# Plan for Administrative Oversight

## Introduction

Algonquin College's (AC) Biosafety Program was initially developed in 2010. As a result of the changes put forth by the Public Health Agency of Canada (PHAC) including the implementation of the Human Pathogens and Toxins Act (HPTA) and the Human Pathogens and Toxins Regulations (HPTR), AC has developed the following Plan for Administrative Oversight (PAO) for Pathogens and Toxins in a Research Setting (henceforth called 'the Plan'). The purpose of this Plan is to facilitate the development of internal accountability structures and support currently existing accountability structures that currently exist by bridging gaps in the oversight of pathogens at an institutional level thus mitigating any biological risks to AC. This Plan will be used by AC as part of the license submission process. This Plan is intended to provide an overview, from a high institutional level, of the mechanisms that are, or will be, in place at AC to administratively manage, control and reduce biosafety and biosecurity risks. The Plan includes an overview of how the elements are, or will be, managed and represented.

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## List of Abbreviations

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| AC | Algonquin College |
| ASET | Applied Science and Environmental Technology |
| BSC | Biological Safety Cabinet |
| BSO | Biological Safety Officer |
| CBS | Canadian Biosafety Standard |
| CBH | Canadian Biosafety Handbook |
| CDC | Center for Disease Control |
| CFIA | Canadian Food Inspection Agency |
| CL | Containment Level |
| DGR | Dangerous Goods Regulations |
| HEPA | High Efficiency Particulate Air |
| HPIR | Human Pathogen Importation Regulations |
| HPTA | Human Pathogens and Toxins Act |
| HPTR | Human Pathogens and Toxins Regulations |
| IATA | International Air Transport Association |
| IBSC | Institutional Biosafety Committee |
| JOHSC | Joint Occupational Health and Safety Committee |
| OHS | Occupational Health and Safety |
| PEP | Post-Exposure Prophylaxis |
| PHAC | Public Health Agency of Canada |
| PI | Principal Investigator |
| PPE | Personal Protective Equipment |
| PSDS | Pathogen Safety Data Sheet |
| rDNA | Recombinant DNA |
| RG | Risk Group |
| SDS | Safety Data Sheet |
| SOP | Standard Operating Procedure |
| SSBA | Security Sensitive Biological Agent |
| TDGA | Transportation of Dangerous Goods Act |
| TDGR | Transportation of Dangerous Goods Regulations |
| UV | Ultra-Violet |

## Glossary of Terms/ Definitions

**Accident:** An unplanned event that results in injury, harm or damage.

**Aerosol**: A suspension of particulates or liquid droplets in a gaseous medium, such as air.

**Airborne pathogen**: A pathogen that is capable of moving through or being carried by the air.

**Biohazardous material:** material of biological origin that may be potentially harmful to humans, animals, plants, the economy or the environment. Biohazardous materials include:

- Pathogenic microorganisms such as viruses, fungi, parasites and bacteria;
- Biological toxins from microorganisms, plants and animals;
- Materials that may contain the above-mentioned agents (e.g. cell cultures; tissue, blood and body fluids from humans and animals; environmental samples);
- Certain proteins, nucleic acids (siRNA, miRNA, DNA from pathogenic organisms, oncogenes);
- Genetically modified organisms (GMO) that may be hazardous to the environment if released

**Biological material:** pathogenic and non-pathogenic microorganisms, proteins and nucleic acids, as well as any biological material that may contain them. Biological material that contains human or animal pathogens is referred to as “Infectious material”.

**Biological toxins**: poisonous substances naturally produced by living organisms (microorganisms, plants and animals).

**Biological safety cabinet (BSC):** A primary containment device that provides protection for personnel, the environment, and depending on the BSC class, the product, when working with biological material.

**Biological safety officer (BSO):** A specific individual designated for overseeing facility biosafety and biosecurity practices.

**Biosafety**: The application of containment principles, technologies and practices to prevent unintentional exposure to infectious material or toxins, or their accidental release. See also: Microbial toxins.

**Biosafety Manual:** A facility-specific manual that describes the necessary core elements of a biosafety program (e.g. biosecurity plan, training, personal protective equipment).

**Biosecurity**: measures implemented to prevent the loss, theft, misuse, diversion or intentional release of infectious materials or toxins.

**Biosecurity risk assessment**: A risk assessment in which relevant pathogens, toxins, infectious material, and other related assets (e.g. equipment, animals, information) are identified and prioritized. Associated threats and risks of these materials are identified, and suitable mitigation strategies are determined to protect against any potential theft, misuse, diversion, or intentional release of these materials.

**Containment**: physical design parameters and operational practices that protect personnel, the immediate work environment and community from exposure to biological material.

**Containment level (CL):** The minimum required physical containment and operational practices for safely handling infectious material or toxins in laboratory, large scale production, and animal work environments. As defined by the CBS, there are four containment levels ranging from a basic laboratory (containment level 1 [CL1]) to the highest level of containment (containment level 4 [CL4]).

**Containment system:** Equipment dedicated to providing and maintaining containment. This includes, but is not limited to, primary containment devices (e.g. biological safety cabinets), decontamination apparatus (e.g. autoclaves), heating, ventilation and air conditioning (HVAC), and control systems.

**Contamination:** Unwanted infectious material/toxins within laboratory materials (e.g. laboratory samples, cell cultures) or laboratory surfaces (e.g. benchtop, hands, gloves).

**Controlled activities:** Any of the following activities referred to in Section 7(1) of the Human Pathogens and Toxins Act: possessing, handling or using a human pathogen or toxin; producing a human pathogen or toxin, storing a human pathogen or toxin; permitting any person access to a human pathogen or toxin; transferring a human pathogen or toxin; importing or exporting a human pathogen; releasing or otherwise abandoning a human pathogen or toxin; or disposing of a human pathogen or toxin.

**Culture:** The *in vitro* propagation of tissue cells, microorganisms, or other living matter under controlled conditions (e.g., temperature, humidity, nutrients).

**Decontamination**: process by which materials and surfaces are made reasonably free of microorganisms or toxins, and thus are safe to handle. Decontamination may be achieved through disinfection, inactivation or sterilization.

**Disease**: A structural and/or functional disorder in a living human or animal, or one of its parts, resultant of infection or intoxication. Disease typically manifests via distinguishing signs and symptoms.

**Disinfection**: A process used to eliminate most forms of living microorganisms.

**Emergency Response Plan**: A document that outlines the procedures to be taken and the parties responsible in emergencies such as spills, exposure, release of infectious material or toxins, personnel injury or illness, power failure, fire, explosion or other emergency situations (e.g. severe weather, hurricane, armed intruder).

**Endemic:** Naturally present in or limited to a particular geographic area.

**Exposure**: Contact with, or close proximity to, infectious material or toxins that may result in infection or intoxication respectively. Routes of exposure include inhalation, ingestion, inoculation, and absorption.

**Genetically Modified Organism (GMO):** Genetically modified organisms (GMOs) can be defined as organisms (i.e. plants, animals or microorganisms) in which the genetic material (DNA) has been altered in a way that does not occur naturally by mating and/or natural recombination (WHO, 2014).

**Good Microbiological Laboratory Practices (GMLP):** Basic laboratory practices applicable to all types of activities with biological material.

**Handling or storing:** "Handling or storing" pathogens, toxins, or infectious material includes possessing, handling, using, producing, storing, permitting access to, transferring, importing, exporting, releasing,

disposing of, or abandoning such material. This includes all controlled activities involving human pathogens and toxins specific in Section 7(1) of the Human Pathogens and Toxins Act.

**High concentration:** Infectious material or toxins that are concentrated to a degree that increases the risks associated with manipulating the material (i.e., increases the likelihood or consequences of exposure).

**High efficiency particulate air filter (HEPA):** A device capable of filtering 99.97% of airborne particles 0.3µm in diameter, the most penetrating particle size. Due to the effects of impaction, diffusion, and interception, HEPA filters are even more efficient at trapping and retaining particles that are either smaller or larger than 0.3µm in diameter.

**Incident:** An event or occurrence with the potential of causing injury, harm, infection, intoxication, disease, or damage. Incidents can involve infectious material, infected animals, or toxins, including a spill exposure, release of infectious material or toxins, animal escape, personnel injury or illness, missing infectious material or toxins, unauthorized entry into the containment zone, power failure, fire, explosion, flood, or other crisis situation (e.g. earthquake, hurricane). Incidents include accidents and near misses.

**Infectious material**: Any isolate of a pathogen or any biological material that contains human or animal pathogens.

**Injury:** The occurrence of a sudden and unforeseen event, arising out of, or in the course of a College Sanctioned Activity, attributable to any factor that caused an injury or an occupational disease (an exposure to conditions or substances that resulted in a disease).

**Inventory:** A list of (biological) assets associated with a containment zone identifying pathogens, toxins, and other infectious material in storage both inside and outside the containment zone.

**In vitro:** Latin for “within glass”; describes experimentation involving components of a living organism within an artificial environment (e.g. manipulation of cells in a petri dish), including activities involving cell lines or eggs.

**In vivo:** Latin for “within the living”; describes experimentation conducted within the whole living organism (e.g. studying the effect of antibiotic treatment in animal models).

**Laboratory:** An area within a facility or the facility itself where biological material is handled for scientific or medical purposes.

**Large scale:** Activities generally involving volumes of toxins or the in vitro culture of infectious material on a scale of 10 litres or greater. This could be a single vessel with a volume of 10 litres or greater, or based on the processes and pathogen used, could be multiple vessels with a total volume of 10 litres or greater. It is determined in consultation with the Public Health Agency of Canada and/or the Canadian Food Inspection Agency on a case-by-case basis, whether or not particular activities conducted in a containment zone are required to follow the increased or unique requirements for large scale production areas.

**Large volume:** A volume of infectious material or toxins that is sufficiently large to increase the risk associated with the manipulation of the material (i.e., increases the likelihood or consequences of exposure or release).

**Local Risk Assessment (LRA)**: Site-specific risk assessment that identifies hazards based on the infectious material or toxins in use and the procedures being performed.

**Medical surveillance program**: A program for prevention and detection of illness related to laboratory exposure to infectious material or toxins. The program emphasizes prevention, but also provides a process through which potential infections are identified and treated before disease occurs.

**Microbial toxins**: A subcategory of biological toxins. Microbial toxins are poisonous substances produced by microorganisms (bacteria, viruses, fungi).

**Microorganism**: A cellular or non-cellular microbiological entity, capable of replication or transferring genetic material and that cannot be reasonably detected by the naked human eye. Microorganisms include bacteria, fungi, viruses, and parasites, and may be pathogenic or non-pathogenic in nature.

**Movement**: The action of moving people, material or animals from one physical location to another in the same building. This can include movement within the same containment zone, to a difference containment zone, or to another location within the same building.

**Near-Miss:** The occurrence of event on College Property, arising out of, or in the course of a College Sanctioned Activity attributable to any factor that could have caused an injury or material damage.

**Operational practice requirements:** Administrative controls and procedures used in the laboratory to protect personnel, the environment and the community from biohazards.

**Overarching risk assessment:** A broad risk assessment that supports the biosafety program as a whole and may encompass multiple containment zones within an institution or organization. Mitigation and management strategies reflect the type of biosafety program needed to protect personnel from exposure and to prevent the release of pathogens and toxins.

**Pathogen**: An agent (e.g., a microorganism, nucleic acid or protein) that can cause disease or infection in humans and/or animals.

**Pathogen risk assessment**: The determination of the risk group and appropriate physical containment and operational practice requirements needed to safely handle the infectious material or toxins in question.

**Pathogenicity**: The ability of a pathogen to cause disease in a human or animal host.

**Personal protective equipment (PPE)**: Equipment and/or clothing worn by personnel to provide a barrier against infectious material or toxins, thereby minimizing the risk of exposure. PPE may include, but is not limited to, lab coats, gowns, full-body suits, gloves, protective footwear, safety glasses, safety goggles, masks, and respirators.

**Physical containment requirements:** Physical barriers, *i.e.* engineering controls and facility design that protect personnel, the environment and the community from biohazards.

**Post-Exposure Prophylaxis:** Is a short-term antiretroviral treatment aimed at reducing the likelihood of viral infection after potential exposure.

**Primary containment**: Protection of workers and laboratory from exposure to infectious material and toxins by provision of a physical barrier between the individual and/or the work environment and the biological material.

**Primary containment device**: Apparatus or equipment that is designed to prevent the release of infectious material or toxins and to provide primary containment (i.e., provide a physical barrier between the individual and/or the work environment and the biological material). Examples of primary containment devices include biological safety cabinets, isolators, and centrifuges with sealable cups, process equipment, fermenters, micro isolator cages, and ventilated cage racks.

**Prion**: Small proteinaceous infectious particle generally considered to be responsible for causing a group of neurodegenerative diseases in humans and animals known as transmissible spongiform encephalopathies.

**Process equipment**: Specific equipment used to carry out a manufacturing procedure involving biological material. This term is generally used to describe equipment used in large scale processes (e.g., industrial fermentation equipment).

**Release**: The discharge of infectious material or toxins from a containment system.

**Restricted Access**: Access that is strictly controlled to authorized personnel only by means of a physical barrier (i.e. a controlled access device or system, such as an electronic access card, access code, etc.).

**Risk:** The probability that a person will be harmed or experience an adverse health effect if exposed to a hazard.

**Risk Group (RG):** The classification of biological material based on its inherent characteristics, including pathogenicity, virulence, risk of spread, and availability of effective prophylactic or therapeutic treatments, that describes the risk to the health of individuals and the public as well as the health of animals and the animal population.

**Scientific Research:** As defined in Section 1 of the Human Pathogens and Toxins Regulation: the following types of systematic investigation or research that are carried out in a field of science or technology by means of controlled activities:

> **a)** Basic research: when the controlled activities are conducted for the advancement of scientific knowledge without a specific practical application.
>
> **b)** Applied research: when the controlled activities are conducted for the advancement of scientific knowledge with a specific practical application.
>
> **c)** Experimental development: when the controlled activities are conducted to achieve scientific or technological advancement for the purpose of creating new – or improving existing – materials, products, processes, or devices.

**Standard Operating Procedure (SOP)**: A document that identifies the hazards associated with a project and describes safe work practices and procedures to minimize or eliminate risk.

**Sterilization:** A process that completely eliminates (destroys) living microorganisms, including bacterial spores.

**Terrestrial animal pathogen**: An agent that causes disease in terrestrial animals, including avian and amphibian animals, but excluding invertebrates and aquatic animals.

**Toxins:**

- Biological Toxins: poisonous substances naturally produced by living organisms such as microorganisms, plants and animals.
- Microbial Toxins: a subcategory of biological toxins. Microbial toxins are poisonous substances produced by microorganisms (bacteria, viruses, fungi).

**Transfer:** A change in possession of pathogens, toxins, or other regulated infectious material between individuals from the same or different facilities (i.e., the movement from the place or places specified in the licence or animal pathogen import permit to any other place).

**Transportation**: Shipping of infectious material or toxins to another building or location, within Canada or abroad, in accordance with the *Transportation of Dangerous Goods Act* and *Regulations*.

**Virulence**: The degree or severity of a disease caused by a pathogen.

**Waste**: Any solid or liquid material generated by a facility for disposal.

**Zoonoses**: Diseases transmissible between animals and humans. This includes anthropozoonoses, which are diseases that are transmitted from animals to humans, and Zooanthroponoses (“reverse zoonoses”), which are transmitted from humans to animals.

## Criteria 1: Commitment from senior management to manage and control biosafety and biosecurity risks at the institution/organization.

The College Executive team has endorsed a comprehensive Enterprise Risk Management program, which is monitored by the Board of Governors. Risk management is operationalized through a series of policies dealing with Risk Management, Occupational Health & Safety and Emergency Management, and Legal Affairs. The implementation of these programs is evidenced in the application of a series of health and safety programs and standards and through planning documents such as the Emergency Management Framework and Business Continuity Plan. This creates a robust policy landscape, within which the management of biosafety and biosecurity risk occurs.

Algonquin College's corporate policy HS01: Occupational Health and Safety outlines institutional obligations and clarifies supervision and/or management responsibilities for health and safety throughout the College. The Department of Applied Science and Environmental Technology (ASET) is responsible for the management of all laboratory spaces and activity associated with biohazards and the biosafety and biosecurity risks they present at the College. The ASET Department has established a departmental policy ASET-HS-01: Biosafety Policy that outlines Algonquin's commitment to administratively manage and control biosafety and biosecurity risks in accordance with the applicable legislation, regulations and standards. This policy serves to protect members of the Algonquin community, the public, and the environment when biohazardous materials are used in education, applied research, or any other activity in the ASET Department.

Under the authority of departmental policy *ASET-HS-01: Biosafety Policy*, the ASET Department has developed *ASET-LSS-01: Biosafety Safety Standards and Operating Practices* that outlines ASET laboratory safety standards and operational practices and procedures which serve to reduce hazards and enhance safety. The official versions of these documents are found on the Algonquin College Biosafety website and are updated continuously as changes are approved by the ASET Department and the Department of Occupational Health and Safety.

Actioned from *ASET-HS-01: Biosafety Policy* is the Institutional Biosafety Committee (IBSC). The Biosafety Committee will generally meet semi-annually or as needed to deal with safety issues, concerns, policy/protocol improvements or other matters that may be of a biological safety nature. The Co-Chairs of the IBSC (Chair, Applied Science and Environmental Technology and the Manager of Occupational Health and Safety) prepare and submit an IBSC executive summary report once per year to Senior Managers at the College to summarize the continued management of biosafety and biosecurity risks at Algonquin College.

Senior Management Letter of Commitment

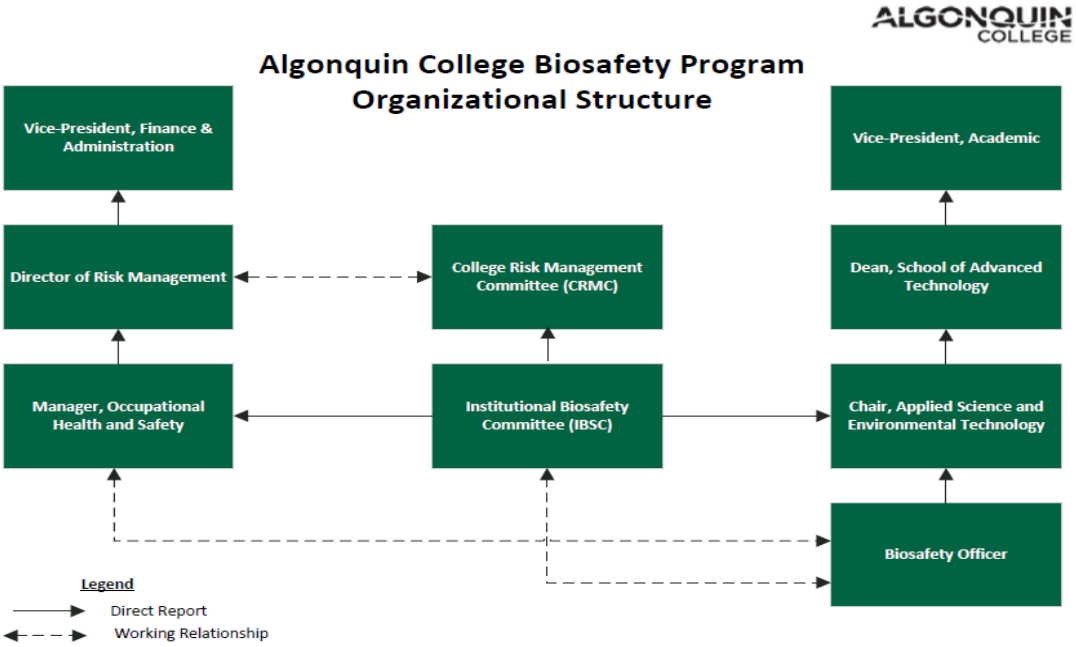
The Senior Management Team at Algonquin College is committed to managing and controlling biosafety and biosecurity risks through the provision and maintenance of a Biosafety Program. The College will maintain a Biosafety Program comprised of the Overarching Risk Assessment, the Plan for Administrative Oversight (PAO) for Biosafety and Biosecurity, the Biosafety Manual, and the Institutional Biosafety Committee (IBSC) Terms of Reference. The one Containment Level 2 (CL2) space is located in Room A130 and is owned and managed by the Department of Applied Science and Environmental Technology (ASET). Other documents that support the implementation and operation of the Biosafety Program (eg. Laboratory Safety Standards, Standard Operating Procedures, etc.) are updated

continuously and published to the Algonquin College Biosafety website as changes are approved by the relevant institutional stakeholders.

## Criteria 2: Delineation of roles and responsibilities for committees, individuals, departments, etc., that have a role in the control/management of biosafety and biosecurity risks.

Algonquin College ensures that all Biosafety and Biosecurity hazards are monitored and evaluated through a clear reporting structure, as shown below:

Algonquin College Biosafety Program Organizational Structure




### Institutional Biosafety Committee (IBSC)

The Institutional Biosafety Committee (IBSC) is an advisory committee comprised of members of the College community who are knowledgeable in the safe use of biohazardous materials. The IBSC is mandated to fulfil the responsibilities of the Institutional Biosafety Committee as described in the Canadian Biosafety Handbook (CBH). The IBSC is involved in the management of the Biosafety program and is responsible for policy process oversight in order to ensure all persons working with biohazardous materials are in compliance with all applicable regulations, guidelines, standards and laws. The committee shall ensure Biosafety and Biosecurity oversight in compliance with the Public Health Agency of Canada (PHAC) and the Canadian Food Inspection Agency (CFIA) who have developed the Canadian Biosafety Standard (CBS) [2015] and the Canadian Biosafety Handbook (CBH) [2016] which comply with the Human Pathogens and Toxins Act (HPTA), the Human Pathogens and Toxins Regulations (HPTR), the Health of Animals Act (HAA) and the Health of Animals Regulations (HAR) to regulate activities in Canada involving human and animal pathogens and toxins. The responsibilities, mandate and membership of the Committee are outlined in Algonquin College's IBSC Terms of Reference.

**Institutional Biosafety Committee Membership**

The IBSC shall be comprised of members of the College community with experience and training that enables them to advise on the containment principles, technologies, and operational practices to prevent unintentional exposure to pathogens or toxins. Members of the committee are appointed by the Chair, Department of Applied Science and Environmental Technology (ASET) in consultation with the Manager, Occupational Health and Safety (OHS).

Compulsory members of the IBSC include:

1. Manager, Occupational Health and Safety (OHS)
    - Manager at Algonquin College
    - IBSC Co-Chair
    - License Holder under the Human Pathogens and Toxins Act (HPTA)
    - Training in Industrial Hygiene
2. Chair, Department of Applied Science and Environmental Technology (ASET)
    - Manager at Algonquin College
    - IBSC Co-Chair
    - Graduate degree in Biology/Biochemistry/Biotechnology or a closely-related field
3. Biosafety Officer(s)
    - Diploma or degree in Biology/Biochemistry/Biotechnology or a closely-related field
    - Biology and Microbiology training

Additional members of the IBSC are appointed by the Co-Chairs of the IBSC and may include other members of the College community (see below) and the appointment of any additional members of the IBSC shall be reviewed annually by the IBSC Co-Chairs.

Optional Members of the IBSC include:

4. Laboratory Technologist(s)
    - Subject-matter expert(s) and laboratory practitioner expert(s) in Biology/Biochemistry/Biotechnology or a closely-related field
5. Faculty Member(s)
    - Subject-matter expert(s) in Biology/Biochemistry/Biotechnology or a closely-related field
6. Director of Applied Research, or designate
7. Other member(s) as deemed appropriate and duly appointed by the Co-Chairs of the IBSC

**Institutional Biosafety Committee Accountability**

The IBSC is responsible for Containment Level 2 (CL2) Biosafety and Biosecurity oversight of work conducted at Algonquin College in the A130 laboratory. This CL2 designated laboratory is owned by the Department of Applied Science and Environmental Technology (ASET) and regulated by departmental policy *ASET-HS-01: Biosafety Policy*. The committee ensures that activities in the CL2 laboratory are conducted in compliance with the Canadian Biosafety Standard (CBS), 2nd edition, 2015, and the Canadian Biosafety Handbook (CBH), 2nd edition, 2016. The IBSC reports to senior executives through

the committee co-chairs. The Manager, OHS as well as the Biosafety Officer(s) also serve on the Joint Occupational Health and Safety Committee (JOHSC) at the Ottawa campus so that information can flow freely between the IBSC and the JOHSC as needed. The JOHSC is a college-wide committee whose primary responsibilities include the inspection of the physical condition of the workplace on a regular basis; monitoring reporting functions of serious injuries; and making recommendations to the College regarding measures, procedures which serve to reduce hazards and enhance safety.

The ASET department is responsible for internal controls to minimize physical, chemical and biological hazards. The Manager, OHS (Co-Chair of the IBSC) provides organizational support in all areas of health and safety including audits as well as environmental safety, fire and life safety, hazardous materials, hazardous waste disposal and occupational hygiene. Members of the Institutional Biosafety Committee monitor the continued use of approved containment practices and the maintenance of the facility during routine internal inspections. The frequency of these inspections is determined by the Co-Chairs of the Biosafety Committee and relates to the level of risk. An internal audit procedure and inspection checklist can be found in *ASET-LSS-01: Biosafety Standards and Operational Procedures*. Results of the internal inspections are relayed to the IBSC and, if necessary, to the College Risk Management Committee for review and corrective actions.

Through the co-chair (Manager, OHS), the IBSC reports to the College Risk Management Committee (CRMC). The CRMC has complete oversight on all risk management, health and safety, biosafety and biosecurity risks at the college. The CRMC Mandate is: “Under the authority and direction of the President’s Council (PC), the College Risk Management Committee (CRMC) is responsible for advancing and promoting an enterprise risk management framework, stewardship of College policy surrounding risk management and risk management practices, monitoring the risk profile of the College and providing guidance and leadership related to changes in the development, implementation and monitoring of risk mitigation measures on an ongoing basis.” Any biosafety or biosecurity issues that cannot be resolved at the IBSC level and/or any conflicts of interests that are identified at the IBSC level are referred to CRMC. CRMC would make recommendations to the Vice-President, Finance and Administration (Executive Sponsor of the CRMC). The Executive Sponsor has the final decision-making authority.

College Risk Management Committee (CRMC) Membership includes:

- Director Information Technology Services (Co-Chair)
- Associate Director Safety, Security & Emergency Management (Co-Chair)
- Executive Assistant to VP Finance & Administration (Recorder)
- Coordinator Risk Management (Vacant)
- Acting Executive Director Academic Operations & Planning
- Director International Education Centre
- Director Finance & Administrative Services
- Director Physical Resources
- Director Student Support Services
- Director Labour Relations
- Coordinator Emergency Management

CRMC committee membership can be found at https://www.algonquincollege.com/safety-security-services/home/risk-insurance-management/

**Institutional Biosafety Committee Responsibilities**

The IBSC is responsible for the following:

1. Formulate and recommend effective procedures governing the use of biohazardous materials/agents in the ASET Department at Algonquin College in accordance with CBS, CBH, PHAC, and CFIA standards and guidelines;
2. Advise on content and review the Biosafety program every five (5) years or as regulatory requirements change;
3. Review and promote training programs that enhance ASET's Biosafety program;
4. Provide advice on the safe use of biohazardous agents and materials under the control of the ASET Department;
5. Provide advice and make itself available to the Biosafety Officer(s) for issues regarding any biohazardous agents/materials, procedures, protocols or events. And respond to biosafety issues that require immediate consultation;
6. Review reports of all inspections, incidents, unusual occurrences and relevant materials presented by the BSOs. Make any recommendations deemed appropriate based on the information supplied in these reports;
7. Review all audits and reports regarding biosafety sent to the ASET Department by Federal, Provincial or Municipal authorities. Make any recommendations deemed appropriate based on the information supplied in these audits or reports;
8. Approve requests to commission/decommission laboratories in which biohazardous agents were or will be used.

The Chair, ASET Department is responsible for the following:

1. Develop policies and implement effective procedures for implementation of CBS, PHAC, and CFIA standards and guidelines;
2. Ensure compliance with regulation for the use of, or exposure to, biohazardous materials;
3. Ensure that training sessions regarding biosafety and biohazards are completed by all lab users;
4. Conduct investigations of any incidents related to accidents, injury, and/or noncompliance related to biosafety;
5. Authorize purchase requests for biohazardous materials.

The BSO(s) is responsible for the day-to-day operations of the biosafety program including but not limited to the following:

1. Acts as a liaison between Algonquin College and PHAC on regulatory issues. To assist the Chair, ASET in developing policies and implementing effective procedures for implementation of CBS, PHAC, and CFIA standards and guidelines;
2. Monitor compliance by conducting risk assessments and internal inspections/audits;
3. Develop, oversee, and document biosafety-related training;
4. Notify the Chair, ASET and Manager, Occupational Health and Safety (license holder) of any lab acquired infections, inadvertent possession of human toxins, pathogens not received as expected.
5. Inform the license holder of any non-compliance by a person conducting activities under the license;
6. Establish procedures for dealing with spills;
7. Keep abreast of legislation concerning biohazardous materials and advise the IBSC about potential impacts on the College;

8. Determine the containment requirements and list any safety concerns of materials before submitting purchase requests for biohazardous materials;
9. Assist the Chair, ASET in investigations of any incidents related to accidents, injury, and/or noncompliance related to biosafety;
10. Compile and provide any reports/documentation as required by the regulatory agencies;
11. Verify the accuracy and completeness of licence applications or renewals;
12. Work collaboratively with all management, faculty, staff, students, and external agents as it relates to the continual improvement of the Biosafety program.

**Summary**

Algonquin College's Biosafety Program consists of two constituent elements: (i) B*iosafety*, namely the containment principles, technologies, and operational practices to prevent unintentional exposure to pathogens or toxins, and (ii) *Biosecurity*, namely the security measures to mitigate loss, theft, or misuse of biohazardous materials. Sound management of the biosafety program necessarily requires participation of different organizational units and the implementation of the biosafety program is therefore a responsibility shared between those different organizational units.

The components of the Biosafety Program are outlined in detail in Algonquin College's Biosafety Manual. Guidance for the safe handling and storage of human and animal pathogens and toxins are found in the Canadian Biosafety Handbook (CBH) and the Canadian Biosafety Standard (CBS).

The IBSC committee is empowered to advise the License Holder on matters pertaining to Biosafety policy, procedure and any other measures relevant to the administration of the Biosafety Program at Algonquin College. Authority for this committee and its role is referenced in the Department of Applied Science and Environmental Technology (ASET's) Biosafety Policy *ASET-HS-01: Biosafety Policy*. The IBSC is responsible for Containment Level 2 (CL2) Biosafety and Biosecurity oversight of work conducted at Algonquin College in the A130 laboratory. This CL2 laboratory is owned by the Department of Applied Science and Environmental Technology (ASET). The IBSC reports to the College Risk Management Committee (CRMC) through the Manager Occupational Health and Safety and to the Senior Vice President-Academic through the Chair, ASET via the Dean, School of Advanced Technology. Biosafety Officer(s) at Algonquin College work within the Department of Applied Science and Environmental Technology (ASET) and report to the Chair, ASET. The BSO(s) also have a working relationship with the Manager of Occupational Health and Safety who is the PHAC Pathogen and Toxin License Holder. Also, the BSO(s) are member(s) of the Joint Occupational Health and Safety Committee (JOHSC) at Algonquin College – Ottawa campus.

The ASET Department is responsible for administering Algonquin College's Biosafety Program. The Chair, ASET and the Biosafety Officer(s) work together to ensure compliance. The Chair, ASET Department is responsible for ensuring Algonquin College's Biosafety Program is administered and all staff and students are trained to CBS and PHAC standards. Based on this training, staff are held accountable for the health and safety of employees and students under their supervision. They will ensure that workers and students work in compliance with legislation and established safe work procedures. Regular review of the CL2 lab and procedures associated with its day-to-day operations is completed by the Biosafety Officer(s) and other members of the IBSC and results of the internal inspections are relayed to the IBSC and, if necessary, to the College Risk Management Committee for review and corrective actions.

### Criteria 3: Establishment of a single point of contact to provide guidance on the Plan and a senior level 'champion' who can represent biosafety issues at a senior level on his/her behalf.

The BSO(s) acts as the single point of contact to provide guidance on the Biosafety Plan through contact with the Chair of ASET.

Ms. Pamela Auchterlonie
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Academic Technologist, Biosafety Officer
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The Co-Chairs of the Institutional Biosafety Committee communicate matters of biosafety and biosecurity to Senior Level Management through two mechanisms. Mr. Benkie reports to the College and Risk Management Committee (CRMC). The academic area reports to the Senior VP-Academic through Mr. Adam Shane, Chair Department of Applied Science and Environmental Technology.

Mr. Mike Benkie
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## Criteria 4: Overview of how biosafety and biosecurity risks, including those from research with dual-use potential, are identified at the institution/organization.

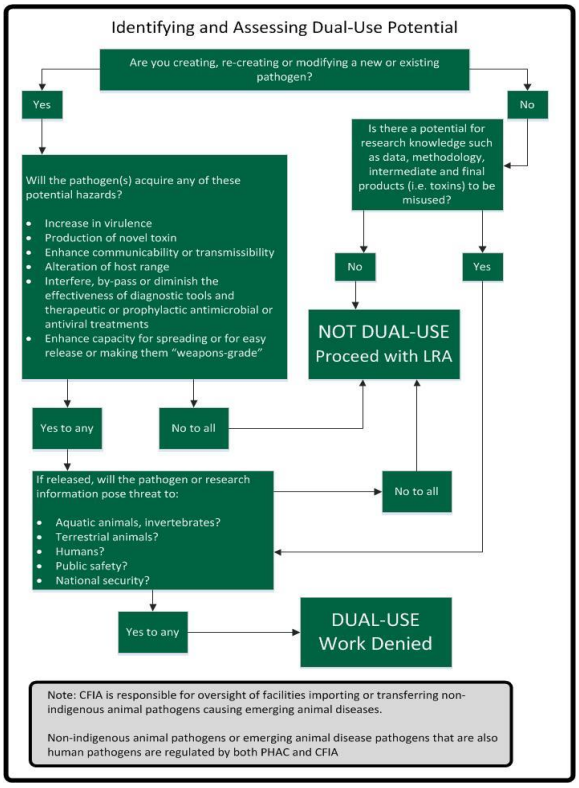
### Overarching Risk Identification

An Overarching Risk Assessment is performed at the department level to identify the hazards and risk management programs needed for the safe use of biological materials. The Overarching Risk Assessment is completed by the ASET Chair and BSO(s), drawing on the IBSC and local subject matter experts. The Overarching Risk Assessment identifies risk through pathogen risk assessment, local risk assessment (or lab activity risk assessment), and biosecurity risk assessment. The ORA is reviewed and updated as the ASET Department adds new laboratory teaching programs or as existing programs are significantly changed.

### Local Risk Identification to support Biosafety and Biosecurity

Local risk assessment or Lab Activity Risk Assessment is an all-hazards approach to identifying chemical, biological and physical hazards as well as biosecurity risks. The Chair, ASET, the BSO(s), faculty, and students all share in identifying operational risks in the A130 teaching lab. These risks are identified during the setup, operation and clean up of lab activities. Lab activities are continually modified and updated to limit risk.

Faculty and/or principal investigators submit lab activity protocols and requests for reagents and biological organisms to the BSO(s). The BSO(s) use the *Lab Activity Risk Assessment Tool* (found in Appendix 2 of the Biosafety Manual) to identify all the hazards present and their associated risk minimization strategies. As part of the Lab Activity Risk Assessment, the potential for dual-use is identified. Dual-use activities are prohibited in ASET. Dual-use potential is identified by following PHAC's Decision Tree for the Identification of Dual-Use Potential in Life Sciences Research.



Before a laboratory activity or protocol is used for work with biohazardous materials, it must be submitted to the BSO(s) for review. The BSO(s) then undertake a complete risk assessment of the project proposal including assessing the possibility of aerosols and other dangers. The Lab Activity Risk Assessment for each lab protocol is reviewed and updated as faculty create new laboratory teaching activities or as existing activities are significantly changed.

Once the BSO(s) have reviewed the laboratory activity or protocol, it is either returned to the faculty and/or principal investigator for modifications or it is authorized (by signature) by the BSO(s), thus indicating that the laboratory activity or protocol is authorized for use by the ASET Department. In cases where the BSO(s) are unsure, a recommendation is made to the Chair-ASET who will conduct a risk assessment review and has final authority.

In general, a local risk assessment will:

- Identify the Risk Group of the microorganism (or tissue that might contain this microorganism) Note: consult the Biosafety Officer who can access the PHAC database of over 8000 agents to which they have assigned a risk group;
- Describe the potential hazard associated with the microorganism, including symptoms of disease (which it is important for all lab members to know so that they will be aware of any potential lab acquired infection so that it can be diagnosed and treated appropriately);
- Describe what is being done with the material and where;
- Consider the procedures' potential for generating aerosols that might contain and spread infectious agents;
- Indicate whether or not sharps will be used and the precautions associated with them;
- Describe the overall risk mitigation strategy and details of this strategy including:
    a. Physical containment (i.e. lab design) can be indicated by stating which containment level 1 or 2 laboratories will be used for the different types of work
    b. Operational requirements
        - Containment equipment and supplies required e.g. Biological Safety Cabinet, centrifuge cups with aerosol resistant lids containing o-rings, closed, screw-capped tubes
        - Note: Aerosol generating procedures with unfixed biological agents which need to be conducted in a biological safety cabinet include but are not limited to sonication and homogenization. If the production of significant Risk Group 2 aerosols is unavoidable, then aerosols must be contained by using equipment such as a biological safety cabinet (BSC).
    c. Appropriate personal protective equipment (PPE)
    d. Describe what is to be worn and for which procedures and materials if there are different PPE requirements
    e. Decontamination and disposal methods
    f. Medical surveillance (e.g. immunization, titre checks, first aid and medical response to accidental exposure)
    g. Training needs

The Public Health Agency of Canada has developed a biological agent search tool: ePATHogen. It contains a searchable list of biological agents with their associated human and animal risk group classifications, as well as the associated containment level (CL), Security Sensitive Biological Agent

(SSBA) status, regulatory authority, and containment considerations. A list of regulated toxins is also included. If a biological agent of interest is not listed in ePATHogen, a pathogen risk assessment will need to be conducted to determine the human and animal risk group classifications. Consult the online Canadian biosafety guideline Pathogen Risk Assessment which describes this process. Furthermore, consult the pathogen risk assessment page to download an editable template.

A department-authorized laboratory protocol will include the following components:

- Detailed description of the laboratory activity;
- A reagent table that includes SDS and PSDS information, PPE, waste disposal and engineering controls to reduce risk;
- A reagent request form (RRF) that includes individual and total quantities of chemicals and biohazardous material; the RRF also includes information on which equipment is to be used.

And it is expected that all authorized faculty, staff, and/or students conducting laboratory work must read and follow these department-authorized laboratory protocols.

### Biosecurity Risk Assessment

The ASET Department has training and reporting mechanisms in place to promote, maintain, and reinforce the Biosecurity practices listed below.

**Physical security:**

- Provide electronic card access to A129 and A130 lab to only authorized individuals;
- Do not copy keys or give keys/electronic security devices to unauthorized individuals;
- Lock laboratory doors when the lab is not occupied;
- Challenge anyone unfamiliar who is unaccompanied in the areas that do not have public access; if not comfortable challenging them then report to Campus Security at x5000 and the Biosafety Officer(s) as well as the Chair, ASET;
- Do not give biohazardous material to anyone who is not an authorized;
- Do not transfer biohazardous material from one lab to another;
- Loss or theft of biohazardous material (or other material from laboratories) is to be reported immediately to the Biosafety Officer(s) and the Chair, ASET.

**Infectious Material and Toxin Accountability:**

- Algonquin College shall not approve the use of biohazardous materials that are classified as greater than CL2. All biological material must undergo a risk assessment and any special biosecurity requirements shall be identified during the risk assessment;
- Any organisms with dual-use potential are not authorized for use at Algonquin College;
- Maintain an inventory tracking system so that missing material is readily identified;
- Report any loss/theft of biohazardous material to the Biosafety Officer(s) and the Chair-ASET;
- Complete an annual audit of inventory and file this documentation in a central electronic database that is under the management of the ASET Department.

**Incident and emergency response:**

- Report incidents, including missing infectious material/toxins or signs of forced entry, to the Chair, ASET and Biosafety Officer(s) for a follow-up investigation.

**Personnel suitability and reliability:**

- Ensure that individuals have the appropriate training, experience, competency and personality traits to carry out the work.

All lab users responsibilities:

- Lock laboratory doors when the lab is not occupied;
- Challenge anyone unfamiliar who is unaccompanied in the areas that do not have public access; if not comfortable challenging them then report to Campus Security at x5000 and the Biosafety Officer(s) as well as the Chair, ASET;
- Do not give biohazardous material to anyone who is not an authorized;
- Do not transfer biohazardous material from one lab to another;
- Loss or theft of biohazardous material (or other material from laboratories) is to be reported immediately to the Biosafety Officer(s) and the Chair, ASET;
- Report any loss/theft of biohazardous material to the Biosafety Officer(s) and the Chair-ASET;

BSO responsibilities:

- Lock laboratory doors when the lab is not occupied;
- Challenge anyone unfamiliar who is unaccompanied in the areas that do not have public access; if not comfortable challenging them then report to Campus Security at x5000 and the Biosafety Officer(s) as well as the Chair, ASET;
- Do not give biohazardous material to anyone who is not an authorized;
- Do not transfer biohazardous material from one lab to another;
- Do not approve the use of biohazardous materials that are classified as greater than CL2;
- Perform a risk assessment on all laboratory activities before their delivery in the A130 lab and identify any special biosecurity requirements shall during the risk assessment;
- Do not authorize any organisms with dual-use potential for use at Algonquin College;
- Maintain an inventory tracking system so that missing material is readily identified;
- Complete an annual audit of inventory and file this documentation in a central electronic database that is under the management of the ASET Department;
- Report any loss/theft of biohazardous material to the Chair-ASET;
- Report incidents, including missing infectious material/toxins or signs of forced entry, to the Chair, ASET.

Chair - ASET responsibilities:

- Provide electronic card access to A129 and A130 lab to only authorized individuals;
- Do not copy keys or give keys/electronic security devices to unauthorized individuals;
- Maintain facility requirements including self-locking doors and posting any required door signage (eg. biohazardous sign, containment level, contact information)
- Maintain electronic records of who has authorized access to the A130 laboratory at all times and store this information in a central repository managed by the ASET Department;
- Do not approve the use of biohazardous materials that are classified as greater than CL2;
- Do not authorize any organisms with dual-use potential for use at Algonquin College;
- Ensure that individuals have the appropriate training, experience, competency and personality traits to carry out the work;
- Perform a follow-up investigation regarding any reported biosecurity incidents in the A130 lab and apply corrective action(s) pertaining to any biosecurity nonconformities.

License holder responsibilities:

- Maintain electronic records of who has accessed the A130 laboratory using department-authorized e-access cards;
- Provide this list of entry events to Room A130 to the Chair- ASET upon request.

**Criteria 5: Overview of how biosafety and biosecurity risks, including those from research with dual-use potential, are assessed once they have been identified at an institutional/organizational level.**

Risks identified by the Overarching Risk Assessment are assessed for the severity of consequences and the probability of occurrence. The ASET chair and the BSO(s), in consultation with the IBSC whenever necessary, assess risks using SDS, PSDS, guidelines, legislation and best practices. The ORA is reviewed regularly and updated as the ASET department adds new laboratory teaching programs or as existing programs are significantly changed.

### Local Risk Assessments

All hazards (chemical, biological, physical) identified by Local risk assessment or Lab Activity Risk Assessment are assessed for the severity of consequences and the probability of occurrence. The Lab Activity Risk Assessment Tool, used by the BSO(s), assesses the hazards present in a planned lab activity and the associated risk minimization strategies. As part of the Lab Activity Risk Assessment, the potential for dual-use is assessed. Dual-use activities are prohibited in ASET. The Lab Activity Risk Assessment is reviewed and updated as faculty create new laboratory teaching activities or as existing activities are significantly changed.

The ASET chair, the BSO(s), and faculty all share in assessing daily operational risks in the A130 teaching lab. Identified risks are assessed using the Biosafety Manual, SDS, PSDS, guidelines, legislation and best practices. All parties work collaboratively to ensure that risk minimization strategies are in place and lab activities are continually modified and updated to limit risk.

All laboratory activities and research projects must undergo a risk assessment prior to the commencement of any laboratory work. Faculty, principal investigators, and/or students conducting applied research projects must first indicate all biosafety concerns to the BSO(s) in a documented format.

During the LRA the BSO will consider:

- The biohazardous nature of the materials and their appropriate containment measures and controls
- Any SOPs, lab manuals, lab activities or research manipulations. No dual-use of biohazardous materials will be approved;
- Assessment of safety and biosafety and
- If special security measures are required.

A local risk assessment will:

- Identify the Risk Group of the microorganism (or tissue that might contain this microorganism) Note: consult the Biosafety Officer who can access the PHAC database of over 8000 agents to which they have assigned a risk group;
- Describe the potential hazard associated with the microorganism, including symptoms of disease (which it is important for all lab members to know so that they will be aware of any potential lab acquired infection so that it can be diagnosed and treated appropriately);
- Describe what is being done with the material and where;
- Consider the procedures' potential for generating aerosols that might contain and spread infectious agents;
- Indicate whether or not sharps will be used and the precautions associated with them;
- Describe the overall risk mitigation strategy and details of this strategy including:
    h. Physical containment (i.e. lab design) can be indicated by stating which containment level 1 or 2 laboratories will be used for the different types of work
    i. Operational requirements
        - Containment equipment and supplies required e.g. Biological Safety Cabinet, centrifuge cups with aerosol resistant lids containing o-rings, closed, screw-capped tubes
        - Note: Aerosol generating procedures with unfixed biological agents which need to be conducted in a biological safety cabinet include but are not limited to sonication and homogenization. If the production of significant Risk Group 2 aerosols is unavoidable, then aerosols must be contained by using equipment such as a biological safety cabinet (BSC).
    j. Appropriate personal protective equipment (PPE)
    k. Describe what is to be worn and for which procedures and materials if there are different PPE requirements
    l. Decontamination and disposal methods
    m. Medical surveillance (e.g. immunization, titre checks, first aid and medical response to accidental exposure)
    n. Training needs

SOPs for work with RG2 materials are reviewed by the BSO(s) as part of the risk assessment process and approved by the BSO(s) and Chair – ASET. After approval, the SOP(s) must be made available to everyone conducting the procedures outlined in the SOP(s); all lab workers must demonstrate knowledge of the SOP(s) before commencing work.

Laboratory course manuals (i.e. teaching activities completed during regularly scheduled student lab courses) are first assessed by the faculty member who is developing the materials. Then, the course manuals are assessed by the BSO(s) for biosafety risks. Once the BSO and/or Chair-ASET issue a certificate of risk assessment, an activity only needs to be risk assessed if there is a change to the activity. All research projects undergo initial and continual review.

The Chair-ASET works in conjunction with the BSO(s), members of the IBSC in conducting biosecurity risk assessments. This often involves reference checks, administrative controls, engineering controls, and internal inspections/audits.

Overarching Risk Assessment: its review involves the IBSC and the CRMC

Local Risk Assessments: Research projects must undergo a risk assessment prior to the commencement of any laboratory work. Course materials are reviewed annually. Ongoing research projects are reviewed weekly and/or monthly by the BSO and the PI.

Biosecurity Risk Assessments: reviewed regularly by the BSO(s) as part of the Lab Activity Risk Assessment. The Biosecurity Plan is reviewed annually by the Chair-ASET and the IBSC.

**Criteria 6: Overview of how biosafety and biosecurity risks, including those from research with dual-use potential, are managed and controlled at an institutional/organizational level.**

### Biosafety and Biosecurity

Should any staff or student identify biosafety or biosecurity risks, they must contact the Chair-ASET and BSO(s). The Chair-ASET and BSO(s) work closely and meet regularly to evaluate the efficacy of controls. Controls include all of the following:

### Administrative Controls:

- ASET-HS-01 policy: Biosafety
- ASET-LSS-01: Laboratory Standards and SOPs
- Biosafety Manual
- Institutional Biosafety Committee Terms of Reference
- Hazardous Waste Program
- Risk assessed laboratory activities for staff and students
- SOPs and Protocols
- Inventory control
- Personnel Suitability and Reliability: Access is granted to authorized personnel only, all laboratory staff must undergo laboratory safety training, and students/visitors must be supervised.
- Incident and Emergency Response: Accident Reporting and Investigation procedures (Policy HS05), Fire Safety and Emergency Evacuation procedures (Policy HS06)

### Engineering Controls

- Biosafety Cabinets
- Fumehoods
- Autoclaves
- Black Core electronic access doors
- Negative pressure space
- -80C freezer with locking mechanism

### Personal Protective Equipment

Described in the Biosafety and specifically outlined in the reagent table in each lab activity. PPE includes Eye/Foot/Head/Skin Protection).

Departmental policy ASET-HS-01: Biosafety Policy enables the enforcement of the Biosafety Manual. The control mechanisms established are captured in the Biosafety Manual, which outlines the standards that are acceptable for working with biohazardous material. This document is updated as changes occur or when requirements are added.

Members of the Institutional Biosafety Committee monitor the continued use of approved containment practices and the maintenance of the facility during routine inspections. The frequency of inspections is determined by the Co-Chairs of the Biosafety Committee and relates to the level of risk. An internal audit procedure and inspection checklist can be found in *ASET-LSS-01: Biosafety Standards and Operational Procedures*. Results of the internal inspections are provided to the Chair, ASET for review and corrective actions. Egregious deficiencies are reported to the IBSC for discussion and recommendations and the ASET Department is responsible for follow up with corrective actions until

these deficiencies are resolved. Unaddressed or repeat deficiencies are reported reviewed by the IBSC and, if deemed necessary based on level of risk, reported to the College Risk Management Committee for review. Recommendations to withdraw biohazard approval for egregious nonconforming lab activities is communicated by the Institutional Biosafety Committee to the College Risk Management Committee where necessary.

### Accident Reporting and Investigation

As per Algonquin's Incident Reporting procedures, members of the College Community are required to report all injuries, occupational disease, and near-misses to their manager through an incident reporting form (see Biosafety Manual *Appendix 11: Accident/Incident Report Form*). Biosafety-related injuries and near-misses include confirmed or suspected laboratory acquired infections/intoxications, exposure to infectious material or toxins, and containment system failure that may have resulted in exposure to biohazardous material.

Injury reports assist Algonquin in determining the root cause(s), corrective actions and in developing measures for preventing recurrence. Reporting of near-miss events allows the Chair, ASET and Manager OHS to investigate in order to prevent future injuries. Injury and Near-Miss Reports involving biohazardous materials are reviewed by the BSO(s) and IBSC, investigated, and reported to the appropriate government agencies including PHAC and/or CFIA, if required.

Managers and Supervisors shall:

1. Provide first aid/medical treatment as required;
2. Complete the Accident/Incident Report form with the employee and/or student;
3. Sign the Accident /Incident Report and deliver it to the Manager, Occupational Health & Safety.

The Accident/Incident Report must be forwarded to the supervisor for completion and subsequently sent to Occupational Health & Safety by the end of the next working day. Faculty, staff, researchers and volunteers must undergo laboratory safety training which includes detailed biosafety training and testing. Students are also given training but must be supervised when working in the ASET labs.

### Criteria 7: Description of all work areas covered by the Plan (research areas, teaching, off-sites, etc.).

The Plan covers the Containment Level 2 laboratories at the Ottawa campus which includes rooms A130, A130a, A130b, A130d, and A130e (Ottawa campus). Biohazardous materials are only used in these areas listed. No off-site areas where scientific research with pathogens is performed. Should new work areas be added, the Administrative Oversight Plan for Biosafety and Biosecurity would be reviewed (see element 10) by the IBSC and updated as necessary.

### Criteria 8: Description of all individuals covered by the Plan (researchers, faculty, students, etc.).

All individuals trained to work in the laboratory, including faculty, staff, students, researchers and volunteers. Faculty, staff, researchers and volunteers must undergo laboratory safety training which includes detailed biosafety training and testing. Students are also given training but must be supervised when working in the ASET labs. Visitors must also be supervised when working in the ASET labs.

### Criteria 9: Summary of how the Plan is communicated.

Summary of how the Plan is communicated:

- Yearly training and at point-of-hire
- Biosafety Manual
- Biosafety Website
- Institutional Biosafety Committee meetings (generally twice per year)
- Posted on the entrance doors of the laboratory (so that Visitors are also aware)
- Departmental policy ASET-HS-01: Biosafety Policy
- Weekly lab meetings between Chair, ASET and Biosafety Officer(s) and Lab Technologists
- Regular lab meetings (every 2 - 4 months) between Chair, ASET; Biosafety Officer(s); Lab Technologists and Technicians; and Faculty

### Criteria 10: Overview of the procedures to review and monitor the Plan.

At a minimum, the Biosafety Program (comprised of the IBSC and its terms of reference, the Administrative Oversight Plan for Biosafety and Biosecurity and the Biosafety Manual) will be reviewed yearly by the IBSC and is then followed up by consultation with full-time faculty and staff. The outcomes are communicated to senior level management by the Co-Chairs of the IBSC. The Biosafety program (comprised of the IBSC and its terms of reference, the Overarching Risk Assessment, the Administrative Oversight Plan for Biosafety and Biosecurity, and the Biosafety Manual) is under continual review for improvements and addition of new elements that can contribute to the overall compliance. This includes, but is not limited to, any changes in regulations, additions of new work areas, trends in non-compliance and reviews of accidents/incidents.