

Administrative Procedure, Level 1 - Company Wide

CPCC-PRO-SH-54851

Hazardous Biological Agents

Revision 1, Change 2

Published: 04/01/2025

Effective: 04/01/2025

Periodic Review Due Date: 07/10/2029

Program: Occupational Safety and Industrial Hygiene

Topic: Occupational Safety and Industrial Health

Technical Authority: Edwards, Jaime A

Functional Manager: Foster, Andrew L

Use Type: Administrative



USQ Facility	USQ Review	Screeners
105 KW Facility	GCX-8 (Not in Safety Basis Compliance Matrices)	Meyer, Matthew F
324 Building	GCX-8 (Not in Safety Basis Compliance Matrices)	Garrett, Robert J
Below HazCat 3	Exclusion Reason: <i>N/A per 1.3</i>	
Canister Storage Building/Interim Storage Area	GCX-8 (Not in Safety Basis Compliance Matrices)	Garrett, Robert J
Capsule Storage Area	GCX-8 (Not in Safety Basis Compliance Matrices)	Garrett, Robert J
D4ES-Central Plateau	GCX-8 (Not in Safety Basis Compliance Matrices)	Griebel, Scott D
Solid Waste Operations Complex	GCX-8 (Not in Safety Basis Compliance Matrices)	Carman, Hans M
Transportation	Exclusion Reason: <i>N/A per Section 1.3</i>	
Waste Encapsulation Storage Facility	GCX-8 (Not in Safety Basis Compliance Matrices)	Garrett, Robert J
JHA: Technical - Skill Based		
Periodic Review Due Date:07/10/2029		
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Change Summary

Description of Change

Second bullet in 3.2

NOTE should be updated to read Hepatitis A vaccination.

Section 3.2.2 and 3.2.3 should be one step rather than 2.

Hazardous Biological Agents**Published Date: 04/01/2025****Effective Date: 04/01/2025****1.0 INTRODUCTION****1.1 Purpose**

This procedure provides direction for controlling worker exposure to hazardous biological agents (HBA).

1.2 Scope

The industrial hygienist may use this procedure to document hazards and controls associated with HBA in the Industrial Hygiene Exposure Assessment (IHEA) and/or associated Industrial Hygiene Work Permit (IHWP) in accordance with CPCC-PRO-SH-17916, *Industrial Hygiene Exposure Assessments*.

Control of bloodborne pathogens is outside the scope of this procedure. Direction for control of bloodborne pathogens is provided in CPCC-PRO-SH-40143, *Bloodborne Pathogens*. Control of insects, and treatment of insect and animal bites is outside the scope of this procedure.

HBA potentially found at Central Plateau Cleanup Company (CPCCo) Operations may include, but are not limited to:

- Rodent (particularly deer mice and rats) droppings may result in airborne exposure to hantavirus, a flu-like illness characterized by fever, chills, and muscle aches.
- Rodent, bird, or bat urine or feces may result in airborne exposure to aerosolized cryptococcosis or histoplasmosis (fungal/histoplasma spores), aerosolized *Leptospira* or *Chlamydia psittaci* (bacteria), or giardiasis (parasite).
- Moldy buildings/building materials from water intrusion may result in airborne exposure to aerosolized mold spores, which may cause illness or allergic response.
- Standing water in system cooling towers, evaporative coolers in facilities, and portable evaporative cooling equipment may result in airborne exposure to legionella or giardia (bacteria).
- Human wastewater or sewage, which may result in exposure to disease through inhalation or skin/eye contact.

1.3 Applicability

This procedure applies to CPCCo work activities with potential exposure to HBAs.

1.4 Implementation

This procedure is effective upon publication.

2.0 RESPONSIBILITIES

Responsibilities associated with this procedure are identified in the process steps.

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3.0 PROCESS**3.1 Training**

Training for control of HBA includes the following for workers potentially exposed to HBA as a condition of their job assignments:

CBT 600260, *Hazardous Biological Agent Clean-Up* – as indicated in the training plan.

Respiratory Protection training may be required, as determined by the industrial hygienist (IH) or where work is considered beyond skill-based, according to CPCC-PRO-WKM-079, *Job Hazard Analysis*.

3.2 Considerations for HBA-Related Work

Take the following actions if potential HBA are present:

Actionee	Step	Action
NOTE:	•	<i>Small animal carcasses and infestation areas less than 1 square meter or less than one pound are considered minor. Upon discovery of a major infestation (≥ 1 square meter or ≥ 1 pound)), or large animal carcass, Hanford Mission Essential Services Contract's Site Services is notified.</i>
	•	<i>Workers potentially exposed to sewage or wastewater may voluntarily receive a Hepatitis A vaccination from the site occupational medical provider.</i>
IH Professional/ Employee	1.	CONSIDER all suspected biological material (e.g., rodent, bird, bat waste, mold, animal carcasses) as potential HBA.
	2.	REPORT discovered large animal carcasses and major rodent/ bird infestations to the Hanford Mission Essential Services Contract's Site Services.
	3.	LIMIT access to areas of concern and exposure time.
	4.	REMEDiate the HBA per Section 3.3, using the personal protective equipment (PPE) recommended in Table 1 and the cleaning products recommended in Table 2.

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3.3 General Guidelines for Remediating HBA

Take the following actions if potential HBA are present:

Actionee	Step	Action
	1.	<u>IF</u> the affected area is an enclosed space, <u>THEN</u> VENTILATE for 30 minutes before entry.
	2.	<u>IF</u> the affected area is a posted radiologically controlled area, OR if survey is deemed necessary by RadCon, <u>THEN</u> HAVE RadCon complete radiological survey before disturbing HBA material. CPCC-PRO-RP-325, <i>Contaminated Wildlife or Vegetation</i> provides additional guidance.
	3.	After wetting the HBA with disinfectants, LET SOAK a minimum of 10 minutes or per the manufacturer's or product recommendations. The thicker the HBA accumulation, the more wetting and/or longer soak time may be required.

NOTE: *Dry sweeping, dusting, and HEPA vacuuming are NOT generally recommended for HBA cleanup, but may be appropriate for some areas, as recommended by Occupational Safety & Industrial Hygiene (OS&IH)/RadCon.*

CAUTION:

Removal of HBA material may introduce additional uncontrolled hazards, such as asbestos, silica, or lead.

Actionee	Step	Action
	4.	REMOVE <u>AND</u> CONTAINERIZE HBA, debris, and cleaning rags/towels using wet methods.
	5.	After deactivation (soaking) of fungi/mold, REMOVE affected materials (e.g., drywall, wood, carpet) with visible mold or water damage.
	6.	BAG waste AND DISPOSE per direction from Waste Services.
	7.	DISINFECT substrate surfaces after HBAs have been removed.
	8.	DOFF work gloves AND DISPOSE as waste.
	9.	After HBA cleanup, thoroughly WASH hands with disinfectant soap before eating, drinking, smoking, applying cosmetics, etc.

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4.0 FORMS

A-6005-593, *Respiratory Protection Form* (where applicable)

5.0 RECORD IDENTIFICATION

None

6.0 SOURCES

6.1 Requirements

10 CFR 851, *Worker Safety and Health Program*
29 CFR 1910, *Occupational Safety and Health Standards*
29 CFR 1926, *Safety and Health Regulations for Construction*

6.2 References

CPCC-PRO-RP-325, *Contaminated Wildlife or Vegetation*
CPCC-PRO-SH-17916, *Industrial Hygiene Exposure Assessments*
CPCC-PRO-SH-40143, *Bloodborne Pathogens*
CPCC-PRO-WKM-079, *Job Hazard Analysis*
DOE-0352, *Hanford Site Respiratory Protection Program*
Anna, Daniel H., *The Occupational Environment: Its Evaluation, Control, and Management*, Third Edition, American Industrial Hygiene Association, Fourth Edition, Fairfax, VA, 2011

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Table 1. Personal Protective Equipment Selection Guidelines for Cleanup of Hazardous Biological Agents

Conditions of Use	Recommended PPE
Cleanup Indoors - Occupied Facilities: <u>Minor</u> rodent contamination; facility under active ventilation; JHA identifies hazards; Radiological Work Permit not required.	Nitrile, latex, or surgeon's gloves Safety glasses with side shields or non-vented goggles
Entry/Remediation of areas not under active ventilation or not occupied on a daily basis: <u>Minor to moderate (less than 1 square meter or 1 pound of contaminated material)</u> HBA contamination; facility or area can be ventilated and/or exposed to sunlight, as feasible.	Nitrile, latex, or surgeon's gloves. Safety glasses with side shields or non-vented goggles Disposable coveralls
Entry/Remediation of areas not under active ventilation or not occupied on a daily basis: Remediation of <u>moderate to heavy</u> HBA contamination, facility or area with limited ventilation and/or other hazards is performed under the Hanford Site Mission Essential Services Contract.	Not applicable--not performed by CPCCo employees.

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Table 2. Recommended Sanitizer Selection

CAUTION: Use only one approved product per clean-up activity.

Mixing of products will cause potential chemical incompatibility and adverse health effects.

Type of Biohazard	Approved Products ¹	Active Ingredient	Approximate Contact Times
Fungi/Molds (e.g., <i>Candida</i> , <i>Cryptococcus</i> , <i>Aspergillus</i> , <i>Dermatophytes</i>) Vegetative Bacteria (e.g., <i>Staphylococcus</i> , <i>Salmonella</i> , <i>Mycobacterium tuberculosis</i> , <i>Pseudomonas</i> , <i>Leptospira</i> , <i>coliforms</i>) Enveloped Viruses (Hantavirus, herpes, measles, mumps, rubella, influenza, respiratory syncytial, HIV) Bird/Bat Droppings (may contain fungal spores such as <i>Histoplasma</i> ; bacteria such as <i>Salmonella</i> , <i>Leptospira</i> , <i>chlamydia psittaci</i> ; and viruses) Standing water in system cooling towers, evaporative coolers, portable evaporative cooling equipment (may contain legionella or giardia)	Oxivir TB	Hydrogen Peroxide	Consult the product label for recommended contact times. Generally, 10 minutes of wet contact time.
	Lemon HG	Quaternary Amines (ammonia)	
	Bleach ²	Sodium Hypochlorite	
Human wastewater or sewage spills (may contain bacteria, viruses, and parasites, such as giardia)	Bleach ²	Sodium Hypochlorite	2 hours minimum

1. This is not an all-inclusive list of approved products. Other products of similar active chemical base and listed by the manufacturer as being effective for their intended use would be acceptable.

2. Bleach requires a waste services evaluation prior to use.

Rodent/mice dropping cleanup: 1.5 cups household bleach to 1 gallon water; make bleach before use. <https://www.cdc.gov/healthypets/pets/wildlife/clean-up.html>

Mold cleanup: disinfect surfaces with ½ cup household bleach in 1 gallon water; make fresh before use.

<https://www.osha.gov/sites/default/files/publications/OSHA3691.pdf>