

# Standard Operation Procedure

## Power Failure

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<i>Title:</i> Power Failure		<i>Document Number:</i>
<i>Approved by:</i>		Page 1 of # 3

### 1.0 **Purpose:**

The purpose of this procedure is to prepare faculty, staff, researchers and students for a power failure. Like other parts of the infrastructure, electrical power to the campus can fail, either as an isolated incident (e.g.: tripped circuit breakers or blown fuses) or as part of a larger event (regional power outages or nature disasters). When power failures occur, health and safety issues need to be addressed.

Planning makes an emergency easier to handle and the emergency plan for any laboratory should include a well-defined list of procedures to be used by those working in the laboratory should an emergency occur.

### 2.0 **Scope:**

This procedure applies to all faculty, students, staff and researchers using the facility.

### 3.0 **Protocol:**

#### **Before the Power Fails:**

- 1) Designate two emergency contact persons for each laboratory who can be reached 24 hours a day. They should be familiar with the lab and have adequate knowledge of the chemicals and procedures performed in the laboratory.
- 2) Do not overload any power strips; restrict all operation of extension cords to emergency use only.
- 3) Include in your emergency plan procedures for safely concluding hazardous chemical procedures during power failure.
- 4) If possible, program equipment that operates unattended to shut down safely during a power failure and to not restart automatically when the power returns.
- 5) Make sure that all fume hoods have a physical, nonelectrical indicator showing that they are running. This could be as simple as a strip of hanging tissue paper that will flutter when the fume hood is running.

- 6) Ensure that no flammable chemicals are stored in domestic refrigerators and freezers. When the power returns to these appliances a reaction may be ignited by the refrigerator light or other electrical sources.

### **While the Power is Off:**

- 7) Turn off and unplug all non-essential electrical equipment. This will reduce the risk of power surges and other unforeseen damage or injury that could result when the power returns.
- 8) Cap all open containers of solvents to reduce volatile chemical vapors that may drift into the room air and cause exposure or explosion risks.
- 9) Discontinue all work in the fume hoods and close each hood sash.
- 10) Secure current experimental work according to the emergency plan. Make sure that experiments are stable and do not create uncontrolled hazards. If the work is to be transported to a safe location, make sure to avoid any hazardous chemical spills during the move.
- 11) Shut down experiments that involve hazardous material or equipment which automatically restarts when power is available.
- 12) Turn off all spare gas cylinders at the tank valves. (Exception: if a low flow of inert gas is being used to control a reactive compound or mixture, the decision may be made to keep the gas on. However, this decision should be part of a written pre-approved standard operating procedure for the material or process).
- 13) Close all lab refrigerators and freezers (do not unplug) and avoid opening them. Although refrigerators and freezers will maintain their temperature for several hours if they are not opened, identify an emergency source of dry ice if you have items that must be kept cold and the outage lasts more than a few hours. However, do not use dry ice in walk-in refrigerators or other confined areas because hazardous concentrations of carbon dioxide gas will accumulate.
- 14) Help coworkers move out of darkened areas, and if asked to leave the area, please do so promptly.
- 15) If experimental animals are in use, special precautions may need to be taken to secure those areas such as emergency power, alternative ventilation, etc. Proceed according to the emergency plan provisions.

### **When the Power Returns:**

- 16) Upon returning to the laboratory, check for any strange odors. Call 88, evacuate the laboratory, and alert the contact person if any strange odors or spills are found.
- 17) Reset/restart/check equipment as necessary.
- 18) Once the fume hoods have been restarted, check that the air flow has been restored and keep the sash down for at least 5 minutes to dispose of any vapors accumulated in the hood.
- 19) If a refrigerator or freezer fails, keep the door closed until it has been repaired and returns to a safe working temperature.

**Getting Assistance:**

- 20) The safety contact for power failure procedures is Environmental and Occupational Health Support Services (EOHSS) at ext: 24352

**4.0 Information found at :**

<http://ehs.wsu.edu/labsafety/Factsheets/FAQPowerFailure.html>