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1 Purpose

The *Facility Decommissioning Standard* specifies the processes and minimum requirements for the decommissioning of spaces at the University of Saskatchewan.

2 Applicable To

The *Facility Decommissioning Standard* is applicable to all faculty, staff, students, and visitors engaged in research, academic or other activities at University of Saskatchewan owned facilities and on its property.

3 Definitions

Biological Material: Any material that originates from living organisms, which may be infectious or non-infectious.

Biohazardous Material: Any infectious agent or hazardous biological material that present a risk or potential risk to the health of humans, animals, plants, or the environment. The risk can be directly through infection or indirectly through damage to the environment. Biohazardous materials include certain types of recombinant DNA, proteins, organisms infectious to humans, animals or plants (e.g. parasites, viruses, bacteria, fungi, prions, protozoa) and biologically active agents (e.g. toxins, allergens, venoms) that may cause disease in other living organisms or cause significant impact to the environment.

Controlled Products: Any hazardous substance that meets the criteria specified in the *Controlled Product Regulations*.

Controlled Substances: Any type of drug that the federal government has categorized as having a higher-than-average potential for abuse or addiction. Controlled substances range from illegal street drugs to prescription medications. Controlled substances are listed in the *Controlled Drugs and Substances Act*.

Hazardous Material: Any material that, because of its quantity, concentration, physical, biological, or chemical characteristics, may pose a real hazard to human or animal health, or the environment. Hazardous materials include but are not limited to:

- Controlled products (e.g. gases, flammable and combustible materials, reactive materials, poisonous materials, infectious materials, nuclear materials);
- Controlled substances;
- Precursor chemicals;
- Notifiable substances.

Job Safety Analysis (JSA): A method that can be used to identify, analyze and record:

- Steps involved in performing a specific job;
- Existing or potential safety and health hazards associated with each step;
- Recommended action(s)/procedure(s) that will eliminate or reduce these hazards and the risk of a workplace injury or illness.

Notifiable Chemical or Biological Substances: Are substances listed in the *Saskatchewan Occupational Health and Safety Regulations* requiring written notice and permission from the Director of Saskatchewan Ministry of Labour Relations and Workplace Safety to acquire, use, store and dispose. Notifiable biological substances also include those genetically modified microorganisms or 'Biotechnology Substances' requiring permits from the Public Health Agency of Canada (PHAC), the Canadian Food Inspection Agency (CFIA) or the Canadian Environment Protection Agency (CEPA) under the *New Substance Notification Regulations*.

Precursor Chemicals: Are chemicals that are essential to the production of controlled substances. Precursor chemicals are listed in the *Controlled Drugs and Substances Act*.

Responsible Party: An individual that has been granted authority over a space(s) at the university and the faculty, staff and/or students working in the space(s) for the purposes of research, academics or other activities. In the context of this standard, the responsible party is accountable to ensure the proper decommissioning of spaces that are to be vacated, and in accordance with university and applicable federal and provincial regulatory requirements.

4 Scope

The University of Saskatchewan is committed to providing a place of employment and learning that is as free as possible from recognized hazards. A safe and healthy environment is created and maintained through the provision of proper facilities and equipment, the development and administration of supporting programs and services, effective training, and by promoting safety consciousness.

The *Facility Decommissioning Standard* has been developed to ensure faculty, staff, students, and visitors understand their responsibilities and the minimum requirements when vacating research spaces, teaching areas, or facilities that involve hazardous materials and/or activities that have known health, safety or environmental implications.

Under the *Facility Decommissioning Standard*, decommissioning of space is required when:

- The individual (faculty, staff, students, visitors) is no longer working in the space(s);
- The individual is leaving the university;
- The individual is ceasing to use hazardous materials in the space(s);

- The individual is relocating instruments or equipment that pose hazards, or that have been used for research, academics, storage or other activities involving hazardous materials;
- The individual is cancelling a university issued biosafety and/or nuclear substance permit(s);
- The individual is cancelling a licence, permit or certification granted by a federal or provincial regulatory body;
- The individual is relocating to another space on campus; or
- The space is being renovated, or is to be demolished.

5 Responsibilities

5.1 College / Division / Department / Unit Heads

College/division/department/unit heads are responsible to ensure that faculty, staff, students, and visitors in their charge:

- Are aware of their responsibilities relating to vacating research spaces, work and storage areas, and for properly decommissioning spaces they are working in;
- Comply with the *Facilities Decommissioning Standard*;
- Comply with all university health, safety and environmental protection requirements;
- As applicable, comply with the requirements of university issued biosafety and/or nuclear substance permits;
- As applicable, comply with federal/provincial licence, permit or certification requirements for the space(s) and/or activities;
- Comply with college/division/department/unit requirements; and
- Comply with university and legislative requirements.

5.2 Responsible Party

A responsible party is an individual(s) that has been granted authority over a space(s) at the university and the faculty, staff and/or students working in the space(s) for the purposes of research, academics or other activities.

The responsible party shall:

- Ensure the research space(s), work or storage area(s) is decommissioned in accordance with the *Facility Decommissioning Standard*, and best practices;
- Ensure hazardous materials and waste is disposed of in accordance with the University of Saskatchewan *Hazardous Waste Disposal Standard*;
- As applicable, comply with the requirements of university issued biosafety and/or nuclear substance permits;
- As applicable, comply with federal/provincial licence, permit or certification requirements for the space(s) and/or activities;

- Comply with all university health, safety and environmental protection requirements;
- Comply with college/division/department/unit requirements; and
- Comply with all university and legislative requirements.

5.3 Faculty, Staff, Students and Visitors

Faculty, staff, students and visitors shall:

- Adhere to the requirements of the *Facility Decommissioning Standard*;
- As applicable, comply with the requirements of university issued biosafety and nuclear substance permits;
- As applicable, comply with federal/provincial licence, permit or certification requirements for the space(s) and/or activities;
- Follow university health, safety and environmental protection requirements;
- Comply with college/division/department/unit requirements; and
- Comply with all university and legislative requirements.

5.4 Safety Resources

Safety Resources shall:

- Implement and maintain the *Facilities Decommissioning Standard*, and other programs and processes in support of health, safety and environmental due diligence;
- Provide training and awareness on occupational health and safety, and the *Facilities Decommissioning Standard*;
- Assist faculty, staff, students and visitors at all stages in the decommissioning process;
- Conduct pre-decommissioning and post-decommissioning inspections of the space(s);
- Collect and manage hazardous substances and waste;
- As applicable, comply with the requirements of university issued biosafety and nuclear substance permits;
- As applicable, comply with federal/provincial licence, permit or certification requirements for the space(s) and/or activities;
- Ensure compliance with university and legislative requirements.

Safety Resources services in support of decommissioning are provided at no charge to the client provided the *Facilities Decommissioning Standard* and the *Hazardous Waste Disposal Standard* are followed. The responsible party or, college/division/department/unit will be responsible for all costs associated with the decommissioning of space(s) that have been closed or vacated without notice, or where required processes have not been adhered to.

For assistance with decommissioning, contact Safety Resources at 306-966-4675.

5.5 Facilities Management Division

The Facilities Management Division (FMD) may assist with:

- The removal of furniture and various pieces of equipment that have been decontaminated and are safe to move;
- Disconnecting infrastructure services to machines and equipment;
- Renovation, repair and maintenance to the space(s); and
- Cleaning services for areas that have been decontaminated.

In consultation with Safety Resources, FMD staff may be able to assist with the movement of some hazardous materials to other locations on campus.

Some FMD services are subject to cost recovery. Services through FMD may be coordinated through the Work Control Centre at 306-966-4496.

6 Notification

Individuals intending to vacate a university space(s) involving the use and storage of hazardous materials, or where hazardous activities have been undertaken shall notify their respective college/division/department/unit and Safety Resources at least one month prior to vacating the space(s).

7 Hazard Assessment

Upon notification of the intended decommissioning of a space(s), a representative from Safety Resources will schedule an inspection to review the hazardous materials, machines, equipment and processes in the space(s), as well as identify any health and safety hazards that must be considered during decommissioning.

For decommissioning processes which pose significant hazards and associated risks, it is recommended that a job safety analysis (JSA) be performed. A JSA involves a methodical review of each major task to identify hazards and to develop and implement safety measures to protect individuals involved in the decommissioning. A copy of a *JSA Template* is available on the Safety Resources website, www.safetyresources.usask.ca

Safety Resources will provide direction and guidance to the individual(s) responsible for decommissioning of space(s) and in the preparation of a hazard assessment and JSA.

8 Hazardous Material Disposal

Individuals who hold university issued permits including those for biosafety and for nuclear substances or devices and/or federal or provincial licences, permits or certifications shall strictly adhere to the terms and conditions of said licences, permits and certifications and any requirements respectively under the *Biosafety Code of Practice*, the *Radiation Safety Code of Practice*, the University of Saskatchewan and applicable legislative bodies.

All hazardous materials contained in spaces to be decommissioned that are destined for disposal, shall be disposed of in accordance with the University of Saskatchewan *Hazardous Waste Disposal Standard*. The standard is located on the Safety Resources website at www.safetyresources.usask.ca.

For assistance with the collection and disposal of hazardous materials, contact Safety Resources at 306-966-4675.

Following, is the general process to be adhered to for the collection and disposal of hazardous materials in a space(s) that is to be decommissioned.

1. Submit a current inventory to Safety Resources of all hazardous materials, machines, equipment and tools used in the space(s) to be decommissioned.

Separate inventories should be completed for chemicals, biological materials, and for nuclear materials as well as for any laboratory machines, equipment and tools used or stored in the space.

Equipment containing hazardous materials that may be in the laboratory (e.g. nuclear materials, asbestos, mercury, polychlorinated biphenyls (PCB's)) should also be inventoried.

Safety Resources shall be notified immediately of any unstable, or unknown chemicals in the space(s).

2. All hazardous materials shall be packaged and labelled, and disposed of in accordance with the *Hazardous Waste Disposal Standard*.

Expired chemicals or chemical containers exhibiting damage, corrosion or crystallization shall be disposed of as chemical waste and will not be relocated to another space or transferred to another institution.

Where possible, materials and tools contaminated with biohazardous materials should be decontaminated, and then disposed of as general waste.

The disposal of hazardous materials in the garbage with general waste (non-hazardous) or into sink drains is strictly prohibited without the authorization of Safety Resources.

Contact Safety Resources at 306-966-4675 for assistance with waste packaging and disposal.

3. All non-hazardous waste materials shall be removed from the space(s) including empty containers, papers, and disposable materials.

All non-hazardous waste materials may be disposed of as general waste. For guidance on what is considered non-hazardous materials, refer to the *Hazardous Waste Disposal Standard*, or contact Safety Resources at 306-966-4675.

Safety Resources encourages the exchange of chemicals that may be beneficial to other individuals or groups on campus. Chemicals acceptable for recycling shall be in their original container, unused and unopened with the original label still affixed to the container. Chemicals shall also be viable or non-expired. If chemicals are supplied through college/division central stores, contact stores personnel about returning or recycling unused and unopened chemicals.

9 Relocation of Hazardous Materials

9.1 On Campus

Individuals who hold university issued permits including for biosafety and for nuclear substances or devices and/or federal or provincial licences, permits or certifications shall strictly adhere to the terms and conditions of said licences, permits and certifications and any requirements respectively under the *Biosafety Code of Practice*, the *Radiation Safety Code of Practice*, the University of Saskatchewan and applicable legislative bodies.

Individuals intending to transfer hazardous materials to another space on campus, or to another individual at the university, must receive authorization from Safety Resources in accordance with respective code and permit requirements. New space(s) where hazardous materials will be relocated to must meet institutional health and safety programs requirements as well as those of applicable regulatory bodies.

Hazardous materials that are to be relocated shall be packaged in containers appropriate for the materials, structurally sound, and labelled in accordance with the Workplace Hazardous Materials Information System (WHMIS). Damaged or illegible labels shall be replaced. Nuclear materials shall be packaged and labelled in accordance with the requirements of the university Radiation Protection Program. A packing list shall accompany all containers.

Hazardous materials shall be packaged with other compatible materials, and separate from waste. Chemicals that are stored in flammable cabinets should remain in the cabinets until they are relocated. Biological or other materials requiring cooling/freezing should be kept in refrigerators until they are moved.

Where possible, Safety Resources will assist with the relocation of hazardous materials to another space(s) on campus. Materials Handling from FMD may also be able to assist with the movement of some

materials. As necessary, an external service provider may be employed. The costs associated with Materials Handling or an external service provider is the responsibility of the individual or college/division/department/unit requesting the service.

9.2 To Another Institution

The transfer of hazardous materials to another institution shall be carried out in accordance with applicable federal and provincial legislation. Appropriate authorization must be received from the university, and from the institution wishing to accept said materials.

All hazardous materials (chemical, biological, nuclear) that are to be transferred to another institution shall be packaged and transported by a certified external contractor in accordance with Transport Canada, *Transportation of Dangerous Goods Regulations*. The transport of hazardous materials by private vehicle is strictly prohibited.

The responsible party shall consult with Safety Resources and the institution receiving the material for direction and guidance on requirements for the transfer of the hazardous materials.

10 Animals

Live animals shall be relocated to another space(s) or animal facility, or disposed of in accordance with the Animal Research Ethics Board (AREB) approved animal use protocol, University of Saskatchewan *Care and Use of Animals in Research* policy, University Committee on Animal Care and Supply (UCACS) procedures (e.g. UCACS Procedures for Experimental Animal Transport), and with guidelines of the Canadian Council on Animal Care (CCAC).

Contact the Research Ethics Office at 306-966-4124 for further information and guidance on the disposal or relocation of animals to another space(s) or to another animal facility.

11 Equipment and Tools

When all hazardous materials have been removed from the space(s), all equipment and tools used and stored within the space(s) shall be thoroughly cleaned and, as required, decontaminated.

Individuals holding biosafety and/or nuclear substance permits shall ensure that equipment and tools are cleaned and decontaminated in accordance with approved procedures under said permits.

Following is the general process to be followed to clean and decontaminate equipment and tools.

1. Place all sharps (e.g. blades, needles, syringes) in an approved sharps container in accordance with the *Hazardous Waste Disposal Standard*.

2. All equipment and tools contaminated or potentially contaminated with hazardous materials (chemical, biological, nuclear) shall be decontaminated using appropriate techniques before removal from the space(s). This includes equipment destined for disposal or relocation to another space(s) or to another institution.

Decontamination of some equipment such as biosafety cabinets and autoclaves shall be confirmed through the use of bio-indicators. Decontamination of equipment contaminated or potentially contaminated with nuclear materials shall be verified through radiation contamination monitoring techniques such as wipe tests.

3. An *Equipment Release Form* must be completed for each piece of equipment in the work space even if the equipment is to remain in the space. On the form, indicate the known hazards associated with the equipment and work area, the processes used to decontaminate the equipment, and any personal protective equipment and safety precautions that must be adhered to work in the area and with the equipment.
4. Hazardous waste generated in the process of cleaning, disinfecting or decontaminating equipment and tools shall be disposed of in accordance with the *Hazardous Waste Disposal Standard*.

Contact Safety Resources at 306-966-4675 for assistance with cleaning and decontamination techniques and requirements.

12 Equipment Disconnections and Decommissioning

Machines and equipment that are not remaining in the space(s) shall be safely disconnected from building infrastructure service connections including as applicable for electricity, water, natural gas and chemicals in accordance with the *Hazardous Energy Lockout Standard*.

Disconnection of services is only to be performed by qualified service personnel from FMD. Contact the FMD Work Control Centre at 306-966-4496 to schedule service disconnections or other facility operations and maintenance needs.

The dismantling or decommissioning of machines and equipment prior to removal from a space(s) shall be performed by an experienced individual(s), and in accordance with the manufacturers' operating instructions and applicable university requirements and regulations.

Any hazardous materials collected or generated during the dismantling or decommissioning of a machine or equipment shall be disposed of in accordance with the *Hazardous Waste Disposal Standard*.

Safety Resources shall be notified of any significant health and safety hazards associated with the dismantling or decommissioning of machines or equipment.

13 Removal of Equipment and Non-Hazardous Materials

The responsible party shall coordinate to have equipment and tools, including furniture and records that are not being left in the space(s) moved out or relocated to another space(s). FMD Materials Handling may be able to assist with the move or relocation. Contact the FMD Work Control Centre at 306-966-4496 to schedule materials handling services.

14 General Cleaning and Decontamination of Space(s)

When all hazardous materials, machines, equipment and tools have been removed, or cleaned and decontaminated if remaining, the space(s) shall be thoroughly cleaned and, as required, decontaminated. This includes, work surfaces, cupboards, cabinets and floors.

Individuals operating under a biosafety permit and/or nuclear substances permit shall ensure spaces are cleaned and decontaminated in accordance with approved procedures under said permits. Safety Resources will provide guidance on cleaning and decontamination methods for the space(s) and verification of decontamination.

Contact Safety Resources at 306-966-4675 for assistance with cleaning and decontamination techniques and requirements.

15 Verification and Authorization

Upon completion of the decommissioning of a space(s), the following certification and authorization process shall be adhered to.

1. The responsible party shall complete and sign a *Facility Decommissioning Certificate* form and submit the signed form to Safety Resources.
2. Safety Resources will conduct post-decommissioning inspection for compliance with university and legislative requirements.

Upon a satisfactory inspection, Safety Resources will sign the *Facility Decommissioning Certificate*.

3. The *Facility Decommissioning Certificate* is to be submitted to the college/division/department/unit head for final signature.
4. Safety Resources will direct that all hazard warning signs, licences, permits or certificates then be removed from the space(s), and discarded.

Once a *Facility Decommissioning Certificate* has been issued, the space(s) is deemed safe and can be renovated, repurposed or demolished.

A copy of the signed *Facility Decommissioning Certificate* shall be maintained by the college/division/department/unit and be made available to other parties upon request who will be working in the space(s).

16 Training

Faculty, staff, students and visitors shall be made aware of the *Facility Decommissioning Standard* and the requirements therein by management within the respective college/division/department/unit.

Safety Resources shall provide awareness of and training on the standard through its health and safety training programs, and as deemed necessary, through other communication avenues. Safety Resources shall also provide additional training to individuals who will be decommissioning a space(s).

17 Records

Appropriate documentation and records shall be maintained by the responsible party, and by the college/division/department/unit engaged in the decommissioning of spaces. This includes, as applicable:

- Copies of university issued permits (biosafety and nuclear substances) and associated documentation;
- Pre-decommissioning and post-decommissioning inspection records;
- Hazard assessments and job safety analyses prepared prior to decommissioning;
- Hazardous waste disposal records;
- Test data collected to assess or verify decommissioning processes;
- Copies of completed and signed *Equipment Release Forms*;
- Transfer of hazardous materials records and authorization;
- Transportation of dangerous goods records;
- Regulatory records, correspondence and approvals associated with the decommissioning of the facility; and
- Completed and signed *Facility Decommissioning Certificate*.

Safety Resources shall maintain the following records:

- Copies of university issued permits (biosafety and nuclear substances) and associated documentation;
- Pre-decommissioning and post-decommissioning inspection records;
- Hazard assessments and job safety analyses prepared during decommissioning;
- Test data collected to assess or verify decommissioning processes;
- Transfer of hazardous materials records and authorization;
- Regulatory records, correspondence and approvals associated with the decommissioning of the facility; and

- Completed and signed *Facility Decommissioning Certificate*.

18 Compliance

In accordance with the University of Saskatchewan *Compliance Enforcement Pertaining to Hazardous Agents Policy*, the university will take specific and prompt action in order to enforce compliance with the terms and conditions of various licenses, permits, or certifications issued by, or to the university, and also with applicable federal and provincial statutes pertaining to the use, handling, storage, and disposal of hazardous materials.

This policy applies to individuals at the university who fail to exercise due diligence with regards to the decommissioning of space(s) in their charge where hazardous materials are used as prescribed in this standard.

Safety Resources services in support of decommissioning are provided at no charge to the client provided the *Facilities Decommissioning Standard* is adhered to. The responsible party or, college/division/department/unit will be responsible for all costs associated with the decommissioning of space(s) that have been closed or vacated without notice, or where required processes have not been adhered to.

19 Standard Review

The *Facility Decommissioning Standard* shall be reviewed every three years by Safety Resources. This standard may be reviewed at any time by Safety Resources if there is an identified need to make revisions to the standard.

20 References

- *Safety Resources Policy*, University of Saskatchewan.
- *Care and Use of Animals in Research*, University of Saskatchewan.
- *Compliance Enforcement Pertaining to Hazardous Agents*, University of Saskatchewan.
- *Biosafety Code of Practice*, Safety Resources.
- *Radiation Safety Code of Practice*, Safety Resources.
- *Hazardous Waste Disposal Standard*, Safety Resources.
- *Hazardous Energy Lockout Standard*, Safety Resources.
- *Job Safety Analysis*, Safety Resources.
- *Equipment Release Form*, Safety Resources.
- *Facility Decommissioning Certificate*, Safety Resources.
- *Saskatchewan Occupational Health and Safety Regulations*, Ministry of Labour Relations and Workplace Safety.
- *New Substance Notification Regulations*, Canadian Environmental Protection Agency.
- *Controlled Product Regulations*, Health Canada.

- *Controlled Drugs and Substances Act*, Health Canada.
- *Transportation of Dangerous Goods Regulations*, Transport Canada.

Revision History

Revisions to this standard are to be documented in Table 1, Revision History.

Table 1: Revision History

Document Section	Details of Amendments	Date	Author (Initials)
All	Update document with new department names	October 2013	JL
All	Periodic review and formatting update	September 2017	BB