechanism for making awards to non-profit training organizations for fiscal years 1995-99. Because of the substantial programmatic involvement by NIEHS staff to ensure the consistency, appropriateness and technical reliability of funded training programs, the use of cooperative agreements appear to be a more suitable instrument for supporting extramural training of hazardous waste workers and emergency responders and assuring the delivery of high quality safety and health programs to high-risk populations.

Appendix 1: Eight Year Summary

NIEHS WORKER TRAINING PROGRAM: EIGHT YEAR SUMMARY			
YEAR	COURSES	WORKERS	CONTACT HOURS
1988	623	12,319	261,542
1989	1,353	29,429	520,752
1990	5,141	123,358	2,120,390
1991	2,731	58,637	880,744
1992	2,799	61,456	1,064,627
1993	2,750	60,695	983,931
1994	5,348	87,205	1,463,222
1995	4,674	81,361	1,395,684
TOTAL	25,419	514,460	8,680,892

**Appendix 2:**  
**Summary of NIEHS Worker Training Awards for FY 1995**

1) United Brotherhood of Carpenters ---- The United Brotherhood of Carpenters (UBC) Health and Safety Fund has training components for the EPA Hazardous Waste Worker Training Program (HWWTP), the DOE HWWTP and the EPA Minority Worker Training Program (MWTP). The target population are members of the five participating consortium International Unions, or union training funds. These unions are: the United Brotherhood of Carpenters and Joiners (UBC); the Ironworkers National Training Fund (IW); the Painters and Allied Trades Labor-Management Fund (PAT); the Sheetmetal Workers Training Fund (SW); and the Operative Plasterers and Cement Masons Union (OPC). All of these unions perform construction and general industry work, as defined by OSHA, on sites containing hazardous materials, or on sites where HAZMAT operations are present or planned. These five unions represent 35% of the organized construction workers in the United States and perform over 50% of all the construction work on remedial sites. The UBC consortium plans to identify 6,120 journeymen and the target populations as defined are appropriate and their access to them is evident.

2) University of Massachusetts Lowell ----- This application involves continued NIEHS support for training by several groups within The New England Consortium (TNEC). These groups include: the University of Massachusetts-Lowell, the coordinating and major partner; and five labor-based Committees for Occupational Safety and Health (COSH Groups)--ConnectiCOSH, MassCOSH, NHCOSH, RICOSH, and Western MassCOSH. It involves training that will be for private and public sector hazardous waste workers and emergency responders in five New England states--Connecticut, Massachusetts, New Hampshire, Rhode Island, and Vermont. The major objectives of the grant are to: (1) train 1000 workers (environmental consultants and engineers, hazardous waste site workers and supervisors, industrial and public sector emergency responders, emergency medical technicians, and site inspectors and investigators) annually-5,000 over the five-year grant period; (2) conduct two pilot training programs targeting young adults from underserved, urban communities--50 workers per year will be given the 40-hour Site Worker course; and (3) collaborate with two international unions (AFSCME and UAW) to assist in delivering hazardous waste operations/emergency response training to their New England membership.

3) University of California at Los Angeles ---- The California-Arizona Consortium (CAC) consist of universities, community colleges, and a community-based environmental justice organization. They will provide training to 12,000 workers in EPA Region 9. The program will provide a full range of hazardous waste and emergency response (HAZWOPER) courses including a national and 3 CAC train-the-trainer courses. This application

involves continued NIEHS support for training by several groups within the CAC. These are as follows: UCLA Labor Occupational Safety and Health Program (LOSH); UC Berkeley Labor Occupational Health Program (LOCH); University Extension at Davis (UCDX); and Arizona State University (ASU) and associate members--UC San Diego Extension (UCSDX); UCLA Extension (UCLAX); Rio Hondo Community College (RHCC); City College of San Francisco (CCSF); and Southwest Network for Environmental and Economic Justice. Some of the major objectives of the grant, beyond the specific direct training objectives (12,000 workers over 5 years who need HAZWOPER training), include: (1) training of minority, non-English speaking, limited literacy workers; (2) training of low income individuals and individuals in Environmental Justice organizations; (3) development of new courses beyond those utilized in previous NIEHS grants; (4) conducting various train-the-trainer workshops and conferences (supported by NIEHS, although not specified in RFA); (5) providing outreach programs to labor partners in the region; and (6) development of Spanish-language versions of certain courses.

4) Clark Atlanta University ---- CAU, an HCBU in Atlanta, Georgia proposes the development of a comprehensive educational and job training program through the EPA Minority Worker Training Program. It is designed to improve general educational skills and provide job training in basic construction and hazardous material abatement. The program will develop an intake/recruitment plan to identify 50 youth (18-25 years of age) from environmentally impacted neighborhoods. This intake/recruitment program will include an assessment of academic skill levels of the potential trainees to address reading, writing and mathematics. There will be two job training cycles for the identified target population. This population will be drawn from four urban neighborhoods in Atlanta and in New Orleans. The training objectives will be accomplished through seven operational components: 1) integrated learning component; 2) team teaching component; 3) recruitment - counseling component; 4) community outreach component; 5) professional/technical component; 6) site-specific community advisory board; and 7) program advisory board.

5) Service Employees International Union --- This application from SEIU, for the EPA Hazardous Waste Worker Training program, proposes to continue the current NIEHS funded program to provide hazardous materials awareness and operational response training. The target population is employed in a wide range of jobs in road maintenance, wastewater treatment, and acute-care hospitals. The target population while employed in forty states, is concentrated in California, Illinois, Maine, New Hampshire, New York and Washington. This project proposes training 8,000 workers in 8-hour awareness-level emergency response and 2,000 workers in 24-hour operations-level emergency response. These 10,000 workers will be trained over the course of the five year grant period. Additionally, they propose to train an additional 70 Worker-Trainers.

6) Laborers/AGC --- This proposal from the Laborers-AGC (L-AGC) and the International Brotherhood of Teamsters (IBT) represents a new joint effort. This application includes proposals for an EPA Hazardous Waste Worker Training Program (HWWTP), a DOE HWWTP and an EPA Minority Worker Training Program (MWTP). The proposals for the EPA and DOE HWWTP include a joint venture between the Laborers-AGC (L-AGC) and the IBT. In regard to their target populations, L-AGC and IBT members are central to EPA superfund clean up work in this country. They have demonstrated the need for trained environmental workers and their needs assessment is outstanding. L/AGC and IBT are proposing special outreach efforts to train underserved worker groups. This includes efforts with Native Americans, continued instruction in Spanish, and a new minority worker initiative.

7) Jackson State University ---- This proposal is for the EPA Minority Worker Training Program. The goals of the proposal from Jackson State University include the identification and recruitment of the target population and training in basic areas such as literacy and problem solving. The applicant will assist in the employment placement of the trainees who complete the program. The program will focus on specific communities where there is a need for environmental clean-up and for employment opportunities.

8) International Chemical Workers Union ----- ICWU, in cooperation with United Steelworkers, the University of Cincinnati and the Greater Cincinnati Occupational Health Center was first awarded a training grant from NIEHS in 1987. In 1990-92 four additional unions were added and two additional regional training centers began. This project proposes to train over the next five years: 2,900 members at the primary Cincinnati Center; 1,000 members at five regional facilities (adding three new facilities); develop members of the Coalition of Black Trade Unions (CBTU) as trainers, and expand the existing train-the-trainers program to meet increased field training programs which will reach an additional 12,500 workers over five years. To date, corporations at 90 sites have sponsored training by the Center. Extensive evaluation efforts have been conducted and will be continued and expanded. The proposed expansion of the program includes a partnership with the Coalition of Black Trade Unionists (CBTU), three new regional facilities to train workers, and to initiate an annual trainers conference with trainers from the 6 unions.

9) United Auto Workers Union ---- The UAW is proposing to train 5,468 participants in 266 programs over the 5-year period of the grant. The trainees will be recruited from employees that are engaged in assignments requiring response to chemical emergencies or handling of hazardous wastes. These individuals will be employed at small to medium UAW-represented establishments in the automobile, metal working and transportation equipment

sectors. The potential target audience is 350,000 UAW members. The training will emphasize hazards specific to the trainees' work site, and will be conducted at the work site on work time, using worker trainers (Local Union Discussion Leaders-LUDL) and UAW/UM project staff. The overall aims of the project are to: (1) conduct HAZWOPER and related awareness training for work site leadership; (2) develop training skills of worker trainers (LUDLs); (3) evaluate and document the effectiveness of the training; and (4) maintain quality control. As part of this overall plan, several new initiatives will be implemented including: (1) development of a Pollution Prevention workshop and a 40-hour Haz-Mat Technicians curriculum; (2) a long-term impact evaluation study at one site using "action research methodology"; and (3) evaluating the effectiveness of the peer trainers (LUDLs) as a training multiplier and quality enhancement tool.

10) American Federation of State, County and Municipal Workers --- The AFSCME Training and Education Institute (ATEI) is a consortium that includes the New England Consortium, the California-Arizona Consortium, the University of Maryland at Baltimore, the Greater Cincinnati Occupational Health Center and the Coalition of Black Trade Unionists (CBTU). The University of Alabama at Birmingham will act as a consultant and the Midwest Consortium along with the University of Kentucky will help with evaluations. The purpose of this consortium is to reach some of the 200,000 members who would likely be first responders to a release of hazardous materials in either public or private places. These include members who work in public works, highways, wastewater treatment, law enforcement, fire departments, sanitation and other jobs with emergency response responsibilities. Most AFSCME members are located in the Midwest and Northeastern parts of the U.S. ATEI proposes to train 3,500 workers in the first year at the First-on-the-scene, Operations, and Technician levels, as well as in confined spaces entry. A major focus will be on train-the-trainer courses.

11) Depaul University ----The members of this consortium include: Depaul University, the National Association of Minority Contractors (NAMC) and the Center for Workforce Education. Their program components include the EPA Hazardous Waste Worker Training Program (HWWTP) and the EPA Minority Worker Training program. Their training objectives include: 1) providing a series of five-day HAZWOPER training sessions to 240 participants in eight target sites; 2) providing hazard awareness, hazard communication and annual refresher training to 500 minority and disadvantaged workers in small business precision metal industry, hazard waste generators; 3) identifying and training two groups of 10-12 trainers, selected from a pool of participants in Objective 1 and others recommended by the Project Advisory Board and other cooperating entities.

12) University of Cincinnati -----The Midwest Consortium includes the University of Cincinnati, the Greater Cincinnati Occupational Health Center (GCOHC), Lakeshore Technical College, Michigan State University, University

of Louisville, Indiana University, Southeast Michigan Coalition for Occupational Safety and Health (SEMCOOSH), University of Illinois, University of Kentucky, University of Minnesota, and University of Tennessee. The Midwest consortium provides training in Illinois, Indiana, Kentucky, Michigan, Minnesota, Ohio, Tennessee and Wisconsin. Twelve training programs have been developed for waste site workers. The specific aims of the application are: continue providing hazardous waste worker (HAZWOPER) training, implement a confined entry program, document changes in the workplace due to the training, initiate partnership pilot programs to train trainers in communities where exposure may occur, introduce innovative technologies into the training program using CD-ROM. During the first year 5,945 workers will be trained in 341 programs and 33,225 workers will be trained during the 5 year period.

13) University of Alabama Birmingham ---- UAB proposes to train workers as member-trainers for First Responder Awareness level training, as well as technical task training. Up until now the key partner has been the United Paperworkers International Union (UPIU). However, the current proposal seeks to build a coalition involving not only UPIU but also the International Union of Electronic, Electrical, Technical, Salaried and Machine Workers (IUE); the Glass, Molders, Pottery, Plastics and Allied Workers International Union (GMP); and Johnson C. Smith University, a historic black institution in Charlotte, NC. Over the five year period they propose to have 145 courses and train 1,264 trainers and 4,350 trainees. The plan is to focus especially on training of workers as trainers to have the maximum impact possible, or what they call indirect trainees, estimated to be 63,200 workers. Train-the-trainers programs will include especially targeted efforts for women and for minorities. It is clear that the emphasis is shifting from direct training of trainers within all of the unions in the consortial arrangement.

14) International Union of Operating Engineers ---This application from the International Union of Operating Engineers (IUOE) includes proposals for an EPA Hazardous Waste Worker Training Program (HWWTP) and a DOE HWWTP. IUOE has developed a training plan to provide hazardous materials health and safety training to its membership, in particular the Hoisting and Portable (H&P) engineers and Stationary Engineers. They plan to expand and administer their on-going training effort to ensure that their membership who could work in hazardous waste cleanup have the skills to recognize and control hazards.

15) Alice Hamilton Consortium ---- This application includes proposals for an EPA Hazardous Waste Worker Training Program (HWWTP), a DOE HWWTP and an EPA Minority Worker Training Program (MWTP). The Alice Hamilton Consortium includes the Alice Hamilton Occupational Health Center (AHOHC), four local Committees on Occupational Safety and Health (COSH groups), six international unions who represent primarily construction workers in industries that generate and otherwise have to handle hazardous materials, and two

universities. The Department of Health Education at University of Maryland will evaluate the project and the Howard University School of Social Work will help provide access to minority populations. COSH groups are independent local organizations typically including representatives of workers, health and safety professionals, and others. The purpose of this application is to reach members of the represented unions and others to provide awareness level and operations level training.

16) University of Medicine and Dentistry of New Jersey --- This application from the New Jersey/New York Hazardous Materials Worker Training Center includes proposals for an EPA Hazardous Waste Worker Training Program (HWWTP), a DOE HWWTP, and an EPA Minority Worker Training Program (MWTP). The New Jersey/New York Hazardous Materials Worker Training Center has been funded by NIEHS since 1987. The Center members include the University of Dentistry and Medicine of New Jersey, Hunter College, New Jersey Department of Labor, New Jersey State Police, New York Committee for Occupational Safety and Health, New York Carpenters Labor Technical College, and the University of Buffalo. The applicant proposes to train 13,500 workers in the first year who are involved in hazardous waste site investigation or clean-up, emergency response, and operations at RCRA/TSD facilities in New Jersey, New York, and Puerto Rico.

17) International Association of Firefighters ----This application from the International Association of Fire Fighters (IAFF) includes proposals for an EPA Hazardous Waste Worker Training Program (HWWTP), a DOE HWWTP and a DOT HWWTP. The International Association of Fire Fighters (IAFF) proposes to disseminate training and evaluation materials, institute a train-the-trainer program where feasible and to train fire fighters directly when no qualified instructors are available. IAFF represents 85% of career fire service personnel in USA and Canada. They have provided training materials and direct training in hazardous materials emergency response since 1987. Their goals in this program are to: 1) determine which communities need the training; 2) train the trainers where possible (approximately 120 instructors will be trained under this program), and 3) conduct direct training (300 first responders 100 emergency medical technicians and paramedics, and 60 hazmat technicians each year).

18) Oil, Chemical and Atomic Workers Union ---- This application from the Oil Chemical and Atomic Workers Union (OCAW) includes proposals for an EPA Hazardous Waste Worker Training Program (HWWTP), a DOE HWWTP and a DOT HWWTP. Specific aims of this proposal are to "raise the standard of safety and health training throughout the petrochemical and nuclear industries." for their members; to insure their members receive the best possible training, and by creating a worker-to-worker training program conceived, designed, and implemented by the union's membership, to foster a "culture of safety." They seek continued funding for the Hazardous Waste Operations and

Emergency Response Training Program in conjunction with the Labor Institute and the Work Environment Program at University of Massachusetts, Lowell.

20) George Meany Center for Labor Studies ---- The George Meany Center for Labor Studies (The Center), in cooperation with eight rail union, the AFL-CIO Department of Occupational Safety and Health, the AFL-CIO transportation trades Department, and the Railway Labor Executives Association, submits this application for the EPA-HWWT program. The objective of the cooperative effort is to develop and sustain a nationwide training program for rail workers involved in the transportation of hazardous materials and hazardous waste. The target population is 166,800 conductors, brakemen, switchmen, carmen, signalmen, laborers, boilermakers, and maintenance of way workers. The program also intends to build with major railroads an infrastructure of peer instructor teams to deliver hazardous materials training and serve as a worksite resource for hazardous materials information. The training plan also calls for training a total of 240 peer instructors over a 5-year period and to provide annual refresher training for all trainers.

20) Kirkwood Community College ----This application from a consortium of community colleges, labor unions and other labor groups is coordinated and implemented by the Hazardous Materials and Research Institute (HMTRI) at Kirkwood Community College. It includes proposals for an EPA Hazardous Waste Worker Training Program (HWWTP), a DOE HWWTP and an EPA Minority Worker Training Program (MWTP). This consortium includes numerous entities and has identified a variety of workers requiring training. HMTRI and CCCHST will train 4,000 employees of business, industry and government who are required, because of their jobs, to receive hazardous materials (hazmat) training - 1910.120 certification and recertification.

Appendix 3  
PROGRAM EVALUATION: A SUMMARY REPORT  
NIEHS WORKER TRAINING PROGRAM  
BY TOM MCQUISTON

Rigorous program evaluation is essential in determining whether health and safety training has substantially improved protections leading to reduced occupational illness and injuries and their attendant social and financial costs. The significant resources that have been allocated for NIEHS hazardous waste training grants command that recipient programs demonstrate not only effective implementation, but impacts on the health and safety of workers. The findings reported here clearly demonstrate that NIEHS grantees have responded to the challenge for program evaluation and have documented monumental changes in health and safety of workers and communities across the U.S.

The need for program evaluation in the field of occupational health and safety training has been noted by Votjecky and Burkanovic (1984) and Wallerstein (1992). This need is further evidenced by a report from a national study of 100 occupational professionals, representing major U.S. corporations (Votjecky and Schmitz, 1986). Among the 74% who reported having formal training programs only half reported using evaluations, and about 40% of those were dissatisfied with the evaluations. The authors concluded that limited evaluation information is being collected, and what is collected, is little used. The underdevelopment of health and safety training program evaluation was further evidenced in a survey of the literature by Johnston et al (1994) who examined studies of the efficacy of occupational health and safety training. They concluded that the minimal available information indicated that training evaluation was not routine. They identified an average of less than three published training assessment studies per year over a 14 year period.

Not only has the NIEHS grant program provided training to hundreds of thousands of workers, managers, and health and safety professionals, it has made a substantial and measurable contribution to a more systematic, analytical and scientific approach to training program development, delivery and evaluation. Of the sixteen studies reviewed by Johnston et al (1994) that had been published since 1988, the first full NIEHS grant year, two were by NIEHS grantees (Brown & Nguyen-Scott, 1992; Luskin et al, 1992).

Subsequent to that review, five NIEHS grant-related articles reporting on program evaluation have been published (Gotsch & Weidner, 1994; Kaminski et al, 1995; McQuiston et al, 1994; Merrill, 1994; 1995). Five additional articles and one manual, related in whole or in part to NIEHS grant programs, have recently been published (Abatemarco et al, 1995; Brown, 1995; Cole et

al, 1994; Ginzberg, 1992; Siqueira & Marquardt, 1995; Szudy & Arroyo, 1994). In addition to the published literature, a review of over 40 NIEHS grantee evaluation reports and documents (NIEHS, 1995) have provided abundant evidence of program achievements across a broad scope of measures and trainee populations.

NIEHS grantees' program evaluations have been both qualitative and quantitative and have included findings that are both descriptive and inferential. Therefore, while the body of NIEHS grantee evaluation reports provide an expansive and valuable composite picture of program impact, much of the data gathered and the evaluation methods used do not allow generalizations either within or across programs or to training circumstances outside the scope of the data presented.

Evaluation of NIEHS grant programs has occurred on the levels of individual students, training groups, courses and programs. Effects have been measured at the time of training as well as in 3 to 12 month follow-up studies. Data has been collected from a combination of workers, managers, and health and safety professionals working in broad array of industrial, municipal, and hazardous waste remediation sites performing routine and emergency response activities. The positive findings amongst this diverse group demonstrate that these grant programs are highly valued by both workers and management and have had an major impact on hazardous materials related health and safety across the U.S.

Based in large part on NIEHS grant experience, Gotsch and Weidner (1994) outlined methods, guidelines and strategies for training program evaluation aimed at measuring impact and assuring quality. In keeping with many of these considerations, NIEHS grantees have undertaken program evaluations with a variety of goals including assurance of quality, determination of factors underlying program success, and assessment of trainee program effectiveness and impact. The following are the major evaluation findings reported to date.

One of the most immediate and commonly used measures of program impact is the value trainees place on their educational experience. In assessing students perceptions of the quality and usefulness of NIEHS funded training programs grantees have reported on thousands of positive student ratings of programs (Alice Hamilton, 1995; Andersen, 1995; BCTD, 1995; UBC, 1995; CCC, 1994; 1995; Hepel, 1993; IAFF, 1992; IAFF, 1994; ?Laborers, 1993; Lippin, 1994; Luskin et al, 1992; McQuiston et al, 1994; Merrill, 1991, Merrill, 1994; Midwest Consortium, 1993; 1994; NIEATJUF, 1993, 1994; NY/NJ, 1995; OCAW, 1995; Oper, 1994; Ruttenberg, 1994; 1995; Siqueira & Marquardt, 1995; UAB, 1993; University of Kentucky, 1995; University of Michigan, 1994b).

Several Programs have measured positive program impact by documenting either students' perceptions of usefulness of course materials and information or actual post-training use of these resources (CCC, 1994; Luskin et al, 1992; McQuiston et al, 1994; Merrill, 1994; Midwest Consortium, 1993; 1994; NY/NJ, 1995; OCAW 1993; 1994; UBC, 1995). In several evaluation studies trainees have provided self-assessments of increased knowledge, skill and preparedness related to hazardous materials (Alice Hamilton, 1995; CCC, 1995; McQuiston et al, 1994; Midwest Consortium, 1993; 1994; NY/NJ, 1995; Oper, 1994; Ruttenberg, 1994; 1995; UAB, 1993; University of Kentucky, 1995). In other studies evaluators have documented post-training improvements using more objective procedures such as testing of knowledge, decision-making, performance in realistic hazardous waste and emergency response simulations, or a combination of these methods (CCC, 1993; 1994; 1995; Geo. Meany, 1992; ??Laborers, 1992; 1994; Luskin et al, 1994; Midwest Consortium 1993; 1994; Oper, 1994; Rice et al, 1991b; Ruttenberg, 1994; 1995; UBC, 1994; 1995; University of Kentucky, 1995).

An educational objective of virtually every NIEHS funded training program is to raise awareness, and concerns about hazardous materials, and to positively affect health and safety attitudes. Evaluators have reported a wide array of post-training enhancements in these areas for thousands of students (Lippin, 1994; Luskin et al, 1994; OCAW, 1993; 1994; Ruttenberg, 1994; 1995; University of Kentucky, 1992; University of Michigan, 1992; 1993d; 1994b). Perhaps the most dramatic evidence of training program success comes from specific information on post-training hazardous materials incidents. Both workers and managers who have experienced these incidents have related their perceptions of the programs' impacts in improving response actions and saving lives, health and property (CAC, 1993; Geo. Meany, 1993; 1994; ?Gotsch & Weidner, 1994; Lippin, 1994; Luskin, 1994; McQuiston et al, 1994; NY/NJ, 1995; Ruttenberg, 1994a; 1995; Siqueira & Marquardt, 1995; University of Michigan, 1993b).

Positive changes in measures of personal protective practices have been recorded by a number of evaluation programs (Alice Hamilton, 1995; Kaminski et al, 1995; Lippin, 1994; Luskin et al, 1992; OCAW 1994; Ruttenberg; 1995; University of Kentucky, 1995; University of Michigan, 1992; 1993c; 1994a; 1994b). Evaluators have also documented systemic changes in work site programs, policies, plans and equipment that have been attributed to NIEHS training grant programs (Brown & Nguyen-Scott, 1992; CCC, 1993; 1994; Kaminski et al, 1995; Lippin, 1994; McQuiston et al, 1994; Merrill, 1991; 1994; OCAW, 1994; Ruttenberg, 1994; 1995; University of Michigan, 1992; 1993d; 1994a; 1994b) Finally, a number of studies have looked at the ability of NIEHS funded training programs to catalyze additional site-based training. Several programs have documented that the compounded benefits of "secondary" training or sharing of information which has reached hundreds of

thousands of coworkers including managers (Alice Hamilton, 1995; CCC, 1993; Kaminski et al, 1995; IAFF, 1992; 1994; 1995, Lippin, 1994; Luskin et al, 1994; McQuiston et al, 1994; OCAW, 1993; 1994; Ruttenberg, 1994, 1995; UAB,

1994).

**Appendix 4:**  
**National Clearinghouse for Worker Safety and Health Training for  
Hazardous Materials, Waste Operation, and emergency Response**

The National Clearinghouse for Worker Safety and Health Training for Hazardous Materials, Waste Operations, and Emergency Response provides the George Meany Center with a resource center of the latest information on training workers who are exposed to hazardous materials, emergency response and environmental cleanup. Additionally, two technical workshops on campus each year bring national leaders in hazardous waste training from labor, government, academia and industry to the Center.

A five year renewable contract for the Clearinghouse was awarded on May 1, 1995 to Ruth Rutenberg & Associates, Inc., with the George Meany Center for Labor Studies as a major subcontractor. The Director, an Assistant Director, and three research associates are employed by Ruth Rutenberg & Associates, Inc. The other Assistant Director, Industrial Hygiene support, and two full time Clearinghouse staff members are employed by the Meany Center

The Clearinghouse is the information exchange and dissemination mechanism for 18 worker training programs whose support of \$30 million from the Environmental Protection Agency (EPA) and the Department of Energy (DOE) monies is intended to set a high standard for health and safety training to protect workers in the burgeoning environmental technology sector. Eleven of the prime awardees (including the Meany Center's Railway Workers Hazardous Materials Project) and 12 of the sub-awardees are AFL-CIO affiliates. Administration of the program by one of the National Institutes of Health--the National Institute of Environmental Health Sciences (NIEHS) --- enhances the programs's stature and credibility. Close to 500,000 workers have received hazardous materials training in the past eight years through the NIEHS-funded programs (refresher training is also required on an annual basis).

The Clearinghouse serves as a resource center housing numerous sets of model curricula produced under the award and which training providers use as reference in developing new courses or improving existing ones. The Clearinghouse is the only authorized distributor of these curricula. In addition to the curricula, the resource center also houses hundreds of basic reference texts, key periodicals, books, regulatory information, and other documents of relevance to occupational and environmental health and safety. The resource center is open to everyone.

A technical information specialist is available to answer questions and is located in the office next to the resource center.

A March 1995 technical workshop, organized by the Clearinghouse, was the first of two Innovative Technology workshops dealing with the integration of

health and safety into the design of new environmental remediation technologies. At the end of that conference a working guidance document was developed. In November 1995, a second workshop on innovative technology will be held and participants will mark-up the draft guidance document to produce final guidance on the integration of safety and health into the design of technologies. A technical workshop scheduled for March 1996 will be titled, "Measuring and Evaluating the Outcomes of Training." Workshops are held on the George Meany Center campus and proceedings are expected to be published in refereed journals.

A monthly Newsbrief is written and produced by Clearinghouse Staff, and is distributed to approximately 200 training program staff members and interested parties. The Newsbrief provides information on HAZMAT matters pertinent to awardees, including monthly columns on hazardous waste news, government agencies, environmental justice, and industrial hygiene. Also included monthly is an Awardee resource exchange to promote the sharing of relevant resources. Upcoming events are also noted, as well as summaries of events which have been attended by either the Clearinghouse or awardees. In August 1995 the Newsbrief became available electronically, via the Internet. Subscriptions to those not associated with the NIEHS program are available at \$25 per year.

The Clearinghouse is also responsible for outreach on the training program and response to public inquiries from those seeking information on health and safety training for hazardous waste operations and emergency response. The Clearinghouse distributes thousands of brochures on the program and individual training providers throughout the year at trade shows and conferences. The 1995 exhibit schedule has included attendance at one of five National Environmental Justice Advisory Council meetings, the National Association of Environmental Professionals Annual Conference, the Mid-Atlantic Industrial and Hazardous Waste Conference, and the Ground Breaking of the Hazardous Materials Management and Emergency Response Training Facility in Hanford, Washington. Still to be attended are the DOE's Training Resources and Stat Exchange Annual Conference and the meeting of the Society for Occupational and Environmental Health.

Another component to the Clearinghouse is its ongoing research program--focussing this year on measuring the outcomes of training, on profiling the labor market for hazardous waste workers and emergency responders, and on environmental justice and the new NIEHS Minority Worker Training Program.

The Clearinghouse is now on-line via CompuServe, which widens its capabilities to disseminate information, to receive inquiries, to access the latest information. While awardees are on campus for the next technical workshop, special sessions will be scheduled, at their request, to aid them in the use of the CD-ROM capacity now available in the meany Center library, as well as in the use of the Internet.

Appendix 5:  
Awardees of the NIEHS Minority Worker Training Program (MWTP)

The recipients for the MWTP and a description of the programs are listed on the following pages.

**Principal Investigator/Institution:**

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2344

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**Other Participating Organizations:**

University of Alabama at Birmingham  
Laborers International Union of North America (Local #145) -LIUNA

**Target Training Populations:**

Minority youth in disadvantaged communities in Mississippi

**Program:**

The goals of the program from Jackson State University (JSU) includes the identification and recruitment of the target population and training in basic areas such as literacy and problem solving. JSU will assist in the employment placement of the trainees who complete the program. The program will focus on specific communities where there is a need for environmental clean-up and for employment opportunities with assistance from LIUNA Program evaluation and job placement and hazardous waste worker training provided by University of Alabama at Birmingham (UAB). UAB is a recognized NIEHS trainer which successfully trained 13,439 workers under a five-year NIEHS Workers Training Grant. In addition, the LIUNA Union will partner with JSU to conduct apprenticeship training. The union will also, if necessary, train participants in basic trade skills.

Jackson State University (JSU) has been conducting literacy and pre-employment training since 1987. Since that time they have successfully trained 1,450 Jackson-area adults in the area of basic and intermediate literacy skills, GED preparation, pre-employment and job-specific training. Further, they have successfully conducted OSHA training in

1990-1991; training 342 Mississippi workers as site and task specific chemical safety trainers. Their ability to conduct successful recruitment is further enhanced by its affiliation with local community groups/agencies as well as designated staff who will be hired for this purpose.

**Principal**

:

Robert Bullard, Ph.D.  
Clark Atlanta University  
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Atlanta, Georgia 30314

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6909

**Fax:** 404-880-

**Other Participating Organizations:**

Laborers-AGC Training Fund  
Xavier University

**Target Training Populations:**

The program will develop an intake/recruitment plan to identify youth (18-25 years of age) from environmentally impacted neighborhoods in Atlanta, Georgia and New Orleans, LA.

**Program:**

Clark Atlanta University, a Historically Black University in Atlanta, Georgia proposes the development of a comprehensive educational and job training program. Through a partnership effort, which includes academic institutions, community groups, business/industry and organized labor, including Clark Atlanta University, Xavier University and the Laborers-AGC Training Fund. This project represents a unique opportunities to link HBCUs with the community and labor organizations in ways that improve the inner-city environmental and empower youth through employment. It is designed to improve general educational skills and provide job training in basic construction and hazardous material abatement. This program is strengthened by the proximity of the applicant organization to a number of Empowerment Zones, federally funded project to improve the urban neighborhood. These Empowerment Zones are communities of low socioeconomic populations exposed to a broad array of social, economic and environmental stressors. The program fits perfectly the stated priorities of the Empowerment Zone strategic plan in that it will: 1) Increase the number of meaningful jobs that could be support of community based businesses; 2) Increase control of financial resources at the grassroots level; and 3) Provide job training for zone residents.

There will be two job training cycles for the identified target population. This population will be drawn from four urban neighborhoods in Atlanta and New Orleans. The New Orleans component will be conducted by Xavier University. The training objectives will be accomplished through

seven operational components: 1) integrated learning component; 2) team teaching component; 3) recruitment - counseling component; 4) community outreach component; 5) professional/technical component; 6) site-specific community advisory board; and 7) program advisory board. Participants will then complete an environmental job training program through the Laborers-AGC Training Fund in which the youth will receive (240 hours) of concentrated training in basic construction and environmental abatement skill. After completion of the concentrated training, the participants will become enrolled in the Laborer's Training Fund Apprenticeship Program.

**Principal Investigator/Institution:**

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Laborers-AGC Education and Training Fund  
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1459

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**Other Participating Organizations:**

Laborers-AGC Health & Safety Fund  
Building & Construction Trades Department (AFL-CIO)  
Cuyahoga Community College  
San Francisco State University

**Target Training Populations:**

Minority Youth from the San Francisco Bay area and Cleveland, Ohio

**Program:**

The L-AGC, San Francisco State University, and Cuyahoga Community College will form a consortium to implement a comprehensive, integrated minority worker training program. The consortium will recruit, train, employ and bring into union membership minority workers in the San Francisco area and the Cleveland, Ohio. The initial recruitment goal is 50 minority youth between the ages of 18 and 25 from both Cleveland and the San Francisco area.

The training program will take place in two stages. Stage 1 will be devoted to "pre employment" training. In this stage the trainee will be exposed to job readiness classes, physical fitness training and any necessary remedial education. Stage 1 will be conducted by the staff and project officers at both San Francisco State University and Cuyahoga Community College in collaboration with many community-based organizations. The participating organizations have linkages to major racial and ethnic minorities which should enhance efforts to identify and access the eligible target worker population. They also have experience in dealing with the multifactorial problems of racial/ethnic minority communities, including unemployment, and weakness in academic background. The direct involvement of San Francisco State University and Cuyahoga Community College - multi purposed, co-educational public institutions of higher education - provides some grounds for optimism that trainees may be encouraged to pursue academic programs leading to a college degree. Stage 2 training, conducted by the Laborers-AGC, will be concentrated training in basic construction and

environmental abatement skills. Laborers-AGC has a relatively long record of experience in training hazardous waste workers. A number of incentives are built into the program - stipends, child care, transportation, etc. - increasing the probability of maximum participation by the target worker population. Upon completion of Stages 1 and 2, the trainee will move into a mentoring program, in which he or she will be paired with an experienced craftsman.

**Principal Investigator/Institution:**

**Program**

**Contacts:**

Audrey Gotsch, Ph.D. University of Medicine & Dentistry Director of New Jersey (UMDNJ) New Jersey/New York Consortium 681 Frelinghuysen Rd, Room 236 303 PO Box 1179 10027 Piscataway, NJ 08855-1179	Richard E. Dwyer, Ed.D Health and Safety Coord.	Michelle DePass, BA, JD Executive NY City Environmental Justice Alliance 271 W 125th St., Rm 303 New York, NY
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<b><u>Telephone:</u></b>	908-445-0220	212-727-2224	212-866-4120
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**Other Participating Organizations:**

Hunter College, School of Health Sciences  
 New York Carpenters Labor Technical College including White Lung Association of NJ  
 New York City Environmental Justice Alliance, including El Puente de Williamsburg, Magnolia Tree Earth Center, South Bronx Clean Air Coalition, and West Harlem Environmental Action

**Target Training Populations:**

Minority Youth in New Jersey and New York.

**Program:**

This program is from the New Jersey/New York Hazardous Materials Worker Training Center forming an alliance, the Minority Workers Environmental Training Alliance, which will include eight organizations and institutions. The goal of the Alliance is to employ young people of color in the environmental clean up field. The training and counseling program will focus on literacy, math, job and personal skills, as well as environmental and safety awareness. Courses will be taught by experts from various disciplines and will include instructors from each of the Alliance organizations. The training methods will emphasize adult teaching techniques, including small group activity methods. Small

group methods encourage the formation of learning alliances and model group problem - solving skills which are essential at construction and environmental remediation work. In addition, the Alliance foresees opportunities to encourage trainees who complete this program to continue their education to a college degree. The Alliance clearly recognizes the problems it faces in the implementation of this program (eg. high drop out rate experienced by apprenticeship programs, and the social and economic stressors on the potential trainees), and has developed strategies on how to deal with such obstacles.

At the completion of the program "graduates" of the program will be qualified to perform a range of environmental work and the graduates of the program will be linked to local employers, contractors and schools. The training program will recruit individuals from disadvantaged communities into a pre-Apprentice Training Program conducted by the New York Carpenters Labor Technical College. Trainees will be trained to conduct four types of environmental work: 1) hazardous material handling and remediation; 2) asbestos abatement; 3) lead paint abatement; and 4) confined space entry.

**Co-Principal Investigators/Institution:**

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**Other Participating Organizations:**

Ironworkers National Training Fund  
Painters and Allied Trades Labor-Management Fund (PAT)  
Sheet Metal Workers Training Fund (SW)  
Operative Plasterers and Cement Masons Union (OPC)  
Delgado Community College  
Community College of Southern Nevada  
National Association of Minority Contractors (NAMC)  
International Union of Operating Engineers (IUOE)

**Target Training Populations:**

Minority youth from New Orleans, Las Vegas, Los Angeles, and Minneapolis.

**Program:**

This program is from the Environmental Justice Construction Consortium, a national partnership of the Carpenters, Painters, Operating Engineers, Plasterers, Ironworkers, Sheet Metal Workers, Roofers unions (representing 1,000,000 members), the NAMC (4000 members nationally), Delgado Community College, and Community College of Southern Nevada. The Consortium is led by the Carpenters Health & Safety Fund based in Washington, D.C. with training facilities and staffs to be used across the country. They have demonstrated a record of recruitment, training and placement of students from a central worker population doing superfund clean up work.

The Carpenters Health & Safety Fund has also developed an excellent and perhaps leading program of professional development of its trainers who have been recruited from the ranks of labor educators, occupational health educators, and apprenticeship instructors. They are given solid initial training, trainer refreshers, and periodic substantive occupational health upgrade classes. The Carpenters Health & Safety Fund has made additional efforts to work with the National Association of Minority Contractors and has an environmental justice coordinator on staff to help reach under-served students in this training effort. Major efforts will be to work with the historically black colleges, through Delgado Community College, and build outreach to Hispanics through Community College of Southern Nevada. The plan is to identify the students from each city, put them into a pre-apprenticeship skills building program which will incorporate remedial education, GED programs, and individual skills and career counseling. A pathway to full apprentice status is planned as part of the overall objective. There will be diversity training for instructors. In addition, there will be work with employers for placement of students as part of the plan.

**Principal Investigator/Institution:**

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Office of Applied Innovations  
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0616

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**Other Participating Organizations:**

People for Community Recovery, (PCR) Inc.  
Center for Workforce Education, Laubach Literacy International

**Target Training Populations:**

Minority Youth in Southeast Chicago, IL

## **Program:**

This program represents a consortium whose members include: DePaul University, Office of Applied Innovations (OIA); People for Community Recovery, (PCR) Inc.; the Center for Workplace Education, Laubach Literacy International (CWE); and , in an advisory and supporting role, the National Association of Minority Contractors (NAMC); and the Construction Education Fund of the Associated Builders and Contractors (CEF). PCR is responsible for the provision of: outreach, recruitment, intake assessment, counseling and support services, and job development and placement. OAI is responsible for the provision of: technical training and education program design and delivery, curriculum development, staff-development, management support and capacity-building. CWE is responsible for the implementation of: the advisory committee, linkages and coordination with educational and employer resources, information dissemination, and program evaluation. These consortium members have a successful history of recruitment and placement of the target population in hazardous waste and/or toxic material containment or abatement training and employment programs.

The specific objectives of the project are: 1) Conduct outreach, recruitment and assessment of prospective applicants who reside in Altgeld Gardens, a Chicago Housing Project, the surrounding area, and those living in the Empowerment Zone. 2) Enroll 48 youth that successfully complete the initial assessment phase in the following component of hazardous waste operation and emergency response, lead abatement, asbestos abatement, and underground storage tank cleaning. 3) Provide educational enhancement to prepare students to enter an apprenticeship program in the construction trade. 4) Provide at least 36 graduates of the program with jobs in the environmental industry. 5) Provide on-going counseling and follow-up support. 6) Develop a Protege Mentoring and work-base education component to enhance the trainees employment opportunities.

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1327

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**Other Participating Organizations:**

University of Maryland  
Howard University

**Target Training Populations:**

The project will be focused on low income minority youth in the Washington, DC and Baltimore, MD area.

**Program:**

The Alice Hamilton Consortium is proposing to conduct an innovative pilot program to provide health and safety training to urban minority youth in the Washington, D.C. and Baltimore, MD areas. The Alice Hamilton Occupational Health Center (AHOHC) will provide the worker health and safety training for this application. Howard University School of Social Work will provide recruitment, life skills training, mentoring programs, arrange for supplemental training in literacy, communication skills, and math, and serve to facilitate the successful completion of the environmental training. The AHOHC has devised a methodology to successfully recruit workers from the target population. They have established a partnership with the Howard University School of Social Work's Family Research and Resource Center (FRRC). FRRC has a relationship with a network of non-profit agencies. Many of these agencies have trained inner city youth in job readiness. In addition, the University of Maryland School of Health Education and Human Performance will provide the evaluation components. The identified target population consists of four groups of youth in the Washington, D.C. area and one group in Baltimore, MD.

The training will provide the youth with essential life skills such as communication, conflict management, stress management and elements of self esteem and teamwork. The remainder of the course includes curriculum for lead abatement, asbestos abatement, and hazardous waste worker training. These training courses have been lengthened to increase the hands-on training time and to address literacy and language skills. With the outreach experience of AHOHC in training minority and Hispanic populations in other training

programs, AHOHC brings to this new pilot program a history of reaching underserved populations.