

## **CONNECT News**

**C**ommunity Support, **N**etworking, and Assistance for **E**nvironmental **C**areer **T**raining

February 2020

The Hazardous Materials Training and Research Institute (HMTRI) with a cooperative agreement from the US Environmental Protection Agency provides technical assistance to communities interested in developing and delivering environmental job training. “CONNECT” is HMTRI’s acronym for community support, networking, and assistance for environmental career training. Each bimonthly e-publication of CONNECT News features topics of interest to organizations delivering environmental training. This issue addresses the types of jobs Environmental Workforce Development and Job Training (EWDJT) graduates fill upon graduation. Past CONNECT issues along with a comprehensive collection of environmental workforce resources are available at the HMTRI Toolbox. <https://brownfields-toolbox.org/>

## **Environmental Workforce Development Jobs**

### **EPA’s mandate to train community residents for environmental jobs**

Before discussing the types of jobs filled by Environmental Workforce Development and Job Training (EWDJT) graduates, it is important to examine the goals and objectives of the EPA EWDJT program.

A more appropriate title for the EWDJT program might be *The Environmental Justice Workforce Development Program*. That is because EPA’s environmental workforce development and training program grew out of and is justified by EPA’s commitment to environmental justice. The EWDJT program furthers environmental justice by supporting a program that enables underserved and low income residents living in communities historically affected by a lack of economic investment, health disparities and environmental contamination to have an opportunity to participate in community revitalization and environmental cleanup.

The first environmental justice (EJ) grant dates back to 1991 with Cuyahoga County Community College. The objective of early job training pilot projects was to examine the feasibility of training and employing local residents to assist the cleanup of local contaminated communities. In 1995, EPA announced the first brownfield job training grant supported by a memorandum of understanding with the U.S. Department of Labor focusing on job training and employment opportunities created by brownfields cleanup.

The rationale for locating EWDJT in EPA instead of the Department of Labor is the specialized nature of technical training required to address local environmental conditions that vary from community to community. Additional support for EPA’s commitment to environmental training was the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) which specifically allowed EPA to provide environmental job training. By 1999 the first

100 EWDJT graduates entered the job market for what was to develop into today's EWDJT program. EWDJT is located in EPA's Office of Brownfields and Land Revitalization (OBLR) with the following mandate:

- EWDJT furthers environmental justice in contaminated communities.
- EWDJT provides environmentally related job opportunities for community residents.
- EWDJT increases the availability of trained and certified workers.
- EWDJT addresses local environmental concerns.

Authorization under CERCLA, however, did not ensure program funding. EWDJT in the past as today must be funded as part of the agency's overall appropriation and EPA program offices that value the importance of environmental justice and community workforce development. Currently, the EWDJT program is supported by OBLR and six other program offices with the following goals and objectives:

- Solid waste management or cleanup training, such as recycling, demolition debris collection, landfill operations and waste minimization efforts.
- Superfund site cleanup, innovative and alternative treatment technologies training, such as "green remediation" technologies, phytoremediation, bioremediation, sampling and reuse.
- Wastewater treatment training, such as wastewater treatment facility operations, treatment, collection, storage, and disposal.
- Emergency planning, preparedness, and response training, such as training for local emergency response plans and outreach to the community.
- Spill response and cleanup, such as industrial and environmental spills and natural disasters.

- Enhanced environmental health and safety training, such as safety awareness, safe work practices, lead abatement, lead renovation, repair, and painting (RRP), asbestos and pesticide worker training.
- Integrated pest management (IPM) training such as training in the safe use of pesticides.
- Alternative energy technologies, such as training in the installation of solar, wind, or geothermal power systems or alternative fuels including preparing sites for renewable energy installation.

This historical summary of EWDJT and funding is essential in understanding how participants are trained, certified and the types of jobs they fill after graduation. It is the expectation that EPA program offices contributing funds to EWDJT will demonstrate their commitment to environmental justice by providing jobs and improving the quality of the workforce in their particular areas of interest. Clearly, supporters of EWDJT would like graduates to fill jobs in their respective fields. While EWDJT training directs graduates to those positions, jobs in today's workforce are multifaceted. Employment opportunities cross many occupations and economic activities.

### **Job titles are not always related to skills, knowledge and certification requirements**

Many environmental jobs are embedded in occupations without environmental labels. Employers not having direct involvement in solid or hazardous materials often realize they need individuals with technical knowledge of environmental, health, safety and/or brownfields issues. Insurance companies, banks, realtors, architects, shippers, landscaping and governmental organizations are just a few examples of employers looking for workers with attributes that EWDJT graduates can provide. To demonstrate this

point, here are a few careers that match well with the EWDJT mission and training:

- Welders and refinery workers may need asbestos training when working around insulated piping.
- Painters may require lead testing, remediation training and confined space certifications.
- Highway and railway workers may work in areas where hazardous materials are present.
- Law enforcement and first responders often encounter situations involving hazardous materials.
- All trades working with potential hazardous exposures are required to have 1910.120 certifications.
- Many construction and deconstruction occupations require environmental remediation skills and certifications.
- Directing traffic involving hazardous materials movement or located on hazardous waste sites requires environmental certifications.

Since many environmental jobs are embedded in traditional occupations and a variety of economic activity, EWDJT jobs extend beyond careers with environmental titles. Program graduates fill jobs that value or require the certifications, skill and knowledge attributes acquired as part of EWDJT program.

### **Preparing graduates for environmental jobs**

As previously noted, because of the diverse nature of local contamination, there is not a specific training program that addresses every community's concern. Specific training is customized after conducting a local labor market assessment and input from an advisory board, local employers and EPA guidelines. Hazardous Waste Operations and Emergency Response (HAZWOPER - 1910.120) is the only

training required by all EWDJT programs. Other examples of training offered by EWDJT grantees include the following area of study;

- Site remediation, assessment, inventory and analysis
- Asbestos abatement
- Lead abatement
- Lead renovation, repair and painting (RRP)
- Mold remediation
- Meth lab cleanup
- Spill response
- Underground storage tank removal
- Confined space
- First aid, CPR, blood borne pathogens
- HazMat transportation
- Commercial driver's license (CDL)
- Forklift operation
- Leadership in Energy and Environmental Design (LEED)
- Building trades related to constructing beams, caps, synthetic barriers, pumping facilities, and similar structures to remediate contamination
- Computer-aided design and drafting (CADD)
- Geographic information systems (GIS)

Training offered by each particular grantee will have a major influence on the types of jobs filled by EWDJT graduates. With proper needs assessment and employer input, each program will address the employment needs of the community. Those needs will vary from community to community depending on the nature of local contamination, the economic environment, planned and projected projects requiring a trained and certified workforce.

### **Organizations where EWDJT graduates work**

Examples of employers that provide jobs to EWDJT graduates include the following organizations.

- Local, state and federal government environmental offices and programs
- Businesses having a chemical or transportation orientation
- Insurers specializing in hazardous materials, production and transport
- Construction, deconstruction, remodelers and development corporations
- Municipal agencies (water, solid waste, transportation and facilities management)
- Community development corporations
- Regional and national manpower firms
- Training consultants
- Environmental, health or safety equipment sales or distribution
- Material handling firms
- Hospitals
- Production facilities with environmental, health or safety concerns
- Mining and mineral extraction companies
- Energy firms (including oil, gas, wind, solar and innovative energy technologies)

### Linking environmental jobs with environmental training

DACUM is an acronym for Developing a Curriculum. It is a process that analyzes an occupation systematically. A DACUM sometimes called a task analysis is used to develop skill, knowledge and certification requirements associated with various jobs. DACUM workshops are facilitated by a specialist who brings together participants from business and industry to provide input that links job performance to training and skills development. The DACUM workshop is an effective tool that can supplement labor market assessments and better define jobs suited to EWDJT graduate training.

The Advanced Technology Environmental Education Center (ATEEC), a partner of HMTRI, is a national Center of Excellence funded by the National Science Foundation. ATEEC's mission is the advancement of environmental technology education through curriculum, professional and program development.

ATEEC regularly publishes reports and DACUM charts which identify occupational categories and corresponding tasks in the environmental technology field. These occupational categories can relate to potential jobs associated with EWDJT. ATEEC has conducted workshops and developed DACUM charts for the following environmental technology occupations:

- Agriculture Technician, Precision
- Emergency Preparedness Management
- Energy Technician, Residential
- Energy Auditor, Residential
- Environmental Compliance and Technology Technician
- Hazardous Materials Technical Coordinator
- Natural Resource Technician
- Pollution Prevention Specialist
- Pulp and Paper Maintenance Technician
- Pulp and Paper Operator
- Safety and Health Coordinator
- Solid Waste Technician
- Spill Response/Environmental Cleanup Technician
- Sustainable Practices Professional
- Waste Management Specialist
- Wastewater Plant Operator
- Water Treatment Technician
- Wind Technician

These DACUM charts are available on ATEEC's website. <https://ateec.org/services/dacum>. DACUM charts are another tool that when combined with labor market assessments,

advisory committee recommendations and employer input direct the EWDJT training and certification program. Training and certification will have a major influence in determining where EWDJT graduates will find employment and the positions they will fill.

### **Job titles associated with EWDJT graduates**

As previously discussed, “environmental technician” is a generic term that represents workers with a variety of skills, knowledge and certifications that are often embedded in a broader job title. Graduates of the Environmental Workforce Development and Job Training program may fit perfectly into jobs which do not include “environmental” or “technician” in their title. Recently HMTRI reviewed job titles associated with graduate placements from a sample of 16 EWDJT grantee programs. Results are presented in the [February 19th Professional Learning Community \(PLC\)](#) post session notes. The Environmental Workforce PLC meets every other Wednesday from 2:00 pm to 2:30 pm. Each PLC session addresses a topic related to the development of successful Environmental Workforce Development and Job Training programs. Session 224 addressed EWDJT job titles and may be accessed at <https://brownfields-toolbox.org/> under the menu for the latest PLC sessions. Below are examples of job titles from that review:

- Environmental Specialist
- Environmental Technician
- GIS Technician
- Equipment manager
- Field Technician
- Forklift Operator
- Hazardous Waste Technician
- Safety Officer
- Waste Management Technician
- Abatement Worker
- Asbestos Worker/ Asbestos Handler

- Carpenter
- Crew Member
- CDL B Driver's License - Environmental Remediation
- CDL B Driver's License - Waste Management
- Chemical Plant Security Guard
- Construction Laborer
- Laborer-Renovating
- General Laborer
- Environmental Construction Laborer
- De-manufacturing Specialist
- Emergency Response Technicians
- Spill Response Technician
- Environmental Scientist II
- Landscaper
- Grounds Labor/ Pesticide Management
- Lead Solar Crew
- Solar Installer
- Maintenance Technician
- Material Handler
- Nuclear & Hazardous Waste Technician 2
- Nurse's aide
- Production Tech

The list of jobs filled by EWDJT graduates continues well past 145 positions. More job titles would appear if the sample size was expanded. Titles such as “crew member”, “driver”, “environmental technician” and “maintenance technician” are popular generic titles for EWDJT graduates but give little detail regarding worker expectations, knowledge, certifications or life skills. The general nature of job titles demonstrates the importance of discussing specific requirements associated with prospective employers. Experienced grantees have indicated that the best way to approach careers best suited for their graduates is to discuss job descriptions, worker skill requirements and employment expectations directly with potential employers.

### Job opportunities for EWDJT graduates

Job opportunities for EWDJT graduates are large and diverse. Successful grantees who conduct proper labor market assessments recognize the broad nature of hazardous materials jobs coupled with health, safety and life skills training. In future CONNECT issues we will discuss community and labor market assessments, establishing effective advisory boards, placement and job tracking strategies.

[Join Our Listserv](#)

HMTRI is part of Eastern Iowa Community Colleges and has provided environmental workforce development technical assistance since the inception of EPA's Brownfields Initiative.

*CONNECT notes presented represent individual opinions and ideas from Professional Learning Community participants and EWDJT grantees. They do not represent EPA policy, guidance or opinions and should not be taken as such.*

*For more information on HMTRI technical assistance services or to be added to our Grantee and Community Outreach Listserv, please contact Heather Ballou at [hkballou@eicc.edu](mailto:hkballou@eicc.edu).*

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