

# Consideration of Building Surface Hazards in Cleanup Decisions



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Date: January 6, 2020

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# 1. Purpose

The purpose of this document is to provide DEQ Cleanup Program Project Managers guidance for managing environmental cleanup sites where residual hazardous substances are present or are suspected to be present on or in interior building surfaces. This document describes when and how potential building surface hazards will be considered during the assessment and cleanup of industrial and commercial properties under Oregon environmental cleanup law, Oregon Revised Statutes 465. This directive presents recommended actions to ensure property owners, prospective purchasers, and their contractors are aware of the potential chemical hazards within site buildings at cleanup projects, and including precautionary language in No Further Action (NFA) determinations as appropriate. This document includes a conceptual site model (Attachment A) and procedure (Attachment B) for considering interior building surfaces for new projects involving buildings that may feature residual hazardous substances and for which redevelopment for general public use or occupancy is planned. See Attachment C for examples of project scenarios that further clarify the purpose of this directive.

## **2. Applicability**

This document applies to Cleanup Program Project Managers conducting oversight of cleanup and/or redevelopment projects, performing site assessment, or providing brownfield technical assistance.

### 3. Summary

ORS 465 provides authority to DEQ to assess, characterize and clean up releases of hazardous substances to the environment, and may require parties responsible for the release to complete these actions. As such, the Cleanup Program only addresses sites where there has been a “release” of a “hazardous substance” to a media that fits within the definition of “environment.” These terms are defined under ORS 465.200 and OAR 340-122-0115.

The Cleanup Program does not address hazardous substance releases within a workplace where the only exposure risk to hazardous substances is to workers covered under ORS Chapter 656. The definition of a “release,” under ORS 465.200(22), excludes “Any release that results in exposure to a person solely within a workplace, with respect to a claim that the person may assert against the person’s employer under ORS Chapter 656.”

Workplace hazards and exposure limits for site workers are regulated by the Oregon Occupational Safety and Health Administration (OSHA). OSHA workplace standards are generally less stringent than the Cleanup Program’s human health risk-based concentrations.

The Cleanup Program may require investigation and/or cleanup of building hazards on a case-by-case basis where there is legacy contamination from previous facility operations and where site redevelopment will result in regular public access that could present significant risks to people who are not subject to ORS Chapter 656 (i.e., OSHA).

Facilities with a history of interior industrial or commercial operations that produced or handled hazardous substances pose the highest concern for indoor building surfaces. At the start of a project, it is important to review the available facility history to determine processes and chemicals used in site operations to assess the likelihood of interior building surface contamination.

Cleanup Program project managers (PMs) should encourage responsible parties (RPs) to assess building hazards where operations involving hazardous substances have been discontinued or occurred in the past, if the RP is seeking a No Further Action (NFA) determination as a condition of property sale. If deemed necessary by DEQ, the assessment shall involve the RP retaining a Certified Industrial Hygienist (CIH) to complete an evaluation and report on their findings. RPs shall rely on the CIH’s opinion as a measure of the safety of the building, similar to current practices of accepting technical reports certified by others (such as heating oil tank removal reports, and asbestos or lead surveys). CIHs are qualified to evaluate building interiors and provide an opinion on whether a building is safe for occupancy under the current and planned uses. CIHs can evaluate sampling results by comparing them against a broad array of criteria.

DEQ's NFA determination should document the status of indoor building spaces used for operations involving hazardous substances. The NFA should reflect that building spaces were evaluated and cleared for hazards by a CIH, and the administrative record for the project should identify their certification and supporting report. The NFA template has been modified slightly to prompt PMs to include this information.



## 4. References

- NFA Letter Template: <http://deqsps/programs/cleanup/Lists/cpbd/ByTopic.aspx> under “Decision Documents”
- NFA Staff Memo Template: <http://deqsps/programs/cleanup/Lists/cpbd/ByTopic.aspx> under “Decision Documents”
- Kick-Off Meeting Checklist: <http://deqsps/programs/cleanup/Lists/cpbd/ByTopic.aspx> under “PM Tools -Project Startup”
- Information about DEQ’s No Further Action Decisions: <https://www.oregon.gov/deq/FilterDocs/NoFurtherActionDecisions.pdf>
- OHA-DEQ Memorandum of Understanding (2017): <http://deqsps/programs/cleanup/Lists/cpbd/ByTopic.aspx> under “PM Tools -Project Startup”
- [DEQ Accessing DOJ Services Policy](#)
- [Oregon Revised Statutes Chapter 465](#)
- [Oregon Administrative Rules Chapter 340, Division 122](#)
- [Comprehensive Environmental Response, Compensation, and Liability Act, list of hazardous substances](#)
- [Oregon Occupational Safety and Health: https://osha.oregon.gov/Pages/index.aspx](https://osha.oregon.gov/Pages/index.aspx)
- [Oregon Health Authority: https://www.oregon.gov/oha/PH/HEALTHYENVIRONMENTS/Pages/index.aspx](https://www.oregon.gov/oha/PH/HEALTHYENVIRONMENTS/Pages/index.aspx)

# 5. Definitions

## Environment

ORS 465.200(12): “Environment” includes the waters of the state, any drinking water supply, any land surface and subsurface strata, and ambient air.

OAR 340-122-0115(24): “Environment” includes ecological receptors, the waters of the state, any drinking water supply, any land surface and subsurface strata, sediments, saturated soils, subsurface gas, or ambient air or atmosphere.

## Facility or Site

ORS 465.200(13): “Facility” means any building, structure, installation, equipment, pipe or pipeline including any pipe into a sewer or publicly owned treatment works, well, pit, pond, lagoon, impoundment, ditch, landfill, storage container, above ground tank, underground storage tank, motor vehicle, rolling stock, aircraft, or any site or area where a hazardous substance has been deposited, stored, disposed of, or placed, or otherwise come to be located and where a release has occurred or where there is a threat of a release, but does not include any consumer product in consumer use or any vessel.

OAR 340-122-0115(26): “Facility” or “Site” means any building, structure, installation, equipment, pipe or pipeline including any pipe into a sewer or publicly owned treatment works, well, pit, pond, lagoon, impoundment, ditch, landfill, storage container, above ground tank, underground storage tank, motor vehicle, rolling stock, aircraft, or any site or area where a hazardous substance has been deposited, stored, disposed of, or placed, or otherwise come to be located and where a release has occurred or where there is a threat of a release, but does not include any consumer product in consumer use or any vessel.

## Hazardous Substance

ORS 465.200(16): “Hazardous substance” means:

- a) Hazardous waste as defined in ORS 466.005.
- b) Any substance defined as a hazardous substance pursuant to section 101(14) of the federal Comprehensive Environmental Response, Compensation and Liability Act, P.L. 96-510, as amended, and P.L. 99-499.
- c) Oil.
- d) Any substance designated by the commission under ORS 465.400.

OAR 340-122-0115(30): “Hazardous substance” means:

- a) Hazardous waste as defined in ORS 466.005;
- b) Any substance defined as a hazardous substance pursuant to section 101(14) of the federal Comprehensive Environmental Response, Compensation and Liability Act, P.L. 96-510, as amended, and P.L. 99-499;
- c) Oil as defined in ORS 465.200(18); and
- d) Methane generated at a historic solid waste landfill; and
- e) Any substance designated by the commission under ORS 465.400.

**Release**

ORS 465.200(22) and OAR 340-122-0115(44): “Release” means any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping or disposing into the environment including the abandonment or discarding of barrels, containers and other closed receptacles containing any hazardous substance, or threat thereof, but excludes:

- (a) Any release that results in exposure to a person solely within a workplace, with respect to a claim that the person may assert against the person’s employer under ORS Chapter 656;
- (b) Emissions from the engine exhaust of a motor vehicle, rolling stock, aircraft, vessel or pipeline pumping station engine;
- (c) Any release of source, by-product or special nuclear material from a nuclear incident, as those terms are defined in the Atomic Energy Act of 1954, as amended, if the release is subject to requirements with respect to financial protection established by the Nuclear Regulatory Commission under section 170 of the Atomic Energy Act of 1954, as amended, or, for the purposes of ORS 465.260 (Removal or remedial action) or any other removal or remedial action, any release of source by-product or special nuclear material from any processing site designated under section 102(a)(1) or 302(a) of the Uranium Mill Tailings Radiation Control Act of 1978; and
- (d) The normal application of fertilizer.

## 6. Acronyms Used in this IMD

CIH – Certified Industrial Hygienist  
CSM – Conceptual Site Model  
DEQ – Department of Environmental Quality  
DOJ – Department of Justice  
ESA – Environmental Site Assessment  
LUST – Leaking Underground Storage Tank  
NFA – No Further Action  
OAR – Oregon Administrative Rules  
OHA – Oregon Health Authority  
ORS – Oregon Revised Statutes  
OSHA – Occupational Safety and Health Administration  
PM – Project Manager  
REC – Recognized Environmental Condition  
RP – Responsible Party

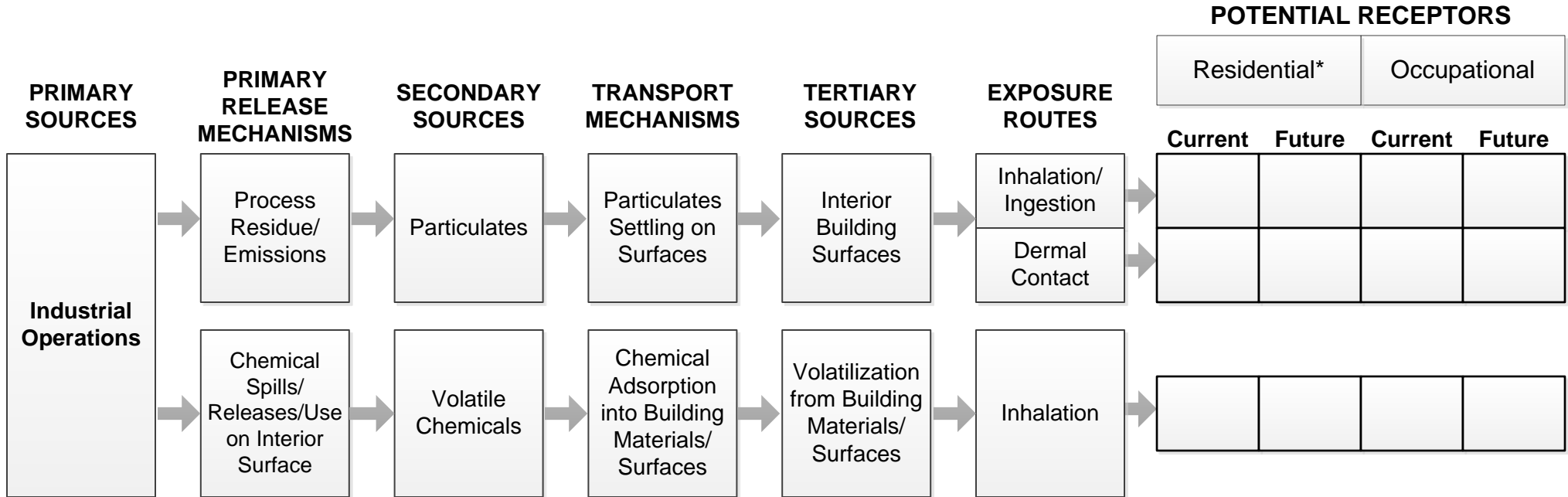
## 7. Record of Revisions to IMD

Revision	Date	Changes	Editor
New IMD	12/31/2019	N/A	Jessika Cohen

# Attachment A

## Conceptual Site Model for Considering Building Interiors in Environmental Cleanup Decisions

The Conceptual Site Model illustrates how operational releases of hazardous substances can migrate to building surfaces, and potential exposure routes for site workers or visitors.



\*Specify if urban residential or single-family residential. Include separate columns for these exposure scenarios if necessary.  
 Use "+" to indicate a potentially complete exposure pathway.  
 Use "-" to indicate the exposure pathway is incomplete.

# Attachment B

## Procedure

1. At the project kickoff meeting the DEQ Project Manager (PM) should make the responsible party (RP) aware of any concerns they may have regarding the potential for residual contamination on interior building surfaces from operational releases, and discuss operation history. Refer to the “Kick-Off Meeting Checklist for Cleanup Projects” on SharePoint at: <http://deqsps/programs/cleanup/Lists/cpbd/ByTopic.aspx>, under “PM Tools – Project Startup.”
2. The PM will confer with their Lead Worker, project peer or Regional Cleanup Manager about current or future use of the site to determine whether additional evaluation of building surfaces is needed as part of this project. The Regional Cleanup Manager may consult with DEQ’s Land Quality Legal Policy Analyst as needed to make this determination.
3. If the PM determines no additional evaluation is needed, the PM should continue with other applicable site investigation and cleanup. PMs should note in the Staff Memo or No Further Action (NFA) letter that building interiors were considered and determined not to be of potential concern at the time, based on known historic and current uses.
4. If the PM determines additional evaluation is needed, the PM should consider consulting with Oregon Health Authority (OHA). See OHA-DEQ Memorandum of Understanding (2017) at <http://deqsps/programs/cleanup/Lists/cpbd/ByTopic.aspx>, under “PM Tools – Project Startup.”
5. If consultation is needed, the PM should convene a meeting with the site applicant, OHA and DEQ to discuss how best to determine the need for and satisfactory completion of hazard assessment and mitigation. A communication plan may be considered.
6. The RP contracts with a CIH to conduct the assessment and submit a report documenting the building interior conditions and whether contaminant concentrations on building surfaces pose a significant health hazard for current or future site occupants. If the CIH certifies conditions are safe, proceed with remaining site assessment and cleanup, and document findings on building safety in the NFA determination.

If the CIH concludes building contamination poses a health hazard for site occupants, the PM should immediately coordinate with and review the CIH conclusions and recommendations, which will be implemented by the RP. At the completion of the project, the PM should note in the NFA letter that the building interiors were evaluated with contaminants of concern mitigated, and deemed safe based on current and likely future uses.

# Attachment C

## Examples of Project Scenarios

### **Example 1: Lead battery manufacturing building repurposed for mixed-use commercial where the public/customers use the building**

A lead battery manufacturing company entered the Voluntary Cleanup Pathway (VCP). Only soil and groundwater media was evaluated. In the 1990s, the site received a Conditional No Further Action (NFA) determination with an Easement and Equitable Servitude (EES) with only industrial use permitted. The building was later sold. The new owner repurposed the building for mixed-use commercial tenancy, which included a skating rink, batting cages, CrossFit gym, catering company, and brew pub. DEQ's Cleanup Program subsequently approved the property to be used for commercial. When the owner began working with the Cleanup Program to further lift restrictions on the property someone brought up the question whether there was lead on building surfaces. The owner collected wipe samples, which appeared to show very high levels of lead. The Cleanup Program lacks risk-based concentration screening levels for wipe samples to determine whether levels meet its acceptable risk standard. Given the potentially high concentrations of lead, DEQ contacted the Oregon Health Authority (OHA). OHA expressed concern over the levels, which prompted the Cleanup Program and OHA to request that the owner close the building until further assessment and abatement. The owner cooperated and hired a Certified Industrial Hygienist to plan and oversee further sampling and the abatement work. The Oregon Occupational Safety and Health Administration (OSHA) provided oversight of sampling and monitored abatement workers. Building abatement involved a combination of cleaning and encapsulation in some areas. The abatement work took nearly a year to complete. In this case, OHA and DEQ recommended using U.S. Department of Housing and Urban Development's residential lead screening levels as cleanup levels. The Cleanup Program issued a Conditional NFA and revised EES, which requires regular inspection of the encapsulated areas and an action plan to ensure those areas are maintained and undisturbed.

### **Example 2: Metal plating facility repurposed for an industrial arts/technical high school**

This case involves the Cleanup Program's review of a former metal plating facility that was repurposed for an industrial arts/technical school.

In 1993, the U.S. EPA conducted a screening level Site Inspection and determined that No Further Remedial Action was needed. This determination and several Phase I Environmental Site Assessments (ESAs) did not identify former plating operations as a Recognized Environmental Condition (REC). As such, the owner was led to believe that no environmental cleanup or investigation was needed.



After the business closed, the owner donated the building to be developed as a high school. The school district later hired a consultant to conduct a new Phase I ESA after the building had already been partially repurposed for an industrial arts/technical high school and the building was opened to students. This Phase I identified the former plating operations as a REC. It was not until hexavalent chromium was detected in shallow soils and groundwater at the site that the Cleanup Program was informed of the situation and asked to provide oversight. Based on information from the soil and groundwater investigation and experience at the battery manufacturer (Example 1 above), the Cleanup Program recommended that the school district hire a CIH to evaluate building interior surfaces where former plating activities occurred. The CIH conducted an assessment and concluded that residual levels of hexavalent chromium were safe for the planned use of the facility as a school. When the Cleanup Program issues the NFA determination letter it will document that the building surfaces were evaluated by a CIH and found to be safe for current uses.

### **Example 3: Scenarios where OSHA apply**

**Operating dry cleaner.** Assume the Cleanup Program is providing oversight for releases at a dry cleaners that is located in a strip mall. Besides very short duration visits to drop off or pick up dry-cleaning, the only people exposed to hazardous substances **in the building** are the dry cleaner shop workers. Workers could be exposed to solvents from ongoing dry cleaning operations. Worker exposures are covered by OSHA, not DEQ Cleanup Program rules.

**Operating agricultural chemical distribution facility.** Assume the Cleanup Program is providing oversight and will review soil and groundwater investigation reports for the facility. The only people that regularly go in the building are employees of the company. Ongoing operations at the facility could result in contamination on building surfaces, potentially exposing people in the building. Worker exposures are covered by OSHA, not DEQ Cleanup Program rules.

### **Example 4: Scenarios where DEQ Cleanup Program rules apply**

**Former dry cleaners (now a rental agency).** Former dry cleaning operations left residual dry cleaning solvent contamination on building surfaces. There were signs of spills on the concrete floor and contaminants have impacted the soil and groundwater. The building is now used as a rental agency. Workers at the rental agency are exposed to the contaminated air from the building surface and possibly from vapor intrusion. OSHA rules would not protect the workers from this particular contamination. DEQ Cleanup Program rules would apply.

**Pizza parlor located next to a dry cleaner in a strip mall.** A pizza parlor is located in a strip mall immediately adjacent to an operating dry cleaner. Dry cleaning solvent spills have contaminated the dry cleaner building. The contamination has migrated under the building and solvent vapors are impacting the workers and customers at the pizza parlor. OSHA rules would

not apply to the workers because dry cleaning solvent is not used in the pizza parlor. DEQ Cleanup Program rules would apply.

**Former agricultural supply building (now a weight lifting gym):** A former agricultural supply warehouse has been repurposed and is now used as a weight lifting gym. Residual contamination on the building surfaces may expose workers and clients at the gym. OSHA would not apply to the workers because pesticides are not used in the weight lifting gym business. DEQ Cleanup Program rules would apply.