

**HealthStream Course 14960  
Providence Alaska Medical Center  
Annual Safety Update 2011**

**Utility Management**



**Course Description**

**The hospital's Utilities Management support all the essential building systems and medical equipment used to care for patients.**

**You have to:**

- **Have a basic understanding of what utilities do and how they support patient care.**
- **Effectively respond and support patient care if one of these systems fail.**

**Learning Objectives**

**Upon completion of this course, you will be able to:**

- **Identify each utility and state its function;**
- **Know how to report a utility failure and obtain repair services;**
- **Identify “Code Triage Internal” as the utility failure code for the hospital;**
- **Recognize that PAMC has back-up systems to supply important utilities in the event of an emergency;**
- **Know how to prevent electrical shock**

## What are Utilities?

- Computers
- Electricity
- Heating, Ventilation and Air Conditioning (HVAC)
- Medical Gases
- Medical Vacuum
- Natural Gas
- Pneumatic Tube Systems
- Sewer
- Telephones
- Water



## Electricity

Emergency electrical service is supplied from the hospital's emergency power generators.

When normal power service fails, the emergency generators will only support approximately 50% of the normal operation. Items that will receive power include:

- Essential building systems
- Fire safety systems
- Medical equipment plugged into Red outlets

Emergency-powered outlets are RED. All critical emergency medical equipment should be plugged into a RED outlet.

Most of our off-campus locations don't have emergency powered generators.



## Natural Gas Service

The hospital uses natural gas as the primary fuel for the boilers to make steam and hot water. Natural gas also supports food service and lab processes.

If there is a natural gas failure, the hospital has diesel fuel as an alternate fuel source for the boilers.



## Heating, Ventilation and Air Conditioning Systems (HVAC)

The functions of HVAC include:

- Heating to support room comfort.
- Ventilation to support air quality and infection control.
- Cooling to support human comfort and in some locations equipment function.

Departments in critical areas that have built-in backup systems are:

- Neonatal Intensive Care Unit (NICU);
- Adult Critical Care Unit (ACC); and
- Cardiovascular Intervention Unit (CVIU).



## Water and Sewer

Water is needed for:

- Drinking and cooking;
- Bathing and cleaning;
- Flushing the toilet;
- Steam production;
- Heating and cooling systems; and
- Cooling some clinical equipment.

In the event of a potable water failure, the hospital has well water for an emergency back up.



The sewer service allows for waste disposal from the facility.



## Piped Medical Gases

Medical gases include oxygen, nitrogen, nitrous oxide, and carbon dioxide.

- They are supplied from the hospital medical gas storage systems.
- Medical gases are distributed to specific outlets throughout the hospital.
- Medical Air is also distributed via special outlets throughout the hospital.



## Vertical Transportation (Elevators)

Immediately report any problems with the elevators to the Facilities Support Department (extension 25000). This ensures that safety devices function properly and avoids personal injury.

Remember that the proper technique for loading equipment or carts onto an elevator is to back the equipment into the elevator.



## Additional Systems

- Computers, Printer, and Scanners
- Medical Vacuum System
- Pneumatic Tube System
- Telephone Service



## Computer or Telephone Failure

- Designated & labeled emergency back-up phones, 2-way radios, and runners are used during a computer or telephone failure
- Report systems or communications service failures to the Management Information Services (MIS) helpdesk at extension 23044 or call the computer branch exchange system (CBX).



## Management Information Services

Management Information Services (MIS) manages:

- Computers (desktop and laptops).
- Printers and scanners.
- Software applications (computer programs).
- Telephones, voicemail, and pagers.

For assistance, call the MIS helpdesk at extension 23044 or 212-3044.

A Respond eFeedback (UOR) should be completed, if applicable.

## Plant Department

The Plant Department manages most utilities. For assistance, call: ext. 25000.

Report to the Plant Department all utility system:

- Emergencies;
- Problems;
- Failures; and
- User Errors.

A Respond eFeedback (UOR) should be completed, if applicable.



## Code Triage Internal - Power Disruption or Failure

Emergency procedures in the event of a utility power disruption or failure:

- Ensure all critical equipment is plugged into the emergency power outlets (red outlets);
- Follow the emergency response procedures for failures in the Emergency Response Procedures (red tri-fold) and in the PAMC Emergency Management Plan (red, 3-ring binder); and
- Listen to the overhead page for instructions.



## Electrical Shock

Electrical shock happens when a person becomes part of a short-circuit.

This can happen if a person touches:

- A damaged electric device; or
- An electrified object.



## Prevention of Electrical Shock

You can decrease the risk of electrical shock and prevent injury. Check all electrical equipment before use:

- Inspect the power cord for fraying, splicing, and wear;
- Check the device's cover for cracks, holes, and other damage; and
- Check all connections.

## Summary

- **PAMC has back-up systems to support all vital hospital utilities (i.e. electricity, water, medical gas).**
- **Code Triage Internal is used to signal an internal utility failure (i.e. power outage, flooding, explosion without fire).**
- **Contact Facilities Department at extension 25000 in the event of any utility emergency.**
- **You can take proper precautions to decrease your risk of electrical shock.**



## Additional Information

### For more information:

- **Refer to your department's Emergency Response Procedures Manual (red tri-fold).**
- **Talk with your department's Safety Coordinator, your supervisor or the Volunteer Services Coordinator.**



## **2011 Volunteer Annual Safety Update (ASU) Test Questions**

Please open the [2011 Answer Sheet](#), print that document and mark your answers on the answer sheet.

Another option would be to open the [2011 Test Questions](#) document, print it and mark your answers, then return either one to Volunteer Services.

### **Utility Management**

8. The emergency generators will provide 100% power to the facility during a power failure.  
 True                       False
9. The hospital has an alternate source of fuel to operate the boilers if there is a Natural Gas failure.  
 True                       False
10. The hospital has an emergency back up plan for a potable water failure.  
 True                       False
11. The proper technique for loading equipment or carts onto elevators is to drive the cart in forward.  
 True                       False