### Spill and Release Response Procedures

1. **Purpose / Background**
   This document describes the procedures used by the Massachusetts Institute of Technology (MIT) faculty, staff and students to respond to spills or releases of chemicals, petroleum oils, biohazardous materials, and radioactive materials.

2. **Scope**
   These procedures cover spills or releases of oil and hazardous materials on MIT’s Cambridge campus, including chemical, biological, and radioactive materials and waste.

3. **Prerequisites**
   Each person is responsible for knowing which chemicals, oils, biohazardous materials, and radioactive materials are used or located in their laboratory or other workspace, as well as being familiar with the hazards posed by these materials. MIT EHS Office provides Hazard Communication training, Chemical Hygiene Training, Radiation Worker training, and Biosafety training, all of which familiarize trainees with these hazards.

   Spill supplies and kits should be stocked in each laboratory or other workspace that are appropriate to clean up a minor spill (see definition below). All personnel working in the lab/space should be prepared through pre-planning and training to handle a spill situation.

   Personnel involved in emergency response activities receive training in response procedures including the contingency plan and the incident command system.

4. **Procedures**

   4.1. **Classifying releases as Minor or Major**
   Response procedures vary depending on whether the event is considered a “minor” or “major” spill. These terms are defined in Section 10. An individual discovering or creating a spill or release event must quickly assess the situation and determine if they are comfortable with performing the cleanup or if extra help is needed. In any event personal safety is paramount.

   4.1.1 If a responder is unsure whether the spill should be classified as minor or major it should be treated as a major event.

   4.2. **Minor Spills or Releases (see definitions, section 10.)**
   Minor, indoor spills that present no immediate, significant threat to personal health or safety, or of being released to the environment, are to be cleaned up by the person(s) responsible for the spill (unless they are not comfortable doing so). This practice was developed because the
researcher or user of the material is often most familiar with the material properties and proper safety precautions to be used. Recommended steps to take for cleaning up a minor spill include:

4.2.1 Notify personnel in the immediate area and isolate the area of the spill.

4.2.2 Gather personal protective equipment (PPE) and spill clean up supplies appropriate to the specific spill.

4.2.3 Put on your PPE, including laboratory coat, sturdy gloves, eye protection, and other gear appropriate to the material spilled.

4.2.4 Follow cleanup kit instructions, depending on material spilled.

4.2.5 Collect cleanup waste materials into a leak proof container or clear plastic bag. Label the container with a hazardous waste red tag, place it into a satellite waste accumulation area and prepare for disposal using normal hazardous waste disposal procedures.

4.2.6 Notify your supervisor and DLC EHS Coordinator.

4.3 Major Spills or Releases (see definitions, section 10.)

4.3.1 Major spills or releases must be immediately reported to the EHS Office (617-452-3477), the MIT Operations Center (617-253-1500) or the MIT emergency number (x100 from a campus telephone).

4.3.2 Notify personnel in the immediate area and evacuate to a safe distance or area.

4.3.2.1 Personal safety is paramount, however if familiar with the material, counter measures such as shutting off a valve or diking or covering of drains may be taken to control the spread of the release if safe to do so.

4.3.3 If initial notification is made of a major spill, or if at any time during the spill response it is determined that the incident should be considered a “Major Spill”, personnel from the EHS Office are immediately contacted (either directly by the caller or by pager from the MIT Police or Operations Center) to respond to the site.

4.3.4 EHS will take control of the situation once they are, fully briefed, and accept control.
4.3.4.1. If applicable, EHS will defer to the Emergency Response Team (ERT) Incident Commander or the Cambridge Fire Department once either party is on site, fully briefed, and accepts control.

4.3.4.2. EHS may delegate on site control to MIT personnel with sufficient training and authority to control the situation.

4.3.5. EHS will determine if notification to outside authorities is required (and if so, will make the notification).

4.3.6. EHS or their delegate will procure the services of an outside contractor if required, provide oversight of the clean up work, and arrange for disposal of any materials.

4.3.7. EHS will facilitate communication among the affected parties, the EHS Office and EPO staff, and (if applicable) outside authorities will be handled by EHS during the assessment and the clean up phase.

4.3.8. The EHS office will receive control of the site back from the ERT or outside responders as applicable.

4.3.9. EHS will also conduct all monitoring that is required to give the “all clear” for an area to be reoccupied.

4.4. **Spills Involving Polychlorinated Biphenyls (PCBs)**

4.4.1. Spills in areas where materials containing PCBs in concentrations greater than 50 ppm or 100 ug/100cm² must first be sampled prior to cleanup. It is not recommended that DLC personnel attempt to clean these spills on their own.

4.4.2. In the event of a PCB spill, DLCs shall contact the EHS Office, who will initiate cleanup response with the hazardous waste contractors.

4.4.3. Spill protocols for cleaning PCB spills as outlined in 40 CFR 761 shall be followed.

4.4.4. Spill materials and other waste from PCB-related spills must be placed in a separately marked container and clearly labeled with the yellow PCB “CAUTION” SIGN.

5. **Roles & Responsibilities**

5.1. **PIs/Supervisors** are responsible for 1) ensuring supplies and equipment are available for cleaning up minor spills and 2) ensuring all personnel under their direction who work with chemicals, oils, biohazardous materials, and radioactive
materials in the laboratory have appropriate training for assessing and responding to a spill.

5.2. **Researchers/workers/students** who are responsible for a spill are to clean up the spill (minor spill) or report the spill (major spill) as described in Section 4. The appropriate DLC EHS Coordinator(s) should be notified about every spill.

5.3. **DLC EHS Coordinators** are responsible for recording the spill and response as part of their Incident and Non-compliance Investigations. Minor spills where more than 1 pound or 400 mL of material cannot be recovered or where any quantity is released to a drain must be reported to the Environment, Health & Safety Office to determine if external reporting is required.

5.4. **EHS Office** is responsible for providing support to the responsible parties in spill response. Depending on the situation, support may consist of hazard or exposure assessment, cleanup advice or assistance, coordination of outside consultants or contractors, waste removal service, coordination with or notifications to outside agencies, and participating in after-action reports and investigations.

The primary responsibilities within EHS in spill response situations depend on the type of material that is spilled and the work being performed.

5.4.1. **Biosafety Program** staff assumes the lead role on all spills involving biohazardous materials. For spills involving both biohazardous materials and chemical or radioactive materials (or both), Biosafety is involved as long as biohazards remain active.

5.4.2. **Industrial Hygiene Program** staff provides hazard assessment and cleanup advice or assistance on chemical spills.

5.4.3. **Environmental Management Program** staff 1) manage the contractors who perform cleanup for major spills; 2) provide hazardous waste removal services for oil and chemical spill cleanup materials; 3) provide cleanup advice or assistance on oil and chemical spills and 4) determine the need to, and where appropriate, make release notifications to local, state, and federal authorities.

5.4.4. **Radiation Protection Program** staff assumes the lead role on all spills involving radioactive materials.
6. Training
MIT provides training on spill response policy and procedures in numerous venues, including the Oil Spill Prevention Control and Countermeasure (SPCC) training, Emergency Response Team training, RCRA training, Hazardous Waste Operations (HAZWOPER) training, Radiation Protection training, General Biosafety and Blood Borne Pathogen training, General Chemical Hygiene training, and other modules. Each of these training modules and events are available to interested members of the MIT community. DLCs provide training on these procedures through their Department Safety Committees and departmental training (e.g., lab-specific Chemical Hygiene training).

7. Monitoring Requirements
In the event of a spill, monitoring may be needed to assess the appropriate level of protection for responders. EHS has monitoring capability and should be contacted for all major spills or for minor spills for which monitoring is desired.

8. Record Management
All spills must be recorded. The responsible party reports minor spills to the DLC EHS Coordinator. Reporting of minor spills is not required if less than 1 pound or 400 mL of material is potentially released to the environment.

The EHS Office maintains records of all major spill responses within the Response system on the M: drive of the EHS Office computer network. In addition, EMP records all oil spills for inclusion within the SPCC Plan as required by regulation. RPP maintains a record of radiation events.

Records are maintained as class code ENV150 in accordance with the EHS Office Records Retention SOP EHS-0021

9. References
EHS Office Records Retention SOP EHS-0021
MIT Hazardous Waste Prevention, Preparedness and Contingency Plan
MA Contingency Plan (310 CMR 40)
Oil Spill regulations (40 CFR 112)
MIT Spill Prevention and Countermeasure Plans (SPCC)

10. Definitions
10.1. Minor Spill or Release is one in which ALL of the following conditions are met:
   10.1.1. the responsible party is at the scene; and
   10.1.2. the material spilled is known; and
   10.1.3. the material spilled is not highly toxic; and
10.1.4. the quantity spilled is small (less than approximately 1 gallon, or for radioactive material, less than 1 microcurie); and
10.1.5. there is no fire hazard present; and
10.1.6. the spill is completely contained inside a building; and
10.1.7. the material has little or no potential to reach the environment (e.g., via a drain); and
10.1.8. the spill is not in a common area (e.g., a hallway) or other area accessible to the general public; and
10.1.9. medical attention is not required; and
10.1.10. advanced personnel protective equipment (i.e., more than gloves and a half-face respirator) is not needed to respond to the spill; and
10.1.11. on-site personnel are trained, equipped, and able to clean up spill

10.2. **Major Spill or Release** is one in which **ANY** of the following conditions apply:
10.2.1. the responsible party is unknown (it’s an “orphan” spill); or
10.2.2. the material spilled is unknown; or
10.2.3. the material spilled is highly toxic; or
10.2.4. a large (or undetermined) quantity was spilled; or
10.2.5. a significant fire hazard may be present; or
10.2.6. someone has been exposed to/made contact with the material; or
10.2.7. the spill occurred outside; or
10.2.8. the material has the potential to reach the environment (e.g., via a drain); or
10.2.9. the spill is in or affects a common area (e.g., hallway) or other area accessible to the general public; or
10.2.10. advanced personnel protective equipment (more than gloves and a half-face respirator) is required to respond to the spill; or
10.2.11. someone reports to Medical or requires first aid; or
10.2.12. on-site personnel are not trained or not equipped to clean up spill; or
10.2.13. a responder is unsure whether the spill should be considered “Minor” or “Major”.

10.3 **Release** is any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment (water, sewer system, land or ambient air)