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Response to Comments on the Hanford Federal Facility Agreement and Consent Order

by

Washington State
Department of Ecology

United States
Environmental Protection Agency

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Department of Energy

July 1989

[redacted]

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INTRODUCTION

On May 15, 1989, the Washington Department of Ecology (Ecology), the United States Environmental Protection Agency (EPA) and the United States Department of Energy (DOE) signed an agreement to clean up radioactive and hazardous wastes at DOE's Hanford Site, and bring operations at the site into compliance with applicable environmental laws.

Prior to signing the Hanford Federal Facility Agreement and Consent Order, hereafter referred to as "the Agreement", the three parties conducted a public comment period from March 13, 1989, to April 28, 1989. The Community Relations Plan for the Hanford Site, detailing a public involvement process for work to be conducted under the Agreement, was also available for public comment during the same period. During that period, workshops were held in Seattle, Richland, Spokane and Vancouver. In response to requests heard at the workshops, two public hearings were held in Richland and Olympia.

Seventeen persons provided comments at the two hearings and 40 individuals, some representing groups of people, submitted written comments. In addition, numerous informal comments were received from the 150 people who attended the four workshops. Comments were received on legal and technical issues, funding for the Agreement, DOE policies and the public involvement process. Many addressed identical or related topics. Therefore, the comments have been summarized into 16 general categories, as shown on the Table of Contents for the purpose of providing responses. The responses are from all three parties unless otherwise specified.

During public comment period, many people expressed their admiration for the negotiators from all three parties for coming to an agreement after facing what seemed like insurmountable differences. Many stated that the Agreement is reasonable and rational as well as a model for other sites across the United States. Their advice was to make sure that the Agreement was not used as a "political football" that would delay milestones and increase cost. Many urged the three parties to sign it and to start work. All three parties felt the negotiators developed a workable, realistic plan of action for cleanup and compliance at the Hanford Site. Although each party had to make concessions during negotiations, the finished product is a positive step for all involved.

The three parties took a number of actions in response to comments from the public prior to signing the Agreement. Among them are inclusion of the Washington State Nuclear Waste Advisory Council in the public involvement process, an agreement to conduct a 14-month investigation of liquid discharges at Hanford,

and inclusion of language in the Agreement that more clearly addresses the decontamination and decommissioning of Hanford's surplus facilities. Further description of changes to the Agreement and other actions taken are included in Attachments 1 and 2.

1. LIQUID EFFLUENT DISCHARGES

1.0 Comment Summary:

The objection to the Agreement that was raised most consistently pertained to the continuing practice of disposal of liquids to the soil column. The comments generally fell into one of the following categories:

1. Technical or environmental issues;
2. Statutory, regulatory, or legal issues; and,
3. Department of Energy policy issues.

In some cases, these liquid discharges are proposed to continue until 1995 (Milestone M-17-00). Although there are currently 33 Phase I and Phase II liquid effluent streams which discharge into different units at the site, the majority of the comments dealt only with the streams generated by the PUREX plant. The PUREX plant generates five liquid waste streams, four of which are discharged to the soil column.

Several commenters requested that the parties reconsider the milestone date, with recommendations that ranged from immediate cessation of all liquid discharges to the soil column to cessation within one to three years. It was also suggested by one commenter that discharges should cease immediately and that all RCRA closure actions be completed within three years.

The issues raised in these comments were varied. The following is a summary of the types of comments received:

1.1 Comments on Technical or Environmental Issues:

- General disappointment that discharges will continue.
- Continuation of discharges is inconsistent with goal of cleanup -- cannot effectively clean up the site while continuing to add contamination.
- Allowing liquid discharges to continue is contrary to the goal of protecting present and future users of the land and water.
- Milestone M-17-00 is a weak point in the Agreement. If discharges are allowed to continue, public support may decrease and, hence, funding for the Agreement may be adversely affected. The Agreement should not be signed until the issue of continued liquid discharges is

adequately addressed and until Milestone M-17-00 is appropriately modified.

In contrast, several commenters stated that the Agreement should be signed as soon as possible in order to allow cleanup/compliance activities to proceed. They did not feel that continued liquid discharges until 1995 presented a significant risk to public health or the environment.

- Data from DOE/contractors and from independent sources indicates that long-lived radionuclides have migrated from the 200 area for great distances in the aquifer, refuting DOE's claims that such materials are effectively bound up in the unsaturated zone. These contaminants include strontium-90, technetium-99, cesium-137, and cobalt-60. There are very likely preferred migration pathways or channels which exist in the subsurface geology and lead toward the Columbia River.

- The impact of liquid discharges on the unsaturated zone and the aquifer is not well known, and continued discharges will only exacerbate the cleanup problem.

- The continued discharges will impact drinking water, aquatic life in the Columbia River and ultimately, aquatic life in the continental shelf.

Responses to Technical or Environmental Issues:

The dates for ceasing discharges to the various units were negotiated over a period of several months. During this time the parties had numerous discussions about what could be done to accelerate the alternatives to these discharges. It is important to note that not all of the discharges will continue until 1995. As an example, discharges to the 300 Area Process Trenches will cease in 1991. June 1995 is the date by which all remaining Phase I liquid discharges must be treated or eliminated. In addition, by June 1995, all liquid discharges to hazardous waste disposal units will cease.

The schedule, as specified in Milestone M-17-00, appeared to all parties to be an achievable schedule in consideration of total expected funding levels and priorities for funding activities covered under other milestones. It also seemed reasonable in regard to the time required for DOE's formal procedures for design and construction of alternative systems for treatment, disposal, or cessation of these waste streams.

Attachment 2 to this response to comments consists of a letter from DOE to EPA and Ecology, describing a 14 month

Liquid Effluent Study that will take place between June 1989 and August 1990. The parties have had numerous discussions and meetings over the past weeks regarding the format and goals of this study. The EPA and Ecology agree with the study as described in Attachment 2 subject to review, comment, and approval of the final study plan.

The purpose of this study is two-fold. First, extensive sampling will be conducted on each of the 33 liquid waste streams. These analyses will confirm or refute DOE's position that all of the current liquid waste discharges to the soil column consist of non-hazardous waste (i.e., contain no hazardous chemicals above regulatory thresholds, hence are not regulated by the state as hazardous waste).

The second aspect of the study will be to determine, to the extent possible, the impact of continued discharges to each unit (disposal site) on the environment. All existing data regarding the waste streams and the geologic / hydrogeologic characteristics at that unit will be assimilated and considered for use as a first step. The various reports and data that were mentioned by some of the commenters will be considered as part of this step. In addition, an accelerated schedule for sampling and analyses of groundwater from the monitoring wells for these units will be established. All data obtained will provide the basis for conducting a contaminant transport model for each unit. This model will predict the effect of continued discharges to each unit and estimate movement through the unsaturated zone and the aquifer. It will predict the direction, volume, and rate of flow as well as the concentration of any contaminants. The results will be evaluated with respect to impacts to human health and the environment.

The parties have agreed that it may be necessary to renegotiate the schedule for Milestone M-17-00, including interim milestones. This may or may not result in accelerating the current schedule for ceasing discharges by 1995. If schedule changes are appropriate, they will be included as part of the 1991 annual update of the Work Schedule. The annual update process for the upcoming calendar year occurs during October, November, and December of each year and is subject to public comment. This schedule fits well with the conclusion of the study in August 1990.

1.2 <u>Comments on Statutory, Regulatory, or Legal Issues</u>:

The continued discharge to cribs and ditches that are regulated as RCRA disposal units is illegal since these units are classified as landfills. Under RCRA Section

3004(c)(3), liquid discharges (including non-hazardous liquids) to landfills is prohibited unless a waiver can be justified. In this case, a waiver could not be justified. Further discharges will invite litigation.

Responses to Statutory, Regulatory, or Legal Issues:

Based on available information, 9 of the 21 units which currently receive liquid discharges received regulated hazardous waste after the effective date of regulation of the waste. This means that such units are treatment, storage, or disposal (TSD) units and are subject to regulation under applicable state and EPA hazardous waste regulations.

Although DOE maintains that the units are not receiving hazardous wastes at this time (to be confirmed or refuted by the Liquid Effluent Study), the units still must be closed in accordance with the State of Washington Dangerous Waste Regulations.

The DOE has recently notified Ecology and EPA of a specific crib (not previously identified as a TSD unit) that may have received small quantities of listed hazardous wastes. Accordingly, Ecology has required that the crib not receive additional wastes. The resolution of this issue is a high priority for all the parties, as continued shutdown of the process feeding this crib could impact certain milestones in the Work Schedule. The status and character of wastes (i.e., hazardous versus non-hazardous) received by this unit and alternatives to use of this crib are now being investigated.

The schedule for closure plan submittal for each of these nine units is shown below. If the unit is closed with waste in place (i.e., as a landfill), then a post-closure plan will have to be prepared and approved. Groundwater monitoring wells will have to be installed at these nine units, in accordance with state requirements. Ecology will work closely with DOE regarding the placement of groundwater monitoring wells around these nine units as well as around other regulated units.

Status of Nine TSD Units Receiving Liquid Discharges

Unit Name	Type Unit	Closure Plan Due	Cease Discharge	Clean Close
1324-NA	Pond	1994	--	1995
1325-N	Crib	1994	1995	--
216-A-29	Pond	1990	1990	--
216-B-63	Pond	1995	1995	--
216-S-10 (inc. ditch)	Pond	1995	1995	--
B-Pond (main pond)	Pond	1990	1990	--
(3 lobes)	Pond	1990	--	1995
2101-M	Pond	1989	--	1995
100-D	Pond	1994	--	1995
300 Area Trenches	Pond	1993	1991	--

It should be noted that DOE submitted closure plans to Ecology for all nine TSD units listed above between 1985 and 1987. Ecology has been unable to conduct reviews of these documents due to inadequate resources and staffing, and implementation of closure activities has yet to begin.

The dates for closure plan submittals as shown above are for revised or updated closure plans. In some cases, the date for closure plan submittal is linked to an operable unit investigation. This has been done to minimize the duplication of effort in field investigations and to make the best use of available funding. The timing for operable unit investigations is based on a priority system as described in the Action Plan. See section 10.3 and 10.4 of this document for additional responses concerning closure requirements.

In addition to the state's requirements noted above, certain EPA regulations also apply to these nine TSD units. As was pointed out in the comments, Section 3004(c)(3) of RCRA applies to those units which are classified as landfills. This section provides that

liquids, with very minor exceptions, can not be placed in RCRA regulated landfills after certain dates. RCRA, however, does not prohibit the discharge of non-hazardous waste liquids to new or existing units which have not received hazardous waste.

Of the nine TSD units receiving non-hazardous liquid effluent discharges, one unit (1325-N) is a crib. Ecology has classified this unit as a landfill. At this time, operation of the 1325-N crib is necessary due to the standby status of the N-reactor. The present discharge volume of approximately 270 gallons per minute is significantly less than the estimated 1,300 gallons per minute in 1986 when the reactor was operational. Eleven wells are used to monitor groundwater quality near this crib. Although some radioactive constituents have been detected in the groundwater, hazardous wastes have not been detected.

Generally, Section 3005(j) of RCRA requires surface impoundments that continue to receive, treat, or store hazardous waste to be retrofitted with double liners and leachate collection systems by November 1988 (four years after the effective date of Section 3005[j]). For mixed waste surface impoundments, the retrofit deadline is November 1991 (four years after the State of Washington received authorization from EPA to regulate mixed wastes). Modifications of these requirements may be provided in limited circumstances, after notice and opportunity for public comment. TSD units at Hanford, such as those described above, that qualify as surface impoundments, and which continue to treat, store, or receive hazardous or mixed waste will be required to comply with these requirements.

The EPA and Ecology share the concern with allowing continuing liquid effluent discharges to the soil column, both from a technical standpoint and from a legal standpoint. In order to better address these concerns, the 14-month study of liquid discharges described above will be conducted. Following the study, the parties will consider adjustments of the liquid discharge milestones, including accelerating the elimination of discharges to RCRA TSD units. Also, it is important to note that this study will include all liquid discharges, and is not limited to discharges to RCRA regulated units.

Comments and Responses on Department of Energy Policy:

Specific comments in this section were directed to DOE for response. Accordingly, DOE has provided the comment summaries and the responses for these DOE policy issues.

1.3 Comment:

The Savannah River Plant ceased discharges to the soil column. Why can't this be done at Hanford?

Response:

Like Savannah River, Hanford also will treat or eliminate soil column discharges. Discharges of treated effluents to surface water, pursuant to NPDES permit, will be considered at Hanford, similar to the practices at Savannah River.

1.4 Comment:

The PUREX plant should be within the scope of the Agreement. Further, the PUREX plant should be closed since further production of plutonium is unnecessary and unwarranted.

In addition, several commenters stated that timing for closure of the PUREX plant should not be part of this Agreement. They asserted that those individuals or groups who were calling for immediate closure were doing so in order to halt production of nuclear materials, rather than to address cleanup of the environment.

Response:

Those portions of the PUREX plant which are subject to RCRA treatment, storage, and disposal regulations, or to CERCLA cleanup regulations are included in the Agreement. For example, waste treatment systems within the PUREX plant are included in the permitting schedules under Milestone M-20-00. Likewise, any actions required to bring PUREX into full compliance with RCRA interim status standards are included under Milestones M-22-00 and M-23-00.

The decision as to whether additional plutonium is needed and whether the PUREX plant should extract plutonium from irradiated fuel is not within the jurisdiction of EPA or Ecology. The Department of Energy, along with the Department of Defense and Congress, is responsible for decisions regarding the national needs for plutonium. The Department of Energy must, however, operate its facilities, including PUREX, in compliance with applicable state and federal environmental laws and regulations. It is also noted that processing of the current backlog of irradiated fuel currently stored at the Hanford Site in the 100-K

storage basins will allow DOE to close and decommission the storage basins in a manner consistent with the Agreement's site cleanup goals.

1.5 Comment:

Liquid discharges should have stopped years ago. A 1973 AEC Policy Directive (AEC-0511) concluded that liquid discharges to the soil should be eliminated as soon as practical. Likewise, DOE Order 5820.2 (February 1984) prohibited the discharge of liquid radioactive waste to the environment. DOE's own auditors have termed the liquid discharges as obsolete and environmentally harmful.

Response:

As previously stated, the Department of Energy is moving to reduce the discharge of contaminated liquids to the soil column. The plans to treat or eliminate soil column disposal as described in the Agreement Milestone M-17-00 are consistent with DOE Order 5820.2 (February 1984) which requires that "disposal operations involving discharge of liquid LLW [low-level waste] directly to the environment or on natural soil columns shall be replaced by other techniques such as solidification prior to disposal or in-place immobilization, unless specifically approved by Heads of Field Organizations in consultation with [Department of Energy, Headquarters]." Further investigation will take place as part of the Liquid Effluent Study (see Attachment 2) and, as a result, acceleration of certain portions of Milestone M-17-00 may occur.

1.6 Comment:

By closing the PUREX plant, available double-shell tank capacity could be increased. Also, if PUREX were closed, the operating budget for PUREX ($240 million) could be used to supplement the Hanford cleanup budget.

Response:

Note: The comments received involve DOE policy issues. Therefore, the following response is provided by DOE.

Although it is true that closing PUREX would result in increased double-shell tank capacity, the increased space would not significantly impact the cleanup schedules. The schedules negotiated in the Agreement reflect a balance of priorities for cleanup, based on available resources. Technical constraints also impact

cleanup schedules. Although tank space constraints slightly impact schedules such as single-shell tank stabilization, the major consideration for these schedules, including single-shell tank stabilization, is technology. Technical limitations prevent any significant acceleration of the Agreement milestones occurring during the projected operating life of PUREX.

The decision on how to fund Hanford cleanup is the responsibility of DOE, Office of Management and Budget (OMB), and Congress. The DOE cannot unilaterally transfer funds from defense production to cleanup. By entering into the Agreement, DOE has expressed its intent to request the funding levels required to meet the Agreement schedules. Congress makes the final decision on actual budget appropriations.

2. DECONTAMINATION & DECOMMISSIONING ACTIVITIES

2.1 Comment Summary:

The parties received numerous comments on Decommissioning and Decontamination (D&D) activities of the old reactors on the Hanford Reservation. Commenters were adamant about the inclusion of these activities in the Agreement. Most commenters believed that D&D clearly falls into the intent and scope of the Agreement as these activities are an important step in the overall cleanup of the Hanford Site.

Response:

In response to these comments, we have included new language in Section 3.1 of the Action Plan to more clearly address D&D activities. In summary, the parties have stated their intent to include in the Agreement any situation which is releasing or poses a substantial threat of release of contaminants into the environment. If and when any such release or substantial threat of release is identified, a subsequent modification of the Action Plan will occur. This will include establishing a milestone for completion of such activities, if appropriate. When such releases or the threat of releases do not exist at a structure, the parties do not intend that the Agreement will be used to interrupt or preempt the D&D process.

Any pipes or utilities related to, but external to the structure are outside the scope of the D&D program. Such "appurtenances" will be included as part of the applicable operable unit investigation and remedial action.

Additionally, Section 3.1 of the Action Plan provides that any hazardous wastes generated as part of D&D activities must be managed in accordance with state and federal hazardous waste regulations and, to the extent that such wastes are "treated, stored, or disposed," compliance with the applicable terms of the Agreement will be required.

3. FUNDING

3.1 **Comment Summary:** Long Term Funding

A number of commenters expressed concern about the lack of guaranteed long term funding, and the lack of a commitment by DOE to pursue needed funds. One commenter suggested that contingency plans be prepared that could be used if funding is not adequate. Some indicated that a Consent Decree would provide greater assurance that funding would be provided. Other comments relevant to funding included:

- A substantive, federally funded role for the state is critical.

- Some expressed concern that funds might be better spent in areas where you could obtain a greater reduction in risk to public health and other more serious matters such as AIDs research, and radon control.

- Some indicated that funds should not be taken from DOE production operations to pay for the cleanup, while others indicated that clean up funding should take precedent over new weapons materials production. It was also expressed that having this Agreement will greatly enhance our ability to obtain funding.

Response:

EPA and Ecology believe that this Agreement greatly enhances the ability of the agencies to obtain the funding necessary to accomplish the work that must be done at the site. Compliance with agreements such as this has been identified as a high priority objective of the new DOE Secretary. Also, because DOE has made an express commitment to EPA, Ecology and the public to timely complete the requirements of the Agreement, justification will be required for failure to comply for any reason. Appropriate enforcement action may also be taken.

Specifically, in paragraph 138 of the Agreement, DOE is committed to take all necessary steps to obtain timely funding to meet its obligations under the Agreement. In addition, DOE has agreed to allow EPA and Ecology to assist the DOE Richland Operations Office each year in determining the level of funding that must be requested to satisfy DOE's upcoming commitments. This involvement by regulatory agencies in the preparation of federal budget figures is unique, and assures agency access to information necessary to assess DOE's efforts to obtain needed funds.

As commenters correctly pointed out, the Agreement does not provide funding guarantees. Funds must be appropriated by the United States Congress. In fact, federal law prohibits DOE or any other federal agency from committing to an expenditure for which funding or an appropriation is not already available. Because of these limitations, several commenters emphasized the need for continued pressure on the Congress to fully fund this Agreement.

A consent decree cannot compel or commit Congress to appropriate funds. The Constitution reserves the power to appropriate funds for the general welfare to the Congress, and not the Judiciary. Judicial action may be taken to enforce the Agreement if appropriated or otherwise available funds are not used to comply with the Agreement. While judicial action under a consent decree can be sought immediately, judicial action can also be taken to enforce the Agreement. The Agreement is fully enforceable in court.

Concerning the appointment of a public advisory group on funding, Ecology plans to work with the State Nuclear Waste Advisory Council and will keep the Council informed of progress in acquiring cleanup funds from year to year.

The Agreement assures that the state will be adequately funded by DOE to oversee DOE's activities under the Agreement. DOE is obligated to pay permit fees and reasonable service charges; to compensate the State for all costs incurred in overseeing Superfund activities; and to pay for environmental monitoring costs not otherwise covered. Environmental Monitoring Costs are provided for in the Mutual Cooperation Funding Agreement attached to the Agreement. DOE has agreed to provide an estimated $2.9 million through September 1991 for such state costs.

EPA and Ecology expect DOE to comply with the requirements of the Agreement and satisfy hazardous waste laws and regulations. While it might be argued that these funds might be better spent on other projects, the statutory obligation of DOE to comply remains and must be satisfied.

3.2 **Comment Summary:** Assured Funding

Many commenters suggested there needs to be some mechanism to assure adequate funds will be provided to implement the Agreement. Article II paragraph 6 of the Mutual Cooperative Funding Agreement suggests activities could be eliminated simply by DOE not providing the funds.

There was a request for a broad based advisory group public report on the adequacy of the President's annual budget

request to fund the cleanup, and that the group should participate in the development of DOE Richland's annual funding request.

Response:

Federal law prohibits executive agencies from committing Congress to appropriate future funds. However, DOE is committed to take all necessary steps and make efforts to obtain timely funding to meet its obligations under the Agreement (Article XLVIII). The DOE-Richland Operations has agreed to allow Ecology and EPA to assist in determining the required funding levels for each fiscal year. The Washington and Oregon Congressional delegations have endorsed the Agreement, and strongly support appropriation of funds necessary for its implementation.

3.3 **Comment Summary:** DOE Commitment to Funding

Note: This comment involves DOE policy issues. Therefore, the comment summary and response are provided by DOE.

Several parties expressed concern that the necessary funding would not be allocated to meet the commitments made by Department of Energy in the Agreement. Specific comments recommended various funding scenarios, including the diversion of nuclear materials production funding to cleanup activities, assessing a fixed percentage of the Department of Defense budget, and the taxation of public utilities for cleanup costs. The overriding concern was that none of the parties to the Agreement could guarantee that funding would be provided to achieve compliance and complete cleanup in the timeframes specified in the Agreement.

Response:

The DOE shares the public's concern regarding the availability of funding for completion of the Agreement. The DOE will take all necessary steps and make efforts to obtain timely funding to meet its obligations under the Agrement as required under Article XLVIII. As with all budget appropriations, however, the ultimate decision on funding will be in the hands of Congress. Congress would also have to pass legislation if alternative funding mechanisms such as assessing the Department of Defense budget or taxing public utilities were to be implemented.

3.4 **Comment Summary:** (Diversion of Funds and HWVP Schedule)

Note: This comment involves DOE policy issues. Therefore, the comment summary and response are provided by DOE.

One commenter stated that the Department of Energy plans to reprogram dollars away from Hanford to Savannah River, including funds for liquid effluent discharge termination. This commenter also requested an independent inquiry into the timing for construction and operation of the Hanford Waste Vitrification Plant. The commenter expressed a belief that the plant could be constructed and begin operations within an eight-year period if the Department of Energy would allocate the necessary funds.

Response:

The decision in February 1988 to place the N Reactor in cold standby resulted in the availability of funds for application to the highest priority defense program requirements within the Department of Energy. With Congressional approval, funds for N Reactor operations, N Reactor liquid effluent treatment upgrades, and additional double-shell tanks for N Reactor waste were reprogrammed. Hanford received $30 million of the reprogrammed funds to meet the requirements of the Agreement commitments.

The Hanford Waste Vitrification Plant is a complex facility having a projected capital cost of nearly $1 billion. The plant design will be subjected to rigorous review throughout the design period to ensure maximum protection of plant workers, the public, and the environment from the highly radioactive wastes to be processed through the facility. The Department of Energy agrees with the commenter's assertion that HWVP should take no more than eight years. In fact, the schedule for HWVP reflects only seven years for construction, followed by a year and a half of cold testing prior to beginning hot operations. This period of cold testing will ensure that the plant safety and control systems operate correctly.

3.5 **Comment Summary:** Spend Money Efficiently

Numerous individuals commented about the need to spend money efficiently. The comments emphasized that a streamlined, efficient approach to cleanup would require a strong management system with control over schedules, the development and use of cost-effective technologies, the use of best available technologies, and a priority system which would first address any situation presenting a threat to human health.

Some commenters suggested that the parties "take care" that money be spent only on those situations involving actual risks, rather than perceived risks. Another commenter requested that individual units be ranked based on probabalistic risk analysis and that any proposed cleanup actions beyond those necessary to protect human health (i.e., cleanup to numeric criteria) be clearly identified.

One commenter suggested that a standard model be used for cost estimates for cleanup actions. This would involve the use of standard forms, databases, and formats.

Finally, some commenters stated that the dollar estimates that have been quoted for Hanford cleanup (i.e., tens of billions of dollars) were inordinately high and that the site does not merit that kind of expenditure. They felt that cleanup funding would take away from other immediate national health priorities, (e.g., research on issues such as AIDS or radon gas). They also objected to the notion that Hanford may be cleaned up to "pristine conditions" at great taxpayer expense. One commenter requested that the parties spend public money appropriately (not on unnecessary cleanup) and that we develop a "responsible attitude" toward the environment and the taxpayers.

Response:

In all cases, compliance with applicable statutes and regulations will be required, irrespective of cost. We also understand that a responsible approach or balance will have to occur between the amount of money spent and the benefit derived from those expenditures.

The EPA and Ecology share an important mandate. The regulatory agencies have a responsibility to ensure the protection of both human health and the environment. While a potential threat to human health may be a criterion for immediate or high priority action, we can not ignore the impacts of waste disposal on the environment nor can we ignore our legal responsibilities. We realize that portions of the site may not be cleaned up to "pristine conditions," but we will require cleanup to be acceptable, cost-effective, and to meet all regulatory requirements.

The costs which have been projected for cleanup of the Hanford Site by DOE thus far are only estimates. The range of costs vary widely, depending on the assumptions used for cleanup options and technologies. They also do not account

for economies-of-scale or streamlining as we gain more experience in the process. We are now starting the investigation process at the first few operable units and will be able to project costs with more certainty in the future. We expect that cost estimates will become more accurate with experience and the regulatory process will become more efficient.

The Action Plan contains a procedure by which units have been grouped into operable units and then prioritized for investigation and remedial action. Data which is currently available for many of these operable units is insufficient to conduct a quantitative risk assessment. That type of information will be obtained during the investigation phase. However, we are using the available data at each operable unit for the purpose of ranking on a relative priority basis. These priorities are shown on Appendix C to the Action Plan. The establishment of these priorities will guide us toward early remedial action at those sites which present the greatest potential threat to human health. We believe that this type of ranking will keep us focused on areas which have actual or potential risks and not on areas where the risk may be only perceived.

The DOE must fully comply with the provisions of RCRA and CERCLA. The parties realize that compliance for the Hanford Site will require significant appropriation of funds from Congress. The issue of whether actions proposed each year under this Agreement are funded at the expense of other necessary national health programs is a decision for Congress and the Office of Management and Budget. The parties to this Agreement will identify the funding needs for work to be done under the Agreement on an annual basis. The DOE/Richland Operations will then submit its budget request based on cost estimates to meet that need.

Regarding cost-effectiveness for remedial actions under CERCLA, we are required to first arrive at a level of cleanup that ensures protection of human health and environment. From that point, we are directed to consider cost-effectiveness as one of the criteria in selection of the remedy. Under RCRA, the corrective action rules (40 CFR 264 Subpart S) are now under development and are expected to incorporate a similar cost-effectiveness approach to cleanup of past practice units.

4. ENFORCEABILITY OF THE AGREEMENT

4.1 Comment Summary: State Authority / Mixed Wastes

One commenter wanted assurances that RCRA jurisdiction (i.e., state authority) was guaranteed, and that DOE would not be able to argue that mixed wastes would be exempt from state oversight.

Response:

The state is confident that full jurisdiction over ongoing waste management on the Hanford Site, including mixed waste, is guaranteed. Ecology received authority from EPA to regulate mixed wastes in November 1987. In addition, with the inclusion of the letter from the Department of Justice (Attachment 2 to the Agreement), Ecology believes the Agreement is enforceable and that all state authorities are retained.

4.2 Comment: State Enforcement

Note: This comment was directed to DOE for response. Therefore, the comment summary and response are provided by DOE.

What is DOE's interpretation of state enforcement of the Hanford Agreement? Specifically, what is DOE's explanation of key enforcement language won by the state: Article II, Paragraph 10? If the state or citizens sue to enforce the Agreement, what legal defenses can the DOE raise?

Response:

The Department of Justice letter which is included as an attachment to the Agreement sets forth Justice's interpretation, on behalf of the federal government, of the enforceability of the Agreement. With regard to the second question, the Department of Energy may raise any defenses that are legally available to it.

4.3 Comment:

Note: This comment involves DOE policy issues. Therefore, the comment summary and response are provided by DOE.

What is DOE's explanation of the term RCRA actions "inconsistent with the requirements of the Atomic Energy Act..."? That is, what hazardous waste practices at Hanford

do not fall under RCRA regulation? Will any of these unregulated waste streams ever contain "mixed" wastes, a major waste stream at Hanford?

Response:

Section 1006 of RCRA recognizes that the requirements of RCRA may be inconsistent with other laws, including the Atomic Energy Act. Such inconsistency may become evident when dealing with radioactive materials and may require special handling to ensure the safety of the worker, the public and the environment. Although the parties do not anticipate a large number of inconsistency determinations to be made, some may occur. Such determinations would not be expected to lead to unregulated waste streams, but rather to provide variances from certain hazardous waste requirements, such as those that would otherwise result in increased employee exposure.

4.4 Comment:

Note: This comment involves DOE policy issues. Therefore, the comment summary and response are provided by DOE

If DOE intends to comply with this Agreement what justification do you (DOE) offer for refusing to enter into a consent agreement?

Response:

The Department of Energy is committed to the fulfillment of its obligations as set forth in the Agreement. The Agreement is entitled "Hanford Federal Facility Agreement and **Consent Order**". DOE wanted a comprehensive three party agreement which covered both RCRA and CERCLA. Federal facilities cannot enter into a CERCLA Consent Decree with EPA, so if that avenue had been pursued two separate agreements would have been required rather than the one comprehensive agreement. Additional information is contained in the Department of Justice letter to Christine Gregoire, Director, Department of Ecology, dated February 26, 1989, Attachment 2 to the Agreement.

4.5 Comment Summary: DOE's Commitment to Agreement and Signature Authority

Many commenters observed that there was an overall lack of commitment from the Secretary of DOE, by his failure to sign the Agreement. Similar comments expressed concern that the Agreement would be cancelled or rendered meaningless by DOE

raising certain defenses such as national security concerns, sovereign immunity, lack of funds.

Response:

By a memorandum dated May 12, 1989, Secretary Watkins specifically delegated his authority to execute and implement this Agreement to Michael Lawrence, Manager, Richland Operations office. The parties are satisfied that execution of the Agreement by the official designee of Secretary Watkins completely and adequately binds the United States to this Agreement. Additionally, the U.S. Department of Justice, by letter of February 26, 1989, stated that both DOE and EPA had the authority to enter into the Agreement, and that the Agreement is "binding and enforceable." These factors, considered with the various "enforceability" clauses discussed elsewhere in these responses assure that DOE has committed to the terms of the Agreement.

4.6 **Comment Summary:** Conflict between RCRA and AEA

Several commenters made reference to or inquired about that portion of the Agreement which references Section 1006 of RCRA and states that nothing in the Agreement shall be construed to require DOE to take any action pursuant to RCRA which is inconsistent with the requirements of the Atomic Energy Act of 1954. One commenter stated concern that DOE would use the AEA inappropriately to "trump" other state and federal standards.

Response:

Section 1006 of RCRA deals with the application of RCRA when an activity or substance is subject to the provisions of certain other laws, including the Atomic Energy Act of 1954 [42 U.S.C. Section 2011 et. seq.]. To the extent the provisions of both RCRA and the AEA can be reconciled and consistently applied, a facility must comply with both. The Agreement reflects a commitment by DOE to comply with all major substantive and procedural aspects of RCRA and is an acknowledgement that the two acts can be consistently applied. However, the parties agreed that a jurisdictional statement which reflects the language of RCRA itself, as to possible inconsistencies in application of RCRA and AEA, was appropriate. The language of the Agreement states no more than that provided for in existing federal law. The section does, however, go on to require DOE to provide a basis for its assertion of inconsistency if such a situation should arise and preserves the EPA's and the state's rights to challenge any such assertion by DOE.

4.7 **Comment Summary:** Double Standard for Federal Facilities

At least two commenters stated that DOE must comply with environmental laws to the same extent as private facilities. On of the these commenters noted that the Agreement allowed RCRA violations to continue, thereby perpetuating a double standard between private and federal facilities.

Response:

These comments correctly observe that RCRA and CERCLA require the federal government and its various agencies to comply with the requirements of RCRA and CERCLA in the same manner and to the same extent as private entities. It is the intent of this Agreement to achieve such compliance and on a par with the private sector. The Agreement does, however, establish schedules by which DOE must come into compliance with hazardous waste laws. Given the magnitude of problems and activities at the Hanford facility, the parties agreed that such a schedule was an effective and realistic mechanism to achieve and assure future compliance.

Regulated private sector facilities are also often given orders with schedules defining a time period to achieve compliance with regulations. Additional, specific comments with respect to this issue are addressed elsewhere in this response to comments.

4.8 **Comment Summary:** Significance of DOJ Letter

Several commenters questioned the legal significance of the Department of Justice letter and whether, in fact it could assist in the enforceability of the Agreement. These comments suggested that in a similar situation, the Washington Supreme Court rejected the advisory opinion of bond counsel in the WPPSS case.

Response:

The state believes that the Department of Justice letter, which is incorporated into the final Agreement as an attachment, will aid substantially in the enforcement of the Agreement. The letter was provided in response to concerns raised by the state that while DOE was bound by the Agreement, the Department of Justice may advance a different position or assert defenses to the enforceability of the Agreement which were clearly conceded by DOE. While this letter certainly expresses the opinion of the Department of Justice, the importance of that opinion is that it binds the Department of Justice to a position. It was not intended as

an advisory statement of legal rights under the Agreement. As an attachment to the Agreement, the letter makes it clear that the Department of Justice has reviewed the Agreement and concurs with the parties that it is a binding and enforceable document.

4.9 **Comment Summary:** Consent Decree Preferred

Many commenters suggested that the Agreement would be more effectively and easily enforced if it were filed in court as a consent decree rather than entered into as a consent order. In addition to concern over enforceability of a consent order, several commenters stated that a decree filed with a court would provide the public a greater opportunity to monitor progress at the facility and intervene legally if DOE failed to comply with the Agreement. Other commenters stated that the consent order, because it avoided costly litigation, was a superior mechanism to assure cleanup.

Response:

The issue of whether the agreed document would be in format of a consent decree, filed in federal court, or a consent order, requiring future positive action by the state to enforce, was a matter of considerable discussion among the parties. The conclusion to agree to a consent order was arrived at after balancing and considering a variety of factors. Most important, the state had to weigh the likelihood of lengthy and costly litigation and the possible loss of funding opportunities against the lack of RCRA jurisdiction over radioactive components, the strength of the enforcement clauses, and concessions made by DOE in the Agreement. On balance, it was concluded that key clauses in which DOE agreed to not contest state jurisdiction to enforce the Agreement, to allow enforcement via RCRA Section 7002 (citizen suit provision), and a reservation of rights clause gave the state an effective mechanism to ensure compliance with the Agreement and avoid litigation.

The state also concluded that the position of the Department of Justice that the Agreement is binding and enforceable, is a concession that certain defenses such as "sovereign immunity" can not be raised at a later date. Because citizens may avail themselves of the citizen suit provision to enforce the Agreement, they are in as good a position, if not better, than they would be if they had to seek to intervene in the judicial action underlying the consent decree process. Finally, while a consent decree has certain advantages, in the state's final analysis, it would not easily resolve the ongoing problem of Congress appropriating adequate funds to ensure DOE meets the milestones set forth

in the Agreement. Therefore, on balance, a consent order was considered to be an effective mechanism to achieve compliance.

The EPA can not enter into a consent decree with another federal agency. Instead, EPA is required to enter into Interagency Agreements with federal facilities that are on the National Priority List, in accordance with Section 120 of CERCLA. If the state had entered into a separate consent decree with DOE, it is likely that the scope of the decree would have been limited to issues related to the state's authorized RCRA program. By entering into the Agreement, the state's role in CERCLA cleanup program has been significantly expanded.

The opportunity for future public involvement is more specifically addressed in another section of this response. Annual review of the Action Plan Work Schedule and availability of documents will ensure as great an opportunity to monitor progress at the site as would be available had a consent decree process been used.

4.10 **Comment Summary:** Citizen Enforcement

Several commenters stated that the Agreement should more specifically provide for citizen enforcement, and state unambiguously that it is enforceable. One commenter suggested stronger language regarding penalties was necessary to motivate compliance with the Agreement. One commenter observed that the state had achieved significant concessions with respect to key RCRA enforcement issues.

Response:

The parties believe that this Agreement is very specific in its provision for citizen enforcement of the Agreement. The milestones and other RCRA provisions of the Agreement are enforceable by citizen suits under Section 7002(a)(1)(A) of RCRA, including actions by the State of Washington and any of its agencies. See Article IX, paragraph 31. Likewise, Article XX, paragraph 71 provides for citizen enforcement of CERCLA requirements that are contained in Part 3 of the Agreement, in accordance with Sections 310(c) and 109 of CERCLA.

The Department of Justice, in a February 26, 1989, letter appended to the Agreement, has also noted that this form of agreement, as opposed to a consent decree filed in court, "has the advantage of being enforceable by any person . . . .". While the State agrees that penalties would be a useful tool to motivate compliance with RCRA, courts within this

jurisdiction have held that RCRA does not provide the states that particular tool as a means to compel compliance with RCRA. See U.S. v. State of Washington, (Case No. 87-4371, 9th Cir., April 12, 1989).

On the CERCLA side of the Agreement, stipulated penalties are provided for. The state has a significant role to play in assessment of these penalties, as EPA must assess state requested penalties, unless the dispute resolution process is invoked. See Article XIX, Paragraph 63.

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5. PUBLIC INVOLVEMENT

5.1 Comment Summary: Public Involvement Opportunities on the Proposed Agreement

Some commenters felt the 45-day comment period on the proposed Agreement was too short, and several suggested that additional meetings were needed, specifically hearings in which their comments would be recorded verbatim.

One person said early responses should be provided by the three parties and another felt there was not enough time between the end of the public comment period and the proposed signing date to allow incorporation of public comment into the final Agreement.

Response:

Most of those in attendance at workshops held early in the 45-day comment period felt sufficient time had been allowed to review the proposed Agreement. It should be noted that the documents were distributed to numerous individuals, citizen groups and state and federal officials on or shortly after February 27, 1989, when an "Agreement in Principle" was announced, extending the amount of time many people had to study the Agreement to 60 days. In addition, the three parties felt an aggressive schedule leading to signing the Agreement on May 15 would be most beneficial in helping to obtain Congressional funding in the near future.

A number of people did request additional comment opportunities at two of the four workshops held in Seattle and Vancouver. As a result, two formal hearings were scheduled, one in Richland, and one in Olympia. Those hearings were coupled with a meeting during which representatives of the three parties discussed proposed responses to comments heard at the workshops and gave the public an additional opportunity to ask questions about the proposed Agreement.

Although the time between the close of the comment period and the signing of the Agreement was just 15 days, the three parties did not wait until that time to consider comments, as evidenced by the fact that on May 24 and 25, at the hearings in Richland and Olympia, responses to the comments heard during the workshops had already been proposed and were shared with the public. This allowed more time to consider comments received late in the comment period. All comments were considered prior to signing the Agreement, some of which resulted in modifications to the Agreement or other actions (see Attachments 1 and 2).

5.2 **Comment Summary:** Future Public Involvement Opportunities

Some people felt that planned public involvement activities placed too much emphasis on people who live in the Tri-Cities. Others suggested too much emphasis was being placed on people living outside the Tri-Cities who were less directly affected by the Agreement.

The level of public participation was the topic of several commenters. One said that all documents generated by the Agreement, including drafts, should be made available to the public, while others suggested funding for citizens to better study proposed actions needed to be available.

The planned quarterly information meetings were the subject of several comments. One person felt special emphasis should be placed on written materials for the public because citizen attendance at public meetings is generally low. The availability of funding for citizens to study proposed actions was questioned. An Oregon commenter said public meetings should be held once a year in either the Portland area or the LaGrande/Baker area. Another person said an outside agency should conduct the meetings.

One commenter cautioned that the public involvement process should not be allowed to slow down cleanup, while another said it should be planned carefully to avoid overwhelming the public with too many documents and public comment periods.

One comment called for greater detail in the Community Relations Plan and another suggested the CRP be scrapped and a new one written following a public scoping process. That same commenter asked that the rewritten plan be called the Public Involvement Plan.

It was suggested that the public be involved in the prioritization of Hanford cleanup and compliance efforts.

Finally, there were requests for establishment of a community liaison position and for information on how and which comments will be incorporated.

Response:

From a public health standpoint, people who live closest to Hanford now and in the future will be most directly affected by decisions reached under the Agreement. Therefore, certain public involvement activities such as the Quarterly Information Meetings, will place an emphasis on involving

those citizens. However, the three parties recognize that Hanford environmental issues generate broad interest in the Northwest and they will involve citizens throughout the region in the public involvement activities listed in the Community Relations Plan.

Legal requirements of CERCLA and RCRA call for numerous documents to be made available to the public by placing them into information repositories -- libraries or reading rooms which are easily accessible. A more complete set of documents is also available in the administrative record file. The three parties have chosen four repository and three administrative record file locations in eastern Washington, western Washington and Portland. They have also added other documents to those that are required (see the Community Relations Plan for a complete list). Included are any drafts transmitted between the DOE and the regulatory agencies which are used in the decision-making process. The information repositories are an excellent source of information for those unable to attend public meetings.

Funding to assist citizens in reviewing the work to be conducted under the Agreement is available from two sources at this time. Both the EPA and the state offer grants that would allow groups to get technical assistance to better understand the proposed plans. The EPA's Technical Assistance Grant program has been criticized as being difficult to work through. The EPA is currently changing the process to make it easier. For more information on EPA grants that are available, contact Claire Rowlett, EPA, (206) 442-1099. For state of Washington grants, contact Jerry Gilliland, Ecology, (206) 459-6674.

For those unable to attend public meetings, the Hanford mailing list offers an opportunity to receive numerous written materials including public notices of comment periods, fact sheets on individual cleanup proposals and a quarterly newsletter. A schedule of the first year's quarterly meetings and other activities has been added to the Community Relations Plan in response to a request for additional detail, and a meeting has been scheduled in the Portland area. The location of future quarterly meetings will be determined annually and the three parties will consider holding meetings in areas that express an interest. We believe two-way communication is essential in helping the public better understand the activities to be conducted under the Agreement. Therefore the agencies will conduct the quarterly meetings to give members of the public an opportunity to directly ask questions and share their thoughts on those activities.

The activities to be conducted under the Agreement over its

30-year schedule are indeed numerous. For instance, cleanup of each of the 78 operable units will involve at least two public comment periods, the first on its investigation work plan, and the second on its proposed plan of remedial action. At times, several public comment periods may be under way simultaneously. The parties recognize this and will make every effort to share information with the public in an orderly and understandable fashion so as not to impede the important work they have agreed to conduct. For example, whenever possible, public comment periods will be coordinated so that they can be discussed at the quarterly information meetings. In the case of public comment periods on subjects of greater public interest, such as disposal of wastes in Hanford's single-shell tanks, additional public meetings may be held.

As previously pointed out, the three parties have already begun to revise the Community Relations Plan in response to comments from the public. Each year the plan will be reviewed and possibly revised, then submitted to the public for review and comment. In addition, the Washington Nuclear Waste Advisory Council (see next response) will be part of the annual review process. During the public comment period on the proposed Agreement, relatively few commenters registered specific objections to the Community Relations Plan. One, however, suggested it be re-written. The three parties feel the plan is a good starting point for the Agreement's public involvement program, one that broadly addresses the needs of many segments of the public and one that is capable of changing with the changing needs of the public. The name Community Relations Plan is specifically used by Superfund law and regulations and is referred to throughout the Agreement and other documents.

The parties agree it is important that the public have an opportunity to provide input on the prioritization of cleanup and compliance work at Hanford. The first opportunity came during the comment period on the proposed Agreement which contained priorities and schedules for proposed activities. Additional opportunities will be available each year when those priorities and schedules may be revised. Annual updates will be shared with the public for comment.

In addition to planned public involvement activities such as public meetings and written materials, community relations representatives are available at each agency to respond to questions. They are listed in the Community Relations Plan, and will always be listed in public notices, fact sheets, newsletters and press releases. Comments received from the public on future Agreement activities will be reviewed and responded to each time by the lead regulatory agency, either

EPA or Ecology. This document is an example of how comments will be responded to, and the actions taken in response to public comment on the proposed Agreement (see Attachment 1), are examples of how the three parties have already factored the public's wishes into the Hanford cleanup and compliance program.

5.3 **Comment Summary**: Need for an Advisory Committee

A number of comments were received on the need for an advisory group and how that group should be structured. The commenters generally saw the advisory group providing the three parties with advice regarding cleanup and compliance plans as well as serving as a conduit for public information and public comment. Recommendations regarding membership varied. Some said the three parties should utilize the Washington State Nuclear Waste Advisory Council. Others advocated creating a separate advisory committee. Some wanted the committee to consist of citizens throughout the region representing diverse interests. Others indicated the committee should include scientific expertise and people who live near the Hanford Site.

Response:

The parties agree that a citizens' advisory committee would be helpful in providing input and for public information and involvement. The Washington Legislature recently revamped the Nuclear Waste Advisory Council and gave it a charge to advise the Department of Ecology regarding nuclear waste issues. The Council will consist of 11 citizen members appointed by the Governor from throughout the state and eight legislators. Governor Booth Gardner has assured us he plans to appoint a geographically diverse group of Council members.

We are amending the Community Relations Plan to request the Council to review and comment on annual updates to the Action Plan and Community Relations Plan, provide Ecology with additional input regarding the Agreement's activities and public involvement program, and attend the quarterly information meetings.

5.4 **Comment Summary**: Length of Public Comment Period

The 15 day period for public comment is too short.

Response:

Public comment periods of less than 30 days are the

exception, rather than the rule. A shorter comment period of 15 days will occur where an interim response action (under CERCLA) or an interim measure (under RCRA) is required. In addition, the lead regulatory agency may extend the comment period to 30 days for these situations, depending on site specific conditions and the need for immediate action.

The EPA may issue a compliance order to DOE for mitigation of an imminent and substantial hazard situation, in accordance with Section 7003 of RCRA. In this case, quick response is necessary and we believe that a shorter comment period (15 days) is warranted.

At this time, the regulatory agencies have not identified any actual situations at the Hanford Site that will result in a 15 day comment period. The cleanup and compliance actions have been prioritized in the Action Plan Work Schedule. The public comment process described in Section 10.6 of the Action Plan provides 30 to 45 days for public comment on routine documents. It is important to note that comment periods for particular plans and documents can be extended where warranted. The public may request such extensions if additional time is needed to complete the review and provide comments. It is the intent of all the parties that the public be given ample opportunity for public comment.

5.5 **Comment:**

All reports to Congress should be made available to the public.

Response:

The Department of Energy, Richland Operations Office, Reports to Congress are available to the public. These reports, once finalized, are placed in the "reading room" located in the Hanford Science Center, 815 Jadwin Avenue, Richland, Washington. Additionally, such documents are available to the public under the Freedom of Information Act.

5.6 **Comment Summary:** Availability of Information to Regulators

Note: This comment involves DOE policy issues. Therefore, the comment summary and response are provided by DOE.

Comments were received which showed some level of concern regarding the availability of data to EPA/Ecology and the

public. These commenters were concerned that the Department of Energy would consider relevant data to be classified, thus denying access to unauthorized persons. One commenter suggested that Department of Energy should take steps to minimize or eliminate the amount of information which would be classified for security reasons. Another commenter recommended that language referencing "unclassified controlled nuclear data" be stricken from the Agreement.

Response:

It is anticipated that little or no data associated with actions covered by the Agreement would be classified. In the past, when such a situation has occurred, every effort was made to produce a self-contained unclassified document, supported by a small classified supplement. Such practice will also be adhered to in accomplishing the scope of the Agreement. Current Department of Energy guidance regarding classification of data states that all waste management activities are unclassified.

Section 148 of the Atomic Energy Act prohibits the dissemination of certain unclassified information. DOE has designated this section 148 information as "unclassified controlled nuclear information (UCNI)". Although the Department of Energy does not currently believe any of the information required to be provided under the Agreement will be UCNI, the law requires that such information be protected; and for that reason it is included in the Agreement.

5.7 **Comment:**

Note: This comment involves DOE policy issues. Therefore, the comment summary and response are provided by DOE.

Will DOE-Richland agree not to follow practices found at other DOE sites (i.e., Rocky Flats), such as:

- Requiring that Ecology inspectors and permit writers receive a security clearance ("Q" clearance) before the State can begin inspections?

- Withholding from Ecology information about radioactive components (gross alpha and beta measurements) of the mixed waste stream and excluding it from the Waste Analysis Plan?

- Defining certain data as "unclassified controlled nuclear information" and thus withholding it from the State, Ecology and citizens?

Response:

Ecology and EPA inspectors have inspected the Hanford Site since 1984. Until such time as the investigations for clearances have been completed for EPA and Ecology personnel, personnel are allowed onsite only when escorted by a cleared Hanford employee. Neither EPA nor Ecology personnel have been denied access to any facility for which they have regulatory authority, despite the lack of a security clearance. A security clearance will only be necessary if classified data must be reviewed to make decisions relative to cleanup actions or for a RCRA compliance inspection or permit/closure action. Clearances are being processed for those EPA and Ecology employees who have submitted the necessary Personal Security Questionnaire (PSQ). To date, Department of Energy has provided Ecology and EPA with all data requested, including gross alpha and beta measurements. This is not expected to be a problem in the future.

Department of Energy does not anticipate that UCNI data will be required under this Agreement. However, the dissemination of UCNI material is limited by law and there are civil and criminal penalties for disseminating it in violation of the law. DOE does have procedures implementing the law dealing with UCNI (DOE Orders 5650.3 and 5635.4).

5.8 **Comment Summary:** Public Access to Information

Ready public access to information relevant to the activities to be conducted under the Agreement need to be provided, including draft documents and records even though review is ongoing (particularly with respect to the design of the waste processing facilities). Classified information should be minimized if not totally eliminated. Declassification of documents and information should be accelerated and classification guidelines and rules reviewed and modified to assure public access. The Agreement should also provide for public-interest site access.

The provision of the Agreement concerning UCNI will impede public participation. If UCNI is provided as part of any RCRA or CERCLA action, permit or plan, the public would be unable to review and comment on it, which would significantly impair the public's ability to make meaningful comments.

Other comments received concerning these matters included:

- A copy of the Preliminary Operable Units Designation Project report has not been made available for review.

- Citizen participation is limited to certain discrete circumstances. The public is not formally involved in changes made to the Agreement, including extension of schedules, and not provided an opportunity to comment on requests for variances from RCRA interim status standards, not afforded an opportunity to comment on secondary documents, not informed of or allowed to participate in the dispute resolution process which may include critical matters such as designation of operable units under either RCRA or CERCLA authority and resolution of RCRA violations.

- If this was a Consent Decree, citizen groups would be able to intervene and become a party to the proceeding, and that under a consent decree the public would be more able to monitor implementation and participate in a more open decision making process.

Response:

The Agreement commits the parties to comply with all public participation requirements of CERCLA, RCRA and the state dangerous waste laws (Article XLII). Significant additional public participation opportunities have also been provided.

While EPA and Ecology have recognized in the Agreement the potential applicability of the Atomic Energy Act (AEA) and Executive Orders to unclassified controlled nuclear information, restricted data, and national security information, for which distribution is subject to "need to know requirements," EPA and Ecology have not agreed that assertion by DOE that access pursuant to the AEA and such Executive orders will be controlling. EPA and Ecology have reserved the right to seek to obtain such information if it is denied (see paragraph 124). However, as indicated in the response above, DOE does not anticipate that relevant information will be withheld.

As regards public access to information, the parties intend to make information available whenever possible. Applicable law does impose some constraints, however. Proprietary and trade secret information, while available to the regulatory agencies, will not be available to the public. Under the applicable regulations on this matter, the regulatory agencies determine whether information is entitled to such protection. Such decisions are subject to judicial review.

The parties recognize that meaningful public involvement is critical to successful implementation of this Agreement. While it may not be possible or expedient to provide the public with access to every draft or secondary document, the public will be provided with the opportunity to review and comment on such documents as they are incorporated into proposed work plans and permits.

The Preliminary Operable Units Designation Project Report (also referred to as the Operable Units Report) has recently been completed and is available to the public. Copies have been placed in the Public Information Repositories.

While the public may not be provided an opportunity to comment on all requests for variances from RCRA interim status standards, all interim status units will be closed or permitted. The terms of draft closure plans and permits will be subject to public comment.

Although the public may not be allowed to participate in the dispute resolution process, most, if not all decisions reached as a result of dispute resolution will be incorporated into documents which are subject to public comment. Examples of such documents include draft permit modifications, work plans, records of decision, closure plans, annual updates to the Work Schedule, and revisions to the Action Plan.

While it is true that if this action was taken pursuant to a consent decree, citizen groups might be able to intervene, EPA and Ecology still believe that on balance the Agreement is appropriate. Although citizen groups are unable to intervene in the Agreement, the Agreement requires an open process for decision making. All work plans, closure plans and draft permits will be made available for public comment. The parties recognize that continued public support for the Agreement is critical to assuring continued funding, and we fully intend to involve the public as we proceed with implementation.

5.9 Comment Summary: Citizen Appeal Rights

The ability of citizens to obtain judicial review of CERCLA cleanup decisions is limited by Section 113(h) of CERCLA. No similar restriction applies with respect to work under RCRA. Therefore, to the extent the Agreement provides for cleanup under CERCLA when it should be done under RCRA, the Agreement substantially reduces the public's ability in cleanup decision making. Corrective action requirements under RCRA are likely to better assure protection of public health and the environment.

Response:

The Agreement does provide for using CERCLA to address past practice units. This is because EPA proposed the Hanford Site for inclusion on the Superfund National Priorities List. Section 120 of CERCLA requires that federal facilities that are placed on the NPL must proceed with cleanup under CERCLA pursuant to an agreement with EPA.

However, the Agreement also recognizes DOE's obligations to comply with RCRA corrective action requirements. The parties to the Agreement have expressed their intent to satisfy RCRA corrective action requirements when proceeding at past practice units under CERCLA. In addition, CERCLA actions taken to satisfy applicable RCRA corrective action requirements will be incorporated into the Hanford RCRA permit, and subject to public comment and appeal like any other RCRA permit condition.

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6. INDIAN TRIBES INVOLVEMENT

6.1 Comment Summary:

The draft Agreement fails to incorporate the secured rights of the affected Indian Nations and fails to provide for interaction with Tribes on a government-to-government basis. In addition, the agencies should provide support so that the tribes can participate in the cleanup and in the protection of natural and cultural resources.

Response:

The United States has the responsibility of a trustee to assure that federal programs do not adversely affect Indian Rights. As trustee, the United States has obligations to protect and preserve natural and cultural resources. In addition, off-reservation hunting and fishing rights reserved by treaty must be protected.

The parties to the Agreement fully intend to consult directly with tribes as government entities in conducting activities that affect tribal lands and rights and in executing trust responsibilities. Such consultation will be facilitated by meetings between Ecology, EPA (and DOE, as appropriate) and interested tribes. All work plans will be made available to interested tribes for review prior to their implementation. EPA and DOE fully intend to satisfy their trustee responsibilities and honor rights reserved by treaty. Washington State is similarly committed.

CERCLA, as amended, requires EPA to afford federally recognized tribes substantially the same treatment as states in implementing Superfund. However, in order to be provided with such treatment and to serve as the primary overseer of cleanup work, the tribe must have sufficient jurisdiction over the site to implement CERCLA requirements. Such jurisdiction is generally found only on reservation lands and lands otherwise held by the United States in trust for Indians. The lands on which the Hanford Site is now located were ceded to the United States by treaty in 1855.

Other than EPA, the primary party for environmental management of lands not under Indian jurisdiction is the state. RCRA does not currently provide for delegation of the RCRA program to Tribes. Therefore, EPA implements RCRA on Indian Lands.

However, regardless of any jurisdictional constraints, the parties do intend to execute their trust responsibilities to interact with Tribes on a government-to-government basis.

Section 10.10 of the Action Plan describes how the parties intend to involve Indian Tribes in the decision making process. It includes provisions for special briefing of officials of interested Indian Tribes and for the establishment of modified public information repositories, again, tailored to the interest of each Tribe.

The parties recognize that active participation in the process will require a significant commitment of resources by the Tribes. At this time, financial support for Indian Tribes is not available. If a mechanism to provide financial support becomes available, the parties will work to provide such support to eligible Tribes.

7. SETTLING DISAGREEMENTS BETWEEN AGENCIES

7.1 Comment Summary: Dispute Resolution Process

One commenter wanted to make sure that the RCRA dispute resolution authority of the Director of Ecology is equitable to the Superfund dispute resolution authority of EPA.

Another commenter inquired who is the final arbitrator of RCRA/CERCLA interface disputes between Ecology and EPA.

A third commenter inquired about the definition of "dispute" in Parts Three and Four. This person also wanted to know what differences are not subject to dispute resolution.

Another commenter asked what decisions about RCRA/CERCLA will DOE accept from the regulatory agencies and not submit to dispute resolution.

Response:

Dispute resolution is addressed in Parts Two, Three, and Four of the Agreement. The dispute resolution process parallels authorities of the regulatory agencies. Language in Part Two specifies that the Director of Ecology will resolve disputes involving decisions regarding Ch. 70.105 RCW.

Part Three of the Agreement provides that the EPA Administrator is the final decision maker pertaining to those disputes involving CERCLA issues, or RCRA issues for which the state has not received authorization.

Part Four of the Agreement addresses situations where there is a dispute between Ecology and EPA, regarding how regulatory authority is to be applied. In this situation, if the Dispute Resolution Committee is unable to resolve differences, the conflict is elevated to the Senior Executive Committee. If Ecology and EPA are still unable to resolve disputes through this process, then each party has reserved its rights to impose its requirements directly on DOE, to challenge the other agency's conflicting requirements, and to seek judicial review. Ecology and EPA believe that it is highly unlikely that any disputes can not be resolved between their senior managers.

Disputes are disagreements among the parties concerning final resolution of any proposed determination or action. Examples include approval of document content and determination of cleanup standards. Dispute resolution cannot be invoked for Notices of Deficiency during the first

two regulatory review periods for primary documents, including Part B applications. Secondary documents are not subject to dispute resolution as they present information and describe interim steps leading to final decisions. Critical information found in secondary documents will be incorporated into primary documents, which are subject to dispute. The Agreement specifies several other issues for which DOE can not initiate the dispute resolution process.

7.2 **Comment Summary:** Exemption from Dispute Resolution

Note: This comment was directed to DOE for response. Therefore, the comment summary and response are provided by DOE.

What parts of RCRA and Superfund compliance will DOE not submit to dispute resolution and accept as instructions that automatically follow Ecology and EPA regulatory authority?

Response:

The DOE intends to comply with RCRA and CERCLA to the full extent required by law. Disputes regarding the method or level of cleanup required under these laws and regulations may, however arise over the next 30 years. It is expected that most disputes will be quickly resolved. The dispute resolution processes set forth in the Agreement are intended to enable timely resolution of disputes between any of the three parties.

8. RCRA/CERCLA INTERFACE

8.1 Comment Summary: RCRA / CERCLA Interface

One commenter suggested the Agreement should not allow any units that contain hazardous wastes to be subject to CERCLA cleanup procedures and requirements. The rationale offered is that corrective actions under RCRA are likely to better assure protection of public health and the environment as all substances listed in Appendix VIII of 40 CFR Part 264 must be cleaned up under RCRA. Further, such cleanup is subject to more effective public participation requirements.

This commenter also remarked that since the Agreement provides that cleanup of CERCLA past practice units will not be included in the RCRA permit, and by allowing CERCLA activities to address releases of hazardous constituents from solid waste management units, the Agreement is in violation of RCRA Section 3004(u).

Another commenter said that the Agreement places undue reliance on CERCLA with a consequential reductions in state authority under RCRA and citizen rights in the cleanup process.

Response:

Ecology and EPA acknowledge there is controversy regarding whether RCRA or CERCLA provides the most effective and efficient means of environmental restoration. It is generally recognized there are certain advantages and disadvantages with each program. However, a major goal of this Agreement was to provide an effective means of integrating the two programs. All parties believe that the present Agreement accomplishes this goal and describes a process by which the two regulatory agencies can work closely together.

For example, RCRA 3004(u) does not require any corrective action unless data indicate specific units are "releasing" constituents that "threatens human health and the environment". CERCLA authority, on the other hand, may be used whenever there is a release or substantial threat of release of hazardous substances (Section 104[a]).

RCRA only calls for meeting specified cleanup standards, whereas CERCLA requires that all applicable or relevant and appropriate requirements (ARARs) of other environmental laws, including RCRA, be met.

RCRA covers "hazardous wastes" as defined in 40 CFR 261, Subparts C and D and "hazardous constituents," as listed in 40 C.F.R. Part 264, Appendix VIII. The CERCLA universe of "hazardous substances" is much greater, and includes radioactive wastes.

The Action Plan clearly states (see Section 7.5) that all ARARs will be complied with in the remediation of all past practice units, regardless of whether RCRA or CERCLA authority is used. Further, the parties agree that all of the wastes regulated under the State Dangerous Waste Program shall be addressed as part of any CERCLA remedial action.

EPA and Ecology disagree with the comment concerning effective public involvement. The Action Plan, and the Community Relations Plan address public participation requirements. The parties intend that any proposed corrective and remedial action will be subject to extensive public review and comment. The opportunities for public involvement as defined in this Agreement exceed the statutory and regulatory requirements of either RCRA or CERCLA.

Opportunity for public scrutiny of the decision making process is being encouraged and enhanced by: the Public Information Repositories; quarterly public information meetings; the Hanford Public Information Newsletter; RI/FS and RFI/CMS Work Plan public review comment periods; and the work plan annual update public comment period. In addition, the Hanford permit and all modifications are subject to public hearings upon request. Finally, citizen suit provisions as found in CERCLA (Section 310) and RCRA (Section 7002) are specifically cited in the Action Plan and in Articles IX and X of the Agreement.

In general, corrective action may be addressed under either RCRA or CERCLA, since Ecology and EPA believe that the two authorities provide functionally equivalent processes. RCRA 3004(u) requires corrective action for any solid waste management unit at a TSD facility, regardless of when the waste was placed in the unit (40 CFR 264.90[a], 264.101). Thus, corrective action for units operating prior to November 19, 1980 (the effective date of RCRA) can be covered by a RCRA past practice action. Consistent with the requirements of RCRA, the Action Plan contains a schedule of compliance for corrective action for all past practice units. In addition, Section 6.3 of the Action Plan specifies that radioactive substances will be addressed in the TSD closure process.

8.2 **Comment Summary:** RCRA Authority

One commenter specifically questioned the language in Paragraph 17 of the Agreement. The commenter was concerned that the language limited RCRA authority in the case of an imminent and substantial endangerment situation.

Response:

The parties do not believe that the authority of RCRA is limited in situations where there is an imminent hazard situation. This language is meant to allow for a quick response while minimizing potential delays due to regulatory review. Once the site is stabilized, a complete cleanup process can begin, including corrective action meeting all substantive requirements of RCRA.

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9. CERCLA ISSUES

9.1 Comment Summary: Process and Schedules

A few comments regarding the CERCLA milestones were received. These generally applied to Milestones M-12-00 and M-13-00, which deal with the schedules for submitting and initiating remedial investigations and feasibility studies (RI/FS) as well as RCRA facility investigations and corrective measures studies (RFI/CMS). Most of the commenters expressed support for the schedules, including one reference to the Agreement as a "roadmap for an orderly, efficient cleanup". A few individuals expressed concern that we were proceeding too quickly and that money might be needlessly spent on unnecessary cleanup.

Other commenters felt that the schedules should be accelerated. One person stated that assessment of all CERCLA units receiving liquid effluent discharges should be completed as soon as possible and that action to prevent further groundwater contamination should be taken within two years. Another commenter stated that there is a need to more quickly assess the full inventory of wastes at the site (including volumes) and that milestones are set too far in the future.

Another person requested an explanation of why DOE was allowed six months to initiate an RI/FS and 15 months to initiate remedial action at each initial subarea operable unit.

Response:

The parties spent a great deal of time in negotiation of Milestones M-12-00 and M-13-00. Consideration was given to practical matters such as the availability of well drilling equipment, qualified personnel, and the ability of EPA and Ecology to effectively manage a number of multiple, simultaneous projects. While certain aspects of a CERCLA project can be accelerated simply by increasing the funding levels, other aspects are dependent on other factors and these factors can constrain schedule acceleration. The balance between resource expenditures for these past practice investigations, and RCRA compliance and permit requirements also had to be considered.

The EPA and Ecology believe that Milestone M-12-00 provides a very aggressive schedule through April 1992. It requires that DOE submit RI/FS or RFI/CMS work plans

for the first 20 operable units by that date. This is a significant start in the near term, considering a total of 78 operable units have been identified at the Hanford Site. Likewise, Milestone M-13-00 is very aggressive in that it requires DOE to submit RI/FS or RFI/CMS work plans at the rate of one every other month until work plans for all operable units have been submitted.

Work plan submittal is just the start of the process. The period of time between work plan submittal and finalizing remedial action at each operable unit will be several years. This means that investigations or remedial actions could be occurring at 30 to 40 operable units simultaneously. Such a work load would be nearly equivalent to the remainder of current EPA Region 10 "non-Hanford" Superfund projects. Realistically, this is about all that EPA or Ecology can expect to handle. It would not serve any of us to further expedite the schedule if we honestly believe that we would not be able to keep up with the workload and do a quality job of regulatory oversight.

In response to the comment regarding expedited review of units receiving liquid effluent discharges, this will be considered after the 14-month Liquid Effluent Study has been completed. This study is described elsewhere in this response to comments.

Section 120(e)(1) of CERCLA requires that an RI/FS begin within six months after a site is included on the National Priority List (NPL). Hanford was proposed for inclusion on the NPL as four separate sites (the 100, 200, 300, and 1100 Areas) on June 24, 1988, but has yet to be included on the NPL. In other words, the proposal has not yet been finalized. At this time, Hanford is expected to be included on the NPL some time this summer. The RI/FS work plan for the first operable unit (1100-EM-1) has been under review since February 1989 and is expected to be finalized in August 1989. The RI/FS for the operable unit will begin upon work plan approval. Other work plans presently in review at this time include those for operable units 200-BP-1 and 300-FF-1, submitted February 27 and March 31, respectively. The RFI/CMS work plans for operable units 100-HR-1 and 100-HR-3 were submitted on June 30 in accordance with the Action Plan Work Schedule. Each RI/FS or RFI/CMS is expected to begin approximately seven and one half months after submittal of the work plan to EPA and Ecology. The EPA and

Ecology believe that initiation of an RI/FS or RFI/CMS within the 100, 200, 300, and 1100 Areas in a timely manner is necessary to meet the statutory requirement.

Section 120(e)(2) of CERCLA requires that remedial action begin within 15 months after completion of the RI/FS. For the Hanford Site, this would mean initiation of remedial action within 15 months after the Record of Decision is issued for an operable unit. This period of time is to allow for the design phase of the selected remedy.

9.2 **Comment Summary:** Milestone Schedule

The parties received several comments regarding the time frames identified in the milestones. Several commenters thought the schedules were appropriate; one commenter wanted assurances that the milestones would lead to a 30-year cleanup of the site; others believed the schedules should be accelerated.

Response:

The milestones were developed on the basis of a 30-year cleanup of the Hanford Site. We believe that the milestones are aggressive and realistic, and will meet this goal. This timeframe was arrived at after lengthy negotiations that addressed considerations such as potential funding, human resource needs, technological development, construction of treatment facilities and the extraordinary volume of wastes at Hanford. In many cases, the milestones can be accelerated if additional funding becomes available.

9.3 **Comment:**

It was suggested that the term "operable unit" be changed to "management unit", to avoid confusion with "operating facilities".

Response:

The term "operable unit" is drawn from Superfund regulations and carries a specific definition. Its use should not be confusing to anyone who is familiar with this Agreement or the Superfund process. In the future, we will endeavor to clearly communicate what we mean when we use the term operable unit to avoid any misunderstandings.

9.4 Comment:

One commenter asked the parties to ensure that waste treatment practices would be environmentally safe and secure over the long term.

Response:

We concur with this commenter's concerns and would include disposal practices as well as treatment practices. RCRA regulations include specific requirements for design, operation, closure, and post-closure of waste management units. Section 121 of CERCLA requires that "permanence" be considered as a primary criterion when selecting a remedial action alternative and encourages the concept of treatment, rather than disposal of wastes.

9.5 Comment:

One person suggested that "pollutants or contaminants" (page 9 of the Agreement), be defined and asked if the definition included radioactive materials.

Response:

The term "pollutant or contaminant" is defined in Superfund (CERCLA Section 121). This definition is very extensive and is broadly written and includes radioactive materials. Paragraph 21 of the Agreement refers to the statutory definitions as the controlling definitions for terms used in the Agreement, unless specifically stated otherwise.

10. RCRA ISSUES

10.1 Comment Summary: Permitting Schedule

Several comments were received regarding the permitting schedule. One commenter was concerned over the aggressiveness of the schedule, while several other commenters wanted the permitting schedule accelerated, particularly for the Hanford Waste Vitrification Plant (HWVP).

Response:

The parties agree the proposed permitting schedule is aggressive. The regulatory agencies will need to review permit applications and make final permit determinations for numerous units at a rate much faster than ordinarily achieved, while ensuring that all applicable requirements are met. This will require that combined resources be dedicated to achieving these goals.

Acceleration of the HWVP permit would not result in a corresponding acceleration of plant construction or operation. The regulatory agencies must ensure this plant will meet all regulatory requirements prior to construction and operation. The work schedule provides for a two-year process for review of the application and issuance of the permit. In light of the complexity of the facility, this is already an aggressive schedule.

10.2 Comment Summary: WRAP Construction

One commenter specifically requested the Waste Receiving and Processing (WRAP) facility be built sooner than the 1999 milestone.

Response:

The first phase of WRAP, Module I, is scheduled to initiate operations in September 1996. Module I is required to allow retrievably stored waste to be sorted and repackaged. Module II, scheduled to begin operations in September 1999, will provide additional treatment capabilities for mixed wastes. Due to the other work which needs to be accomplished and the resources available, the parties believe the 1999 milestone is appropriate. It should be understood that, given limited funding, accelerating the schedule for one activity might affect the schedule of another activity.

10.3 **Comment Summary:** Closure Requirements and Compliance

The parties received several comments that the Agreement allows DOE to continue violating RCRA closure requirements. Specifically, commenters did not agree with the time frames established for beginning and completing closure activities, and felt that proposed schedules were inconsistent with RCRA requirements.

Response

Ecology and EPA agree that DOE is not in compliance with certain RCRA requirements at this time. However, as in any enforcement action, once a facility is determined to be out of compliance with the regulations, a compliance schedule is established. Hanford, with its numerous mixed waste activities, is not a typical site and the compliance schedule reflects its complex nature. The regulatory agencies have had to prioritize the compliance tasks so that everything would be accomplished in the shortest possible time frame. The Agreement spans 30 years with closure activities being addressed in the first 7 years. The parties believe this is an aggressive schedule which allows for the orderly completion of all required tasks.

10.4 **Comment Summary:** Clean Closure Issues

One commenter was concerned with the reuse of "clean closed" units for continued storage of hazardous waste. The commenter was concerned that after a unit was cleaned and closed that waste should not be allowed to be stored there again and pose a potential threat to recontaminate the unit.

Response:

The state and federal regulations provide for storage or treatment of hazardous waste in tanks or containers for periods up to 90 days. Such hazardous waste management activities must be conducted in accordance with specific regulations, which include provisions for inspections by regulatory agencies, but do not include provisions for permitting or closure. If contamination should occur and is not cleaned up, the unit could be reclassified as a treatment, storage, or disposal unit and the permitting and closure requirements would then apply, or other appropriate enforcement action could be taken. The section of the Action Plan describing "clean closure" (Section 6.3.1) was

developed in light of these regulations. See Section 1.2 of this document for additional information concerning closure activities.

10.5 Comment Summary: Continued Waste Generation

One commenter was concerned that the language in the Agreement would allow for the continued generation and disposal of hazardous wastes at the Hanford Site.

Response:

The commenter is correct. Hazardous waste will continue to be generated, stored, treated and disposed at the Hanford site in the foreseeable future. However, any such waste will be managed in accordance with state and federal requirements.

Hazardous waste management activity occurs at most commercial industrial facilities and is not unique to Hanford. The responsibility of the regulatory agencies is to ensure that these activities occur in an acceptable and environmentally safe manner.

10.6 Comment Summary: Land Disposal

The parties received numerous comments on the existing practice and the apparent planned future practice of land disposal of hazardous and mixed wastes. Several commenters wanted to know what precautions would be taken to ensure current and future land disposal practices would not create more contaminated sites. Other commenters wanted to know why land disposal should be allowed to continue at all.

Response:

Land disposal of waste is currently an accepted method for disposing certain types of waste. Both EPA and Ecology have prohibited certain wastes from being land disposed. As specified in Section 3.4.2 of the Action Plan, the parties have identified land disposal as the least preferable alternative for disposal of wastes. However, currently, and in the foreseeable future, land disposal will continue to occur. The parties will ensure that current and future land disposal practices will be conducted in accordance with all applicable regulations. The permitting process includes requirements for liners, leachate control systems, groundwater monitoring, landfill caps, and long-term maintenance. The RCRA permitting process includes specific

requirements for public comment, and the Agreement provides for additional opportunities for the public to be involved in the process.

10.7 Comment Summary: Groundwater Monitoring Compliance

Numerous comments were received about the apparent lack of an end date for bringing the Hanford Site into compliance with the RCRA groundwater monitoring requirements. Commenters urged the parties to establish a tight time frame for compliance with these requirements.

Response:

EPA and Ecology agree that compliance with the appropriate groundwater monitoring requirements is a priority at the Hanford Site. The regulatory agencies believe that the current schedule in the Agreement for installing monitoring wells is aggressive and realistic. By not having an end date to this milestone, we will be assured of the continued installation of monitoring wells as we determine appropriate. Groundwater monitoring will also be addressed on a unit-by-unit basis in the RCRA permitting process. As each closure plan/post-closure permit or operation permit is reviewed, a specific schedule for groundwater monitoring compliance will be established. The schedule accounts for various constraints. For example, two factors considered in establishing the schedule were the availability of drilling equipment, and the number of qualified operators.

10.8 Comment Summary: Contaminant Migration through Wells

One commenter specifically addressed the potential for contaminant migration through existing, sealed or future ground water monitoring wells. This commenter felt that DOE should install and abandon these wells in strict adherence to state and federal regulations. One commenter asked for clarification on how wastes disposed to old injection wells, also called reverse wells, would be addressed.

Response:

All three parties are equally concerned that groundwater wells be constructed, maintained, and abandoned in such a manner as to ensure that the wells do not provide a pathway for contaminant migration. The construction of all wells will be accomplished in accordance with State requirements.

In regard to the old injection wells at the site, each of these known to exist has been assigned to an operable unit. These wells and the associated disposal practices, will be investigated as part of each RI/FS or RFI/CMS in the same manner as any other unit. The abandonment (closure and sealing) of all wells will be performed in accordance with State of Washington regulations.

Although not specifically identified in the Action Plan, Ecology intends on implementing an aggressive well abandonment and rehabilitation program for existing wells which will ensure that these wells will not act as conduits for contaminant migration. In addition, the DOE has indicated that it has an ongoing program for maintenance of its wells to ensure that the integrity of the seal between the soil and the well casing is maintained. Abandonment of existing groundwater wells is accomplished in a manner designed to minimize the potential for contaminant migration.

10.9 **Comment Summary:** Single-Shell Tank Stabilization

Several commenters were very concerned with the length of time necessary for the single-shell tank (SST) stabilization project. Because some of these tanks have leaked, the commenters would like to see this project accomplished as soon as is possible.

Response:

Ecology and EPA agree that SST stabilization, including interim stabilization, is a high priority project. One major problem with accelerating the process is that there currently is not enough double-shell tank space to store all of the pumpable liquid from the SST. Because of this, and because of the amount of time it takes to pump the liquids from each tank, consideration had to be given to double-shell tank waste removal (grout feed), pre-treatment of waste (including volume reduction) for final disposal, and the SST pumping process. The parties intend to complete the SST stabilization as soon as possible, but no later than the 1995 milestone date.

10.10 **Comment Summary:** Single-Shell Tank Leaks

Several commenters were concerned about leaks from the single-shell tanks (SST) and the potential for groundwater contamination. There was also a comment

received on soil contamination below the tanks as a result of the past leaks. All of these commenters asked how these issues would be resolved as there appeared to be no specific milestone to cover these issues.

Response:

Although not specifically identified as a milestone, there are two milestones which address these concerns. The first is Milestone M-24-00 which addresses groundwater monitoring around RCRA units. As the SSTs are considered under the jurisdiction of RCRA, this milestone will apply and groundwater wells will continue to be placed around the tank farms until Ecology determines that adequate monitoring exists. This groundwater monitoring network will allow the parties to determine whether these leaks have contaminated the aquifer.

Second, Milestone M-20-03 specifies that DOE must submit a closure/corrective action plan to Ecology and EPA by September 1989. This work plan establishes the schedule and actions necessary to make final decisions regarding the SST closure methods. Actual cleanup of the SSTs will proceed after characterization of tank contents and associated contamination, and will be addressed through:

a) the SST Supplemental EIS (Milestone M-09-01, due June 2002), which will present data and evaluate cleanup and closure actions necessary to achieve compliance with federal and state law, and;

b) the subsequent SST Closure Plan required by RCRA (Milestone M-09-02, due December 2003), which will detail approved schedules and actions necessary to clean up and close the tank farms and associated areas.

Existing RCRA regulations are very clear on the requirements for closing facilities which have handled regulated wastes. The SST closures will be subject to all appropriate RCRA standards, including requirements for public review and comment on the SST closure/corrective action work plan.

10.11 Comment Summary: Single-Shell Tank Leave/Retrieve Issue

Several comments were received regarding the leave/retrieve decision of single-shell tank (SST) wastes. Commenters felt that this issue needed clarification in the Agreement.

Response:

The parties believe that these concerns are addressed in the Agreement through the closure/post-closure plan and permitting review process for which milestones have already been established. The parties agree that closure of the SST farms will be in compliance with federal and state law.

10.12 **Comment Summary:** Loss of Interim Status

The proposed Agreement permits substantial and continuous violations of groundwater monitoring and compliance certification requirements. Section 3005(e) of RCRA requires land disposal facilities to certify compliance with groundwater monitoring requirements or lose interim status and close land disposal units. DOE has not provided certifications for the vast majority of the RCRA land disposal units at Hanford, and those that were submitted were of doubtful validity. One certification was based on an application for a waiver of groundwater monitoring requirements which has been or will be denied. The placement of hazardous waste in land disposal units which have lost interim status is prohibited, unless they have obtained a permit.

The Agreement is illegal because it allows continued use of units which have lost interim status, and neither EPA nor Ecology have the authority to grant interim status once it has been revoked by Congress. The Agreement provides for submitting closure plans for land disposal units that have lost interim status through the mid-1990s, when regulations require such closure plans to be submitted 180-210 days before the units last received hazardous waste - this includes some of the 19 unlined cribs, ditches, and ponds which continue to receive liquid effluent streams (which may contain materials from chemical spills).

Response:

Under Section 3005(e) of RCRA, if DOE did not certify compliance with groundwater monitoring for mixed waste land disposal units by November 23, 1988 (for non-mixed hazardous waste by November 8, 1985), interim status authorization for operation of those units is automatically terminated. DOE provided a timely Part B application and certification of groundwater monitoring compliance for the grout treatment and disposal facility. A certification based on a groundwater monitoring waiver application was submitted for the dangerous waste landfill and the low-level mixed waste burial grounds on or before November 8, 1985. The dangerous waste landfill has not been used since June 1985. Ecology

has not yet ruled on the adequacy of the groundwater monitoring waiver request for the low-level burial grounds.

In addition, on October 1, 1986, DOE and Ecology executed a Consent Agreement and Compliance Order which included a compliance plan and schedule for achieving compliance with groundwater monitoring requirements for the dangerous waste landfill, the 200 Area Mixed Waste Burial Grounds and the Retrievable Storage units. DOE has complied with these schedules and requirements. Ecology determined that DOE's compliance with Phase I of the order (groundwater monitoring wells) was acceptable.

The DOE did not seek to retain interim status for remaining land disposal units. Therefore, these units lost interim status and are required to close in compliance with hazardous waste closure regulations. The DOE has indicated that hazardous waste discharges to these units have ceased. Confirmation of this fact for the continued discharge of liquids to the soil will be obtained as part of a 14 month study of continuing liquid discharges (see liquid discharges section for additional details).

Closure plans have been submitted by DOE for all units that lost interim status. Review and approval of those plans is pending. Closure is not required to be completed until after approval of the closure plan - see 40 C.F.R. section 265.113(a), incorporated by WAC 173-303-400. The review and approval of these closure plans are scheduled to coincide with operable unit cleanup actions to avoid duplication and inconsistencies in investigatory and cleanup efforts.

Pursuant to RCW 70.105.095 and 42 U.S.C. section 3008(a), Ecology and EPA are empowered to issue orders requiring compliance with, among other things, closure requirements within a specified time. In executing this Agreement, Ecology and EPA have established specified times for compliance with closure requirements.

11.0 TECHNOLOGY DEVELOPMENT AND TECHNICAL ASSISTANCE

11.1 Comment Summary: Technology Development

Several comments regarding technology issues were received during the March 1989 public meetings. This included one comment that increased laboratory capacity would be required in order to meet the milestones. The other comments emphasized the need for technology development for disposal, cleanup, containment, and transportation of wastes.

Response:

The parties are in agreement that alternative remediation technologies will be a key to successful completion of the Hanford site cleanup. This is one important reason for specifying milestones and enforceable schedules in the Action Plan Work Schedule. In order to meet these commitments, DOE will plan and implement the necessary technology development in a timely manner.

The laboratory capability has been addressed as a specific milestone in the Work Schedule. The development of other technologies, while not listed as specific milestones, has been considered in the establishment of milestones. For example, in order to meet the milestones regarding closure of the single-shell tanks DOE will develop certain technologies for waste retrieval and stabilization.

11.2 Comment Summary: Expertise and Technical Assistance

One commenter suggested that EPA and Ecology personnel did not have sufficient expertise and background in radioactive waste issues to supervise the cleanup of sites contaminated with radioactive wastes. Another person stated that EPA needs a full technical staff with expertise in radioactive waste cleanup in order to effectively manage the cleanup process. A specific reference was made to EPA's and Ecology's lack of expertise in providing adequate oversight for permitting of the grout treatment facility. Another commenter offered that a possible solution to this problem is the participation of a technical advisory panel, such as the National Academy of Science, to provide sensible guidance to the regulatory agencies. It was also suggested that EPA and Ecology utilize resources from EPA Headquarters, the Congressional

Office of Technology Assessment, the Nuclear Regulatory Commission, and the Radiation Protection Unit of the State Department of Social and Health Services.

Another commenter felt that EPA and Ecology staff lacked a thorough understanding of the disposal problems and contamination issues at Hanford. Therefore, in his opinion, the Agreement lacked credibility and was technically unsound. He felt that the regulatory agencies should not enter into an Agreement with DOE until they had a better understanding of the site.

Response:

The EPA and Ecology agree that additional staff expertise will be necessary in undertaking this project. This is not to say the regulatory agencies are without the expertise needed to implement the Agreement. This is simply a reality that we have to deal with, but it should not slow us down in getting started.

As both agencies begin building their staffs, a preference will be considered for individuals with expertise and experience with the type of issues we will be dealing with at Hanford. The resource pool of individuals with this expertise, plus the needed experience in implementation of the RCRA and CERCLA programs, is relatively small. Therefore, we expect that our new personnel will have to gain much of their specialized expertise after they are on the job.

One advantage that the regulatory agencies have is the contracting mechanism by which we can obtain specialized expertise on certain issues. To date, the bulk of RI/FS work plan review is being done for EPA by two outside resources -- one is a contractor and the other is the U.S. Geological Survey. As an independent entity, we believe that USGS has a very thorough understanding of the geology and hydrogeology beneath the Hanford Site. Ecology will soon have a contracting program in place to facilitate its regulatory oversight responsibilities.

Another contractor with expertise in radioactive waste issues is presently assisting EPA with review of the grout treatment facility RCRA Part B permit application. They were tasked specifically to evaluate the adequacy of the radioactive mixed waste disposal vaults with respect to EPA's minimum technology requirements specified in RCRA Section 3004(o). They

were also asked to evaluate the long term effectiveness of the grout process in binding and immobilizing radioactive constituents.

The EPA Office of Radiation Programs (ORP) has proposed that one person from their office be assigned to Region 10 to provide technical support on radiological waste issues. This would assist us with national policy and consistency issues, as well as specific technical issues. The ORP has also offered the use of their laboratory for analyses of split samples.

The National Academy of Sciences Board on Radioactive Waste Management has been involved in reviewing DOE activities at Hanford since before 1978. Until now their review has concentrated on earlier DOE plans to construct a high-level waste repository at Hanford. It is currently involved in reviewing plans for characterizing and disposing of existing single-shell tank wastes. This involvement will continue until completion of the Supplemental EIS for final disposition of tank wastes (2002). This is how EPA and Ecology plan to utilize these outside resources -- on an as-needed basis for situations requiring very specialized expertise. The EPA and Ecology do not see a role for such outside resources that would extend to routine review and oversight. This is the responsibility of the regulatory agencies.

The EPA and Ecology agree that we do not have a full understanding of the effects of all the waste disposal practices that have occurred at the site. In fact, there are very few individuals who can claim such knowledge. As regulatory agencies, we have been inspecting the site for several years and believe we do have a good understanding of the major problems and disposal practices at Hanford. We disagree that limited first-hand knowledge should preclude EPA and Ecology from entering into the Agreement. We believe that we have an adequate understanding of the issues and problems to enter into the Agreement. We also disagree that a lack of first-hand knowledge about the site decreases the Agreement's credibility or the soundness of its technical content.

12. WORKER SAFETY

12.1 Comment Summary:

Note: This comment involves DOE policy issues. Therefore, the comment summary and response are provided by DOE.

During the Workshops on the Agreement held during the public comment period, several individuals asked how worker safety would be ensured. Many expressed concern that unqualified individuals would be hired or contracted to perform cleanup actions.

Response:

Subsequent to the workshops, Department of Energy provided site tours and briefings on training/worker protection programs to concerned union officials from Seattle and Spokane. These union officials were impressed with the quality and quantity of training which is provided to Hanford employees working with hazardous wastes or radioactive substances.

All personnel, including contracted personnel who conduct activities on the Hanford Site, are required to comply with specific safety standards and procedures required by DOE Orders. These safety standards are designed to protect workers and include OSHA, WISHA, and Atomic Energy Act based requirements. Site-specific health and safety plans are written for each cleanup action, including the investigation phases. These plans specify the requirements for worker personal protective equipment, radiation monitoring, medical surveillance, employee training, etc. Contracted personnel are provided the same worker protection as is mandated for site forces.

The Hanford Site worker protection programs have historically resulted in much lower worker injury or exposure rates than those experienced by private industry or other Department of Energy sites. The cleanup actions are expected to be similar to other site construction or decontamination/ decommissioning activities; therefore, it is anticipated that worker accident/injury statistics will continue to be better than the national average.

13. CONTAMINATION OF THE ENVIRONMENT

13.1 Comment Summary:

Several commenters expressed concern over the issue of general contamination at the Hanford Site. Some were concerned about the groundwater while others were concerned about the fragile environment in and along the Columbia River. Some were concerned about the potential of exposure to hazardous/radioactive constituents as far away as the mouth of the Columbia River and beyond.

One person objected that the Agreement did not specifically address contamination that migrated off-site or to the Columbia River. He felt that the river itself needed to be investigated and that a possible ban on dredging might be advised.

Another individual suggested that we clarify the Executive Summary to the Action Plan to state that groundwater contamination at the site is not just attributed to past practice units, but also to units currently operating (i.e., discharging liquids to the soil column).

Finally, one commenter stated that the overall groundwater flow system, including recharge through the unsaturated zone, is poorly understood. He pointed out that there is an inherent conflict in goals between investigating operable units on a priority basis and focusing on the overall groundwater flow system and assessing cumulative impacts, although both approaches are necessary. He suggested that large scale issues, such as seepage to the Columbia River or identifying possible preferential flow channels is beyond the scope of an RI/FS for an individual operable unit and that due to the pressing schedules for RI/FS work, the information obtained might not be incorporated into a site-wide model. He suggested that this issue be addressed in the Agreement and that an appropriate milestone for a major research effort be included.

Response:

The EPA and Ecology share the concern expressed over the extent of contamination at the Hanford Site. This problem is the reason why Hanford has been proposed for EPA's National Priority List as a Superfund site. Certainly, many waste management practices utilized at Hanford over the past 46 years would not serve as a

positive model in light of today's standards. Similar concerns and statements could be made about many other Superfund and hazardous waste management sites throughout the nation. The issue that we must deal with at this time is how to begin and maintain a long-term effort of cleanup and compliance with regulatory standards. We believe that the Agreement sets all of the parties on a proper course toward this goal.

At this time, EPA and Ecology do not have specific plans to investigate the Columbia River as a separate task. The river will, however, be investigated as necessary to track contamination from each operable unit, as part of each RI/FS or RFI/CMS. This may require the monitoring of certain portions of the river, seeps, or sediments. It would be premature at this time to discuss the possibility of a ban on dredging of the river. Any such decisions would be based on data obtained in specific areas as the investigations proceed and would be incorporated into the selected remedies.

The Executive Summary to the Action Plan was not intended to be a comprehensive description of the Hanford Site or the contaminants that have been (or are being) generated. It was simply meant to be an overview of the Action Plan. The RI/FS, RFI/CMS, and RCRA groundwater investigations may show that current waste management practices, in addition to past practices, are impacting the groundwater. EPA and Ecology believe that the statement in the Executive Summary that past practice units have impacted groundwater and that certain major constituents have been identified is accurate and is not misleading to the general public.

The parties agree that much work needs to be done in order to better understand the overall groundwater flow regime beneath the Hanford Site. In some cases, we have identified "groundwater operable units". These operable units will be investigated to determine the impact of two or more operable units that have contributed to a groundwater contamination plume. We further agree that we need an effective mechanism to assimilate all available data and new data if we are to understand the flow system. An effort is presently underway to incorporate available vadose zone and hydrologic data into the Hanford Environmental Information System (HEIS). These data, as well as new data, will be accessible through a graphic information

display system. The EPA, with technical support from the U.S. Geological Survey, and Ecology are presently working with DOE and its contractors to implement this system.

The understanding of the geologic and hydrologic processes on a large scale is important for remediation of specific areas under the RCRA and CERCLA programs. This work will be further addressed in ongoing DOE research projects and, in order to adequately address this issue, DOE may need to supplement the ongoing efforts with a more comprehensive analysis of the geologic and hydrologic conditions at the Hanford Site. Each operable unit investigation must consider site wide impacts and relevant regional hydrogeologic patterns.

Based on current work and the planned work to be accomplished during each operable unit investigation, EPA and Ecology do not see a need to establish a separate milestone to address a site-wide study. See the response to issues listed under Section 15.1 for additional comments concerning site-wide environmental impacts.

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14. ASSESSMENT OF RISK

14.1 Comment Summary:

The need to prioritize and implement cleanup activities based on risk assessment was raised by a number of people. The common theme of these comments was that major expenditures of public funds should be based on technically sound risk assessment, not on a political basis or on a public misconception about the risk.

Most of those who commented on this specific issue felt that the risk to human health posed by past and current waste management practices at the Hanford Site is extremely low and, in fact, is decreasing. One person stated that the promotion of an inaccurately high perception of risk is potentially damaging to the economy (e.g., agriculture) of the Tri-Cities area. Another stated that those who would alarm the public about risks associated with contamination at Hanford were poorly informed. Other commenters stated that data from the Columbia River indicates no present health risk and that if wastes are not migrating, they should not be disturbed. One person said since the government does not choose to defend its defense policies in public forums, that unbalanced media coverage would continue to promote the misconception of high risk associated with the Hanford Site.

Some individuals believed that with the applied use of cost-benefit analysis, Hanford cleanup would rank very low in relation to other acute national health problems. One person said that cleanup at Hanford should aim at attaining acceptable levels of risk to human health and that any further cleanup (i.e., to numeric criteria), along with cost estimates should be clearly stated.

Two individuals offered more specific comments regarding risk assessment. One stated that a better definition of risk is needed in regard to migration of wastes that have leaked from the single-shell tanks and that public communication about that risk is an important issue. The other commenter requested that the regulatory agencies investigate the potential of an explosion hazard in certain underground tanks, by means of quantitative risk assessment.

Response:

The EPA and Ecology will be using risk assessment for various purposes throughout the cleanup process at the Hanford Site. At this time, we do not have sufficient data to concur or disagree with the statements regarding risk at the Hanford Site that were made by many of the commenters. Accordingly, the process that EPA and Ecology have developed to prioritize operable unit investigations is not based on quantitative risk assessment, but rather on analysis of available information. As we proceed with the operable unit investigations, we will begin to collect the data and information necessary to conduct risk assessments. Early in the operable unit investigation process, a baseline risk assessment (required under Superfund) will be conducted to determine the existing or potential risk presented by the contamination at each operable unit.

Once the feasible alternatives for remedial action are developed for each operable unit, the risk to human health will be evaluated for each alternative to determine whether it is within an acceptable range. Those feasible alternatives which can achieve an acceptable level of risk will then be evaluated against several other criteria, one of which is cost-effectiveness. The use of cost-benefit analysis, as suggested by commenters, is more subjective than cost-effectiveness analysis and is not part of the federal or state cleanup programs.

The Agency for Toxic Substances and Disease Registry will assist EPA and Ecology by conducting a Health Assessment at each operable unit. Each of these assessments will be prepared as an addendum to the overall Hanford Site Health Assessment, in an effort to examine the cumulative or additive effects of multiple operable units where hazardous and/or radioactive wastes have entered the environment.

While risk assessment provides one tool or basis upon which the regulatory agencies will make decisions, it is not the only one. Risk assessment models generally calculate the risk to human health. Models to calculate ecological risk are not well developed at this time, but will likely improve significantly during the term of the Agreement. We also must consider the risk to the environment, wildlife, and aquatic life in our decisions. For some contaminants, numeric criteria (e.g., ambient water quality criteria standards) have been established and cleanup will have to achieve compliance with these criteria.

The EPA and Ecology did not fully understand the comment regarding the need for better definition and communication of the risk of wastes migrating from single-shell tanks. Each of the tanks are included within operable units and the process of assessing the risk of the contamination associated with those tanks will be conducted in the same manner as risk assessment at other operable units. The communication of that risk to the public is an integral step in selection of remedial actions. Once we have better information regarding the extent of migration of the high-level mixed waste contaminants, we can present our estimates of risk to the public in a straightforward manner.

Note: The remainder of this response pertains to the comment regarding the potential explosion hazard in tanks. The DOE has actively been working on this issue and, therefore, has provided the following response.

The explosion potential of components in Hanford underground tanks has been studied, both in the past and at the present. From 1973 to 1977, laboratory experiments were performed to evaluate the exothermic potential of organics-nitrate reactions. The conclusion from the experiments is that sodium nitrate based saltcake containing organic materials is stable below 460°F. This is far above the 200°F which is the current maximum temperature reading observed in single-shell tanks (SSTs). In 1985, Pacific Northwest Laboratory (PNL) completed a comprehensive review of the thermodynamics and kinetics of organics with explosive potentials. The conclusion from the review is that the potential for reaction of organic compounds (in both single-shell and double-shell tanks) with inorganic salts to form explosive substances is nonexistent.

The exothermic potential of ferrocyanide-nitrate is being evaluated in a separate study by PNL. The study consists of three parts: a review of available data (completed in 1984), preliminary laboratory testing (completed in 1988), and final laboratory testing aimed to close the issue (scheduled to be completed in 1990). The completed work indicates that under the current tank operating conditions, there is little hazard associated with the ferrocyanide that is present in some SSTs. The highest temperature observed in a tank suspected of containing ferrocyanide is 134°F. This is substantially below the lowest ferrocyanide-nitrate reaction temperature of 460°F observed in the laboratory. The final laboratory testing is planned to be conducted by PNL and the Los Alamos National Laboratory. The results of

the testing are expected to confirm that ferrocyanide does not pose a hazard under the current tank operating conditions.

The waste contained in the 241-CX-72 tank located at the decommissioned 200 East Area semi-works has been evaluated by means of neutron measurements. The tank contains less than 200 grams of plutonium. There are no criticality safety concerns associated with this waste in its present configuration. The plutonium content will be confirmed by sampling prior to removing or treating the waste.

15. FUTURE LAND USE

15.1 Comment Summary: National Sacrifice Zone

Several commenters expressed opinions regarding the level of cleanup which should be achieved at Hanford. Some commenters felt that it would be in the national interest to establish Hanford as a "national sacrifice zone" while others indicated they would "...not stand for an abandoned `national sacrifice zone.'" Commenters also urged EPA and Ecology to prevent the Department of Energy from citing institutional controls as a justification for lower cleanup levels. These same commenters expressed a need for a comprehensive site-wide Environmental Impact Statement.

Response:

Land use is dependent upon many factors, including environmental quality and land ownership. At Hanford, environmental quality and the potential to return the land to other uses will depend, in large part, on the success of remediating contamination and preventing future contamination.

Long-term environmental impacts of Hanford operations, and future land use at the Hanford Site were addressed, in part, in the Final Environmental Impact Statement - Disposal of Hanford Defense High-Level, Transuranic and Tank Wastes (HDW-EIS). The preferred disposal alternative identified in the HDW-EIS included several disposal methods, depending on the nature of waste involved. Each of these methods will affect potential land use.

In summary, it is intended that present and future high-level wastes from double-shell tanks will be sent off-site to the planned national deep geologic repository; retrievable transuranic wastes will be sent off-site to the Waste Isolation Pilot Plant; and low-level wastes will be disposed on-site in a cementitious (grout) mixture in near-surface vaults.

A key objective in all remedial actions will be consolidating waste to maximize the land area necessary for permanent disposal, thereby maximizing the land available for other uses. In general, it is intended that low-level wastes will be consolidated and buried in a 32-square mile zone within the 200 Area plateau. This area would be permanently identified with stone monuments and a subsurface marker system, in accordance with 40 CFR Part 191.

Excluded from consideration in the HDW-EIS were low-level radioactive and chemical wastes in liquid and solid form discharged to various "land treatment" systems. Decisions concerning these wastes and associated disposal units were deferred at the time for review under applicable hazardous waste regulations, and will be addressed in accordance with the requirements and schedules established in the Agreement.

Regardless of when site-specific remediation occurs, or what the final disposition of wastes will be, cleanup standards will be defined and implemented with strict adherence to federal and state laws and regulations. There requirements include closure and post-closure performance standards required under WAC 173-303-610, and implementation of other "applicable or relevant and appropriate requirements (ARARs), under CERCLA Section 120(d). The detailed processes leading to Hanford Site compliance and remediation, including all proposed final determinations made by EPA and Ecology, will be subject to public review and comment.

The Hanford Site has been a federally owned "controlled area" for security, public health and safety reasons since 1943, and is expected to remain so for the foreseeable future. However, the long-term potential land uses at Hanford have not been determined. Such determinations will be a key component in defining appropriate remedial action, and should be a focal point in the public forum.

Concerning the call for a comprehensive Hanford EIS, the parties determined that the size and complexity of the Hanford Site makes it impractical and not cost-effective to have a separate site-wide environmental analysis conducted in addition to the HDW-EIS, and the site characterization processes that will take place under RCRA and CERCLA. This is not to suggest regional impacts will not be considered. As specified in the Action Plan, these processes will be supplemented, as necessary, to ensure compliance with National Environmental Polity Act requirements.

15.2 Comment Summary: Limiting Areas for Waste Burial

Several commenters highlighted the need for minimizing the total land area used for waste burial. It was also suggested a comprehensive plan be written for achieving this goal.

Response:

Note: This comment involves DOE policy issues regarding future land use. Therefore, the following response is provided by DOE.

Reducing waste volume is an important criterion in selection of remedial action alternatives under CERCLA and RCRA. The Hanford Waste Vitrification Plant will significantly reduce the volume of high-level liquid wastes at Hanford, and prepare wastes for permanent off-site disposal in a deep geologic repository.

Disposal of wastes from active units will be regulated under both federal and state programs, which rank land disposal as the least preferred alternative for final waste disposal.

Developing a comprehensive plan for minimizing the land area used for waste disposal will be an iterative process that will occur over many years. This is due to the enormous volume of waste and the size of the Hanford Site. Inherent in the requirements for approval of final remedial action plans by the regulatory agencies is the goal of reducing the land area potentially affected by waste disposal.

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16. ADDITIONAL COMMENTS

Other comments which were received and which could not be readily categorized are listed below. In some cases, comments were directed to DOE, rather than all three parties. In these cases, DOE has provided the comment summaries and the responses, as noted.

16.1 Comment Summary: Transportation Issues

The parties received several comments regarding the safe transportation of contaminated material from the Hanford Site to the place of ultimate disposal.

Response:

Off-site transportation issues are not within the scope of the Agreement. The purpose of the Agreement is to address hazardous waste compliance and cleanup issues at Hanford. However, DOE will adhere to all applicable federal and state transportation laws and regulations pertaining to shipment of wastes to or from the Hanford Site.

16.2 Comment Summary: Off-site Waste Receipt

Several commenters were concerned with Hanford accepting the Shippingport reactor vessel for disposal and objected to the continued receipt and disposal of off-site wastes.

Response:

The DOE is allowed to accept off-site wastes, provided such wastes are treated, stored, or disposed in accordance with applicable hazardous waste regulations. Currently, hazardous or mixed wastes received from off-site sources are going to units covered by RCRA interim status regulations. Eventually, all of these units will be included in the RCRA permit for the Hanford facility.

16.3 Comment Summary: Hanford as a Disposal Site

Concern was raised by some commenters about Hanford disposal plans in the future, and the possibility of the area becoming a "dumping ground".

Response:

Hanford will continue to generate hazardous wastes as long as it operates as a Department of Energy facility. However,

EPA and Ecology believe the Agreement ensures that future operations will be conducted with strict adherence to federal and state environmental regulations.

A separate facility at Hanford is operated by US Ecology, Inc. on land subleased from the State of Washington for disposal of commercial low-level waste. This land is, therefore, not within the scope of this Agreement. Washington State has joined with six other states to form the Northwest Interstate Compact on Low-Level Radioactive Waste Management. The Compact is responsible for managing low-level radioactive wastes on a regional basis. Washington is also one of three states nationally that has provisions for implementing the Low-Level Radioactive Waste Policy Amendments Act of 1985 (Public Law 99-240). As such, the US Ecology facility will continue to receive, manage, and dispose of this form of radioactive waste under state inspection and regulatory standards.

16.4 **Comment Summary:** Contamination -- Past and Future

One commenter asked why disposal practices in the past have contaminated the environment, and urged that future disposal should not cause additional contamination.

Response:

The Hanford Site has operated for more than 45 years. For the majority of that time, state and federal environmental laws and regulations governing hazardous waste disposal either did not exist, or their applicability at certain federal facilities was contested. For example, during the late 1970's and early 1980's, there was disagreement between DOE and the regulators over the jurisdiction of EPA and the state at Hanford regarding hazardous waste issues.

We are now in a position of deciding how to best proceed from this point in time. Regardless of the history at the site, the goals before us now are to implement cleanup in an effective manner, and to bring the Hanford Site into compliance with state and federal requirements. The sole purpose of the Agreement is to specify a framework and a plan of action to achieve these goals. The Agreement clarifies EPA and state jurisdictional issues and requires that future hazardous waste management operations be in full compliance with applicable environmental laws and regulations. The Agreement, a legally binding document, requires DOE to comply with aggressive compliance schedules in order to bring current operations into full compliance with these regulations.

Hazardous or mixed waste units that will continue to operate at Hanford will be permitted by the state. State hazardous waste management regulations are at least as stringent as comparable federal regulations, and require provisions such as leachate collection systems and landfill caps to insure environmental protection. This permitting system also requires waste minimization, recovery, and recycling as priorities in the generation and management of hazardous wastes, as specified in CH. 70.105.150 RCW.

16.5 Comment: Inventory of Waste Management Units

Some 1200 to 1400 sites have been identified. Is that the total number? To what extent are these sites contaminated? Are some sites so contaminated they may never be rehabilitated? Can these sites be isolated forever? Will it be possible to bar entry to these sites to future generations--forever?

Response:

The recently issues Hanford Site Waste Management Units Report reflects 1,377 waste management units at the Hanford Site. This includes "sites" such as surplus facilities, waste staging areas, and RCRA treatment or storage areas within operating plants. It also includes numerous septic tanks, which are not known to be contaminated with hazardous wastes, but will be investigated. At present, just over one thousand sites or units are considered to be contaminated with hazardous, radioactive, or mixed wastes.

The full extent of the contamination from these sites is unknown. The purpose of the investigative phase of CERCLA/RCRA action is to determine the extent of contamination in order to assess the alternatives for cleanup. As the investigative phase proceeds, it is possible that additional contaminated sites will be discovered. If new hazardous sites are identified, they will be included in one of the operable units for final disposition.

Final determinations regarding site remediation will be made through the CERCLA Record of Decision, and the RCRA Corrective Measures Implementation / Permitting process, both of which include public review and comment. If the preferred remedial action alternative at any site is permanent stabilization and isolation, the site will be stabilized and isolated to protect the environment and public health, in accordance with federal and state laws.

16.6 Comment Summary: Unknown Waste Management Units

One commenter expressed concern about what will be done with "mystery sites".

Response:

There may be sites where unplanned releases have occurred but where there is scant documentation regarding specific locations, quanitities, or components of the waste. All currently known sites, including those resulting from unplanned releases or spills, have been identified in the recently issued Hanford Site Waste Management Units Report. If a new site is discovered at any time, it will be entered into the data base and will either be assigned to an existing operable unit or a new operable unit will be created. In this manner, any "mystery sites" will be documented during the investigation or remedial action phases, or through any other source of information.

16.7 Comment Summary: Recycling

Several commenters encouraged the practice of reuse of wastes to the greatest extent possible. Some commenters were concerned with the appropriateness of the terms "waste" and "disposal", as these terms imply that recycling would not be considered as a waste management option.

Response:

Ecology and EPA encourage the use of recycling hazardous wastes when practicable. Increased recycling of wastes and alternative uses of contaminated materials are goals which the parties have agreed should be pursued. These goals have been codified in Ch. 70.95.150 RCW and are specifically included in Section 3.4.2 of the Action Plan.

16.8 Comment Summary: Recycling and Recovery

Several comments addressed recovery and recycling of materials, such as metals and isotopes, during cleanup. One commenter suggested that not all remedial action should be permanent.

Response:

The goal of recycling and recovery of usable materials is shared by EPA and Ecology and is addressed elsewhere in this summary. These are goals applicable to active units, and are subject to state permit requirements.

For clean up of past practices the parties are guided primarily by CERCLA (although Sections 3004 and 3008 of RCRA also address corrective action). CERCLA identifies as a principal element the requirement that remedial actions attain permanent and significant reduction in the volume, toxicity and mobility of hazardous substances (Section 121[b]). It is conceivable that with developing technologies, and consistent with state and federal law, some metals could be recovered during remedial activities.

16.9 Comment: Recycling

Recycling should be considered when selecting alternatives for remedial action in order to recover some of the costs associated with cleanup.

Response:

Recycling is one of the cleanup processes which will be used at Hanford as appropriate. For example, elemental lead which had been used for radiation shielding, and then subsequently disposed of could be recovered, decontaminated, and reused as shielding. On the other hand, recovering radioactive constituents from waste for beneficial use is generally not cost effective and could pose a greater risk to the worker, the environment, or the public. Recycling will be considered where it is safe and cost effective.

16.10 Comment Summary: NRC Involvement and Jurisdiction

A couple of commenters questioned the role of the Nuclear Regulatory Commission (NRC) in the disposal of wastes stored at Hanford. Questions were raised regarding the authority of NRC over the double-shell tank wastes which are planned to be disposed in grout vaults. Some commenters suggested that formal petitions be submitted to the NRC to obtain a ruling on the appropriate waste classification (i.e., high-level vs. low-level) for the wastes which will be disposed at Hanford.

Response:

The Agreement has been issued pursuant to regulatory programs which are implemented by the Environmental Protection Agency and State of Washington Department of Ecology. The Agreement is not intended to alter the licensing authority of NRC over any facilities of the Department of Energy that may be authorized for the express purpose of subsequent long-term storage of high-level wastes generated by the Department as set forth in the Energy Reorganization Act of 1974. The Department of Energy intends to dispose of high-level wastes only in licensed facilities. Only the low-level component of Hanford tank wastes will be disposed in grout vaults at Hanford.

16.11 **Comment Summary:** Radioactive Waste Issues

One commenter stated that the Agreement inadequately addresses radioactive wastes, and recommended that radioactive wastes either be highlighted in the Agreement, as they are the primary contaminant of concern, or be "explicitly excluded".

Response:

Ecology and EPA disagree with this assessment and recommendation. The Agreement is not intended to describe or summarize all known information concerning the nature and extent of contamination at the Hanford Site. Lack of such specific information regarding radioactive contamination was not intentionally omitted, nor does the absence of this information diminish the importance of radioactive contamination.

The majority of waste disposal sites at Hanford contain both radioactive and chemical wastes that are co-mingled. It is inappropriate and impractical from a regulatory or technical viewpoint to attempt to completely separate the constituents in mixed wastes. The potential adverse effects of contaminants depends upon numerous factors, including; toxicity, concentration, volume, species, and "environmental pathways", i.e., site-specific conditions, regional geohydrologic conditions, and proximity to the public. It would be an oversimplification of an extremely complex process to conclude that all radioactive substances, are by definition, more of a threat to the environment and public health than chemical wastes.

The Action Plan makes clear the commitment by DOE to remediate all contamination consistent with federal and state laws. This commitment applies to both radioactive and chemical wastes.

16.12 Comment to DOE: Conceptual Design Review

The Department of Energy should submit design work for public review at the conception stage rather than waiting until extensive design is completed.

DOE Response:

At the conceptual stage, design work is still undergoing significant internal review and change. Providing this design work to the public for review at the conception stage would be an inefficient use of both the public and Department of Energy time.

16.13 Comment to DOE: Quality Assurance Standards

Explain what Quality Assurance standards will be applied to engineering work.

DOE Response:

The DOE-RL Order 5700.1A, "Quality Assurance," requires that site contractors implement a quality assurance program for all aspects of work including engineering. This order uses as its basis the requirements of ANSI/ASME NQA-1, "Quality Assurance Program Requirements for Nuclear Facilities." The DOE-RL and its contractors are bound by this order and must conduct all work in accordance with these standards.

16.14 Comment to DOE: ALARA

The Agreement should require that ALARA (as low as reasonably achievable) design bases be the design objective for waste management activities and facility designs.

DOE Response:

Department of Energy policy requires that ALARA principles be applied to all waste management activities and facility designs. Therefore, it was not necessary to include this requirement in the Agreement.

16.15 Comment to DOE: Use of Private Enterprise

Department of Energy should consider using private enterprise for cleanup activities.

DOE Response:

The Management and Operating contractor (Westinghouse Hanford Company) is responsible for managing the cleanup activities and is considered to be appropriate utilization of private enterprise by the DOE. Subcontractors will be utilized, where needed, to perform the remedial investigation/feasibility study (RI/FS) and remedial action work on operable units.

16.16 Comment to DOE: Contracting for Cleanup

Westinghouse Hanford should have management responsibilities, other work should be contracted out [i.e., actual work at sites (remedial) EPA, ARCS].

DOE Response:

The Operating and Engineering prime contractor (Westinghouse Hanford) is responsible for managing the cleanup activities; Westinghouse Hanford is considered to be private enterprise by the DOE. Subcontractors will be utilized, where needed, to perform the RI/FS and RA work on operable units.

16.17 Comment to DOE: Privitization

Privatization--private sector experience and funds--should be pursued as a means of prioritizing cleanup.

DOE Response:

Hanford is investigating the feasibility of using the private sector to provide specialized cleanup services. One area currently under review is the treatment and disposal of solid low-level, transuranic, and mixed wastes.

16.18 Comment: Administrative Record Documents

One commenter stated that drafts of secondary and primary documents as well as drafts of other pertinent information

should be included in the administrative record, including comments, both verbal and written, received on the draft documents.

Response:

The Office of Solid Waste and Emergency Response has provided guidance on when draft documents should be included in the administrative record (OSWER Directive 9833.3A, March 1, 1989) as follows:

"G. Draft Documents and Internal Memoranda

In general, only final documents should be included in the administrative record file. The record file should not include preliminary documents such as drafts and internal memoranda. Such documents are excluded from the record file because drafts and internal memoranda are often revised or superseded by subsequent drafts and memoranda prior to the selection of the response action. The preliminary documents are, therefore, not in fact considered or relied on in making the response action.

Drafts (or portions of them) and internal memoranda should be included, however, in two instances. First, if a draft document or internal memorandum is the basis for a decision (e.g., the draft contains factual information not included in a final document, a final document does not exist, or did not exist when the decision was made), the Agency should place the draft document or internal memorandum in the record file.

Second, if a draft document or internal memorandum is circulated to an outside party who then submits comments which the decisionmaker considers or relies on when making a response action decision, relevant portions of the draft document or the memorandum and the comments on that document should be included in the record file.

Examples of internal memoranda and staff notes which should not be included in the record file are documents that express tentative opinions or recommendations of staff to other staff or management, or internal documents that evaluate alternative viewpoints.

Drafts and internal memoranda may also be subject to claims of privilege..."

Consistent with this policy, draft materials and memoranda internal to the Department of Energy and its contractors will not become part of the administrative record. However, in accordance with the OSWER directive, drafts submitted to EPA and Ecology are placed into the administrative record, including comments received from EPA or Ecology and responses to those comments.

16.19 Comment: Administrative Record -- CERCLA and RCRA

One commenter also requested clarification regarding what information would be placed into the administrative record for RCRA activities.

Response:

It is the intent of all parties that the administrative record for RCRA Corrective Actions be functionally equivalent to that required by CERCLA. Therefore, OSWER Directive 9833.3A will be used as guidance for all operable unit administrative records. With respect to RCRA permit applications and closure plans, the intent is to include all information "considered and relied upon" in making permit or closure decisions. Table 9-3 of the Action Plan specifies those documents and types of documents to be made part of the administrative record for both RCRA and CERCLA.

16.20 Comment:

One person asked that the parties not gloss over facts by using government or scientific language and jargon.

Response:

The parties will make every attempt to relay information to the public in a straightforward, meaningful way. The parties constructed the Agreement and the Action Plan with this concept in mind and hopefully these documents are generally understandable to the public. It is important to note that some issues are very technical in nature and, therefore, the use of technical terms, references, and information can not be eliminated and will appear in certain public documents. A glossary of terms was included in Appendix A of the Action Plan.

16.21 Comment:

A concern was expressed about the ability of the parties to effectively manage a project of this magnitude.

Response:

This Agreement was very carefully negotiated over a long period of time. As a result, each of the parties has had ample opportunity to plan how to meet the conditions and requirements. The Agreement, with the Action Plan, provides definitive guidelines for each of the parties. In some cases, some reorganization of our management structures has already occurred, and further adjustments may be necessary for efficient operation.

One mechanism that will facilitate effective management is the establishment of EPA and Ecology offices in Richland.

The EPA has maintained a local office since September 1988, and Ecology is planning to establish its office by the end of the year.

16.22 Comment:

One person commented that EPA had only one full time person available to oversee implementation of the Agreement and suggested that a full staffing should be a priority. This person was also concerned about a conflict of interest because the EPA Project Manager wore a Navy uniform and wastes from the Navy are disposed at Hanford. The concern was that EPA would "rubber stamp" any of DOE's decisions.

Response:

The EPA agrees that additional staff are needed in the near term in order to play an effective role in this Agreement. We are now in the process of hiring another staff person to be assigned to the EPA office in Richland. In October, we expect to hire additional people to assist with this effort.

With regard to the conflict of interest, the EPA Project Manager is an officer in the U.S. Public Health Service (PHS), under the direction of the Surgeon General. The PHS is a separate branch of the uniformed services and does not have administrative ties to the Navy or any other branch of the armed services or the Department of Defense. PHS officers are detailed to various health related agencies, one of which is EPA. The EPA has no intention of "rubber stamping" any of DOE's proposals or decisions.

16.23 Comment:

The Agreement should address other federal laws in addition to RCRA and CERCLA.

Response:

The purpose of this Agreement is to provide a framework for the integration of RCRA and CERCLA at the Hanford Site. It was never intended to be a comprehensive, multi-media agreement. A CERCLA Section 120 Interagency Agreement describes how hazardous wastes and hazardous substances will be managed at an NPL site. To the extent that the processes relate to other federal laws, these laws are considered "applicable or relevant and appropriate requirements" (ARAR), as described in Section 7.5 of the Action Plan. In such cases, the substantive requirements of ARARs are met as part of a CERCLA action. This Agreement does not preempt other applicable federal or state laws. They simply operate outside of this Agreement.

16.24 Comment: (p. 2)

The Action Plan does not provide specific guidance on remedial action for chromium, cyanide, and carbon tetrachloride. A specific plan for remediation (including timing) should be developed.

Response:

The various RI/FS or RFI/CMS work plans and Remedial/ Corrective Action work plans will be developed to address each operable unit. These plans, in accordance with EPA guidance, are the appropriate mechanisms to discuss specific actions and timing.

16.25 Comment: (p. 4)

Under what authority are underground injection wells to be permitted?

Response:

Any units which could be classified as underground injection wells will not receive a RCRA permits to operate. Washington State law, WAC 173-218-080, prohibits the subsurface injection of dangerous or radioactive wastes. DOE maintains that hazardous waste streams are not currently being discharged to the soil column. Such units would receive only a post-closure permit which would include

corrective action, if necessary. The schedule for submittal of closure plans for all such units is included in the Action Plan.

16.26 Comment: (p. 2-11)

For those cribs, ditches, and ponds in M-17-00 that are not RCRA regulated units, under what authority will they be addressed? Why are the Safe Drinking Water Act and the Clean Water Act not cited?

Response:

Any disposal unit which is not covered under RCRA will be addressed under CERCLA authority. The list of CERCLA hazardous substances includes all constituents regulated under the Safe Drinking Water Act and the Clean Water Act.

16.27 Comment: (p. 2-14)

Language to protect the underground source of drinking water should be added to M-17-00.

Response:

The purpose for conducting the Liquid Effluent Study (described in Section 1 of this response to comments) is to assess the impact of continued discharges on the environment. The primary concern is for protection and prevention of further degradation of the aquifer. We do not believe that the addition of the commenter's proposed language would improve the study or the work to be done under M-17-00.

16.28 Comment: (p. 7-9)

Define the phrase "near-surface vadose zone". The entire vadose zone should be studied.

Response:

The depth of the preliminary vadose zone investigation will be determined on a case-by-case basis. The purpose is to allow DOE to initiate some additional field activities prior to final approval of the RI/FS or RFI/CMS Work Plans. EPA and Ecology do not want DOE to spend large sums of money drilling in locations we do not concur with, or using techniques we do not agree with, resulting in questionable data and delays to the investigation.

The primary use of near-surface holes will be to drill into the waste unit to identify the types of contamination the unit may contain. This will assist in later data collection efforts and will expedite the investigative process. After the work plan is approved, deeper vadose borings may be completed.

16.29 **Comment:** (p. 7-11)

The first paragraph should indicate that the RI will include location of the contaminant and potential migration routes.

Response:

The intent of the comment is unclear. The information in question is included in paragraph one on page 7-11. Further, the RI will be conducted in accordance with detailed EPA guidance. The scope of the RI is not limited by this paragraph.

16.30 **Comment:** (p. 7-11)

In paragraph 3, clarification is requested as to when the results of a treatability investigation may be used at another operable unit.

Response:

The intent is to allow data from one process and area of the site to be used at another, when appropriate, without having to make a duplicate demonstration. This is one method of streamlining the RI/FS process. Obviously, regulatory agency discretion is going to dictate when this procedure could be applicable and appropriate.

16.31 **Comment:** (p. 7-12)

In paragraph 2, the phrase "equivalent standards of performance" should replace the phrase "comparable environmental results".

Response:

In our opinion, the phrases are interchangable in this context.

16.32 **Comment:** (p. A-18)

The definition of the term "point of compliance" as being "hydraulically downgradient" is much too restrictive.

Response:

The term "point of compliance" refers generally to the point or points where groundwater quality standards must not be exceeded, and specifically to RCRA actions. The definition was taken verbatim from the regulations, at 40 CFR 264.95(a).

16.33 **Comment:** (p. C-8)

Lead regulatory agencies are not specified for many operable units nor is the regulatory process identified.

Response:

These designations were intentionally left out of Appendix C at this time. There is no point in trying to designate operable units that will not be investigated for several years. The criteria for assigning the lead regulatory agency is specified in the Action Plan. One of the criteria is availability of regulatory agency resources. This can not be predicted years ahead of time. Each year, during the annual update to the work schedule, additional designations will be made based on current information so that the regulatory agencies can plan appropriately for the near term.

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ATTACHMENT 1

CHANGES MADE TO HANFORD FEDERAL FACILITY AGREEMENT AND CONSENT ORDER

	PAGE	CHANGE
1.	i-vii	Added attachments to Table of Contents.
2.	1	Added EPA and State docket number.
3.	2	Changed the date referencing the Department of Justice letter to February 26, and added word ("cooperation" between "mutual" and "funding".
4.	15	Modified paragraph Y to read: Y. "Timetables and deadlines" means major and interim milestones and all work and actions (not including target dates) as delineated in the Action Plan and supporting work plans (including performance of actions established pursuant to the Dispute Resolution procedures set forth in.
5.	22	Changed the DOE designated member of the DRC to "the Assistant Manager for Operations of the Richland Operations Office.
6.	22	Changed "RCW Ch. 34.04" to read "Ch. 34.04 RCW".
7.	23	Changed "RCW 34.04" to read "Ch. 34.04 RCW".
8.	32	Paragraph 45 was modified and reads as follows: 45. "Remedial and Corrective Actions. DOE shall develop and submit its proposed remedial action (or corrective action) alternative following completion and approval of an RI and FS (or RCRA RFI and CMS), in accordance with the requirements and schedules set forth in the Action Plan. If Ecology is the lead regulatory agency, it may recommend the CERCLA remedial action(s) it deems appropriate to EPA. In addition, prior to authorization of Ecology for RCRA corrective action, Ecology may recommend RCRA corrective action it deems appropriate to EPA. The EPA Administrator, in consultation with the DOE and Ecology, shall make final selection of the CERCLA remedial action(s), and RCRA corrective action(s) prior to corrective action authorization. After authorization and in accordance with the Action Plan, Ecology in consultation with DOE and EPA shall select the RCRA corrective action(s). The final selection of remedial action(s) and RCRA corrective action(s) by the Administrator shall be final and not subject to dispute. Notwithstanding this Article, or any Article of this Agreement, the State may seek judicial review of an interim or final remedial action in accordance with Sections 113 and 121 of CERCLA, 42 U.S.C. Secs. 9613 and 9621.

CHANGES MADE TO HANFORD FEDERAL FACILITY AGREEMENT

AND CONSENT ORDER (Continued)

	PAGE	CHANGE
9.	33	The words "by EPA" were removed from the second line in paragraph 46.
10.	36	Added "of the Richland Operations Office" at end of fifth sentence in paragraph D.
11.	55	The phrase "Mutual Funding Agreement" was modified to read "Mutual Cooperation Funding Agreement" in lines four and five of paragraph C.
12.	55	The date of the Mutual Cooperation Funding agreement was changed to May 15, 1989 from February 27, 1989.
13.	57	Paragraph 94 "QAMS-005/80" was modified to read "QAM-005/80"
14.	59	The capability to use "Overnight Express Mail" was added to paragraphs 98 and 99.
15.	77	The EPA HQ signature was removed. The title of "Manager, Richland Operations Office" was added to the DOE signature block.

CHANGES MADE TO ATTACHMENT 2 OF THE HANFORD FEDERAL FACILITY AGREEMENT AND CONSENT ORDER (ACTION PLAN)

1. Cover Page - Eliminated word "proposed" and changed date to May 1989.

2. Contents - Added word "pages" at top of each page. Revised page numbers as appropriate.

3. List of Figures and Tables - Added reference to figure and tables included in appendices.

4. Executive Summary, Page 6, next to last paragraph; last sentence - Added word "to" between "is" and "maximize".

5. Executive Summary, Page 8 - Corrected acronym "(CM)" to "(CMI)".

6. Page 1-1 - Added following sentence to end of first paragraph:

   All actions required to be taken pursuant to this agreement shall be taken in accordance with the requirements of all applicable federal and state laws and regulations.

7. Page 1-2, fourth bullet - Corrected "Ch. 70.105 RCW".

8. Page 1-3, third paragraph - Added "the classification and listing of primary and secondary documents," following "Action Plan,".

9. Page 2-1, last paragraph - Corrected last two sentences to read as one sentence.

10. Page 2-2, last paragraph - Added "s" to "closure" in title for section 2.4.

11. Page 2-3, milestone M-02-06 - Replaced "land banned wastes" with "wastes subject to land disposal restrictions which are".

12. Page 2-4, milestone M-03-00 - Same change as noted for item 11 (above).

13. Page 2-4, milestone M-05-00 - Deleted last sentence.

14. Page 2-5, milestone M-07-00 - Added space between words in two places.

15. Page 2-7, figure 2-1 - Redrew bar for milestone M-09-00 to better reflect a 2018 completion.

16. Page 2-8, milestone M-14-00 - Deleted "W-011H" and capitalized "Conceptual Design Report".

17. Page 2-10, figure 20-2 - Added description to milestone M-16-00, and redrew bar for M-16-00 to better reflect a 2018 completion.

18. Page 2-11, milestone M-17-00, second paragraph - Deleted second sentence.

19. Page 2-13, milestone M-22-00, changed "and agreed to" to "for review and approval".

20. Page 2-14, milestone M-24-00, third paragraph - Changed "negotiated with" to "approved by"

21. Page 3-1, section 3.1, last paragraph - Replaced with the following:

The parties recognize and agree that certain activities related to decontamination and decommissioning (D&D) of structures by DOE may be subject to RCRA. Whenever D&D activities result in the generation of hazardous wastes, the treatment, storage and disposal of those wastes shall be subject to this Agreement. Specific requirements (e.g. milestones) shall be incorporated into the Action Plan, as appropriate.

In the event that a contaminated structure is found to be the source of a release (or presents a substantial threat of a release) of hazardous substances, hazardous wastes, or hazardous constituents to the environment, the investigation and remediation of such a release (to include remediation of structures, as necessary), where subject to CERCLA or RCRA, shall be subject to this Agreement. Specific requirements shall be incorporated into the Action Plan, as appropriate. Releases which have already been identified have been included in the Action Plan as waste management units and assigned to operable units (see Appendix C).

As part of any action being taken under either RCRA or CERCLA for a contaminated structure, EPA and Ecology shall consider available information related to D&D activities, including Environmental Impact Statements. All hazardous wastes generated by the D&D activities or stored at these storage areas shall be managed in accordance with applicable Federal and State hazardous waste regulations.

22. Page 3-2, third paragraph - Add "(currently titled" Preliminary Operable Units Designation Project")" in sixth line between "report" and "documents".

23. Page 3-3, first bullet - Change to read:

"Volume of wastes or hazardous substances"

24. Page 3-4, second bullet - Add after "Management Policy" the words ", established pursuant to Ch. 70.105.150 RCW,"

25. Page 3-4 and 3-5, paragraph starting at bottom of page 3-4: 1) delete first sentence, 2) replace "required TSD" with "such known" in second sentence, and 3) combine third and fourth sentences to read "Part B Permit Applications for the disposal of mixed to land disposal units were due by November 23, 1988 (this date was met for such known units), including the certification statement required by Section 3005(e) (2) of RCRA, that..."

26. Page 5-1, second paragraph, change all after "by EPA for" to read "any units classified as a CERCLA past-practice unit. For any unit classified as a RCRA past-practice unit, EPA shall be the regulatory decision-maker for corrective action at that unit prior to HSWA corrective action authorization for the State, and Ecology shall be the regulatory decision-maker after such authorization."

27. Page 5-3, section 5.4, second paragraph - Replace last two sentences with: "The parties agree that all of the wastes regulated under the State Dangerous Waste program (173-303 WAC) shall be addressed as part of any CERCLA remedial action or RCRA corrective action."

28. Page 5-4, second paragraph, change start of first sentence to read: "If an operable unit consists primarily of..."

29. Page 6-1, sixth paragraph - Delete fourth sentence.

30. Page 6-5, figure 6-2 - Draw line with arrow from "submit closure plan" to "review".

31. Page 6-6, first paragraph - Add "and 40 CFR 270.1" at end of second sentence.

32. Page 6-6, section 6.3.3 - Add "or 173-303-802 WAC" at end of first sentence.

33. Page 6-7, section 6.4, first paragraph - Change "environmental" to "environment".

34. Page 7-7, section 7.3.2, first paragraph - Add the following after fourth sentence:

    "On a case-by-case basis, the Unit Managers may agree to extend the comment period to 45 days"

35. Page 7-10, figure 7-4; added 15 day period to prepare for public comment.

36. Page 7-11, third paragraph - Change "will" to "may" and replace "feasible." with "warranted by site-specific conditions."

37. Page 7-12, section 7.3.5, first paragraph - Replace "provide equivalent results" with "achieve acceptable standards of performance".

38. Page 7-13, section 7.3.7, first paragraph - Change "FS Phases II" to FS Phases I and II".

39. Page 7-16, section 7.4.1, last paragraph - Delete ", as agreed to by the lead regulatory agency and the DOE project managers,"

40. Page 7-20, first bullet - Change "of" to "or".

41. Page 7-21, seventh bullet, delete "(when implemented)"

42. Page 7-22, last paragraph - Add to start of first sentence: "In addition to DOE,"

43. Page 8-1, first paragraph, end of second sentence - Correct to read "...and will present it at the meeting."

44. Page 8-2 - Delete third sentence.

45. Page 9-3, table 9-2, first item - Add (currently titled "Preliminary Operable Units Designation Project")"

46. Page 9-4, figure 9-1 - 1) change "of" to "if" on line starting with "DOE prepare response", 2) add "*" to first two 45 day periods with note: "with exception of 60 days for RI/FS work plans, RFI/CMS work plans and closure plans"

47. Page 9-5 - Delete first line (duplicate from previous page and put space between "an" and "extension" in next to last line.

48. Page 9-7 next to last line - Add "for" between "as" and "the".

49. Page 9-9 - 1) change first bullet to read:

    o U.S. Department of Energy-Richland Operations Office
      Administrative Record Center
      450 Hills Street - North Entrance
      (enter off George Washington Way)
      Richland, Washington 99352

    2) Delete "(For location contact...)"

50. Page 9-10, last paragraph - Make "Secondary Documents" lower case

51. Page 9-14 - Delete "Administrative record files" under quarterly progress reports.

52. Page 10-1 - 1) first bullet changed to read:

    o University of Washington - Suzzalo Library
      Mailstop FM-25 - Government Publications
      Seattle, Washington 98915
      (206) 543-4664

    2) fourth bullet - add "Portland, Oregon 97207"

53. Page 10-2, section 10.5.1 - Change "advising the public of" to "discussing with the public".

54. Page 10-4, second bullet - Add after second sentence:

    "On a case-by-case basis, the unit managers may agree to extend the comment period to 45 days."

55. Page 10-6, section 10.9 - Change "the spring" to "July".

56. Page 10-6, section 10.10, second paragraph - 1) add ", and other governments," following "elected officials" and 2) change "Region" to lower case.

57. Page 10-6, last paragraph - Add "Public comment." at end of fifth sentence.

58. Page 11-1, second paragraph - Insert following third sentence:

"Dates specified as target dates in the work schedule are incorporated in the work schedule for the purposes for the purposes of tracking progress toward meeting milestones, and are not enforceable. Work plans and reports will specify additional target dates and milestones. The milestones will be incorporated into the Agreement via the change process defined in section 12.0 upon issuance of the approved work plan or report, and incorporated into the work schedule as part of the annual update."

59. Page 12-2, figure 12-1 - Replace with improved figure.

60. Page 13-1, make titles consistent with signature page in agreement.

61. Page A-5, "contamination"; change as follows:

Contamination (Groundwater and Surface Water): an impairment of quality by biological, chemical, or radiological materials that lowers the water quality to a degree which creates a potential hazard to the environment, public health, or interferes with a beneficial use.

62. Page A-6 - Replace "Decontamination and Decommissioning (D&D)" with the following:

Decontamination and Decommissioning (D&D)-(as defined by DOE Order 5840.2 for the D&D Program):

- Decontamination: the removal of radioactive contamination from facilities, equipment, or soils by washing, heating, chemical or electrochemical action, mechanical cleaning, or other techniques.

- Decommissioning: actions taken to reduce the potential health and safety impacts of DOE contaminated facilities, including activities to stabilize, reduce, or remove radioactive materials or to demolish the facilities.

63. Page A-7 - Change definition of Grout Campaign to read: "the complete filling of one..."

64. Page A-8 - "Imminent and Substantial Endangerment": change last sentence to read: "Such action may be taken under CERCLA, RCRA, or HWMA authority, as appropriate." and delete "(see Section 7.2.3)"

65. Page A-9 - Add following definition:

Interim Isolation (as pertains to Single-Shell Tanks): disconnecting and blanking or capping pipelines from SST systems and installing barriers to avoid inadvertent liquid addition.

Interim Stabilization (as pertains to Single-Shell Tanks): is the removal of pumpable supernatant and interstitial liquid from SST systems into DST systems. As much liquid as practicable will be removed. Supernatant is free standing liquid. Interstitial liquid is that liquid in the waste matrix contained within the pore spaces of the salts and sludges, some of which is capable of gravity drainage while the rest is held by capillary forces.

66. Page A-9/A-10; ref. "Operable Unit" delete parenthesis.

67. Page A-9/A-10; ref. "Project Manager" change "his" to "his/her".

68. Page A-10; ref. "Radioactive Mixed Waste" delete parenthesis.

69. Page A-13; ref. "Unit Manager" change "his" to "his/her".

70. Pages D-9 through D-22 - Add "Major and Interim" to title of Tables D-2 and D-3.

71. Pages D-9, milestone M-12-07 - Delete "and groundwater".

72. Make same changes to milestones M-02-00, M-03-00, M-05-00, M-07-00, M-14-00, M-17-00, M-22-00, M-24-00 as made in Section 2.0.

73. Page 4 of 17; M-12-01, M-12-02, M-12-04, M-12-05 change target dates to reflect 60 days for review and response, and add 15 days to prepare for public comment.

74. Page 5 of 17; M-12-06, M-12-07, M-12-08, M-12-09 (see item 72 above).

75. Page 5 of 17; add words "Groundwater Operable Unit" to M-12-09 and M-12-11 titles.

76. Page 5 of 17; delete erroneous symbol between M-12-12 and M-12-13.

77. Page 7 of 17; add "and startup" to M-17-02 (both lines), Purex Steam Condensate and UO_3 Plant Process Condensate.

78. Page 8 of 17; add "and startup" of PFP Waste Water Treatment.

79. Page 9 of 17; add "and startup" to 242-A Evap Process Condensate, M-17-07, 08 and 09.

80. Page 11 of 17; M-20-03, M-20-04 - change target dates to reflect 60 days for review and response, and add 15 days to prepare for public comment.

81. Page 13 of 17; M-20-19 (see item 79 above).

82. Replaced table D-4 (2 sheets) with revised table (4 sheets). Added remaining facilities based on Facility Assessments completed in April 1989.

ATTACHMENT 2

Department of Energy
Richland Operations Office
P.O. Box 550
Richland, Washington 99352

MAY 19 1989

Ms. Christine Gregoire, Director
State of Washington
Department of Ecology
Mailstop PV-11
Olympia, Washington 98504

Mr. Robie Russell, Administrator
U.S. Environmental Protection Agency
Region X
1200 Sixth Avenue, SO 121
Seattle, Washington 98101

Dear Ms. Gregoire and Mr. Russell:

Several comments were received during the public comment period of the Hanford Federal Facility Agreement and Consent Order (Agreement) regarding continued liquid discharges to the soil. In response to these comments, and at the request of the Department of Ecology and U.S. Environmental Protection Agency, the U.S. Department of Energy (DOE) will undertake and fund a separate study as described in the attachment to this letter. This study may result in a reevaluation of the Agreement liquid discharge milestones. It will include a detailed characterization of each of Hanford's 33 liquid effluents and substantially increased analyses of these effluents and vicinity groundwaters. This study will be conducted in part to provide verifiable data and information that will confirm that all continuing liquid discharges do not contain hazardous waste.

In the event that EPA or Ecology determine at any time, as a result of new information from the study, that such discharges contained or now contain hazardous waste, DOE agrees that such a determination, and the information it is based on, shall be regarded as new information for purposes of Paragraph 126 of the Agreement. The study will be completed and a final report submitted to EPA and Ecology by August 31, 1990.

I am committing to you that any and all information on liquid effluents requested or received by Ecology or EPA subsequent to our February 27, 1989, Notice of Intent to Execute Hanford Agreement, including but not limited to public comment, will be considered new information under the Agreement's Article XLVI, paragraph 126.

Ecology and EPA are consequently free to utilize such information and to exercise those administrative and judicial remedies which are available to you consistent with the Agreement.

Sincerely,

Michael J. Lawrence

Michael J. Lawrence
Manager

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LIQUID EFFLUENT STUDY

The Department of Energy (DOE) will complete a special project designed to document the discharge history and the character of Hanford liquid discharges. This project will also assess the potential for contaminant migration within receiving site soils, and the extent of groundwater contamination within area wells. The results of this project will be utilized in determining the need for additional waste stream analysis, and/or to negotiate additional milestones pertaining to such discharges in the Hanford Federal Facility Agreement and Consent Order (Agreement).

BACKGROUND

The Department of Energy's present RCRA effluent characterization program has been scheduled to end in FY 1989. This effort involved the collection of four random (one per quarter) samples per waste stream or sub-partition thereof. This program will now be extended under the project described below.

PROJECT SCOPE

The study will address all 19 Phase I and 14 Phase II streams and associated receiving sites as identified within the "Annual Status Report of the Plan and Schedule to Discontinue Disposal of Contaminated Liquids into the Soil Column at the Hanford Site" (September 1988).

APPROACH

The study will be based on the development of (1) an initial project plan, (2) a characterization report covering Hanford's 33 liquid effluent streams, and (3) a final project report. These plans and reports will be designed as follows:

Project Plan: This plan will describe all activities to be accomplished during the characterization and assessment effort. This initial plan will be submitted for Ecology and EPA approval on or about June 30, 1989. Ecology and EPA will review and comment within two weeks.

Waste Stream Characterization Report: This report will incorporate the following elements:

(a) waste stream description;
(b) discharge history including incidents and routine discharges, including their physical, chemical, and radiological nature;
(c) evaluation of existing characterization data;
(d) description of the receiving site, including an evaluation of available soil column and relevant groundwater monitoring well data;
(e) list of potential contaminants derived from process knowledge;
(f) description of effluent and groundwater well sample locations;

(g) proposed sampling schedule;
(h) proposed listing of analytical project parameters and procedures.

These characterization reports will delineate the number of samples to be taken from each waste stream and vicinity groundwater monitoring wells. Sufficient samples will be obtained to ensure representative data. These data will include representative analyses for radiological and 40 CFR 264 Appendix IX constituents.

Effluent data will be collected and streams fully designated under the state's dangerous waste management program, including criteria testing under WAC 173-303-070(4) if required by the state, and limited to state regulatory authority over dangerous waste.

Final Project Report: This report will contain and discuss data and results acquired during the study. The report will also focus on individual receiving site characteristics and known and potential contaminant migration into soil columns and area groundwater. The final report will incorporate effluent specific performance assessments, and appropriate fate and transport flow modeling results.

Work performed by the DOE and its contractors under this study will not be performed to the detriment of schedules or activities under the Agreement. All additional sampling and analysis conducted will be conducted in accordance with the requirements of Article XXX of the Hanford Federal Facility Agreement and Consent Order.

SCHEDULES

Submittals to Ecology and EPA under this project will be as follows:

(a) Initial Project Plan: June 30, 1989;
(b) Waste Stream Characterization Report: August 31, 1989;
(c) Waste Stream and Monitoring Data: bi-monthly throughout the study;
(d) Final Project Report: August 31, 1990.