



LABORATORY INSPECTION PROGRAM

Prepared and Maintained by UNM Environmental Health & Safety Department

Reviewed and Approved by UNM Chemical & Laboratory Safety Committee

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UNIVERSITY OF NEW MEXICO
Environmental Health & Safety Department

Approved by UNM Chemical & Lab Safety Committee on September 23, 2021

ACRONYMS & DEFINITIONS

ADR	Associate Dean of Research
CLSC	Chemical & Lab Safety Committee
EHS	Environmental Health & Safety Department
EH & S	Environmental Health & Safety Assistant (software platform)
HSC	Health Science Center
JHA	Job Hazard Analysis
PI	Principal Investigator
RMM	Research Materials Management
SOP	Standard Operating Procedure
UNM	University of New Mexico

TABLE OF CONTENTS

1. Scope.....	1
2. Responsibilities	1
2.1. Environmental Health & Safety (EHS) is responsible for:	1
2.2. Deans, Directors and Department Heads are responsible for:.....	1
2.3. Supervisors and/or PIs are responsible for:.....	1
2.4. Employees are responsible for:	1
3. EH & S Assistant	2
4. Laboratory Inspection Schedule	2
5. Inspectors.....	2
6. Laboratory Inspection Process.....	2
6.1. Schedule the Inspection.....	2
6.2. Document Review	3
6.3. Conduct Inspection	3
6.4. Interview the PI.....	3
6.5. Complete & Submit Inspection Report	3
6.6. Follow-Up Inspections.....	4
7. Lab Safety Enforcement.....	4
Attachment 1 – Laboratory Inspection Checklist.....	4

Laboratory Inspection Program

In an effort to increase awareness of the unique hazards present in laboratories, to improve regulatory compliance, and to promote a culture of safety, the Environmental Health & Safety Department (EHS) conducts annual inspections of all University of New Mexico (UNM) laboratories. This document outlines the laboratory inspection process and procedures to be followed by EHS personnel.

1. SCOPE

This program applies to all UNM laboratories, art studios and maker spaces, excluding some machine shops that are captured in other inspections.

2. RESPONSIBILITIES

2.1. Environmental Health & Safety (EHS) is responsible for:

- Preparing, reviewing and periodically revising this program
- Monitoring compliance with this program
- Scheduling annual lab inspections
- Conducting annual lab inspections
- Providing guidance on safety and compliance issues discovered during inspections
- Issuing inspection reports
- Conducting follow-up inspections, if needed

2.2. Deans, Directors and Department Heads are responsible for:

- Ensuring departmental compliance with all the procedures outlined in this program
- Ensuring departmental compliance with the UNM Chemical Hygiene Plan

2.3. Supervisors and/or PIs are responsible for:

- Ensuring compliance with this program in their work area(s)
- Ensuring compliance with the UNM Chemical Hygiene Plan
- Coordinating with EHS staff to provide access to their laboratory
- Meeting with EHS staff to discuss the materials and procedures carried out in their laboratory
- Correcting any deficiencies noted during inspection of their laboratory

2.4. Employees are responsible for:

- Being aware of and familiar with the provisions of the Laboratory Inspection Program
- Being aware of and familiar with the provisions of the Chemical Hygiene Plan
- Answering any questions posed by EHS during annual lab inspections

3. EH & S ASSISTANT

In order to maximize the effectiveness of the Laboratory Inspection Program, UNM's EHS Department uses EH & S Assistant to manage the laboratory inspection process. EH & S Assistant is a web-based research management platform that supports laboratory safety compliance. EH & S Assistant allows EHS to send electronic reports to Principal Investigators (PIs) promptly following an inspection. It also helps EHS and PIs to keep track of inspections, inspection findings, and the progress of corrective actions.

4. LABORATORY INSPECTION SCHEDULE

There are over 600 labs at UNM, including HSC and satellite campuses. The table below shows the approximate time frame used for conducting lab inspections since 2016. This schedule is flexible and can be rearranged to accommodate inspector and/or laboratory availability.

Location	Area 1	Area 2	Area 3	Area 4
# of Labs	79	204	36	287
Inspection Timeframe	January – March	March – June	July – August	September - November

5. INSPECTORS

Annual lab inspections are conducted by the following EHS staff, who have been trained on the laboratory inspection techniques and procedures:

- Environmental Health & Safety Technicians
- Safety Specialists
- Chemical Hygiene Officer

6. LABORATORY INSPECTION PROCESS

In general, laboratory inspections are an ongoing process that continues throughout the year. The following subsections outline this process.

6.1. Schedule the Inspection

Approximately two weeks prior to the inspection timeframe, EHS staff will use EH & S Assistant to schedule the annual lab inspection. EH & S Assistant sends an automated message via email to the PI of the laboratory, requesting access to both the lab and the PI or their designee. The designee must be thoroughly familiar with the specific processes of the lab, such as a lab manager or supervisor.

- If the PI has not responded after one week, EHS staff will send an email reminder to the PI.
- If the PI does not respond after two weeks, EHS will use EH & S Assistant to issue a violation report to the PI.
 - The lab will be listed in EH & S Assistant as Out of Compliance

- All labs that are Out of Compliance will be reported to the appropriate Department Chair and Deputy Chemical Hygiene Officer
- The list of non-compliant labs and PIs will be discussed during the quarterly meeting of the UNM Chemical & Lab Safety Committee

6.2. Document Review

At the same time that the inspection is scheduled, EHS staff will request, via email, the following documents from the PI, so the documents can be reviewed prior to the inspection:

- Standard Operating Procedures (SOPs) used in the lab
- Training records

EHS staff will also review the lab's RMM chemical inventory to determine if it is up to date and if any particularly hazardous chemicals are used in the lab and for which specific SOPs should be available.

6.3. Conduct Inspection

On the day of the inspection, EHS staff will gather the following supplies for the inspection:

- Laboratory Safety Audit Checklist
- Copies of documents submitted by PI
- Copy of RMM chemical inventory
- Safety glasses

Inspectors must wear a shirt with a UNM or EHS logo, long pants and closed-toe shoes when conducting lab inspections. Inspections should place emphasis on the lab's compliance with the UNM Chemical Hygiene Plan and focus on opportunities to educate lab personnel on any deficiencies found during the inspection.

6.4. Interview the PI

If the PI is available, another member of the laboratory staff, preferably the highest-ranking member, should be made available to EHS. The EHS inspector should obtain the following information during the interview:

- Purpose of lab activities (type of research, goal of research)
- Number of people who work in the lab
- Type of waste (if any) generated by lab activities
- Hazardous chemicals and/or processes used in the lab

The inspector should make the PI aware of the tools available on the EHS website (SOP templates, JHA template, Laboratory Hazard Assessment Tool) and offer EHS support and guidance, if needed.

6.5. Complete & Submit Inspection Report

The inspector will use EH & S Assistant to complete the inspection report and to submit the inspection report to the PI and the Department Chair within one week of conducting the inspection. The inspection report is automatically saved by EH & S in the lab's inspection history.

6.6. Follow-Up Inspections

For deficiencies that pose a serious, but not immediate safety or compliance issue, a follow-up inspection may be necessary. Deficiencies that warrant a follow-up inspection include, but are not limited to:

- No emergency contacts and/or hazard warnings posted in lab
- No PPE available
- Improperly stored compressed gases
- Improper use of extension cords and/or surge protectors
- Respirator use without medical clearance and fit-testing

The inspector will schedule the follow-up inspection and submit the follow-up inspection report via EH & S, so the deficiency status can be tracked and saved in the lab's inspection history.

7. LAB SAFETY ENFORCEMENT

Laboratories where serious safety and/or compliance issues are found will be brought to the attention of the Associate Dean for Research (ADR) and the Department Chair, who will decide if the lab should be shut down. Labs that are shut down for safety and/or compliance issues cannot reopen until the issues are resolved to the satisfaction of the ADR, the Department Chair and EHS or by appeal to the UNM Chemical & Lab Safety Committee (CLSC). The CLSC is comprised of professors, department chairs, and associate deans of research from various departments, as well as staff members from the Provost's Office, Facilities Management, UNM Police and EHS.

7.1. Stop Work Authority

Anyone who witnesses or becomes aware of a situation in a lab that is Immediately Dangerous to Life and Health (IDLH) has stop work authority. This includes students, UNM employees, members of the CLSC and EHS personnel.

7.2. IDLH Examples

Some examples of conditions that warrant the use of stop work authority include but are not limited to:

- Using toxic gases without a gas cabinet or other containment system
- Using explosive gas mixtures such as hydrogen and oxygen and/or large quantities of explosive materials
- Using extremely toxic materials such as sodium cyanide outside of a fume hood
- Using electrical equipment that is not properly guarded from shock
- Not using PPE while working with carcinogens

7.3. Return to Work

Before a lab that has been shutdown due to an IDLH situation can resume work, the following steps must be followed:

1. A written Corrective Action Plan must be submitted by the PI to the Dean and the Department Chair or Center Director and EHS

2. EHS must perform an inspection to verify the corrections have been made
3. Reopening must be approved by the cognizant Dean and Department Chair or Center Director

EHS understands that getting a lab back open after a shutdown is an urgent matter. EHS assistance is available in order to expedite the reopening process.

ATTACHMENT 1

Laboratory Inspection Checklist

Yes	Description (*-Requires Reinspection)
	General Lab Observations
	Emergency contacts (primary and secondary) posted on door or within lab*
	Hazard warnings posted on door or within lab*
	Hazard warnings posted in designated use areas
	PPE available (gloves, goggles/glasses, labcoats)*
	First aid kit available or nearby
	Spill kit available or nearby*
	Aisles and doorways within the lab are at least 24" wide and are free of obstructions (clutter, equipment, furniture)
	Floors within the lab are free of liquids, evidence of spills, broken surfaces and tripping hazards*
	Trash is properly contained and segregated (no protruding sharps, no excess boxes or combustibles)
	Benchtops, counters and sinks are free from excess chemical residues
	Chairs and other furnitures are made of impermeable, non-porous material that can be easily cleaned and/or decontaminated
	Lab is free of coffee mugs, plates and other evidence of eating or drinking
	Emergency Equipment Observations
	Safety shower available
	Safety shower has inspection tag and has been inspected monthly
	Eyewash available
	Eyewash has inspection tag and is inspected monthly
	Safety showers, eyewash stations, fire extinguishers, breaker boxes, and/or emergency shut-off valves are free from obstructions and easily accessible
	Fume Hood Observations
	Fume hood certification is current
	Fume hood certification expiration date:
	Fume hood is free of excess clutter/chemicals that may obstruct flow
	Fume hood is free of excess chemical residue and spills
	Fume hood sash is operable
	If perchloric acid is present within the lab, fume hood is designed for perchloric acid use
	Chemical Storage Observations
	Chemicals are stored by hazard class and/or compatibility
	Condition of containers easily assessed (no stacking)
	Edges of shelves are protected to prevent glass containers from falling off
	Acids and bases are stored in separate spill trays and/or separate cabinets
	Organic acids (acetic, glacial acetic, benzoic, formic, propionic) and inorganic acids (hydrochloric, sulfuric, nitric, phosphoric, hydrofluoric, boric) are properly segregated and stored
	Water reactive (alkali metals - lithium, sodium, potassium) and pyrophoric chemicals (tert-butyllithium, metal hydrides, metal chips/powders) are stored properly
	Toxic chemicals are stored separately
	Peroxide formers are labeled with expiration date and date of last opening
	Flammables and oxidizers are stored separately*
	No more than 10 gallons of flammable liquids stored outside of a flammables cabinet
	Flammable cabinet doors kept closed and vented plugs in place
	Flammables stored in a non-explosion proof/household refrigerator are in sealed secondary container with dessicant or in a dessicator
	Chemical containers are in good condition
	Chemical containers are closed

Yes	Description (*-Requires Reinspection)
	Chemicals not in original container are properly labeled (name of chemical and date transferred)
	Chemicals are stored away from heat, ignition sources, and/or direct sunlight
	No hazardous chemicals are stored on the floor
	No chemical containers greater than 1 gallon in size are within the vicinity of a floor drain
	No chemical containers of hazardous liquids greater than 1 gallon in size are stored higher than five feet above the floor
	No food and/or drinks stored in designated chemical storage refrigerator
	Hazardous Chemical Waste Observations
	Hazardous chemical waste is generated within the lab
	Hazardous chemical waste is stored in the vicinity of where it was generated
	Hazardous chemical waste is segregated and stored according to compatibility
	Hazardous chemical waste containers are properly labeled with "HAZARDOUS WASTE", contents, and hazardous characteristics
	Hazardous chemical waste containers are in good condition
	Hazardous chemical waste containers are kept closed when not in use
	Hazardous chemical waste containers are stored in spill trays
	Hazardous chemical waste is being disposed of through EHS
	Compressed Gas Cylinder Observations
	Cylinders are labeled/clearly marked to identify contents
	Cylinders are stored upright and secured with a chain or strap
	Cylinders of oxygen are stored away from oil, grease and flammables/combustibles*
	Cylinders not being used are stored with the valve protection cap in place
	No more than 5 cylinders stored with one chain or strap
	Electrical Safety Observations
	No extension cords being used in a non-temporary manner (30 day maximum)*
	No extension cords being used with heat-producing equipment (hotplate, sauter iron, space heater, etc.)*
	No surge protector being used with heat-producing equipment*
	Light switches and electrical outlet faceplates in good condition
	Electrical cords in good condition
	Electrical outlets within 6 feet of water source are Ground Fault Circuit Interrupter (GFCI) protected
	Electrical panel has 3 feet of unobstructed access
	Fire Safety Observations
	Fire extinguisher is available
	Fire extinguisher is inspected monthly
	Lab is equipped with illuminated exit signs and emergency lighting
	Fire alarm bell/strobe is uncovered/unobstructed
	No items stored within 18 inches of ceiling in lab with sprinkler system
	No items stored within 24 inches of ceiling in lab without sprinkler system
	Fire-rated doors are kept closed

Yes	Description (*-Requires Reinspection)
	Ceiling tiles are in good condition (no missing and/or damaged tiles)
	Interview and Document Review
	Lab personnel are familiar with the UNM CHP
	SOPs available for hazardous materials and/or processes used in lab
	Lab personnel are familiar with their lab's SOPs and have been trained on how to use SOPs
	Job Hazard Analyses available for all SOPs
	Lab personnel know where to find SDSs and have been trained on how to use a SDS
	Lab personnel who wear respirators (including N-95s) have been medically cleared, fit-tested, and trained on the use of their respirator*
	Training records available
	Self-Audits available
	RMM inventory is current
	Someone is responsible for maintaining the lab's chemical inventory in RMM
	DEA Controlled Substances are used in the lab
	DEA Controlled Substances are kept locked up
	DEA Controlled Substances are kept track of in a logbook