WESLEYAN
UNIVERSITY

Container Storage Area Management/Inspection Plan

This Management plan is required under Federal Resource, Conservation and Recovery Act (RCRA 40CFR262-265) regulations and analogous Connecticut hazardous waste regulations, for the Wesleyan University Hazardous Waste Container Storage Area (CSA).

Version 2: August 18, 2006

Dept. of Environmental Health & Safety

170 Long Lane Cady Building

Middletown CT. 06459

860-685-2771

1.0 INTRODUCTION

This management plan is required under Federal Resource, Conservation and Recovery Act (RCRA 40CFR266) regulations and analogous Connecticut hazardous waste regulations, for the Wesleyan University Hazardous Waste Container Storage Area (CSA). It is required for Large Quantity Generators of Hazardous Waste.

1.1Location

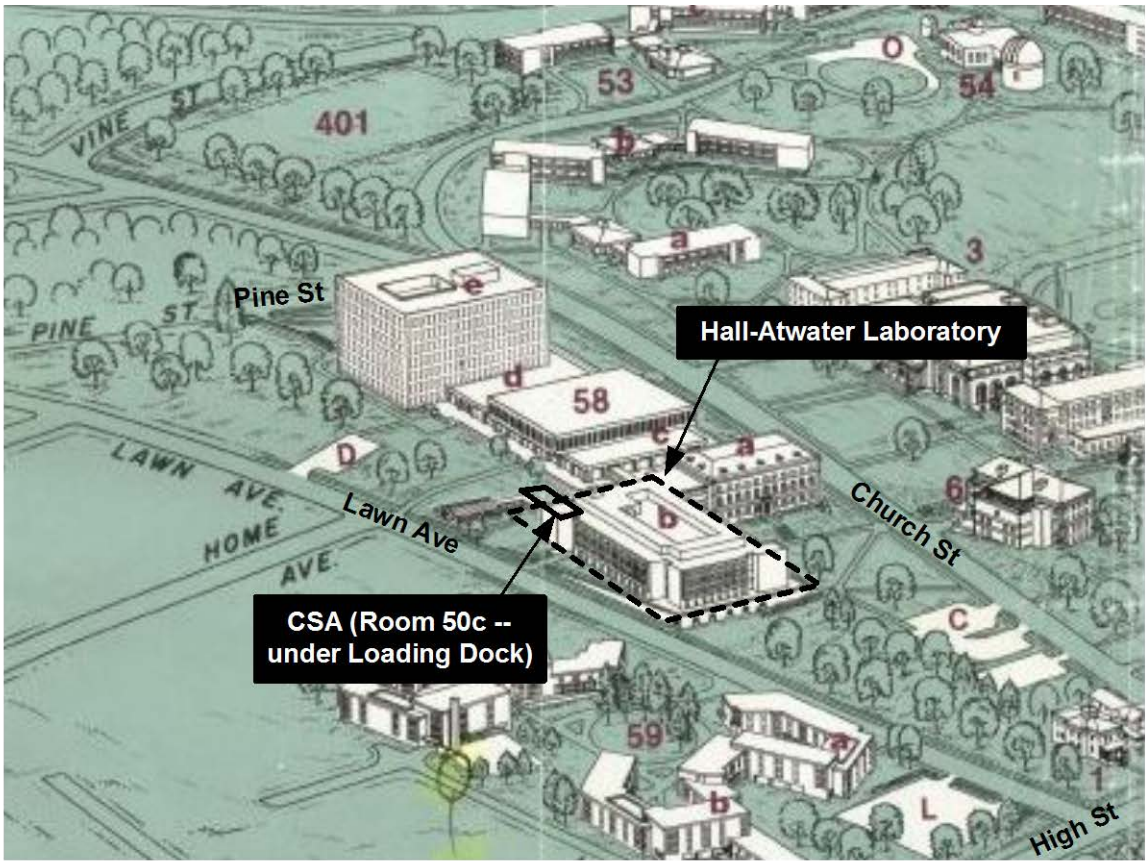
The CSA is located at:

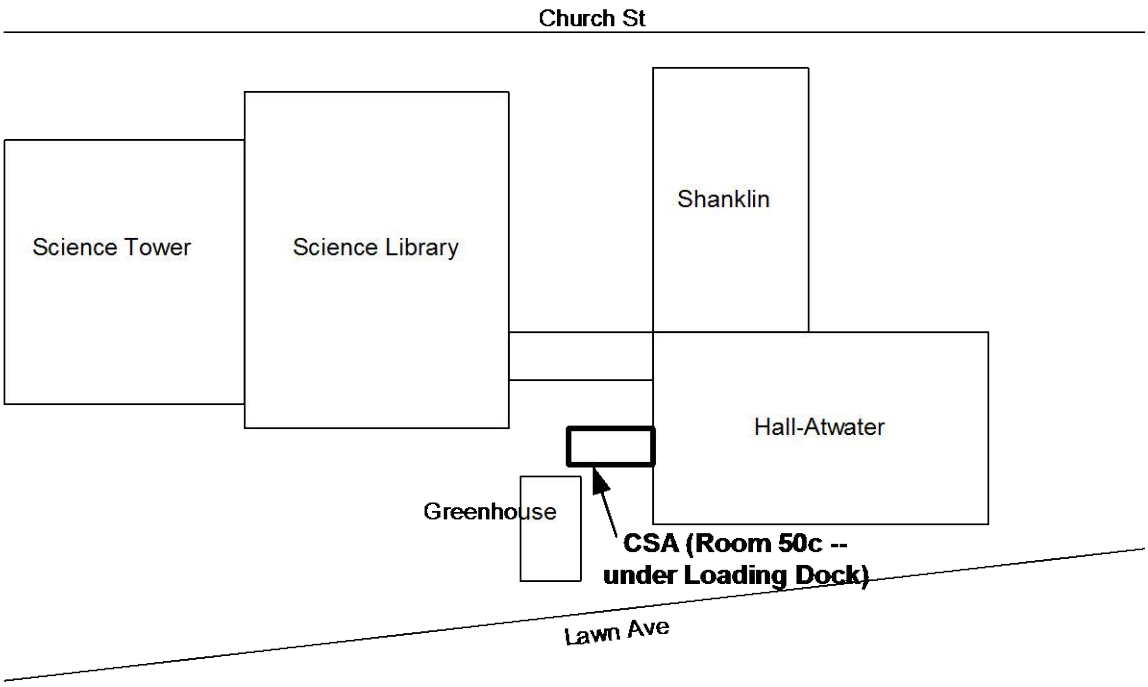
Chemistry Department
Hall-Atwater Laboratory, Room 50C
Lawn Ave.
Middletown, CT 06457

1.2Setting

The Hall-Atwater Laboratory is on the campus of Wesleyan University, between Church Street and Lawn Avenue on the north and south, and between High Street and Pine Street on the east and west. The CSA is on the ground floor of the building on the southwest corner of the facility, below the loading dock. The surrounding area contains University classroom buildings, science library, dormitories and residential housing. A map of the area is shown on **Figure 1**.

Figure 1. Hall-Atwater Laboratory (bldg. 58b) and Surroundings



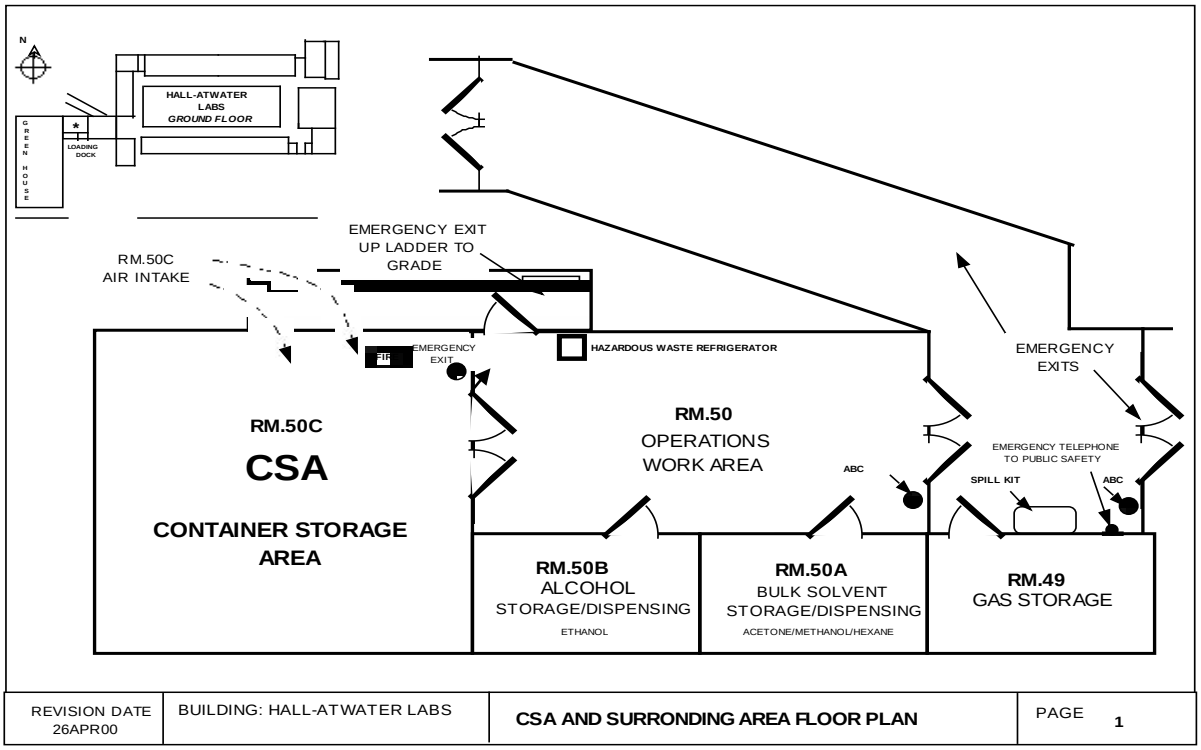


1.3 Description of CSA

A diagram of the CSA floor plan is shown on **Figure 2**. Room 50C is the CSA. A locked chemical storage refrigerator is located in Room 50. It is used as a CSA for hazardous waste that may be unstable at room temp. Room 50 is a foyer used as a staging area for lab packing of wastes by the disposal contractor. The hazardous waste refrigerator is inspected under the CSA protocol and inspection guide. The CSA has exhaust ventilation with floor level pickup (for vapors heavier than air) and explosion-proof lighting and electrical circuits. Fire extinguishers are located in the room 50 complex foyer and in the hall outside room 49. A direct dial phone to Public Safety is located in the hall outside Room 49. The CSA has a CO_2 fire protection system. Wastes in the CSA are held for a maximum of 90 days. All waste containers are placed into appropriate secondary containment on shelves, separated into categories and incompatibles are segregated. Periodically, compatible wastes will be aggregated from several containers into one.

CSA floor drains and floor drain cleanouts have been sealed with concrete, the floor has been sealed with an epoxy material to inhibit its porosity and the door threshold has been raised 1" and sealed to create secondary containment of the room itself.

After a cleanout by a waste contractor, a label is placed on the first waste container added to start the 90-day clock, as well as a label of a different color to mark the first Acutely Hazardous Substance entering the room; the container date is notated on the door of the room as well.



1.4 Waste Generation

Wesleyan University teaching laboratories and research laboratories use a variety of reactants, solvents and other hazardous chemicals or materials. Residual reactants, unused chemicals, or chemicals past their shelf life result in generation of hazardous wastes -- mainly waste liquids, spent solvents or organic and inorganic solids or sludge. The Chemistry, Biology, Molecular Biology and Biochemistry Departments (in Hall-Atwater and Shanklin Laboratories) generate small amounts of such hazardous wastes on a regular basis. Laboratory protocols specify collection of compatible wastes in small satellite accumulation containers at the points of generation in each laboratory, as shown in **Figure 3**. Inorganic acids, are neutralized and disposed down the sink, all other lab-generated wastes are collected and retained in the CSA for pickup and disposal by a licensed hazardous waste contractor.

Figure 3. Laboratory Satellite Accumulation Area

Figure 4. Radioactive Waste Decay-Out Room

Figure 5. Biomedical Waste Storage

Biomedical and radioactive wastes also are generated by laboratory activities, but these are handled under different procedures and not within the CSA. Radioactive wastes (predominantly P-32 and S-35) are held in a secure decay-out room as shown on **Figure 4** for 10 half-lives prior to disposal, to assure that activity has dropped below required levels. Mixed waste is rare, but if it is generated, it is first subject to appropriate decay-out, and then transferred to the CSA for disposal.

Biomedical wastes are held in a separate storage area as shown on **Figure 5**, for pickup and disposal by a licensed biomedical waste contractor. Spills or other emergencies involving radioactive or biomedical wastes are subject to regulations other than RCRA, are handled under different procedures, and therefore *are not covered in this RCRA contingency plan.*

Several other University departments (Center for the Arts, Earth Sciences, Physical Plant) occasionally generate small quantities of RCRA hazardous waste, which are collected and aggregated in the CSA.

1.5 Generator Status

Wesleyan University is classified as a Large Quantity Generator (LQG) of RCRA hazardous wastes. In accordance with 40CFR262.34(a-c) you are considered an LQG if you generate more than 2,200 lbs (1,000 kg) of hazardous waste or more than 2.2 lbs (1 kg) of acute hazardous waste in any given calendar month.

2.0 PURPOSE OF PLAN

The purpose of this management plan is to minimize possible hazards to human health or the environment due to fire, explosion or release of RCRA hazardous wastes from the CSA to the interior of the Hall-Atwater building, or to the air, soil or water outside the CSA.

This plan is meant to be a guidance document for persons managing and inspecting the CSA.

This plan is provided to all CSA Management, in-house Emergency Responders and personnel trained to enter the CSA at Wesleyan University.

3.0 SCOPE

This plan covers RCRA hazardous wastes held in the CSA (Hall-Atwater Room 50C), emergency equipment and bulk storage of material in the CSA complex. It **does not** cover:

- The small satellite accumulation points in each laboratory (these are typically under vented lab hoods, and are subject to standard lab protocols for chemical accidents and spills);
- Inventories of hazardous chemicals stored in the stockroom or in labs;
- Radioactive decay-out room or biomedical waste storage room, or any storage of these wastes.

4.0 GENERAL RESPONSIBILITIES

The Associate Director of Environmental Health & Safety will appoint, train and assign inspection duties to personnel involved in the Weekly Inspection of the CSA.

The assigned inspector is required to follow this management plan during inspection activities of the CSA and return all inspection documents to the Associate Director of EH&S, as well as sign the inspection form on the outer door of the CSA.

5.0Function and Job Description

5.1 Associate Director EH&S

- The Associate Director is responsible for the training of CSA Inspectors and overall management of the plan. The EC shall:
    1. Train appropriate Personnel
    2. Maintain professional requirements as required by the plan
    3. Review Inspection Documents
    4. Perform random inspections to QA/QC inspection protocols

5.2 CSA Inspectors

- CSA Inspectors are responsible for following the inspection protocols as outlined by this plan and administering the inspection once every 7 days. If the inspector is not able to perform the inspection due to vacation, holidays or time off, they will make arrangements with another trained inspector to accomplish the task. The Inspector shall:
    1. Perform inspection tasks as outlined in Appendix A of the plan
    2. Notify the Associate Director immediately of any discrepancies in the inspection
    3. Correct any discrepancies found in the inspection immediately if feasible.
    4. Make arrangements with other trained inspectors to cover off time.

5.3 List of Trained Inspectors

There is one primary CSA Inspector, and four qualified alternates.

Name	Phone Number	email
Jeffrey Gilarde (primary)	685-3473	jgilarde@wesleyan.edu
Doug Allen	685-2732	dallen@wesleyan.edu
Horace Chambers	685-3203	hfchambers@wesleyan.edu
William Nelligan	685-2771	wnelligan@wesleyan.edu
Don Albert	685-2729	dalbert@wesleyan.edu

CSA Inspection Protocol
Appendix A Room 50 (Ops Area/Vestibule)

Inspection Description (please check √ one column)	YES	NO
1. Does the emergency telephone connection to Public Safety connect? **Dispatcher's Name:** **Time Called:**		
2. Is the Spill Kit inventory complete? (use the inventory checklist **Table 4** in the CSA Contingency Plan)		
3. Are the fan controller pilot lights (in outer hall) on (indicating working)?		
4. Is the "Hazardous Waste Refrigerator" operating?		
5. Is the "Hazardous Waste Refrigerator" locked?		
6. Is the "Hazardous Waste Refrigerator" empty?		
7. If applicable; Is the Hazardous Waste in the Refrigerator properly labeled and the postings and placarding in place and appropriate?		
8. Is the OPS Area clear of any other Hazardous Waste (other than in the refrigerator)?		
9. Is the housekeeping in vestibule area adequate?		
10. Is the Halon System pressure gauge reading in the normal range (400 psi)?		
11. Is the fire suppression control panel free of any trouble lights?		
12. Do the door actuating devices (chains and pressure switches) attach easily to the doors?		
13. Are the secondary doors pinned in the locked position?		
14. Are the 3 fire extinguishers hanging on their hooks and have they been inspected?		
15. Are all door signs and placards in place and not blocked. (CO_2 warning, NFPA, Maps etc)		
16. Are the light bulbs in the area all working? (call in work order ext. 3400)		
17. Is the Emergency escape hatch clear of any obstructions and in operating condition?		

Inspected By: **Date:**

CSA Inspection Protocol
Appendix A Room 50C (CSA)

Inspection Description (please check √ one column)	YES	NO
1. Does the door have the "date of first addition" of hazardous waste container posted?		
2. Are there drums of Hazardous waste or Ct State Regulated waste present?		
Number of CT State Regulated Drums		
Number of Hazardous Waste Drums		
3. Do the drums have ground straps installed correctly?		
4. If required; are the drums on secondary containment?		
5. Are the shelving units in good condition with no serious rust/corrosion?		
6. Are the "Glass" Hazardous Waste containers stored on shelves and NOT the floor?		
7. Do all hazardous waste containers on the shelves have secondary containment?		
8. Are the hazardous waste containers in good condition and not leaking?		
9. Do all the hazardous waste containers have closed caps?		
10. Is the room free of any significant odors?		
11. Are all the Hazardous Waste Containers compatible with their wastes?		
12. Is the Hazardous Waste separated by compatibility?		
13. Is there any Acutely Hazardous Waste present and if so is the door labeling system in place?		
14. Is the exhaust fan running?		
15. Are the pickup and return grates clear and free of obstructions?		
16. Are the fire suppression heads clear and free of obstructions?		
17. Are the light bulbs all working in the area? (call in work order ext. 3400 if not)		

Inspected By: **Date:**

Figure 6. Interior Evacuation Routes from CSA Area

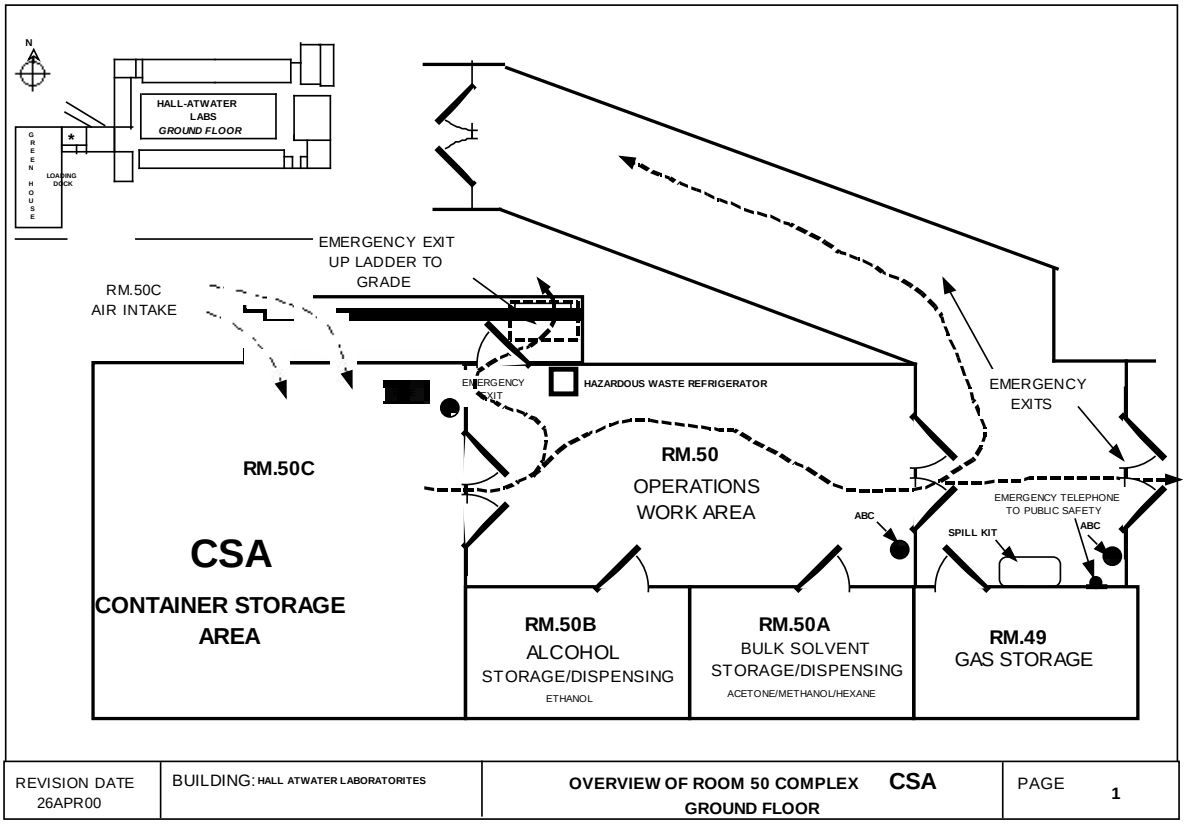
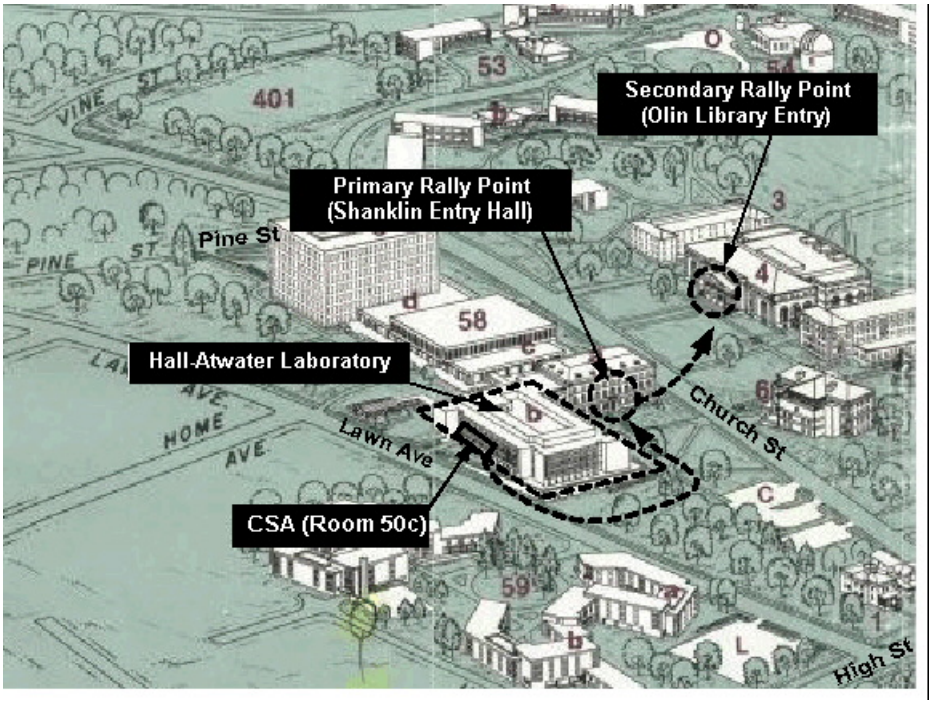


Figure 7: Rally Points for Evacuation from CSA Area



6.0ADMINISTRATION OF THE PLAN

6.1 Amendments to the Plan

The plan is amended when:

- List of inspectors change or other key contacts within the University change. This includes phone and address changes, as well as names of personnel.
- List of emergency equipment changes.
- Plan fails to uncover an inspection infraction.
- Regulations governing the scope and extent of the plan are revised.
- Any change is made in CSA operations or maintenance practices that substantially increases the risk or extent of an incident with hazardous waste material.

A letter indicates minor revisions to pages after the revision number (e.g., Revision 2a), with the date of the change. Major revisions of the entire plan are given the next sequential revision number.

6.2 Periodic Plan Reviews

The plan is reviewed annually by the Associate Director EH&S for any need to amend or update it, using the checklist shown in **Table 7**.

Table 4
CSA EMERGENCY EQUIPMENT INVENTORY AND MONTHLY CHECKLIST

Item	Description / Function	Location	Capabilities
CO_2 system	Kidde CO_2 / Fire Suppression System	Ceiling valves, cylinders Rm. 50	Carbon dioxide extinguishers protect areas where class B (flammable liquids and gases) or Class C (energized electrical equipment) fires could occur
First aid station	First Aid Kit / Basic first aid	Inside "Spill response box" outside Rm. 49 & Loading Dock	For cuts, scratches and abrasions that do not require Emergency Medical attention.
Absorbent Dikes or Booms	2 each 5"X10' Dikes for Aggressive Fluids Pig Product #HA1010	In "Spill response box" outside rm. 49 & Loading Dock	A universal tubular absorbent dike featuring polypropylene pulp, capable of absorbing and containing large spills of solvent, acid or caustic liquids. Each 10'-long Dike absorbs 9 gallons of acids and bases, as well as other oil- and water-based liquids
Oil-sorbent Pulp	1 each 5# bag for Aggressive Fluids Pig Product #HA8010	In "Spill response box" outside rm. 49 & Loading Dock	Polypropylene pulp in loose form for cleaning up aggressive chemicals, this material soaks up solvents, acid or caustic liquids. Each 5# bag absorbs approximately 5 Gallons.
Pillows	40 each 8"X8" Pillows for Aggressive Fluids Pig Product# PIL302	Inside "Spill Response Box", Outside rm. 49	An absorbent pillow for emergency response to spills of acids, bases and caustic liquids; also to be used when a spilled liquid is unknown. Each 8" x 8" Pillow absorbs 30 oz. of acids and bases, as well as other oil- and water-based liquids
Pillows	20 each 12"X6" Pillows for Aggressive Fluids Pig Product #	In "Spill response box" outside rm. 49	An absorbent pillow for emergency response to spills of acids, bases and caustic liquids; also to be used when a spilled liquid is unknown. Each 12" x 6" Pillow absorbs 60 oz. of acids and bases, as well as other oil- and water-based liquids
Enviro Bond Polymer	1 each 5 gal Polymer for Water Based Fluids Product # 300A	In "Spill response box" outside rm. 49	Enviro Bond 300, Encapsulates aqueous solutions such as water, acids, caustics, bases, bodily fluids and water soluble hydrocarbons such as engine coolant (glycol) and methanol
Enviro Bond Polymer	1 each 5 gal Polymer for Hydrocarbon Based Fluid Product # 403	In "Spill response box" outside rm. 49	ENVIRO-BOND™403 will absorb and bond crude oils, diesel fuel, gasolines and many other hydrocarbons it is also hydrocarbon specific, it will not work on water soluble hydrocarbons such as acetone, naphtha, glycols, etc.
Tyvek Suits	2ea Large/ Hooded	In "Spill response box" outside rm. 49 & Loading Dock	Not chemically protective, abrasion and water resistant.
Nitrile Gloves	1 Box Large	In "Spill response box" outside rm. 49 & Loading Dock	Consult Glove Chemical Resistance chart in the Sciences Stockroom before selecting gloves for each spill.
Bags	6 each 6mil Poly Bags	In "Spill response box" outside rm. 49& Loading Dock	Recommended for use with heavy metal parts, protruding products and sharp objects. Use to contain spill socks, booms and pads for disposal.
Labeling Kit	1 each Hazardous Waste Labeling Kit	In "Spill response box" outside rm. 49 & Loading Dock	Wesleyan University specific Hazardous waste labels.
Portable Fire Extinguisher	CO_2 20lb / Fire Suppression	Wall Mount in rm. 50	Carbon dioxide extinguishers protect areas where class B (flammable liquids and gases) or Class C (energized electrical equipment) fires could occur
Portable Fire Extinguisher	CO_2 20lb / Fire Suppression	Wall Mount Outside rm. 49	Carbon dioxide extinguishers protect areas where class B (flammable liquids and gases) or Class C (energized electrical equipment) fires could occur
Emergency Phone	Direct line to Public Safety / 911	Wall Mount Outside rm. 49	No Dialing Necessary.

Table 7

ANNUAL CSA MANAGEMENT PLAN REVIEW CHECKLIST

Date of this review: _____
Reviewer: _____

CRITERIA *(Did any of these occur in the past year?)*	**CHANGE** **YesNo**
The list of Inspectors changed, or other key contact changed. *This includes phone and address changes, as well as names of personnel.*	☐ ☐
The list of emergency equipment changed.	☐ ☐
The plan failed to discover regulatory infraction.	☐ ☐
The regulations governing the scope and extent of the plan were revised.	☐ ☐
A significant change was made in the physical layout of a process or a portion of the plant.	☐ ☐
A change was made in plant operations or maintenance practices that substantially increases the risk or extent of an emergency.	☐ ☐
A circumstance arose that could increase the risk or extent of an emergency.	☐ ☐

_____ There are no changes since the last emergency plan review.

_____ Changes have occurred and the plan must be modified as follows:

_____
_____
_____
_____