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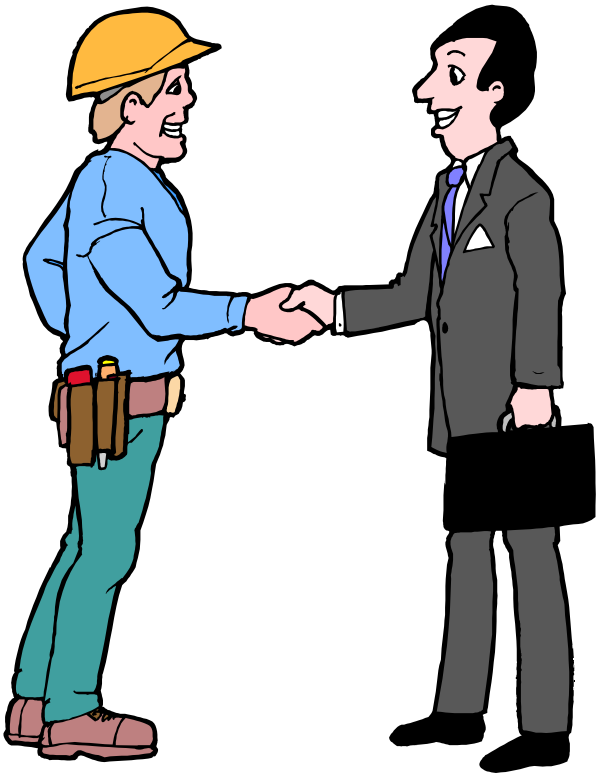
ENVIRONMENTAL COMPLIANCE REFERENCE MANUAL FOR CONTRACTORS

BINGHAMTON UNIVERSITY

State University of New York



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INTRODUCTION

Binghamton University (BU), along with the entire SUNY system, recently entered into an agreement with the U.S. Environmental Protection Agency. Under the terms of the Agreement the SUNY System will perform independent, multi-media compliance audits (EPA Inspections) of 58 of the SUNY campuses. The audits will begin soon after SUNY selects the independent auditor, which should occur by fall 2002, and will be completed over five years. SUNY has agreed to disclose the violations that are identified and to fix the areas pursuant to an agreed upon schedule. In exchange for SUNY's commitment, EPA will not perform enforcement inspections at SUNY campuses for at least the next five years and will not seek to impose monetary fines for the violations that are disclosed (with some possible exceptions).

The reason the agreement was reached, in part, is because EPA Region II, which covers New York State, began inspecting New York colleges and universities in November 2000. The inspections have reviewed all applicable environmental regulations and the inspected institutions have been held to the same environmental standards that have applied to general industry for the past thirty years. As a result of the inspection of Pratt Institute, a small art school with campuses in Manhattan and Brooklyn, EPA Region II proposed a $300,000 fine. By entering into the Agreement and complying with its terms, Binghamton University will avoid this type of consequence.

The agreed upon audit schedule requires BU to complete its audit in the first year of the agreement. Upon completion of the initial "audit" cycle, the University is responsible for maintaining compliance. In order for BU to accomplish this task, it must ensure that all activities and operations performed on campus are done in compliance with applicable laws, regardless of whether the person performing the activity is a BU employee. To understand the compliance status of all activities performed on campus and to comply with the EPA agreement, it will be necessary to involve all additional employers working on the campus in the BU audit inspection process.

As an employer, you are responsible for many things, not the least being the safety of your employees and the environment. Employee safety is commonly viewed as the "OSHA" safety requirements and all environmental issues "EPA". When the University (and anyone else working on campus) is inspected, the OSHA/EPA distinction can become blurred. Inspectors will audit all work areas for compliance with chemical handing and disposal, pesticide use, storm water issues, wastewater handling, air contamination, PCBs, soil erosion and spill control. Violations found in any area on campus can be attributed to BU, even if BU was unaware that the activity was even occurring.

The only way that BU can achieve full compliance is with the support and cooperation of all employees and contractors. The following guidelines have been developed in order to assist you in ensuring that you and your employees are complying with all the regulations that apply to your work here. To further assist you in understanding and complying with all the various regulations that may apply to you, a brief summary of some of the regulations, as well as the SUNY/EPA Audit Agreement, are attached for your convenience. Some of these regulations may not apply. Moreover, the issues described in this manual are not meant as the definitive and complete statement of all potentially applicable regulations. Rather, it is meant as guidance for those state and federal rules that are most likely to apply to contractors. Should you have any questions regarding the applicability of any standards to your company, please contact Environmental Health and Safety.

1. CLEAN AIR ACT

A. The Clean Air Act (CAA) and its amendments, including the Clean Air Act Amendments (CAAA) of 1990, are designed to "protect and enhance the nation's air resources so as to promote the public health and welfare and the productive capacity of the population." The CAA consists of six sections, known as Titles, which direct EPA to establish national standards for ambient air quality and for EPA and the States to implement, maintain, and enforce these standards through a variety of mechanisms. Under the CAAA, many facilities will be required to obtain comprehensive air emission permits. These permits, in part, list a facility's complete CAA obligations. State and local governments (and government agencies such as New York DEC) oversee, manage, and enforce many of the requirements of the CAA through the conditions contained within air emission permits. See 40 C.F.R. Parts 50-99.

B. The type of air permit a facility must obtain depends on the quantity of pollutants emitted or potentially emitted from regulated emission sources present at a facility. The facility can be defined as one piece of contiguous property or even non-contiguous properties that are developed under a common plan. Every time a new emission source is installed, it has potential permit implications. Moreover, the equipment may be subject to specific types of control technologies. Typically, permit amendment and/or application issues, source registrations, and control technology issues need to be resolved prior to the commencement of a project and definitely before the equipment is operational.

C. **Common CAA Violations**:

1. Purchase, installation, and/or operation of a new boiler without proper notification and/or permit approval.

2. Purchase, installation, and/or operation of an engine (used more than 500 hours per year) without prior permit approval (engines include all stationary internal combustion engines used for power, chilling, generators, etc.).

3. Failure to monitor old or new fuel burning equipment for the appropriate emissions/operations information. Permit conditions often require that certain operational-type parameters be monitored and recorded on a regular basis. These include emission opacity, fuel usage, fuel characteristics, excess oxygen levels, fuel sulfur content, fuel nitrogen content, and fuel heat value, among others.

4. Failure to perform annual tune-ups and/or inspections on boilers.

5. Failure to comply with the conditions established in the current air permit, such as recordkeeping requirements or emission limits.

6. Failure to retain and/or to establish procedures for retaining records required by state or federal regulations or permit conditions.

7. Failure to submit all appropriate reports as specified in the permit conditions.

8. Failure to install or failure to maintain opacity monitors in good working order.

9. Exceeding the facility's annual or 12-month rolling total for fuel consumption if a cap exists.

10. Failure to maintain and record degreaser solvent usage (addition and removal amounts) and to record associated actual Volatile Organic Compound (VOC) emission calculations.

11. Failure to keep monthly gasoline dispensing throughput records.

12. Failure to install/test vapor recovery system.

13. Failure to keep records of maintenance and malfunctions of vapor recovery systems.

14. Use of paint booth coatings that exceed allowable limits of VOC contents.

15. Failure to obtain permits (when necessary) and to keep records of operating hours for emergency generators.

16. Failure to permit and operate an incinerator according to the state guidelines and permit conditions.

17. Failure to perform annual inspections and operator training for incinerator units.

D. **Because contractors' operations can potentially impact each of these areas of concern, contractors must:**

1. Inform BU of all projects that will include the permanent installation of any emission source (e.g., paint booth, degreaser, boiler, emergency generator, fume hood, fuel dispensing device, aboveground storage tank, etc.);

2. Provide BU with technical specifications for all permanent emission sources;

3. Include all required control technology on equipment (e.g., scrubbers, vapor recovery systems, etc.);

4. Submit all required registrations;

5. Provide copies of all correspondence, applications and registrations to BU;

6. For projects that include the installation of a boiler, major piece of equipment, emergency generator, or other engine, meet with BU staff at the design stage to determine if the construction will result in any permit implications; and

7. Inform BU of any equipment (i.e., generators, engines, boilers) that will be brought on-site for purposes of supporting the project.

Information Hotline, at (800) 296-1996, provides general information about regulations promulgated under Title VI of the CAA, and EPA's EPCRA Hotline, at (800) 535-0202, answers questions about accidental release prevention under CAA §112(r). In addition, the Technology Transfer Network Bulletin Board System (modem access (919) 541-5742)) includes recent CAA rules, EPA guidance documents, and updates of EPA activities.

2. CLEAN WATER ACT

A. The primary objective of the Federal Water Pollution Control Act, commonly referred to as the Clean Water Act (CWA), is to restore and maintain the chemical, physical, and biological integrity of the nation's surface waters. Pollutants regulated under the CWA include "priority" pollutants, including various toxic pollutants; "conventional" pollutants, such as biochemical oxygen demand (BOD), total suspended solids (TSS), fecal coliform, oil and grease, and pH; and "non-conventional" pollutants, including any pollutant not identified as either conventional or priority.

B. The CWA provides the statutory basis for the National Pollutant Discharge Elimination System (NPDES) permit program and the basic structure for regulating the discharge of pollutants from point sources to waters of the United States. New York State administers its State Pollutant Discharge Elimination System (SPDES) program, which serves as the authorizing mechanism for activities in the State to comply with the NPDES program. Any discharge to "Waters of New York State," requires authorization, which usually is accomplished by obtaining a SPDES permit from the Department of Environmental Conservation (DEC). SPDES permits contain provisions under which discharge are allowed to occur.

C. Construction projects that disturb soil, fill wetlands, or result in new wastewater discharges of any kind to ground, storm water collection systems, or are tied into the sanitary sewer system potentially trigger CWA rules that must be complied with. Some of these rules apply before a project is allowed to break ground or commence.

D**. Common Clean Water Act Violations:**

1. Raw materials, such as road salt, must be protected from precipitation and runoff that will mobilize pollutants during runoff events and result in a discharge to an MS4 or waters of New York State.

2. Wastewater discharges from boiler and cooling tower blow down contain water treatment chemicals and suspended solids that meet the CWA definition of "pollutant." The SPDES program prohibits the discharge of these pollutants to an MS4 or waters of New York State without a SPDES permit.

3. Operators of large and small construction activities must obtain coverage under an SPDES construction storm water permit under certain circumstances. The SPDES Permitting Authority will issue general permits for Phase II-designated small MS4s and small construction activity by December 9, 2002. Two potential waivers from small construction activity permitting exist under the Phase II Final Rule; the SPDES permitting authority will determine if these waivers will be available to construction site operators under the Phase II Storm Water Program. No waivers from large construction activity permitting are available.

   i. A **large construction activity** is one that:

      a. Will disturb five acres or greater; or

      b. Will disturb less than five acres but is part of a larger common plan of development or sale whose total land disturbing activities total five acres or greater (or is designated by the SPDES permitting authority); and

      c. Will discharge storm water runoff from the construction site to a municipal separate storm sewer system (MS4) or waters of the New York State.

   ii. A **small construction activity** is one that:

      a. Will disturb one or more and less than five acres of land; or

      b. Will disturb less than one acre but is part of a larger common plan of development or sale whose total land disturbing activities total between one and five acres (or is designated by the SPDES permitting authority); and

c. Will discharge storm water runoff from the construction site to an MS4 or waters of the New York State.

iii. Construction activities that meet the above criteria must obtain a SPDES permit and implement practices to minimize pollutant runoff. For the Phase II small construction program, EPA has taken an approach similar to Phase I where the program requirements are not fully defined in the rule but are defined in the SPDES permit issued by the SPDES permitting authority. Three general Phase I requirements are:

a. Submission of a Notice of Intent (NOI) that includes general information and a certification that the activity will not impact endangered or threatened species. This certification is unique to EPA's NOI and is not a requirement of most NPDES-delegated state's NOIs;

b. The development and implementation of a Storm Water Pollution Prevention Plan (SWPPP) with appropriate Best Management Practices (BMPs) to minimize the discharge of pollutants from the site; and

c. Submission of a Notice of Termination (NOT) when final stabilization of the site has been achieved as defined in the permit or when another operator has assumed control of the site.

E. **Contractors performing construction activities at BU must:**

1. Inform BU of all projects that will disturb land prior to breaking ground;

2. Identify, obtain where necessary, and comply with all stormwater permitting and planning requirements;

3. Provide BU with a copy of all applications, notices and correspondence with any regulators;

4. Inform BU if the Clean Water Act regulations that apply to the project (e.g., if the construction site creates five or more acres of disturbed land area);

5. Inform BU if the project will result in a discharge; and

6. Comply with all applicable water laws.

EPA's Office of Water, at (202) 260-5700, will direct callers with questions about the CWA to the appropriate EPA office. EPA also maintains a bibliographic database of Office of Water publications which can be accessed through the Ground Water and Drinking Water resource center, at (202) 260-7786.

3. COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, & LIABILITY ACT

A**.** The Comprehensive Environmental Response, Compensation, & Liability Act (CERCLA), a 1980 law commonly known as Superfund, authorizes EPA to respond to releases, or threatened releases, of hazardous substances that may endanger public health, welfare, or the environment. CERCLA also enables EPA to force parties responsible for environmental contamination to clean it up or to reimburse the Superfund for response costs (including remediation costs) incurred by EPA. The Superfund Amendments and Reauthorization Act (SARA) of 1986 revised various sections of CERCLA**.**

B**.** The law generally imposes joint and several liability on the owners and operators of property where hazardous substances have come to be located. It, and New York Law, also imposes reporting requirements when hazardous substances are released to the environment.

C**. Common CERCLA violations:**

1. Failure to report spills;
2. Failure to clean up spills;
3. Failure to remove chemicals or products at the end of the project; or
4. Failure to properly dispose of waste generated that becomes subject to cleanup liability.

D**. BU Contractors must:**

1. Immediately inform BU of all hazardous substance spills – regardless of nature of material spilled, quantity spilled, or concentration of spilled material;
2. Report all spills in accordance with applicable New York and Federal reporting laws;
3. Cleanup all spills in accordance with applicable cleanup laws;
4. Remove all chemicals and products from BU at the end of each project; and
5. Inform BU of how construction debris and other waste products will be characterized and disposed of.

4. EMERGENCY PLANNING AND COMMUNITY RIGHT-TO-KNOW ACT

A. Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 created the Emergency Planning and Community Right-to-Know Act (EPCRA, also known as SARA Title III), a statute designed to improve community access to information about chemical hazards and to facilitate the development of chemical emergency response plans by State and local governments. EPCRA required the establishment of state emergency response commissions (SERCs), responsible for coordinating certain emergency response activities, and for appointing local emergency planning committees (LEPCs).

B. EPCRA requires the filing of certain information by facilities that store: (1) hazardous chemicals[1] on-site in quantities that equal or exceed 10,000 pounds at any one time; or (2) extremely hazardous substances (EHSs) above a threshold planning quantity (TPQ). TPQs range from 1 to 500 pounds (they are listed at 40 C.F.R. Part 355 Appendix A). Facilities meeting either of these criteria must file an MSDS or chemical list for each chemical within three months of the date the substance first became present on-site, and file Tier II hazardous chemical storage forms for each chemical annually (by March 1, for the prior reporting year) with the local fire department, Local Emergency Planning Committee (LEPC), and State Emergency Response Commission (SERC). If a chemical list is submitted, chemicals in the list must be grouped by hazard category, and the chemical or common name of each chemical must be listed, as it appears on the MSDS. In addition, hazardous components of each chemical must be included in the list, as provided on the MSDS. Hazardous chemicals present in research laboratories, hospitals, or medical facilities are exempt from these rules. See 40 C.F.R. § 370.2

C. BU files tier II forms for several substances and is close to regulatory thresholds on others. If contractors bring chemicals on-site, a threshold quantity can be exceeded. Moreover, if a contractor brings a chemical on-site, it is possible that BU will be called in to respond to a release.

D. **Common EPCRA Violations:**

1. Failure to file annual Tier II forms by March 1 for the previous calendar year.

2. Failure to include chemicals stored over 10,000 pounds in the Tier II filing. Some examples of chemicals typically stored in bulk include: gasoline, diesel fuel, No. 6 fuel oil, oxygen, nitrogen, sodium hypochlorite, and sodium chloride (salt).

3. Failure to include extremely hazardous substances (EHSs) stored over their threshold planning quantity (TPQ) in the Tier II filing.

4. Failure to file Tier II forms with the appropriate agencies (i.e., New York Emergency Response Commission, Local Emergency Planning Committee (LEPC), and local fire department(s)).

5. Failure to file Material Safety Data Sheets (MSDS) or chemical lists with the appropriate agencies (i.e., New York Emergency Response Commission, Local Emergency Planning Committee (LEPC), and local fire department(s)).

6. Failure to ensure that a facility representative is a member of the LEPC if the facility stores EHSs.

7. Failure to provide initial notification to the appropriate agencies if EHSs are stored at the facility.

[1] The term "hazardous chemicals" is defined by OSHA to include any chemical that is a physical or health hazard. See 29 C.F.R. § 1910.1200(c).

E. **Contractors at BU must:**

1. Inform BU of the chemicals and products brought on site;
2. Provide BU with a MSDS for each chemical or product; and
3. Provide BU with the quantity of each chemical or product brought on-site.

EPA's EPCRA Hotline, at (800) 535-0202, answers questions and distributes guidance regarding the emergency planning and community right-to-know regulations. The EPCRA Hotline operates weekdays from 8:30 a.m. to 7:30 p.m., EST, excluding Federal holidays.

6. TOXIC SUBSTANCES CONTROL ACT

A. The Toxic Substances Control Act (TSCA) creates a regulatory framework to collect data on chemicals in order to evaluate, assess, mitigate, and control risks which may be posed by their manufacture, processing, and use. TSCA provides a variety of control methods to prevent chemicals from posing unreasonable risk.

B. TSCA regulates, in part, the manufacture of chemicals, the import and export of chemicals and samples, the disposal of polychlorinated biphenyls (PCBs), record keeping requirements applicable to PCBs contained in equipment, and reporting and record keeping rules applicable to TSCA regulated substances. TSCA provides a fairly large reporting exemption for persons who manufacture, import, process, or propose to manufacture, import, or process a substance only in small quantities solely for research and development. See 40 C.F.R. § 704.5(e).

C. The exemption applies to most TSCA rules including: pre-manufacture notification, listing on the TSCA list, and reporting and record keeping requirements. It does not apply to exports and does not exempt importers from all rules. Note that not all chemicals are "TSCA chemicals." Pesticides, tobacco products, food and drugs, and others are excluded from TSCA because they are regulated by other programs or by agencies other than EPA.

D**. Common TSCA Violations:**

1. Failure to manage PCB contaminated waste or equipment in accordance with applicable rules; and

2. Failure to manage PCB contaminated waste or equipment in accordance with applicable rules.

E**. Contractors must:**

1. Inform BU if PCB containing equipment will be brought on site;

2. Inform BU if PCB contaminated waste will be generated;

3. Manage PCB waste and PCB containing equipment in accordance with applicable rules; and

4. Dispose of PCB waste in accordance with applicable rules.

EPA's TSCA Assistance Information Service, at (202) 554-1404, answers questions and distributes guidance pertaining to Toxic Substances Control Act standards. The Service operates from 8:30 a.m. through 4:30 p.m., EST, excluding Federal holidays.

7. RESOURCE CONSERVATION AND RECOVERY ACT

A. The Resource Conservation and Recovery Act (RCRA) of 1976 amended the Solid Waste Disposal Act and addressed solid (Subtitle D) and hazardous (Subtitle C) waste management activities. The Hazardous and Solid Waste Amendments (HSWA) of 1984 strengthened RCRA's waste management provisions.

B. New York DEC is authorized to administer its base hazardous waste program in lieu of EPA's base hazardous waste program. While DEC has primary enforcement authority over New York facilities that generate hazardous waste, EPA maintains jurisdiction and its right to enforce its rules as well as more stringent New York rules. New York hazardous waste generators are subject to a range of different rules depending on their generator status. A facility's generator status is based on the amount of hazardous waste a facility generates in any given month and/or the volume of hazardous waste stored on site at any one time. BU typically falls within the LQG category and all waste generated at BU must be managed in accordance with applicable LQG rules.

C. **Determining Generator Status**

1. Facilities are classified as large quantity generators ("LQGs") if they:

    a. Generate more than 1,000 kg (2,220 pounds) of hazardous waste in a month; or

    b. Generate or store more than 1 kg (2.2 pounds) of acute hazardous waste (P-listed hazardous wastes) in a month; or

    c. Store more than 6,000 kg of hazardous waste (13,200 pounds) at any one time.

2. 6 NYCRR § 372.1; and 40 C.F.R. § 261.5(e-f).

3. When determining how much waste a facility generates in a month, the generator must include all hazardous waste it generates in that month except hazardous waste that is:

    a. Exempt from hazardous waste regulation (e.g., scrap metal, used oil that is recycled and is hazardous solely because it displays a hazardous characteristic);

    b. In "empty" containers and the containers themselves (unless the containers held a P-listed waste);

    c. Treated immediately on-site in an appropriate manner (e.g., waste that is neutralized in an "elementary neutralization unit");

    d. Spent lead acid batteries that are reclaimed; and

    e. Universal waste (e.g., fluorescent lights, used batteries, unused pesticides, mercury thermostats) that is managed in accordance with applicable universal waste rules.

D. **New York State Hazardous Waste Generator Requirements**

1. Under New York rules, LQGs must:

    a. Evaluate every waste generated and determine if it is regulated as hazardous waste;

    b. Obtain an EPA identification number;

    c. Store hazardous waste for no longer than 90 days;

d. Label all containers with the words "HAZARDOUS WASTE," and other words that describe the contents;

e. Label all containers with the date they are moved to storage or when the 55-gallon accumulation area limit is exceeded, whichever occurs first, and ensure labels are clearly visible for inspection;

f. Inspect hazardous waste container storage areas at least weekly and maintain a log of all inspections;

g. Ensure containers are closed except when waste is being added or removed;

h. Keep containers in good condition, compatible with wastes stored therein and handled in a manner that prevents spills;

i. Train all personnel who handle hazardous wastes (including lab staff) to ensure they are familiar with proper waste handling procedures for the wastes they handle and emergency procedures;

j. Annually train all employees who handle hazardous waste in a manner that will ensure the facility's compliance with applicable hazardous waste rules;

k. Use a licensed hazardous waste transporter;

l. Send waste only to a licensed hazardous waste treatment, storage and disposal facility;

m. Label packages in accordance with DOT rules prior to shipment;

n. Ship all hazardous waste using a hazardous waste manifest and keep manifests for at least three years;

o. File an exception report if the receiving facility manifest copy is not received within 45 days of the waste leaving the facility;

p. Submit an annual hazardous waste report to DEC;

q. Store all wastes on a firm working surface, impervious to leaks;

r. Provide secondary containment sufficient to contain potential leaks and spills;

s. Store ignitable/reactive hazardous waste at least 50 feet from the property line;

t. Do not accept hazardous waste from others;

u. Store incompatible wastes separately;

v. Make a good faith effort to minimize hazardous waste generation;

w. Maintain job descriptions for all jobs that relate to hazardous waste management, including the amount and type of training required;

x. Adopt, implement and send a facility-specific Hazardous Waste Contingency Plan to specified outside agencies;

y. Attempt to enter into written mutual aid agreements with specified outside agencies;

z. Appoint primary and alternate emergency coordinators;

aa. Allow 36 inches of aisle space between containers;

bb. Store hazardous waste in a secure area to prevent unauthorized entry;

cc. Place “No Smoking” signs near ignitable hazards;

dd. Post emergency phone numbers and the emergency coordinator’s number by the phone in hazardous waste storage areas;

ee. Post a sign reading “Danger-Hazardous Waste Unauthorized Personnel Keep Out” in hazardous waste storage areas;

ff. Ensure communication equipment and emergency equipment is available where hazardous wastes are managed; and

gg. Ensure hazardous waste containers are managed to comply with the air emission standards for volatiles.

2. 6 NYCRR §§ 372.2(a)(8)(ii), 373-1.1(d), 373-2.9(f), 373-3.9(d)(f)(g)(h), and 373-3.2.

E. **Satellite Accumulation Area Requirements**

1. New York LQGs may accumulate waste in satellite accumulation areas (SAAs) without regard to the 90-day storage time limit if the following requirements are met:

   a. The SAA is at or near the point of generation and under the control of the person(s) generating the waste (in the same room or lab);

   b. No more than 55 gallons of hazardous waste is accumulated in a single location and excess waste is moved to the 90-day storage area within 72 hours;

   c. Each container is marked with the date the 55-gallon limit is exceeded;

   d. Each container is marked “HAZARDOUS WASTE” and with other words that identify the contents of the container;

   e. Hazardous waste containers are managed to comply with the air emission standards for volatiles; and

   f. Containers are in good condition and are kept closed except when waste is being added or removed from the container.

2. 6 NYCRR §§ 372.2(a)(8)(i), 373-3.9(b)-(d), 3733.27-.29 and 373-3.9(h).

F. **Common RCRA Violations:**

1. Failure to make hazardous waste determinations.

2. Failure to clearly label and mark satellite accumulation containers with the words "HAZARDOUS WASTE" and other words that identify the contents of the containers.

3. Failure to clearly mark and date the period of accumulation for each container when it is moved from the SAA to the 90-day storage area.

4. Failure to provide and document hazardous waste training on an annual basis.

5. Failure to store incompatible wastes separately.

6. Failure to accumulate hazardous waste in a closed container except when adding or removing waste.

7. Failure to inspect hazardous waste containers weekly and maintain an inspection log.

8. Failure to adopt and implement a Hazardous Waste Contingency Plan.

9. Failure to provide secondary containment sufficient to contain potential leaks and spills.

10. Failure to maintain and operate the facility in a manner to minimize the possibility any planned or unplanned release of hazardous constituents to air, soil, or surface water which could threaten human health or the environment.
11. Failure to maintain adequate aisle space to allow the unobstructed movement of personnel or emergency equipment in the container storage areas.

G. Waste generated by contractors must be managed in accordance with the large quantity generator requirements described above. Contractors will be fully responsible for managing their wastes in accordance with these rules and ensuring all wastes are properly disposed prior to the contractor leaving the site.

H. **Contractors at BU must:**

1. Provide BU with a list of the types of waste streams generated during contractor activities.

2. Make formal hazardous waste determinations for every waste stream generated during contractor activities.

3. Inform BU of types and quantities of hazardous wastes generated during contractor activities.

4. Provide BU with documentation that contractors who generate or manage hazardous wastes have been provided with hazardous waste training.

5. Inform BU of the locations of all hazardous waste storage areas at the contractor work site.

6. Manage all hazardous wastes generated on-site in accordance with applicable large quantity generator hazardous waste rules.

7. Remove all wastes and equipment from the site at the conclusion of the project and dispose of such wastes in accordance with applicable rules.

8. UNDERGROUND AND ABOVEGROUND STORAGE TANKS

A. The Hazardous and Solid Waste Amendments (HSWA) of 1984 added Subtitle I, which governs underground storage tanks (USTs). Federal regulations for the construction, installation, and operation of USTs are provided at 40 C.F.R. Part 280.

B. The construction and upgrade of USTs and aboveground storage tanks (ASTs) is regulated further by New York DEC's Standards for New and Substantially Modified Petroleum Storage Facilities under 6 NYCRR Part 614. New York rules require all new or substantially modified USTs to be made of either fiberglass-reinforced plastic (FRP), steel that is cathodically protected, or steel which is clad in fiberglass. "New facilities" are defined to include tanks put into service or modified after December 27, 1985. New UST facilities must have secondary containment (e.g., double-walled tank), a leak monitoring system, and underground pipes must be constructed of FRP or cathodically protected iron steel. See 6 NYCRR § 614.2-.5

C. While New York DEC regulations do not specifically require existing tanks to be upgraded, federal regulations require most steel USTs to be upgraded to meet the new UST standards or removed before December 22, 1998. See 40 C.F.R. § 280.21(a)

D. New York DEC also regulates the registration, handling, and storage of petroleum in aboveground storage tanks. See 6 NYCRR Parts 612, 613, and 614.

E. **Common UST Violations:**

1. New USTs have not been installed in accordance with the New UST requirements.

2. Existing tanks not in compliance with the new UST standards were not upgraded or removed prior to December 22, 1998.

3. USTs have no leak detection system.

4. USTs are not properly equipped with spill and overfill protection equipment.

5. UST leak detection systems are not working properly.

6. Owners/operators of UST systems have not ensured that spills/overfills do not occur.

7. Owners/operators have not ensured that the volume available in the tank is greater than the volume of product to be transferred to the tank prior to transfer and that the transfer is monitored constantly to prevent overfilling and spilling.

8. Incomplete tank removal (i.e., a hole was left in ground and contaminated soil is present).

9. Owners/operators fail to take appropriate response actions for a confirmed release from a UST.

10. Failure to conduct daily inventory monitoring for USTs.

11. Failure to reconcile UST inventory records on a regular basis to determine whether an abnormal loss of gain has occurred.

12. Failure to test and inspect USTs in accordance with the testing and inspection requirements in the New York DEC regulations.

13. Failure to conduct testing of cathodic protection systems annually.

F. **Common AST Violations:**

1. Failure to register ASTs and obtain a Petroleum Bulk Storage Registration Certificate.

2. Failure to include all of the necessary tank information on the Registration Certificate.

3. Failure to equip ASTs with level gauges or high level alarms to prevent overfilling.

4. Failure to mark the tank and the gauge with the design capacity, working capacity, tank identification number (as it appears on the Registration Certificate), and identification of tank contents.

5. Failure to provide ASTs with adequate secondary containment.

6. Failure to properly label the fill port with the information specified in the regulations and the color and symbol code of the American Petroleum Institute (API) that relates to the product stored in the tank.

7. Failure to inspect ASTs monthly and keep records of inspections.

8. Failure to report spills and discharges of oil to DEC within 2 hours of discovery.

G. **Contractors at BU must:**

1. Inform BU if a UST or AST will be installed as part of the project; and

2. Register the UST or AST in accordance with applicable rules.

EPA's RCRA/Superfund/UST Hotline, at (800) 424-9346, responds to questions and distributes guidance regarding all RCRA regulations. The RCRA Hotline operates weekdays from 8:30 a.m. to 7:30 p.m., EST, excluding Federal holidays.

9. OIL SPILL PREVENTION CONTROL AND COUNTERMEASURES PLANNING

A. EPA requires facilities to prepare an Oil Spill Prevention Control and Countermeasures Plan (Oil SPCC Plan) if there is a reasonable expectation that oil can be discharged from the facility to waters of the United States (defined to include tributaries leading to navigable water) or adjoining shorelines, and if the facility has:

1. Underground buried storage capacity exceeding 42,000 gallons of oil; or

2. Aboveground storage capacity exceeding 1,320 gallons of oil; or

3. Aboveground storage capacity exceeding 660 gallons of oil in one container.

B. EPA's interpretation of the term "reasonable expectation" is so broad that all facilities in the Northeast that exceed the quantity thresholds must adopt an oil SPCC Plan. See 40 C.F.R. Part 112

C. **Common Oil SPCC Violations:**

1. No Oil SPCC Plan.

2. Failure to implement Oil SPCC plan and provide employees with Oil SPCC training.

3. Plan does not include all elements of a complete plan as required by SPCC regulations.

4. Plan not reviewed and certified by a Registered Professional Engineer (P.E.).

5. Plan not reviewed/updated every five years (this was a three year requirement prior to 8/12/02).

6. Failure to provide a regulatory cross reference table in the Plan if the Plan is not organized in accordance with the rule.

7. Plan not updated within six months of review to include most effective prevention and control technology if: (1) such technology will significantly reduce the likelihood of a spill event from the facility; and (2) if such technology has been field-proven at the time of review.

8. Technical plan amendments not certified by a Registered P.E.

9. Plan does not include all oil sources (i.e., transformers, hydraulic elevator and lift systems, emergency generators, drum storage, vegetable oil and grease, etc.) in quantities of 55-gallons or greater.

10. Plan does not accurately identify the predicted direction, rate of flow, and total quantity of oil which could be discharged from the facility as a result of each major type of equipment failure.

11. Plan does not address loading/unloading procedures for bulk oil deliveries.

12. Plan does not address secondary containment structures, diversionary structures, or equipment present to prevent discharged oil from reaching navigable water.

13. Plan does not adequately address facility drainage.

14. Plan does not address integrity testing, alarms, and leak detection devices.

15. Plan does not address cathodic protection for buried metallic tanks.

16. Plan does not include procedures for inspecting and maintaining tanks and ancillary equipment.

17. Plan does not address previous spills, corrective actions taken, and plans for preventing recurrence.

18. Plan does not identify the person responsible for spill prevention.

19. Facility does not conduct annual spill prevention briefings.

20. Plan does not address mobile or portable oil storage tanks, which should be: (1) positioned or located so as to prevent spilled oil from reaching navigable waters; (2) provided with adequate secondary containment; and (3) located where they will not be subject to periodic flooding or washout.

21. The Plan does not specify how steam return or exhaust lines from internal heating coils are monitored to prevent discharges of oil.

22. Inspections required by the facility's SPCC plan and the facility's policies are not completed in accordance with written procedures, have not been signed by the inspector or supervisor, and have not been made part of the SPCC plan and maintained for at least three years.

23. Plan does not discuss security or adequate facility lighting to prevent vandalism.

24. Designated staff do not conduct regular walk-through inspections of contractor areas to be aware of oil use and secondary containment structures.

D. **Contractors at BU must:**

1. Inform BU if it will store oil on-site in tanks, containers or equipment with capacities of 55 gallons or more;

2. Provide BU with specifications for all tanks, containers, and equipment with oil storage capacity equal to or greater than 55 gallons if such devices will remain on-site;

3. Ensure that all tanks comply with federal and state UST and AST regulations (See Section 8, above);

4. Provide oil storage facilities with adequate secondary containment;
5. Inspect oil storage facilities on a regular basis (or as frequently as required in the regulations) for evidences of leaks and releases;

6. Train all personnel in accordance with oil SPCC rules;

7. Report all oil spills in accordance with New York and Federal spill reporting rules and inform BU of all spills regardless of quantity spilled; and

8. Notify BU of the oil stored at the contractor site (tanks, drums, etc.) temporarily, including amount of oil stored, types of oil stored, and the locations of oil storage.

10. WETLANDS

A. Wetlands can potentially be impacted during construction and other contractor activities. The U.S. Army Corps of Engineer's Wetland Permitting Program is regulated under Section 404 of the Clean Water Act. See 33 U.S.C. §1344. Activities conducted on or near waters of the United States may be regulated under Section 404 of the Clean Water Act. A Section 404 Wetland Permit may be required for certain activities conducted in wetland areas.

B. "Waters of the United States" includes, among other things, inland rivers, streams, lakes, ponds, and wetlands. See 40 C.F.R. § 232.2. An example of an activity which could impact wetlands includes the discharge of fill material into a wetland area. "Fill material" is any "pollutant which replaces portions of the waters of the United States with dry land or which changes the bottom elevation of a water body for any purpose." The term "discharge of fill material" is defined as, "the addition of fill material into waters of the United States…" and includes, "the placement of fill that is necessary for the construction of any structure in a water of the United States; the building of any structure or impoundment requiring rock, sand, dirt, or other material for its construction;…" See 40 C.F.R. § 232.2. Under these definitions, the filling of wetland areas or the temporary placement of construction-related equipment (e.g., construction crane mats) in wetland areas is potentially regulated under section 404 of the Clean Water Act.

C. **Contractors that are performing projects that can impact (either by filling or by discharging to) wetlands must:**

1. Inform BU prior to commencement of the activity;

2. Obtain any and all necessary permits;

3. Comply with all permit conditions; and

4. Provide BU with copies of all permits and correspondence.

11. ASBESTOS

A. Activities involving asbestos and asbestos containing materials (ACM) are regulated under several OSHA and EPA requirements. The Public Employee Safety and Health Administration (PESH) has adopted OSHA regulations concerning occupational exposure to asbestos under 29 C.F.R. § 1910.1001. This regulation generally applies to all areas containing greater than 1% asbestos (i.e., ACM). Federal rules require building owners to identify all areas that contain asbestos in any form, and any of these minerals that have been chemically treated and/or altered. Generally, buildings constructed after 1981 are not anticipated to contain ACM (greater than 1%).

B. Areas that may potentially contain ACM (e.g., mechanical rooms) should have labels/signs posted at entrances to warn employees. Warning labels should also be affixed to all raw materials, mixtures, scrap, waste, debris, and other products containing asbestos fibers, or to their containers. See 29 C.F.R. § 1910.1001(j)(2)(i)). Employees who work in areas where concentrations of airborne asbestos fibers may exceed the action level and/or excursion limit must receive asbestos awareness training. See 29 C.F.R. § 1910.1001(j)(2)(ii)). In areas where ACM is present but concentrations may not exceed OSHA standards, it is a Best Management Practice to provide workers with asbestos awareness training. This training should cover the following elements:

1. Health effects associated with asbestos exposure;

2. The relationship between smoking and exposure to asbestos in producing lung cancer;

3. The quantity, location, manner of use, release, and storage of asbestos, and the specific nature of operations which could result in exposure to asbestos;

4. Any engineering controls and work practices associated with the work in the asbestos area;

5. Specific procedures for protecting employees from asbestos exposure;

6. The purpose, proper use, and limitations of respirators and protective clothing; and

7. Information on medical surveillance, and public health organizations to contact for further information.

C. Under 29 C.F.R. § 1900.1001(j)(5), employers must ensure (through representative breathing zone air samples) that no employee is exposed to:

1. An airborne concentration of asbestos in excess of 0.1 fiber per cubic centimeter (f/cc) of air as an 8-hour time-weighted average (TWA) exposure; or

2. An airborne concentration of asbestos in excess of 1.0 f/cc of air as averaged over a sampling period of 30 minutes (excursion limit).

D. If airborne concentrations of asbestos exceed the TWA or excursion limit in a particular area, the employer must establish that area as a Regulated Area and proceed with all applicable requirements for Regulated Areas, including demarcation, limited access, provision of respirators, and prohibited activities. See 29 C.F.R. § 1910.1001(c)).

E. Under the Section 112 of the CAA, EPA regulates asbestos under the Asbestos National Emission Standard for Hazardous Air Pollutants, or Asbestos NESHAP. See 40 C.F.R. Part 61. These regulations protect the public by minimizing the release of asbestos fibers during activities involving the processing, handling, and disposal of ACM. Accordingly, the Asbestos NESHAP specifies work practices to be followed during demolitions and renovations of all structures, installations, and buildings (excluding residential buildings that have four or fewer dwelling units). In addition, the regulations require the owner of the building and/or the

contractor to notify applicable State and local agencies and/or EPA Regional Offices before all demolitions, or before renovations of buildings that contain a threshold amount of asbestos.

F. Asbestos NESHAP regulations must be followed for renovation of facilities with at least 80 linear meters (260 linear feet) of regulated ACM on pipes, 15 square meters (160 square feet) of ACM on other facility components, or at least one cubic meter (35 cubic feet) of facility components where the amount of ACM previously removed from pipes and other facility components could not be measured before stripping. All facilities conducting demolitions must notify the appropriate regulatory agencies, even if no asbestos is present at the site, and all demolitions and renovations are "subject" to the Asbestos NESHAP insofar as owners and operators must determine if and how much asbestos is present at the site.

G. The Asbestos School Hazard Abatement Re-authorization Act (ASHARA) required EPA to revise its asbestos model accreditation plan to extend training and accreditation requirements to include persons performing certain asbestos-related work in public and commercial buildings. It also increased the minimum number of training hours required for proposed accreditation.

H. The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) lists friable asbestos as a hazardous substance with a reportable quantity of one pound. Thus, if someone spills one pound of friable asbestos, the spill must be reported to the National Response Center immediately.

I. Construction projects and asbestos abatement activities are regulated under OSHA. See 29 C.F.R. § 1926.1101. Asbestos waste generated from small-scale asbestos abatement activities conducted by certified asbestos technicians should comply with OSHA standards for storage and disposal. Class II asbestos work is defined as activities involving the removal of ACM which is not thermal system insulation or surfacing material. See 29 C.F.R. § 1926.1101. An example of this would be the removal of floor tiles. Asbestos-containing material removed from Class II projects should be immediately bagged or wrapped, or kept wetted until transferred to a closed receptacle, no later than the end of the work shift. See 29 C.F.R. § 1926.1101(8)(v)(D).

J. **Contractors performing renovation or demolition work must:**

1. Inform BU prior to commencing any work;

2. Determine if asbestos containing materials (ACM) are present;

3. If ACM is present, only certified abatement professionals may perform the work;

4. All ACM must be managed and disposed in accordance with applicable rules;

5. Contractors disposing or arranging for the disposal of ACM must provide BU with all documentation regarding the disposal of ACM;
6. Areas where ACM will be disturbed must be demarcated in accordance with applicable rules;

7. Contractors performing ACM abatement work must ensure their employees and any subcontractors follow applicable OSHA rules and wear appropriate personal protection equipment (PPE); and

8. Contractors performing ACM will comply with EPA air rules related to asbestos.

12. LEAD

A. The disposal of lead containing material may be regulated by hazardous waste rules. Disposal of lead containing products and waste may be regulated by and CERCLA. Construction projects that generate paint waste, leaded glass, brass, tin/lead solder mixes, computer monitors, or any other material that may include lead can generate hazardous waste.

B**. Contractors involved in generating construction material that may include lead waste must:**

1. Determine if the waste generated is hazardous waste (note that lead paint should not be blasted from walls, ceilings or any other media for the purpose of determining whether the waste is hazardous waste. Rather, a representative sample of the waste stream as a whole (e.g., a section of a roof, door, wall or glass) should be sent to a certified lab for analysis using the Toxicity Characteristic Leaching Procedure (TCLP);

2. Where blasting is necessary, segregate the blasted waste from the other waste and analyze separately;

3. Maintain documentation on the waste characterization process;

4. Provide BU with copies of all waste determinations and supporting documentation;

5. Manage all hazardous waste in accordance with the hazardous waste rules applicable to large quantity generators (see section 7, above) while on site; and

6. Dispose of all construction debris waste in accordance with applicable rules;

7. If blasting is necessary, wear appropriate PPE.

13. DEPARTMENT OF TRANSPORTATION

A. Federal law requires employers to train all employees who directly affect hazardous materials (hazmat) in transportation on Department of Transportation Hazardous Materials rules. Employees who directly affect materials in transportation include everyone who: (1) loads or unloads hazardous materials from trucks that travel over public roads; (2) prepares shipping papers and/or hazardous waste manifests; and (3) operates a motor vehicle that transports hazardous materials over public roads. Employees engaged in these activities must receive DOT training every three years, and a record of current training, inclusive of the preceding three years, must be created and retained by the facility. See 49 C.F.R. Parts 171-173.

B. **Common DOT Violations:**

1. Failure to provide DOT training to employees who: (1) load or unload hazardous materials from trucks that travel over public roads; (2) prepare shipping papers and/or hazardous waste manifests; and (3) operate a motor vehicle that transports hazardous materials over public roads.

2. Failure to train covered employees every three years.

3. Failure to maintain training records for a minimum of three years at the facility.

C. **Contractors that will transport hazardous materials from BU or allow their employees to unload hazardous materials from a delivery truck must:**

1. Ensure all employees performing the functions listed above are trained; and

2. Provide BU with copies of the training certifications.

14. SAFE DRINKING WATER ACT

A. The Safe Drinking Water Act (SDWA) mandates that EPA establish regulations to protect human health from contaminants in drinking water. The law authorizes EPA to develop national drinking water standards and to create a joint Federal-State system to ensure compliance with these standards. The SDWA also directs EPA to protect underground sources of drinking water through the control of underground injection of liquid wastes.

B. Public drinking water systems that have at least fifteen service connections or regularly serve an average of at least 25 individuals daily at least 60 days out of the year are regulated by the SDWA. Both primary and secondary drinking water standards have been set by EPA that apply to water after treatment by public drinking water systems. Public water systems must sample and test their water periodically and report findings to the State. Public water systems must notify the consumers they serve if they do not meet standards or have failed to monitor or report. See 42 U.S.C. §§ 300f to 300j-26 and 40 C.F.R. Part 141.

C. EPA National Primary Drinking Water Regulations at 40 C.F.R. Part 141, Subpart B establish standards for the quality of water that can be served by public water systems (Maximum Contaminant Levels, or MCLs). 40 C.F.R. Part 141 also includes related drinking water regulations and requires public water systems to comply with the Total Coliform Rule (Subpart C), the Lead and Copper Rule (Subpart I), and reporting, public notification and record keeping requirements (Subpart D). Many States with EPA-approved SDWA programs, including New York, have adopted regulations which parallel the specific requirements outlined in 40 C.F.R. Part 141. The requirements of the federal SDWA are implemented in the State of New York pursuant to the New York Public Health Law § 225, and the New York State Department of Health's Rules relating to Public Water Systems. See 10 NYCRR Subpart 5.1.

D. **Common SDWA Violations:**

1. If a university operates a small public water system, such as a well, it must initially monitor for lead every six months. A small system that meets the lead action level of 0.015 parts per million (ppm) during each of two consecutive six month monitoring periods may reduce the frequency of sampling to once per year. If the system then meets the lead action level during three consecutive years, it may further reduce the frequency of sampling to once every three years. A small system, however, that exceeds the lead action level and is required to implement corrosion control treatment, is subject to "follow-up sampling" which consists of lead monitoring during two consecutive six-month periods after the installation of "optimal corrosion control treatment" designated by the State. The public water system is given 36 months to complete this follow-up sampling. See 40 C.F.R. § 141.85(d)(2)(ii) and 10 NYCRR § 5.1.

2. Non-community public water systems using only groundwater and serving less than 1,000 persons must collect at least one total coliform sample each calendar quarter that the system provides water to the public, except that the State may reduce this monitoring frequency if a sanitary survey shows that the system is free of defects. Results from this monitoring are used to determine compliance with the MCL for total coliform in 40 C.F.R. § 141.63. The Maximum Contaminant Level for microbiological contaminants is based on the presence or absence of total coliform rather than a specified numeric coliform density or concentration in the sample. If a single routine sample is total coliform positive, the public water system must collect a set of repeat samples within 24 hours of being notified of the positive result. See 40 C.F.R. §141.21(b)(1) and 10 NYCRR § 5.1.

E. **If a contractor is performing a project that includes development of a new water source it must:**

1. Inform BU and ensure the parties agree on a compliance plan that identifies each party's roles and responsibilities.

EPA's Safe Drinking Water Hotline, at (800) 426-4791, answers questions and distributes guidance pertaining to SDWA standards. The Hotline operates from 9:00 a.m. through 5:30 p.m., EST, excluding Federal holidays.

15. FEDERAL INSECTICIDE, FUNGICIDE, RODENTICIDE ACT

A. The Federal Insecticide, Fungicide, Rodenticide Act (FIFRA) creates a regulatory framework to provide federal control of the sale, distribution and use of pesticides. FIFRA provided the EPA with the authority to study the consequences of pesticide usage as well as to require all users to register when purchasing pesticides. Amendments to FIFRA also require pesticide users to take exams for certification as applicators.

B. FIFRA regulates, in part, , the registration of pesticides. Prior to the manufacture, distribution or importation of a pesticide, the EPA must give its approval. Proper registration of pesticides provides for proper labeling and that the pesticide will not cause unreasonable harm to the environment if used in accordance with specifications. Under FIFRA, the EPA can issue emergency suspensions of certain pesticides to cancel or restrict their use if an endangered species will be adversely affected.

C. **Common FIFRA Violations:**

1. Improper labeling.
2. Applying a pesticide without proper certification.
3. Using a pesticide in a manner inconsistent with its label.
4. Failure to keep required records or to allow the inspection, copying or sampling.

D. **Contractors must:**

1. Inform BU of the pesticides and other chemicals brought on site
2. Provide BU with the MSDS for each pesticide and chemical brought on site
3. Provide BU with the quantity of each chemical or product brought on site
4. Provide BU with notice prior to the application of pesticides
5. Provide BU with copies of the applicator's certification
6. Only use pesticide in accordance with its label
7. Meet all requirements as outlined in FIFRA

EPA's FIFRA Assistance Information Service, at (202) 260-5700 , answers questions and distributes guidance pertaining to Federal Insecticide, Fungicide, Rodenticide Act standards. The Service operates from 8:30 a.m. through 4:30 p.m., EST, excluding Federal holidays.

APPENDIX A

ACRONYMS

ACM	Asbestos Containing Material
API	American Petroleum Institute
ASHARA	Asbestos School Hazard Abatement Re-authorization Act
AST	Aboveground Storage Tank
BOD	Biochemical Oxygen Demand
BMP	Best Management Practice
BU	Binghamton University
CAA	Clean Air Act
CERCLA	Comprehensive Environmental Response, Compensation, & Liability Act
CFR	Code of Federal Regulations
CWA	Clean Water Act
DEC	New York Department of Environmental Conservation
DOT	Department of Transportation
EHS	Extremely Hazardous Substance
EPCRA	Emergency Planning and Community Right-to-Know Act
HSWA	Hazardous Solid Waste Amendments
LEPC	Local Emergency Planning Committee
LQG	Large Quantity Generator
MCL	Maximum Contaminant Level
MS4	Municipal Separate Stormwater System
MSDS	Material Safety Data Sheet
NESHAP	National Emission Standards for Hazardous Air Pollutants
NOI	Notice of Intent
NOT	Notice of Termination
NPDES	National Pollutant Discharge Elimination System
OSHA	Occupational Safety and Health Administration
PCBs	Polychlorinated Biphenyls
PESH	Public Employee Safety and Health

PPE	Personal Protective Equipment
PPM	parts per million
RCRA	Resource Conservation and Recovery Act
SAA	Satellite Accumulation Area
SARA	Superfund Amendments and Reauthorization Act
SDWA	Safe Drinking Water Act
SERC	State Emergency Response Commission
SPCC	Spill Prevention Control and Countermeasures
SPDES	State Pollutant Discharge Elimination System
SUNY	State University of New York
SWPPP	Storm Water Pollution Prevention Plan
TCLP	Toxicity Characteristic Leaching Procedure
TPQ	Threshold Planning Quantity
TSCA	Toxic Substances Control Act
TSS	Total Suspended Solids
TWA	Time Weighted Average
USC	United States Code
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VOC	Volatile Organic Compound