

University of Massachusetts Lowell --- Sustainable Building O&M Policy

Policy Title:	Sustainable Building Operation & Maintenance Policy
Responsible Office:	Facilities Management and Environmental and Emergency Management (EEM), Supported by the Office of Sustainability and Administration
Responsible Position:	Associate Vice Chancellor, Facilities Management and Executive Director, Administrative Services & EEM

I. Policy Statement

Building Operation & Maintenance (O&M) activities have a significant impact on the health of building occupants and the environment. These activities include the use of cleaning products and equipment, energy consumption and water consumption. UMass Lowell will strive to continuously improve building O&M procedures and activities in campus buildings to minimize impacts to the environment and ensure a healthy indoor environment for students, faculty, staff and visitors.

II. Purpose

The policy supports the University's commitment to sustainability and environmental stewardship and the goals outlined in UMass Lowell's 2020 Strategic Plan and existing programs. The University seeks to employ economically feasible and sustainable building O&M practices while reducing energy costs, environmental pollution, and improving indoor air quality.

III. Scope

This Sustainable Building O&M Policy formally integrates several existing UMass Lowell policies that are included in the following programs:

- Indoor Air Quality (IAQ) Management
- Green Cleaning
- Energy Management
- Water Benchmarking

a. Indoor Air Quality Program

The Office of Environmental and Emergency Management (EEM) provides a comprehensive Indoor Air Quality (IAQ) program for University building occupants. During new employee orientation and through general awareness and program sessions/training, employees are informed to contact their supervisors or the EEM office via phone, e-mail, or work order system to request an indoor air quality assessment if they have concerns for their indoor environment. EHS staff members respond to faculty/staff members and coordinate mutually agreeable times for assessing concerns. This typically involves on-site consultation, a review of the area, and indoor air monitoring using a portable device called the Optima 500 and Aircuity's data management software.

The Optima 500 equipment is used as a direct and indirect reading instrument monitoring temperature, relative humidity, carbon dioxide, total volatile organic compounds, small particles, large particles, carbon monoxide, ozone, radon and mold. The equipment is set up by an EHS member and runs for a period of 24 hours or longer. An expert report is downloaded by EHS using Aircuity software at the conclusion of each monitoring event. The reports provide

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easy to read charts and graphs summarizing the performance of comfort and ventilation, air cleanliness, and building pollutants.

The reports provide practical information for quantifying comfort, quality and operational efficiency of the indoor environment, thereby allowing facility managers to truly optimize building performance making buildings more comfortable, energy efficient, and less expensive to maintain.

Reports are also kept on file at the office of Environmental and Emergency Management.

b. Green Cleaning Program

UMass Lowell has developed a comprehensive Green Cleaning program including industry best-practices as well as green cleaning processes to ensure a healthy and safe environment for the people who visit or work in UMass Lowell's buildings. The program is structured based on the US Green Building Council's LEED for Existing Buildings Operation & Maintenance (EBOM) 2009 v3 rating system and addresses the purchase of sustainable products and equipment, standard operating procedures, hand hygiene, safe handling & storage of chemicals, staff training, occupant feedback and continuous improvement, indoor chemical and pollutant source control, reporting and documentation, and indoor Integrated Pest Management (IPM) procedures. UMass Lowell is committed to following the strategies identified in the Green Cleaning policy in at least 90% of the campus usable space.

c. Energy Management Program

UMass Lowell's Facilities Management Office has developed a very successful Energy Management program and policy that incorporates sustainability and energy efficiency into long-term planning, construction, as well as operations and management of campus facilities. The University incorporated the use of online energy intelligence software and sub-metering in order to attain energy data that is more useful and specific, enabling better energy management. UMass Lowell has a dedicated, full time Energy Manager responsible for overseeing the program. The Energy Management Office is responsible for:

- Compiling and maintaining energy usage data.
- Analyzing energy usage monthly to identify potential usage anomalies and work with Facilities Management and O&M personnel to mitigate causes.
- Identifying and implementing energy conservation and greenhouse gas (GHG) reduction projects through the Facilities Management Department. Promoting energy conservation and the use of renewable energy technologies in building renovation, new construction and operations.
- Studying the benefits and feasibility of potential energy policies and projects.
- Assessing effectiveness of implemented policies and projects.
- Recommending policies for purchase of energy commodities.
- Tracking and reporting progress toward the University's Climate Action Plan (CAP) goals and to meet the State's Lead by Example executive order requirements.
- Fostering the energy conservation culture by assisting other CAP subcommittees and by taking part in student education and outreach efforts.

The University has also adopted an Energy Conservation Policy that establishes guidelines for indoor space temperature management, indoor temperature guidelines, heating and cooling, holiday and weekend shutdowns, portable heaters, window air conditioners, excessive heat,

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computers, hot water, sustainable building construction and renovation, and electrical peak load curtailment.

The University has also incorporated Sustainability and green design guidelines into its HVAC, Plumbing and Electrical Design Standards. The Design Standards are a key consideration for each project undertaken and are incorporated into the design and specifications of the project to the extent possible.

d. Water Benchmarking Program

Water use data is tracked electronically on a quarterly basis using the web-based “Utility Tracker” software. The University conducted an initial benchmarking assessment of water use by building for the period 2009 and 2014. Water use data is evaluated quarterly for buildings that account for the majority of the campus’ consumption. The data is normalized per gross square foot and tracked back to 2009. The data is used to identify anomalies or offset conditions. In the future, the data may also be used to identify conservation opportunities and track progress with conservation efforts.

IV. Procedures

This policy commits UMass Lowell to follow these Sustainable Building O&M procedures:

a. Indoor Air Quality Management

Continue to implement the IAQ Management Program including:

- IAQ monitoring and web-based data management system
- Reporting system for IAQ complaints & action plans to resolve complaints

b. Green Cleaning

Continue to implement all procedures established in this Policy including:

- Purchase of sustainable products and equipment
- Standard operating procedures
- Safe handling & storage of chemicals
- Staff training
- Occupant feedback and continuous improvement
- Indoor chemical and pollutant source control
- Reporting and documentation

c. Energy Management Program

Continue to implement the Energy Management Program including:

- Follow Energy Conservation Policy and promote energy conservation in building renovation, new construction and operations.
- Follow HVAC, Plumbing and Electrical Design Standards.
- Compile, maintain and analyze energy data to identify opportunities to reduce energy consumption.
- Make recommendations for purchase of energy commodities.
- Identify opportunities to use renewable energy sources where possible.

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- Track and report progress toward Climate Action Plan (CAP) goals.

d. Water Use Benchmarking Program

Continue to implement the Water Use Benchmarking program including:

- Compile, maintain and analyze water use data quarterly.
- Follow the Plumbing and HVAC Design Standards.
- Identify opportunities to conserve water where possible.

V. Responsibility

The implementation of this policy is the responsibility of the Department of Facilities Management and the Office of Environmental and Emergency Management, with support from the Office of Sustainability.

Attachments

- UMass Lowell Green Cleaning Policy
- UMass Lowell Energy Policy

VI. Related Policies, Procedures and Announcements

- Strategic Plan 2011-2016
- MA Executive Order 484
- UMass Lowell Stormwater Management Policy
- HVAC, Plumbing & Electrical Design Standards