STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
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June 13, 2000

CERTIFIED MAIL

Mr. Richard French
U.S. Department of Energy
Office of River Protection
P.O. Box 550, MSIN: H6-60
Richland, Washington 99352

Mr. Keith Klein
U.S. Department of Energy
Richard Operations
P.O. Box 550, MSIN A7-50
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Ms. Mary P. Delozier
CH2M Hill Hanford Group
P.O. Box 1500, MSIN: H7-07
Richland, Washington 99352

Dear Messrs. French and Klein and Ms. Delozier:

Re: Failure to Comply with Major Milestone M-32 of the Tri-party Agreement; Administrative Order No. CH2M Hill Hanford Group 00NWPKW-1251

Enclosed is Order No. 00NWPKW-1251. If you have any questions concerning the content of this document, please call Bob Wilson at (509) 736-3031. The enclosed Order may be appealed. The appeal procedures are described in the Order.

Sincerely,

Dan Silver
Deputy Director

Enclosure

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

IN THE MATTER OF AN ADMINISTRATIVE ORDER AGAINST:	)	**ORDER No. 00NWPKW-1251**
United States Department of Energy Office of River Protection – Hanford Site WA7890008967	)	
United States Department of Energy Richland Operations WA7890008967	)	
CH2M Hill Hanford Group Richland, Washington 99352	)	

TO: Mr. Richard French, Manager
United States Department of Energy
Office of River Protection
2440 Stevens Center, MSIN: H6-60
Richland, Washington 99352

Mr. Keith Klein
United States Department of Energy
Richland Operations
P.O. Box 550, MSIN: A7-50
Richland, Washington 99352

Ms. Mary P. Delozier
CH2M Hill Hanford Group
2440 Stevens Center, MSIN: H6-08
Richland, Washington 99352

This is an Administrative Order requiring the United States Department of Energy (USDOE) and CH2M Hill Hanford Group (CHG) to comply with Chapter 70.105 Revised Code of Washington (RCW), the Hazardous Waste Management Act (HWMA), and Chapter 173-303 Washington Administrative Code (WAC), the Dangerous Waste Regulations, and by reference, Title 40, Code of Federal Regulations (CFR), by taking certain actions which are described below. Chapter 70.105 RCW authorizes the Department of Ecology (Ecology) to issue Administrative Orders requiring compliance, whenever it determines that a person has violated any provision of Chapter 70.105 RCW. RCW 70.105.005(2) states "The legislature hereby finds and declares: Safe and responsible management of hazardous waste is necessary to prevent adverse effects on the environment and to protect public health and safety."

Ecology's determination that violations have occurred is based on the following facts:

The USDOE, Ecology, and the United States Environmental Protection Agency (EPA), signed the Hanford Federal Facility Agreement and Consent Order (HFFACO), or Tri-Party Agreement (TPA), in part to ensure compliance with the Resource, Conservation and Recovery Act (RCRA), and the Washington Hazardous Waste Management Act (HWMA), Chapter 70.105, Revised RCW. The TPA included Major Milestone M-32 to address hazardous waste storage tank systems that failed to meet RCRA interim status requirements for tank systems. Milestone M-32 was incorporated into the TPA in 1993, and required the USDOE to, "Complete Identified Dangerous Waste Tank Corrective Actions" by September 30, 1999. Interim Milestones within M-32 required final plans and schedules for completion of Double Shell Tank (DST) Integrity Assessments.

In 1994, the USDOE submitted its Tank System Integrity Assessments Program Plan in satisfaction of interim TPA Milestone M-32-04 (and target Milestone M-32-04-T05). Among other requirements, M-32-04 required the USDOE to, "submit to Ecology a final plan and schedule for completion of the DST integrity assessments." In 1995, the USDOE issued its Double-Shell Tank Waste System Assessment Status & Schedule to identify the planned activities to meet the Integrity Assessment Program as described in the 1994 Tank System Integrity Assessments Program Plan. In 1996, the USDOE issued its Double-Shell Tank Integrity Examination In-Process Review, which referenced the 1994 Tank System Integrity Assessments Program Plan, and stated, "The latest revision of the Tri-Party Agreement requires a DST waste system integrity assessment be done in accordance with WAC 173-303-640 by September 30, 1999, or at a later date determined by negotiation with Ecology." In 1997, the USDOE issued a DST System Integrity Program Plan to conduct tank integrity assessment work consistent with previous integrity assessment planning.

Throughout 1996 and 1997, Ecology met extensively with the USDOE, and its contractors, to clarify the requirements for completing DST integrity assessments by September 30, 1999. From 1997 through 1999 Ecology exchanged considerable correspondence with the USDOE, describing the requirements for successful completion of M-32 requirements regarding DST system integrity assessments. During this time, Ecology and the USDOE met with the Tank Structural Integrity Panel (TSIP), a group of nationally recognized tank system experts, from Brookhaven National Laboratories in New York. Ecology and the USDOE agreed to incorporate the TSIP's recommendations for ultrasonic testing examination of the DSTs as part of the DST Integrity Assessment Program. The use of the TSIP's guidelines is referenced in the USDOE's Tank Integrity Assessment Program planning documents.

In 1997, the USDOE and its contractors submitted to Ecology their Tank Waste Transfer Piping/Pit System Integrity Assessment Report. This report certified the integrity of the DST transfer system (pipelines, valve pits, pump pits) as being fit for use. The USDOE and its contractors submitted to Ecology their DST Integrity Assessment Reports for the DSTs themselves in September 1999. This report certified the DSTs as fit for use. Taken together, these two (2) Integrity Assessment Reports comprise the integrity assessment for the DST system.

On September 28, 1999, the USDOE issued a letter notifying Ecology and the EPA that TPA Milestone M-32 had been completed. On the same date (September 28, 1999) the USDOE issued its DST Tank Integrity Assessment Reports. The cover letter to the DST Integrity Assessment Reports states, "Emerging safety issues have caused delays in some of the scheduled integrity assessment activities . . .." No explanation was given regarding what these safety issues were, why they precluded integrity assessment work, or which scheduled integrity assessment activities were prevented due to safety issues. The cover letter also states that, "Scheduled ultrasonic inspection of six (6) DST's in support of the Integrity Assessment Reports has been completed." The USDOE and Ecology agreed to initial ultrasonic testing, in specific areas of each tank for six (6) of the twenty-eight (28) DSTs, to be completed by September 1999. However, ultrasonic testing of the six (6) DSTs examined in support of this Integrity Assessment Report failed to include ultrasonic testing in all required areas of the tanks, as required by the USDOE's own Integrity Assessment Program planning, directed by the TSIP, for minimum extent of ultrasonic examination, and failed to include examination of all areas of the DSTs agreed upon with Ecology as necessary for meeting M-32 requirements. The USDOE's own Engineering Reports and Integrity Assessment Program planning documents identify areas of high stress, or areas most susceptible to corrosion attack, within the DSTs, as requiring ultrasonic testing. These areas included the lower knuckle joint and weld, tank bottoms, and waste liquid/vapor interface areas. However, the ultrasonic testing conducted in the six (6) DSTs examined in support of the DST Integrity Assessment Reports, did not include examination of the lower knuckle area in four (4) DSTs, did not examine tank bottoms in five (5) DSTs, and did not thoroughly examine the liquid/vapor interface area in any of the six (6) tanks examined. Only one (1) of the six (6) DSTs examined was ultrasonic tested in all areas.

The USDOE's September 28th integrity assessment letter lists other integrity assessment work not yet completed, including integrity assessment examinations of eight (8) catch tanks, three (3) double contained receiver tanks, the 204AR Waste Unloading Station, and the A-350 List Station. All these items were included for integrity assessment examination by September 1999, in the USDOE's Integrity Assessment Program planning documents. This description of integrity assessment work not yet completed, includes much of the work agreed upon with Ecology for completion of M-32, much of the work specific in the USDOE's Integrity Assessment Program planning, and essential ultrasonic testing as recommended by the TSIP for meeting minimum requirements to assess the integrity of the DSTs.

On October 12, 1999, Ecology initiated an inspection into the completion of M-32. The findings from this inspection revealed that the USDOE has failed to complete Major TPA Milestone M-32 with respect to DST integrity assessments. Data describing potentially significant degradation mechanisms within the DSTs was ignored, or not adequately examined. An independent, qualified, registered, professional engineer (IQRPE) certified the September 28, 1999, DST integrity reports as, "true, accurate, and complete." However, these reports were not complete and accurate. The IQRPE for the DST Integrity Assessment Reports had knowledge, at the time of his certification, that the DST Integrity Reports did not include all ultrasonic examinations, as described in the

DST Integrity Program Plans, did not adequately report all known evidence of corrosion observed during integrity examinations, and did not report failure to maintain corrosion inhibiting chemicals within all DSTs requiring maintenance of these corrosion prevention specifications. The USDOE and its contractors failed to complete DST integrity assessments as described in its Tank System Integrity Program Plan (WHC-SD-WM-AP-017), or any of its subsequent integrity program documents, nor did it meet the TSIPs minimum requirements for adequate integrity assessment of the DSTs. Failure by the USDOE and its contractors to assess the integrity of the DST system places current tank waste management, future treatment of tank waste, and permitting of the DST system, in serious jeopardy.

The USDOE and its contractors failed to meet the requirements of Article VII within the TPA, with respect to completion of Major TPA Milestone M-32. Due to the USDOE's failure to complete Major TPA Milestone M-32, Hanford's DST System remains non-compliant with RCRA and HWMA waste storage tank requirements per 40 CFR. Part 265.191, Subpart J, Tank Systems, and WAC 173-303-400(3)(a), Interim Status Facility Standards.

For these reasons, and in accordance with Chapter 70.105 RCW, **IT IS ORDERED** that the USDOE and CHG take the following actions:

1. On or before September 17, 2000, the USDOE and CHG must submit a written report to Ecology documenting all of the following:

   A. Identification of all components comprising the DST system, based on the RCRA TSD boundary of the DST system incorporated in the final status RCRA Part B Permit. The Double-Shell Tank System is comprised of the twenty-eight (28) DSTs and their ancillary equipment. Ancillary equipment within the DST system includes all subordinate tank systems and their vaults, transfer pipelines, pump pits, valve pits, lift stations, catch tanks, the 204-AR Unloading Station, and any other component necessary to treat, store, or transfer, hazardous and/or mixed waste, within the RCRA permitted boundaries of the DST system. This report must include a map and description defining the RCRA TSD boundary of the DST system proposed for final status RCRA permitting. The description of all DST system components within this required report must identify, by name, equipment number, and location, all components of the DST system. This description must include a tabular presentation including, but not limited to, all underground storage tanks, above ground storage tanks, transfer pipelines, valve & pump pits, secondary containment structures, and tanks within vaults, double contained receiver tanks, and any other component of the DST system, that has been, or may be, used for transferring, storing, or treating, waste.

B. Development of ultrasonic testing equipment, or an equivalent technology, for assessing material thickness and defects of the predicted maximum stress region of the lower knuckle base metal of double-shell tanks. This report must include cost of development of this equipment, identification of vendors contracted for developing such equipment, technical specifications for such equipment, data quality requirements for such equipment, and an estimated schedule for delivery, and deployment of the equipment, into DSTs. This report must be updated and submitted to Ecology by March 31, 2001, with subsequent updates submitted to Ecology every six (6) months thereafter, until such equipment is developed and deployed.

C. Results of ultrasonic testing of the primary tank walls in two (2) DSTs not previously examined by ultrasonic testing. This report must include a copy of the original ultrasonic testing data report and a tabular summary of observations made during ultrasonic testing, including average and minimum wall thickness, of a continuous scan of the vertical wall of each DST. The observations from this continuous wall scan may be reported in 12" high by 15" wide segments that are adjoining, or overlapping, so long as the total of all segments comprise the entire length and width of the ultrasonic examination scan of the vertical wall. This report must include size of pits, cracks, and other relevant information, as determined by a technical expert qualified, trained, and experienced, in interpreting ultrasonic data as a Non-destructive Examination (NDE) Level III Inspector. Specific requirements for this vertical wall scan are described below. This report shall also include a comparison between the ultrasonic data obtained to specified material thickness, material specifications, and construction standards and codes. This report must include a listing and evaluation of wall thinning, pitting, or cracks in excess of 50% of the acceptance criteria values in Table 1 of Acceptance Criteria for Non-Destructive Examination of Double-Shell Tanks (WHC-SD-WM-AP-036, Rev. 0). This report must include a summary review and interpretation of data by a technical expert qualified, trained, and experienced in interpreting ultrasonic data as a Non-destructive Examination (NDE) Level III Inspector. Any video surveillance employed in support of this ultrasonic examination must be retained in the facility's Operating Record and be available upon request by Ecology. This report must include a schedule identifying each of four (4) more DSTs, not previously examined by ultrasonic testing, for completion of ultrasonic testing by September 30, 2001. Selection of the tanks to be examined may utilize either the tank selection criteria established in the document Description of Double-Shell Tank Selection Criteria for Inspection (WHC-SD-WM-ER-529), or as recommended to Ecology by written request from the USDOE, describing the rationale for tank selection, and as approved by Ecology. The selection of any DST to be ultrasonically examined may be altered upon a request by the USDOE providing an explanation of the rationale for the change and subsequent approval of this request by Ecology. This ultrasonic testing must be performed in at least the following areas of each DST selected for examination:

- Examination of at least a 30 inch wide vertical scan of the entire height of the exterior side of the primary tank walls, within the limits of the equipment employed, to include the interface between the waste level within the tank, and the vapor space above the waste. This 30 inch vertical wall scan must be located to include vertical welds and their adjacent heat-affected zones of shell courses that are accessible from the riser in which the equipment is deployed, and are within a single 30 inch wide scanning path. Priority for inclusion of vertical welds within the vertical scan path should be given to welds in the highest stress areas of the primary tank wall.

- Examination of a 20-foot length of the circumferential weld joining the transition wall plate with the lower knuckle including the adjacent heat-affected zones within the limits of the equipment employed.

- All weld examinations including welds, must include examination of the heat-affected zone on both sides of all weldments.

- Data gathered from the ultrasonic examinations must be evaluated against the specified material thickness, applicable material specifications, and construction standards and codes.

- Data gathered from the ultrasonic examinations must also be compared between all tanks examined, to determine the range of material thinning among the tanks examined.

2. A summary of the history and current status of maintenance of corrosion inhibiting chemical adjustments (corrosion specifications) of the waste contained in each of the twenty-eight (28) DSTs. This summary must include a description of the chemical adjustment specifications required to retard corrosion, including the technical justifications for these specifications. This summary must include a description of all corrosion mechanisms (i.e., stress-corrosion cracking) impacted by maintenance of corrosion inhibiting chemical adjustments. This summary must include a description of the effects of temperature on the effectiveness of corrosion inhibiting chemical adjustments, a tabular listing of the tank waste temperature within each DST, and a description of the temperature monitoring equipment active in each DST.

3. Submittal of a plan specifying frequency and conditions under which visual examination by remote camera surveillance will be conducted from the inside of any DST primary tank, scope of such examination, requirements for record storage, method of promulgating requirements for such visual examinations and requirements for documentation, and remedy of any significant structural deficiencies observed. The purpose of this visual examination is to assess any visible degradation, of the inside of the primary tank structure of any DST subject to such examination, when operational conditions provide the opportunity to view these areas. A DST examined pursuant to this plan will not require a subsequent examination, unless the USDOE is directed otherwise by Ecology. All examinations conducted pursuant to this plan

must be reported to Ecology within sixty (60) days of completion of each visual examination. This visual examination must include the maximum area visible with the best available video equipment used in remote field applications in the tank farms. These visual examinations shall include interior tank walls, tank bottoms, if exposed, tank waste/vapor interface areas when tank bottoms are not exposed, and the dome structure. All videotapes from visual examination must be maintained in the facility's Operating Record, and be available to Ecology upon request. Upon review of this plan by Ecology, the USDOE shall make any required revisions and re-submit the plan to Ecology within thirty (30) days of receipt of Ecology's review. If the second review of a revised plan is unacceptable, Ecology may revise the plan and return it to the USDOE for implementation. This plan will be implemented by the USDOE within sixty (60) days, upon approval by Ecology. These visual examinations may not be required during emergency pumping operations, or for documented and legitimate safety concerns, upon concurrence with Ecology.

4. Submittal of a plan specifying requirements for visual examination of the exterior of transfer piping (or transfer piping encasement when the primary piping is enclosed with secondary containment), when exposed during construction, or other activities. The purpose of this visual examination is to assess any visible degradation of pipelines. This plan shall specify scope of examination, documentation of findings and conclusions from examinations, record storage location, and method of promulgating requirements for such examinations. Upon review of this plan by Ecology, the USDOE shall make any required revisions and re-submit the plan to Ecology within thirty (30) days of receipt of Ecology's review. If the second review of a revised plan is unacceptable, Ecology may revise the plan and return it to the USDOE for implementation. This plan will be implemented within sixty (60) days, upon approval by Ecology. All visual examinations must be documented and recorded on videotape. The documentation and videotapes from visual examination must be maintained in the facility's Operating Record, and be available to Ecology upon request. These visual examinations may not be required during emergency pumping operations, or for documented and legitimate safety concerns, upon concurrence with Ecology.

5. On or before December 16, 2000, the USDOE and CHG must submit a written report to Ecology, documenting all of the following: A tabular listing describing the disposition of all double-shell tank transfer system components that will not remain in use beyond June 30, 2005. This listing must describe when each component will be officially removed from service. This listing must provide a description of the disposition, for approval by Ecology, of each component upon removal from service including the following:

   - Stabilization (i.e., liquids and waste removed within twelve (12) months, or sooner, from the date of removal from service).

   - Isolation (i.e., administrative and/or engineering controls in place to prevent use within twelve [12] months, or sooner, from the date of removal from service).

- Monitoring (i.e., equipment and frequency to be employed to ensure each component remains free of liquids and waste upon removal from service, to be in place within twelve [12] months, or sooner, from the date of removal from service).

- A description of the final disposition of each component upon removal from service (i.e., inclusion within a RCRA Closure Plan).

6. On or before July 18, 2001, the USDOE and CHG must submit a written report to Ecology documenting the following:

   A. Results of ultrasonic testing, or other testing as agreed upon with Ecology, of the primary tank walls of waste storage tanks within the 204-AR Unloading Station, A-350 Lift Station, 244-S Double-contained Receiver Tank, and AZ-151 Catch Tank. This ultrasonic testing must include a scan at least 12 inches wide of the vertical primary tank wall of each tank examined. If conditions within any tank structure prevent a continuous wall examination, a spot check of wall thickness along the vertical axis of the tank, at intervals no greater than 6 inches, may be employed, upon prior approval by Ecology. This report must include a copy of the original ultrasonic testing data reports, and a tabular summary of thickness measurements and other observations made during ultrasonic testing. This report must include a comparison between the ultrasonic data obtained to specified material thickness, material specifications, and construction standards and codes. This report must include a listing of any defects exceeding nominal wall thickness. This report must include a summary review and interpretation of data by a technical expert qualified, trained, and experienced in interpreting ultrasonic data as a Non-destructive Examination (NDE) Level III Inspector. Any video surveillance employed in support of this ultrasonic examination must be retained in the facility's Operating Record, and be available upon request by Ecology.

   B. Results of static leak tests of the primary tank for the following:

      - Double Contained Receiver Tanks; 244-BX, 244-TX and 244-A
      - Catch Tanks; 241-ER-311, S-304, U-301B, TX-302C, AX-152, AZ-151, and UX-302A
      - 204-AR Unloading Station
      - A-350 Lift Station

7. On or before September 30, 2001, the USDOE and CHG must submit a written report to Ecology documenting results of ultrasonic testing of the primary tank walls in four (4) DSTs not previously examined by ultrasonic testing. This report must meet all the requirements and conditions set forth in Section (1)(C) of this Order. This report must include a schedule identifying each of four (4) additional DSTs, not previously examined by ultrasonic testing, for completion of ultrasonic testing by September 30, 2002.

8. On or before September 30, 2002, the USDOE and CHG must submit a written report to Ecology documenting all results of ultrasonic testing of the primary tank walls in four (4) DSTs not previously examined by ultrasonic testing. This report must meet all the requirements and conditions set forth in Section(1)(C) of this Order. This report must include a schedule identifying each of four (4) additional DSTs, not previously examined by ultrasonic testing, for completion of ultrasonic testing by September 30, 2003.

9. On or before September 30, 2003, the USDOE and CHG must submit a written report to Ecology documenting results of ultrasonic testing of the primary tank walls in four (4) DSTs not previously examined by ultrasonic testing. This report must meet all the requirements and conditions set forth in Section(1)(C) of this Order. This report must include a schedule identifying each of four (4) additional DSTs, not previously examined by ultrasonic testing, for completion of ultrasonic testing by September 30, 2004.

10. On or before September 30, 2004, the USDOE and CHG must submit a written report to Ecology documenting results of ultrasonic testing of the primary tank walls in four (4) DSTs not previously examined by ultrasonic testing. This report must meet all the requirements and conditions set forth in Section(1)(C) of this Order. This report must include a schedule identifying each of four (4) additional DSTs, not previously examined by ultrasonic testing, for completion of ultrasonic testing by September 30, 2005.

11. On or before September 30, 2005, the USDOE and CHG must submit a written report to Ecology documenting results of ultrasonic testing of the primary tank walls in four (4) DSTs not previously examined by ultrasonic testing. This report must meet all the requirements and conditions set forth in Section(1)(C) of this Order.

12. On or before March 31, 2006, the USDOE and CHG must submit a written Integrity Assessment Report for the Double-Shell Tank System, to Ecology documenting all of the following: An Assessment of the Integrity of the Double-Shell Tank System. The Double-Shell Tank System is comprised of the twenty-eight (28) DSTs and their ancillary equipment. Ancillary equipment within the Double-Shell Tank System includes all subordinate tank systems and their vaults, transfer pipelines, pump pits, valve pits, lift stations, catch tanks, the 204-AR Unloading Station, and any other component identified in item (1)(A) of this Order. This integrity assessment must be completed, documented in a report to Ecology, and certified by an Independent, Qualified, Registered, Professional Engineer (IQRPE), on or before March 31, 2006. This Integrity Assessment Report must include information and data sufficient to determine that the Double-shell Tank System is fit-for-use, and will not collapse, rupture, or fail, under normal operating conditions. This report must be accompanied by a schedule and recommendations for future integrity assessments sufficient to ensure the system will not collapse, rupture, or fail, under normal operating conditions.

This Integrity Assessment Report must document, at a minimum, all information gathered for the Double-Shell Tank System to meet the requirements of 40 CFR, Subpart J, Part 265.191(1), (2), (3), (4), (5)(i) and (5)(ii), including the following at a minimum:

- 40 CFR 265.191 (1) -- Design Standards: A thorough description of the materials used in construction, construction methods employed, quality control, and testing performed on materials, and the final structure, prior to being placed in service, all engineering codes referenced for construction, design operating specifications, and a presentation of all calculations employed to determine each structure's design strength, and useful life. An evaluation of the design life of each DST must be described, based on all ultrasonic data gathered, waste compatibility with the materials of construction, history of corrosion protection, operational history, visual examinations, and any other sources of tank integrity assessment information gathered, as required in this Order, for each tank.

  This report must include, at a minimum, a tabular listing by component equipment number, of all transfer pipelines within the DST system, describing the materials of construction, and compliance with secondary containment requirements.

- 40 CFR 265.191(2) -- Hazardous characteristics of the wastes that have been, or will be, handled: A thorough presentation describing the compatibility of the waste stored in each tank with the tank structure and materials. This presentation must include the following at a minimum: Waste chemical characteristics and properties such as corrosivity, temperature, homogeneity, organic content, specific gravity, gas retention & generation, flammability, and a comparison between the waste currently stored and/or proposed to be stored, in each tank to the design operating specifications for each tank.

- 40 CFR 265.191(3) -- Existing corrosion protection measures: A thorough description and history of all corrosion protection measures employed for all transfer systems (i.e., caustic flushes), and within each DST since completion of construction. This history must include a description of all sampling and analysis performed to monitor the status of corrosion inhibitor adjustments to the chemical composition of the waste within each DST, or transferred through DST system transfer lines.

- 40 CFR 265.191(4) -- Documented age of the tank system: The age of each component of the DST system, including the DSTs and their ancillary equipment, as described in item (1)(A) of this Order, must be described, including the completed construction date, the date placed in service, and date each DST first received waste.

- 40 CFR 265.191(5) -- Results of a leak test, internal inspection, or other tank integrity examination for each tank, must include the following:

40 CFR 265.191(5)(i) -- Examination of the primary tank of each of the twenty-eight (28) DSTs by ultrasonic testing as described in (A)(3) of this Order, and results of ultrasonic testing of the following:

~ Examination of a 20 foot long circumferential scan of six (6) DSTs at a location in the vertical portion of the primary tank wall corresponding to a static liquid/vapor interface level, that existed in any given DST, for any five (5) year period, within its operational history. This examination must extend 12 inches above the highest static liquid/vapor interface level that existed in any given DST for any five (5) year period within its operational history, within the limits of the equipment employed. The DSTs selected for this examination may be selected per the tank selection criteria established in the document Description of Double-Shell Tank Selection Criteria for Inspection (WHC-SD-WM-ER-529), or as recommended to Ecology by written request from the USDOE, describing the rationale for tank selection, and as approved by Ecology. Findings and conclusions from this examination data may necessitate examination of additional DSTs in this area, or may be required upon review of this Integrity Assessment Report by Ecology.

~ Examination of a 20 foot long circumferential scan of the predicted maximum stress region of the lower knuckle base metal of six (6) DSTs as selected per the selection criteria within the Description of Double-Shell Tank Selection Criteria for Inspection (WHC-SD-WM-ER-529), or other selection criteria as approved by Ecology. Findings and conclusions from this examination data may necessitate examination of additional DSTs in this area, or may be required upon review of this Integrity Assessment Report by Ecology.

~ Examination of tank bottoms through accessible air slots of six (6) DSTs, as selected per the selection criteria, within the Description of Double-Shell Tank Selection Criteria for Inspection (WHC-SD-WM-ER-529), or other selection criteria as approved by Ecology. This examination must include all areas accessible within the limits of the best available equipment and must extend at least ten (10) feet towards the center of the tank from the lower knuckle joint, unless a different scope of examination is approved by Ecology due to constraints and conditions encountered in the tank annulus and air slots. Findings and conclusions from this examination data may necessitate examination of additional DSTs in this area, or may be required upon review of this Integrity Assessment Report by Ecology.

~ Data gathered from all ultrasonic examinations of all DSTs must be compared between the corresponding areas of all DSTs examined to determine the range of material thinning among all DSTs examined.

~ Data gathered from all ultrasonic testing examination required within this Order must include review and interpretation by a technical expert qualified, trained and experienced in interpreting ultrasonic data as a Non-destructive

- Examination (NDE) Level III Inspector.

~ This Integrity Assessment Report must include results from examinations of the tank systems listed in items (1)(C) and (2) of this Order.

~ All results from examinations, not subject to the specific requirements of this Order, of failed equipment removed from each DST, corrosion probes existing in each tank, results of testing on simulated tank structures, or materials, and studies of the effects of waste stored within each tank on the tank's materials of construction, must be incorporated in the assessment report for each DST examined. All corrosion studies of any transfer pipelines described in item (1)(A) of this Order must be included in this Integrity Assessment Report. This Integrity Assessment Report must include a schedule for continuing integrity assessments of DST transfer system components sufficient to ensure they will not collapse, rupture or fail under normal operating conditions.

~ Leak and/or pressure testing regimen and specifications for all transfer systems described in item (1)(A) of this Order.

~ A summary, in tabular form or otherwise, of the observations and conclusions from all visual examinations by direct observation or remote camera surveillance, taken within the annuli of each DST. This summary must include observations and conclusions from all visual examinations by direct observation or remote camera surveillance, taken within DST system ancillary equipment (i.e., valve pits, pump pits, double-contained receiver tanks, catch tanks, transfer pipelines). All videotapes from remote camera surveillance must be retained in the facility's Operating Record and available to Ecology upon request.

40 CFR 265.191(5)(ii) -- Certification by an Independent, Qualified, Registered, Professional Engineer (IQRPE): This Integrity Assessment Report must be certified by an IQRPE that meet the following requirements:

~ To meet the requirements for "independent," the IQRPE must not be employed by any company that is either operated, or exists, as a prime contractor of the Hanford contract team. The IQRPE cannot have worked for any company as described above for a period of one (1) year prior to undertaking the review of Hanford tank integrity assessment work.

~ To meet the requirement for "qualified" the IQRPE must be an engineer experienced in examination of tank storage systems. Certification by the National Association of Corrosion Engineers (NACE) is desirable, but not required.

- To meet the requirement for "registered professional engineer," the IQRPE must be registered as a professional engineer with the Washington State Department of Licensing.

- Any IQRPE shall make the following certification unless another certification statement is agreed to with Ecology:

  "I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document, and all attachments, and that, based on my assessment of the plans and procedures utilized for obtaining this information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

13. On or before September 30, 2007, the USDOE and CHG must submit a written report to Ecology documenting all of the following:

    - Re-examination of six (6) DSTs by ultrasonic testing in all areas previously examined to provide comparative data from which to calculate corrosion rates in each of the six (6) DSTs examined. Selection of the tanks to be re-examined may utilize the tank selection criteria established in the document Description of Double-Shell Tank Selection Criteria for Inspection (WHC-SD-WM-ER-529) or other criteria as approved by Ecology. The selection of each DST to be re-examined must consider elapsed time from previous ultrasonic testing, sufficient to assess measurable wall thinning with the ultrasonic equipment used. Re-examination of the predicted maximum stress region of the lower knuckle base metal may not be required, if prior approval is obtained from Ecology for deleting this portion of the ultrasonic re-examination. This report must provide a calculated corrosion rate for each DST, include all calculations, include a thorough description of all terms and/or factors used in the calculations, and include a thorough reference section of all codes, studies and assumptions, used in deriving the calculated corrosion rate for each of the DSTs selected.

The documents required to be submitted under the terms of this Order shall be addressed to:

Department of Ecology
Attn: Bob Wilson
1315 West Fourth Avenue
Kennewick, Washington 99336-6018

Failure to comply with this Order may result in the issuance of civil penalties, or other actions, whether administrative or judicial, to enforce the terms of this Order. This Order may be appealed. Your appeal must be filed with within thirty (30) days of your receipt of this Order at the following address:

Pollution Control Hearings Board
P.O. Box 40903
Olympia, Washington 98504-0903

At the same time, your appeal must also be sent to:

Department of Ecology
c/o The Enforcement Officer
P.O. Box 47600
Olympia, Washington 98504-7600

Your appeal alone will not stay the effectiveness of this Order. Stay requests must be submitted in accordance with RCW 43.21B.320. These procedures are consistent with Chapter. 43.21B RCW.

DATED this thirteenth day of June 2000 at Kennewick, Washington.

Dan Silver, Deputy Director
Washington State Department of Ecology

KATHRYN L. GERLA, WSBA #17498
Assistant Attorney General
Attorney General of Washington
Ecology Division
P.O. Box 40117
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FILED IN THE
U.S. DISTRICT COURT
EASTERN DISTRICT OF WASHINGTON

SEP 30 1999

JAMES R. LARSEN, CLERK
DEPUTY
RICHLAND

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF WASHINGTON

STATE OF WASHINGTON, DEPARTMENT OF ECOLOGY, Plaintiff, v. UNITED STATES DEPARTMENT OF ENERGY, Defendant.	NO. CT-99-5076-EFS CONSENT DECREE

I. INTRODUCTION

WHEREAS, Plaintiff State of Washington, Department of Ecology ("State") has alleged violations of the Hanford Federal Facility Agreement and Consent Order by Defendant United States Department of Energy ("DOE"); and

WHEREAS, on May 15, 1989, DOE and the Washington Department of Ecology entered into the Hanford Federal Facility Agreement and Consent Order ("HFFACO"). One of the requirements of the HFFACO is that DOE remove liquid waste from several large underground single-shell storage tanks located at DOE's Hanford site. Pumping high-level radioactive waste from single-shell tanks into double-shell tanks poses many technical and safety challenges. A

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number of these challenges have arisen since the HFFACO was signed. DOE has previously requested and the State has agreed to a number of schedule extensions using procedures specified in the HFFACO. The original schedule in the agreement called for pumping the liquid radioactive hazardous waste out of the tanks by 1995. Thereafter, the schedule has been extended several times. The most recent schedule called for the completion of tank pumping by September 30, 2000; and

WHEREAS, to date, approximately 45% of the liquid wastes originally stored in single-shell tanks have been pumped into double-shell tanks since the tank pumping program began in 1976. The HFFACO contains milestones for transferring the remaining liquid wastes from single-shell tanks into double-shell tanks. Interim milestones M-41-22 and M-41-23 required that pumping be initiated for 6 tanks by September 30, 1997, and for 8 more tanks by March 31, 1998. DOE did not meet either of these two milestones, and believes that it will not meet the remainder of the tank pumping milestones; and

WHEREAS, the parties wish to resolve this action without litigation and have, therefore, agreed to entry of this Consent Decree without adjudication of the issues contained herein. This Decree is filed to resolve potential litigation between the State and DOE regarding the missed milestones as well as all other remaining milestones in the HFFACO in the interim stabilization series (M-41) and to establish a judicially enforceable schedule for pumping liquid radioactive hazardous waste from single-shell tanks as identified in the schedule in Section IV-A.

NOW THEREFORE, it is hereby ordered, adjudged, and decreed as follows:

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II. JURISDICTION

The Court has jurisdiction over the subject matter and the parties to this Decree. Venue is proper in the United States District Court for the Eastern District of Washington.

The State of Washington, Department of Ecology enters into this Decree pursuant to Chapter 70.105 RCW and the Resource Conservation and Recovery Act, 42 U.S.C. §§ 6901 et seq.

The United States Department of Energy enters into this Decree pursuant to 42 U.S.C. §§ 6901 et seq.

III. PARTIES BOUND

This Decree applies to and is binding upon the United States Department of Energy, the State of Washington, Department of Ecology, and their successors. DOE remains obligated by this Decree regardless of whether it carries out the terms through agents, contractors, and/or consultants.

IV. WORK TO BE PERFORMED AND SCHEDULE

A. Liquid waste in Hanford's single-shell tanks shall be removed from the single-shell tanks and stored in double-shell tanks according to the schedule set forth in Attachment A to this Decree. The schedule in Attachment A is hereby incorporated by reference into this Decree and is an integral and, with the exception of the projected pumping completion dates, enforceable part of the Decree.

B. Reporting: DOE shall, on a quarterly basis, submit to Ecology a written report documenting tank stabilization activities that occurred during the period covered by the report. This written report shall provide the status of progress made during the reporting period and shall include:

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1. A brief description of project accomplishments and project issues encountered during the reporting period and/or expected in the next six months;

2. A definitive statement describing whether or not DOE remains in compliance with the schedule set forth in Section IV-A;

3. Where applicable, a description of actions initiated or otherwise taken to recover any schedule slippage;

4. Budget/cost status; and

5. Copies of written directives given by DOE to the contractor(s) for work required by this Decree.

In the event DOE determines that it is unable to meet the schedule as required in Section IV-A, it shall notify Ecology as set forth in Section VI.

V. ACCESS

Without limitation on any authority conferred on it by law, Ecology shall have authority to enter the Hanford Site at all reasonable times for the purposes of, among other things: (1) inspecting records, operating logs, contracts and other documents relevant to the implementation of this Decree, subject to Article XLV of the HFFACO; (2) reviewing the progress of DOE in implementing this Decree; (3) conducting such tests as Ecology deems necessary regarding the interim stabilization project (provided that such tests do not interfere with DOE's ability to meet the schedule); and (4) verifying data relating to interim stabilization submitted to Ecology by DOE. DOE shall honor all requests for access by Ecology's representatives, conditioned only upon proof of such status, and conformance with Hanford Site safety and security requirements. Ecology's representatives shall minimize interference with operations while on the Hanford

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Site. DOE reserves the right to require Ecology's representatives to be accompanied by an escort while on the Hanford Site. DOE shall provide escorts in a timely manner.

VI. AMENDMENT OF DECREE

A. **Amendment Process**.

1. This Decree may be amended by mutual agreement of the State and DOE upon approval by the Court. The party proposing the amendment shall provide the proposal in writing to the other party, along with a justification for the amendment. Proposals to amend the schedule shall be submitted in accordance with, and shall be evaluated under the criteria described in, paragraphs B through G, below. Within ten (10) working days of receipt (except as provided in Section VI-F), the other party shall notify the party proposing the amendment whether or not the amendment is acceptable.

a. If the amendment is acceptable, then the State shall determine, in its sole discretion, whether the amendment constitutes a significant modification to the Consent Decree. If the amendment is significant, then the State and DOE shall take public comment on the amendment. Unless public comments disclose facts or considerations which indicate the amendment is inappropriate, the parties shall submit the amendment to the Court for its approval. If, in the view of either party, public comments disclose facts or considerations which indicate that the amendment is inappropriate, and if the parties are unable to agree on revisions to the proposed amendment to address

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the concerns raised during the public comment period, then the provisions of Section VI-A-1-b shall apply.

b. If the amendment is not acceptable to the other party, the other party shall explain in writing its reasons for disapproving the amendment. In such an event, the party proposing the amendment may invoke the dispute resolution procedures of this Decree.

2. The time periods in Section VI may be extended by mutual agreement of the parties.

B. **Amendment of Schedule.** The schedule in Section IV-A shall be amended only if (1) a request for amendment is timely, and (2) good cause exists for the amendment.

C. **Timeliness.** To be timely, a request must be submitted to the other party either (1) when it is DOE requesting the schedule amendment, within ten (10) working days of a determination by DOE that it is unable to meet the deadline for which the amendment is sought; and (2) when it is the State requesting the schedule amendment, within ten (10) working days of a determination that an amendment is necessary.

D. **Good Cause.** "Good cause" for schedule amendment exists when the schedule cannot be met due to circumstances or events either (1) unanticipated in the development of the schedule in Section IV-A of this Consent Decree, or (2) anticipated in the development of the schedule, but which have a greater impact on the schedule than was predicted at the time the schedule was developed (hereafter referred to as "circumstances and events"). However, in any case, good cause does not exist if DOE can nonetheless meet the existing schedule by responding with reasonable diligence to such circumstances or events. Likewise, good cause does not exist if DOE could have met the existing schedule if it had responded

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with reasonable diligence to the circumstance(s) or event(s) when it occurred. Budget requests, funding levels and efficient management practices are appropriate considerations in determining whether reasonable diligence exists. The exercise of reasonable diligence is not expected to normally require an expenditure of funds beyond those set out in Attachment B to this Decree (Projected Fiscal Year Funding Requirements for Work Required Under this Decree), unless additional expenditures are necessitated by inefficient management practices.

1. a. Both parties to this Consent Decree understand that to develop this schedule, assumptions had to be made in the Interim Stabilization Project Plan about events or unforeseen circumstances that might arise which could affect the schedule. As part of this process, further assumptions had to be made about the likelihood of such events or unforeseen circumstances occurring, and if they did occur, what effect that might have on the schedule.

b. The schedule assumes that, to some extent, unforeseen events will occur, or unforeseen circumstances will be discovered. A certain amount of "allowance" is built into the interim stabilization project plan underlying the schedule to allow DOE to respond to such events and circumstances and still meet the schedule. However, it is possible that unexpected events and/or circumstances will arise whose effect on the schedule exceeds this allowance.

c. If events or circumstances occur that will delay the completion of work beyond the deadlines in the schedule, and the delay cannot be or could not have been avoided by DOE responding to the event or circumstance with reasonable diligence, then "good

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cause" exists for extending the schedule. Although such events or circumstances cannot, by their nature, be fully anticipated and controlled, the parties can identify in advance three general types of such events and/or circumstances:

(1) *Safety concerns*. In the past, unforeseen safety concerns have arisen that have required extending the schedule. Depending on the nature of unforeseen safety concerns and the time required to address those concerns, such safety concerns may constitute "good cause."

(2) *Unknown technical obstacles*. The wastes contained within each tank or group of tanks have their own unique characteristics. Sometimes, previously unknown waste characteristics present technical obstacles to pumping the tanks. Depending on the nature of the technical problem and the time required to address the problem, such unknown obstacles may constitute "good cause."

(3) *Equipment failures*. The assumptions underlying the schedule anticipate that some failures of certain kinds of equipment will occur. DOE has built time into the schedule to respond to some level of equipment failures. However, it is possible that equipment failures will take place beyond what is anticipated in the assumptions underlying the schedule. Depending on the frequency and type of equipment failures, such failures may constitute "good cause."

2. In any request for amendment, DOE shall identify the good cause that, in its view, justifies amendment. If the State agrees that good

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-cause exists, the parties shall agree to an appropriate amendment. If the State does not agree that good cause exists, DOE may invoke the dispute resolution process set forth in Section VIII of this Decree.

E. **Force Majeure.** The parties agree that some events are of such a magnitude that they will be presumed to justify amendment. Extensions of the schedule shall be equal to the number of days during which work is interrupted due to *force majeure* events. These events include, but are not limited to:

1. Acts of God, fire, war, insurrection, civil disturbance, or explosion;

2. Significant adverse weather conditions that could not have been reasonably anticipated;

3. Restraint by court order;

4. Inability to obtain, at reasonable cost and after exercise of reasonable diligence, any necessary authorizations, approvals, permits or licenses due to action or inaction of any governmental agency or authority other than DOE or its authorized contractors;

5. Any strike or similar work stoppage resulting from labor dispute; and

6. Unavailability or insufficiency of funds due to a shut-down of the federal government or to the absence of an approved budget for DOE by the beginning of a fiscal year.

Any amendment requested on the grounds that one of the events listed above has occurred will be granted unless the State does not agree that a *force majeure* event has occurred. DOE may pursue dispute resolution regarding this determination under Section VIII of this Decree. If the dispute is not resolved by mutual agreement of the parties, DOE may seek court review, and if the Court

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determines that, under the pertinent facts and circumstances, the event does constitute a *force majeure* event, the Court shall approve the requested extension.

Whenever a *force majeure* event occurs, DOE shall exercise its best efforts to complete the affected work in accordance with the original schedule.

F. **Unforeseen Safety Concerns**. If a previously unknown safety concern raised as an unreviewed safety question arises that affects or will likely affect the schedule in Section IV-A, DOE shall take the following steps:

1. Within three (3) working days of the declaration of an unreviewed safety question, notify Ecology that an issue exists, the nature of the issue, and any actions taken in accordance with the facility authorization procedures.

2. No more than 45 days after the notification in Section VI-F-1, DOE shall develop and submit to Ecology a Safety Issue Resolution Plan (SIRP) that identifies the following:

a. the issue and its technical basis, its probability of occurrence, consequences of occurrence, and any threat to human health and the environment that would result if DOE adhered to the schedule in Section IV-A in light of the safety issue;

b. the impacts that the safety issue will have on the schedule in Section IV-A;

c. required administrative, procedural, technical, and operational issues that must be resolved in order for work to continue;

d. a schedule and necessary resources to resolve the safety issue in order to allow the resumption of work in the event that work was stopped because of the safety issue;

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e. the management process to be used to resolve the safety issue;

f. any pertinent information not already provided to Ecology; and

g. a request for a schedule amendment as set forth in Section VI-G below. In the event that the impact on the schedule cannot be adequately determined until the analysis of the unreviewed safety question is completed, DOE will advise Ecology of its initial estimate of schedule impact and a date by which it will submit the required request for schedule amendment.

3. If Ecology agrees, based on the information provided in the SIRP and any other information, whether oral or written, provided by DOE, that good cause exists for a schedule amendment, then the State shall determine, in its sole discretion, whether the amendment constitutes a significant modification to the Consent Decree. If the amendment is significant, then the State and DOE shall take public comment on the amendment. Unless public comments disclose facts or considerations which indicate that the amendment is inappropriate, the parties shall submit the amendment to the Court for its approval. In the event that Ecology does not agree, either before or after any public comment period, that good cause exists, DOE may invoke the dispute resolution procedures in Section VIII.

G. **Proposals to Amend**. Any proposal to amend the schedule shall be submitted in writing to the other party and shall specify the following:

1. The particular deadline(s) for which the amendment is sought;

2. The length of the extension(s) sought;

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3. The good cause or *force majeure* event that is the basis for the amendment; and

4. Any other requirement of this Consent Decree or of the HFFACO that would be affected if the proposal to amend the schedule were accepted.

Any proposal to amend any other provision of this Consent Decree shall be in writing and shall identify:

1. Those portions of the Consent Decree to be amended;

2. The proposed new language to be included in the Consent Decree; and

3. The reason for the proposed amendment.

VII. FUNDING

A. **Funding relating to implementing the schedule.**

DOE agrees to advise the State of its efforts to obtain the appropriated funding necessary to implement this Decree. If DOE asserts that appropriated funds necessary to fulfill an obligation under this Decree are not available, the parties agree to utilize the dispute resolution procedures of Section VIII to discuss whether the State will, in its sole discretion, agree to make appropriate adjustments to the deadlines for obligations that require the payment or obligation of such funds. If no agreement is reached, the Parties agree that in any judicial proceeding to enforce the terms of this Decree and/or to find DOE in contempt for failure to comply or for delay in compliance with such terms, DOE may raise as a defense that its failure or delay was caused by the unavailability of appropriated funds. The State disagrees that lack of appropriations or funding is a valid defense. However, DOE and the State agree and stipulate that it is premature at this time to

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raise and adjudicate the existence of such a defense. This provision does not constitute a waiver by DOE that its obligations under this Decree are subject to the provisions of the Anti-Deficiency Act, 31 U.S.C. § 1341, nor does it constitute a waiver by the State that DOE's obligations under this Decree are not subject to the Anti-Deficiency Act.

B. **Funding relating to milestones in the HFFACO.**

If DOE does not have adequate funding to comply with this Decree and all of the requirements of the HFFACO, DOE will likely request extensions of some current HFFACO milestones for work that it believes is of a lower priority than the work to be performed under this Decree. The State will review such requests in good faith and will grant such requests when it deems it appropriate to do so under the terms of the HFFACO, and, when required, EPA concurs.

Nothing in the above paragraph shall be used to constrict in any way DOE's, EPA's, or Ecology's rights under the HFFACO. In particular, nothing in the above paragraph shall supersede or amend the procedures set forth in paragraphs 148 and 149 of the HFFACO.

VIII. RESOLUTION OF DISPUTES

A. The parties recognize that a dispute may arise regarding the proper interpretation of this Decree or whether or how the Decree should be amended. If such a dispute arises, the parties will endeavor to settle it by good faith negotiations among themselves. The party invoking dispute resolution shall send to the other party a written demand for immediate commencement of good faith negotiations to endeavor to settle the dispute. If the parties cannot resolve the issue within a reasonable time, not to exceed forty (40) calendar days from the date of the written demand for good faith negotiations, then either party may seek appropriate relief from the Court as set out hereinafter in paragraph B. Either

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party may request a meeting among technical and/or management representatives from their respective organizations, including the Interagency Management Integration Team at any time during the dispute resolution.

B. If the dispute does not resolve within 40 days from the date of the written demand for good faith negotiations of the dispute, either party may petition the Court for relief. A petition seeking appropriate relief from the Court shall be filed within thirty (30) calendar days of the end of the 40-day period provided for in Section VIII-A.

C. **Applicability Of Deadlines During Dispute Resolution**. Deadlines established in the schedule in Section IV-A shall continue in force unless and until changed by the Court. Notwithstanding the foregoing sentence, if DOE has requested an extension of a deadline, DOE shall not be deemed to be in violation of that deadline while DOE's request is being evaluated. This period shall run from the time that DOE submits a request for schedule amendment as provided in Section VI-A or Section VI-F through the date on which the Court acts on the request.

IX. COVENANT NOT TO SUE

A. The State hereby covenants not to bring any civil, judicial, or administrative action against DOE, its officials or employees, or its contractors or their subcontractors, their officials, or employees, with respect to matters covered by this Decree. "Matters covered" by this Decree are requirements for interim stabilizing, or removing pumpable liquid from, 29 single-shell tanks at the Hanford Site. This covenant not to sue is conditioned upon DOE's complete performance of its obligations under this Decree.

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B. This Decree in no way affects or relieves DOE of responsibility to comply with any other State, Federal, or local law or regulation. Both parties retain all of their rights and defenses with respect to matters not covered in this Decree. The State expressly reserves for further action or enforcement and its execution of this Decree does not discharge, release, or in any way affect any right, demand, claim, or cause of action that it has, or may have, regarding DOE's environmental liabilities at the Hanford Site other than the interim stabilization program, including, without limitation, any other alleged noncompliance with the HFFACO, and any other environmental liability caused by or resulting from leaks, releases, or discharges from the single-shell tanks at the Hanford Site.

C. Notwithstanding any other provision of this Decree, the State reserves the right to seek amendment of this Decree, or to take action outside of this Decree, if previously unknown information is received, or previously undetected conditions are discovered, and these previously unknown conditions or information together with any other relevant information indicates that the work to be performed and schedule under this Decree are not protective of human health or the environment.

X. RETENTION OF JURISDICTION

This Court retains jurisdiction over both the subject matter of this Decree and the parties for the duration of the performance of the terms and conditions of this Decree for the purpose of enabling any of the parties to apply to the Court at any time for such further order, direction, sanction or other relief as may be necessary or appropriate for the construction or modification of this Decree, or to effectuate or enforce compliance with its terms, or to resolve disputes in accordance with Section VIII, Resolution of Disputes.

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XI. CONSTRUCTION AND USE OF CONSENT DECREE

A. **Construction of Consent Decree**. This Consent Decree is the product of negotiation by the parties. Both parties contributed to its drafting. In any dispute over the meaning of any provision of this Consent Decree, the parties shall be treated as having contributed equally to the drafting of that provision.

B. **Restrictions On Use In Other Proceedings**. It is DOE's position that, until waiver or exhaustion of its appeal rights regarding a particular milestone under the HFFACO, the State may not bring a judicial action regarding that milestone. The State disagrees with this position. In order to reach agreement on this Consent Decree with the State, without adjudicating this issue, DOE hereby waives its appeal rights under the HFFACO to the Pollution Control Hearings Board with respect to the remaining M-41 milestones for interim stabilization of the single-shell tanks. Moreover, the parties agree that neither this Consent Decree, nor any of its provisions, may be used in any future proceeding by DOE, the State, or any other party to determine or resolve this issue.

XII. EFFECT OF DECREE ON HFFACO MILESTONES

Upon entry of this Decree, the State covenants not to enforce the series M-41 Single-Shell Tank Interim Stabilization Milestones and Milestone M-40-07 in the HFFACO. After entry of this Decree, the parties, with EPA's concurrence, will amend the HFFACO to delete the M-41 milestones in their entirety and to delete Milestone M-40-07.

Nothing in this Consent Decree shall give the Court jurisdiction over any of the HFFACO milestones.

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XIII. EFFECTIVE AND TERMINATION DATES

A. This Consent Decree shall be effective upon the date of its entry by the Court.

B. This Consent Decree shall terminate when all work to be performed under the Decree has been completed. The parties will notify the Court of this event by a motion to terminate the Consent Decree.

DATED this 29th day of September, 1999.

Edward F. Shea

United States District Judge

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CONSENT DECREE
ATTACHMENT A

Following is the schedule for pumping liquid waste from the remaining twenty-nine (29) single-shell tanks This schedule is enforceable pursuant to the terms of the Decree except for the "Projected Pumping Completion Dates" which are estimates only and not enforceable.

	Tank Designation	Pumping Initiated	Projected Pumping Completion Date
1.	T-104	Already initiated	May 30, 1999
2.	T-110	Already initiated	May 30, 1999
3.	SX-104	Already initiated	December 30, 2000
4.	SX-106	Already initiated	December 30, 2000
5.	S-102	July 31, 1999	March 30, 2001
6.	S-106	July 31, 1999	March 30, 2001
7.	S-103	July 31, 1999	March 30, 2001
8.	U-103*	June 15, 2000	April 15, 2002
9.	U-105*	June 15, 2000	April 15, 2002
10.	U-102*	June 15, 2000	April 15, 2002
11.	U-109*	June 15, 2000	April 15, 2002
12.	A-101	October 30, 2000	September 30, 2003
13.	AX-101	October 30, 2000	September 30, 2003
14.	SX-105	March 15, 2001	February 28, 2003
15.	SX-103	March 15, 2001	February 28, 2003
16.	SX-101	March 15, 2001	February 28, 2003
17.	U-106*	March 15, 2001	February 28, 2003
18.	BY-106	July 15, 2001	June 30, 2003
19.	BY-105	July 15, 2001	June 30, 2003
20.	U-108	December 30, 2001	August 30, 2003
21.	U-107	December 30, 2001	August 30, 2003
22.	S-111	December 30, 2001	August 30, 2003
23.	SX-102	December 30, 2001	August 30, 2003

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	Tank Designation	Pumping Initiated	Projected Pumping Completion Date
24.	U-111	November 30, 2002	September 30, 2003
25.	S-109	November 30, 2002	September 30, 2003
26.	S-112	November 30, 2002	September 30, 2003
27.	S-101	November 30, 2002	September 30, 2003
28.	S-107	November 30, 2002	September 30, 2003
29.	C-103	No later than December 30, 2000, DOE will determine whether the organic layer and pumpable liquids will be pumped from Tank C-103 together or separately, and will establish a deadline for initiating pumping of this tank. The parties will incorporate the initiation deadline into this schedule as provided in Section VI of the Decree.	

*Tanks containing organic complexants.

Completion of Interim Stabilization. DOE will complete interim stabilization of all 29 single-shell tanks listed above by September 30, 2004.

Percentage of Pumpable Liquid Remaining to be Removed.

93% of Total Liquid	9/30/1999
38% of Organic Complexed Pumpable Liquids	9/30/2000
5% of Organic Complexed Pumpable Liquids	9/30/2001
18% of Total Liquid	9/30/2002
2% of Total Liquid	9/30/2003

The "percentage of pumpable liquid remaining to be removed" is calculated by dividing the volume of pumpable liquid remaining to be removed from tanks not yet interim stabilized by the sum of the total amount of liquid that has been pumped and the pumpable liquid that remains to be pumped from all tanks.

The parties to this Decree recognize that the "remaining pumpable liquids" volume is a best projection and may vary. By October 31, 1999 and each year thereafter until the work is completed, the DOE will include in its final quarterly report for the fiscal year the following information:

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- The volume of pumpable liquid actually removed for the previous year;
- Cumulative volume to date.

This information will be utilized to assess compliance with the milestones above. Also included in this quarterly report will be an updated projection of the pumpable liquids remaining in the tanks addressed by this Decree. This updated projection will be used to assess future compliance with these milestones. The current projection is that the tanks contain approximately 6.2 million gallons of "remaining pumpable liquid." The addition of dilution water to tanks shall not be counted towards the pumpable liquid volume or the liquid volume remaining to be removed.

DOE currently estimates approximately 900,000 gallons of organic complexed pumpable liquids are contained in tanks U-103, U-105, U-102, U-109, and U-106.

Definition of "Initiate." For purposes of this Decree, tank pumping is "initiated" when actual pump operation has commenced, and the pumping achieves a 60% operating efficiency over a 72-hour consecutive period, and transfers a total of not less than 500 gallons.

Definition of "Interim Stabilized." For purposes of this Decree, a single-shell tank has been "interim stabilized" and tank pumping may be discontinued when the tank contains less than 50,000 gallons of drainable interstitial liquid and less than 5,000 gallons of supernatant liquid. In addition, if jet pumping is used, the pump flow must be at 0.05 gpm or less before pumping may be discontinued. If a major equipment failure occurs at a tank that contains less than 50,000 gallons of drainable interstitial liquid and less than 5,000 gallons of supernatant, then DOE may, after consulting with Ecology, consider the tank interim stabilized.

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CONSENT DECREE
ATTACHMENT B

PROJECTED FISCAL YEAR FUNDING REQUIREMENT FOR WORK REQUIRED UNDER THIS DECREE

FY99	$29,471,000
FY00	35,052,000
FY01	32,841,000
FY02	30,176,000
FY03	23,254,000
FY04	9,372,000

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UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF WASHINGTON

STATE OF WASHINGTON, DEPARTMENT OF ECOLOGY, Plaintiff, v. UNITED STATES DEPARTMENT OF ENERGY, Defendant.	NO. CT-99-5076-EFS FIRST AMENDMENT TO CONSENT DECREE

I. INTRODUCTION

WHEREAS, on September 29, 1999, the court entered a Consent Decree in which Plaintiff State of Washington, Department of Ecology ("State") and Defendant United States Department of Energy ("DOE") agreed to resolve potential litigation between the State and DOE regarding certain missed milestones as well as other remaining milestones in the Hanford Federal Facility Agreement and Consent Order ("HFFACO") (entered May 15, 1989) in

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1 the interim stabilization series (M-41) and to establish a judicially enforceable
2 schedule for pumping liquid radioactive hazardous waste from single-shell
3 tanks as identified in the schedule in Section IV-A of the Consent Decree;
4 WHEREAS, the HFFACO requires that DOE construct and operate
5 facilities for the treatment of radioactive waste in the underground single-shell
6 and double-shell storage tanks, and that by August 31, 2000, DOE authorizes,
7 among other things, construction of facilities for the pre-treatment and
8 vitrification of no less than 10 percent of Hanford's tank waste by mass and 25
9 percent by activity (Phase I Processing);
10 WHEREAS, DOE acknowledges that it did not authorize the construction
11 of Phase I Processing facilities by August 31, 2000;
12 WHEREAS, the State and DOE have agreed to the terms and conditions
13 of this First Amendment to Consent Decree to resolve potential litigation
14 between the parties regarding the schedule for awarding a contract for
15 construction of the Phase I Hanford Tank Waste Treatment Complex, and to
16 establish a judicially enforceable schedule for the same;
17 NOW THEREFORE, it is hereby ordered, adjudged, and decreed as
18 follows:
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XIV. ADDITIONAL PROVISIONS PERTAINING TO AWARDING A CONTRACT FOR DESIGN AND CONSTRUCTION OF A WASTE TREATMENT AND VITRIFICATION COMPLEX.

As part of DOE's efforts to remediate the Hanford Site, a facility is to be designed, constructed, and commissioned for the purpose of treating and vitrifying the single-shell and double-shell tank wastes.

A. Work To Be Performed. The following work shall be performed:

By January 15, 2001, DOE shall award a contract authorizing the design, construction, and commissioning of a facility. This facility shall include all facilities necessary for the pretreatment and vitrification of no less than 10 percent of Hanford's tank wastes by mass and 25 percent by activity by February 28, 2018. This facility is referred to hereafter as the "Phase I Hanford Tank Waste Treatment Complex."

B. Excuse from Obligation to Perform Requirements of Section XIV-A. DOE's obligations to meet the requirements of Section XIV-A shall be excused only in the event of impossibility of performance, bid protest, if any of the conditions set forth in Section VI-E (Force Majeure) occur, or if the Court determines there is good cause, considering federal procurement law.

Any excuse from performance afforded pursuant to this subsection shall be only to the extent of the circumstances that gave rise to the excuse. Unless the parties agree that the basis for excuse is met and agree to its extent, DOE must seek a determination from the Court to be excused from performance. If DOE seeks relief under this subsection, it will submit a written request to the

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State within ten (10) days of learning that such relief is necessary. If the parties are unable to agree on a resolution within ten (10) days of DOE's submission or its request, DOE will submit the matter to the Court no later than 20 days after DOE's submission of its request. DOE's submission of a written request does not automatically stay DOE's obligation to perform, but DOE may seek a stay of its obligation from the Court at any time.

C. **Application Of The Other Provisions Of The Consent Decree To Section XIV**. Except as otherwise indicated, the provisions of Sections I through XIII of this Consent Decree apply to the provisions in Section XIV.

1. Sections I, IV-A, VI, and XII of this Consent Decree do not apply to the provisions in Section XIV.

2. The reporting requirements of Section IV-B of this Consent Decree shall apply to activities required to be taken pursuant to Section XIV of this Consent Decree.

3. For purposes of construing Section XIV only, the references in Section V to "interim stabilization" shall be deemed to refer to the activities required to be taken pursuant to Section XIV-A of this Consent Decree, except that nothing in the Consent Decree shall be deemed to authorize access to procurement sensitive documents.

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4. For purposes of construing the provisions of Section XIV only, the reference to Section IV-A in Section VIII-C shall be deemed to refer to Section XIV-A.

5. For purposes of construing the provisions of Section XIV only, the "matters covered" in the Covenant Not To Sue in Section IX shall be deemed to include the work in Section XIV-A.

6. For purposes of construing the provisions of Section XIV only, DOE's waiver of appeal rights under the HFFACO shall be construed as including the HFFACO M-62-05 milestone.

D. Upon entry of this Decree, the State covenants not to enforce the M-62-05 milestone in the HFFACO. After entry of this Decree, the parties will amend the HFFACO to delete the M-62-05 milestone. Nothing in Section XIV of the Consent Decree shall give the Court jurisdiction over any of the HFFACO milestones. In addition, except as expressly provided in the Consent Decree, nothing in the Consent Decree shall modify DOE's obligation under the HFFACO.

E. <u>Limitations On The Applicability And Effect Of This Section To Other Sections Of The Consent Decree</u>. The provisions in Section XIV pertain exclusively to matters set forth in Sections XIV-A and XIV-B. Nothing in Section XIV alters, amends, or modifies in any way the operation of the provisions in Sections I through XIII (including the attachments to this Consent

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Decree referenced in those Sections) with respect to the work specified in Section IV of the Consent Decree.

XV. EFFECTIVE DATE OF AMENDMENT

This First Amendment to Consent Decree shall be effective upon the date of its entry by the Court.

DATED this 19 day of September, 2000.

United States District Judge

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