0056296

Change Number	Federal Facility Agreement and Consent Order Change Control Form Do not use blue ink. Type or print using black ink.	Date
M-48-01-01		October 30, 2001

Originator U.S.Department of Energy **Phone** 376-2247

Class of Change [X] I - Signatories [ ] II - Executive Manager [ ] III - Project Manager

Change Title **Add Tri Party Agreement Milestone Series M-48**

Description/Justification of Change

The content of this change control form creates Hanford Federal Facility Agreement and Consent Order ("HFFACO") milestones equivalent to obligations contained in Administrative Orders No. 00NWPKW-1250 and 00NWPKW-1251 issued by the Washington Department of Ecology ("Ecology") on June 13, 2000. The identified administrative orders established deadlines for completion of various tank integrity assessment activities for Hanford's Double Shell Tank ("DST") system.

Impact of Change

Approval of this change will add the appropriate milestones to address the completion of DST integrity assessments.

Affected Documents

The Hanford Federal Facility Agreement and Consent Order, as amended, including HHFACO Action Plan Appendix D, DOE Annual Land Disposal Restrictions report, DOE Tank Farm Closure/Post Closure workplan Update, and Hanford site internal planning and management, and budget documents (e.g. DOE and DOE contractor Baselines, Baseine Change Control documents; Sitewide Systems Engineering Control documents; Project Management Plans and the Integrated Priority List (IPL).

Approvals

DOE-ORP	12/7/01 Date	✓ Approved	___ Disapproved
DOE-RL	12/7/01 Date	✓ Approved	___ Disapproved
EPA	1/2/02 Date	✓ Approved	___ Disapproved
Ecology	12-19-01 Date	✓ Approved	___ Disapproved

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The following new HFFACO requirements are established by approval of this M-48-01-01 change control form:

M-48-00	**COMPLETE TANK INTEGRITY ASSESSMENT ACTIVITIES FOR HANFORD'S DOUBLE SHELL TANK (DST) SYSTEM** Complete tank integrity assessment activities as set forth in interim milestones established under this major milestone.	**September 30, 2007**
M-48-01	**COMPLETE AND REPORT IDENTIFICATION OF ALL COMPONENTS COMPRISING THE DST SYSTEM** Identify 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) DST's 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 shall 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 shall identify, by name, equipment number, and location, all components of the DST system. This description shall 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, wastes.	**September 17, 2000 (Complete)**
M-48-02	**SUBMIT TO ECOLOGY A REPORT ASSESSING TECHNOLOGY DEVELOPMENT** Develop 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 shall include the 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 the DST's. This report shall 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.	**September 17, 2000 (1st Report Complete) & every six months thereafter until equipment is deployed**
M-48-03	**ISSUE REPORT FOR TWO (2) DST'S NOT PREVIOUSLY EXAMINED** Issue ultrasonic testing report of the primary tank walls in two (2) DST's not previously examined by ultrasonic testing.	**September 17, 2000 (Complete)**

This report shall 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 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 shall 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 shall include a listing and evaluation of wall thinning, pitting, or cracks in excess of 50% of the acceptance criteria values in Table 1 of the Acceptance Criteria for Non-Destructive Examination of Double-Shell Tanks (WHC-SD-WM-AP-036, Rev.0). This report shall 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 shall be retained in the facility's operating record and shall be available upon request by Ecology.

This report shall include a schedule identifying each of four (4) more DST's, not previously examined by ultrasonic testing, for completion of ultrasonic testing by September 30, 2001. Tanks selected for examinations will be recommended to Ecology by written request from the USDOE, describing the rationale for tank selection, and Ecology's approval of tank selection must be obtained before examinations occur. 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 such request by Ecology.

This ultrasonic testing shall be performed in at least the following areas of each DST selected for examination, within the limits of the equipment employed:

a. Examination of at least a 30-inch wide vertical scan of the entire height of the exterior side of the primary tank vertical walls, to include the interface between the waste level within the tank, and the vapor space above the waste.

b. Examination of the entire length of at least one vertical weld and adjacent heat affected zones in each shell course from the top edge of the lower knuckle up to and including 12 inches above the bottom of the nominally thinnest vertical wall plate or a total distance from the top edge of the lower knuckle to a total height of 20 feet, whichever is greater.

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

d. All weld examinations shall include examination of the heat-affected zone on both sides of all weldments.

e. Data gathered from the ultrasonic examinations shall be evaluated against

the specified material thickness, applicable material specifications, and construction standards and codes.

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

M-48-04 **SUBMIT TO ECOLOGY A REPORT SUMMARIZING THE HISTORY OF CORROSION INHIBITORS** **September 17, 2000**

Issue a summary report 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) DST's.

This summary shall include a description of the chemical adjustment specifications required to retard corrosion, including the technical justification for these specifications. This summary shall include a description of all corrosion mechanisms (i.e. stress-corrosion cracking) impacted by maintenance of corrosion inhibiting chemical adjustments. This summary shall include a description of the effects of temperature on the effectiveness of corrosion inhibiting chemical adjustments, a tabular listing of the tank wastes temperature within each DST, and a description of the temperature monitoring equipment active in each DST.

M-48-05 **SUBMIT TO ECOLOGY A PLAN FOR VISUAL EXAMINATION OF DST's** **September 17, 2000**

Submit a plan to Ecology specifying the 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, requirement for record storage, method of promulgating requirements for such visual examinations and requirements for documentation, and remedy for any significant structural deficiencies observed.

The purpose of a 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 subsequent examination, unless the USDOE is directed otherwise by Ecology. All examinations conducted pursuant to this plan shall be reported to Ecology within sixty (60) days of completion of each visual examination.

A visual examination shall include the maximum area visible with the best available video equipment used in remote field application in the tank farms. A visual examination 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 examinations shall 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.

M-48-06 **SUBMIT TO ECOLOGY A PLAN FOR VISUAL EXAMINATIONS OF THE EXTERIOR OF TRANSFER PIPING** **September 17, 2000**

Submit 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 shall be documented and recorded on videotape. The documentation and videotapes from visual examinations shall 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.

M-48-07 **SUBMIT TO ECOLOGY A DISPOSITION PLAN FOR ALL DST COMPONENTS NOT IN USE POST 2005** **December 16, 2000**

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 shall describe when each component will be officially removed from service. This listing shall provide a description of the disposition, for approval by Ecology, of each component upon removal from service including the following:

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

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

c. 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).

M-48-08 **SUBMIT TO ECOLOGY THE RESULTS OF ULTRASONIC TESTING AND STATIC LEAK TESTS OF MISCELLANEOUS WASTE TANKS** **July 18, 2001**

Submit a written report to Ecology documenting the following: 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 doubled-contained receiver tank, and AZ-151 Catch tank.

Subject to prior approval by Ecology[1], this ultrasonic testing shall include a check of wall thickness along the vertical axis of the tank, at intervals no greater than 6 inches. This report shall include a copy of the original ultrasonic testing data reports and a tabular summary of thickness measurements and other observation made during ultrasonic testing. This report shall include a comparison between other observation made during ultrasonic data obtained to specified material thickness, material specifications, and construction standards and codes. This report shall include a listing of any defects exceeding nominal wall thickness. This report shall 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 inspection shall be retained in the facility's Operation Record, and be available upon request by Ecology.

This report shall include results of static leak tests of the primary tank for the following:

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

M-48-09 **SUBMIT RESULTS OF (4) DST'S NOT PREVIOUSLY EXAMINED** **September 30, 2001**

Submit a written report to Ecology documenting results of ultrasonic testing of the primary tank walls in four (4) DST's not previously examined by ultrasonic testing.

This report shall meet all the requirements and conditions set forth in interim Milestone M-48-03. This report shall include a schedule identifying each of four (4) additional DST's, not previously examined by ultrasonic testing, for completion by September 30, 2002.

M-48-10 **SUBMIT RESULTS OF (4) DST'S NOT PREVIOUSLY EXAMINED** **September 30, 2002**

Submit a written report to Ecology documenting results of ultrasonic testing of the primary tank walls in four (4) DST's not previously examined by ultrasonic testing.

This report shall meet all the requirements and conditions set forth in interim Milestone M-48-03. This report shall include a schedule identifying each of four (4) additional DST's, not previously examined by ultrasonic testing, for completion by September 30, 2003.

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[1] Ecology's prior approval has been granted with regard to the 204-AR Unloading station, A-350 Lift station, 244-S doubled-contained receiver tank, and AZ-151 Catch tank. Prior approval will be required for the testing of any additional tanks that may be identified.

M-48-11 **SUBMIT RESULTS OF (4) DST'S NOT PREVIOUSLY EXAMINED** **September 30, 2003**

Submit a written report to Ecology documenting results of ultrasonic testing of the primary tank walls in four (4) DST's not previously examined by ultrasonic testing.

This report shall meet all the requirements and conditions set forth in interim Milestone M-48-03. This report shall include a schedule identifying each of four (4) additional DST's, not previously examined by ultrasonic testing, for completion by September 30, 2004.

M-48-12 **SUBMIT RESULTS OF (4) DST'S NOT PREVIOUSLY EXAMINED** **September 30, 2004**

Submit a written report to Ecology documenting results of ultrasonic testing of the primary tank walls in four (4) DST's not previously examined by ultrasonic testing.

This report shall meet all the requirements and conditions set forth in interim Milestone M-48-03. This report shall include a schedule identifying each of four (4) additional DST's, not previously examined by ultrasonic testing, for completion by September 30, 2005.

M-48-13 **SUBMIT RESULTS OF (4) DST'S NOT PREVIOUSLY EXAMINED** **September 30, 2005**

Submit a written report to Ecology documenting results of ultrasonic testing of the primary tank walls in four (4) DST's not previously examined by ultrasonic testing. This report shall meet all the requirements and conditions set forth in interim Milestone M-48-03.

M-48-14 **SUBMIT WRITTEN INTEGRITY REPORT FOR THE DOUBLE-SHELL TANK SYSTEM** **March 31, 2006**

Submit a written Integrity Assessment Report for the Double-Shell Tank System, to Ecology documenting 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) DST's 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 Stations, and any other active components identified in interim milestone M-48-01. This integrity assessment shall 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 shall 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 shall 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 shall 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:

a. 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 shall 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 milestone M-48-03, for each tank. This report shall 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.

b. 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 shall 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.

c. 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 shall 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.

d. 40 CFR 265.191 (4) – Documented age of the tank system: The age of each active component of the DST system, including the DST's and their ancillary equipment, as described in milestone M-48-01, shall be described, including the completed construction date, the date placed in service, and date each DST first received waste.

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

40 CFR 265.191 (5)(i) – Examination of the primary tank of each of the twenty-eight (28) DST's by ultrasonic testing as described in milestone M-48-03, and results of ultrasonic testing of the following:

1. Examination of a 20-foot long circumferential scan of six (6) DST's at a location in the vertical portion of the primary tank wall corresponding to a static liquid/vapor interface level that existed at any given DST. This static liquid /vapor interface is defined as the average static waste level within a DST for the longest period of time beyond a minimum of five (5) years. This examination shall be fifteen (15) inches wide, centered on the average height of the liquid, for the above described period. Tanks selected for examination will be recommended by USDOE and will be subject to approval by Ecology.

2. Examination of a 20-foot long circumferential scan of the

predicted maximum stress region of the lower knuckle base metal of six (6) DST's. Tanks selected for examination will be recommended by USDOE and will be subject to approval by Ecology. Findings and conclusions from this examination data may necessitate examination of additional DST's in this area, or may be required upon review of this Integrity Assessment Report by Ecology.

3. Examination of tank bottoms through accessible air slots of six (6) DST's. Tanks selected for examination will be recommended by USDOE and will be subject to approval by Ecology. This examination shall include all areas accessible within the limits of best available equipment. This examination shall extend at least ten (10) feet toward the center of the tank from the lower knuckle joint, or to the length practicable within the limits of best available equipment. The progress of the examination shall be reported to the Ecology project manager during the monthly ORP Project Manager's Meeting held pursuant to HFFACO Appendix D, Section 4.1. 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 .

4. Data gathered from all ultrasonic examinations of all DST's shall be compared to the corresponding areas of all DST's examined to determine the range of material thinning among the DSTs examined.

5. Data gathered from all ultrasonic testing examination required within milestone M-48-03 shall include a review and interpretation by a technical expert qualified, trained and experienced in interpreting ultrasonic data as a Non-destructive Examination (NDE) Level III Inspector.

6. This Integrity Assessment Report shall include results from examinations of the tank systems listed in milestone M-48-03 and M-48-04.

7. All results from examinations, not subject to the specific requirements of this Milestone, 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, shall be incorporated in the assessment report for each DST examined. All corrosion studies of any transfer pipelines described under M-48-01 shall be included in this Integrity Assessment Report. This Integrity Assessment Report shall 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.

8. Leak and/or pressure testing regimen and specifications for all transfer systems described under M-48-01.

9. 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 shall 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 shall be retained in the facility's Operating Record and available to Ecology upon request.

10. 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, or by a state which has reciprocity with the State of Washington.

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."

M-48-15 **SUBMIT A REPORT TO ECOLOGY FOR THE RE-EXAMINATION OF SIX (6) DST'S BY ULTRASONIC TESTING** **September 30, 2007**

Submit a written report for the re-examination of six (6) DST's by ultrasonic testing in all areas previously examined to provide comparative data from which to calculate corrosion rates in each of the six (6) DST's examined.

Tanks selected for examination will be recommended by USDOE and will be subject to approval by Ecology. The selection of each DST to be re-examined shall 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 shall 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 DST's selected.

Hanford Federal Facility Agreement and Consent Order Major Milestone M-48-00 Series Responsiveness Summary

This responsiveness summary is in response to written comments received by the Washington State Department of Ecology (Ecology) and the U.S. Department of Energy (USDOE) on a proposal to add double-shell tank inspection milestones to the Tri-Party Agreement.

Number	Comment submitted by:	Change Form M-48-01-01 Page	Comment	Agency Response
1	Mason Taylor	None	I support adding M-48-00 to the Tri-Party Agreement.	Comment noted.
2	aljohay@aol.com	None	Currently, the double-shell tanks hold approximately 21 million gallons of highly radioactive hazardous waste and are needed to store waste retrieved from leaking single-shell tanks. Question – Are the double-shell tanks buried? Were the double-shell tanks inspected before they were filled with hazardous waste? Who is the contractor that built the double-shell tanks? What method do you plan to use to inspect the double-shell tanks? I have been employed in the metal industry.	No change is required. The double-shell tanks (DST) system is composed of twenty-eight underground, million gallon capacity tanks and associated transfer piping, subsidiary tank systems such as overflow catch tanks, valve pits and transfer stations. At construction, all DSTs were inspected according to American Society of Tool and Manurfacturing Engineers (ASTME) standards (including welds, materials of construction, etc) and leak tested by filling with water before being put into service. The United States Department of Energy (USDOE) is the "owner" of the DSTs. Either Rockwell or General Electric Corporation built the DSTs for USDOE (they were built in the 1970's). Hanford's contractors are known as "operators" in regulatory terms. Inspection of the DST system will be an ongoing activity with all 28 DSTs. All DSTs are scheduled for examination of a small portion of each by ultrasonic testing to determine tank wall thickness by 2005 and subsequent ultrasonic testing of select DSTs to provide comparative date for corrosion rate studies. Eleven DSTs have been

				ultrasonically inspected to date. Other examinations include ongoing leak detection, review of construction and design documents, review of waste compatibility (i.e., evaluating information of tank waste to determine how corrosive the waste is to the metal of the tanks), pressure testing of certain pipelines, corrosion studies using test materials placed in tanks (i.e., corrosion coupon studies and examination of removed equipment), and ongoing maintenance and calibration of monitoring instruments installed in the tanks (i.e., thermocouples, liquid level monitors, leak detectors)."
3	W. P. Mead, Public Safety Resources Agency	All	I am in favor of creating new milestones (M-48-00) requiring an evaluation of the structural integrity of waste storage tanks at the Hanford Site, provided that these milestones are clearly specified as ADDITIONS to the TPA and will not in any way delay or alter the provisions of the existing TPA. Please enter this comment as my (personal) "feedback" and also on behalf of PSRA.	No change is required. These milestones are additions to the Tri-Party Agreement and do not affect other milestones.
4	W. P. Mead Public Safety Resources Agency	None	I would also like to add a final comment: Although you have not been able to determine the deadlines and/or distribution of the August 2001 "Hanford Update," please pass on to whomever is responsible that by mailing the August 2001 edition on 08/24/01, that many persons probably could not meet the 08/30/01 deadline for comments that you were soliciting. Please ask the powers-that-be to be more realistic in scheduling their information releases and/or setting those deadlines.	No change to the proposed milestones is required. Ecology will evaluate the use of the Hanford Update as a means of notification and will continue to provide additional notification using other methods. Tri-Party Agencies use several methods to notify the public about upcoming public comment periods, public meetings, etc. The notification methods implemented for the M-48 change package proposal included publication in the monthly Hanford Happenings, which was distributed the week of July 9, 2001; and distribution of fact sheets on the topic, which arrived in mailboxes on July 16, 2001. Additional notification methods included fax and e-mail notifications to members of the Hanford Advisory Board, and newspaper advertisements. The schedule for

				publication of the Hanford Update newsletter did not coincide with the timeline for the public comment, thus the need for multiple methods of notification. The same Hanford mailing list (approx. 3500 names) was used for the July Hanford Happenings and for the focus sheet that was used for the Hanford Update that was distributed in August.
5	John H. Browne, Jr.	All	This newly-proposed milestone is of a kind of redundancy that requires extirpation, if we are ever going to get on with "doing the best we can with what we've got;" & it's obvious that the present Federal administration is eager to cut any program funding that even appears to be extraneous. Instead of this kind of retroactive overkill (& enormous waste of time!) lets assume that the new (&/or more recently constructed) double-wall tanks are a better option than the old, probably leaking, tired single-wall tanks which they were designed (I assume they Were designed, & perhaps even Inspected at the time of their construction!) to replace. Additionally, let's require some sort of simple indicator system outside the new tanks which will tip us off if they should ever leak. Period. Having some experiences both in the construction industry & with the Hanford project specifically, I can't imagine that there weren't sufficient inspections of all these double-wall tanks. There generally has been someone to review the reports of someone who was looking over the shoulder at the person who was looking over the shoulder of the persons actually engaged in construction. Let that be sufficient. (I guess I might be curious as to whom may have a family member with the appropriate cameras, ultrasonic equipment, etc who's looking for a meal	Ecology Disagrees. No change will be made to the proposed milestones. The double-shell tanks were constructed between 1971 and 1985. Inspections conducted at the time of construction do not tell us about the current condition of the tanks. The Washington Department of Ecology believes that inspections are needed now to ensure that the tanks continue to store waste safely. At the time of their construction, the double shell tanks were inspected to American Society of Tool and Manufacturing Engineers (ASTME) standards. Efforts to evaluate the structural integrity of the double shell tanks are continuing under the requirements of the Washington Department of Ecology's Administrative Orders 00-NWPKW-1250 and -1251. When the new milestone series is incorporated into the Hanford Federal Facility Agreement and Consent Order, the examinations will be subject to the enforcement provisions of the Agreement if they are not completed in a timely fashion-.

			ticket for the next few years; but as a former resident of Richland, I probably would be better off not knowing.) Thanks for this opportunity to comment.	
6	Mary Lou Blazek Nuclear Safety Division Oregon Office of Energy	iv	The corrosion inhibitor report described in proposed milestone M-48-04 should include a discussion of expected tank design life impact of any significant out of specification conditions in any tank. It should also contain a schedule for returning to specification any tanks that are currently out of specification.	The USDOE and Ecology agree that maintaining the Double Shell Tanks within chemical specifications is important to continued use and safe storage of waste. Maintenance of tank chemistry includes monitoring and correcting specific parameters to ensure continued safe storage. USDOE has developed a Technical Safety Requirements (TSR) report (HNF-SD-WM-TSR-006, AC5.15 Chemistry Control Program, Rev. 3A 8/16/01) that sets out requirements for actions to be taken should a DST be determined to be out of specification. Incorporation of what is proposed in the comment into M-48 requirements would be a duplication of effort. Further, Ecology is not precluded from taking action under its own authority should DSTs become out of specification. USDOE produced a report (PNNL-13571) issued June, 2001, which was the result of review of DST life extension relative to maintaining adequate corrosion inhibitors. The report was reviewed by an expert panel of not only Hanford engineers, but also by tank experts from industry and other

				USDOE sites. The report focuses on extending tank life and correcting out-of-specification DSTs to prolong tank life beyond 2028.
7	Mary Lou Blazek Nuclear Safety Division Oregon Office of Energy	ii	The recent discoveries in Tank AY-101 show that ventilation systems are important to double shell tank integrity. It is recommended that the ventilation systems be included in the list of important ancillary equipment in proposed milestone M-48-01 and that milestone series M-48 should also include an assessment of double shell tank ventilation system condition.	The USDOE and Ecology agree with you that ventilation systems are important to tank integrity and are essential for reducing the potential for corrosion. This is also supported by DNFSB reviews. Annulus ventilation systems are subject to compliance, and their inclusion in M-48 is not appropriate. A studv conducted earlier this year, Double-Shell Tank Annulus Ventilation Engineering Study, RPP-7695, concluded the effectiveness of the annulus ventilation system as a means of minimizing risk of corrosion in the annuli of DSTs, and that these systems be maintained operational to prolong tank life. As a result, the operation of the annulus ventilation systems in DSTs are in the process of being incorporated as an Administrative Control in Tank Farms Technical Safety Requirements (HNF-SD-WM-TSR-006, Rev. 2).
8	Mary Lou Blazek Nuclear Safety Division Oregon Office of Energy	iv	Proposed milestone M-48-05 should also contain trigger criteria and requirements for visual examination of double shell tank annulus walls and floors.	USDOE and Ecology do not believe that additional changes to M-48-05 are required at this time. The purpose of the M-48-05 milestone was to take advantage of normal DST operations to gain further information on the primary liner that had not been visually examined previously. The milestone was designed as a "program of opportunity" to take advantage of other DST operations requiring entry into the primary tank space of DST's in a cost effective manner. In addition, USDOE feels the work is important enough that a performance based incentive was added to the CH2M HILL contract (Performance Incentive, ORP-19, dated 7/10/01) for increased video exams. These are in addition to the M-48 milestone requirements. Ecology has authority to require additional measurements should they feel it necessary.
9	Mary Lou Blazek	v	Proposed milestone M-48-06 should require	USDOE and Ecology disagree with this comment.

	Nuclear Safety Division Oregon Office of Energy		ultrasonic testing of transfer piping if possible.	Ultrasonic examination of transfer piping is difficult and expensive. DST transfer system piping is subject to pressure testing at regular frequencies, which is successfully being employed. Pipeline integrity will be addressed during the DST Dangerous Waste permitting process.
10	Mary Lou Blazek Nuclear Safety Division Oregon Office of Energy	v	The disposition plan submitted to Ecology as part of proposed milestone M-48-07 should contain an explanation of why a particular component or system will be removed from service. It should also contain a description of isolation methods, points and components as appropriate for equipment removed from service, and a description of any administrative controls required as a result of removal of these systems or components from service.	The USDOE and Ecology disagree with this comment. The regulatory requirements in 40CFR265 Subpart J and WAC 173-303, do not require a description of why equipment is removed from service. Once equipment is removed from service, it cannot be reused unless it is demonstrated that the equipment meets the requirements of the regulations. M-48-07 (and its predecessor M-48-01) was designed to aid permitting of the DST system with the goal of simply identifying all equipment within the DST system that will be permitted. There may be many reasons for removing a piece of equipment from service; however, for permitting purposes, these reasons are moot except for closure of them. Closure requirements will be described in the DST permit. Regarding methods of isolation and administrative controls; these items will be reviewed at the time they occur. M-48-07 purposely includes performance-based standards for isolation and administrative controls and avoids prescribing specific methods for doing so (i.e. isolation must occur within 12 months of completion of M-48-07 and must prevent further use of the component isolated).
11	Mary Lou Blazek Nuclear Safety Division Oregon Office of Energy	vii-x	The written integrity report required by proposed milestone M-48-14 should include a description of a path forward for any double-shell tank found out of specification during the integrity testing.	USDOE and Ecology disagree. The purpose of M-48 is to meet regulatory requirements for waste storage tank integrity testing. It would be difficult and unadvisable to predetermine a path forward for a DST before the report required under M-48-14 is completed. Furthermore, Ecology is not precluded from taking action

				under its own authorities, should a DST become out of specification.
12	Mary Lou Blazek Nuclear Safety Division Oregon Office of Energy		Proposed milestone M-48-14 contains some additional ultrasonic testing requirements beyond those contained in proposed milestone M-48-03. These seem out of place since the product associated with proposed milestone M-48-14 is the final report on double-shell tank integrity. We recommend that these inspection requirements be moved to proposed milestone M-48-03, or a separate milestone be created containing these requirements.	USDOE and Ecology disagree. We believe the work is covered although the logic is not always apparent from the milestone sequence. The additional ultrasonic testing requirements within M-48-14 (ultrasonic examination of tank bottoms) was placed in this sequence to allow time for development of equipment needed to perform these examinations. Also, M-48-14 requires that this work be completed by March 2006. M-48-03 was designed to get near-term data. M-48-02 is designed to work with M-48-14 to ensure development and testing of the required ultrasonic testing equipment is advancing, and to provide a regular status to Ecology.