

THE DEPARTMENT OF ENERGY'S PROGRAM OF ENVIRONMENTAL RESTORATION AND WASTE MANAGEMENT

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ABSTRACT

The Department of Energy's Office of Environmental Restoration and Waste Management is conducting the largest clean up program in the country. This mission is the result of operations of a large industrial complex located at various production, processing, testing, and research and development installations across the country. This complex has generated, and continues to generate, significant quantities of radioactive, hazardous, and mixtures of radioactive and hazardous (mixed) wastes that must be managed.

The Office is responsible for waste management, environmental restoration, and decontamination and decommissioning activities associated with 112 sites in 33 states, a site in the South Pacific, and one site in Puerto Rico.

INTRODUCTION

The work of the Office of Environmental Restoration and Waste Management brings to mind the words of author Samuel Johnson, who in 1779 said, "I would rather be attacked than unnoticed. For the worst thing you can do to an author is to be silent to his works." And though Department of Energy (DOE) would prefer to receive praise rather than attacks regarding program performance, DOE would still prefer such attacks to the silence frequently heard from the public and from Congress about the program.

Despite the DOE mission being the largest clean up program in the country, there is concern that this program remains relatively invisible on Capitol Hill. Perhaps this should not be surprising. Consider the changes in the world since the inception of the EM office in 1989: The Berlin Wall has crumbled, numerous nations reacted to and stemmed Iraqi aggression, and the Soviet Union has all but collapsed. And in response, the U. S. is making significant and fundamental changes in the structure and size of its nuclear deterrence arsenal.

And while some might think that the Environmental Restoration and Waste Management program is not as earthshaking as the developments just mentioned, world events do affect this program. Indeed, it is as a direct result of these world changes that the Nation's nuclear weapons complex is being downsized and reconfigured. The Office of Environmental Restoration and Waste Management is likely to become responsible for facilities at Rocky Flats, Pinellas, and Mound as they transition from production to restoration missions. To successfully do this, the Office must work closely with the public and with Congress to ensure that all three have a common vision of the future, and then work together to make this vision become a reality.

This program has had many achievements during the past year, such as issuing the third version of the Environmental Restoration and Waste Management Five year Plan, and again improving the information available and the quality of cost and schedule estimates in the document. This Five Year Plan reiterates the Office's commitment to remediate the 1989 inventory of contaminated and inactive facilities and sites by the year 2019.

The Office completed all technical prerequisites for the receipt of TRU waste at WIPP. The test phase will begin when land withdrawal is completed. (There will be more about this later.)

In May, the F and H Area Seepage Ponds, and the M Area Basin at Savannah River were formally closed. This is particularly significant, since the wastes were removed, treated, and re-disposed of in place, thereby eliminating the potential for a future cleanup at a new disposal site.

DOE signed additional compliance agreements, bringing the total number now in effect to 71. These agreements allow the DOE sites to continue facility operations while conducting remediation activities designed to bring these facilities into environmental compliance.

The removal action for the K-65 silos at Fernald was completed on November 28th (Thanksgiving day). By the addition of 800 tons of bentonite clay, direct radiation readings were reduced by over 96%, thereby significantly reducing future worker exposure. Completion was three days ahead of schedule, but more importantly, it was 20% under the original cost estimate.

The Toxic Substances Control Act (TSCA) Incinerator at Oak Ridge incinerated 1.7 million pounds of liquid mixed waste during 1991.

And in waste minimization, the replacement of standard HEPA filters with steel ones has the potential to save the taxpayers over \$100 million annually at the DOE sites.

And the Environmental Remediation Management Contractor (ERMC) Request For Proposal at Fernald was issued, and bids are now undergoing review for remediation management activities at Fernald. (There will be more about this later, too.)

But one of the achievements DOE is most proud of is that the Office has provided opportunities for substantive public review of, and input into, the work plans and cost estimates for conducting this program; the Office has reached out to the public to inform them of this program and the public's opportunity for input. Through the Office's public involvement program, over 100,000 people have had the opportunity to view a display which describes radioactive waste and EM activities, to obtain documents which provide program details, and to talk directly to representatives of the EM program. This activity will encourage the public to become more involved in

the program, which can only lead to an improved program which is also more acceptable to the public.

DOE is pursuing this public involvement program because the Environmental Restoration and Waste Management activities demand more than a check written by the taxpayers; these activities require the mobilization of much of this nation's technological and human resources. These activities deserve more political will power than simply passing an appropriation. The public and their elected representatives must understand the complexities of this program in order to overcome the demands of many of the well-intentioned, yet misguided, special interest groups which threaten to stop or drastically and inefficiently alter the course of this work. Clean up of this nation's nuclear weapons facilities demands a commitment on the part of the entire nation.

The Office is very proud of the accomplishments of the State and Tribal Government Working Group, which was instituted in 1989, and continues to contribute to both this program and the public's understanding of it. This group is made up of representatives of the host states of DOE's major facilities; members of the Shoshone-Bannock Indian Tribe and the Yakima Indian Nation; and representatives from the National Governors Association, the National Council of State Legislatures, and the National Association of Attorney's General. Even though STGWG and DOE have not always agreed, it is a credit to the people who make up STGWG that they have continued to review the Five Year Plan and programmatic documents, and comment on them so DOE can understand the concerns of the public.

The Office has also commissioned a group made up of Stakeholders in the environmental restoration and waste management arena. Members of the group include representatives of Indian and minority organizations; Congressional staff; university personnel; Public Interest Groups; Educators; Labor Unions; the League of Women Voters; technical trade organizations; the Office of Technology Assessment; and agencies of the federal government, such as Office of Management and Budget, and the Nuclear Regulatory Commission. By reviewing the pre-decisional draft of the third edition of the Five Year Plan, the Stakeholders Forum was able to identify that more emphasis was needed on education requirements, worker health and safety issues, future work force needs, and mechanisms to increase local public involvement in EM program planning. Their comments prompted the Office to make significant changes in both the draft and final Five Year Plan.

This Office believes that as a result of working with these groups, DOE has achieved at least limited acceptance from long-term opponents. The Office looks forward to continuing to work with these groups, and others, to ensure that this program remains responsive to the concerns of the public. The office recognizes that in spite of successes to date, there is much left to do.

DOE must generate visibility for this program if the Office is to obtain the necessary support. Visibility is needed with the scientific and education communities, businesses, the regulators, and the public at large, and these groups need to be motivated to feed their opinions into the congressional process. The scientific community needs to undertake studies and generate evidence of what true environmental risks of this program are. And scientists need to develop the new technol-

ogies necessary to solve the problems for which there are no cost effective solutions today.

The EM program is a bold multi-billion dollar effort, and this organization is still new. But even in infancy, the Office knows that the problems won't be solved using existing technologies. The Office is concerned that Congress does not understand the basic needs and the role that time has to play in developing technology to achieve the program's goals. Some issues may require years to resolve. For example, future land use is a key issue -- for without knowing the ultimate use of DOE's sites, the endpoint of this program remains somewhat nebulous. Somehow, "how clean is clean" must be defined -- DOE recognizes that there must be certain standards for cleanup, but existing standards are not based on risk or health considerations. And will DOE be able to recycle materials, such as piping, structural steel, concrete, and other valuable materials, from the complex's 7,000 contaminated buildings? The current environmental regulatory approach does not appear to be supported by scientific findings, but instead considers political science, the roles of special interest groups, and resource allocation by pork-barrel projects. A system for making better use of the taxpayers dollars must be found.

And speaking of the taxpayers dollars, the President submitted our 1993 budget to Congress, and it is being discussed in Congressional hearings this week in Washington. The 1993 budget request is \$5.3 billion, which is up \$3 billion from our 1991 budget, and over three times our budget in 1989. This kind of budget growth clearly indicates the President's commitment to DOE's task of cleaning up the Nations weapons complex, and recognizes his deep concern for the environment.

To fulfill the President's commitment, the Office has made some, and is working on more, contacts with the scientific community through scientific partnerships and through meetings and conferences such as this. DOE will be developing "world class" technical and scientific expertise -- largely through a series of new partnerships among DOE laboratories, universities, and industry.

The education system in this country must be geared towards facing the challenges of this and similar programs. The Office's mission will require thirty years; it won't be completed until after most of the people currently in management have retired. The next generation of environmental scientists and assistant secretaries are in grade school today. The need to start with primary education is being addressed in a K-through-12 outreach program that focusses on teacher training and curriculum development.

One of the Office's education initiatives is to work with universities to create new technical curricula that emphasize the physical sciences for application to the country's waste management problems. Emphasis will extend from the development of new associate-level degree programs for "practitioners", to financially supporting graduate-level research and internships, and to post-doctorate research. DOE has created a pilot program with three New Mexico universities for an education research center to train personnel and to perform research in the management of radioactive, hazardous, and solid waste. DOE is also establishing a scholarship/fellowship program with 14 historically black colleges and universities.

The Office is continuing to work with business to set up contracting mechanisms which are more appropriate for

environmental work. As mentioned before, proposals for the Fernald ERMC have been received and are undergoing review. The ERMC concept was developed to give the program the flexibility it needs in dealing with the business community, and the Office is continuing to look for more innovative ways to achieve this flexibility. And the Office is also on track to issue the second ERMC Request for Proposal at Hanford, which is expected to be available in mid-April. The Office anticipates selecting the successful bidder by the end of this year. And stay tuned for more ERMC activities, including additional requests for proposals, in the future.

The Office has already achieved cost savings as a result of Technology Development accomplishments. For example, present-day technology from another field (in this case, horizontal well drilling from the gas and oil exploration field) were applied to a new situation at the Savannah River Site. By doing so, volatile organic compounds were removed from the soil, and over \$100 million was saved over conventional "pump and treat" methods. And, a robotics development program at Fernald and Idaho has netted \$15 million in savings with the potential for even more savings in the future.

But now to discuss WIPP. This is a good example of what happens when misinformed public perceptions and special interest groups combine with an otherwise disinterested and unfocused Congress. WIPP has met all of the technical qualifications for opening, but because of political pressures, the waste management program of the entire country is being held up. Waste cannot be shipped to WIPP until litigation against the Department can be favorably resolved or until appropriate enabling legislation can be enacted.

For those unfamiliar with the WIPP situation, a brief summary follows. Because WIPP is located on public lands administered by the Bureau of Land Management, a land withdrawal must be granted in order to withdraw the public lands and assign control to DOE for restricted use. There are two ways of accomplishing this: Administrative, where the Department of the Interior withdraws the land; or Legislative, where Congress grants a land withdrawal through legislation. Legislative land withdrawal is the Department's preferred approach. However, there are four separate WIPP bills in Congress, all different with respect to how WIPP should be

opened. DOE will continue to work with Congress to achieve land withdrawal that addresses legitimate environmental and safety concerns while enabling WIPP to be tested for its long-term suitability as a geologic repository for TRU wastes. However, until the land withdrawal issues are resolved, DOE cannot ship waste to WIPP and begin the testing program. Unfortunately, some members of Congress don't seem to be willing to allow the scientific community to determine the methods for conducting this important test program, but would rather impose excessive and unnecessary restrictions where they are unneeded.

The news media have legitimately paid a lot of attention to DOE's radioactive waste management problems. However, this country and the world also face significant environmental contamination and cleanup challenges involving other hazardous and toxic materials used throughout the world, including sulfuric acid, polychlorinated biphenyls, chlorofluorocarbons, and others. Since these problems are not unique to DOE, this program will leverage DOE dollars and achieve a greater benefit by collaborating with others, both in the U.S., and around the world to solve these problems.

The programmatic issues are very big. Being invisible to the public or to Congress does not make them any smaller or less urgent. An understanding of this program, and then a commitment to its aims, is needed by all segments of society if it is to be effective.

And that is why this meeting is so important--at this meeting DOE and contractor personnel will hear papers from around the world on a variety of topics related to waste management. DOE and the contractors will follow up on the information from this meeting -- technology transfer activities will continue, and the technologies discussed at this meeting will be applied to the DOE sites. DOE and contractor personnel will also present papers at this meeting, and it is hoped that those attendees not already involved in the DOE program will learn enough to become interested and get involved. The world's best minds must be applied to environmental restoration and waste management problems, and together, the goal of a cost-effective remediation of the DOE sites and facilities by 2019 will be achieved.