



Chilled Water Service Reductions

Date: January 17, 2014

Rev. 1

Critical facilities of the highest priority for normal operation or specifically scheduled for special events will continue to receive normal chilled water service so long as the building chilled water systems remain filled and operational. All other facilities will not receive service before May 1st or after October 1st other than covered by an exception provided elsewhere in this discussion.

Purpose

The University, in an effort to reduce energy consumption and carbon footprint, seeks to limit chilled water service for many facilities during spring and fall. The protocol that will be followed is based on opportunities for energy conservation while prioritizing campus buildings by degree of functional criticality. The categories are in general as follows:

Building Categories

The plan is based on an understanding of the use and priority for each campus building served by the system. These facilities have been categorized by these groups:

Research Facilities

Generally, these systems have high air flow, high outside air ventilation systems that require cooling of the make-up air to maintain temperature and relative humidity in research laboratories. Certain facilities have animals or other critical experiments that may be sensitive to temperature as such laboratory areas of these facilities would be high priority loads.

Assembly Facilities

Minimal occupancy during most hours with high occupancy during scheduled events. However, many facilities have regular business hours when staff and limited visitors are present. Systems generally consist of minimal outside air providing comfort cooling to occupants.

Assembly facilities include classroom buildings, dining halls, and athletic facilities which have varying occupancy and hours of operation with cooling required primarily for comfort. In classroom facilities, class times are principally restricted to normal business hours Monday through Friday with facility use extending outside of these hours for lower occupancy rates. Dining hall occupancy fluctuates around meal times with staff working between meals on preparation and cleanup. Similarly for Athletics facilities, occupancy increases just prior to the start of events through immediately after them with staff working before and after set up and tear down.

This group of facilities has varying priorities depending upon their specific use and the scheduling of special events that may warrant a higher priority to receive cooling at least during these special events.

Academic Facilities

These systems are characterized by moderate air flow ventilation systems that use variable outside air flows depending on occupancy. Facilities are principally used during daytime hours during the normal work week. Systems generally consist of minimal outside air providing comfort cooling of occupants (typically, comfort cooling occupants is the main driver for air conditioning).

This group of facilities has varying priorities depending upon their specific use and the scheduling of special events that may warrant a higher priority to receive cooling at least during these special events.

Office and Service Facilities

These systems are characterized by moderate air flow ventilation systems that use variable outside air flows depending on occupancy. Facilities principally used during daytime hours during the normal work week. Systems generally consist of minimal outside air providing comfort cooling of occupants. Typically comfort cooling of occupants is the main driver for air conditioning.

Residential Facilities

Facilities principally used during nighttime hours during the normal work week and all hours on weekends with limited or no occupancy during academic breaks and holidays. Systems generally consist of minimal outside air providing comfort cooling of occupants.

Other:

Extreme Temperature Conditions

If during a time of chilled water reduction, should the predicted daytime high temperature indicate that outside air temperatures will result in facility internal temperatures of 80 degrees F or higher, an exception shall be granted to permit either operation of locally installed equipment or to operate central chilled water equipment to reduce the average temperature in the facility or critical area to approximately 80 degrees F.

Facility Actions

In many cases there are actions that can be taken by building occupants to reduce the heat gain within their facility and, thus, mitigate the need for cooling on warm days. The following is a partial list of suggestions:

- Make use of operable windows where available
- Reduce lighting levels
- Shut off unnecessary electrical and electronic equipment that rejects heat to the space
 - Copiers
 - Computers and Peripherals
 - Appliances
- Close drapes and blinds to shield direct sunlight
- Consider use of local fans
- Following any guidelines or policies of your area such as dressing appropriately for the temperature of your work space

Special Exceptions

Facilities, operations, departments or special activities located in facilities that are not listed in Appendix A that have special needs for air conditioning in order to preserve research, host special guests (sporting events, conferences, etc.), or protect University assets, may petition for an exception

to this plan. Petitions should explain in detail the need for the exception, the potential detrimental impacts (including estimated cost impacts) that would result without cooling, the desired temperature limit, the duration of the exception requested and details as to the requesting party and their contact information.

Petitions should be submitted either by campus mail to:

University of Notre Dame
Utilities & Maintenance Department
100 Facilities Building
Notre Dame, IN 46556

Attn: Chilled Water Service
Special Exception Petitions

Or by email to:

Kempf.2@nd.edu
and
Hummel.1@nd.edu

Phone requests will not be accepted. All requests will be forwarded to the Executive Vice President for consideration.

APPENDIX A**Building Priorities****Facility Type:**

Research	R
Office/Academic	O
Residential/Housing	H
Athletic/Assembly	A

Buildings served by Central Chilled Water

Facility Name	Facility Type	Notes
Priority 1 Buildings		
Compton Family Ice Arena	A	Special Events Only
Eck Visitor/Alumni Center	A	Special Events Only
Joyce Center	A	Special Events Only, Fieldhouse/Arena/Gyms 1&2/Pit/Pool
McKenna Hall	A	Special Events Only
DeBartolo (Marie P.) Center for the Performing Arts	A	Special Events Only
Purcell Pavilion	A	Special Events Only
Basilica of the Sacred Heart	A	Masses and Special Events
Snite Museum of Art	A	Auxiliary Chiller (Galleries), Special Events
Washington Hall	A	Special Events Only
Bond Hall	O	Auxiliary Chiller (Rare Books)
DeBartolo Hall	O	Special Events Only
Hammes Notre Dame Bookstore	O	Special Events Only
Main Building	O	Special Events Only
Cushing Hall of Engineering	R	Auxiliary Chiller (Labs)
Multidisciplinary Engineering Research Building	R	Auxiliary Chiller (Process)
Fitzpatrick Hall of Engineering	R	Auxiliary Chiller (Process & Labs)
Galvin Life Science	R	Auxiliary Chiller (for Friemann Animals)
Morris Inn	A	Special Events Only
Hank Family Center Environmental Sciences	R	
Hessert Aerospace Research Center	R	Lower Level Lab and 100 Lab
Information Technology Center	R	Data Center Only (S2 & Liebert Units)
Jordan Hall of Science	R	Auxiliary Chiller (Process)
Nieuwland Science Hall	R	Auxiliary Chiller (Process & Labs)
Radiation Research Building	R	
Basilica of the Sacred Heart	A	Special Events Only
Snite Museum of Art	O	
Stepan Chemistry Hall & NMR Addition	R	Auxiliary Chiller (Process & Labs)
Stinson-Remick Hall	R	Auxiliary Chiller (Process & Labs)