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		ECN No. 611892

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12. Description of Change
 The Design Criteria for the Tank Farm Storage and Staging Facilities has been revised to reflect the changes to the East Area Facility design and location.

13a. Justification (mark one) As-Found <input type="checkbox"/>	Criteria Change <input checked="" type="checkbox"/>	Design Improvement <input type="checkbox"/>	Environmental <input type="checkbox"/>
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13b. Justification Details
 The document is being revise for clarification and design changes.

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RELEASE AUTHORIZATION

Document Number: WHC-SD-W402-CR-001, REV.2

Document Title: DESIGN CRITERIA TANK FARM STORAGE AND STAGING FACILITY

Release Date: January 23, 1995

This document was reviewed following the procedures described in WHC-CM-3-4 and is:

APPROVED FOR PUBLIC RELEASE

WHC Information Release Administration Specialist:

Jamara Kohn for,
Vicky Birkland

January 23, 1995

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SUPPORTING DOCUMENT

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6. Author

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7. Abstract

This document provides the design criteria for the design of the storage and staging buildings near 272AW and 272WA buildings.

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9. Impact Level **S**

Design Criteria
Tank Farm
Storage and Staging Facilities
WHC-SD-W402-CR-001
Rev. 2

NOVEMBER 1994

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Richland, Washington

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Design Criteria
Tank Farm
Storage and Staging Facilities
Projects W-402 and W-413


Revised by: 
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TWRS Project Quality Assurance

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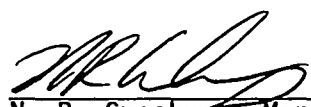
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1.0 INTRODUCTION

1.1 Background

Tank Farms Operations must store/stage material and equipment until work packages are ready to work. Consumable materials are also required to be stored for routine and emergency work. Connex boxes and open storage is currently used for much of the storage because of the limited space at 272AW and 272WA. Safety issues based on poor housekeeping and material deteriorating due to weather damage has resulted from this inadequate storage space. It has been determined that a storage building in close proximity to the Tank Farm work force would be cost effective.

1.2 Justification

Although a dollar estimate is not available, significant damage to improperly stored equipment and material has resulted due to lack of adequate storage space. Project W-402 and W-413 will provide a storage/staging area in 200 East and West Areas by the construction of two new storage facilities. The new facilities will be used by Operations, Maintenance and Materials groups to adequately store material and equipment.

1.3 Scope

These projects will provide a metal storage building in both 200 East and 200 West Areas. Project W-402 shall construct the 200 East Area facility and Project W-413 shall construct the 200 west area facility. These projects will also furnish electrical services to the facilities for lighting and HVAC. No Fire Protection shall be extended to the facilities. (Refer to Fire Hazards Analysis document WHC-SD-W402-FHA-001 and WHC-SD-W413-FHA-001.)

2.0 DESIGN PARAMETERS

2.1 Functional Requirements

The facility in the 200 East Area is roughly 3,150 square feet. The facility shall be a pre-engineered insulated metal building approximately 60 foot wide by 40 foot long by 18 foot high with a 30 foot by 25 foot covered area. This facility shall have (2)two 14' X 14' steel curtain over-head doors with electric operators, a insulated steel double door extending to the exterior, (2)two insulated steel doors on the north and south sides and a caged area of chain link fencing material with a sliding gate. The facility shall be constructed on a concrete foundation and consist of a metal roof. (Refer to Appendix A-4).

The facility in 200 West Area is roughly 3,150 square feet. The facility shall be a pre-engineered insulated metal building approximately 60 foot wide by 40 foot long by 18 foot high, with a 30 foot by 60 foot fenced and graveled area and a 30 foot by 25 foot covered area. This facility shall have (2)two 14' X 14' steel curtain over-head doors with electric operators, a insulated steel double door extending into the fenced area, (3)three insulated steel single doors and a caged area of chain link fencing material with a sliding gate. The facility shall be constructed on a concrete foundation and consist of a metal roof. (Refer to Appendix A-4).

Both facilities shall be temperature controlled and insulated. The spacing requirements for the inside of the facilities is provided in Appendix A-4.

2.2 Equipment Requirements

Neither project shall provide any additional equipment. The facilities shall not be provided with access to HLAN. Supplies for ongoing operations will not be part of these projects.

3.0 GENERAL DESIGN REQUIREMENTS

The facilities design shall conform to DOE Order 6430.1A, "General Design Criteria" of a non-nuclear Department of Energy (DOE) facility.

3.1 Site Requirements

The facilities shall be sited in the vicinity of the 272-AW and 272-WA buildings. Selection of the site will be determined by Facility Management, North Area and Site Planning prior to definitive design.

3.2 Architectural and Structural

Both facilities shall provide the specific requirements as listed below:

- The building shall be installed on a concrete foundation and the ground floor shall be above grade and incorporate storm runoff features to prevent water intrusion.
- Lighting shall be at levels recommended in the Illuminating Engineering Society Lighting (IES) Handbook.
- The building floor shall withstand a 1,000 LB wheel load capacity.
- The building shall have covered area roughly 30' by 25'.
- The building in 200 West shall have a fenced area roughly 30' by 60'.

3.3 Utilities

Electrical service for the facilities shall be from existing transformers designated by WHC prior to definitive design. The electrical system shall conform with applicable safety codes.

3.4 Energy Conservation

Both facilities shall be heated and cooled. Storage areas shall be capable of maintaining temperature at approximately 60 degrees fahrenheit, dry bulb, in the heating seasons and approximately 90 degrees fahrenheit, dry bulb, in the cooling seasons.

3.5 Natural Forces

The facilities shall be designed and constructed in accordance with DOE Order 6430.1A and the Hanford Standard Design Criteria (SDC) 4.1 "Design Loads for Facilities," as a Safety Class 4 structure.

Design for live loads shall be in accordance with DOE Order 6430.1A and ASCE-7-1988. Design for snow loads shall be in accordance with ASCE-7-1988. Design for volcanic ash loads are not required since these are Safety Class 4 facilities.

3.6 Safeguards and Security

The facilities provided by these projects shall be within the 200 East and West Areas. The facilities shall be controlled with normal lock and key doors. Security provisions shall be required by DOE Order 5632.4, Chapter VII, "Physical Protection of DOE Property and Unclassified Facilities," and WHC-CM-4-33, "Security Manual."

These projects shall not require nor provide any additional security other than complying with the Tank Farm Master Key Plan as described in the Tank Farm Security Plan.

3.7 Maintenance

Ease and minimization of maintenance shall be considered in the design of these projects.

3.8 Operating Personnel

The facilities shall not provide any permanent space for personnel. The facilities may provide temporary work area while staging material. No additional personnel will be required for these facilities.

3.9 Decontamination and Decommissioning

These projects require no decontamination or decommissioning (D&D) of any existing facilities. The facility shall not contain radioactive material. Consequently, the facility shall not require any special D&D features.

3.10 Environmental Assurance

The design and construction associated with the facilities shall be conducted in accordance with WHC-CM-7-5, "Environmental Compliance Manual." Specific consideration shall be given to WHC-CM-7-5, Section 9, "New and Modified Facilities." NEPA documentation to cover these facilities shall be prepared and issued prior to construction of facilities.

3.11 Design Life

The design life for the facilities shall either meet or exceed the Industry Standards for modular building construction or be constructed for a design life of not less than 30 years.

4.0 QUALITY ASSURANCE

Quality Assurance (QA) activities for all contractors involved with the design, construction, testing and inspection of the proposed facilities will be based on the direction provided on an Letter of Instruction (Quality Assurance Requirements).

5.0 SAFETY

The risks associated with the construction of the projects are those associated with the adjacent facilities in both 200 East and West Areas. The location of the facility in both areas are in the vicinity of the Waste Storage Tanks, and the other process facilities. The existing site work procedures now in effect are adequate for construction safety.

The operation of this facility will not present any hazards or hazardous material other than those normally accepted by the majority of the public for similar storage installations. There are no nuclear, or explosive materials associated or required with the facility.

Safety classification for the project shall comply with the Westinghouse Hanford Company, WHC-CM-1-3, MRP 5.46, "Safety Classification of Systems, Components and Structures." The highest WHC Safety Classification to be applied to the systems, structures, and/or components of this project, shall be "Nonsafety Class 4". This facility will not present any hazards other than

those normally accepted by the vast majority of the public for similar storage installations. Therefore, per WHC-CM-4-46, Section 2.0, 3.3, these projects are exempted from the requirements for Preliminary Safety Evaluations, Safety Analysis Reports and Safety Analysis Document.

6.0 CODES AND STANDARDS

The facilities provided by these projects shall comply with the general design criteria in DOE Order 6430.1A for a storage facilities. No nuclear, special materials or processes will be associated with the facilities. The DOE Order 6430.1A requirements for Special Facilities (Part 0110.99 and Division 1300) shall not apply to these projects.

The following outline defines the appropriate Codes, Standards, Regulations, Guidelines, Orders, etc., that are not defined or referenced within DOE Order 6430.1A, for these projects. The most recent issue shall apply.

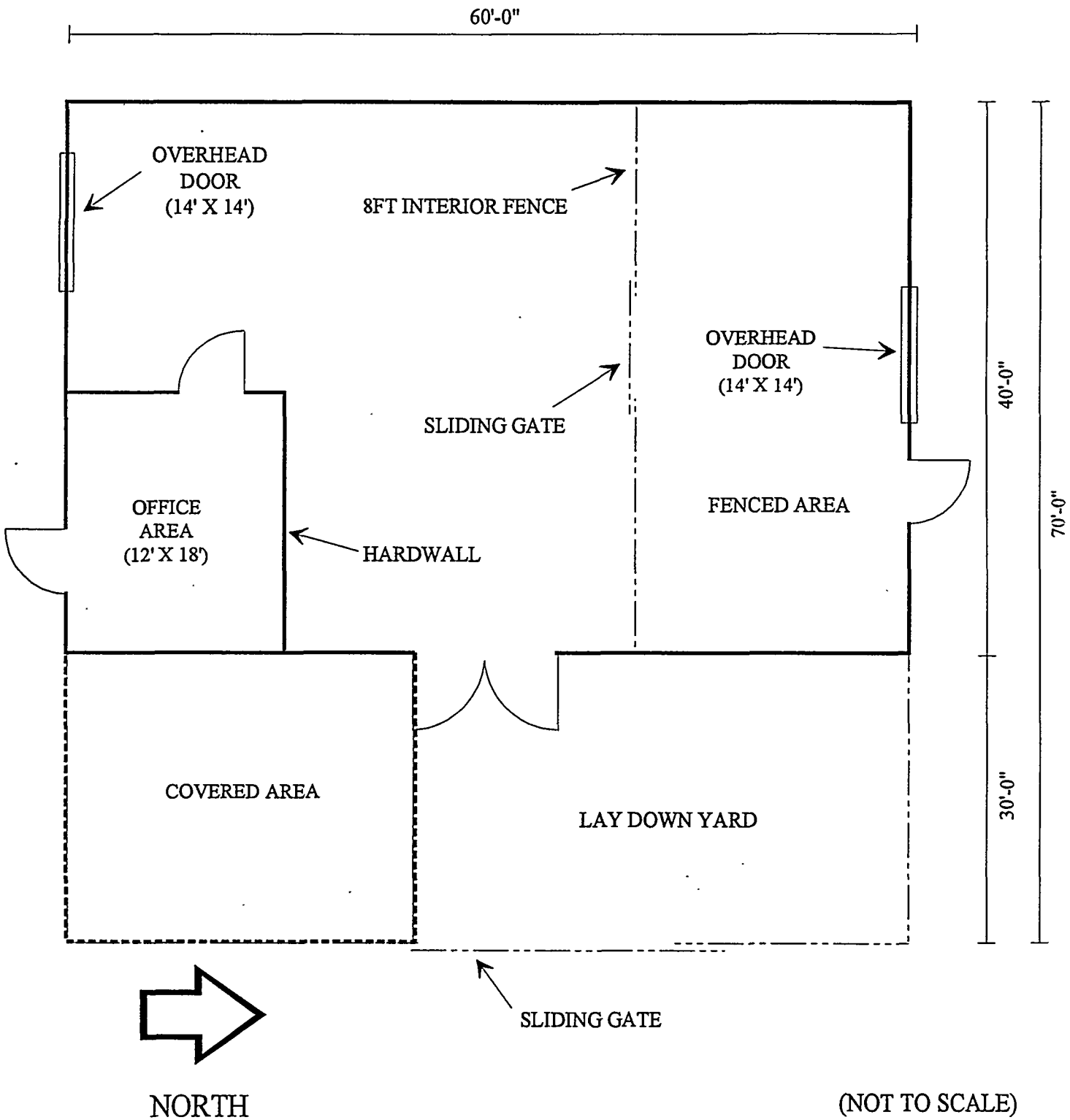
- DOE-RL Order 4700.1A, Project Management Systems
- DOE-RL Order 5440.1A, Implementation of the National Environmental Policy Act at the Richland Operations Office
- DOE-RL Order 5480.1B, Environmental, Safety, and Health program for DOE Operations
- DOE-RL Order 5480.3, Environmental, Safety, and Health Program for DOE Operations
- RLID 5480.7, Fire Protection
- DOE Order 5480.7A, Fire Protection
- DOE-RL Order 5480.9, Construction Safety and Health Programs
- DOE-RL Order 5480.10A, Industrial Hygiene Program
- DOE-RL Order 5632.6, Physical Protection of DOE Property and Unclassified facilities
- DOE-RL Order 5700.6C, 10 CFR 830.120, Quality Assurance
- DOE-RL Order 6430.1C, Hanford Plant Standards (HPS) Program
- WHC-CM-1-3, Management Requirements and Procedures
- WHC-CM-4-2, Quality Assurance Manual

- WHC-CM-4-3, Industrial Safety Manual
- WHC-CM-4-33, Security Manual
- WHC-CM-4-40, Industrial Hygiene Manual
- WHC-CM-4-41, Fire Protection Program Manual
- WHC-CM-4-46, Non-Reactor Facility Safety Manual
- WHC-CM-6-1, Standard Engineering Practices
- WHC-CM-6-2, Project Department Management Manual
- WHC-CM-7-5, Environmental Compliance

In addition to the above, applicable "National Consensus" codes and standards and pertinent state and local codes and standards shall be applied in the design of these projects.

APPENDIX A
PROPOSED SITE LOCATIONS

WEST TANK FARM STORAGE AND STAGING FACILITY (3,150 SQ. FT.)



(NOT TO SCALE)

EAST TANK FARM STORAGE AND STAGING FACILITY (3,150 SQ. FT.)

