WASTE CLEANUP: STATUS AND IMPLICATIONS OF COMPLIANCE AGREEMENTS BETWEEN DOE AND ITS REGULATORS[1]

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ABSTRACT

This paper discusses compliance agreements that affect the Department of Energy's (DOE) cleanup program. Compliance agreements are legally enforceable documents between DOE and its regulators, specifying cleanup activities and milestones that DOE has agreed to achieve.[2] Over the years, these compliance agreements have been used to implement much of the cleanup activity at DOE sites, which is carried out primarily under two federal laws—the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (CERCLA) and the Resource Conservation and Recovery Act of 1976, as amended (RCRA). Besides DOE, other parties to the agreements include various federal and state agencies that have jurisdiction over environmental and health issues. Our objectives were to determine the types of compliance agreements in effect at DOE cleanup sites, DOE's progress in achieving the milestones contained in the agreements, whether the agreements allowed DOE to prioritize work across sites according to relative risk, and possible implications the agreements have on DOE's efforts to improve the cleanup program.

In summary,

- The 70 compliance agreements at DOE sites can be divided into three main types: (1) agreements specifically required by CERCLA or by RCRA, (2) court-ordered agreements resulting from lawsuits initiated primarily by states, and (3) other agreements, including state administrative orders enforcing state hazardous waste management laws.

- DOE reported completing about 80 percent of the 7,186 milestones by the time originally scheduled in the agreements. When DOE found itself unable to complete a milestone on time, regulators have generally been willing to negotiate extensions, approving about 93 percent of DOE's requests for milestone changes. In only a few instances have regulators applied penalties for missed milestones.

- Compliance agreements are site-specific and are not intended to provide a mechanism for DOE to use in prioritizing risks among the various sites. However, DOE's February 2002 initiative to improve the Environmental Management program has as a central component developing risk-reduction priorities and concentrating its efforts on activities that contribute to risk reduction.

- It is not clear if compliance agreements will be a barrier to DOE's initiative to accelerate risk reduction at the sites. Regulators have generally supported past initiatives that did not alter treatment strategies or reduce funding. However, DOE's February 2002 initiative involves potential changes in technology or approach that could result in leaving more of the waste on site than currently planned and could also alter the funding

balance among DOE sites. Regulators told us that they were concerned about leaving more of the waste on site and would be opposed to receiving reduced funding at their individual sites. Although regulators have so far been cautiously supportive of the reform initiatives, it remains to be seen if regulators will fully support these changes to site cleanup programs once the program's specifics are apparent.

INTRODUCTION

DOE is responsible for a nationwide complex of facilities created during World War II and the Cold War to research, produce, and test nuclear weapons. Much of the complex is no longer in productive use, but contains vast quantities of radioactive waste, such as plutonium-contaminated sludge, and hazardous waste, such as solvents and hazardous chemicals, related to the production of nuclear materials. Since the 1980s, DOE has been planning and carrying out activities around the complex to contain, safely store, and dispose of these materials. It is a daunting challenge, involving the development of complicated technologies, costing about $220 billion, and expected to take 70 years or longer. DOE has reported completing its cleanup work at 74 of the 114 sites in the complex, but those sites were small and the least difficult to deal with. The sites remaining to be cleaned up present enormous challenges to DOE.

DOE's cleanup program is carried out primarily under two environmental laws. Under section 120 of CERCLA, EPA must, where appropriate, evaluate hazardous waste sites at DOE's facilities to determine whether the waste sites qualify for inclusion on the National Priorities List, EPA's list of the nation's most serious hazardous waste sites. For each facility listed on the National Priorities List, section 120(e) (2) of CERCLA requires DOE to enter into an interagency agreement with EPA for the completion of all necessary remedial actions at the facility. These agreements often include the affected states as parties to the agreements. These agreements may be known as Federal Facility Agreements or Tri-Party Agreements. Under amendments to RCRA contained in section 105 of the Federal Facility Compliance Act of 1992, DOE generally must develop site treatment plans for its mixed-waste sites.[3] These plans are submitted for approval to states authorized by EPA to perform regulatory responsibilities for RCRA within their borders or to EPA if the state does not have the required authority. Upon approval of the treatment plans, the state or EPA must issue an order requiring compliance with the approved plan. The agreements are generally known as Federal Facility Compliance orders.

DOE carries out its cleanup program through the Assistant Secretary for Environmental Management and in consultation with a variety of stakeholders. These include the federal EPA and state environmental agencies, county and local governmental agencies, citizen groups, advisory groups, Native American tribes, and other organizations. In most cases, DOE's regulators are parties to the compliance agreements.[4] Other stakeholders advocate their views through various public involvement processes including site-specific advisory boards.

To obtain information on DOE's compliance agreements, we used an internet-based survey instrument sent to DOE sites. We visited four DOE Environmental Management program offices—Richland, Idaho Falls, Oak Ridge, and Savannah River—as well as DOE headquarters offices. We also contacted state and federal regulators overseeing both large and small DOE sites and reviewed various reports and studies of DOE's cleanup program.

COMPLIANCE AGREEMENTS ARE OF THREE MAIN TYPES

Compliance agreements in effect at DOE sites can be grouped into three main types (see table I). Agreements of the first type—those specifically required by CERCLA or by RCRA—are in effect at all of DOE's major sites. They tend to cover a relatively large number of cleanup activities and have the majority of schedule milestones that DOE must meet. By contrast, agreements that implement court-ordered settlements exist at only a few DOE sites, tend to be focused on a specific issue or concern, and have fewer associated schedule milestones. These agreements are typically between DOE and states. The remaining agreements are based on either federal or state environmental laws and address a variety of purposes, such as cleaning up spills of hazardous waste or remediating groundwater contamination. These agreements vary widely in the number of milestones they contain.

Table I: Types of DOE Compliance Agreements and Related Schedule Milestones

Type of agreement	Number of agreements	Number of sites	Number of enforceable milestones
Agreements required to implement CERCLA and RCRA requirements	29	20	5,251
Court-ordered agreements resulting from lawsuits	6	6	146
All other agreements	35	12	1,789
Total	**70**[a]	**23**[b]	**7,186**[a]

[a]Five of the agreements containing 130 milestones were completed and are no longer active.

[b]The numbers in this column do not total 23, because many DOE sites have more than one agreement.

Source: GAO analysis of DOE data.

Most of the milestones DOE must meet are contained in the compliance agreements at its six largest sites—Hanford, Savannah River, Idaho Falls, Rocky Flats, Oak Ridge, and Fernald. These six DOE sites are important because about two-thirds of DOE's cleanup funding goes to them. In all, these sites account for 40 of the agreements and more than 4,200 milestones.

MOST MILESTONE DATES HAVE BEEN MET, BUT MEETING MILESTONES IS NOT A GOOD MEASURE OF CLEANUP PROGRESS

DOE reported completing about two-thirds of the 7,186 milestones contained in its compliance agreements as of December 2001. Of the 4,558 milestones completed, about 80 percent were finished by the original due date for the milestone. The remainder of the completed milestones were finished either after the original due date had passed or on a renegotiated due date, but DOE reported that the regulators considered the milestones to be met. DOE's six largest sites reported completing a total of 2,901 of their 4,262 milestones and met the original completion date for the milestones an average of 79 percent of the time. As table II shows, this percentage varied from a high of 95 percent at Rocky Flats to a low of 47 percent at Savannah River. Besides the 1,334 milestones currently yet to be completed, additional milestones will be added in the future.

Table II: Information on Compliance Agreement Milestones at DOE's Six Largest Sites

Dollars in millions					
Site and state	**Current FM lifecycle cleanup estimate**	**Number of enforceable milestones[a]**	**Number of milestones completed**	**Number of milestones completed on original date[b]**	**Percent of completed milestones meeting original due date**
Hanford, WA[c]	$62,097	1,080	825	743	90
Savannah River, SC	37,809	714	556	264	47
Idaho Falls, ID	27,881	428	334	312	93
Oak Ridge, TN	8,456	846	513	360	70
Rocky Flats, CO	7,705	119	62	59	95
Fernald, OH	3,341	1,075	611	558	91

[a]The total number of milestones is not yet known because at some sites, many milestones will be added in the future as cleanup strategies change, new schedules are set, and new work is defined.

[b]The number of milestones completed on the original due date is the total of all milestones satisfactorily completed by the original date DOE agreed to with regulators. Those milestones completed on other than the original due date were generally not considered missed milestones because the milestone dates were either extended or renegotiated with regulators.

[c]Information on Hanford includes both the Richland Operations Office and the Office of River Protection.

Source: GAO analysis of DOE data.

Although DOE has completed many of the milestones on time, for several reasons DOE's success in completing milestones on time is not a good measure of progress in cleaning up the weapons complex. Specifically:

- Many of the milestones do not indicate what cleanup work has been accomplished. For example, many milestones require completing an administrative requirement that may not indicate what, if any, actual cleanup work was performed. At DOE's six largest sites, DOE officials reported that about 73 percent of the 2,901 schedule milestones completed were tied to administrative requirements, such as obtaining a permit or submitting a report.
- Some agreements do not have a fixed number of milestones, and additional milestones are added over time as work scope is more fully defined. For example, one of Idaho Falls' compliance agreements establishes milestones for remedial activities after a record of decision[5] has been signed for a given work area. Four records of decision associated with the agreement have not yet been approved. Their approval will increase the number of enforceable milestones required under that agreement.
- Many of the remaining milestones are tied to DOE's most expensive and challenging cleanup work, much of which still lies ahead. Approximately two-thirds of the estimated $220 billion cost of cleaning up DOE sites will be incurred after 2006. DOE has reported that the cleanup activities remaining to be done present enormous technical and management challenges, and considerable uncertainties exist over the final cost and time frame for completing the cleanup.

Even though schedule milestones are of questionable value as a measure of cleanup progress, the milestones do help regulators track DOE's activities. Regulators at the four sites we visited said that the compliance agreements they oversee and the milestones associated with those agreements provide a way to bring DOE into compliance with existing environmental laws and regulations. They said the agreements also help to integrate the requirements that exist under various federal laws and allow regulators to track annual progress against DOE's milestone commitments.

Regulators' Flexible Approach Results in Renegotiated Milestones and Few Penalties

Regulators have generally been flexible in agreeing with DOE to change milestone dates when the original milestone could not be met. DOE received approval to change milestone deadlines in over 93 percent of the 1,413 requests made to regulators. Only 3 percent of DOE's requests were denied.[6] Regulators at the four sites we visited told us they prefer to be flexible with DOE on accomplishing an agreement's cleanup goals. For example, they generally expressed willingness to work with DOE to extend milestone deadlines when a problem arises due to technology limitations or engineering difficulties. Because regulators have been so willing to adjust milestones, DOE officials reported missing a total of only 48 milestones, or about 1 percent of milestones that have been completed.

Even in those few instances where DOE missed milestone deadlines and regulators were unwilling to negotiate revised dates, regulators have infrequently applied penalties available under the compliance agreements. DOE reported that regulators have taken enforcement actions only 13 times since 1988 when DOE failed to meet milestone deadlines. These enforcement actions resulted in DOE paying about $1.8 million in monetary penalties, as shown in table III.

Table III: Number of Compliance Agreement Missed Milestones and Monetary Penalties Paid at DOE Sites Where Regulators Took Enforcement Actions, Through November 2002

Site and state	Milestones missed	Enforcement actions taken	Monetary penalties paid
Hanford, WA	13	2	$100,000[a]
Idaho Falls, ID	4	2	970,000[b]
Portsmouth, OH	2	2	292,000
Fernald, OH	7	3	250,000
Oak Ridge, TN	2	2	100,000
Rocky Flats, CO	2	2	100,000
Total	**30**	**13**	**$1,812,000**

[a]DOE missed a July 31, 2001, milestone to start construction of a waste treatment facility. However, DOE and the state of Washington agreed on a new milestone date in May 2002, which DOE subsequently met. The state then dropped a pending penalty since the milestone was not longer considered missed. Therefore, this monetary penalty was not included in table III.

[b]In April 2002, DOE settled an enforcement action with the state of Idaho over delays at one of the waste burial sites. To settle the dispute, DOE agreed to pay $800,000 to the state of Idaho. However, DOE and the state subsequently agreed to a new milestone, and no penalty for missing the previous milestone. Therefore, this monetary penalty was not included in table III.

Source: GAO analysis of DOE data.

In addition to or instead of regulators assessing monetary penalties, several DOE sites agreed to other arrangements valued at about $4 million. For example, for missing a milestone to open a transuranic[7] waste storage facility at the Rocky Flats site, the site agreed to provide a $40,000 grant to a local emergency planning committee to support a chemical-safety-in-schools program. At the Oak Ridge site, because of delays in operating a mixed waste incinerator, site officials agreed to move up the completion date for $1.4 million worth of cleanup work already scheduled. Also, at three sites—Paducah, Kentucky; Lawrence Livermore Main Site, California; and Nevada Test Site, Nevada—the regulators either did not impose penalties for missed milestones or the issue was still under discussion with DOE.

COMPLIANCE AGREEMENTS ARE SITE SPECIFIC AND DO NOT ALLOW FOR MANAGING RISKS ACROSS DOE SITES

DOE's compliance agreements focus on environmental issues at specific sites and do not include information on the risks being addressed As a result, they do not provide a means of prioritizing risks among sites or a basis for decision-making across all DOE sites. Risk is only one of several factors considered in setting the milestones in compliance agreements. Other factors include the preferences and concerns of local stakeholders, business and technical risk, the cost associated with maintaining old facilities, and the desire to achieve demonstrable progress on cleanup. The schedules for performing the cleanup work reflect local DOE and stakeholder views on these and other factors and may not reflect the level of risk. For example, regulators at DOE's Savannah River site told us that they were primarily concerned that DOE maintain a certain level of effort and they expected DOE to schedule this work to most efficiently clean up the site. DOE developed a decision model to determine how to allocate its cleanup dollars at Savannah River to achieve this efficiency. A group of outside reviewers assessing the system at the request of site management concluded that the model was so strongly weighted to efficiency that it was unlikely that serious risks to human health or the environment could alter the sequencing of work. DOE officials said they revised the model so that serious risks receive greater emphasis.

DOE's Attempts to Develop a Risk-Based Approach Have Not Been Successful

In response to concerns expressed by the Congress and others about the effectiveness of the cleanup program, DOE has made several attempts to develop a national, risk-based approach to cleanup, but has not succeeded. For example, in 1999, DOE pilot tested the use of site risk profiles at 10 DOE offices. The profiles were intended to provide risk information about the sites, make effective use of existing data at the sites, and incorporate stakeholder input. However, reviewers found that the site profiles failed to adequately address environmental or worker risks because the risks were not consistently or adequately documented. In 2001, DOE eliminated a support group responsible for assisting the sites with this effort, and the risk profiles are generally no longer being developed or used.

A 1999 DOE-funded study to evaluate its efforts to establish greater use of risk-based decision making concluded that none of the attempts had been successful.(1) Common problems identified by the study included poor documentation of risks and inconsistent scoring of risks

between sites. The study reported that factors contributing to the failure of these efforts included a lack of consistent vision about how to use risk to establish work priorities, the lack of confidence in the results by DOE personnel, the unacceptability of the approaches to stakeholders at the sites, and DOE's overall failure to integrate any of the approaches into the decision-making process. However, the study concluded that the use of risk as a criterion for cleanup decision-making across DOE's sites was not only essential, but was feasible and practical, given an appropriate level of commitment and effort by DOE.

Accelerated Schedules in DOE Initiative Signal the Need to Develop a Risk-Based Approach

Without a national, risk-based approach to cleanup in place, DOE's budget strategy has been to provide stable funding for individual sites and let the sites determine what they needed most to accomplish. However, DOE's February 2002 initiative to shift its cleanup program to place greater focus on rapid reduction of environmental risk signaled yet again the need for a national risk-based approach to cleanup. DOE released a report describing numerous problems with the environmental management program and recommending a number of corrective actions. (2) The report concluded that, among other things, the cleanup program was not based on a comprehensive, coherent, technically supported risk prioritization; it was not focused on accelerating risk reduction; and it was not addressing the challenges of uncontrolled cost and schedule growth. The report recommended that DOE, in consultation with its regulators, move to a national strategy for cleanup. In addition, the report noted that the compliance agreements have failed to achieve the expected risk reduction and have sometimes not focused on the highest risk. The report recommended that DOE develop specific proposals and present them to the states and EPA with accelerated risk reduction as the goal.

DOE's new initiative provides additional funds for cleanup reform and is designed to serve as an incentive to sites and regulators to identify accelerated risk reduction and cleanup approaches. DOE's fiscal year 2003 budget request included a request for $800 million for this purpose. Moreover, the Administration agreed to support up to an additional $300 million for cleanup reforms. The set-aside would come from a reduction in individual site funding levels and an increase in the overall funding level for the cleanup program. The money will be made available to sites that reach agreements with federal and state regulators on accelerated cleanup approaches. Sites that do not develop accelerated programs would not be eligible for the funds. As a result, sites that do not participate could receive less funding than in past years.

As of November 2002, more than 15 major DOE sites have signed letters of intent with their regulators outlining an accelerated cleanup strategy, including production sites such as Hanford and Savannah River, assembly plants such as Pantex, and laboratories such as Los Alamos and Sandia. In addition to outlining an accelerated cleanup approach, each of the letters of intent includes a provision that the letters are not intended to modify the obligations DOE agreed to in the underlying compliance agreements. For example, at Hanford, DOE and the regulators signed a letter of intent in March 2002 to accelerate cleanup at the site by 35 years or more. DOE and the regulators agreed to consider the greatest risks first as a principle in setting cleanup priorities. They also agreed to consider, as targets of opportunity for accelerated risk reduction, 42 potential areas identified in a recent study at the site. While accelerating the cleanup may hold promise,

Hanford officials acknowledged that much technical, regulatory, and operational work is required to actually implement the proposals in the new approach.

DOE is proceeding with the selection and approval of accelerated programs at the sites, as well as identifying the funding for those accelerated programs. At the same time, DOE is considering how to best develop a risk-based cleanup strategy. DOE's Assistant Secretary for Environmental Management said that in developing the risk-based approach, DOE should use available technical information, existing reports, DOE's own knowledge, and common sense to make risk-based decisions. Because DOE's approach to risk assessment is under development, it is unclear how effective the approach will be or whether in implementing it, DOE will be able to overcome the barriers encountered during past efforts to formalize a risk-assessment process. In the interim, DOE headquarters review teams were evaluating the activities at each site and were qualitatively incorporating risk into those evaluations.

COMPLIANCE AGREEMENTS WERE NOT A BARRIER TO PAST MANAGEMENT IMPROVEMENTS, BUT IMPACT ON FEBRUARY 2002 INITIATIVE IS UNCLEAR

Compliance agreements have not been a barrier to previous DOE management improvements, but it is not clear if the agreements will be used to oppose proposed changes stemming from the February 2002 initiative. DOE has implemented or tried to implement a number of management initiatives in recent years to improve its performance and address uncontrolled cost and schedule growth. For example, in 1994 it launched its contract reform initiative and in 1995 it established its privatization initiative.[8] These initiatives affected how DOE approached the cleanup work, the relationship DOE had with its contractors, and in some cases the schedule for completing the work. Based on reviewing past evaluations of these initiatives and discussions with DOE officials and regulators at DOE sites, it appears that DOE proceeded with these initiatives without significant resistance or constraints as a result of the compliance agreements.

Because DOE's cleanup reform initiative is in its early stages, and site-specific strategies are only beginning to emerge, it is unclear how the site compliance agreements will affect implementation of DOE's latest cleanup reforms. For example, it is not yet known how many sites will participate in DOE's initiative and how many other sites will encounter cleanup delays because of reduced funding. However, early indications suggest caution in assuming that the reactions will be as supportive as in past initiatives. Parties to the agreements at the sites we visited, while supportive of DOE's overall efforts to improve management of the cleanup program, expressed some concerns about proposals stemming from the February 2002 review of the program. They said that DOE's efforts to accelerate cleanup and focus attention on the more serious environmental risks are welcomed and encouraged because such initiatives are consistent with the regulators' overall goals of reducing risks to human health and the environment. Most regulators added, however, that DOE generally had not consulted with them in developing its reform initiative and that they were concerned about being excluded from the process. They also said that DOE's initiative lacked specifics and that they had numerous questions about the criteria DOE will use to select sites and the process DOE will follow at those sites to develop an implementation plan to accelerate cleanup and modify cleanup approaches.

Most regulators said they would not view as favorable any attempt by DOE to avoid what they regarded as appropriate waste treatment activities or significantly delay treatment by reducing

funding available to sites. In such a case, these regulators are likely to oppose DOE's initiative. They told us that they most likely would not be willing to renegotiate milestones in the compliance agreements if doing so would lead to delays in the cleanup program at their sites. In addition, these regulators said that if DOE misses the milestones after reducing the funding at individual sites, they would enforce the milestones in the compliance agreements.

The effect of compliance agreements on other aspects of DOE's initiative is also unclear. Some of the proposed changes in waste treatment, such as eliminating the need to vitrify at least 75 percent of the high-level waste, which could result in disposing of more of the waste at DOE sites, would signal major changes in DOE assumptions about acceptable waste treatment and disposal options. For example, DOE is considering the possibility of reclassifying much of its high-level waste as low-level mixed waste or transuranic waste based on the risk attributable to its actual composition.[9] However, at all four sites we visited, regulators said that, although they supported DOE efforts to improve operations, they also wanted DOE to meet its compliance commitments. The regulators commented that it is unclear how DOE's proposed initiatives will be implemented, what technologies will be considered, and whether the changes will result in reduced cost and accelerated cleanup while adequately protecting human health and the environment.

DOE generally did not seek input from site regulators or other stakeholders when developing its latest initiative. DOE's review team leader said that at the time the review team visited individual sites, the team had not formulated its conclusions or recommendations and so did not seek regulator input. Furthermore, the team leader said that, during the review, internal discussions were being held within DOE about improving ineffective cleanup processes, such as contracting procedures. To include regulators on the review team during these discussions, according to the team leader, could have created the impression that the criticism of DOE processes was regulator driven rather than reflecting the views of DOE and contractor staff. According to the Associate Deputy Assistant Secretary for Planning and Budget, since the proposals coming from the review team were made public in February 2002, DOE has held discussions with regulators at all sites and headquarters about implementing the proposals.

CONCLUSIONS

DOE carries out its cleanup program in a complex legal and regulatory environment. Compliance agreements are one mechanism used to organize these legal and regulatory requirements and set priorities for cleanup at specific sites. As such, the agreements are not a useful tool, nor were they intended to be, for managing DOE's cleanup program from a national, system-wide perspective.

It is unclear if compliance agreements will be a potential barrier to DOE's current national cleanup reform initiative. This initiative involves placing a greater focus on rapidly reducing environmental risks and, as a result, restructuring how DOE allocates its funding for cleanup across its sites. In some cases DOE is also considering dramatically different cleanup approaches than regulators and other stakeholders have come to expect. DOE's compliance agreements could be a potential barrier to these changes, particularly at those sites where funding may be

reduced as a result of implementing the new initiatives or where a significantly different approach is being proposed.

DOE faces two main challenges in going forward with its initiative. The first is following through on its plan to develop and implement a risk-based method to prioritize its various cleanup activities. Given past failed attempts to implement a risk-based approach to cleanup, management leadership and resolve will be needed to overcome the barriers encountered in past attempts. The second challenge for DOE is convincing regulators and other stakeholders that its proposals for accelerating cleanup are preferable to its current approach. DOE generally did not involve states and regulatory agencies in the development of its management improvement initiative. Regulators have expressed concerns about the lack of specifics in the initiative, how implementation plans will be developed at individual sites, and about proposals that may delay or significantly alter cleanup strategies. Addressing both of these challenges will be important to better ensure that DOE's latest management improvement initiative will achieve the desired results of accelerating risk reduction and reducing cleanup costs.

FOOTNOTES

[1] Information contained in this paper is based on a GAO report, *Waste Cleanup: Status and Implications of DOE's Compliance Agreements,* GAO-02-567 (Washington, D.C.: May 2002).

[2] The term "compliance agreement" includes, but is not limited to, Federal Facility Agreements, Interagency Agreements, settlement agreements, consent orders, and compliance orders. It does not include federal and state environmental requirements that are not implemented by compliance agreements. Also, some cleanup work is required in certain of DOE's RCRA permits that authorize waste treatment operations. We did not include RCRA permits in our study because (1) the great majority of DOE's cleanup work is covered by compliance agreements and (2) cleanup work required by RCRA permits is generally also included under the compliance agreements at those sites. Also in this report, we use the term "regulators" to mean those federal and state agencies that are parties to DOE's compliance agreements.

[3] Mixed wastes are wastes that contain both radioactive materials subject to the Atomic Energy Act and hazardous wastes, such as degreasing solvents.

[4] In a few instances, other stakeholders have become signatories to compliance agreements in the settlement of ongoing litigation brought against DOE.

[5] A record of decision is a document used to select the method of remedial action to be implemented at a site following the completion of a feasibility study or an environmental impact statement.

[6] About 4 percent of the requests to change milestone dates were pending or had been withdrawn at the time of our review.

[7] Transuranic waste contains man-made radioactive elements with atomic numbers higher than that of uranium, such as plutonium.

[8] DOE's privatization was intended to reduce the cost of cleanup by attracting "best in class" contractors with fixed price contracts that required contractors to design, finance, build, own, and operate treatment facilities and to receive payments only for successfully treating DOE's wastes.

[9] Currently, DOE classifies this high-level waste based on the treatment process that created the waste.

REFERENCES

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