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ENGINEERING TASK PLAN FOR SIMULATED RISER
INSTALLATION BY USE OF ROTARY DRILLING

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ENGINEERING DATA TRANSMITTAL

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Engineering Task Plan for Simulated Riser Installation by use of Rotary Drilling

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WHC, Richland, WA 99352

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Abstract: This task is being performed to demonstrate the feasibility of the best riser installation alternative identified in the Engineering Study. This Engineering Task Plan (ETP) will be the WHC project management plan for the riser installation demonstration activities.

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REV 0

ENGINEERING TASK PLAN
FOR
SIMULATED RISER INSTALLATION
BY
USE OF ROTARY DRILLING

Rev. 0

Engineering Task Plan No: WHC-SD-WM-ETP-175
Engineering Task Number: ETN-96-0008

November 21, 1995

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ENGINEERING TASK PLAN
FOR SIMULATED RISER INSTALLATION
BY USE OF ROTARY DRILLING

1.0 INTRODUCTION

Currently, the Westinghouse Hanford Company (WHC) is conducting a waste characterization program to characterize the waste contained in the underground Single Shell waste Tanks (SST) on the Hanford site. Waste characterization requires access to the interior of the SSTs through risers that extend above ground level. A limited number of useable risers are available on the SSTs and future characterization activities may require installation of additional risers. Due to the limited risers, an Engineering Study (Reference 1) was performed to determine the best alternative for installing new risers in the SSTs. This task is being performed to demonstrate the feasibility of the best riser installation alternative identified in the Engineering Study. This Engineering Task Plan (ETP) will be the WHC project management plan for the riser installation demonstration activities.

2.0 SCOPE

2.1 OBJECTIVES

The objective of the riser installation simulation is to show, through testing, that a 12" riser can be installed in a mocked up SST dome, using proven mechanized technology. This testing will be performed as development testing and will be controlled using the Activity Plan (Reference 2). The test plan for the simulated riser installation testing can be found in Appendix F of the Activity Plan (Reference 2).

2.2 DELIVERABLES

A final report of the riser installation simulation activities shall be prepared by ICF KH and submitted to WHC for final approval. The outline for the final report is detailed in Reference 2. Along with the final report, all procured and fabricated equipment, drawings and video recordings of the testing shall be given to WHC at the completion this activity.

3.0 DESCRIPTION

3.1 PHYSICAL DESCRIPTION

See the Activity Plan (Reference 2) for a physical description of the simulated riser installation activities. The Activity Plan also contains acceptance criteria for the simulated riser installing activities.

3.2 ENGINEERING TASKS

The Activity Plan (Reference 2) shall be the controlling field document for the simulated riser installation activities. Any changes to the scope of this activity shall be documented with ECNs to the Activity Plan.

At the end of testing activities, a test report shall be written documenting the results of the testing. The test report shall follow the outline in Appendix B of the Activity Plan.

All equipment and tools specially fabricated for this activity shall be documented by sketches. The Activity Plan (Reference 2) contains most of the sketches that will be used for fabrication of hardware, tools and equipment. If any additional tools are required for testing activities, a fabrication sketch shall be prepared to support fabrication. After testing is completed, all sketches shall be updated to show as-built configuration and shall be incorporated into the final test report. All fabricated equipment shall be permanently labeled "*NOT FOR FACILITY USE*" and appropriately disposed of after testing is completed, unless it is decided that the fabricated equipment will be qualified for field use.

3.3 FOLLOW-ON WORK

The simulated riser installation activities only test the feasibility of physically installing risers in mocked up SSTs (reinforced concrete pad beneath a column of compacted soil). The list below identifies a few of the tasks that must be completed before risers are installed in actual SSTs. A thorough list of follow-on activities will be detailed in the final test report (see Appendix B of Reference 2) along with a schedule for their completion:

- Containment equipment. The riser installation simulation activities do not test containment methods. Containment methods (tents, glove bags, shielding, temporary exhausters, etc.) to be used for actual riser installations will need to be identified and may need to be designed, built and/or procured.
- Dome loading and structural analysis. A structural analysis of the

dome must be performed to determine if the rotary coring activities will adversely effect the structural integrity of the tank domes. Also, a dome loading analysis must be performed to determine if installation equipment will effect dome loading limits.

- Safety documentation. A safety analysis will need to be prepared for riser installation activities in SSTs.
- Regulatory permitting. Components of the riser installation system will need to be permitted.

4.0 ORGANIZATION

WHC-Characterization Equipment Development (CED):

Cognizant/Project Manager: C. E. Hanson
Cognizant/Project Engineer: G. A. Barnes

CED is the responsible organization for this activity and has Cognizant signature authority for all associated project documentation. These activities are non-plant (TWRS) associated, therefore, no special cognizant engineering training is required. CED will provide project direction and funding for the Riser installation simulation activities.

ICF KH:

Project Manager: C. H. Brevick

ICF KH will be responsible for the following:

- Status project cost and schedule as required by the WHC Cognizant/Project Engineer.
- Coordinate testing/field activities as detailed in Reference 2.
- Change Reference 2 (per ECN) as needed to reflect scope changes.
- Provide appropriate safety controls during field activities.
- Maintain project files.
- Prepare and submit the final report as detailed in Reference 2.

5.0 SCHEDULE RISK INSTALLATION SIMULATION

6.0 COST ESTIMATE

WHC Project Management	\$26,480
ICF KH	\$175,220 (see Reference 2 for detailed cost estimate)
Total	\$201,700

7.0 SAFETY, ENVIRONMENTAL, AND QUALITY ASSURANCE

All equipment for the riser installation simulation is designated non-safety class per WHC-CM-4-46, Section 9.0. All documentation will have an approval designator of N/A, per WHC-CM-3-5, Section 12.7, unless otherwise specified by the WHC Cognizant/Project Engineer.

8.0 REFERENCES

1. WHC-SD-WM-ES-299, Rev 0, "Installation of New Risers in Single-Shell Tanks".
2. WHC-SD-WM-AP-034, Rev 0, "Activity Plan Simulated Riser Installation By Use of Rotary Drilling".