

<b>Change Number</b> M-23-01-01	<b>Federal Facility Agreement and Consent Order  Change Control Form</b> Do not use blue ink. Type or print using black ink. <del>Confidential Draft, Do Not Distribute</del>	<b>Date</b> August 3, 2001																																				
<b>Originator</b> Ecology		<b>Phone</b>																																				
<b>Class of Change</b> <input type="checkbox"/> I – Signatories <input checked="" type="checkbox"/> II – Executive Manager <input type="checkbox"/> III – Project Manager																																						
<b>Change Title</b> Incorporation of compliance measures within the <u>Hanford Federal Facility Agreement and Consent Order (HFFACO)</u> . Establishment of requirements regarding the assessment of the integrity of U.S. Department of Energy (DOE) single-shell high-level radioactive mixed waste storage tanks (SSTs), associated leak detection and monitoring requirements, and associated documentation.																																						
<b>Description/Justification of Change</b> Introduction: Ecology and DOE have developed the requirements delineated within this M-23-01-01 Change Request as corrective measures following DOE's receipt of Ecology findings resulting from its single-shell tank (SST) compliance inspection, i.e., <ol style="list-style-type: none"> <li><u>Dangerous Waste Compliance Inspection Report #99-168, Single-Shell Tank Farms</u>, Steven V. Moore, Washington Department of Ecology, January 31, 2001, and</li> <li><u>Dangerous Waste Compliance Inspection of the Single-Shell Tank Facility</u>, Steven V. Moore, Washington Department of Ecology to Dr. Harry Boston, USDOE Office of River Protection and Ms. M. P. Delozier, CH2M HILL Hanford Group, February 2, 2001.</li> </ol>																																						
<b>Impact of Change</b> Establishment of requirements necessary for the determination of the integrity of DOE's SST system, for adequate SST leak detection and monitoring, and actions necessary to comply with requirements for the identification of current and past structures and waste management areas associated with DOE's SST facility.																																						
<b>Affected Documents</b> The <u>Hanford Federal Facility Agreement and Consent Order</u> , as amended, including HFFACO Action Plan Appendix D, DOE's Annual Land Disposal Restrictions Report, DOE's Tank Farm Closure/Post-Closure Workplan Update and SST Hazardous Waste Facility Permit Application Form 3, and Hanford site internal planning, management, and budget documents (e.g., DOE and DOE contractor Baselines, Baseline Change Control documents; Multi Year Work Plans; Sitewide Systems Engineering Control documents; Project Management Plans; and the Hanford site Integrated Priority List (IPL)).																																						
<b>Approvals</b> <table border="0" style="width: 100%;"> <tr> <td style="width: 40%;"><u>Michael L. L.</u></td> <td style="width: 20%;">8/14/01</td> <td style="width: 10%;"><input checked="" type="checkbox"/></td> <td style="width: 15%;">Approved</td> <td style="width: 15%;"><input type="checkbox"/></td> <td style="width: 10%;">Disapproved</td> </tr> <tr> <td>Ecology</td> <td>Date</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td><u>M.A. DeLozier</u></td> <td>8/8/01</td> <td><input checked="" type="checkbox"/></td> <td>Approved</td> <td><input type="checkbox"/></td> <td>Disapproved</td> </tr> <tr> <td>DOE</td> <td>Date</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td><u>NA</u></td> <td></td> <td></td> <td>Approved</td> <td><input type="checkbox"/></td> <td>Disapproved</td> </tr> <tr> <td>EPA</td> <td>Date</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>			<u>Michael L. L.</u>	8/14/01	<input checked="" type="checkbox"/>	Approved	<input type="checkbox"/>	Disapproved	Ecology	Date					<u>M.A. DeLozier</u>	8/8/01	<input checked="" type="checkbox"/>	Approved	<input type="checkbox"/>	Disapproved	DOE	Date					<u>NA</u>			Approved	<input type="checkbox"/>	Disapproved	EPA	Date				
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### Description/Justification of Change (continued)

See also the following correspondence:

3. **00-OSD-143**, Resolution of the State of Washington Department of Ecology (Ecology) Observations Concerning Tank Monitoring and Structural Integrity Assessment for the Single-Shell Tank (SST) System into the Hanford Federal Facility Agreement and Consent Order (Tri Party Agreement). Clifford E. Clark, USDOE Office of Regulatory Liaison to Michael A. Wilson, Washington Department of Ecology Nuclear Waste Program, November 21, 2000.
4. **00-OSD-180**, Resolution of the State of Washington Department of Ecology Observations and Findings Concerning Single-Shell Tanks, Clifford E. Clark, USDOE Office of Regulatory Liaison, to Michael A. Wilson, Washington Department of Ecology, Nuclear Waste Program, December 28, 2000.
5. **01-OPD-021**, The U. S. Department of Energy, Office of River Protection (ORP) Receipt of the State of Washington Department of Ecology (Ecology) Notice of Correction (NOC), James E. Rasmussen, USDOE Office of River Protection to Michael A. Wilson, Washington Department of Ecology Nuclear Waste Program, March 6, 2001.

The U. S. Department of Energy's Single Shell Tank Farms (SST) facility is located in the 200 East and West Areas on the central plateau of the Hanford Federal Reservation. The SST facility stores mixed waste (MW) derived from the reprocessing of nuclear fuel at Hanford that began in the 1940's. The SST facility primarily consists of 149 single shelled tanks and ancillary equipment arranged into 12 tank farms. The first SST's were constructed in 1943 and the last were constructed in 1964. As such, construction of the SSTs predated enactment of the Resource Conservation and Recovery Act (RCRA) in 1976. All are well beyond their design life. Sixty-seven (67) of the SSTs are known or assumed to have leaked. The SST facility is an interim status Treatment, Storage, or Disposal (TSD) unit within the Hanford TSD facility and as such is subject to interim status requirements of WAC 173-303 and by reference 40 CFR 265 subpart J.

The SST's contain varying types and amounts of MW. Some tanks are nearly empty and some are nearly full. In some, the waste is nearly dry while others contain significant aqueous or organic liquids in the form of interstitial or free liquids. The majority of SST waste is highly radioactive. It contains fission products and chemicals resulting from chemical separation of fissile material from irradiated nuclear fuel. Pumpable liquids within DOE's SSTs are presently being removed in accordance with the requirements of a court-approved consent decree (CT-99-5076-EFS). Additionally, certain SST waste retrieval and SST farm closure requirements are established under and governed by the parties M-45-00 milestone series.

Ecology's inspection of interim status compliance at the Hanford SST's consisted of review of current and historic records, interviews of U. S. Department of Energy (USDOE) and contractor personnel, and a facility walkdown. As a result of this inspection, Ecology has identified the following (outstanding) violations of regulatory requirements and related concerns:

#### VIOLATIONS:

1. **40 CFR 265.191 - Assessment of existing tank system's integrity by reference of WAC 173-303-400, Interim Status Facility Standards.**

USDOE did not complete an assessment of Single Shell Tank (SST) system integrity to determine that the SST system is not leaking or is unfit for use. This assessment was required to be completed by January 12, 1990, per WAC 173-303-400 (3) and 40 CFR 265.191(a).

40 CFR 265.191 further requires that the owner or operator obtain and keep on file at the facility a written assessment reviewed and certified by an independent, qualified, registered professional engineer, in accordance with § 270.11(d), that attests to the tank system's integrity.

2. **40 CFR 265.193 - Containment and detection of releases by reference of WAC 173-303-400, Interim Status Facility Standards.**

USDOE did not install secondary containment for the SST system prior to January 12, 1991, per WAC 173-303-400 (3) and 40 CFR 265.193 (a).

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**Description/Justification of Change (continued)**

**3. 40 CFR 265.195 – Inspections by reference of WAC 173-303-400, Interim Status Facility Standards.**

USDOE does not inspect all SST monitoring equipment and leak detection equipment at least once each operating day per WAC 173-303-400 (3) and 40 CFR 265.195 (a).

**4. 40 CFR 265.196 – Response to leaks or spills and disposition of leaking or unfit-for-use tank systems by reference of WAC 173-303-400, Interim Status Facility Standards.**

USDOE has not removed all waste from the SST system per 40 CFR 265.196(b) and closed the SST system per 40 CFR 265.196(e).

The following regulatory compliance concerns were also noted by Ecology.

**1. WAC 173-303-803 - Permit application requirements**

USDOE's Part A Hazardous Waste Facility permit application form 3 for the SST system does not accurately describe all current and past structures and waste management areas associated with the SST system as required by WAC 173-303-803 (3) and WAC 173-303-805.

**2. WAC 173-303-360 – Emergencies.**

Emergency response procedures were not fully utilized after a waste transfer line leak. This concern is based on Ecology observations following a January 6, 2000 leak from a waste transfer line that occurred during saltwell pumping of tank S-103 in DOE's S tank farm.

In recognition of the preceding, DOE and Ecology agree that the following HFFACO M-23-00 series milestone requirements are incorporated into the HFFACO by approval of this Change Request. Note, this change request does not address DOE's failure to install secondary containment for the SST system prior to January 12, 1991, per WAC 173-303-400 (3) and 40 CFR 265.193 (a); its failure to remove all waste from the SSTs per 40 CFR 265.196(b) by reference of WAC 173-303-400; and its failure to close the SST system per 40 CFR 265.196(e) by reference of WAC 173-303-400, and shall not be construed as affecting these violations. Nor shall this change request constitute an admission by DOE that any specific violation identified by Ecology has occurred.

M-23-21            SUBMIT REVISED HAZARDOUS WASTE FACILITY PERMIT APPLICATION            October 31, 2001  
FORM THREE (3).

DOE'S REVISED FORM 3 SHALL ACCURATELY IDENTIFY, DESCRIBE AND DEPICT ALL CURRENT AND PAST STRUCTURES AND WASTE MANAGEMENT AREAS ASSOCIATED WITH THE SST SYSTEM AS REQUIRED BY WAC 173-303-803(3) AND WAC 173-303-805.

THE SST SYSTEM IS COMPRISED OF THE ONE HUNDRED-FORTY NINE (149) SST's AND THEIR ANCILLARY EQUIPMENT. ANCILLARY EQUIPMENT WITHIN THE SST SYSTEM INCLUDES ALL SUBORDINATE TANK SYSTEMS, VAULTS, TRANSFER PIPELINES, PUMP PITS, VALVE PITS, LIFT STATIONS, CATCH TANKS, UNLOADING STATIONS, AND ANY OTHER COMPONENT THAT HAS BEEN, IS, OR MAY BE USED TO TREAT, STORE, OR TRANSFER HAZARDOUS AND/OR MIXED WASTE, WITHIN THE RCRA BOUNDARY OF THE SST SYSTEM. DOE'S SST FORM 3 SHALL INCLUDE A MAP AND DESCRIPTION DEFINING THE PROPOSED RCRA TSD BOUNDARY OF THE SST SYSTEM.

M-23-22-T01        SUBMIT DOCUMENT IDENTIFYING AND DESCRIBING DOE'S EXISTING SST        February 28, 2002  
IN-TANK SURVEILLANCE AND MONITORING PROGRAM.

THIS REPORT SHALL IDENTIFY ALL COMPONENTS OF THE SST SYSTEM, AND SHALL IDENTIFY AND DESCRIBE FOR EACH:

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**Description/Justification of Change (continued)**

- A) THE PRESENCE OR ABSENCE OF MONITORING INSTRUMENTS.
- B) MONITORING INSTRUMENT DATE OF INSTALLATION AND A DOE ASSESSMENT AS TO FUNCTIONALITY.
- C) METHODS OR PROCESSES UTILIZED FOR THE EVALUATION OF THE STATUS OF SST SYSTEM MONITORING COMPONENTS.
- D) MONITORING FREQUENCIES,
- E) LEAK DETECTION SURVEILLANCE AND MONITORING REQUIREMENTS,
- F) THE LENGTH OF TIME DOE PROPOSES THAT INSTRUMENTS MAY BE OUT OF SERVICE (FOR MAINTENANCE OR REPAIR) PRIOR TO ECOLOGY NOTIFICATION, AND
- G) DOE'S PROPOSED CHANGE PROCESS FOR MODIFYING SPECIFIC COMPONENT LEAK-DETECTION INSTRUMENTATION AS COMPONENT CONDITIONS (OR INSTRUMENTATION) CHANGES.

M-23-23

SUBMIT SINGLE-SHELL TANK SYSTEM LEAK DETECTION AND MONITORING FUNCTIONS AND REQUIREMENTS DOCUMENT FOR ECOLOGY APPROVAL

March 31, 2002

THE SST SYSTEM LEAK DETECTION AND MONITORING FUNCTIONS AND REQUIREMENTS DOCUMENT WILL IDENTIFY AND DOCUMENT THE LOCATION AND SPECIFICATION OF ALL COMPONENTS OF DOE'S EXISTING SST LEAK DETECTION AND MONITORING SYSTEM, AND WILL ESTABLISH SPECIFICATIONS FOR SYSTEM UPGRADES AND/OR PROGRAMMATIC IMPROVEMENTS. THE FUNCTIONS AND REQUIREMENTS DOCUMENT SHALL BE SUBMITTED FOR ECOLOGY APPROVAL AS AN AGREEMENT PRIMARY DOCUMENT PURSUANT TO ACTION PLAN SECTION 9.2.1, AND SHALL INCLUDE THE FOLLOWING: (1) THE IDENTIFICATION AND DETAIL OF SST SYSTEM MONITORING INSTRUMENTS, (2) THE IDENTIFICATION OF SST SYSTEM COMPONENTS NOT MONITORED BY INSTRUMENTATION, (3) PROCEDURES FOR THE EVALUATION OF INDIVIDUAL TANK AND ANCILLARY EQUIPMENT COMPONENT STATUS, (4) MONITORING FREQUENCIES AND OTHER PARAMETERS ASSOCIATED WITH THE INSPECTION AND (LEAK DETECTION) MONITORING OF THE TANK SYSTEM (5) THE NEED FOR DETECTION AND MONITORING SYSTEM UPGRADES SO AS TO ACHIEVE COMPLIANCE WITH REGULATORY AND DOE REQUIREMENTS, AND (6) ASSOCIATED BUDGETARY AND SCHEDULE ESTIMATES.

THE SST LEAK DETECTION AND MONITORING FUNCTIONS AND REQUIREMENTS DOCUMENT SHALL ALSO CONTAIN: AN ADEQUATE LEVEL OF DETAIL SO AS TO ALLOW ECOLOGY TO ASSESS THE ADEQUACY OF THE PROGRAM, A PROPOSED IMPLEMENTATION SCHEDULE FOR UPGRADES AND PROGRAMMATIC CHANGES, AND A CORRESPONDING DRAFT AGREEMENT CHANGE REQUEST.

FOLLOWING APPROVAL WORK REQUIREMENTS OF THE SST SYSTEM LEAK DETECTION AND MONITORING FUNCTIONS AND REQUIREMENTS DOCUMENT SHALL BE IMPLIMENTED AS ENFORCEABLE PRIMARY DOCUMENT REQUIREMENTS UNDER THE AGREEMENT.

M-23-24

SUBMIT SINGLE-SHELL TANK SYSTEM INTEGRITY ASSESSMENT REPORT AND ASSOCIATED CERTIFICATION(S) AND DETERMINATION(S) PURSUANT TO 40 CFR 265.191.

June 30, 2002

THIS REPORT SHALL DOCUMENT AND ASSESS THE INTEGRITY OF DOE'S SST SYSTEM PURSUANT TO THE REQUIREMENTS OF 40 CFR 265.191. THE SST SYSTEM IS COMPRISED OF DOE'S ONE HUNDRED-FORTY NINE (149) SST'S AND THEIR ANCILLARY EQUIPMENT.

**Description/Justification of Change (continued)**

THIS REPORT SHALL BE CERTIFIED BY AN INDEPENDENT, QUALIFIED, REGISTERED, PROFESSIONAL ENGINEER (IQRPE) ATTESTING TO THE TANK SYSTEM'S INTEGRITY (SEE CERTIFICATION AT M-23-24) AND SHALL CONTAIN A CONCLUSORY STATEMENT AS TO DOE'S DETERMINATION THAT THE (SST) TANK SYSTEM EITHER IS NOT LEAKING OR IS UNFIT FOR USE PURSUANT TO 40 CFR 265.191.

FOR OTHER THAN NON ENTERABLE PORTIONS OF THE SST SYSTEM WHICH DOE FINDS FIT FOR USE (PURSUANT TO 40 CFR 265.191) BY MEANS OTHER THAN LEAK TESTING PURSUANT TO 40 CFR 265.191 (b) (5), SUCH ASSESSMENT / FINDINGS MAY BE CONDUCTED IN ACCORDANCE WITH THE PRACTICES DESCRIBED IN THE AMERICAN PETROLEUM INSTITUTE (API) PUBLICATION, GUIDE FOR INSPECTION OF REFINERY EQUIPMENT, CHAPTER XIII, ATMOSPHERIC AND LOW-PRESSURE TANKS.

DOE'S REPORT SHALL HAVE THE OBJECTIVE OF DETERMINING SST SYSTEM INTEGRITY, AND WHETHER OR NOT THE (SST) TANK SYSTEM IS ADEQUATELY DESIGNED AND HAS SUFFICIENT STRUCTURAL STRENGTH AND COMPATABILITY WITH THE WASTE(S) TO BE STORED OR TREATED TO ENSURE THAT IT WILL NOT COLLAPSE, RUPTURE, OR FAIL.

THE SST SYSTEM INTEGRITY ASSESSMENT REPORT SHALL DOCUMENT, AT A MINIMUM, ALL INFORMATION GATHERED FOR THE SST 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 (b)(1) – DESIGN STANDARDS: A CONCISE AND SPECIFIC 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 STRUCTURES DESIGN STRENGTH, AND USEFUL LIFE. AN EVALUATION OF THE DESIGN LIFE OF EACH SST SYSTEM COMPONENT SHALL BE DESCRIBED, BASED ON ALL DATA GATHERED, WASTE COMPATABILITY WITH THE MATERIALS OF CONSTRUCTION, HISTORY OF CORROSION PROTECTION, OPERATIONAL HISTORY (INCLUDING ANY DOCUMENTED OR DETECTED LEAKS), SCHEMATICS DEPICTING THE LOCATION OF TANK BREACHES IF KNOWN, VISUAL EXAMINATIONS, AND ANY OTHER SOURCES OF TANK INTEGRITY ASSESSMENT INFORMATION GATHERED FOR EACH TANK AND ASSOCIATED SST SYSTEM ANCILLARY EQUIPMENT. DOE'S REPORT SHALL ALSO INCLUDE A TABULAR LISTING BY COMPONENT EQUIPMENT NUMBER, OF ALL TRANSFER PIPELINES WITHIN THE SST SYSTEM, DESCRIBING THE MATERIALS OF CONSTRUCTION, AND COMPLIANCE WITH SECONDARY CONTAINMENT REQUIREMENTS.
- B. 40 CFR 265.191 (b)(2) – HAZARDOUS CHARACTERISTICS OF THE WASTES THAT HAVE BEEN, OR WILL BE HANDLED: A CONCISE AND SPECIFIC PRESENTATION DESCRIBING THE COMPATABILITY 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, HOMOGENIETY, ORGANIC CONTENT, SPECIFIC GRAVITY, GAS RETENTION AND

**Description/Justification of Change (continued)**

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 (b)(3) – EXISTING CORROSION PROTECTION MEASURES: A THOROUGH DESCRIPTION AND HISTORY OF ALL CORROSION PROTECTION MEASURES EMPLOYED FOR ALL TRANSFER SYSTEMS (E.G., CAUSTIC FLUSHES), WITHIN EACH SST 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 SST, OR TRANSFERRED THROUGH SST TRANSFER SYSTEM LINES.
- D. 40 CFR 265.191 (b)(4) – DOCUMENTED AGE OF THE TANK SYSTEM: THE AGE OF EACH COMPONENT OF THE SST SYSTEM, INCLUDING THE SST'S AND THEIR ANCILLARY EQUIPMENT, SHALL BE DESCRIBED, INCLUDING THE COMPLETED CONSTRUCTION DATE, THE DATE PLACED IN SERVICE, AND THE DATE OF FIRST RECEIPT OF WASTE.
- E. 40 CFR 265.191 (b)(5) – RESULTS OF LEAK TEST(S), INTERNAL INSPECTION(S), OR OTHER TANK INTEGRITY EXAMINATIONS FOR EACH TANK AND ASSOCIATED ANCILLARY EQUIPMENT, INCLUDING THE FOLLOWING:

THE RESULTS OF ALL EXAMINATION(S) OF THE PRIMARY CONTAINMENT STRUCTURE OF EACH OF THE ONE HUNDRED-FORTY NINE (149) SST'S AND THEIR ANCILLARY EQUIPMENT.

THE RESULTS OF 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. ALL CORROSION STUDIES OF ANY TRANSFER PIPELINES SHALL ALSO BE INCLUDED IN THIS INTEGRITY ASSESSMENT REPORT.

THE RESULTS OF LEAK AND/OR PRESSURE TESTING, INCLUDING ASSOCIATED TESTING REGIMEN AND SPECIFICATIONS FOR ALL SST WASTE TRANSFER SYSTEMS.

A SUMMARY, IN TABULAR FORM OR OTHERWISE, OF OBSERVATIONS AND CONCLUSIONS FROM ALL VISUAL EXAMINATIONS BY DIRECT OBSERVATION OR REMOTE CAMERA SURVEILLANCE, WITHIN EACH SST. THIS SUMMARY SHALL INCLUDE OBSERVATIONS AND CONCLUSIONS FROM ALL VISUAL OBSERVATIONS BY DIRECT OBSERVATION OR REMOTE CAMERA SURVEILLANCE, TAKEN WITHIN SST SYSTEM ANCILLARY EQUIPMENT (E.G., VALVE PITS, PUMP PITS, DOUBLE-CONTAINED RECEIVER TANKS, CATCH TANKS, VAULTS, TRANSFER PIPELINES). ALL VIDEOTAPES FROM REMOTE CAMERA SURVEILLANCE SHALL BE RETAINED IN THE FACILITY'S OPERATING RECORD AND SHALL BE AVAILABLE TO ECOLOGY ON REQUEST.

CERTIFICATION BY AN INDEPENDENT, QUALIFIED, REGISTERED, PROFESSIONAL, ENGINEER (IQRPE) MEETING THE FOLLOWING REQUIREMENTS:

1. TO MEET THE REQUIREMENTS FOR "INDEPENDENT", THE IQRPE

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**Description/Justification of Change (continued)**

MUST NOT BE EMPLOYED BY ANY COMPANY THAT IS EITHER OPERATED, OR EXISTS, AS A PRIME CONTRACTOR OF THE HANFORD CONTRACT TEAM. FURTHER, THE IQRPE CANNOT HAVE WORKED FOR ANY COMPANY AS DESCRIBED ABOVE FOR A PERIOD OF ONE (1) YEAR PRIOR TO UNDERTAKING THE REVIEW OF SST SYSTEM TANK INTEGRITY ASSESSMENT WORK.

2. 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.
3. 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.

CERTIFICATION(S) OF THE SINGLE-SHELL TANK SYSTEM INTEGRITY ASSESSMENT REPORT SHALL BE BY THE FOLLOWING STATEMENT UNLESS ANOTHER 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-23-25	COMPLETE THE INSTALLATION OF LIQUID OBSERVATION WELLS (LOWs) FOR SSTs AX-103, B-101, T-101, T-109, TX-103, TX-104, B-107, B-108, B-109, BY-108, BX-110, TX-116, C-102, C-105, BX-109, TY-105, U-110, A-106, C-112, SX-111, SX-112, S-107, C-103, AND TX-105. ORDER OF INSTALLATION OF THESE LOWs SHALL GIVE PRIORITY TO THOSE CONTAINING PREDOMINANTLY SALT CAKE, OR WHICH OTHERWISE POSE A HIGHER RISK OF ENVIRONMENTAL CONTAMINATION SHOULD THEY FAIL. NOTE: LOW MONITORING FREQUENCY AND OTHER LEAK DETECTION AND MONITORING REQUIREMENTS WILL BE REVIEWED AS PART OF THE SINGLE-SHELL TANK SYSTEM LEAK DETECTION AND MONITORING FUNCTIONS AND REQUIREMENTS DOCUMENT.	September 30, 2004
M-23-25A	COMPLETE THE INSTALLATION OF LIQUID OBSERVATION WELLS (LOWs) AND BEGIN WEEKLY LIQUID OBSERVATION MONITORING FOR FOUR SSTs.	March 31, 2002
M-23-25B	COMPLETE THE INSTALLATION OF LIQUID OBSERVATION WELLS (LOWs) AND BEGIN WEEKLY LIQUID OBSERVATION MONITORING FOR FOUR ADDITIONAL SSTs.	September 30, 2002
M-23-25C	COMPLETE THE INSTALLATION OF LIQUID OBSERVATION WELLS (LOWs) AND BEGIN WEEKLY LIQUID OBSERVATION MONITORING FOR FOUR ADDITIONAL SSTs.	March 31, 2003
M-23-25D	COMPLETE THE INSTALLATION OF LIQUID OBSERVATION WELLS (LOWs) AND BEGIN WEEKLY LIQUID OBSERVATION MONITORING FOR FOUR ADDITIONAL SSTs.	September 30, 2003
M-23-25E	PROCURE NECESSARY EQUIPMENT TO SUPPORT ADDITIONAL LOW	September 30, 2003

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**Description/Justification of Change (continued)**

MONITORING SYSTEMS.

M-23-25F	COMPLETE THE INSTALLATION OF LIQUID OBSERVATION WELLS (LOWs) AND BEGIN WEEKLY LIQUID OBSERVATION MONITORING FOR FOUR ADDITIONAL SSTs.	March 31, 2004
M-23-25G	COMPLETE THE INSTALLATION OF LIQUID OBSERVATION WELLS (LOWs) AND BEGIN WEEKLY LIQUID OBSERVATION MONITORING FOR FOUR ADDITIONAL SSTs.	September 30, 2004

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