

## STRATEGY AND NEED

### DOE'S HAZARDOUS WASTE PROGRAM

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#### ABSTRACT

At the beginning of fiscal year 1984, the Director of DOE's Office of Defense Waste and Byproducts Management initiated a Hazardous Waste Program to review, coordinate, integrate, and report to Headquarters the hazardous and mixed waste problems at the defense related facilities. The Oak Ridge Operations Office has been given the lead responsibility for this program.

This paper will review the early history and need of the DOE program. The organization, developments, status, and future plans of the new program, along with a discussion of the research and development presently underway will be presented.

The Department of Energy, as a successor to the AEC, has under its responsibility the Atomic Energy Act of 1954, and as such has had autonomy in handling hazardous radioactive waste. DOE has had exclusive control of environmental matters and waste treatment and disposal within its fenced boundaries and has maintained close scrutiny over all activities. DOE has fulfilled its role regarding the protection of public health and the environment; however, it has accomplished this through its own regulations and guidelines and not necessarily in precise concert with the letter of Resource Conservation and Recovery Act (RCRA) and Comprehensive Environmental Restoration, Compensation, and Liability Act (CERCLA) regulations and other legislation, i.e., Toxic Substances Control Act and the Clean Air and Clean Water Acts. However, the recent decision against DOE in the lawsuit by Legal Environmental Action Fund (LEAF) and Natural Resources Defense Council (NRDC) regarding waste handling practices on the Y-12 Plant Site in Oak Ridge, Tennessee resulted in that Y-12 should meet the requirements of the EPA RCRA Laws.

With this precedent setting decision, DOE chose to apply RCRA and CERCLA to all DOE facilities. The impact on the DOE mission is extensive and affects all the DOE facilities. Some of the impacts on DOE are that we are not self-regulating and the regulations now apply to "inside the fence" boundary. The DOE facilities are now allowing EPA and State cleared people on site for auditing purposes.

Regarding RCRA, DOE facilities now apply for treatment, storage, and disposal Part B permits for hazardous waste. The DOE Order 5480.2 address similar requirements for mixed waste. Most all mixed and hazardous facilities will be regulated by EPA, after regulations are promulgated. The program, in concert with the sites, will be assessing the possible reduction of the volume of wastes and substituting wherever possible the hazardous materials for non or less hazardous materials. This could result in retrofitting a large portion of DOE facilities. An additional complexity to the DOE problem with RCRA is that most all of the DOE hazardous wastes are mixed with radioactivity.

Regarding CERCLA, there will be site cleanup activities required at most DOE facilities. The DOE has, at the present time, a draft order (5480.14) to implement a CERCLA program similar to the DoD program. This program consists of five phases including: (1) records search, (2) site characterization, (3) technology adaptation, (4) cleanup, and (5) compliance certification of monitoring. DOE needs the data on Phase 1 to assess the number and extent of CERCLA sites. Once the list of sites is established, the HWP will prioritize the sites and make recommendations to DOE Headquarters on which to work on first.

Many factors dictate the need for centralized focus to assist all DOE facilities in responding to hazardous waste management and retrofit needs. Hazardous and mixed wastes are generated in significant quantities from more than 50 large DOE facilities in 17 states.

Although processes are diverse and environs varied, many of these facilities produce similar wastes, some of which are not common to industry, e.g., uranium contaminated halogenated solvents or other mixed wastes. Additionally DOE has strict requirements for national security of material and information. In the face of variable regulations from location to location, DOE must maintain a coordinated, uniform program.

The DOE major objectives for HWP can be identified as follows:

1. Technology adaptation to assure safe and effective operation and maintenance of the existing and planned hazardous waste management activities, with the primary objective of protecting public health and safety, and meeting applicable criteria and standards for minimizing deleterious impact upon the ecosystem.
2. Optimize the hazardous waste management systems through identifying, developing, and applying appropriate technology for waste handling, processing, and disposal.

3. Assure the execution of goal-oriented projects to meet defined and revised HWP requirements for both the short and long terms with costs and risks as low as reasonably achievable.
4. Coordinate with other Defense Programs efforts toward effective hazardous wastes management and ensure that unwarranted duplication is avoided.
5. Assure appropriate conduct of interagency, international, State, and other related activities in this field.

The functions of the Hazardous Waste Program Office will be as follows:

1. Provide expertise on technical issues and requirements
2. Integrate technology adaptation requirements into activity plans on a nationwide basis.
3. Coordinate programs of participating DOE operations offices and laboratories/contractors, assure minimum of duplication, provide guidance on QA, and assist in operational needs (technology transfer).
4. Identify and recommend technology activities with other nations consistent with DOE international policies.
5. Integrate and submit budget requests.

6. Identify equipment and other resources that could be brought in to deal with special or emergency situations.
7. Prepare for ASDP program criteria and guidelines consistent with Federal and State regulations.
8. Evaluate performance of participants for technology adaptation programs.
9. Interface with other Waste Management activities.
10. Assist Department of Defense in dealing with hazardous wastes.
11. Monitor existing and proposed State and Federal regulations.
12. Develop and recommend to ASDP interagency agreements, positions, and policies.
13. Respond and/or support responses to inquiries from public and external organizations, e.g., congressional testimony.
14. Develop and maintain inventory estimates for hazardous wastes and information on available technologies.
15. Maintain cognizance of operational requirements, e.g., facility construction, as impacting upon management of hazardous wastes.
16. Recommend actions to integrate individual site operations and the Department's strategy.