

<b>Change Number</b> M-24-02-01	<b>Federal Facility Agreement and Consent Order  Change Control Form</b> Do not use blue ink. Type or print using black ink.	September 19, 2002																																
<b>Originator</b> Jane Hedges, Ecology		<b>Phone</b> 509-736-3016																																
<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> Establish Tri-Party Agreement Interim Milestone M-024-56 for CY 2002 Resource Conservation and Recovery Act (RCRA) Well Installation																																		
<b>Description/Justification of Change</b>  <u>Introduction:</u> Regulatory requirements applicable to the generation, transport, storage, treatment, and/or disposal of hazardous and mixed wastes are established by the <i>Resource Conservation and Recovery Act of 1976 (RCRA)</i> , Washington's Hazardous Waste Management Act (HWMA), and the Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement), as amended. The Hanford Facility RCRA Permit was issued by the State of Washington, Department of Ecology (Ecology) and the U.S. Environmental Protection Agency (EPA) in August 1994. Ecology and EPA designated the Hanford Site as a single RCRA facility with over 60 individual liquid and solid waste treatment, storage and disposal (TSD) units. The Agreement recognizes that all of the TSD units cannot be permitted simultaneously and has set up a schedule for submitting unit-specific Part B RCRA/dangerous waste permit applications and closure plans to Ecology. The Agreement also establishes requirements to monitor the groundwater beneath land disposal units and the single-shell tanks (SSTs). The groundwater monitoring systems are required to meet the requirements in the State of Washington's Dangerous Waste Regulations (Washington Administrative Code [WAC] 173-303-645).  <i>Description/Justification of Change Continued on pages 2 - 4.</i>																																		
<b>Impact of Change</b> Modifies regulatory requirements governing groundwater monitoring at Hanford Site hazardous waste facilities. Administrative action required to incorporate this change into Appendix D																																		
<b>Affected Documents</b> The Tri-Party Agreement Action Plan - Appendix D, as amended and Hanford site internal planning, management, and budget documents (e.g., USDOE and USDOE contractor Baseline Change Control documents; Multi-Year Work Plans; Sitewide Systems Engineering Control documents; Project Management Plans; and, if appropriate, LDR Report requirements).																																		
<b>Approvals:</b> <table border="0" style="width: 100%;"> <tr> <td style="width: 35%;"><u>W. Wade Ballard</u></td> <td style="width: 15%;">9/24/02</td> <td style="width: 15%;"><input checked="" type="checkbox"/> Approved</td> <td style="width: 35%;"><input type="checkbox"/> Disapproved</td> </tr> <tr> <td>W. Wade Ballard, DOE IAMIT Representative</td> <td>Date</td> <td></td> <td></td> </tr> <tr> <td><u>James E. Rasmussen</u></td> <td>9/20/02</td> <td><input checked="" type="checkbox"/> Approved</td> <td><input type="checkbox"/> Disapproved</td> </tr> <tr> <td>James E. Rasmussen, ORP IAMIT Representative</td> <td>Date</td> <td></td> <td></td> </tr> <tr> <td><u>n/a</u></td> <td></td> <td><input type="checkbox"/> Approved</td> <td><input type="checkbox"/> Disapproved</td> </tr> <tr> <td>N. Ceto, EPA IAMIT Representative</td> <td>Date</td> <td></td> <td></td> </tr> <tr> <td><u>M. A. Wilson</u></td> <td>9/24/02</td> <td><input checked="" type="checkbox"/> Approved</td> <td><input type="checkbox"/> Disapproved</td> </tr> <tr> <td>M. A. Wilson, Ecology IAMIT Representative</td> <td>Date</td> <td></td> <td></td> </tr> </table>			<u>W. Wade Ballard</u>	9/24/02	<input checked="" type="checkbox"/> Approved	<input type="checkbox"/> Disapproved	W. Wade Ballard, DOE IAMIT Representative	Date			<u>James E. Rasmussen</u>	9/20/02	<input checked="" type="checkbox"/> Approved	<input type="checkbox"/> Disapproved	James E. Rasmussen, ORP IAMIT Representative	Date			<u>n/a</u>		<input type="checkbox"/> Approved	<input type="checkbox"/> Disapproved	N. Ceto, EPA IAMIT Representative	Date			<u>M. A. Wilson</u>	9/24/02	<input checked="" type="checkbox"/> Approved	<input type="checkbox"/> Disapproved	M. A. Wilson, Ecology IAMIT Representative	Date		
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Justification/Description of Change (Continued)

Currently, there are twenty-four TSD units monitored under RCRA to determine if they are impacting groundwater. The TSD units, located in various parts of the Hanford Site, include:

<u>100 AREA</u>	<u>200 EAST AREA</u>	<u>200 WEST AREA</u>	<u>300 AREA</u>
(1) 1301-N LWDF	(5) 216-A-29 Ditch	(15) 216-S-10 Pond & Ditch	(23) 316-5 Process Trenches
(2) 1324-N/N/A LWDF	(6) 216-B-63 Trench	(16) 216-U-12 Crib	
(3) 1325-N LWDF	(7) 216-B-3 Pond	(17) WMA S-SX	
(4) 183-H Solar Evaporation Basins	(8) LERF	(18) WMA T	
	(9) 216-A-10 Crib <sup>(a)</sup>	(19) WMA TX-TY	<u>600 AREA</u>
	(10) WMA A-AX	(20) WMA U	(24) NRDWL
	(11) WMA B-BX-BY	(21) LLWMA 3	
	(12) WMA C	(22) LLWMA 4	
	(13) LLWMA 1		
	(14) LLWMA 2		

(a) Combined into one RCRA Monitoring Unit

- LERF = Liquid Effluent Retention Facility
- WMA = Waste Management Area
- LLWMA = Low-Level Waste Management Area
- LWDF = Liquid Waste Disposal Facility
- NRDWL = No radioactive Dangerous Waste Landfill

RCRA groundwater monitoring requirements for TSD units fall under one of two categories: interim status or final status. A permitted or closed RCRA TSD unit requires groundwater monitoring meeting final facility standards as specified in 40 Code of Federal Regulations (CFR) 264. Interim status RCRA units (i.e., units not permitted to final facility standards) require interim status groundwater monitoring, as specified in 40 CFR 265. Ecology was authorized by the EPA to implement its dangerous waste program in lieu of the EPA's. Ecology's interim status TSD requirements, established in WAC 173-303-400, invoke 40 CFR 265 governing RCRA groundwater monitoring activities. RCRA final status TSD facilities comply with WAC 173-303-645, which specifies the groundwater monitoring requirements.

Both interim and final status groundwater monitoring are conducted under one of three possible phases: 1) indicator parameter (interim status)/detection (final status), 2) assessment (interim status)/compliance (final status), and 3) corrective action (interim or final status). Initially, a detection-level program is developed to determine and monitor the impact of facility operations on the groundwater. If the detection monitoring results indicate a statistical increase in the concentrations of key indicator parameters or dangerous waste constituents in the groundwater, than an assessment (interim status) or compliance (final status) phase of monitoring and investigation is initiated. If the source of the contaminants is determined to be the TSD unit, and those concentrations exceed maximum contaminant levels as defined in the monitoring program plan or permit, then Ecology may require corrective action to reduce the contaminant hazards to the public and environment.

The apparent shape of contaminant plumes flowing from the tank farms, the potential geologic control on the lateral dispersion of the plumes, and the changing groundwater conditions at the Hanford Site have necessitated upgrades to monitoring systems throughout the site. Changes to the groundwater flow regime have been most pronounced in the 200 East and West Areas, due primarily to the dissipation of large groundwater mounds. These areas also contain the SST Farms, which have impacted the groundwater with mixed wastes and/or mixed waste constituents and are expected to continue impacting groundwater for the foreseeable future. Tank waste releases pose significant risk to human health and the environment. Contaminants from unremediated tank waste releases have reached groundwater. RCRA Corrective Action risk assessments have not been performed at all sites. The USDOE Office of River Protection (ORP) has taken actions to reduce the potential for future SST tank waste leakage to the vadose zone through interim stabilization of the SSTs, RCRA Corrective Action interim measures and the provision of support for groundwater monitoring around the SSTs. Due to the potential risk to human health and the environment posed by tank waste releases, Ecology has focused its attention for monitoring well installation on those facilities. Therefore, all of the identified CY 2002 monitoring well locations are sited along the perimeters of the 200 West Area SST WMAs. When Ecology has determined that the monitoring wells comprising the indicator parameter monitoring systems will be able to detect contamination emanating from the tank farms, the primary focus will switch from

RCRA/HWMA interim status indicator parameter monitoring to RCRA/HWMA assessment monitoring.

During calendar year 2000, the U.S. Department of Energy, Richland Operations Office (USDOE-RL), the U.S. Department of Energy, Office of River Protection (USDOE-ORP), and Ecology conducted workshops to consider groundwater monitoring well installation needs for CY 2001. A RCRA well needs table reflecting the workshops were attached to the Milestone M-024-00M change package. The table documented the need for construction of 32 RCRA SST wells. During calendar year 2001, the USDOE-RL, USDOE-ORP, and Ecology were unable to conduct data quality objective (DQO) workshops to consider groundwater monitoring well installation needs for CY 2002. However, Ecology evaluated RCRA groundwater monitoring SST well needs and provided justification for the installation of sixty-six (59 SST wells and 7 non-SST wells) to USDOE during Milestone M-024-00N negotiations held in December 2001. Since December 2001, USDOE-RL, USDOE-ORP, EPA and Ecology have entered into discussions through an initiative referred to as "Cleanup Constraints and Challenges Team (C3T)" to develop and implement an integrated groundwater monitoring, assessment, and protection strategy for Hanford that supports multi-programmatic groundwater monitoring and remediation decisions in a timely, effective, and efficient manner. The parties have agreed to enter into a RCRA DQO process via the C3T initiative. In addition, the parties recognize that the C3T initiative may result in a modification to the Tri-Party Agreement M-024 Series Milestones.

In December 2000, Ecology performed a RCRA Comprehensive Groundwater Monitoring Evaluation (CME) inspection. The purpose of the inspection was to assess the groundwater monitoring program at the Hanford Site's T and TX-TY SST WMAs with focus on WAC 173-303-400 and 40 CFR, Subpart F interim status groundwater monitoring requirements. The CME consisted of a detailed technical and regulatory evaluation of the T and TX-TY SST WMA groundwater monitoring programs. Ecology's technical CME report, dated March 2001, and the CME inspection report, issued October 2001, documented and alleged significant deficiencies associated with the T and TX-TY WMA groundwater monitoring programs. Therefore, Ecology has placed priority on installation of the proposed groundwater monitoring wells during CY 2002 at the T and TX-TY WMAs. USDOE has responded to Ecology's findings.

Due to the engagement in the C3T initiative, Ecology and USDOE agreed to proceed with installation of 2 RCRA standard-design monitoring wells at the SST Waste Management Area TX-TY to be completed by December 31, 2002. Specific well locations are shown on the attached maps and are subject to reasonable changes due to site conditions.

In addition, USDOE and Ecology agreed to perform water quality screening to assess the presence of tank farm-derived contaminants in the aquifer deeper than the standard RCRA monitoring well design specification at the 2 well locations by extending boreholes to a minimum of 120 feet into the aquifer. Groundwater sampling via methods such as air-lift sampling will occur every 10 feet with water sample collection and in-field screening. Screening constituents will consist of: chromium, nitrate, and specific conductivity. Screening sampling will also include technetium-99, a contaminant regulated under the Atomic Energy Act.

Modifications/deletions of existing milestones are denoted using ~~redline/strikeout~~; additions are denoted with shading.

<u>Milestone Number</u>	<u>Title</u>	<u>Due Date</u>
M-024-56	Install two additional wells at SST Waste Management Area TX-TY  Location 1: Well installed down gradient (perimeter) between Well 299-W14-6 and 299-W14-14 Location 2: Well installed approximately 180 ft south of Well W-15-22 Water quality screening as described above with standard-design top-of-table well completion	12/31/2002

It should be noted that by approving this Agreement modification, the Parties also recognize that workshops will continue to occur to develop a process for the timely identification of wells to be installed in the future. These workshops will also enable USDOE to identify budget allocation needs for outyear Tri-Party Agreement Milestone M-024-00 planning purposes. This effort will be completed by December 2003. During these workshops, efforts will focus on defining a long-term planning basis for improving monitoring capabilities along the perimeters of the SST WMAs and for establishing the wells needed for groundwater assessment purposes. The circumstances that drive the design of the groundwater monitoring networks have changed since the Tri-Party Agreement Major Milestone M-024-00 was emplaced. The issues of a declining water table, changing groundwater flow paths and

distinguishing contaminant sources at the SST WMAs have complicated decisions on the number, design and emplacement of monitoring wells. Therefore, the workshops will consist of Ecology and USDOE reviewing and evaluating technical data quality objectives and establishing outyear Tri-Party Agreement milestone needs for the installation of RCRA monitoring wells. The workshops will focus on early joint prioritization, planning and scheduling to integrate the technical, regulatory, and fiscal issues into a mutually agreed-to path forward.