

Department Emergency Plan

12/17/15

Chemical Engineering
Benson Hall

Responsible Individuals

Operation of Emergency Response Plan

Debbie Carnes, *Primary*
Administrator
105 Benson
685-8364
drae@u.washington.edu

Francois Baneyx Professor
and Chairman 107 Benson
543-2250
baneyx@u.washington.edu

Floor Monitors

Arne Biermans
Debbie Carnes
Joanne Tall
Winston Ciridon, Rex Phillips

Basement
First Floor
Second Floor
Third Floor

Plan Maintenance Coordinator

Debbie Carnes, Administrator 105
Benson, 5-8364
drae@u.washington.edu

Benson Assembly Point:

**South lawn between the Medicinal Herb
Garden and the front steps to Benson Hall**

UW Police:

911

Emergency Operations Center:

**Room 111, Bryant Building, 1117 NE Boat
Street (University Police Department)
206-897-8800**

KIRO AM #710 :

Official Emergency Broadcast Station

EMERGENCY PLAN FOR CHEMICAL ENGINEERING

Purpose

The purpose of this plan for the Department of Chemical Engineering is to establish procedures for responding to emergencies for the safety and security of all personnel and facilities in Benson Hall. This plan is designed to function in coordination with the University of Washington Emergency Plan. A complete copy of the UW Emergency Plan is located at the Reference Station, Room 105 Benson.

Priorities for Action in an Actual Emergency

1. Account for personnel.
2. Conduct an initial review of damage and injuries and identify the major problem(s).
3. Isolate and control all hazardous areas; proceed with shutdown procedures for laboratories and hazardous chemicals, if possible. Secure area and contents.
4. Perform computer backup procedures.

Expectations for Employees

It is the responsibility of each person to know the proper actions to take during an emergency. Therefore, all departmental personnel are responsible for reading the contents of the University and Department Emergency Plan. All staff, faculty, and students should be aware of evacuation routes and procedures. Personnel should know the location of first aid kits, fire alarms, and extinguishers. The names of employees with current first aid skills are available to all departmental personnel (Appendix A). Floor monitors are responsible for walking through their assigned areas in case of evacuations and for reporting to the emergency plan coordinator at the assembly point. These activities must not significantly delay departure from the building or put the monitor in danger. (Floor monitors listed on page 1.) If an evacuation of the building is necessary, key personnel for each laboratory will make an effort to shut down the lab before exiting the building (Appendix B -- key laboratory personnel).

As defined in the University Emergency Plan, essential and non-essential personnel are determined based on the level of the emergency. During normal working hours, personnel who are responsible for normal day-to-day functions that do not contribute directly to the emergency operation may be released from work for the duration of an emergency. Should an emergency occur after hours or on a weekend, essential departmental employees are expected to make a reasonable effort to report to work. KIRO AM#710 is the official Emergency Broadcast Station for the Seattle area. Staff should listen to radio or television to obtain information.

Communications

Emergency response personnel (Debbie Carnes -- primary; Francois Baneyx -- alternate) with contact numbers are listed on page 1, and this information is also on file with the UW Police. Also, a list of key laboratory emergency contact personnel is listed in Appendix B. In addition, access to a list of all departmental employees with their emergency contact name(s) is available in 105 Benson from the plan coordinator. In an emergency, the regular phone system will be used to the extent possible. There are single-line phones located in the north hallway of the second and third floors. Direct UW emergency lines (red wall phones) are in the north and south hallways of these floors and the west wall in the basement; these phones connect directly to emergency personnel who can provide lifesaving and fire-

fighting equipment. All emergency-line phones should function in a power outage. Benson Hall personnel will serve as messengers if phone communication is not an option.

Responsibility and Control

The emergency plan primary contact (Debbie Carnes, Administrator) is responsible for the department's activities if an emergency is declared. In the absence of the primary person, the alternate (Francois Baneyx, Chairman) is responsible for carrying out the requirements. If an emergency happens when these members of the department are not available, a designated faculty member will have decision-making authority. A contact person, appointed by the advisor of each research group, is responsible for each laboratory (Appendix B).

Coordination with University Emergency Operation Plan

The emergency plan primary contact or alternate is responsible for activating the unit plan as described in the departmental procedures. The response, determined by the emergency, will vary depending on the level as defined in the University Emergency Plan.

- Level I Emergency: a localized emergency with limited impact, such as fire, hazardous material incident, or limited power outage.
- Level II Emergency: a campus event such as a major fire, civil disturbances or widespread power outage.
- Level III Emergency: a community or region-wide event such as an earthquake or multi-casualty incident.

If there is an immediate danger, the person(s) identifying the situation should contact the police or fire department directly by phone or by pulling an alarm to summon aid. For a limited emergency (Level I or II), the person discovering the incident reports to the emergency plan primary contact, who will notify the appropriate campus department such as the University Police, Physical Plant, or the Department of Environmental Health and Safety.

In case of a building evacuation, everyone should report to the assembly point (south lawn between the Medicinal Herb Garden and the front steps of Benson).

For a community-wide event (Level III), the emergency plan primary contact or an alternate will establish contact with the UW Emergency Operations Center (EOC). The first location for the EOC is the University of Washington Police Department, room 111 Bryant Building, 1117 NE Boat Street. The secondary location is room 135 Lander Hall. The fall-back EOC is the mobile Special Events Mobile Operations Command Vehicle. Contact will be established by normal phone system if possible, or by runners.

Building Evacuation

A building evacuation plan for Benson Hall has been provided by Environmental Health and Safety.

- Evacuation routes are posted in the first floor lobby of Benson, next to each elevator on floors B, 2 and 3, in all classrooms, and in the hallways next to fire extinguishers in each hallway. They are also posted on the department's website (<http://www.cheme.washington.edu/resources/labsafe.htm>) under "safety".
- The floor monitors, if possible, will check all classrooms, laboratories, and hallways before exiting the building. Exercise good judgment -- do not put yourself at risk.
- During an evacuation, the monitors will assist anyone with an impairment, either by evacuating them or moving them to the stairwell landing closest to their location.
- Employees with visual, hearing, or mobility impairments will be advised of the evacuation routes and provided with auxiliary aids if required.
- It is recommended that all gas or cryogenics be turned off at the valves in the laboratory before exiting the building.
- Steam flows, water flows and electrical pumps in UOPs should be shut off if this can be accomplished quickly before evacuation.
- The monitors will report to the plan administrator at the assembly point to account for any person remaining in the building. The assembly point for Benson is the south lawn between the Medicinal Herb Garden and the front steps of Benson Hall.

IMPORTANT: If you hear an alarm, you should evacuate immediately following the route on the building evacuation plan. Close doors behind you. EVACUATION IS MANDATORY.

Emergency Procedures

Fires

If there is an immediate danger, the person(s) identifying the situation should contact the police or fire department directly by phone or by pulling an alarm to summon aid. When an alarm sounds, all personnel must leave the building immediately. In case of a fire, all personnel should be aware of manual alarm pull stations located at exits. In the south hallways of the second and third floors and the west hall of the basement there are UW direct emergency lines.

- Call for help by activating a fire alarm manual pull station, which are located at exits, on the second and third floor south hallways, and in the west hallway of the basement. If time permits, use a telephone to give more specific information and identify who you are.
- Leave the building immediately by the nearest exit route or alternate route if the nearest exit is blocked. Keep to the right of the stairwell as you descend. Fire fighters may be coming up on the left as you are going down. Do not block stairwell doors open.
- Do not use elevators. When the fire alarm sounds, the elevators will be automatically recalled to a predetermined floor and shut off.
- As you leave your area, take precautions to do so safely. These activities must not significantly delay your departure. **Exercise good judgment.**
 - Shut off heat-producing equipment (Bunsen burners, etc.).
 - Shut off all gas, steam and water sources.
 - Return hazardous materials to their proper storage units.
 - Close doors behind you as you leave.
- Assist persons with disabilities out of the building or to the nearest stairwell landing and inform emergency personnel so they can assist the disabled with evacuation.

- After evacuation, report to the south lawn between the herb garden and the front steps to Benson (Benson Assembly Point).
- Stand clear of Fire Department personnel and equipment.
- Do not re-enter the building until the Seattle Fire Department has declared the building safe.

Emergency Response - Bomb Threats

University Personnel receiving telephoned bomb threats should attempt to get an exact location of the bomb, and get as much information as possible about the caller (for example, male or female, accent, etc.). They should also attempt to listen for any background noise that may help to identify the location of the caller. If there is an immediate danger, the person(s) identifying the situation should contact the police or fire department directly by phone or by pulling an alarm to summon aid. The call should be reported immediately to the University Police Department at 911, and the emergency plan primary contact (Debbie Carnes). Bomb threats received through the mail or by other means are to be reported immediately to the emergency plan primary contact.

Chemical Spills

Departmental personnel working with chemicals are required to take EHS courses to receive instruction regarding safety in the laboratory and chemical spill cleanup. The department will maintain spill kits for laboratories. Each faculty advisor is responsible for Personal Protective Equipment training in each lab, and for the conditions and safety of property and personnel in all labs assigned to them.

When a spill cannot be cleaned up safely without the assistance of emergency personnel, the following actions should be taken:

- If there is an immediate danger, the person(s) identifying the situation should contact the police or fire department directly by phone or by pulling an alarm to summon aid.
- Call for emergency assistance -- dial 911.
- Provide as much information as possible about the location of the spill, and whether there is a fire hazard or there are persons injured. The UW Police will contact the Fire Department and Environmental Health.
- Attend to any injured or contaminated person and remove them from exposure; use emergency showers or eyewash units if possible.
- Turn off ignition and heat sources if it is safe to do so.
- Shut off all gas, steam and water flow sources.
- Close the door to the affected area.
- Provide information and assistance to responding emergency personnel.
- If the spill is large, not easily identified or extremely hazardous, pull the alarm to evacuate the building.

Earthquakes

Building occupants should remain in the building (under cover) until the shaking stops, then immediately evacuate the building and assemble on the south lawn between the herb garden and the front steps of Benson. If there is an immediate danger after an earthquake, the person(s) identifying the situation should contact the police or fire department directly by pulling an alarm to summon aid. In the case of an earthquake where major damage may not be obvious (such as gas leaks, chemical spills), appropriate action will be taken when floor monitors and laboratory personnel have reported possible hazards to the emergency plan primary contact (Debbie Carnes) or an alternate (Francois Baneyx). Personnel are to remain outside until the building has been inspected and approved for re-entry.

The actual movement of the ground in an earthquake is seldom the direct cause of injury or death. Most casualties result from falling objects and debris because the shocks can shake, damage, or demolish buildings. Environmental Health and Safety recommends the following actions:

During an Earthquake:

- Remain calm. Think through the consequences of any action taken.
- If indoors, watch for falling objects such as light fixtures, bookcases, cabinets, shelves, and other furniture that might slide or topple. Stay away from windows. Get under a table or desk, into a corner away from windows, or into a strong doorway.
- **Do not dash for exits, since stairways may be damaged. Do not use the elevators.**

After an Earthquake:

- Check for injuries to personnel in your area. Do not attempt to move seriously injured persons unless they are in immediate danger. Render first aid assistance if required.
- Check for fires or fire hazards - spills of flammable or combustible liquids, or leaks of flammable gases.
- Turn off ignition and heat sources if it is safe to do so. Shut off all gas, steam and water sources if it is safe to do so.
- Exit the building if possible and report to the assembly point on the south lawn between the herb garden and the front steps of Benson to report on injuries, damages, and potentially hazardous conditions. Let someone know if you leave the area. Document structural and property damage, if possible, and report to emergency coordinator.
- Use the telephone system only for urgent matters.

Emergency Records and Expenses

The business office fiscal specialist will assign a code for emergency record keeping purposes. She/he will also collect information and maintain records in the event the University is able to apply for financial disaster assistance. The following records and expenses should be compiled:

- Labor: employee time sheets, position titles, regular and overtime hours and wages; benefits; benefit percentage of regular and overtime wages.
- Equipment: rates; mileage costs; mileage percentage; invoices (if any).
- Materials: invoices; purchase orders, central and store orders; material transfers.
- Contracts: Invoices, purchase orders or other agreements used to purchase services of outside contractor, vendor, installer consultant, etc.

This information, if requested, will be submitted to the Applicant Agent who will collect documentation from all University units that incur damage.

Employee Training and Drills

Each year, the plan coordinator will review the emergency plan. At least once a year, an evacuation drill will be arranged with the UW Police and Seattle Fire Department. At the time of hiring, new employees will be informed of the emergency plan, and students will be advised during new student orientation sessions. Graduate students will be required to attend safety classes during their first quarter at the UW. At the annual all-day faculty meeting, the faculty will be reminded of the plan and encouraged to discuss the plan with their research groups. To assure the safety of all, the safety committee and plan coordinator will work together to make all employees aware of the plan.

Emergency Supplies

The department will maintain flashlights for main office areas and emergency lights in the hallways. The department will maintain first aid kits (located in all laboratories and in 101 Benson in the cabinet by the photocopier). Each room has also been supplied with lightsticks to use in the event no hallway lighting is available. Employees should prepare for emergencies. The recommended essentials are:

- portable radio with batteries
- flashlight with batteries
- water
- small supply of non-perishable food
- sturdy shoes
- extra clothes

Securing Building Contents

Each year, a safety inspection may be performed by teams composed of graduate students and faculty. The building inspection will focus on laboratory safety and staff work areas using the form developed by the Safety Committee and will include an earthquake safety checklist. In addition, regular safety inspections are conducted by the Environmental Health and Safety Department, the University Fire Marshall, and the Seattle Fire Department.

Protecting Building Contents

The Computer Support Committee and the Senior Computer Specialist are responsible for policy and procedures regarding shutdown and backup of all computer activities within the building.

Each research advisor is responsible for developing and maintaining an emergency operation plan for their research area(s). The plan should incorporate additional concerns to deal with their particular hazardous materials and expensive equipment. The advisor of each research group will designate a contact person for individual laboratories (Appendix B).

Appendix A

Certified First Aid/CPR Personnel

Arne Biermans	Rm. B49
Rex Phillips	Rm. 352

Appendix B

Key Laboratory Personnel

<u>Labs</u>	<u>PI</u>	<u>Lab Contact</u>	<u>Phone</u>
B3/B3A	Overney	Rene Overney	6-6988
B3B	Vacant		6-4173
B5	Stuve		3-5467
B13/15	Vacant		
B19	Pozzo		
B20	DeForest	Cole DeForest	5-8536
B21	Pozzo	Lilo Pozzo	5-8536
B23	Pozzo	Lilo Pozzo	5-8536
B33	DeForest	Cole DeForest	5-8789
B35	UOPS	Arne Biermans	3-4364
B37/39	Machine Shop	Arne Biermans	3-1625
B49	Vacant		3-4364
B45/51	Castner/DeForest		6-4173
121	Kim	Andy Kim	3-8786
123	Berg	John Berg	5-2631
127	Baneyx		
201	Berg		5-2631
205/205A	Berg		5-2631
209	Schwartz		5-8789
211	Nance		6-6988
213	Davis		3-4657
215	Nance		5-8789
222	Shen		
224	Berg		
227	Berg		
229	Berg		
231	BioE	Winston Ciridon	3-6419
233	Castner	Winston Ciridon	3-6419
235	Schwartz		
247	Schwartz		5-8789
259	Schwartz		5-8789
300S	Baneyx		6-3617
301	Jenekhe		
309	BioE	Winston Ciridon	3-6419
311	Jiang		
313	BioE	Winston Ciridon	3-6419
315	Jiang		
317	Jiang		
319	Overney		6-6988
321	Jiang		
327/329	Baneyx		6-3617
331	Jiang		
333	Baneyx		6-3617
335	Jiang		6-6510

336	Jenekhe	5-3036
340	Jiang	6-6510
341	Jenekhe	5-3036
347	Jiang	5-3627

EMERGENCY CHECKLIST

EVACUATION

- ◆ When an alarm sounds, close all doors and windows; shut off heat-producing equipment and gas, steam and water flow sources; return hazardous materials to storage.
- ◆ Use emergency flashlights or lightsticks (located in each laboratory) if necessary to find exits.
- ◆ Assist wheelchair users to the stairwell at the east end of the building. Contact the emergency coordinator (in the red hat) in the assembly area and tell her the location of the wheelchair user.
- ◆ Assist visually-impaired or hearing-impaired individuals to evacuate the building.
- ◆ Evacuate the building, using stairwell exits only. **DO NOT USE THE ELEVATOR.**
- ◆ Assemble on the south lawn between the Benson front steps and the garden. Remain there until an emergency official gives the “all clear” to re-enter the building.

FIRE

- ◆ If the fire is no larger than a wastebasket and you have fire extinguisher training, you may attempt to put out the fire.
- ◆ Otherwise, pull the fire alarm (which notifies UW Police and Seattle Police Department).
- ◆ If the fire alarm does not work, call 911 from a safe location.

CHEMICAL EXPOSURE/HAZARDOUS SPILL

- ◆ Alert your supervisor and anyone in the immediate area to spread the word.
- ◆ Evacuate the area, then dial 911 and describe the situation so professionals can determine the appropriate response.
- ◆ If appropriate, pull the fire alarm to evacuate the entire building.
- ◆ If you came in contact with the chemical, wash the area with clean water for at least 15 minutes. If in the eyes, use an eyewash station and hold eyes open over the water.
- ◆ Seek medical attention if necessary.

EARTHQUAKE

- ◆ Take cover under a desk, table or in a doorway.
- ◆ Stay away from outside doors, windows, and objects that could fall.
- ◆ Call 911 to report any injuries. Give first aid only to the extent of your personal training.
- ◆ After the trembling ceases, evacuate the building and assemble on the south lawn between the Benson front steps and the garden. Stay away from overhead lines, poles, or other objects that could fall or shatter. Be prepared for aftershocks.
- ◆ Report structural damage or other problems to Plan Coordinator (in the green hat) at the assembly point.
- ◆ Wait for clearance to leave the area or to return to the building.

VOLCANIC ERUPTION (IF ASH CLOUD EXPECTED OVER SEATTLE)

- ◆ Keep doors and windows closed.
- ◆ Do not evacuate the building unless instructed to do so. Listen to AM 710 radio for updates on outside conditions.
- ◆ For medical help, dial 911. Provide first aid only to the extent of your personal training.
- ◆ Do not restart equipment until area has been cleaned of volcanic dust accumulation.

MEDICAL EMERGENCY

- ◆ Call 911 and provide your name, building name, floor, location, and details about illness or accident.
- ◆ Provide first aid assistance only to the extent of your personal training and ability.
- ◆ Do not move the injured or ill person unless it is necessary to avoid further injury.
- ◆ Have someone meet the emergency personnel to direct them to the location.

BOMB THREAT

- ◆ Always take written or verbal bomb threats seriously.
- ◆ Listen to the caller carefully. Obtain and write down as much information as possible, especially regarding where the bomb is supposed to be located and when it is set to explode. Try to remain calm and polite.
- ◆ If possible, identify characteristics of caller (age, sex, accent, voice), background noise.
- ◆ Report the bomb threat immediately to the UW Police at 911. They will determine if the building should be evacuated.
- ◆ Do not search for a bomb or touch any suspicious objects.

ODORS/ELEVATOR PROBLEMS/WATER LEAKAGE/POWER OUTAGE

- ◆ Contact the Building Coordinator (Debbie Carnes), who will investigate and arrange for repairs.
- ◆ During the evening or weekends, report these problems to the Physical Plant, 685-1411.