



Team Product Document

GO Number N/A	S/A Number N/A	Page 1 of 12	Total Pages 12	Rev. Ltr/Chg. No. See Summary of Chg. B	Number EID-06144
Program Title Closure of ETEC					
Document Title RMHF Familiarization Document					
Document Type Engineering Information Document			Related Documents RMHF, Facility Familiarization		
Original Issue Date 5-24-01		Release Date 12-12-11		Approvals Date	
Prepared By/Date I. B. Bassat M. Spenard 12/6/2011		Dept. 117 N340	Mail/Addr T038 T-034	P. Rutherford D. Dassler	
IR&D Program? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If Yes, Enter Authorization No.					
Distribution			Abstract		
*	Name	Mail Addr.	This document provides a general description of the Radioactive Materials Handling Facility (RMHF). It is to be used by personnel assigned to perform activities in the RMHF, and provides the basis for the RMHF Facility Familiarization course.		
* Complete Document No Asterisk, Title Page/Summary or Change Page Only.			Reserved for Proprietary/Legal Notice		

Supporting Document Summary of Change

Rev.	Summary of Change	Approvals and Date
		No. EID-06144 Page 2 of 13
A	<p>Revised to reflect the followings:</p> <ul style="list-style-type: none"> ➤ Removal of the Evaporator ➤ Removal of some components of the Radioactive Water System ➤ Changes to the control center being only local ➤ Changes to facility usage due to the ongoing demolition 	<p>S. Gevorgiz</p> <p>R. Marshall</p> <p>R. Amar</p> <p>P. Waite</p> <p>Release 03-26-04 cv</p>
B	<p>Revised to reflect the following</p> <ul style="list-style-type: none"> ● Identify inactive buildings and areas ● Change catch basin to rainwater catch tank and delete alarm references ● Minor editorial changes ● Remove B/4022 HEPA ventilation system ● Update the Major Equipment list to reflect removal of the flatbed truck, forklift, and B/4021 crane. ● Remove restrooms from B/4034 and B/4044 ● Update procedure references ● Update building function descriptions ● Update Table-1 to note B/4021 ventilation, water, and electrical systems removal, and B/4075 electrical removal ● Update Evacuation and Facility Layout maps to reflect current conditions 	<p><i>M. Spenard</i> M. Spenard</p> <p><i>P. Waite</i> P. Waite</p> <p><i>D. Dassler</i> 12/12/11 D. Dassler</p> <p><i>R. Make</i> 12/18/2011 R. Make</p> <p><i>P. Rutherford</i> P. Rutherford 12/12/2011</p>

CONTENTS

	Page
1. ACRONYMS	4
2. GENERAL	4
2.1 Facility Description	4
2.2 Personnel	6
2.3 Major Equipment	6
3. DESCRIPTION OF FACILITIES	6
3.1 Building 4034 – Offices	6
3.2 Building 4044 – Health Physics and Break Room	6
3.3 Building 4022 – High Bay and Inactive Storage Vaults	6
3.4 Building 4021 – Decontamination/Packaging (Inactive)	7
3.5 Building 4665 – Supplies Storage (Inactive)	7
3.6 Building 4688 – Open Storage Shed	7
3.7 Building 4075 – Low-Level Radioactive Waste Storage (Inactive)	7
3.8 Building 4621 – Radioactive Materials Storage	7
3.9 Facility HEPA Ventilation System	8
3.10 Rainwater Catch Tank	8
4. SECURITY AND ACCESS	8
5. ALARMS, EVACUATIONS, AND RESPONSES	8
5.1 Evacuations	8
5.2 Emergency Re-Entry	9
5.3 Hazardous Material Spill	9
6. FACILITY DOCUMENTATION	10

TABLES

1. Building Location of Facility Utility Shutoffs	12
---	----

FIGURES

1. RMHF Facility Layout	5
2. RMHF Evacuation Route	11

1. ACRONYMS

RWP	Radiation Work Permit
BCC	Boeing Communications Center
EAA	Emergency Assembly Area
EPA	Environmental Protection Agency
ETEC	Energy Technology Engineering Center
HEPA	High Efficiency Particulate Air (Filter)
HP	Health Physicist
LLW	Low-Level Waste
MLLW	Mixed Low-Level Waste
MSDS	Material Safety Data Sheets
PIC	Person In Charge
RCRA	Resource Conservation and Recovery Act
RMHF	Radioactive Materials Handling Facility
SOP	System of Procedures

2. GENERAL

2.1 FACILITY DESCRIPTION

The Radioactive Materials Handling Facility (RMHF) serves as a storage area for radioactive waste generated during ETEC closure activities, and is the staging point for outgoing shipments of radioactive material and waste to approved disposal sites. The RMHF is an Environmental Protection Agency (EPA) Resource Conservation and Recovery Act (RCRA) Permitted Facility for the storage and treatment of mixed hazardous waste (Permit CA389009000). The facility is currently managed in a safe shutdown condition.

The facility consists of nine buildings and a high efficiency particulate air (HEPA) filtration system within a fenced perimeter. The facility layout is shown in Figure 1. The buildings include:

- Building 4034 Offices
- Building 4044 Break room and health physicist (HP) office
- Building 4022 High bay, containing seven, inactive, below-grade vaults
- Building 4021 Inactive radioactive material decontamination and packaging
- Building 4665 Inactive supplies storage
- Building 4688 Open storage shed
- Building 4658 Inactive guard shack
- Building 4075 Inactive Low-level radioactive waste (LLW) and materials storage
- Building 4621 Radioactive source, low-level radioactive material, and mixed low level waste (MLLW) storage

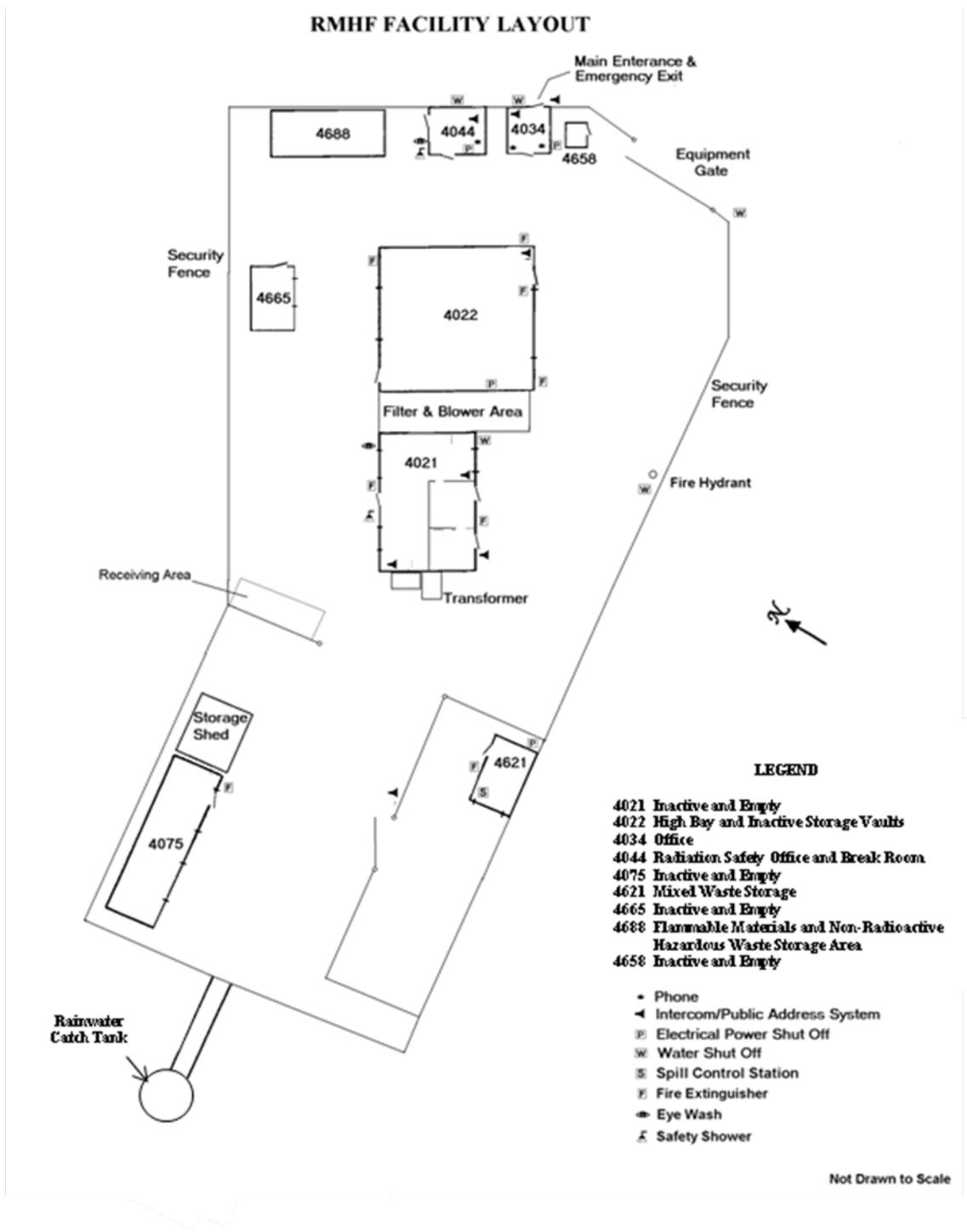


Figure 1. RMHF Facility Layout

The HEPA filtered ventilation system maintains negative pressure in B/4021 and is located adjacent to the building.

The facility also includes a rainwater catch tank, located outside the RMHF boundary fence. The facility buildings and support systems are described in Section 3.

2.2 PERSONNEL

The following personnel are normally assigned to the RMHF facility:

- Acting Manager (Person In Charge, PIC)
- Health Physicist (HP) (as required)

2.3 MAJOR EQUIPMENT

The following major equipment items are located at the RMHF facility:

- Building 4022 bridge crane (50-ton capacity)
- B/4021 High efficiency particulate air (HEPA) ventilation system

3. DESCRIPTION OF FACILITIES

3.1 BUILDING 4034 – OFFICES

- Office area for manager and engineering support personnel
- Used for records storage and protected by sprinkler system
-
- Size 32' x 18.5'

3.2 BUILDING 4044 – HEALTH PHYSICS AND BREAK ROOM

- Health physics office and break room
- Location of radiation counters for radioactive surveillance of RMHF work
- Protected by sprinklers
- Size 39' x 20'

3.3 BUILDING 4022 – HIGH BAY AND STORAGE VAULTS

- Seven below-grade, inactive and empty storage vaults were previously readied for demolition.
- Large high bay (50' x 70' x 48' high) with a 50-ton bridge crane.
- Protected by smoke detectors
- Emergency light over the south equipment door
- Doors locked during off-shift hours

The below-grade storage vaults have been prepared for facility demolition and are no longer used. They are accessed by removing the vault covers. The vaults are radioactively contaminated inside and are considered to be confined spaces requiring compliance with [Boeing Boeing PRO-1024, Confined Space Entry Program](#) and [PRO-6616, Fall Protection Risk](#)

Management. Removal of the vault covers requires initiation of EWR 9041145, “Removal of RMHF Vault Shield Blocks”. This document provides special rigging instructions for individual vault covers and for performing the crane lower limit test.

The high-bay floor is considered to be free of radiological contamination.

3.4 BUILDING 4021 – DECONTAMINATION/PACKAGING (Inactive)

- Previously deactivated in preparation for demolition. Utilities have been severed.
- Contains radiologically contaminated areas:
 - 1) Decontamination Room
 - 2) Packaging Room
 - 3) Under-floor drain lines
 - 4) Attic area including HEPA duct system
- Anti-contamination clothing is required in both the Decontamination and Packaging Rooms
- 130-foot-high ventilation system exhaust stack with radiation monitor
- Building size 60' x 50'

3.5 BUILDING 4665 – SUPPLIES STORAGE (Inactive)

- Previously deactivated in preparation for demolition. Utilities have been severed.
- Size 20' x 25'

3.6 BUILDING 4688 – OPEN STORAGE SHED

- Used for chemical and flammable materials storage
- Protected by sprinklers

3.7 BUILDING 4075 – LOW-LEVEL RADIOACTIVE WASTE STORAGE (Inactive)

- Previously deactivated in preparation for demolition. Utilities have been severed.
- Size 30' x 75'

3.8 BUILDING 4621 – RADIOACTIVE MATERIALS STORAGE

- Used for radioactive source, radioactive low level waste, and mixed waste storage
- Liquids stored in Building 4621 must be double-contained
- Fenced area outside Building 4621 is used for radioactive and mixed hazardous waste storage.
- Radiation levels in the area are shown on facility radiation survey maps posted in buildings 4034
- Size 20' x 25'

3.9 FACILITY HEPA FILTERED VENTILATION SYSTEM

- Located between Buildings 4022 and 4021
- B/4021 HEPA filtered exhaust blowers 4 & 5 must be operating prior to performing operations. Blower operation is not required for routine facility inspections
NOTE: HEPA system filters require DOS (Di-2-ethylhexyl Sebacate) efficiency testing prior to use. System operation will be required for all work other than routine inspections.
- Building 4021 air is drawn through two absolute HEPA filter banks and exhausted out the facility stack
- Surfaces inside the filter banks and the internal surfaces of the ducting are considered to be radiologically contaminated
- Facility stack is equipped with an airborne radioactivity sampling monitor

3.10 RAINWATER CATCH TANK

- Rainwater run-off from the RMHF is collected in the catch tank and pumped into the SSFL storm water system

4. SECURITY AND ACCESS

Access to the RMHF is restricted, and includes the following controls and access requirements:

- Normal entry to the RMHF is through Building 4034 and is controlled at all times by the Facility Manager and a cipher lock
- Personal dosimetry and sign-in on a Radiation Work Permit (RWP) is required for access to all areas within the RMHF, except inside Building 4034
- Operations and non-operations personnel that are allowed to enter unescorted are listed on the RMHF access list posted in Building 4034
- Properly trained Security & Fire Protection Services and Site Services personnel are allowed unescorted access after checking in with the RMHF manager, or for emergency response; personal dosimetry is required
- All others must sign in and require an escort within the RMHF
- Buildings 4034, 4022, 4021, and 4621, and the front gate, are locked during off-shift hours
- Security & Fire Protection Services respond to fire alarms and request for support in the event of an emergency
- All radiation and warning signs shall be obeyed; contact the RMHF PIC, HP, or facility personnel if in doubt about anything

5. ALARMS, EVACUATIONS, AND RESPONSES

5.1 EVACUATIONS

In the event of loss of facility power: The Building 4021 ventilation system will become inoperative. All operations in the Building 4021 Decontamination and Packaging Rooms shall stop and personnel shall exit those areas until ventilation is restored.

If it is necessary to evacuate the facility: Follow the steps in Boeing Engineering Product Document EPA-00046, “RMHF Contingency Plan,” Sections 6.6 and 6.7. A copy of the document is located just inside the entrance to Building 4034.

In the event of a public address system announcement of an evacuation: All personnel within the RMHF shall immediately evacuate the area in an orderly manner. An effort should be made by personnel inside Building 4034 to take the facility access log with them on evacuation.

The following steps shall be taken in the event of an evacuation:

- 1) Personnel shall follow the evacuation route on Figure 2 to Emergency Assembly Area (EAA) "3" (designated EAA3).
- 2) Care must be exercised to avoid stepping in tracks of personnel evacuating from the controlled areas, particularly at locations where the routes cross. Persons from controlled areas should not mix with those from the uncontrolled areas and should avoid contact with each other.
- 3) The RMHF manager or his alternate shall report to the Boeing Communication Center (BCC) on the status of the RMHF when evacuated.
- 4) A roll call shall be made to account for all personnel present according to the access log, and the results given to the BCC
- 5) The RMHF manager or his alternate shall make RMHF personnel available for assistance during the follow-up investigation to determine the cause of the alarm.
- 6) Upon receiving an “All Clear” announcement, personnel not in protective clothing shall proceed directly to the RMHF, using care to avoid stepping on the route taken by personnel in protective clothing. Personnel in protective clothing shall await instructions from Radiation Safety before leaving the Emergency Assembly Area.
- 7) Radiation Safety shall survey all evacuation routes and report the results to BCC. If radioactive contamination is found, RMHF operations personnel shall perform the decontamination, and Radiation Safety shall release the area for normal use.

5.2 EMERGENCY RE-ENTRY

Emergency reentry after an evacuation shall be in accordance with Boeing Engineering Product Document EPA-00046, “RMHF Contingency Plan,” Sections 6.6 and 6.7.

5.3 HAZARDOUS MATERIAL SPILL

The following apply to a hazardous material spills:

- Immediately notify BCC by phone, using Boeing emergency number 911 or 818-466-8911. Describe the incident and, if appropriate, request a Spill Response Team.
- The First Response Team shall be assisted by RMHF trained personnel, who are responsible for the cleanup of radioactive spills.
- Spill cleanup equipment is located in Buildings 4021, 4022 and 4621.

6. FACILITY DOCUMENTATION

Documentation describing specific aspects of the RMHF is located as follows:

Facility-specific operation and management documents, including personnel training records: RMHF Office (Building 4034)

Facility alarms and responses: Document EPA-00046, “RMHF Contingency Plan,” Sections 6.6 and 6.7. A copy of that document is located just inside the entrance to Building 4034

Facility evacuation route: Shown in Figure 2 of this document.

Facility Radiation and Contamination Surveys: *The latest radiation and contamination survey maps are available in the RMHF office (B/4034)*

Location of facility utility shutoffs: Listed in Table 1 of this document.

RMHF communications and fire protection systems: Shown in Figure 1 of this document.

Radiological safety, health, standards, work conduct, and common radiation caution signs: Boeing SSFL System of Procedures SOP C-401 and associated documents.

Material Data Safety Sheets (MSDS): Available on Boeing’s online MSDS system, accessible from the Environmental Health and Safety (EHS) website.

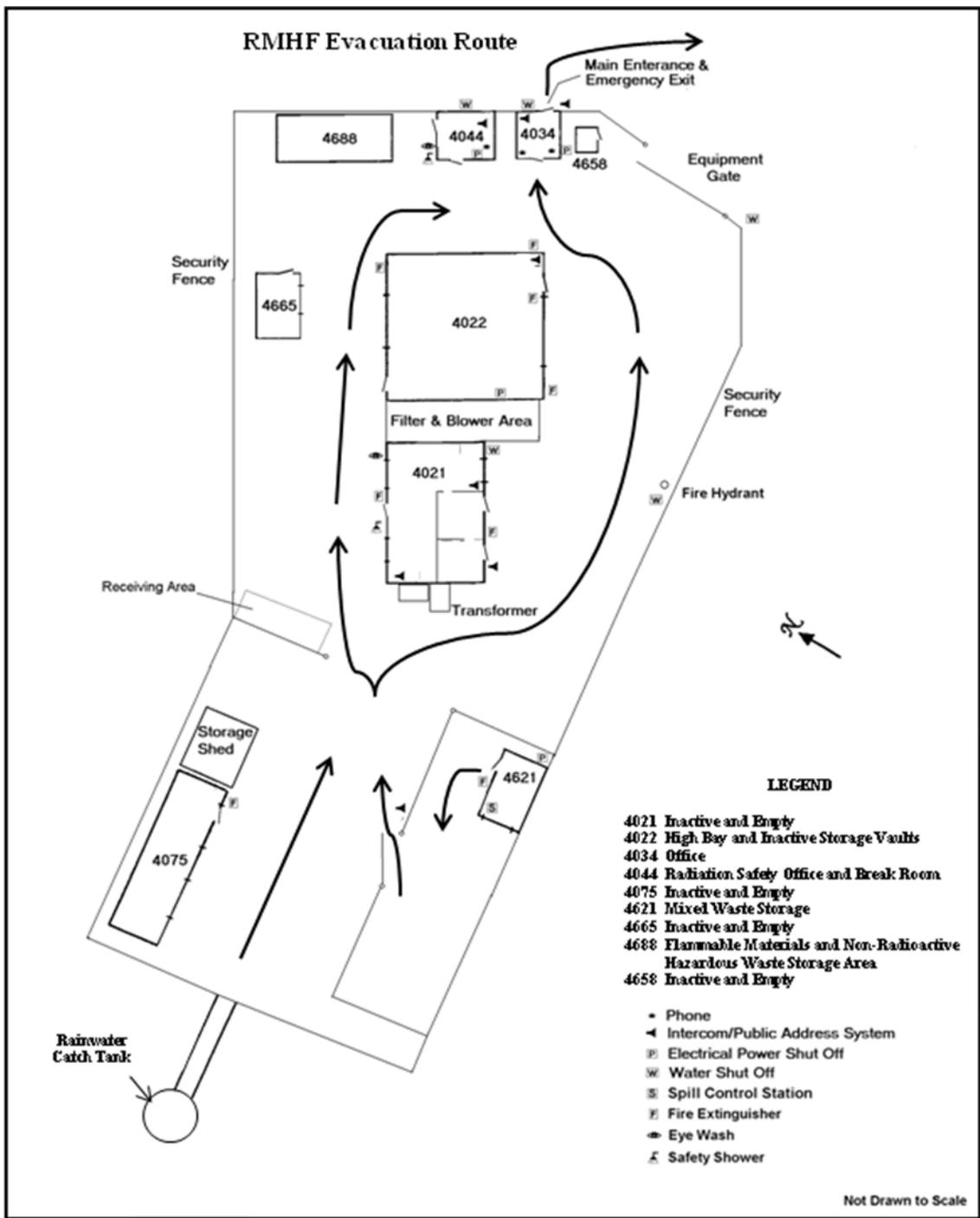


Figure 2. RMHF Evacuation Routes

