

TORREY HALL

Two Pipe Steam



*Heating System Description
and
How to make it work*

**MOUNT
HOLYOKE
COLLEGE**

Tel. 2012

**or, after normal
business hours**

Tel. 2016

HEATING HELPERS

Be certain that windows and storm windows are shut tightly. If your windows won't shut properly call Facilities Management at x2012 to report the problem. We will fix it.

Drawing the window blind will help to slow heat losses during the OFF cycles of the heating operation.

If your room has a temperature sensor in it TRY NOT to locate heat producing devices like a lamp near it. This can severely limit the heat to the building.



TORREY HALL

Monday – Friday
8:00 am – 4:30 pm

Call Facilities Management @ x2012

All other Hours
Call the Central Heating Plant
@ x2016

WHERE'S THE HEAT COME FROM?

The entire campus is heated with steam that is produced in the Central Heating Plant and then distributed to every building via underground pipes.

At the peak of the season approximately 6,500 gallons of #6 Fuel Oil is burned every day to make the steam required to heat our buildings. This steam is maintained at very high pressures and is used first to generate electricity before being utilized by the campus for heating purposes. This generated electricity is applied against the consumption of Utility (purchased) power.

Underground distribution piping bring the steam to each building where it's pressure is reduced and made useable for the various heating systems.

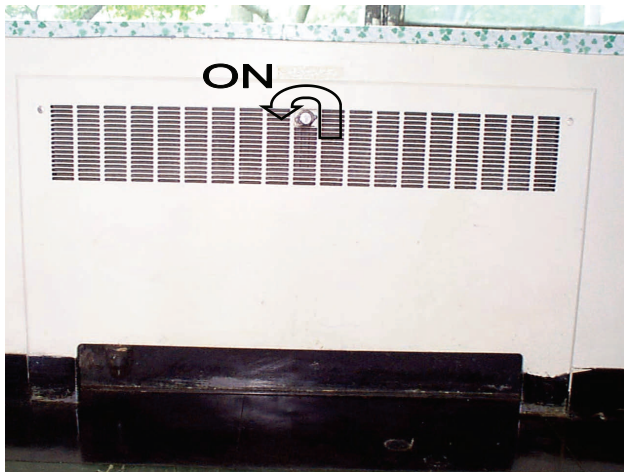
Once the steam has released it's energy it returns to the CHP as condensate, to be re-heated for another cycle. About 90% of the steam returns as water for re-use.



**The Energy Management
Computer watches for heat
and cold around the clock**

IT'S A TWO PIPE – STEAM RADIATOR

Torrey Hall is heated with a two-pipe steam system. Steam from the Central heating Plant is piped into the building where it is controlled by automatic valves located in the mechanical spaces of the basement.



Sensors located throughout the building monitor the room temperatures and report that information to an Energy Management Computer System also located in the basement. This information is transmitted to a Master Computer System in the Central Heating Plant where it is checked against a heating program dedicated to the Torrey environment. The automatic valves respond to this program to maintain the spaces at Setpoint (the equivalent of a Thermostat setting).

The Engineer operating the Central Heating Plant when necessary can override this program.

Steam radiators are in every room and are located in the outer wall below the window. The radiator is behind a steel grill and is not accessible. This type of radiator is a convection dependent device and requires adequate air flow to work properly. A damper controls the air flow and is the only way to control the heat output of this system. A covered or blocked radiator will not function efficiently.

Each radiator has a damper control knob that controls the air flow over the radiator. This effects the rate of convection and thus the rate at which the room is heated. Turning the knob *counter-clockwise* opens the damper, and is the **ON** position. The radiator will HEAT the room when the steam is available. When the knob is turned *clockwise* all the way to it's stop, the damper is closed. This is the **OFF** position and NO HEAT will result when the building's automatic valve cycles to heat the rest of the building. If you leave your damper control closed , your room will not get the heat needed to maintain your room at a comfortable temperature. When you open the damper, there is no guarantee that steam will be available at that time. Thus no guarantee that your room will begin to receive heat immediately, and in fact it may be several degrees cooler than any rooms that had their dampers open during the same time period. This damper control knob can be positioned anywhere between fully open and closed, which will

control the rate at which the radiator produces heat.

There is a Steam Trap at the opposite end of the radiator, and this Trap reacts to steam and condensate. When the hot steam reaches it's temperature sensitive element it closes, thereby trapping the hot steam in the radiator where it must surrender it's Btu's to the surrounding radiator coil. The hot coil warms the nearby room air and convection moves the warm air around the room to heat the space. As the steam loses thermal energy it condenses and the cooler condensate is allowed to pass out of the radiator and into the return piping system for eventual recycling at the Central Heating Plant.

Mount Holyoke burned 940,000 thousand gallons of Oil last year, for heat and hot water.

This would heat more than 1500 homes for a year. Or, a single home for more than 1,000 years.

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