ELECTRICAL SAFETY DURING FLOODING INCIDENTS

(Revised 04/24/2013)

Introduction and Discussion

Floods are water release or intrusion events that result in the presence of water in unwanted locations. They include all forms of water: "clean" potable water, drain waste vent wastes ("sewage"), steam condensate, high ambient humidity, process chilled water, and rain, ground, and surface run-off water. The uncontrolled presence of water can create a range of potential physical hazards, from minor slips or trips from unseen submerged objects, to the short-circuiting of electrical devices and equipment with the potential for electrocution.

Responding to flooding incidents within buildings at Connecticut College must be performed in a safe manner. Electrical systems often continue to function after being exposed to flood waters, even after being totally submerged or while submerged under flood water. This can be a very dangerous situation, and should be avoided by all means.

The purpose of this document is to provide procedures for mitigating the risk of electrocution for employees with responsibilities for responding to flooding incidents. Please direct any comments or suggestions to the Office of Environmental Health & Safety, at extension 2252.

Responsibilities

Custodial Services

Responds to incidents and other water intrusion events inside buildings. Custodial personnel utilize wet/dry vacuum cleaners, submersible pumps, water extractors, fans, and dehumidifiers to remove water and moisture.

Mechanical Trades

Provides trained professional tradespersons who will take action to halt internal sources of flooding. Mechanical Trades employees perform routine maintenance on critical building systems to prevent water infiltration and floods (e.g., clearing indoor plumbing and drainage systems). Mechanical Trades is also responsible for ensuring the flooded area is electrically safe for Custodial personnel to enter.

Grounds

Provides routine and emergency landscaping and exterior building and grounds services, snow and ice removal, and other severe weather related services, including clearing catch basins and below-grade window wells of leaves and other debris, to prevent water infiltration and flooding from exterior sources.

Director of Environmental Health & Safety

Provides health and safety training to Physical Plant personnel regarding hazards and proper response and mitigation procedures related to water intrusion events.

Procedures

1. Items such as energized electrical outlets, lamps, computers, refrigerators, etc., pose a serious electrocution hazard if submerged in water.

2. Custodial staff should never enter any flooded basement or room, until it has been verified that it is electrically safe by an electrician. Keep students away as well.

3. Before entering a basement or other space that contains standing water, make sure the electricity has been turned off to the affected area. If it has not been turned off, call the Work Control Desk at 2253 to have an electrician shut off the power.

4. In many cases, the circuit panel will be located in the flooded (basement) area. If entry into the flooded area is required in order to secure the power, the electrician must wear watertight rubber boots.

5. After the power has been secured, Custodial staff may then go though all affected rooms and unplug devices that are under water or wet.

6. The electrician should check adjacent mechanical rooms for electrical hazards.

7. Once the electrician has verified that there are no electrical hazards, power may be restored to begin pumping water and wet vacuuming.

8. All pumps and vacuums must be plugged into protected GFI (Ground Fault Interrupter) outlets. The electrician should verify that a GFI circuit is being used.

9. If the flooded area cannot be rendered safe (fixed or large electrical equipment is under water), use extension cords from an upper floor to provide power for the pumps and vacuums. Again, only GFI protected outlets should be used.

10. Thoroughly clean and dry appliances, motors, light fixtures and outlets. Have the electrician check and certify them as safe before use.

Mold may become an issue if the flooding has existed for an extended period of time and involves porous materials. If mold appears, employees should refer the "Flood Response and Mold Program" document for guidance.