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Mr. Chairman, and Members of the Subcommittee, I appreciate this opportunity to appear before you to discuss the Department of Energy's Environmental Management (EM) program. Last year I appeared before you to say that we had turned the corner" on addressing the legacy left behind by fifty years of nuclear weapons' production. This year I am pleased to report real results -- not only results "on the ground" -- but also in a new way of doing business. Clearly, we still have a long way to go; but, we are on our way.

I cannot yet report to you in detail about our Fiscal Year (FY) 1997 budget request, because the President's budget will not be submitted until March 18. I can however, give you a sense of where we expect the overall budget to be, and a description of our program for FY 1997, our progress for the last year, and our long term plans. Despite a very tight budget year, we expect that our budget request for FY 1997 will be adequate for our environmental compliance requirements, pursuant to Executive Order 12088. Maintenance of the level contained in the President's budget is necessary to continue making progress and not merely to maintain a status quo.

Today I would like to describe the Environmental Management program, lay out some of the significant accomplishments we have made over the past few years, review our commitments for our Fiscal Year 1997 budget, and outline the strategy and vision for the future of this program and its mission.

Introduction

As this Subcommittee knows, the industrial infrastructure used for producing and maintaining our nation's nuclear weapons deterrent is massive. Factories, laboratories, and thousands of square miles of land were devoted to the successful enterprise of producing tens of thousands of nuclear weapons in the name of national security. This enormous infrastructure still exists and is largely being maintained and decommissioned by the Environmental Management program.

It is difficult to communicate the size and variety of the tasks being addressed by the Environmental Management program. A map of the facilities for which the Environmental Management program is now responsible includes the basic facilities used for weapons material production -- the Savannah River Site, Hanford Site, the Rocky Flats Environmental Technology Site -- as well as numerous smaller facilities: Tonawanda, Fernald, and old uranium mill tailings sites. Like most industrial efforts, the nuclear weapons complex generated waste. The problems posed by the weapons complex, however, are unique as they include unprecedented volumes of contaminated soil and water, radiological hazards from special nuclear materials, and a vast number of contaminated structures ranging from chemical plants to evaporation ponds. Also, the business practices used during production of nuclear weapons are no longer appropriate.

Last year, we estimated the cost for stabilizing and cleaning up these facilities to be approximately 6200 billion. We are now completing a more detailed update of that estimate, which should be completed in May 1996. The preliminary results indicate a somewhat lower, but not dramatically different, projection than the first estimate. We are using these results to help drive down the life-cycle costs of the program. Regardless of the specific details, it is clear that it is the largest environmental stewardship program in the world. It is also clear that this challenge warrants serious attention to the technologies and business methods necessary to ensure that the job is done in the smartest and most cost-effective manner possible.

As a result of the abrupt cessation of new nuclear weapons production operations in the late 1980's, we not only have inherited a legacy of thousands of contaminated areas and buildings, and huge waste volumes, but we also have responsibility for large amounts of nuclear materials still "in the pipeline" of their production processes. For example, the program stores more than 25 metric tons of plutonium, which pose extraordinary safety and security obligations. This quantity of plutonium is sufficient to fabricate thousands of nuclear weapons, so the security as well as the safety of this material is of paramount importance. Moreover, plutonium can spontaneously ignite in contact with moist air in certain circumstances, thereby requiring careful attention to handling and storage safety. We believe that our primary job is to address these most immediate, urgent risks to human health and the environment as well as manage the long-term contamination and safety threats, reducing the long-term mortgage passed on to others.

We are the "landlord" of numerous large sites around the country, some of them essentially small cities. This means that roads, electrical power, food services for employees, fire and emergency services -- everything that it takes to safely and efficiently manage these sites -- are our responsibility.

The Environmental Management program manages risks and addresses issues such

as:

- hundreds of large, underground high-level radioactive waste tanks, some of which have leaked, and some of which may pose a danger of an explosion unless managed;
- the need for security to prevent theft or diversion of nuclear weapons material (e.g., plutonium and highly enriched uranium) and sabotage of nuclear facilities;
- vast quantities of surplus nuclear weapons material which need to be stabilized since they pose a risk to the public, our workers and the environment in their current state;
- thousands of metric tons of highly radioactive spent nuclear fuel, some corroding in

various types of storage;
- thousands of radioactively contaminated buildings that must be stabilized and eventually decontaminated;
- contaminated drinking water, soils, and surface water;
- the potential for worker exposure to radiation and chemicals; and
- the need to safely transport of large amounts of hazardous materials, on-site or between sites.

Establishing priorities among each diverse risks and complex requirements has proven to be a major managerial challenge. We are proud of our accomplishments in this area. ln budget terms, this means that funding is required simply to prevent the occurrence of further problems. Additional funding is required to further eliminate the source of potential risks - the untreated wastes and nuclear materials. All of this work does not occur in a regulatory vacuum. As a federal entity, we have significant legal and regulatory obligations. In addition to federal and state environmental and safety laws and regulations, this program operates within a complicated framework of other commitments and expectations, which include the following:

- Defense Nuclear Facilities Safety Board Recommendations;
- Worker safety and health protection expectations derived from nuclear industry practices and Departmental orders;
- Short- and long-term technology development needs;
- International Atomic Energy Agency nuclear nonproliferation safeguards requirements;
- Compliance agreements or court orders; and
- Worker and community transition needs (e.g., training and land reuse).

Finding cost-effective ways to address these issues now rather than deferring solutions to later generations has been the goal of Congress and this program. The Environmental Management program is committed to, and is increasingly successful in, cost-effectively addressing the environmental and safety problems of the Cold War legacy. Last year, the Department contributed to a leaner federal government by submitting a budget that represented a reduction from the previous year, given a comparable scope of work. We are now operating on a FY 1996 budget that is less, in nominal terms, than FY 1995, despite a major expansion of responsibilities that included the Savannah River Site. In other words, more work, less money. While it has not been easy, we can honestly report tangible results from our efforts.

Progress in Accelerating Cleanup and Cutting Bureaucracy.

This program, like many government programs, has had its share of startup problems. Not created from whole cloth but assembled £rom ongoing duties and budgets of existing Department of Energy programs, the Environmental Management program was initially ill-equipped to handle its tasks. The Environmental Management program has grown since its creation in 1989, largely through the addition of responsibility for newly declared surplus facilities. In 1989 the Program assumed full responsibility for Fernald. Soon Hanford, and the Idaho National Engineering Laboratory, were added to the program. In 1993, the Rocky Flats Plant was added. And last year the Mound Site, the Pinellas Plant, and most of the Savannah River Site were added to the overall management responsibilities of the Environmental Management program. Now, the facilities under program's purview are located in more than a dozen states and cover more than a thousand square miles. Start-up pains are no longer an

acceptable excuse for management shortcomings. In 1993, the Environmental

Management program established six strategic goals both to guide our efforts and to serve as yardsticks for measuring progress.

The six goals are:

- to eliminate and manage urgent risks;
- to assure worker safety;
- to establish managerial and financial control;
- to demonstrate tangible results
- to focus technology development to get results; and
- to establish a stronger partnership through greater public involvement in Departmental decisions.

These goals, that I established when I arrived, have brought tangible results, including shedding the inappropriate contracting and operating practices of the past and cutting unnecessary overhead and getting real results in reducing risk. Since October 1993, we reduced the number of contract employees by 20,000 to better fit our workforce with the mission and reflect our budget levels.

Let me report to you some specific examples of meeting goals.

GOAL 1: Reduce Urgent Risks

In 1993, we identified three urgent risks that existed at several sites: unstable plutonium, high level waste tanks, and corroded spent nuclear fuel and targets. Each of these was very serious and could have resulted in a catastrophic accident or serious worker injury without focused attention. We have succeeded in eliminating, or taken the initial steps toward elimination of, each of these urgent risks.

- The Savannah River Site Defense Waste Processing Facility -- the largest high level nuclear waste vitrification facility in the world -- is ready for startup upon review and approval by Secretary O'Leary of the final safety reviews. The operations readiness review was completed on Friday March 1, 1996, and we expect to start operations soon.
- At the Savannah River Site, we restarted the F-canyon and have stabilized over 20% of the liquid plutonium nitrate solutions, which posed a threat of a criticality or leakage if left unaddressed.
- Also at the Savannah River Site, we restarted the PUREX dissolution operation and began dissolving and reprocessing the Mark 31 targets, which are among the most corroded materials in storage, some for decades.
- At the Hanford Site in Washington, we have virtually eliminated the risk of a tank explosion from the buildup of flammable gases by installing a state of the art pump, which has exceeded design expectations in its first two years of operation.
- Risks from the unknown are almost as great as the risks we do know about from these liquid high-level waste tanks at Hanford. We have made substantial progress toward characterizing the waste in these tanks, which are much less well known than the waste in the tanks at the Savannah River Site. Characterizing the waste is necessary before treating

it. Recently, some have criticized the Department for not meeting our-characterization goals. What many of our critics fail to understand, however, is that this operation involves cutting-edge science and engineering and is extremely hazardous in an area with little room for error. I will not sacrifice worker safety to meet artificial quotas. Nonetheless, I am happy to report that after completing our initial learning and technology development experience, we are making much more rapid progress toward the complete characterization of these tanks.

- We have made substantial progress at Rocky Flats towards stabilizing the unstable plutonium that has been stored in glove boxes since production shut down in 1989. For example, workers have treated approximately 26 kilograms of unstable plutonium metal and oxides in a controlled oxidation furnace, which creates a stable form for interim storage awaiting final disposition. Only five additional kilograms remain to be stabilized.
- Also, at Rocky Flats, we have stabilized approximately 1,900 liters out of 31,000 liters of plutonium solutions. To eliminate the generation of flammable hydrogen and to remove organic compounds which could become flammable, workers have safely repackaged 221 plutonium metal units that were in contact with plastic and are currently in the process of repackaging approximately 1,600 units that are in proximity to plastic.
- At Hanford, we have developed and begun using two new technologies to stabilize plutonium materials more quickly and less expensively than with traditional processing methods. We have completed the stabilization of reactive plutonium scrap and incinerator ash.
- We have completed the venting/repackaging of Plutonium-238 solids at the Savannah River Site as recommended in the Department's Plutonium Vulnerability Study.
- In compliance with a consent order to the State of Idaho, the second lot of 189 spent fuel units were transferred from inadequate storage facilities to ones meeting current safety standards.
- More than 2,060 residue drums were vented to eliminate pressure build up and flammable hydrogen accumulation at Rocky Flats.

Vulnerability assessments led by the Office of Environment, Safety and Health identified weaknesses in the way we handle spent fuel, plutonium and hazardous chemicals that could affect the public or worker health or the environment. Overall, 281 of 503 corrective actions identified in the spent fuel report have been completed and 64 of 152 plutonium milestones have been met. For example, at the Hanford it-basins, actions were developed and will soon be implemented to remediate what were identified as the highest spent fuel risks in the complex.

The Office of Environment, Safety and Health independent oversight program has also been extremely useful in effectively targeting risk. The comprehensive assessments have provided DOE management with validated, professional appraisals of the site's performance, greatly aiding our ability to target resources to areas of greatest risk to workers, the public, and the environment. The foundation of the new approach is an analytic framework or "template" that clearly articulates the principles and operational elements of sound Environment, Safety and Health management programs. The assessments have identified where we are doing well, where we have to work harder, and also aid in spreading good practices among our sites.

GOAL 2: Emphasize Health and Safety for Workers and the Public

A condition of working to protect public health and the environment is the added need to protect

of the safety of our workers. It would be unacceptable to sacrifice worker health and safety in an effort to protect the public health and the environment for future generations. Our workers face risks unlike any others in this country, and we owe them - many of whom are also veterans of the Cold War - a large debt of gratitude. Recognizing the critical role site workers play in our success, we have refocused efforts to ensure their safety. Three years ago, the rate of lost work days was about 59 per 200,000 person-hours in Environmental Management operations. Today, we have cut that figure by 45 percent. This means not only fewer individuals injured or killed, but also a more productive working environment. By focusing managers and training workers, as well as discarding duplicative and cumbersome orders, we have been able to get more work done in a safer manner.

The Office of Environmental Management has partnered with the Office of Environment, Safety and Health (EH) to provide line program managers with tools to manage safety at our facilities more effectively and at less cost to taxpayers. Through several joint projects, we have shown that we can do our work better, more safely, and at less cost by integrating safety into the planning and execution of our work. We view safety as an asset that allows us to target our most urgent risks, use our limited resources most efficiently, and do our work most effectively.

Our work with the Office of Environment, Safety and Health is providing us with new tools for doing work, and doing it safely and cost-effectively. At Fernald, for example, we avoided nearly $2 million in costs by recognizing and avoiding unnecessary work. This was because safety personnel worked side by side with engineers, planners, and other workers to "build in" safety and health concerns into the actual planning of work. In much the same way, we saved $500,000 through early identification and control of hazards at a Hanford plant. We expect this approach to become standard practice throughout the DOE complex and continue to save money while also making work safer.

Many of our facilities are no longer compatible with the Department's rules and orders. These "top down" orders were developed to meet the needs of a stable weapons production system. Decontamination, decommissioning, and environmental cleanup, on the other hand, involve hundreds of individual tasks in aging facilities with hazards that are unknown and difficult to predict. A new process -- "Necessary and Sufficient Process" -- provides a graded approach to safety standards that allows us to tailor the standards to the work and the facilities. In a pilot application of this process at a major Hanford facility, we were able to greatly reduce worker exposure while cutting costs by 50 percent. We hope to use this process to proceed with safe and timely stabilization of facilities at Rocky Flats and other locations throughout the DOE complex.

We are meeting our worker safety goals. For example, the Environmental Management program received an award in 1995 from the State of Ohio for two million person hours worked without a lost time accident at Fernald. At the Savannah River Site recorded 9.5 million hours without a lost work day due to an on-the-job injury. At Hanford, we completed removal and disposal of highly irradiated reactor fuel spacers from underground silos to reduce exposures to deactivation workers at N area. Recently, however, we were soberly reminded that there is more progress to be made in this area. At the Idaho site, a worker died from a fall from construction scaffolding. These tragedies must motivate us to redouble our efforts to protect workers at our sites.

GOAL 3: Bring the Program into Managerial and Financial Control

One of the most significant achievements of the Office of Environmental Management is to have brought more budgetary and bureaucratic discipline to this program. The first budget for this office, in 1989, was $440 million; it rose to $880 million the following year; $1.3 billion in 1991; then $2.6 billion, and soon was over $6 billion a year. By the time I took this job in 1993, this program was in real need of financial restraint. My predecessor, Leo Duffy, intuitively estimated in December 1992 that one out of three dollars was being wasted. Several months later, the results of a study we commissioned in early 1993 indicated that he was right. The data indicated that our project management costs were substantially higher than both comparable private sector projects and comparable government projects. This situation was unacceptable. Beginning in 1993, we made cost reduction one of the highest priorities.

First, the Administration imposed an overall cap on the growth in the budget for this program. Then we reduced the budget, in real terms. For example, last year's budget request was, in reality, a 4 percent reduction in budget when viewed against the added responsibilities of managing several of the largest and most complicated former defense nuclear sites. Responsibility for the Savannah River Site, the Mound facility, and the Pinellas Plant were all transferred to our program in 1995. This is a clear example that the program has committed to doing more with less.

Second, we have integrated information about risks to public health, worker safety, and the environment into the FY 1998 budget formulation process. In doing so, we have made an effort to balance risk information with other factors that must be taken into account when setting priorities, making decisions, and allocating resources.

In 1993, Congress was concerned about how the Department was addressing its most pressing problems and establishing priorities among competing environmental management requirements and budgets, and required the Department of Energy to submit a risk report. The Department responded with the draft report, Risks and the Risk Debate: Searching for Common Ground, The First Step, which provides an analysis of the current and proposed risk management activities initiated to reduce risk and fulfill compliance requirements. The report evaluated risks to the health and safety of individual members of the public intended to be addressed by cleanup activities required by compliance agreements; the health and safety effect of, and the cost associated with, implementing the requirements.

This report provided the first link between budget, compliance agreements and risk activities. Department of Energy field program managers with expertise about activities categorized the environmental management work. This allowed the Department to capture the spectrum of risks associated with environmental management activities and linked the risks in a qualitative fashion to compliance and budget. After submission of the report in June 1995, with the advice of our external Environmental Management Advisory Board, we began the process of integrating information about risks to public health, worker safety, and the environment into our budget formulation. This process is iterative, and will continue and improve each year as we more fully involve stakeholders and peer reviewers.

Third, we see an immediate goal of a 20 percent increase in measurable productivity, a goal that most Fortune 500 companies would find ambitious. This initial productivity challenge was across-the-board in FY 1994. We then set additional productivity goals for individual sites based on their effective use of additional project managers and cost-analysis personnel. We believe we

have eliminated most of the "fat" from the program we inherited in 1993.

Fourth, to ensure long-term and systematic improvement in productivity, we began a contract reform initiative to provide incentives appropriate for the new mission. Much of problem, we have learned, was that the workforce and contracting methods used in the past were simply inappropriate for the new mission of Environmental Management. We also recognized that the skill mix of the workforce for the new mission at many sites was out of balance, and we undertook a significant reduction in unneeded contractor workforces. As this Subcommittee understands, contract employees comprise most of the personnel at our sites. We have had to cut contractor workforces from a level of approximately 50,000 in 1993 to around 30,000 today. We know that this downsizing has been painful for individuals, families and local economies. We have complied with the letter and the spirit of the requirements of section 3161 of the 1993 Defense Authorization Act, to ensure that the contributions of these "veterans of the Cold War" are not forgotten. But times have changed dramatically, and the current and future missions of the Department demand a contractor workforce with the appropriate skills and of the right size. But we also recognize that we must bring stability to our sites that range from South Carolina to Idaho to Washington. I want to emphasize again that it is critical that Congress appropriate all of the President's budget.

The contract reform initiative has also been vital to making the transition from a Cold War system to the new missions at many of these sites. Through this initiative, we have fundamentally changed the way contracts are written and awarded for our sites. The tradition of a single prime Management & Operating contractor working at a site for decades, on a cost-plus award fee basis, was dictated by Cold War production imperatives. Today's imperatives are efficiency, progress, and accountability. Our new contracts reward contractor performance. Performance is measured through cost control, safety and real on-the-ground results.

For example, the recently awarded Rocky Flats contract establishes specific results and goals for the contractor, and the contractor will be paid based on the achievement of these results. Fully 85 percent of the contractor's fees will be based on performance, while only 15 percent is base fee. The Rocky Flats contract also provides substantial incentives for cost savings by the contractor. Upon validation by the Department of these cost savings, the contractor will receive 15 percent of the cost savings, with half of those savings going directly to employees. The new contractor, Kaiser-Hill, has responded with excellent productivity within the first year of the contract. For example, when a couple of long-abandoned guard shacks had to be demolished, Kaiser-Hill side-stepped the traditional approach of doing unnecessary studies and filling out forms, and simply knocked them down during a weekend to avoid safety hazards for the regular workforce. We need more "just-do-it" attitude like this and new contracting methods will encourage it.

These new types of contracts will also save money because they are awarded competitively. Within the past two years, the Department has initiated competitions with respect to its for-profit contracts at five of its major sites -- Idaho National Engineering Laboratory, Rocky Flats, the Nevada Test Site, the Savannah River Site, and Hanford. Contractors have pledged savings of approximately two billion dollars in the first two competitively awarded procurement alone -- the Idaho National Engineering Laboratory and the Rocky Flats Environmental Technology Site. In addition, we have changed the way characterization studies and site assessments are handled in the contracts, so that emphasis is placed on doing the actual work, not simply studying the problem. New streamlined study procedures will ensure that the problems are properly assessed,

avoiding getting mired in drawn out research that takes time and costs money.

Much of the recent work we have done to reform contracts and improve efficiency is still in the "predicted" or "expected" stage. However, we already have indications that these changes are working. For example, by privatizing the sanitary waste disposal activities at our Savannah River Site, we saved $34 million by eliminating the need to construct a new facility. At our Hanford site, we reduced financial, administrative, and information management functions which allowed a savings of approximately $60 million. These are real and significant savings, and are indicative of the expectations we have for the future, and demonstrate the real need we have for change.

In addition to these new site management contracts, we have also made good on our commitment to privatization where it makes financial and programmatic sense. In the past two months, we have released Requests for Proposal for waste treatment facilities at the Hanford and Idaho sites. In both of these efforts, the contractor will not be paid until the treated waste is actually delivered from a predetermined mixture of raw waste feed.

We are also, partly at the insistence of Congress, capitalizing on opportunities to change the way we carry out administrative programs. We have reduced our headquarters expenditures by over 36 percent, or $140 million, in the last year. One example is the major reductions we have instituted in headquarters support services contracting. Another example is defining a streamlined Environmental Impact Statement process with a goal of reducing process time from 33 months to 15 months, saving an estimated $26 million over five years. The Department received the 1995 Federal Environmental Quality Award for this effort.

We are also making progress on reducing our uncoated balances. Uncosted balances have been an issue of concern to Congress. It must be understood, however, that substantial cuts cannot be taken painlessly by reducing uncoated balances. Uncosted obligations are not "free money" as some believe. These funds are fully committed to ongoing or planned cleanup activity. We are continuing to reduce our uncoated obligations and our current balances are less than previous years. All of these funds have been "obligated" for specific projects, but they will only be "costed" when the project is complete and the bill is submitted by the contractor. When our bills come due, we have to pay them.

Recently, the Office of Environmental Management defended its uncosted balance to staffs of several Congressional Committees and the General Accounting Office. We believe that our methodology was accepted and understood by the Congressional staffs. They applauded the progress that Environmental Management has made in reducing its uncosted balances by over 25 percent over the last two fiscal years.

Finally, we have undertaken intensive efforts to wring out as much savings as possible at each major site through the use of a management technique known as "work-outs". These involve assembling all of the necessary information and analysis, with the principal decision-makers related to a site, and addressing each of the perceived stumbling blocks to progress, one at a time. The first of the these work-outs focused on the Hanford site, and was heralded by all sides - the State of Washington, the United States Environmental Protection Agency, contractors, site management and Headquarters DOE management - as the breakthrough "St. Louis Blueprint for Action" after the city where it was held. One product from the session was the establishment of a tentative agreement to amend the Hanford Tri-Party Agreement to provide for a single regulator

concept. The idea was that only one regulatory agency will be involved in the day-to-day oversight and decision making on specific environmental management decisions.

We have also held work-out sessions for the Savannah River Site, which was held in Rock Hill, South Carolina. In these sessions, the parties agreed to define and implement strategies and tactics to streamline, simplify and improve the effectiveness of the Site's interaction with its regulators. For example, the parties agreed in principle to: a more collaborative approach to establishing and meeting cleanup objectives; adoption of the lead regulator concept for RCRA permitted cleanup; and minimizing duplication between RCRA and CERCLA requirements. Agreement was reached on specific productivity enhancement proposals with savings that could be applied to other site functions. Related cost savings could range from $65 million to $130 million. It is expected that these savings, in part or in whole, would carry over into the out years and depending on the pace of implementation, should yield some savings in Fiscal Year 1996. I am pleased to report that all sides are living up to their commitments in the Rock Hill agreement, resulting in substantial improvements in the operation of the Savannah River Site.

GOAL 4: Demonstrate Results

The Environmental Management program has also proven that it can establish priorities based on risk and get tangible cleanup results for the taxpayers' dollars. We have formally integrated risk-based approaches into our work by mandating that risk prioritization be conducted as part of our site budget guidance. Site managers must now assess the risks at their sites, and develop their budgets accordingly. I would like to call to your attention some of our accomplishments in the last year, both nationally and at specific sites.

Nationally we have:

- Completed 2,538 release sites, nearly 30 percent of the estimated total number of 8,854 to be remediated. Moreover, 20 percent, or 182 of the 978 facilities to be cleaned up, have been completed.
- Entered into 29 Orders under the Federal Facility Compliance Act with authorized regulatory agencies for 32 of the 35 sites for which DOE submitted Site Treatment Plans.
- Completed 119 interim actions, 75 larger-scale cleanups and 17 decommissioning actions, resulting in 5 million cubic yards of mill tailings, soil, and rubble stabilized, contained, or otherwise addressed. To put this in perspective, this amount is enough to cover a hole the size of a football field half a mile deep. The Department also completed action on 1,225 individual release sites and 25 facilities in FY 1995, and will have completed an additional 892 interim and remedial actions by the end of FY 1997.
- Completed remediation of 6 former industrial processing sites under the Formerly Utilized Sites Remedial Action Program (FUSRAP) (with 21 out of 46 in the program now complete), and 2 sites where uranium mining and milling once occurred. 15 out of 24 Uranium Mill Tailings Remedial Action Project (UMTRA) are now complete. Remediation was also completed at 57 public and private properties contaminated with uranium tailings from these former processing sites.
- Made road-ready for disposal 270 cubic meters of transuranic waste. Treated 3500 cubic meters of low-level waste mixed waste. And disposed of 46,000 cubic meters of low-level waste.
- Over the past two years, made available for transfer for implementation 48 new or

improved technologies. A comprehensive review of 15 of these new technologies revealed that, depending upon the degree of cleanup, at least $9 billion and as much as $80 billion can be saved through the use of just these 15 processes.
- Issued Principles for Using Risk Analysis, a first cut at defining risk analysis, its purposes, and the principles to be followed if it is to be done well and credibly.
- Issued the Draft Risk Report to Congress, a first step toward developing a consistent approach to evaluating the risks to the public, workers, and the environment posed by conditions at DOE's sites and facilities.

At the Idaho National Engineering Laboratory, we:

- Deactivated 2 key buildings at the Idaho Chemical Processing Plant (ICPP), saving out-year cost of $24.5 million.
- Demonstrated at fuel scale the Dig Face Characterization system, an innovative new technology that provides quick, non-intrusive characterization of buried waste in support of retrieval operations. This technology allows "on-the-spot" characterization of soil and waste samples since it performs the analysis as it collects it. This system also reduces risks to workers since characterization can be performed remotely and rapidly to identify any potential hazards.
- Began incineration of low-level mixed waste one month ahead of schedule at the Waste Experimental Reduction Facility.

At the Savannah River Site in South Carolina, we:

- Reduced radioactive and hazardous waste generation for a savings of $4.6 million in disposal costs.
- Approved and started radioactive operations at the In-Tank Precipitation Facility. This system is an essential part of treating the 34 million gallons of liquid high-level radioactive waste at the site. It separates the highly radioactive portions of the waste from the low level portions. The low level portion, which constitutes about 90 percent of the volume, is then transferred to the saltstone facility for treatment. The high level portion will be vitrified.
- Transferred 24,000 gallons of high level waste on February 29, 1995 from the In-Tank Precipitation Facility to the Saltstone Facility.

At the Oak Ridge Site in Tennessee, we:

- Eliminated 90 percent of the low-level radioactive waste generated per year from the Radioactive Material Management Area. Shrinking the radioactive work area resulted in less contaminated protective clothing and saves over 61 million per year in waste disposal and operations costs. The project cost $300,000 and took five months to implement.
- Treated and discharged 100 million gallons of contaminated water.
- Treated 3.1 million pounds of mixed waste at the Toxic Substances Control Act (TSCA) incinerator at Oak Ridge. Cumulatively, we have treated almost 15 million pounds of waste at the TSCA incinerator.

At the Hanford Site in Washington, we:

- Consolidated special nuclear material for storage and surveillance, providing cost savings of $2.5 million.
- Removed over 56,000 pounds of carbon tetrachloride from the soil above the ground water and treated 1.7 billion gallons of groundwater.
- Completed removal of 183,000 gallons of radioactively contaminated nitric acid from the PUREX facility saving $70 million to the total project cost.
- Modified the recycle condensate water in the evaporator system at Hanford and reduced liquid mixed radioactive waste generation by almost 200,000 gallons each year resulting in an annual savings of $3.6 million. The evaporator is expected to continue in operation for the next ten years.
- Saved $37 million in waste treatment and facility maintenance costs by shipping 186,987 gallons of uranium-contaminated nitric acid from Hanford for reuse in Sellafield, England.

- Completed defueling of the Fast Flux Test Facility at Hanford four months ahead of the deactivation schedule.

At the West Valley Demonstration Plant in New York, we:

- Completed construction of the Vitrification Facility, the support NOX Facility, and the Load-In Facility. Preparations for radioactive operations are underway, and the first radioactive canister is scheduled to be processed in June of 1996.

At the Rocky Flats Environmental Technology Site in Colorado, we:

- Emptied the last of five contaminated solar ponds in January, which were filled with low-level radioactive process water.
- Completed construction of a new Centralized Waste Storage Facility five months ahead of schedule and $500,000 under budget.
- Completed venting and aspiration of 518 drums of transuranic and mixed transuranic wastes, leaving 700 to be vented.

At the Mound Plant in Ohio, we:

- Decontaminated, decommissioned and completely removed the 18,000 square foot Special Metallurgical Building previously used as a radio chemical laboratory primarily processing plutonium-238.
- Made available approximately 10 percent of the Mound plant land area (29 acres)for sale or title transfer by acquiring U.S. Environmental Protection Agency and Ohio Environmental Protection Agency concurrence that the land met an industrial risk scenario protective of human health and the environment.

At the Fernald Site in Ohio, we:

- Completed all Environmental Restoration milestones on or ahead of schedule, including several mayor removal actions (Plant 1 Ore Silos, Fire Training Facility, Plant 7).
- Determined through successful public involvement site future land use, site cleanup levels, waste disposal locations, and cleanup priorities.

GOAL 5: Focus Technology Development

We have focused technology development on five major areas: Mixed Waste 28 Characterization and Treatment; Radioactive Tank Waste Remediation; Contaminant Plume Containment and Remediation; Landfill Stabilization, and Decontamination and Decommissioning. Crosscutting activities that apply to all or some of the focus areas are also conducted: Characterization, Monitoring and Sensors; Efficient Separations and Processing; Robotics; and Technology Integration efforts to enhance the focus areas, ability to achieve accepted, commercially available products. In FY 1996, a science program was initiated and added to this program to bridge fundamental and applied technology development research. The Environmental Management's risk management activities are also conducted from the Office of Science and Technology.

Work does not end with developing the technologies. Regulatory and stakeholder acceptance of these technologies is paramount to implementation. Also, states each require rigorous validation processes. Through the Western Governors, Association DOIT (Develop On-site Innovative Technologies) committee, an 18-state Interstate Technology and Regulatory Committee was established with the aim of expediting this process. A major accomplishment was achieved in April 1995 when four States (California, New Jersey, Illinois, and Massachusetts) signed a Memorandum of Understanding through which these states agree to share information oh technologies and to accept participating states' validation work. This saves time and eliminates duplicative work.

During FY 1995, 13 new technologies were implemented at waste cleanup sites. For instance, Resonant Sonic Drilling, an innovative drilling technology that increases drill penetration in difficult geologic media and reduces drilling wastes, was used in Hanford, where it achieved greater than 25 percent cost savings over baseline methods. Also, the Rapid Transuranic Monitoring Laboratory, which provides on-site monitoring of contaminated air and soil, was selected for implementation at the Savannah River Site. This system is capable of processing samples in less than one hour at a cost of approximately $30 per sample compared to $200 to $300 per sample using traditional methods.

GOAL 6: Strengthen Stakeholder Partnerships

Dealing openly and effectively with States, Tribes and the public is not only the right thing to do, it is a requirement of doing business successfully in modern America, and it can actually reduce cost and improve policy. Hence, we have made this a major element of our operations. Here are few examples of our successes in this area.

- We completed negotiations with the State of Idaho on the terms of a settlement agreement and court order covering the receipt, storage and eventual removal of spent nuclear fuel from the State of Idaho. The agreement and court order also covers the treatment of transuranic wastes and their eventual shipment to the Waste Isolation Pilot Plant (WIPP) .
- We have established a total of 11 Site-Specific Advisory Boards (SSAB) Fernald, the Grand Junction Projects Office (Monticello, UT board), Idaho National Engineering Laboratory, Hanford, Los Alamos National Laboratory, Nevada Test Site, Oak Ridge, Pantex, Rocky Flats, Sandia National Laboratory, and Savannah River Site. Another SSAB is presently being formed at Paducah and should be in place in the near future.

Citizen participation is an essential part of our decision-making process. Besides-enhancing credibility and accountability, it has proven to be economical and effective. For example, after the Fernald Citizens Task Force examined and analyzed conditions at the site -- comparable in scale to Ford Motor Company's River Rouge plant -- they concluded that different parts of the site would be suitable for different future uses. As a result of the collaborative process with the site contractor and the Department, recommendations were made which will save time in completing the cleanup and an estimated one billion dollars in costs over the life of the project. It is a very "profitable" return on investment.

There are only some of the achievements we have realized over the past year. While we can look back at the improvements and solutions, moving forward on our long term goals is of the utmost importance. Accordingly, I will turn now to our plans for the future.

1997 Commitments for the Environmental Management Program.

To carry out these diverse tasks and meet our goals, the Environmental Management program is organized into different program offices. Four primary programmatic entities -- the Offices of Waste Management, Environmental Restoration, Nuclear Material and Facility Stabilization, and Science and Technology Development -- carry out the core missions of the Environmental Management program, with assistance from other Departmental support offices. Our FY 1997 program commitments, included as an appendix, demonstrate a consistent, clear approach to addressing the legacy of fifty years of nuclear weapons production.

Let me briefly describe each office and its commitments for Fiscal Year 1997.

Waste Management

The Waste Management program manages the treatment, storage and disposal of wastes, and works to minimize the amount of new wastes generated. The Department is faced with a variety of wastes, including high-level radioactive waste (such as the waste found in the Hanford tanks), transuranic waste, low-level radioactive waste, hazardous waste, and mixed waste (waste that is both radioactive and hazardous).

In addition to maintaining safe storage, the Department continues to operate treatment and disposal facilities while developing badly needed additional treatment and disposal capabilities. Examples of these projects include the Tank waste Remediation System at Hanford; the Defense Waste Processing Facility at the Savannah River Site; the West Valley Demonstration Project in New York; and the development of Site Treatment Plans with 20 States where the Department stores or generates mixed waste.

Environmental Restoration

The Office of Environmental Restoration is responsible for the assessment and remediation of facilities and land no longer used for nuclear weapons production, as well as other inactive sites. These sites range from contaminated buildings to abandoned or inactive waste disposal sites. It is this portion of the overall Environmental Management program that is often described as the "cleanup" program.

We are continuing to move away from doing studies to engaging in actual cleanup. The environmental restoration work passed a significant milestone in 1995 -- the funding for on-the-ground cleanup work exceeded the amount spent on paper studies and assessment for the first time. Certainly, some investments in studies are necessary to ensure that cleanup funds are spent effectively. However, it was clear in 1993, that the time to "move dirt" and not produce paper had come. Since then, the funding shift has been dramatic. In Idaho, we spent roughly equal amounts ($40 million) in FY 1994 on cleanup and assessments. In FY 1945, the funding for assessment dropped to $25 million, while the amount spent on cleanup skyrocketed to $75 million. In FY 1996, the funding in Idaho for assessments further decreased to less than $20 million, while the amount spent on cleanup remained at approximately $75 million. Now, for FY 1997 we are proposing to spend even more on cleanup (nearly $85 million), while our funding for studies remains less than $20 million.

The same success story can be told for the Savannah River Site. In FY 1995, we spent more on studies than on cleanup ($35 million versus $22 million). In FY 1996, however, we reversed this pattern and spent nearly $70 million on cleanup and less than $50 million on assessments. In FY 1997, we plan to spend less than $30 million on studies and more than $80 million on cleanup.

For the long term, we must fundamentally rethink the wisdom of attempting to remove all contaminated soil. Certainly, we must remove contamination where it is necessary to protect public health and the environment. Depending on what strategy is chosen, widely varying amounts of contaminated material could require exhumation and redisposal. If only a minimum of soil and contaminated is removed, we could still generate more than a million cubic meters of material in the next several decades. If we go to the other extreme, and remove virtually all contaminated soil and material for redisposal, as much as 100 million cubic meters of materials could require redisposal. Removing this amount of contaminated material could entail some risks to the workers and to those who would be exposed along any transportation corridors. We should think very carefully before we embark on any strategy without thinking through its potential consequences for risks as well as costs.

Nuclear Material and Facility Stabilization

The mission of the Office of Nuclear Material and Facility Stabilization is to reduce the high-risk conditions associated with unstable excess nuclear and chemical materials left at former nuclear weapons production facilities and reduce the maintenance costs associated with stabilizing buildings awaiting decontamination or final disposition. This involves the protection of workers and the environment from exposure and contamination, the stabilization of hazardous nuclear and chemical materials, deactivation of facilities to attain the lowest surveillance and maintenance coats, and transfer of facilities to the Office of Environmental Restoration for decontamination and decommissioning. This program area is responsible for some of the potentially most severe risks in the system: unstable plutonium and spent nuclear fuel.

Last year, the Environmental Management program's responsibilities in the Nuclear Material and Facility Stabilization program area essentially doubled as the result of transferring the responsibility for the Savannah River Site in South Carolina, the Mound Site in Ohio, and the Pinellas Plant in Florida from the Office of Defense Programs to the Environmental Management program,, as well as approximately fifty high-risk facilities at other sites in several states. This is the fastest growing program within the Office of Environmental Management.

This year, the Department transferred responsibility for spent nuclear fuel management from the Office of Waste Management to the Office of Nuclear Material and Facility Stabilization. This transfer reflects the fact that much of the spent fuel will require some type of stabilization before final disposal. Spent nuclear fuel management is a critical component of the office's duties. There are approximately 2,700 metric tons of highly radioactive spent nuclear fuel currently in storage among the Department 's sites. Much of this is in deteriorating condition since it has been in storage far longer than planned. In some cases, the risks to workers and potentially the public are urgent, since corroding fuel elements can release radioactivity into the storage pool water and possibly to the environment. The Office of Nuclear Material and Facility Stabilization now has the responsibility for safely managing the Department's spent nuclear fuel.

A vital role of this office is to maintain, and when appropriate utilize, the capability for reprocessing spent fuel. This technology was used to extract fissile material for defense purposes during the Cold War. This same technology is now being used to stabilize corroded spent fuel, producing a relatively stable form of plutonium or highly enriched uranium, and a variety of wastes, including high level liquids, which are intended to be vitrified in the Defense Waste Processing Facility; transuranic wastes, which are intended to be disposed of in WIPP; and low level waste, which will be disposed of onsite at the Savannah River Site. Although the volume of these wastes is much larger than the volume of the original spent fuel, each waste form can be stabilized with existing technology, and has an established "path forward" for addressing final disposition issues.

The Department is now examining the future role of the reprocessing canyons at the Savannah River Site, which are the last operating reprocessing facilities in the United States. A preliminary study on the utilization of these two canyon facilities indicates that all the necessary reprocessing operations could be conducted in the F-canyon, and that the nuclear material in the H-canyon that requires reprocessing could be transferred to the F-Canyon, resulting in a potential savings of approximately $200 million over the next several years. This consolidation could also allow the limited pool of experienced managers to be transferred to the F-canyon, resulting in more efficient operations. Of important note, however, the Defense Nuclear Facilities Safety Board and this Subcommittee have expressed concerns about the need for maintaining redundancy in the case of a catastrophic accident. The Department will continue to emphasize safety of operations and future mission as paramount issues in making this decision. In addition, we are making a substantial investment in developing new technologies to stabilize spent fuel and irradiated targets with less and lower cost than traditional reprocessing.

As of October l, 1995, the Office of Nuclear Material and Facility Stabilization transferred the "landlord" responsibilities to a new office within the Environmental Management Program, the Office of Site Operations. The Office of Site Operations was specifically created to support the road maintenance, fire safety, security, utilities, and all the other essential but less prominent necessities of running our sites. The top priority associated with the Office of Site Operations is to maintain a safe, reliable, and cost effective infrastructure and site services.

Science and Technology Development

Some of the environmental, health, and safety risks present at our sites simply do not have solutions with today's technology, or today's solutions would cost too much. By recognizing the potential for new technologies to provide better and cheaper solutions, we can identify projects

that can be stabilize for the near-term, while we allow science and engineering research to find the better long-term answer. The Office of Science and Technology Development reflects our strategy of investing in technology development to develop long-term effective methods for addressing environmental challenges. The goals of our technology development program include reducing risks to people and the environment, reducing cleanup costs, and finding new technologies for environmental problems for which no solutions currently exist. The Office of Science and Technology Development program is an aggressive national program of basic and applied research, development, demonstration, testing, and evaluation for environmental cleanup, waste management, and related missions. Our strategy is to identify and develop technologies that can clean up the nuclear weapons complex, and manage the wastes more quickly, more safely and at a lower cost. In many cases, developing new technologies presents the best hope for ensuring a real reduction in risk to the environment and improved worker and public safety, especially given our national fiscal constraints.

Responding to a Congressional mandate from the FY 1996 Energy and Water Appropriations Act, DOE has initiated a $50 million partnership between the Office of Science and Technology in the Environmental Management program and DOE's Office of Energy Research to advance the weapons cleanup program. The Administration will propose an additional $40 million in the FY 1997 budget to advance the effort. The new program will carry out a long-term research agenda focusing on the fundamental science needed to develop less costly, innovative cleanup methods and reduce risks to cleanup workers and communities near weapon cleanup sites.

In addition to the focus areas previously discussed, the Department is making a substantial investment in developing new technologies to stabilize spent-fuel and irradiated targets. We expect to continue this investment for several years. We are making this a new focus area and expect to invest $20 million in FY 1997 and expect to eventually spend nearly $100 million at the Savannah River Site and the Idaho National Engineering Laboratory for this purpose.

Conclusion

We are making real progress in the Environmental Management program in addressing some very real health and safety risks and in improving the way we do business. Nonetheless, given the long-term nature of the program, it is critical to have a vision for the future, beyond a one or two-year budget cycle.

One of the basic problems with the Environmental Management program when it was created was that it was a stepchild of an organization that had very different priorities and missions. Today, the work of the Department with respect to nuclear weapons is much reduced and refocused. The Environmental Management program's mission has grown dramatically as we have learned the extent of the challenges we face, and as public awareness and concern about safety and health has heightened.

The environmental, safety and health problems in the nuclear weapons complex are often larger and typically more intractable than those of most conventional commercial cleanup programs. In many cases, no effective long-term technologies exist to clean up hazardous and nuclear waste sites. Even where technology exists, we often lack clear standards on "how clean is clean?" And the fiscal reality is that there will be less money for activities we have performed in the past. It is critical to recognize that although we can economize and increase efficiency, there is a point

beyond which further reductions in our budget mean less work, and increase the risks to public health, workers, and the environment.

Despite these challenges, we are moving forward. The program inherited business practices, managerial structures, and contractual systems not designed for effective completion of the type of work to be done. We have changed this and are creating a strategy to meet our goals. My vision for the program is one that will blend business practices that are proper for the type of work that we do with the accountability and responsibility that are required of us as public servants. Our long-term strategy involves focusing on stabilizing the problems at our sites using risk based priorities, while simultaneously making the necessary investments in developing new technologies to grapple with certain intractable problems in a more cost-effective manner. We have substantially increased our investment in science and technology with the new basic science initiative and the new spent fuel technology development program, which is centered at the Savannah River site and Idaho. Having made these investments, we are confident that the work we do in stabilizing the sites will buy us the time to implement these new more cost-effective remedial technologies in the future. I am confident that the same ingenuity that fought the Cold War will enable us to successfully seek solutions to the current challenges we face. I ask you for your full support for our budget request to continue our progress in this vital program.

APPENDIX: Environmental Management Commitments for the Future

With new contracts, leaner site infrastructures and effective technologies in place we are poised to make substantial progress in Fiscal Year 1997. And we in the Environmental Management program are willing to be measured against our commitments across the country.

SOUTH CAROLINA (Savannah River Site)

The Office of Waste Management will:

- Produce 150 canisters of high-level waste from Defense Waste Processing -Facility (DWPF).
- Operate in-tank precipitation at full capacity, which results in an adequate feed of prepared pretreated waste for the DWPF.
- Retire four high-level waste tanks from service.

The Office of Environmental Restoration wills:

- Install a final cap at the 20-acre low-level radioactive waste disposal facility to eliminate pollutant migration, and an interim cover over a 76-acre radioactive waste burial ground to significantly reduce contaminant mobility, at the Savannah River site in South Carolina.
- Complete construction, installation, and start-up of the F&H Canyon ground water remediation systems, which will remove hazardous contaminants and control tritium migration, and operate three air strippers and five soil vapor extraction units, which will remove 10,000 pounds of volatile organic compounds per month from soils and ground water, at the Savannah River site.
- Deploy advanced retrieval technologies, such as the use of water jets, for the removal of

the saltcake portion of liquid high-level waste from Tank 41. New approaches and technologies for tank waste treatment will cut costs since the amount of support infrastructure and associated equipment is reduced. Currently, approximately $18 million is spent on the infrastructure equipment used for conventional tank waste preparation prior to transfer.

- Complete the optimization of magnetic separation technology (MAG*SEP) for treatment of waste waters from Site cleanup at the Savannah River Site; develop new in situ applications for this technology.
- Develop electrochemical, crystallization, and salt splitting processes to reduce low level waste volume disposal.

The Office of Nuclear Material and Facility Stabilization will:

- Complete stabilization of 3,500 gallons of Plutonium-242 solution stored in H-Canyon. This material poses a risk to workers, and was identified as a high-priority by Defense Nuclear Facility Safety Board Recommendation 94-1.
- Begin stabilization of the Mark-16 and Mark-22 spent nuclear fuel, containing-7.3 metric tons of heavy metal.
- Complete stabilization (conversion to metal) of the Mark-31 Plutonium targets, containing 139 metric tons of heavy metal.

IDAHO (Idaho National Engineering Laboratory, Argonne National Laboratory -West)

The Office of Waste Management will:

- Operate the Sodium Processing Facility (SPF) to treat 70,000 gallons bulk sodium at Argonne National Laboratory-West.
- Restart the New Waste Calcining Facility, which uses thermal treatment to convert waste from liquid to a granular form, and process 140,000 gallons of liquid high-level waste into more stable form for safe storage.
- Continue incineration of low-level waste (LLW) and mixed LLW in the Waste Experimental Reduction Facility (WERF) to treat 6,500 cubic feet of inventory.
- Begin the private sector treatment of transuranic and mixed radioactive and hazardous chemical waste. The Request for Proposal has already been issued and waste treatment is expected to begin in June 1996.

The Office of Environmental Restoration will:

- Complete retrieval and treatment facilities construction and limited production test of operational systems, and initiate the retrieval and treatment of pit contents, at the Idaho National Engineering Laboratory (INEL), Pit 9.
- Install landfilI caps at the Central Facilities Area burial grounds and the former SL-1 reactor/BORAX I reactor burial grounds, and complete the decontamination and Decommissioning of the Advanced Reactor Area II, at INEL.

The Office of Nuclear Material and Facility Stabilization will:

- Complete deactivation of Advanced Reactor Measurement Facility, e.g., capping of floor

lines, turning off utilities, etc.
- Complete transfer of all 627 spent nuclear fuel elements from the North and Middle Basins of CPP-603 to safer storage areas, and continue fuel repackaging and transfer from the South Basin of CPP-603.

The Office of Site Operations will:

- Complete the replacement of 49,000 square feet of roofing on 3 facilities.

The Office of Science and Technology wills:

- Demonstrate the dismantlement of the CP-5 Reactor at Argonne National Laboratory - West using hardened robotic remote systems that withstand radioactive degradation. Using hardened remote systems protects workers, is more cost effective, and prolongs the life of the equipment since it is protected against the damaging effects of radiation and other environmental hazards.
- Complete a large-scale decontamination and dismantlement demonstration at the Chicago Pile-5 Test Reactor at Argonne-East.
- Develop processes to extract strontium, cesium, technetium, lanthanum and transuranics in a single process at Argonne National Laboratory.
- Deploy the Light Duty Utility Arm in Idaho liquid high level waste tanks to inspect tank surfaces and demonstrate its full-scale retrieval capability.
- Demonstrate a mobile van waste inspection systems that will perform nondestructive evaluation and assay (analysis) of containerized nuclear wastes at Idaho National Engineering Laboratory. (The combined nuclear techniques will assay wastes to meet performance requirements of the Waste Isolation Pilot Plant acceptance criteria.)
- Complete radioactive bench-scale testing of the Plasma Health System, and transfer the technology to mixed waste treatment privatization initiatives.
- Complete demonstration of viscous liquids containment and prepare performance standards based on the results. Test innovative verification and monitoring tools.
- Complete implementation of the Telerobotic Retrieval System at Pit 9.
- Complete in situ (in place) stabilization of buried waste using grouting techniques and prepare performance standards.

NEW MEXICO (Sandia National Laboratory, Los Alamos National Laboratory, Waste Isolation Pilot Plant)

The Office of Waste Management will:

- Develop and operate mobile treatment units to treat waste from our past operations as well newly generated mixed waste at Albuquerque and other DOE sites to comply with the Federal Facilities Compliance Act (FFCAct).
- Continue remediation of transuranic waste at Los Alamos National Laboratory while we work toward a new completion date for a renegotiated Consent Order with New Mexico. Remediation includes retrieving waste from earthen covered storage units that do not meet certain Resource Conservation and Recovery Act (RCRA) requirements and placing the repackaged waste on storage pads under metal framed domes that meet RCRA requirements.

- Submit to the Environmental Protection Agency (EPA) an application to certify the Waste Isolation Pilot Plants (WIPP) compliance with EPA's disposal regulations for transuranic waste.
- Obtain a final decision from the EPA on the DOE No-Migration petition for WIPP.

The Office of Environmental Restoration will:

- Complete ten expedited cleanups at Los Alamos National Laboratory in New Mexico.

The Office of Science and Technology will:

- Test innovative designs and alternative materials for barrier protection to determine cost and performance parameters and to verify integrity techniques.
- Test various ion exchange materials, at Sandia National Laboratory, on both simulated and actual radioactive material, to determine best method to remove cesium, strontium, and technicium from high level waste streams.

WASHINGTON (Hanford Site)

The Office of Waste Management will:

- Eliminate imminent safety risks and substantially reduce maintenance costs for a significant set of high level radioactive waste tanks. Routine mandatory requirements for protective clothing and equipment will not be required for entry. Key parameters like temperature and pressure will be monitored remotely.
- Resolve high heat safety issue after retrieval of waste from high level radioactive waste tank number C-106.
- Complete scientific investigation into the potentially serious problem of accumulations of gases resulting from the chemical reaction of ferrocyanide in the tanks, which has occurred in an uncontrolled manner after the addition of chemicals to the tanks, prior to the imposition of modern technical and safety controls.
- Start interim stabilization of seven flammable gas watch list tanks. This will remove the pumpable liquids from the organic watch list tanks to reduce leakage of high lead radioactive waste in case these tanks begin to leak.
- Complete construction of and begin operation of Project W-030, the Tank Farm Ventilation Upgrades. This project will ventilate tanks that have a higher potential for accumulation of flammable gases.
- Complete removal of floating organic layer in Tank C-103. This project will remove the flammability potential and the potential for noxious vapors from the organic layer.
- Complete construction of "cross-site" transfer line. This will allow transfers of waste between high level waste storage areas and allow for the removal of waste from tanks that are found to be leaking or have other safety problems in the single shelled tanks, to the safer and much newer double shelled tanks.
- Startup of the Waste Receiving and Packaging Facility (WRAP-1) which will package low level waste for ultimate disposal.
- Complete construction of the Phase V portion of the Central Waste Complex which will be a 168,000 square foot storage facility for transuranic waste and mixed low level waste.

The Office of Environmental Restoration will:

- Excavate and remove over 100,000 loose cubic yards of contaminated soil at the 100-BC and 100-HR reactor areas at Hanford, Washington.
- Complete deactivation of the final 14 N Reactor facilities, including spent fuel basin cleanup, for eventual decommissioning and decontamination of the reactor at Hanford, Washington.

The Office of Nuclear Materials and Facility Stabilization will

- Complete all of the deactivation activities at PUREX.
- Continue stabilization of Plutonium Finishing Plant materials according to the Defense Nuclear Safety Board (DNFSB) Recommendation 94-1 implementation plan. Initiate stabilization of Plutonium solutions using the vertical calciner, a thermal destruction process. Continue stabilization of reactive solids using muffle furnaces.

The Office of Site Operations will:

- Replace 71,000 square feet of unsafe roofing on 15 buildings at our Hanford site.

The Office of Science and Technology will:

- Complete a large-scale demonstration for safe storage or "cocooning" of the Hanford C-production reactor.
- Deploy an in situ (in place) organic contaminant detection sensor and moisture content sensor on the tip of the Cone Penetrometer, which will be pushed into Hanford tank wastes.
- Use of a subsurface imaging system (Electrical Resistance Tomography) to detect leakage from tank wastes.

COLORADO (Rocky Flats)

The Office of Nuclear Material and Facility Stabilization will:

- Complete stabilization of 18,000 liters of Plutonium solution in Buildings 371 and 771 and off-site conversion of highly enriched Uranium solutions to a solid form for storage.
- Repackage an additional 100 of the 700 (for a total of 205) inorganic drums to be repackaged by 2002. Close out remaining 11 of 21 mixed residue closure units.
- Complete design review and construction for pyrochemical salt stabilization project to begin the processing of approximately 16,000 kilograms of Plutonium-bearing salt resides for completion in December, 1997. Complete design review and construction for the ash stabilization project to begin the stabilization of approximately 4,000 kilograms of sand, slags and crucible (SSGC).

TENNESSEE (Oak Ridge Reservation)

The Office of Waste Management will:

- Continue safe operation and maintenance of treatment, storage, and disposal facilities for sanitary, hazardous, radioactive, and mixed waste.
- Treat 1.6 million pounds of liquid waste at a minimum, and 500,000 pounds of solid waste at the Toxic Substances Control Act (TSCA) incinerator.

The Office of Environmental Restoration will:

- Prepare the final ROD for Clinch River and complete an interim action to reduce strontium and cesium contamination of the White Oak Creek and the Clinch River at the Oak Ridge Tennessee reservation.
- Complete the decommissioning of six cooling towers at the R-25 site in Tennessee, thereby removing uranium contaminated sediments and eliminating fire and industrial hazards associated with the facilities.
- Treat ground water plumes in order to mitigate off-site ground water contamination and reduce tho infiltration of oil into the ground water at the Portsmouth, Ohio facility.
- Initiate an interim action to cap a uranium burial ground to mitigate the leaching of uranium into ground water, and complete construction of a treatment facility to support an interim action for containing radioactively contaminated groundwater that is migrating off-site at the Paducah, Kentucky site.

The Office of Nuclear Material and Facility Stabilization will:

- Remove the spent nuclear fuel currently stored in the Bulk Shielding and Tower Shielding Reactors at Oak Ridge to the Savannah River Site.

OHIO (Fernald, Mound, Portsmouth)

The Office of Environmental Restoration will:

- Complete the essential design activities and D&D of two highly contaminated buildings, thereby maintaining the accelerated cleanup schedule while reducing risks to workers at the Fernald site in Ohio.
- Complete the construction and start up of a waste water treatment plant and the construction of the on-site disposal facility at Fernald to reduce further long-term risks to human health and the environment.
- Complete disposition of approximately 32,400 cubic feet of low-level waste and the remaining nuclear materials waste inventory, significantly reducing landlord costs and enabling building demolition to proceed on schedule, at the Fernald site.

The Office of Science and Technology will:

- Use innovative technologies and new processes that maximize efficiency and recycle potential, we will complete a large-scale decontamination demonstration at the Fernald Plant 1 uranium processing facility.
- Fully field test technologies at the Portsmouth Gaseous Diffusion Plant for in situ (in place) remediation of groundwater contaminated with radionuclides and organic compounds and with dense non-aqueous phase liquids (DNAPLs)in clay-like, low permeability material.

MISSOURI (Kansas City Plant)

The Office of Waste Management will:

- Replace faulty, leaking overhead industrial waste piping system in the Industrial Wastewater pre-treatment plant at the Kansas City Plant.

NEVADA (Nevada Test Site)

The Office of Waste Management will:

- Continue disposal operations for packaged low-level wastes from other DOE sites.

CALIFORNIA (Lawrence Livermore National Laboratory)

The Office of Waste Management will:

- Continue construction of consolidated waste treatment and storage facility at Lawrence Livermore National Laboratory.

FLORIDA (Pinellas plant)

The Office of Site Operations will:

- Close and complete the transfer of the Pinellas Plant to the Pinellas County Industrial Council. Continue residual pump and treat, and administrative requirements.