

U of A Policies and Procedures On-Line (UAPPOL)

Original Approval Date: Dec 22, 2021

Most recent administrative update: June 22, 2022

Parent Policy: Assignment of Accountability 4.0: Inspection and Maintenance

## Inspection and Maintenance Procedure

<b>Office of Administrative Responsibility:</b>	Health, Safety and Environment
<b>Approver:</b>	Director, Health, Safety and Environment
<b>Scope:</b>	Compliance with this University policy extends to all academic, support and excluded staff, postdoctoral fellows, and academic colleagues as outlined and defined in the Recruitment Policy (Appendix A and Appendix B: Definitions and Categories); undergraduate, graduate, and Faculty of Extension students; emeriti; members of the Board of Governors; visitors to campus, including visiting speakers and scholars; third party contractors; and volunteers.

### Overview

Inspections and maintenance activities are key aspects of the University of Alberta (U of A) Health, Safety, and Environment Management System (HSEMS).

Inspections are opportunities to:

- identify, eliminate, and control workplace **hazards** and assess risk on an ongoing basis
- reveal the current state of a workplace
- evaluate the effectiveness of the HSEMS
- determine underlying causes of hazards
- recommend and implement corrective actions
- record hazards for corrective actions
- listen to the concerns of **workers**

Maintenance activities are also opportunities to prevent injuries, illnesses, and property and environmental damage. Corrective maintenance occurs as equipment breaks down or becomes inoperable. Preventative maintenance is the routine servicing of equipment, tools, and vehicles that includes periodic inspections to prevent the likelihood of equipment failure.

### Purpose

The purpose of this procedure is to describe the different types of workplace inspections and to prepare **supervisors** and other staff or students to conduct inspections as required. **Senior administrators** have the responsibility to ensure this procedure is implemented in their respective unit(s).

## PROCEDURE

### Formal (Planned) Inspections

Formal/planned inspections are normally conducted using a checklist and performed on a regular basis by a supervisor; Health, Safety, and Environment (HSE) committee member; and/or a work site representative who is knowledgeable in the activities of the work site. The frequency of inspections should be appropriate for the level of risk in your work area. For example, low-risk environments must be inspected once per year.

Higher-risk environments such as wet labs or those with potentially dangerous equipment/materials or working conditions must be inspected monthly or quarterly. Certain tasks, activities, or equipment may require daily or weekly inspections.

#### *Steps for Formal Self-Inspections (Planned)*

1. Pre-inspection
  - a. The supervisor should identify an inspection team consisting of members capable of performing inspections. This can be designated individuals or the task can be rotated among all staff in the area.
  - b. Look at previous corrective action items. Determine if these items have been completed.
  - c. Gather any materials and equipment you may need (such as a checklist, most recent hazard assessment, etc.).
2. Inspection process
  - a. Use a checklist (create your own or use an HSE resource) to ensure that important items are captured.
  - b. Only include items you can observe.
3. Inspection report
  - a. Identify deficiencies and add them to an action tracker.
  - b. Assign responsibility for correcting the deficiencies and a reasonable date.
  - c. Share the results of the inspection with your unit/department. In most-cases, a well designed checklist can serve as the inspection report.
4. Follow-up and corrective action
  - a. Set a follow-up date for action items to ensure they are completed.

#### **Informal/Ad Hoc Inspections (Unplanned)**

Informal inspections are done on a daily or weekly basis by a supervisor or worker. This is when you are walking around and see a hazard that needs to be controlled. These inspections are not necessarily documented, but the hazards/controls should be noted and corrected/implemented. Interim measures may be necessary until the deficiency is fully resolved.

#### **Compliance Inspections (Internal)**

Health, Safety and Environment (HSE) currently conducts formal work site inspections of work spaces on a scheduled and ad hoc basis. Supervisors must cooperate with HSE for the purpose of conducting these inspections and follow-up and correct any deficiencies identified during these inspections based on an established timeframe.

#### **Specialized Inspections**

Specialized inspections may be conducted for insurance purposes, warranty purposes, or to meet health, safety, and environment requirements for a specific task, work area, or piece of equipment. The requirements of these inspections are usually outlined by the OHS Code, manufacturer or provider, best practices, or designed to be specific for a particular set of hazards.

#### **Regulatory Inspections**

Alberta Occupational Health and Safety (OHS) can enter any worksite in Alberta for inspection. This may be due to a concern, an incident, or a random inspection. If OHS arrives at your worksite or requests access to the worksite, contact HSE for assistance.

Municipal, provincial, and federal regulatory agencies may have self, third-party, or regulatory inspection

requirements (such as CNSC, PHAC, CFIA or Fire Code inspections) and require access to a work site. Faculties/departments must cooperate with all regulatory agencies for the purpose of inspecting a work site and contact HSE for assistance.

Health, Safety and Environment is the lead unit associated with any health, safety or environmental regulator visiting a university work site and is responsible for regulatory notifications, reporting, communication, interactions, and follow up. Units are required to engage HSE immediately in the event of a regulator visit by calling the Unified Communications Centre at 780-492-5555 and asking for a call back from the HSE Oncall Officer. Units and staff will follow the direction of HSE when dealing with regulatory inspections.

## **Maintenance**

### **Corrective Maintenance**

Corrective maintenance is the process of repairing or replacing equipment due to wear and tear, malfunction, or breakdown. Corrective maintenance is important to ensure continued and safe operation of equipment. To determine proper corrective maintenance for your equipment, read the user manual or contact the manufacturer/supplier for more details.

#### **Steps for corrective maintenance:**

1. Discontinue use of any equipment in need of maintenance that, left uncorrected, increases the risk of injury.
2. Report equipment issues to your supervisor.
3. Identify the problem and underlying cause.
4. Ensure the equipment can be worked on safely:
  - a. Follow appropriate procedures to control any hazardous energy (electrical, mechanical, etc.) for any corrective maintenance work.
  - b. Communicate the issue with other staff or sign the equipment as out of order.
5. Correct the problem:
  - Follow the manufacturer's/supplier's instructions.
  - In-house expertise can be used if individuals are trained and competent.
  - Certified or appropriate qualified third-party technician/mechanic may be required.
6. Test and calibration
  - a. Test that the unit is operating properly.
  - b. Recalibrate as required following the manufacturer's instructions.

### **Preventative maintenance**

Preventative maintenance is the process of conducting regular inspections, tune-ups, calibration, and proactive replacement of parts and components to prevent breakdown. A good preventative maintenance program offers the following benefits:

- Improves the life expectancy of the equipment
- Reduces the risk of an incident occurring during a breakdown
- Reduces overall cost of ownership
- Ensures proper function of equipment
- Reduces the environmental impact from disposal of broken equipment
- Minimizes downtime due to breakdown

Critical equipment, supplies, materials, parts, or other items for the continued operation of your unit/department require preventative maintenance. The need for a preventative maintenance program is dependent on the risks associated with a breakdown, which may include the following:

- Risk of serious injury or fatality
- Risk of disruption to service or continued operation

- Risks associated with costs to repair or replace
- Other risks associated with health and safety if the equipment is relied upon as a control measure

It is also important to ensure all preventative maintenance is coordinated with all stakeholders. In some instances, equipment is owned, operated, and maintained by one unit/department, but is connected to building systems that are managed by Facilities and Operations or is used by other units/departments on a regular basis. Preventative maintenance should be managed to ensure all groups understand their responsibilities.

### **Strategies for preventative maintenance**

Preventative maintenance requirements will vary depending on a variety of factors including:

- Criticality of the equipment
- Replacement cost
- Maintenance cost
- Availability of the equipment
- Availability of parts and supplies

Preventative maintenance that is outlined as per the manufacturer's specifications must be followed. For equipment that has been built in-house, an individual who is trained and competent in the use of the equipment should coordinate preventative maintenance efforts.

Three main strategies for preventative maintenance are as follows:

1. *Full preventative maintenance program*: some equipment will require preventative maintenance that is critical to the safe operation of the equipment. Preventative maintenance programs should be fully implemented.
2. *Run to failure*: some equipment is easy and inexpensive to replace and the preventative maintenance does not provide any extra value to the equipment. Failure of the equipment may not be crucial to the operation or it may not pose any additional risk to staff, property, or the environment. These items do not require any preventative maintenance.
3. *Mixed program*: some equipment may have critical components that must be maintained, while other components are considered optional. A mixed program of preventative maintenance may be applied to ensure critical components are maintained in good working condition.

### **Steps for Preventative Maintenance**

1. Develop an inventory of equipment and other assets that require preventative maintenance.
2. Review the user manual, installation manual, or other literature from the supplier/manufacturer.
3. Identify the recommended daily, weekly, monthly, quarterly, bi-annual, or annual preventative maintenance requirements.
4. Determine the preventative maintenance strategy for each piece of equipment.
5. Set up a program to ensure the preventative maintenance requirements are completed:
  - a. Coordinate with stakeholders such as other user groups (departments/units) or Facilities and Operations for equipment connected to building systems.
  - b. Create a checklist to help ensure that all items are completed.
  - c. Schedule items using a group calendar to ensure that items are done on time.
  - d. Add regular items to your action tracker and assign personnel and deadlines.
6. Follow-up to ensure all items are completed as required.
7. Review your preventative maintenance program on a regular basis and adjust based on the following:
  - a. Cost of equipment and cost of preventative maintenance
  - b. Feasibility of the preventative maintenance program
  - c. Changes to your operation that may deem equipment critical or non-critical For detailed information, consult the standards under "Related Links."

## **DEFINITIONS**

Definitions should be listed in the sequence they occur in the document (i.e. not alphabetical).

Any definitions listed in the following table apply to this document only with no implied or intended institution-wide use. [ <a href="#">▲ Top</a> ]	
<b>Hazard</b>	A situation, behaviour, condition or thing that may be dangerous to the environment and to the safety or health of the university community
<b>Worker</b>	A person engaged in an occupation (includes students, post doctoral fellows, contractors, volunteers, etc.)
<b>Supervisor</b>	A person who has charge of a worksite or authority over a worker
<b>Senior Administrator</b>	President, Vice-Presidents, Deans and Chairs, AVP, Executive Directors, Directors

## **FORMS**

Hazard Assessment Web Application (online tool)

<https://www.ualberta.ca/human-resources-health-safety-environment/environment-and-safety/self-help/hazard-assessment-web-application.html>

Hazard assessment template (printable)

[https://docs.google.com/spreadsheets/d/1j\\_UYRSsh3lnMp7171V9oR\\_pxOnRr3iT1EPPsofAHMqM/template/preview](https://docs.google.com/spreadsheets/d/1j_UYRSsh3lnMp7171V9oR_pxOnRr3iT1EPPsofAHMqM/template/preview)

Office Inspection Template

[https://docs.google.com/spreadsheets/d/1XXI9lJay\\_lbH7pKuJUY1mJbYR8Xs3jodazGfTJXCKCU/edit#gid=1173006587](https://docs.google.com/spreadsheets/d/1XXI9lJay_lbH7pKuJUY1mJbYR8Xs3jodazGfTJXCKCU/edit#gid=1173006587)

Laboratory Safety Checklist

[https://docs.google.com/spreadsheets/d/1\\_Vp4mhyHbhAP1kVXljFf1ly1NydXYYAYDVZMW8zEV6k/edit#gid=0](https://docs.google.com/spreadsheets/d/1_Vp4mhyHbhAP1kVXljFf1ly1NydXYYAYDVZMW8zEV6k/edit#gid=0)

Action tracker template

[https://docs.google.com/spreadsheets/d/1wOwdyahcz\\_0LpxzlcSOa8JeCRu-jH4Js\\_yLrJ\\_273Vg/edit#gid=1173006587](https://docs.google.com/spreadsheets/d/1wOwdyahcz_0LpxzlcSOa8JeCRu-jH4Js_yLrJ_273Vg/edit#gid=1173006587)

## **RELATED LINKS**

Alberta Occupational Health and Safety Act, Regulations and Code

<https://www.alberta.ca/ohs-legislation.aspx>