

IMPLEMENTATION OF THE HANFORD FEDERAL FACILITY AGREEMENT AND CONSENT ORDER

R. D. Izatt
U. S. Department of Energy
and
H. E. McGuire
J. L. Waite
R. D. Morrison
Westinghouse Hanford Company

ABSTRACT

The Hanford Federal Facility Agreement and Consent Order represents a comprehensive effort to clean up the Hanford Site and bring it into compliance with the Resource Conservation and Recovery Act and the Comprehensive Environmental Response, Compensation and Liability Act. The Tri-Party Agreement has been a success story since it was signed on May 15, 1989. All milestones have been completed on schedule, the public has been and continues to be involved, and the regulatory agencies have been working together in support of the agreement. But the future includes many challenges and problems that the three parties must resolve in a cooperative fashion to assure a safe and effective cleanup at the Hanford Site.

INTRODUCTION

The May 15, 1989 signing of the Hanford Federal Facility Agreement and Consent Order (1), commonly referred to as the Tri-Party Agreement, was an historic event for the Hanford Site. For the first time, the U. S. Department of Energy (DOE), the U. S. Environmental Protection Agency (EPA), and the Washington State Department of Ecology (Ecology) agreed on a comprehensive plan and schedule to clean up the Hanford Site. Specifically, the Tri-Party Agreement represents a comprehensive effort to bring the Hanford Site into compliance with the Resource Conservation and Recovery Act (RCRA) (2) and the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (3). The road which led to achieving this agreement was not easy, and even though we have seen excellent success in meeting its commitments during its first year of existence, the future indicates some tough issues that will require a dedicated effort and commitment by all participants for continued success. The following discusses the need for such an agreement, provides a summary of its key elements, talks about its implementation and the difficulties that lie ahead for continued success, and concludes with some lessons learned that might assist others on their road towards an agreement.

WHY AN AGREEMENT AT THE HANFORD SITE?

Why does one need such an agreement for the Hanford Site? Why not just continue to work with the EPA and Ecology on the application of the specific regulatory requirements as defined in the regulations? The Hanford Site includes approximately 60 facilities for treating, storing, and/or disposing of hazardous wastes and that are subject to RCRA permitting and/or closure requirements. Most of these facilities handle mixed wastes (i.e., contain both radioactive and hazardous wastes). In June 1988, the Hanford Site was proposed for inclusion on the National Priorities

Listing (NPL) under CERCLA, and was subsequently listed on the NPL in September 1989 as four separate areas. There are approximately 1100 waste sites, most of which are currently inactive, that will have to be addressed as part of the cleanup process. The majority of these waste sites could fall under either the CERCLA remedial action authority, or the corrective action provisions of RCRA. The authority for RCRA permitting and closure was delegated to the State of Washington. The State eventually will be given authority for corrective actions under RCRA. One of the primary reasons that necessitated the Tri-Party Agreement was the confusion resulting from the application of both RCRA and CERCLA requirements at the same site, especially one as complex as the Hanford Site. The EPA retains its authority for remedial actions under CERCLA. In addition, federal facility agreements are required at all federal facilities that are placed on the NPL. The Hanford Site is not yet in full compliance with RCRA. Therefore, in addition to integrating RCRA and CERCLA cleanup provisions, the Tri-Party Agreement established a schedule to achieve full RCRA compliance.

The State of Washington initially insisted on a court-ordered consent decree for compliance actions falling under State authority. The State maintained that a consent decree would provide a stronger commitment to getting the job done, and ensure State enforceability. Because the EPA cannot enter into a consent decree with the DOE, a separate agreement for EPA authorities (i.e., CERCLA) would have been required. This issue was finally resolved between the State, the DOE and the Department of Justice. The State agreed to enter into an agreement if the Department of Justice provided written recognition of the State's authority

as stated in the agreement and provided assurance that State requirements were enforceable under the agreement.

OBJECTIVES OF THE AGREEMENT

The following were the primary objectives established between the parties as the basis for development of the agreement.

1. Provide timely cleanup of the Hanford Site. The three parties recognized that despite the amount of work involved in cleaning up the Hanford Site, an aggressive cleanup schedule had to be established.
2. Achieve RCRA compliance. All parties are at risk as long as the Hanford Site is not in full compliance with the regulations. An aggressive schedule to achieve compliance benefits all three parties.
3. Provide the basis for funding. The cost for the Hanford Site cleanup will be high. An agreement provides the basis needed to request funding, and the DOE would be obligated to request that funding.
4. Integrate EPA/Ecology. As noted previously, the EPA and Ecology have overlapping authorities. Through the agreement, the parties developed a process in which the agencies share responsibilities and work together.
5. Ensure public involvement. The intent of the parties in the development of the agreement is to maximize public involvement to the extent practicable. Through involvement, public support for cleanup can be achieved.

BRIEF DESCRIPTION OF THE TRI-PARTY AGREEMENT

The Tri-Party Agreement does not cover all environmental regulations that govern the Hanford Site. As stated previously, it addresses RCRA and CERCLA, and only selected provisions of those statutes. Under RCRA, it covers the permitting and closure of all RCRA Hazardous Waste Treatment, Storage and Disposal Facilities. It also addresses RCRA corrective action provisions. It does not address other elements of RCRA, such as waste generator or transporter requirements. Under CERCLA, the agreement addresses only the remedial action provisions. Spill response and Title III reporting are not addressed.

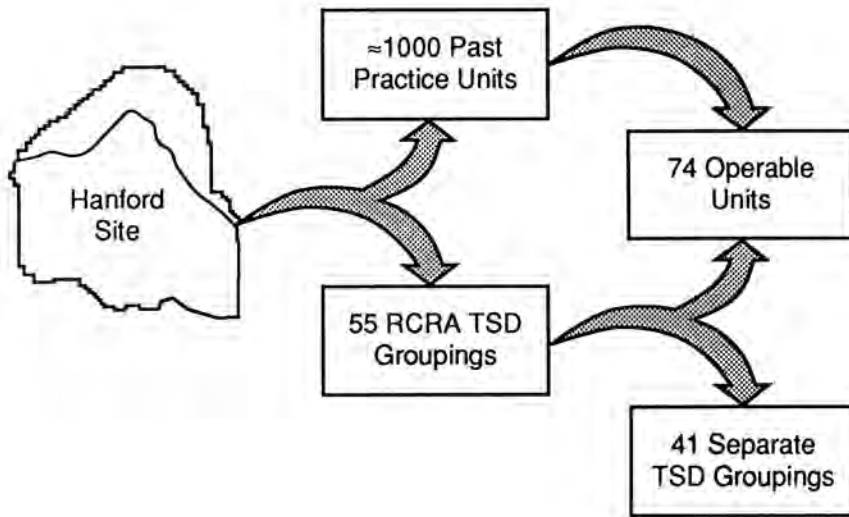
The Tri-Party Agreement delineates the processes and methods to be used by the parties in accomplishing the agreement scope. It establishes an organization of designated project and unit managers who are responsible for meeting the requirements of the agreement. Two key con-

cepts were included in the agreement to address the need for RCRA and CERCLA integration.

1. Establishment of Operable Units. An operable unit is a grouping of waste units for the purpose of investigation and subsequent remedial or corrective action. The RCRA disposal facilities that interact with other waste units have been included as part of these operable units. Regardless of which authority a waste unit comes under, it will be addressed only once in conjunction with other units that it interfaces with. As shown in Fig. 1, approximately 1,000 waste units (commonly referred to as past-practice units), combined with selected treatment, storage and disposal (TSD) units resulted in the formulation of 74 operable units. Four additional groundwater operable units were established, bringing the total number of operable units to 78 and resulting in approximately 1,100 waste units to be addressed for cleanup.
2. Designation of a lead regulatory agency. Once the operable units were established, the question was how to decide which agency, EPA or Ecology, would be responsible. The agencies agreed that they would maintain their respective authorities over their respective waste units, but that a lead regulatory agency would be designated to manage the investigation and any resulting cleanup actions. The lead agency would be responsible to ensure that the requirements and concerns of the other agency are met. Utilization of this concept should minimize duplication of effort, provide for compatible decisions, maximize use of available funds, and minimize disputes. The lead regulatory agency concept is diagrammed in Fig. 2.

Public Involvement

The parties recognized a need for maximum public involvement in the cleanup of the Hanford Site. The Tri-Party Agreement provides many avenues for public involvement (see Fig. 3) and is supported by a separate community relations plan. Quarterly public information meetings are called for throughout the State of Washington, in addition to other public meetings and hearings that may be held. Public information repositories have been established in four strategic locations. Quarterly progress reports are prepared by the DOE and written with emphasis on keeping the public informed of cleanup and compliance actions ongoing at the Hanford Site. These reports are distributed to private citizens and several *public interest groups*. A large mailing list is maintained to disseminate a variety of information, including newsletters and public notices. Investiga-



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Fig. 1. RCRA/CERCLA Integration.

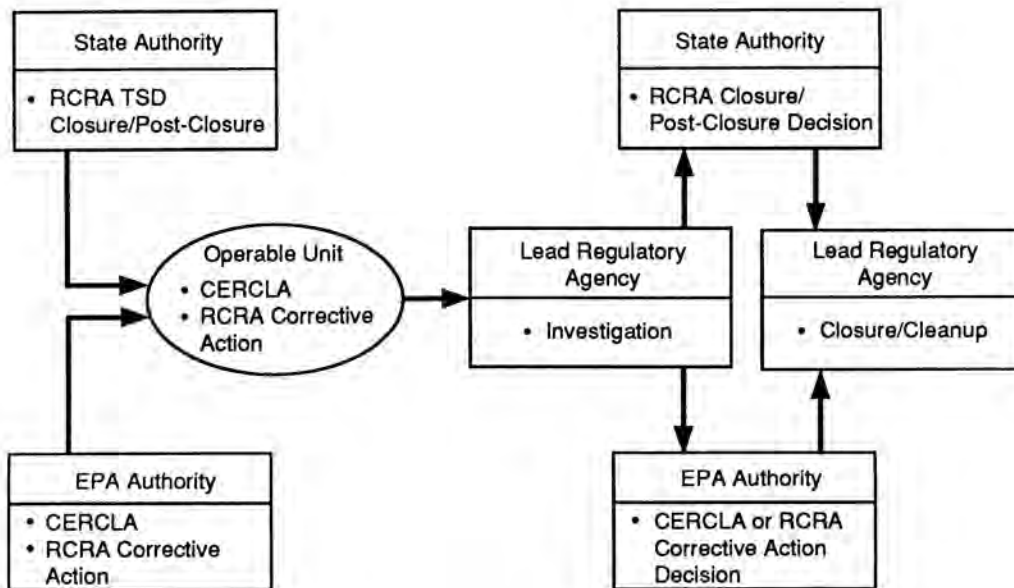
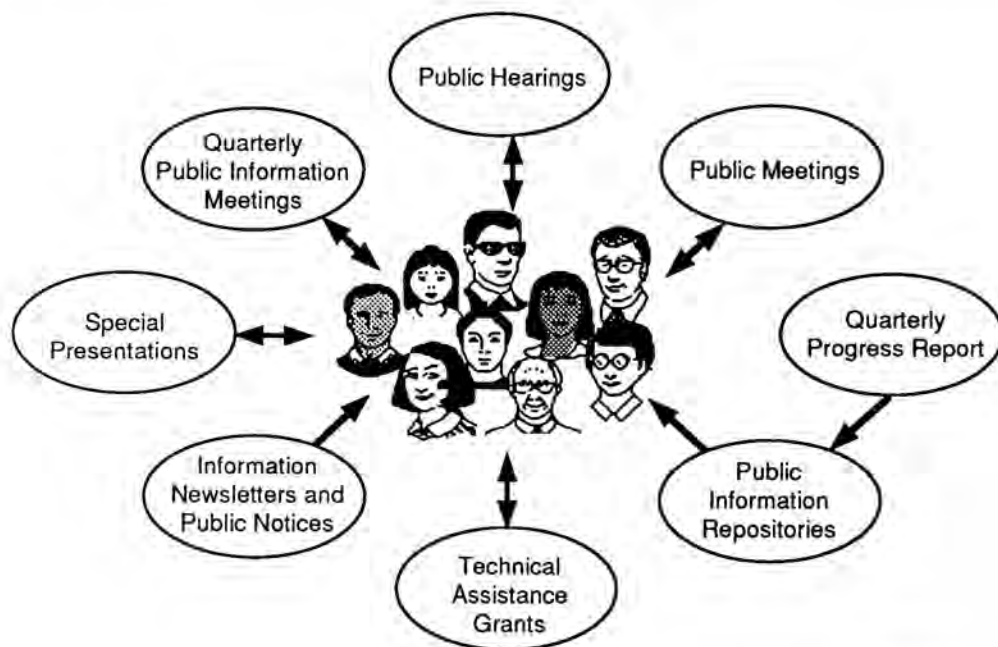


Fig. 2. Operable Unit Lead Regulatory Agency.



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Fig. 3. Public Involvement (Community Relations Plan).

tion work plans and final decision documents are provided for public comment before being issued.

Schedule

The schedule contained in the Tri-Party Agreement calls for cleanup of the Hanford Site by year 2018, or in 30 years. This schedule is very aggressive and will require a significant commitment by all parties. Numerous major as well as interim milestones have been established in support of this 30-year commitment. Some of these commitments are highlighted in Fig. 4. Major activities include achieving RCRA compliance at all facilities, ceasing disposal of contaminated liquids to the soil column, construction and operation of the Hanford Waste Vitrification Plant, closure of the 149 single-shell underground storage tanks, and final cleanup of inactive waste units located on the Hanford Site.

IMPLEMENTATION STATUS

Both the DOE and its contractors have established organizations to ensure that the technical and administrative requirements of the agreement are satisfied. Reaction from the public is becoming more and more positive as we communicate more with them and respond to their concerns. To date, implementation of the Tri-Party Agreement has been very successful. All 30 milestones due in calendar

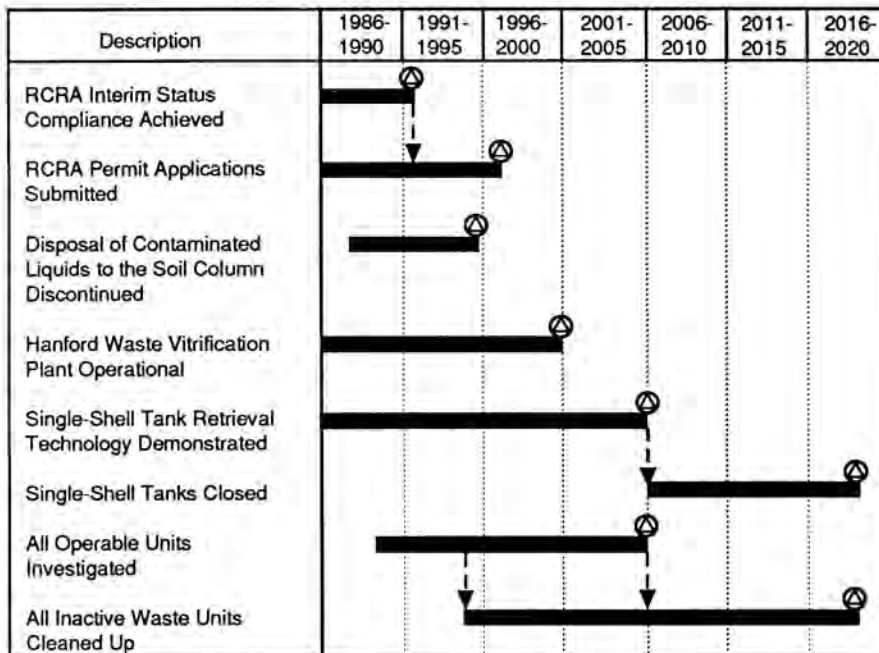
year 1989 were completed on or ahead of schedule. In calendar year 1990, 47 milestones are due, and all are currently planned to be completed on schedule.

Organization

The DOE and Westinghouse Hanford Company (the Hanford Site operations and engineering contractor) have established organizations for the purpose of integrating and coordinating the requirements of the Tri-Party Agreement. The DOE organization is headed by the DOE Tri-Party Agreement project manager. The EPA and Ecology also have assigned project managers in accordance with the agreement. The three parties have also assigned unit managers to specific operable units as well as treatment, storage and disposal groups with ongoing work. Representatives from the Hanford Site contractors also have been assigned to assist the unit managers.

Because the Tri-Party Agreement scope covers many different programs and projects within the DOE, high-level managers from these respective programs were given the responsibility for specific Tri-Party Agreement major and interim milestones. These managers must ensure that the appropriate resources are requested and applied toward successful completion of the milestones.

The EPA project manager and staff are located at the Hanford Site. The State intends to open an office at the



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Fig. 4. Schedule Highlights.

Hanford Site, but there remains a question about the number and type of personnel that will be located there. Successful accomplishment of the agreement requires daily communications between the parties. The DOE believes that a large presence of the State at the Hanford Site, including the State's project manager, will enhance the success of the agreement.

Public Involvement

Three series of Quarterly Public Information Meetings have been conducted since the signing of the Tri-Party Agreement. Each time, the quality of the meetings has improved and the response from the public has become more favorable. The DOE still has a long way to go to gain public trust. The suspicion caused by decades of secrecy cannot be reversed in one year. In addition to the public involvement opportunities covered by the agreement, other activities are being pursued to further involve the public and to gain trust and support. One such effort is "Hanford Visits Your Town." Representatives from the Hanford Site take a wide variety of presentations and displays to towns throughout the state. The Hanford Site also maintains a volunteer Speaker's Bureau comprised of engineers, managers, and

scientists who are available to speak to civic groups, clubs, and schools.

FUTURE EXPECTATIONS

The Tri-Party Agreement has been successful in its initial nine months, and this success should continue over the near term. Unfortunately, there are significant issues which must be resolved for this success to continue beyond 1990.

Regulatory Requirements

As the DOE works with the regulatory agencies on the application of the regulations, more effort and greater scope than originally anticipated is being defined. For example, the extent of analysis required for the single-shell storage tanks has grown significantly and may increase further. The sampling and analysis of one core from a tank that was initially estimated at approximately \$250,000 is now estimated to cost approximately \$450,000. This cost may increase even more because not all issues have been resolved between the DOE and Ecology.

The 242-A Evaporator is a critical facility at the Hanford Site that is needed to concentrate the wastes stored in the double-shell waste storage tanks. If the evaporator does not operate, there will not be sufficient tank space to

support the Tri-Party Agreement milestones. Milestones associated with single-shell tank stabilization, grouting of tank wastes, and pre-treatment in B Plant will not be met. Ecology has determined that the low-level liquid effluent stream coming from the evaporator contains listed hazardous wastes that cannot be disposed to the soil column. As a result, the evaporator has been shut down until facilities are available to store the liquid effluent for eventual treatment. The DOE plans to construct a liquid effluent retention facility (LERF) by December 1990 so that the evaporator can restart. This will be followed in 1992 by a facility to treat and dispose of the liquid effluent. (A current controversy concerns the question of whether the liquid effluent can be placed in the LERF.) The LERF is classified as a surface impoundment. If it is determined that the waste stream is subject to RCRA land disposal restrictions, the waste cannot be placed in a surface impoundment without agreement from the regulators.

The overall issue of compliance with land disposal restrictions is being addressed between the parties. The Hanford Site will require many years to achieve total compliance. For example, the double-shell storage tanks contain hazardous wastes that are restricted from land disposal. These wastes will continue to be stored well beyond the allowable storage period, pending the availability of treatment facilities. As more and more wastes are restricted from land disposal this problem will grow. The current plan is to document in the Tri-Party Agreement what actions will be taken to come into compliance. It is expected that most of the required actions are included already as part of the agreement. The Hanford Waste Vitrification Plant (HWVP), and the Waste Receiving and Processing (WRAP) facility are two key facilities that may provide the needed treatment for much of the wastes being stored. The future operations of both these facilities are identified as milestones in the agreement.

As we work with the regulatory agencies on the permitting and closure of hazardous waste facilities, other issues continue to arise. The regulations were not written for facilities such as are found at the Hanford Site. The DOE and the regulatory agencies must work together toward compliance with the regulations, while at the same time doing what is technically and economically justifiable to the public.

How Clean is Clean?

Further into the investigation of waste sites at the Hanford Site, it is becoming obvious that the cleanup decisions cannot be made until conclusions have been reached relative to future land uses for the Hanford Site. Will it be

returned to a pristine condition, or will it be left as is, with permanent restricted access? The answer is probably somewhere inbetween the two options. The regulatory agencies, the Indian tribes, and the public will have to be involved in such a decision. The DOE is currently considering a Hanford Site cleanup environmental impact statement. This could be the logical vehicle to document the decision on "how clean is clean?". The decision cannot wait much longer. The Tri-Party Agreement calls for completing all investigations and resulting cleanup decisions by the year 2005. If this date is to be met, future land use must be decided soon.

Scope and Costs for Site Investigations

Seven work plans for investigation of operable units have been submitted to the regulatory agencies. Only one plan has been approved and implemented. The other plans remain in the review process for various reasons. One major cause of the delay is the large increase in the scope as well as the increase in cost for these investigations, resulting in schedules that are unacceptable to the regulatory agencies. Because of the great number of operable units (78) to be addressed at the Hanford Site, the three parties are working together to try and streamline the investigation process. Through this streamlining they hope to reduce the scope and cost, resulting in more acceptable schedules.

What Does All This Mean?

The cost to clean up the Hanford Site and achieve regulatory compliance is increasing. Hopefully, new technologies will be developed in the future that will help reduce the costs. Many of the cost increases affect the near term and must be dealt with now. If the costs cannot be reduced, the budget levels authorized by Congress will have to be increased substantially or the work (and Tri-Party Agreement commitments) will have to be extended.

REFERENCES

1. Ecology, EPA, and DOE, 1989 "Hanford Federal Facility Agreement and Consent Order", Washington State Department of Ecology, U.S. Environmental Protection Agency, and U.S. Department of Energy, Olympia, Washington.
2. Resource Conservation and Recovery Act of 1976, as amended, Public Law 94-580, 90 Stat. 2795, 42 USC 6901 et seq.
3. Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, Public Law 96-510, 94 Stat. 2767, 42 USC 9601 et seq.