

# **Statement on Environmental Responsibility**

Loyola University New Orleans strives to maintain and operate its campus facilities in a manner which is both environmentally responsible and fiscally sound. The following outline briefly describes some of the policies, procedures, and design philosophies the university employs in its effort to achieve this objective.

## **I. Energy Conservation**

### **A. *Heating, Ventilation, and Air- Conditioning (HVAC) Systems:***

Loyola University complies with the Louisiana State Energy Code, which is based on the American Society of Heating, Air-Conditioning and Refrigeration Engineers (ASHRAE) Standard 90.1 - "Energy Standard for Buildings Except Low-Rise Residential Buildings." ASHRAE 90.1 establishes the minimum requirements of energy efficiency for the design and construction of new and renovated buildings in the following areas:

- Building Envelope
- Heating, Ventilating and Air-Conditioning
- Service water heating
- Power
- Lighting

Among universities statewide, Loyola has always been at the forefront of energy conservation. As early as the 1970's, what were then state-of-the-art energy management controls were being installed to help regulate and monitor energy usage.

Through active membership by Physical Plant staff in the local ASHRAE chapter, Loyola keeps abreast of technological and industry advancements that seek to maximize the potential for energy savings. On each project Physical Plant staff members identify with their design consultants the building systems required to meet ASHRAE 90.1 minimum requirements. Where applicable and the construction budget allows, a stricter approach to energy conservation is included in the project design.

As a part of ongoing facilities maintenance, Physical Plant staff members and consultants look for components of existing utilities and secondary building systems, which are likely candidates for energy conservation and system upgrades, to include as

projects for energy conservation. Recent examples include high efficiency lighting and building automation system upgrades.

Passive heating and cooling are incorporated into new construction/renovations when possible. The use of operable windows is not always practical due to our high humidity levels and existing HVAC systems.

## ***B. Insulation***

The insulation system for a commercial building is comprised of several elements which act together to help the HVAC system maintain the building's internal comfort conditions and protect the interior building elements from environmental damage. The insulation elements also act as functional parts of the building; doors allowing pedestrian traffic in and out of the building, glass and skylights allowing natural light illumination, and walls and roof protecting the building interior from natural environmental conditions.

Loyola University follows the Louisiana State Energy Code, which is based on the previously referenced ASHRAE Standard 90.1 - "Energy Standard for Building Except Low-Rise Residential Buildings." This standard establishes minimum requirements for the building envelope and insulation system. However, Loyola University exceeds the minimum requirements in many areas due to the sub-tropical humid climate in the city of New Orleans. The following are the elements that comprise the insulation system:

1. Fenestration (windows, skylights, etc.) - Loyola uses double pane high efficiency glass with shading or coatings and insulated thermal breaks. The U-values and shading coefficients exceed the Code requirements.

2. Thermal Barrier - The thermal barrier includes insulation at the roof, walls, and other partitions between the outside and inside spaces. The U-value for the insulation assembly is generally 0.05 or better. Remember that the insulation assembly includes the insulation material, building materials and air spaces.

3. Air Barrier - The air barrier prevents the transmission of outside ambient air into the interior space. A complete air barrier is of great importance in a sub-tropical climate. Loyola requires that all building HVAC systems be designed for a positive pressure building with respect to outside ambient conditions, but HVAC systems alone cannot overcome the effects of wind and vapor transmission. This is why a properly designed air barrier and vapor barrier, as we will see below, is of critical importance to the building envelope and insulation system.

4. Vapor Barrier - The vapor barrier prevents transmission of water vapor. Much of the science of vapor barriers has been associated with cold northern climates, since their temperature differentials are much greater than in the sub-tropical regions. This has been the source of confusion for sub-tropical building envelope designers. Loyola University has obtained the advice of experts in the field and

adopted the correct policy of limiting the amount of moisture from the outside that is able to enter the interior spaces by the use of vapor retardant materials. Loyola requires that materials with a Perm rating of 1.0 or better be placed on the warm side of the building envelope. In our climate, this is on the outside of the building.

Loyola constantly evaluates the insulation and envelope, and determines the best combination of materials and design practices to exceed ASHRAE Standard 90.1 requirements while being cost effective at the same time.

### **C. *Building Design***

When designing new buildings or renovations, the architects and engineers are instructed to be as energy-conscious as possible, incorporating the latest technological advances wherever feasible. Loyola installs energy-efficient bulbs and fixtures, as well as motion sensors when appropriate. (Approximately 75% of classrooms currently are configured for lights to turn off automatically when the room is not in use.)

Designing spaces with energy conservation in mind always involves striking a balance among competing elements. For example, using a large amount of glass on an exterior wall may reduce the amount of energy needed for lighting. However, the increased heat introduced into a building by extensive use of exterior glass could easily create a drain on the air-conditioning system that would more than offset any savings.

### **D. *Existing Lighting***

Physical Plant is currently in the process of retrofitting the entire campus with energy-efficient electronic ballasts for fluorescent lighting fixtures. To date, eight buildings have been fully converted and four others are more than 75% complete.

### ***Other energy information on our website:***

[2006-2007 Annual Energy Cost & Usage Report](#)

[Request for Loyola Community to help conserve energy](#)

## **II. Environment**

### **A. Recycling**

Loyola University New Orleans engages in a program of institutional recycling of office paper, aluminum cans, and newspaper. More details about campus recycling, including a location list of all containers, can be found at <http://www.loyno.edu/physicalplant/documents/recycling11-30-04.pdf> .

### **B. Landscape**

Campus irrigation systems are designed with rain sensors to prevent unnecessary watering. The systems are divided into zones and can be regulated individually. When new landscaping is designed, the architect is required to use indigenous plants and to appropriately locate trees to promote energy efficiency in buildings. We use only pine straw mulch which is a renewable resource. The garden soil used in bedding is prepared using composted materials.

### **C. Handling of Hazardous Materials**

Any asbestos waste encountered during the renovation or demolition of campus buildings is disposed of in strict accordance with DEQ regulations. Licensed abatement contractors are employed to perform large scale asbestos abatement. Small scale abatement projects are handled in-house by the Loyola University Response Team (LURT) whose members are trained and certified in accordance with DEQ regulations.

Fume hoods in laboratory areas are inspected and serviced periodically by the Chemical Hygiene Officer (CHO) or a firm qualified to service hoods.

Photocopier toner cartridges can be sent to Central Receiving, where they are subsequently returned to the Xerox Corporation for proper disposal.

Loyola's Physical Plant has a policy that only personnel trained in the use of chloroflourocarbons (CFC's) are authorized to service equipment containing CFC's. Equipment that contains CFC's on campus is limited, and special equipment is always employed to recover, reclaim, and recycle CFC's. All personnel are aware that the deliberate venting of refrigerants into the atmosphere is a violation of the law as well as a violation of University policy.

Batteries used in Physical Plant systems are disposed of in accordance with the respective recommendations for each particular type of battery.

Cleaning products that are environmentally safe are utilized whenever possible.

***D. Pest Control***

Campus pest control is contracted to Pro-Tech Pest Control Service. This company is licensed and bonded, and uses only EPA-approved pesticides.