

ENGINEERING CHANGE NOTICE

Page 1 of 2

1. ECN 664749

Proj. ECN

2. ECN Category (mark one) Supplemental <input type="checkbox"/> Direct Revision <input checked="" type="checkbox"/> Change ECN <input type="checkbox"/> Temporary <input type="checkbox"/> Standby <input type="checkbox"/> Supersedure <input type="checkbox"/> Cancel/Void <input type="checkbox"/>	3. Originator's Name, Organization, MSIN, and Telephone No. W.R.Weir, Config. Mgmt., R1-31, 373-2189		4. USQ Required? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	5. Date 12-12-00
	6. Project Title/No./Work Order No. TWRS/Tank Farms	7. Bldg./Sys./Fac. No. 200-G	8. Approval Designator N/A	
	9. Document Numbers Changed by this ECN (includes sheet no. and rev.) RPP-6085, Rev. 0	10. Related ECN No(s). N/A	11. Related PO No. N/A	

12a. Modification Work <input type="checkbox"/> Yes (fill out Blk. 12b) <input checked="" type="checkbox"/> No (NA Blks. 12b, 12c, 12d)	12b. Work Package No. N/A	12c. Modification Work Completed N/A Design Authority/Cog. Engineer Signature & Date	12d. Restored to Original Condition (Temp. or Standby ECNs only) N/A Design Authority/Cog. Engineer Signature & Date
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13a. Description of Change

13b. Design Baseline Document? Yes No

Revise the title of the supporting document from *Configuration Management Plan for Long Length Contaminated Equipment Receivers and Transport Trailers* to now read;

PLAN [Signature] 12-18-00

Configuration Identification and Control for Long Length Contaminated Equipment Receivers and Transport Trailers

[Signature] 12-18-00

In addition, references to documents and procedures were updated, and miscellaneous editorial and administrative corrections were made.

14a. Justification (mark one) Criteria Change <input type="checkbox"/> Design Improvement <input checked="" type="checkbox"/> Environmental <input type="checkbox"/> Facility Deactivation <input type="checkbox"/> As-Found <input type="checkbox"/> Facilitate Const. <input type="checkbox"/> Const. Error/Omission <input type="checkbox"/> Design Error/Omission <input type="checkbox"/>	14b. Justification Details This revision is being made to better reflect the content of the document and to comply with CHG's overarching configuration management plan, HNF-1900, <i>Configuration Management Plan for the Tank Farm Contractor.</i>
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Configuration Identification and Control Plan for Long Length Contaminated Equipment Receiver and Transport Trailers

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Richland, WA 99352
U.S. Department of Energy Contract DE-AC06-99RL14047

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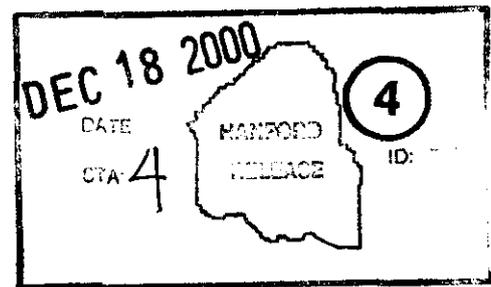
Key Words: LLCERS, Receiver Trailer, Transport Trailer, Configuration Identification, Change Control, TWRS

Abstract: Long Length Contaminated Equipment Removal System Receiver Trailers and Transport Trailers require identification and control for the design, requirements and operations baseline documents. This plan serves as those controls for the subject trailers.

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**Configuration Identification and Control Plan
for Long Length Contaminated Equipment
Receiver and Transport Trailers**

**Prepared for CH2M Hill Hanford Group, Inc.
Characterization Field Engineering Group**

by

**G. P. Janicek and R. N. Dale
CH2M HILL Hanford Group, Inc.**

December 2000

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1.0 INTRODUCTION

1.1 Background

A system to accommodate the removal of long-length contaminated equipment (LLCE) from Hanford underground radioactive waste storage tanks was designed, procured, and demonstrated via a project activity during the 1990s. The Long Length Contaminated Equipment Removal System (LLCERS) will be maintained and operated by Tank Farms Engineering and Operations organizations and other varied projects having a need for the system. Presently, stewardship of major portions of the LLCERS has been assigned to the Characterization Engineering Group within Plant Engineering, as described in RPP-3654, *Engineering Task Plan (ETN-98-0007) Stewardship of LLCERS*.

1.2 Purpose

The purpose of this document is to identify the design, requirements, and operations baseline documents for the applicable LLCERS components and to identify their change control process and associated implementing procedures.

2.0 SCOPE

The LLCERS is composed of a number of separate components acting together for the purpose of removing LLCE from Hanford nuclear waste tanks. This document is only applicable to the Receiver Trailer (RT) and the Transport Trailer (TT) that were procured in the mid 1990s per procurement specification WHC-S-0321, Rev. 1-B. These two major system components are replacement trailers for those used during the original demonstration project. To increase the reliability and ease of operation, the design of the new trailers has been revised from the original receiver and transport trailers. Any modifications to the RT and TT will be performed and documented as outlined by this document.

3.0 GENERAL DESIGN DESCRIPTION

The LLCE to be removed from underground waste tank risers is expected to range in length from 12 feet to 55 feet. Actual removal will be performed using cranes dedicated to tank farm service. Coincident with removal of the LLCE from the tank riser, the LLCE will be sleeved with a heavy plastic material and tied at each end to confine any radioactive or toxic contamination remaining after spray washing. The crane will then transport the LLCE to a skid on the RT.

The RT is outfitted with a "skid and strong back" to receive the contained LLCE. The skid is locked onto the strong back that is hydraulically raised and lowered to interface with the crane. It is placed in the raised vertical position to receive the LLCE from the crane, and then is lowered to a horizontal position in conjunction with the lowering of the LLCE by the crane.

The RT is also outfitted with a winch driven "tug" that transfers the LLCE onto the TT. The function of the tug is to push the contained LLCE and skid from on-board the RT into a burial container on board the TT. The RT is aligned and leveled to mate with the TT to perform this operation.

The TT is outfitted with a structure (i.e., chocks and tie down ratchet straps) that holds a burial container into which the LLCE package is placed. Once the LLCE package is transferred from the RT to the burial container, the container is sealed. Then the TT transports the LLCE package to a storage or burial site for removal by another crane.

4.0 CONFIGURATION IDENTIFICATION AND CONTROL

4.1 Rationale

Configuration identification and change control for the Tank Farm Contractor entails establishing and controlling the modification of the requirements, design, and operational baselines for the DOE owned facility systems, structures and components (SSCs). The rigor of control applied is graded according to the category or classification of facilities and SSCs. Categories for grading usually consider permanent vs. temporary, nuclear vs. non-nuclear, and may consider fixed vs. mobile, occupied vs. unoccupied, programmatic risk, initial/replacement cost, etc. Classifications for grading consider Safety Class (SC) vs. Safety Significant (SS) vs. General Service (GS) when referring to nuclear facility SSCs.

Note: SC, SS, and GS are defined in terms of a safety classification system for nuclear facility SSCs and are not applicable to non-nuclear facility SSCs.

The RPP procedures that govern configuration identification and control of the design baseline include HNF-IP-0842, Vol. IV, Section 3.5, *Engineering Documents*; Section 4.23, *Vendor Information*; Section 4.24, *Design Verification*; Section 4.25, *Engineering Drawings*; and Section 4.29, *Engineering Document Change Control Requirements*. These procedures contain the explicit statement that “H-series drawings shall be used to depict permanent facilities, structures, systems and components.” The procedures implicitly require that H-series drawings also be used to depict nuclear facility SSCs. In addition, the procedures state that vendor drawings can be used to document permanent or temporary facility SSCs and nuclear or non-nuclear facility SSCs; and can be utilized in a graded manner with regard to the design configuration.

The RT and TT equipment does not fall into the category of a permanent facility. The RT and TT are identified as non-nuclear, and they are not part of a nuclear facility at any time during their use. Therefore, this equipment does not require H-series drawings. Consequently, drawings that modify or add to the design, requirements or operations baseline documents for the RT and TT are not required to be H-series drawings.

Note: The configuration of the LLCE burial container and associated hardware is controlled with H-series drawings because it is analyzed and credited for compliance with DOT requirements in HNF-SD-TP-SARP-013, *Safety Analysis Report for Packaging (Onsite) Long Length Contaminated Equipment*.

The overarching discipline of configuration management, reference HNF-1900, *Configuration Management Plan for the Tank Farm Contractor*, includes the functional elements of configuration identification and change control, as presented in this plan of RPP-6085, in addition to the remaining functional elements of planning, status accounting and assessments. This plan of RPP-6085 addresses configuration management and change control in the following sections.

4.2 Approach

All vendor-furnished, RT and TT documentation including hardcopy drawings, electronic data sets (CAD files), and the RPP-6190, *Long Length Contaminated Equipment Retrieval System Receiver Trailer and Transport Trailer Operations and Maintenance Manual* will be incorporated into a vendor information (VI) file number, VIN 0022809, that will be maintained in the Certified Vendor Information System. The VI file will be maintained for historical purposes only, i.e., to document the precise materials and component configuration received from the vendor in response to the procurement specification for the RT and TT. The documents in the VI file will not be used to control the configuration of the RT and TT, will not be distributed, and will not be updated. The VI file will have a copy of this document included in it so that anyone may determine the means of control for the RT and TT. The VI file will be used only as a reference source for the equipment as originally received.

Configuration management for the RT and TT will be accomplished by exercising change control over the supporting documents that constitute the design, requirements and operational baselines.

The **Design Baseline** for the LLCERS RT and TT is defined by:

- RPP-6189, *Long Length Contaminated Equipment Retrievals System Trailers Drawings*. This document is a subset of the VI file drawings. The drawings in this supporting document are the VI file drawings identified as being required to maintain configuration control for the RT and TT of LLCERS. Many of the drawings would be considered essential in reference to H-series drawings. Drawings included in RPP-6189 are P&IDs, electrical elementary and one-line diagrams, hydraulic diagrams, and others, as needed, to complete an understanding of the RT and TT operations and maintenance manual instructions. Three copies of this document, with attached active Engineering Change Notices, will be maintained in the possession of the Characterization Cognizant Engineering organization assigned stewardship responsibilities for the RT and TT. Engineering will maintain the electronic data sets (i.e., CAD files) for the associated drawings in accordance with RPP-PRO-1819, *Engineering Requirements* and RPP-PRO-709, *Preparation and Control Standards For Engineering Drawings*. Any RT or TT drawings that need to be created, whether new or modified from original vendor drawings, will be added to the *Long Length Contaminated Equipment Retrieval System Trailers Drawings* supporting document.

The **Requirements Baseline** for the RT and TT of the LLCERS is defined by:

- WHC-S-0321, *Specification for the Handling and Transporting of Tank Farms Long-Length Contaminated Equipment*

The **Operations Baseline** for the LLCERS RT and TT is defined by:

- RPP-6190, *Long Length Contaminated Equipment Retrieval System Receiver Trailer and Transport Trailer Operations and Maintenance Manual* - Provides the operations and maintenance discussions/instructions and make reference to various labels affixed to RT and TT subsystems, equipment and components.
- HNF-3252, *General Maintenance Instructions for LLCE Transportation System*
- HNF-3069, *General Operating Instructions for LLCE Transportation System*
- HNF-3071, *Preparation and General Operating Instructions for LLCE Receiver Trailer*

- HNF-3070, *Preparation and General Operating Instructions for LLCE Transport Trailer*
- RPP-5696, *Long Length Contaminated Equipment Maintenance Plan*

The Engineering Change Notice (ECN) process will control revisions to these supporting documents listed above.

4.3 COMMENTS

It should be noted that control is applied in a graded manner for many items of Tank Farms special equipment, such as cranes, oiler trucks, etc. This plan for the RT and TT considers both the equipment complexity and the interfaces with the Tank Farm's installed systems and equipment.

Note: The RT does not interface directly with the waste tank (a non-reactor nuclear facility), but does interface with the crane that lifts the equipment from the tank. The TT does not interact with the crane or the waste tanks.

A second item of note is that typical River Protection Project past practice has been to perform virtually all control activities in the same manner as that performed for permanent, non-reactor nuclear facilities. In some cases it may have been cost-effective, but not necessary. In this instance (the case of the RT and TT), the cost benefit gained by controlling the configuration in the alternate and adequate method described is warranted.

5.0 REFERENCES

WHC 1995, *Specification for the Handling and Transport of Tanks Farms Long-Length Contaminated Equipment- WHC-S-0321*, Rev. 1-B, Westinghouse Hanford Company, Richland, Washington

CHG 1999, *Preparation and Control Standards For Engineering Drawings*, RPP-PRO-0709, Rev. 0, CH2M HILL Hanford Group, Inc., Richland, Washington

CHG 2000a, *Long Length Contaminated Equipment Retrieval System Receiver Trailer and Transport Trailer Operations and Maintenance Manual - RPP-6190*, CH2M HILL Hanford Group, Inc., Richland, Washington

CHG 2000b, *Long Length Contaminated Equipment Retrieval System Trailers Drawings - RPP-6189*, CH2M HILL Hanford Group, Inc., Richland, Washington

CHG 2000c, *RPP Administration Manual*, HNF-IP-0842, Volume IV, Section 3.5, *Engineering Documents*, CH2M HILL Hanford Group, Inc., Richland, Washington

CHG 2000d, *RPP Administration Manual*, HNF-IP-0842, Volume IV, Section 4.23, *Vendor Information*, CH2M HILL Hanford Group, Inc., Richland, Washington

CHG 2000e, *RPP Administration Manual*, HNF-IP-0842, Volume IV, Section 4.24, *Design Verification*, CH2M HILL Hanford Group, Inc., Richland, Washington

CHG 2000f, *RPP Administration Manual*, HNF-IP-0842, Volume IV, Section 4.25, *Engineering Drawings*, CH2M HILL Hanford Group, Inc., Richland, Washington

CHG 2000g, *RPP Administration Manual*, HNF-IP-0842, Volume IV, Section 4.29, *Engineering Document Change Control Requirements*, CH2M HILL Hanford Group, Inc., Richland, Washington

CHG 2000h, *Long Length Contaminated Equipment Maintenance Plan*, RPP-5696, CH2M HILL Hanford Group, Inc., Richland, Washington

CHG 2000i *Engineering Task Plan (ETN-98-0007) Stewardship of LLCERS*, RPP-3654, CH2M HILL Hanford Group, Inc., Richland, Washington

CHG 2000j *Configuration Management Plan for the Tank Farm Contractor*, HNF-1900, CH2M HILL Hanford Group, Inc., Richland, Washington

HNF 1997 *Safety Analysis Report for Packaging (Onsite) Long Length Contaminated Equipment*, HNF-SD-TP-SARP-013, Rust Federal Services Inc., Northwest Operations, Richland, Washington

HNF 1998a *General Maintenance Instructions for LLCE Transportation System*, HNF-3252, CH2M HILL Hanford Group, Inc., Richland, Washington

HNF 1998b *General Operating Instructions for LLCE Transportation System*, HNF3069, CH2M HILL Hanford Group, Inc., Richland, Washington

HNF 1998c *Preparation and General Operating Instructions for LLCE Receiver Trailer*, HNF-3071, CH2M HILL Hanford Group, Inc., Richland, Washington

HNF 1998d *Preparation and General Operating Instructions for LLCE Transport Trailer*, HNF-3070, CH2M HILL Hanford Group, Inc., Richland, Washington