

# *Lab Decontamination & Chemical Moves*



# Overview

- Liabilities Around Lab Decon/Lab Move
- Overview of ANSI Standard
- Decontamination
- Chemical Moves
- Q&A

# Decontaminations

## **OSHA Demolition Standard [29 CFR 1926.850(e)]:**

*"It shall also be determined if any type of hazardous chemicals, gases, explosives, flammable materials or similarly dangerous substances have been used in any pipes, tanks, or equipment on the property.*

*"When the presence of any such substances is apparent or suspected, testing and purging shall be performed and the hazard eliminated before demolition is started."*

Chemical



Radioactive



Biological



# Common Scenarios

- Relocation off-site
- Internal move
- Renovations
- Closure of facility
- Owned vs. non-owned



# Liabilities Associated with Laboratory Occupancies

## ENTERING

- Previous use?
- Poor housekeeping
- Residual chemicals (surfaces, drains, HVAC, etc.)
- Unknown or poorly documented decontamination
- Exposure to contractors and occupants

# Liabilities Associated with Laboratory Occupance

## LEAVING

- Lease obligations?
- Uncertainly if space is “clean”
- Occupant and contractor safety
- Claims when vacating space
- Unexpected costs!

# Obstacles of Decon

- Lease Obligations are typically vague
- No Set Regulatory Guidance
- Typical arguments from both parties on process with little to no supporting documentation
- Lawyers
- Chaotic enough with the move
- EH&S is typically responsible for this phase

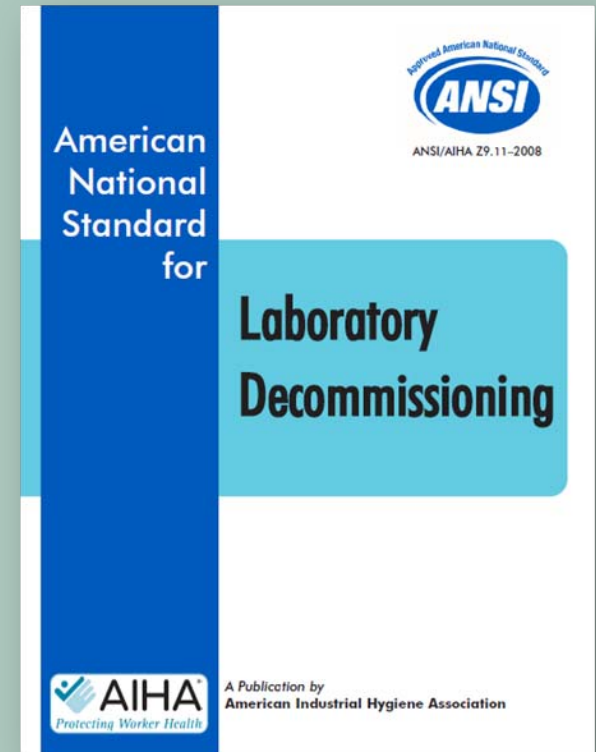
# EH&S Goals

- Smooth Transition - Minimize costs
- Prevent/reduce potential exposures
- Reduce risks/liabilities
- Address regulatory requirements
- Environmental stewardship
- Eliminate potential for Community reaction – bad press



# Decontamination Process

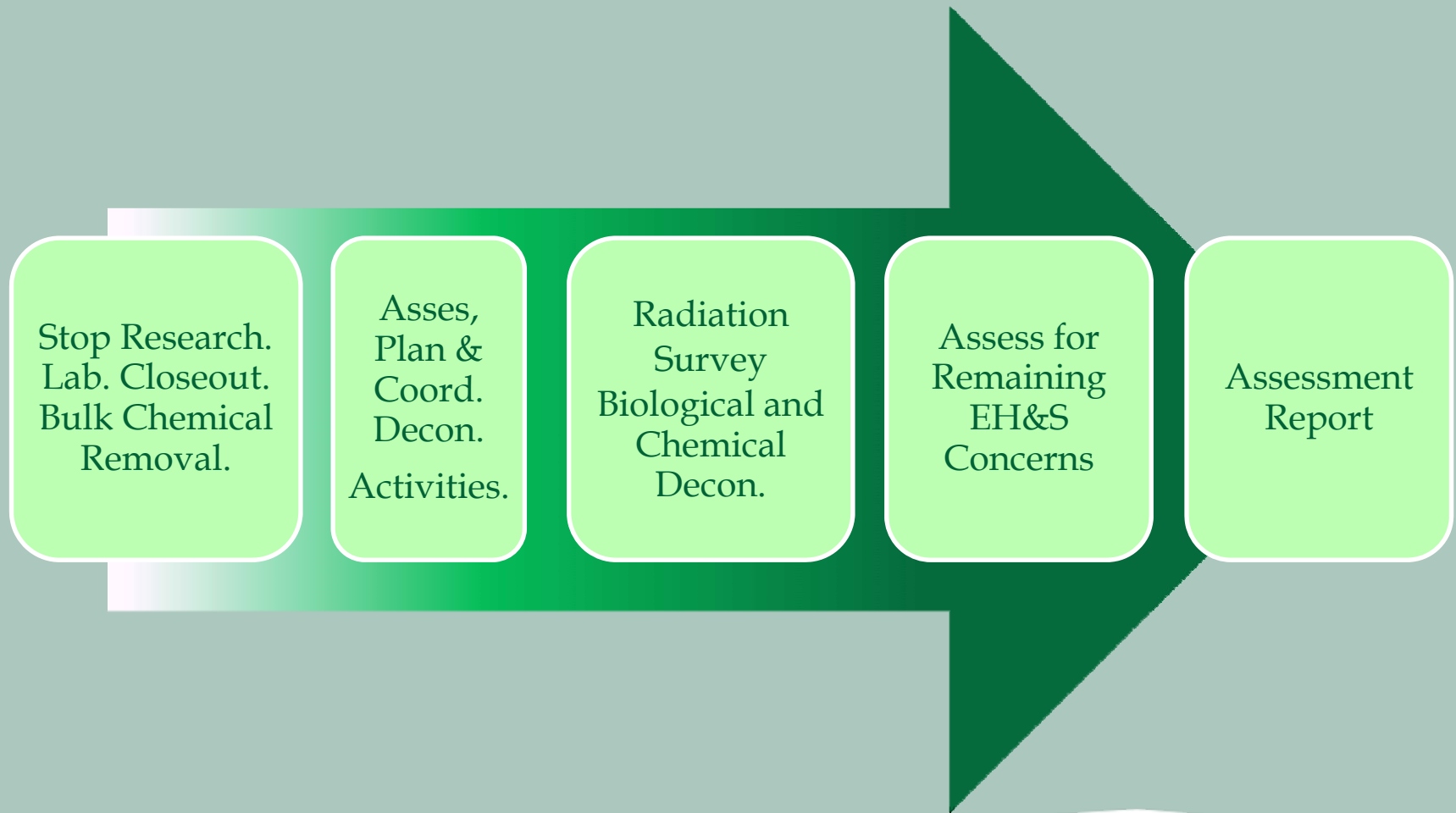
- The American National Standard/ AIHA Z9.11–2008 –
- Useful framework for effectively evaluating and conducting laboratory decommissioning.
- Methods are scalable and applicable from initial assessment through reporting.
- Presents methods to document and verify decommissioning by establishing levels and characterizing acceptable risk for the laboratory's intended future use.



# ANSI Outline

- Decommissioning Assessment Report
  - Conduct Initial Assessment
- Prepare Decommission Plan
  - Conduct sampling and analysis if needed
- Remediate
  - Chemical
  - Biological
  - Radiological
- Completion of Final Decommission Report

# General Process



# Where do I start?

- Identify all stakeholders
- Identify obligations in lease agreement
- Site specific investigation
  - inspection, interviews, previous decontamination reports, government review, chemical hygiene plan, MSDS, etc.
- Past activities determined and future use
- Identification of potential contaminants
- Regulatory requirements
- Financing

# Laboratory Information

- Landlord/tenant records
  - Previous Decontamination Documents
  - Interviews
  - Permits and Licenses
  - Chemicals Used
  - Processes Conducted
  - Waste Management
  - Inspection
- ✓ Flammable Storage Permit
  - ✓ RCRA generator status
  - ✓ Wastewater permits
  - ✓ DEA controlled substance permits (federal and state)
  - ✓ Radioactive materials license
  - ✓ Air discharge permits, generator registration
  - ✓ Site Specific Federal, State and Local Permits and Licenses

# Laboratory Considerations

- Bench Tops, Drawers, Cabinets
- Floors and Walls
- Chemical Storage Areas
- Cold Rooms
- Neutralization Tanks
- Lab Equipment
- Sink Traps – Hg
- Triple Rinse with Cleaner



# Laboratory Considerations

## Biological

- Agents Used
- Safety Protocols
- Hoods/Cabinets
- Appropriate Disinfectants -

# Laboratory Considerations

## Radiological

- Submittals
- Survey Plan
- Survey
  - Stickers/Traffic
  - Scintillation equipment
- Final Status Review Report – Rolled into Decon Report



# Helpful Hints

## Planning and Scheduling:

- Coordinate the end of research, material and equipment requirements (research material storage needs, controlled substances, etc.), decontamination logistics, vacancy of space
- Radioactive materials licensing - stop all laboratory activities and allow >45 days for permit processing
- Identify all chemicals used

## Decontamination Process:

- Establish schedule and deviations
- Decontamination procedures are clear and appropriate
- Secure areas – entry pre- and post-decontamination
- Mark decontaminated rooms and equipment

# Helpful Hints

## Typical Report Contents

- Visual inspections and photographic documentation
  - Layout and before/after pictures
  - Document the cleaning protocols
  - Decommission verification
  - Clearance sampling documentation with COCs
  - Waste disposal paperwork
  - Statement of “Acceptable Level of Risk” and QA/QC review
  - Review of Plan requirements and deviations
  - Signed by “Qualified Individual”
  - Waste disposal documents
- Reports limit potential liability when occupying, lesseing or leaving space