This document meets the requirements of 40 CFR Part 262 et seq (US EPA Standards Applicable to Generators of Hazardous Waste), and Chapter 851 et seq (Maine DEP Hazardous Waste Management Rules), for the development, implementation and maintenance of a written hazardous waste management plan (HWMP; the Plan).

**Purpose**

The purpose of the HWMP is to provide information to the employees of Bowdoin College regarding the identification, handling, storage, and disposal of hazardous wastes generated in the workplace.

**Scope**

The HWMP applies to all employees of Bowdoin College (including part-time, contract and student employees, and vendors working onsite) who generate, handle and/or manage hazardous wastes in the course of their work.

**Program Components**

The HWMP consists of the following components:

1. **Generator Status.** Bowdoin College is classified as a Large Quantity Generator (LQG) under Maine DEP regulations because it generates on the average more 1,200 kilograms (2,640 pounds) of regulated hazardous wastes in a given year. Bowdoin’s EPA ID# is MED981062261.

2. **Assignment of Responsibilities.** Each Department or Group generating hazardous wastes will designate at least one Responsible Person to oversee the implementation of the HWMP for their particular operations, specifically:

   - Supervising the identification, collection, containment and labeling of hazardous wastes;
   - Maintenance of the workplace satellite accumulation area (SAA), including performance of daily inspections;
   - Arranging for the transfer of waste containers to the central accumulation area (CAA) for disposal; and
   - Participating in the annual Plan review.

   A current list of designated Responsible Persons is included in the attached *HWMP Summary*, and will be updated at least annually during the periodic review of the Plan.

The Science Center Laboratory Manager will act as Hazardous Waste Coordinator (HWC) for the College, in cooperation with the Environmental Health and Safety (EHS) Manager. The HWC and EHS Manager will jointly be responsible for:

   - Maintenance of the hazardous waste CAA, including daily inspections and receipt inventory;
   - Coordinating the operations of the SAA’s with the designated Responsible Persons;
   - Providing guidance, materials, and training on the HWMP to designated Responsible Persons and other identified employees;
   - Conducting an annual review and update of the Plan to reflect current operations;
   - Preparing containers and arranging for the disposal of hazardous wastes on a schedule dictated by the facility’s generator status (90-days for a LQG); and
3. **Hazardous Waste Determination.** A waste is identified as hazardous and therefore regulated under this Plan if: (1) it is not excluded from regulation under EPA 40 CFR 261.4(b) or DEP Chapter 850.3.A(4); and (2) meets any of the following criteria:

- It is listed as a waste from a non-specific source (F-), a specific source (K-), a process residue (P-), a particular chemical class (U-), or a waste recovery/treatment residue (M-), under EPA 40 CFR 261 Subpart D or DEP Chapter 850.3.C. Copies of the Subpart D lists are attached for reference.

- Exhibits any of the characteristics of ignitability, corrosivity, reactivity, or toxicity as defined by EPA 40 CFR 261 Subpart C or DEP Chapter 850.3.B, as determined by approved testing methods or specific knowledge (i.e., MSDS sheet). In general, these characteristics are determined as follows:
  
  o **Ignitable** – a liquid having a flash point less than 140°F; a solid capable of causing fire through friction, absorption of moisture, or spontaneous combustion, and/or classified D001 by the EPA; an ignitable compressed gas; or a known oxidizer.
  
  o **Corrosive** – an aqueous solution having a pH <2 or >12.5; or a liquid or solid classified D002 by the EPA.
  
  o **Reactive** – known to be explosive, unstable, reacting violently or generating toxic gases in water, is a cyanide/sulfide that generates toxic gases in corrosive pH conditions, and/or classified D003 by the EPA.
  
  o **Toxic** – exceeds the Toxicity Characteristic Leachate Procedure (TCLP) concentrations listed in Table 1of Subpart C (classified D005-D0043 by the EPA).

- It is a mixture of a non-hazardous waste, and one or more hazardous wastes as defined above.

- It is positively known to be a classifiable waste, or not, through process knowledge or analytical testing.

Unused (i.e., old or out-of-spec chemical in original container) or used (i.e., spent solvent) materials or mixtures, or contaminated residues or debris containing same, are subject to the same waste determination procedures and management requirements.

The designated Responsible Persons will: (1) identify the hazardous wastes produced by the operations of their Department or Group; (2) notify the HWC and EHS Manager of this waste generation; and (3) regularly review their operations to identify changes in this information. The EHS Manager will conduct a review of the documented hazardous waste determinations at least annually.

Currently identified hazardous waste streams are listed in the attached *HWMP Summary*, and are detailed in the Bowdoin College *Pollution Prevention (P2) Plan*.

4. **Satellite Accumulation Areas (SAA).** The designated satellite storage areas are listed on the attached *HWMP Summary*, and will be managed as follows:

- Storage areas will be maintained at or near the point of generation, demarcated as such with a sign (i.e., “Hazardous Waste Satellite Accumulation Area”) and other means (i.e., marking tape on the floor or countertop where container is kept), and secured from public access. Note that ONLY wastes may be stored in
a designated storage area (i.e., if a tray in a hood or shelf in a cabinet is so designated, it must be clearly demarcated and access to it controlled to prevent mixing with non-waste materials).

- Each individual storage container will be labeled with the:
  - Name(s) of the waste(s);
  - Location of the accumulation area (building and/or room number);
  - Name of the Department and/or individual generating the waste; and
  - Dates the container began being used for storage, and when it became full.

Labels will be provided by the HWC and/or EHS Manager, will be completed legibly using a permanent marker, and will never be re-used. A format for pre-printed labels is attached for copying.

- Hazardous wastes will be segregated by compatibility, are limited to 55-gal or 200-Kg in the SAA at any one time, with containers in good condition and of the appropriate material for the waste being stored. Waste types may NOT be mixed at the point of generation; the HWC will consolidate compatible wastes in the receipt area.

- It is acceptable to transfer wastes from a nearby point of generation to the main SAA storage container with another, smaller “workbench” container designated solely for that purpose (i.e., a 1-gallon plastic jug labeled “Spent Solvent”). This transfer must be completed before the end of the work period; under no circumstances are any containers of waste to be left outside the SAA unattended or overnight.

- The SAA’s will be inspected weekly for physical condition of the container(s) and signs of a release, when wastes are present AND the work location is in use. Inspections will be logged on the form provided, and the forms kept in or immediately adjacent to the SAA location. When the location will be vacant for periods of time, the suspension and restart dates will be noted on the log.

- SAA containers will be transferred to the CAA in Druckenmiller Hall within 72-hours after becoming full. Only sealed and properly labeled containers may be transferred between buildings, and may not leave the campus in any case except under manifest by a licensed transporter. SAA’s at off-campus locations, and all containers greater than 5-gallon capacity regardless of location, may not be transferred by College staff, and will be addressed individually by the disposal vendor (see Section 6 of the HWMP). The EHS Manager should be contacted at least 30-days ahead of time to arrange for transfers or pickups, and the replacement of any storage containers.

- Temporary or intermittent satellite accumulation areas (i.e., from a laboratory operation of limited scope, or a rarely-used piece of equipment) must be pre-approved by the HWC, and are subject to the same management requirements as outlined above for designated SAA’s for the duration of their use. Locations where hazardous materials are transferred directly from the point use to the CAA on a regular schedule need not be maintained as an SAA (i.e., spent chemicals from equipment maintenance within the Science Center).
5. **Central Accumulation Area (CAA).** The HWC will log all deliveries to the CAA, and manage the storage area as follows:

- Only the HWC, the EHS Manager, or their designee will have access to the CAA proper; all others delivering waste to the CAA will transport containers to the SAA staging room (Druckenmiller 055A) for receipt. All wastes arriving from SAAs will be inspected for container integrity and proper labeling, consolidated by compatible materials, logged on the CAA inventory form, and segregated for storage by the HWC.

- Each individual storage container will be labeled with the:
  - Name(s) and EPA waste code(s) of the material;
  - Name, address, and EPA generator number of the facility;
  - Dates the container began being used for storage, and when it became full.

  Labels will be provided by the HWC and/or EHS Manager, will be completed legibly using a permanent marker, and will never be re-used. A format for pre-printed labels is attached for copying, or commercial waste labels may be used.

- Containers will be stored so as to restrict access, allow for ready inspection and remedial actions in the event of a release, and to prevent damage. Containers of 10-gallon or less capacity will not be stacked in rows more than two wide and four high, with aisle space no less than 36-inches. The containers will be kept closed when not in use, and stored on an impervious surface in an appropriate location to prevent reaction with or physical damage to their surroundings. Secondary containment (i.e., spill pads, trays, or berms) capable of retaining 20% of all wastes stored, or 110% of the largest container (whichever is greater), will also be provided.

- The CAA will be inspected daily by the HWC or their designee for physical condition of the containers and signs of a release. Inspections will be logged on the form provided, and the forms kept in or immediately adjacent to the CAA location.

6. **Manifesting and Transportation Requirements.** Shipments will be managed by the HWC and a licensed hazwaste transporter as follows:

- Wastes will be intact, segregated by type, properly packaged and labeled for transport, and the transporting vehicle placarded according to DOT 49 CFR 171-180 guidelines. Each container of less than 110-gal capacity will be marked with the following:

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HAZARDOUS WASTE – Federal Law Prohibits Improper Disposal

If found, contact the nearest police or public safety authority, or the Maine Department of Environmental Protection (1-800-482-0777), or the nearest office of the United States Environmental Protection Agency>

Generator’s Name and Address: Bowdoin College
                             Brunswick, ME  04011

Manifest Document Number:                                          
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Wastes will be documented for transport using a uniform hazardous waste manifest (UHWM) as specified in EPA 40 CFR 262 Subpart B and DEP Chapter 857. Only the HWC or the EHS Manager may sign the manifest on behalf of the generator.

The generator may not transport hazardous wastes offsite and/or on public roads without a license; however, properly sealed and labeled waste containers of less than 5-gallons capacity may be transferred between a SAA and the CAA onsite, or directly across a public way to an immediately adjacent portion of the same facility.

Wastes will be disposed offsite in accordance with Land Disposal Restrictions per EPA 40 CFR 264 and DEP Chapter 852, and will be documented as such on the manifest or an appropriate attachment.

7. **Emergency Procedures.** Evidence of a release of hazardous waste will be managed as follows:

- Incidental spillage of a volume less than the Reportable Quantity (RQ) for a particular substance may be managed according to the Bowdoin College Spill Response Procedures, so long as it does not present any imminent threat to human health or the environment, and at the discretion of the Responsible Person or Supervisor; specifically:
  - Contact the Supervisor or Responsible Person in charge of the storage area, and report the spill to Security (x3500), who will notify the EHS Manager.
  - Evacuate all persons not impacted by the release, or involved in the remedial efforts.
  - Secure the source container and release area to prevent further spread of contamination, and ventilate as needed.
  - Use appropriate personal protective equipment, and conduct a limited cleanup per the Material Safety Data Sheet (MSDS) guidelines for the specific chemical involved; if a material-specific “spill kit” is available (i.e., for mercury), use the instructions and materials provided therein.
  - Surfaces and persons exposed to the release must be decontaminated and thoroughly washed, as outlined in the MSDS.
  - Materials used to clean up, or recovered from, a release will be considered hazardous waste, and these materials must be properly containerized, labeled, and transferred to the CAA for disposal as such.

- Release of a volume at or greater than the RQ for a particular substance constitutes a reportable condition and requires immediate notification of Security (x3500) and the EHS Manager (x3763), who will notify the DEP Spill Hotline (1-800-452-4664) and activate the Bowdoin College Integrated Contingency Plan. Faculty, staff and students will be evacuated from the area, and the spill location secured until the remediation contractor arrives to conduct the cleanup. In the event that the release threatens to impact human health or the environment outside of the facility, the EHS Manager will also notify the US EPA National Response Center (1-800-424-8802), and report the incident as specified in 40 CFR 262 Subpart C.

A general notice of these procedures will be posted in each SAA (sample sign attached). The EHS Manager should be contacted to confirm the RQ for any particular substance, and the reportability of and response to any release incident. The Laboratory Manager
should be contacted to confirm cleanup procedures and the availability of spill kits.

8. **Recordkeeping and Reporting.** Hazardous waste documentation will be maintained as follows:

- Copies of analytical results, hazardous waste determinations, and regulatory reports will be maintained for at least 3 (EPA) to 10 (DEP) years by the EHS Manager.
- **Weekly** inspection and inventory logs will be retained for at least 1 year by the EHS Manager.
- Original disposal manifests will be provided by the vendor to the HWC or EHS Manager and also submit the appropriate copies to the DEP within 7 days of the ship date on the College’s behalf, who will maintain same on file for at least 3 years.
- Certificates of Disposal will be returned by the handling facility within 35 days of receipt, will be formatted according to DEP guidelines, and be maintained on file for at least 3 years by the EHS Manager. If the certificate has not been received within 45 days, an Exception Report will be filed with the DEP, including a copy of the manifest and a letter of explanation.
- Hazardous waste reporting for the previous calendar year will be made to the DEP annually (by March 1, or other date as announced by the DEP) by the EHS Manager, using the manifest summary format provided by the DEP.
- Records of storage inspections/inventories, employee training, shipping manifests, and certificates of disposal will be maintained at the facility by the HWC and EHS Manager for at least 3 years.

9. **Employee Information and Training.** Responsible Persons and other identified employees shall receive initial and annual training specific to their work areas, including at least the following:

- The provisions of the federal and state regulations;
- The location and availability of the written Plan;
- Hazardous waste determination and classification systems;
- Onsite waste storage and labeling procedures;
- Manifesting, packaging, and shipping procedures;
- Land disposal requirements; and
- Recordkeeping and reporting.

Employee training will be conducted by the HWC and/or EHS Manager, and may include written, video, or web-based materials, so long as it meets the minimum requirements listed and addresses the specific conditions of each workplace. Employees to be trained will include the Responsible Person(s) representing each Department or Group, and other employees so designated by the HWC and/or EHS Manager. Information to be included in the training is summarized in the attached *Guidelines for Hazardous Materials and Waste Handling.*

The HWC and EHS Manager will receive additional training pursuant to RCRA 40 CFR 265.15, *Hazardous Waste Management,* and DOT 49 CFR 172 Subpart H, *Hazardous Materials and Waste Shipping.* Initial training will be within 30-days of assignment, with annual (RCRA) and triannual (DOT) updates provided.

General informational training of all College employees will be accomplished by the EHS Manager during initial orientation, and by annual electronic or print notices issued in coordination with the regulatory reporting schedule.
10. **Program Review.** The HWMP will be reviewed annually by the EHS Manager, HWC, and the designated Responsible Persons, and updated as needed to maintain regulatory compliance and meet the perceived needs of the College’s workplaces.

**Attachments**

Hazardous Waste Management Plan (HWMP) Summary  
Hazardous Materials and Waste Handling Guidelines  
Hazardous Waste Spill Incident Emergency Response Procedures  
Hazardous Waste Container Labels  
Waste Oil Management Program  
Solvent Contaminated Wipers Management Program  
Plan of Chemical Storage Area and CAA  
HW SAA Sign  
HW SAA Inspection Log  
HW CAA Sign  
HW CAA Inspection Log  
HW CAA Inventory Log
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Notes: HWC = Hazardous Waste Coordinator; SAA = Satellite Accumulation Area; CAA = Central Accumulation Area.
* No waste stored – material from intermittent use is disposed directly through CAA immediately upon generation.