

TITLE: ENERGY CONSERVATION GUIDELINES

INTRODUCTION:

New York-Presbyterian's corporate energy policy describes core values and responsibilities for implementing the energy management program. Energy conservation and sourcing will be achieved in concert with NYP's environmental mission statement to create the safest and healthiest environment for patients, staff and community. This Energy Policy applies across the five main campuses: The Allen Hospital (AH), Columbia University Medical Center (CUMC), Weill Cornell Medical Center (WCMC), and Westchester Division (WD), New York Lower Manhattan (NYLM) and Royal Charter Properties.

New York Presbyterian Hospital's vision is to be among the top academic medical centers in the nation in clinical and service excellence, patient safety, research and education. Our Strategic Initiatives provide the roadmap to guide us in achieving this vision. They identify the primary areas on which we need to focus so that we can realize our goals and continue to do the very best for our patients and their families at all times. Our Strategic Initiatives support our ultimate goal: "We Put Patients First." This means that in everything we do, we must make patients our first priority and strive to provide them with the highest quality, safest, and most compassionate care and service.

We are focused on delivering world class Patient Outcomes, Patient Safety and Patient Experiences. We recognize that we are stewards of our environment and are responsible for being leaders in our use of resources because of our community health mission. We believe that proper management of resources can improve the Environment of Care and lead to positive impacts to Patient Outcomes, Patient Safety and Patient Experience.

We are an ENERGY STAR Partner who is committed to learning from and, where applicable, to teaching others to become better stewards. We believe that Energy Efficiency is the fastest, cheapest, and largest untapped solution for saving energy, saving money, and preventing greenhouse gas emissions that can have a negative impact on community health. We believe that ENERGY STAR tools and resources allow us to be better stewards and improve our efficiency in an integrated manner so that we are

able to focus our energy strategies on Putting Patients First, on improving community health, on our business imperatives and on our own caregivers.

PURPOSE:

The purpose of this energy policy is to establish the framework for acceptable protocols, practices and operational standards. The goal of this energy policy is to fully integrate with our Strategic Initiatives to further foster a culture of engagement by positively impacting the environment of care throughout its entire lifecycle. New York-Presbyterian's commitment to energy conservation begins with a vision to be the most efficient energy steward in the healthcare industry.

1. Institutional Responsibility:

Natural resources consumed to create energy have intrinsic societal value. NYP commits to employ best practices to continuously reduce energy use as outlined by EPA's ENERGY STAR Guidelines to Energy Management. Further, NYP seeks innovation, including the use of renewable sources, to use and supply energy in a manner that protects the environment and conserves natural resources.

2. Employee Expectations:

NYP shall maintain a comfortable environment for patients, staff and community. In return, NYP holds employees responsible for conserving energy in all aspects of their work. Examples include: turning off computers, monitors and lights when not in use; utilizing virtual meetings when appropriate; avoiding use of personal space heaters and fans; and properly managing Hospital equipment to minimize energy use. To achieve these goals, NYP will prepare, review and implement understandable and practical energy use guidelines.

3. Building Energy:

NYP seeks to further reduce energy costs and increase efficiency in new construction and renovation, as well as improving existing building operations, whenever feasible. New York-Presbyterian's various departments will collaborate to develop an integrated strategy to optimize energy supply and demand efficiency. The benefits resulting from energy optimization are both financial, including reduced operating costs, and non-financial,

including emissions reduction, minimization of waste and improved corporate citizenship. New building construction and renovations shall fully comply with the latest guidelines and standards of the “American Society of Heating, Refrigeration and Air Conditioning Engineers” (ASHRAE) and the “Illuminating Engineering Society” (IES) Standard 90.1, which identify the basic energy efficiency requirements for building envelope, HVAC (heating ventilation and air conditioning) systems and Hot Water systems. Adherence to this standard will ensure that energy efficient building systems are implemented at NYP.

4. Procurement:

Through NYP’s HERCULES initiative, equipment replacement and materials purchasing, NYP will promote reduced, efficient energy use and sustainable practices. NYP commits to purchase energy efficient appliances, computers, IT equipment, air conditioners, refrigerators, vending machines and other electronics. Energy efficiency will be a standard criterion in all RFPs and contracts. See the US EPA ENERGY STAR product lists:
<http://www.energystar.gov/>

5. Implementation and Administration:

The Office of Facilities Operations, Energy Programs and the Energy Efficiency Committee will sponsor the objectives and values of this policy and will establish enterprise-wide performance goals for reductions in energy use and cost. Working with NYP senior management and NYPgreen (Sustainability Council), these groups are responsible for, and will coordinate, corporate-wide initiatives to achieve the objectives of this policy, including developing an integrated strategy for optimization of energy supply and demand efficiency. The Energy Program will publish energy procedures and guidelines in support of this policy, establish energy use reduction goals, and report NYP’s progress toward achieving those goals. All NYP divisions are responsible for integrating the objectives and values of this policy into business practices.

The Office of Facilities Operations, the Energy Management Team, and Sustainability Officer will cooperate to continue and enhance communication of energy issues. NYP will strive to expand and improve education and outreach to provide opportunities for NYP employees to participate in energy conservation and sustainable practices.

The active and regular participation of the entire NYP community is essential to the success of this corporate energy policy. Individual managers, key delegates, department heads, and/or business managers are encouraged to assume responsibility to achieve the goals of NYP's energy policy specific to their respective units and areas.

PROGRAM GOALS:

1. Existing Buildings.
 - A. Operational. All buildings where New York Presbyterian has a staff or patient presence shall:
 - 1) Be tracked in ENERGY STAR Portfolio Manager and PlaNYC.
 - 2) Be candidates for retro or continuous commissioning.
 - 3) Take advantage of Green Teams, Patient Safety Fridays, and other engagement events to identify opportunities for improvement.
 - 4) Strive for ISO 50001 compliance.
 - B. Cultural. Our caregivers are our most important advantage. In recognition of this, our programs will be designed to:
 - 1) Engage our caregivers by demonstrating how our energy goals further our goal of always Putting Patients First.
 - 2) Giving our caregivers the tools necessary to identify and submit potential opportunities.
 - 3) Recognizing our Amazing People through celebrations of achievement.

- 4) Giving our caregivers tools and resources that will help them further their conservation goals and save money at home.
- C. Metrics. We will report our Energy Usage Index on the Facilities Portal Energy Dashboard and individual ENERGY STAR scores to Senior Leadership on a monthly basis.
<http://facilities.nyp.org/FinanceOperations/Energy/default.aspx>
2. Building and Space Renovation.
 - A. Will identify opportunities to improve energy efficiency during the design phase.
 - B. Will implement identified opportunities that meet program goals.
 - C. Will commission energy efficiency projects that are implemented.
 3. New Footprint Construction.
 - A. Shall participate in the US EPA “Designed to Earn ENERGY STAR” and “Target Finder” programs including application filing at: www.energystar.gov.
 - B. Shall exceed ASHRAE 90.1 by 10%.
 - C. Shall take advantage of applicable strategies from the ASHRAE/DOE Advanced Energy Design Guides.
 - D. Shall achieve a minimum of USGBC LEED Silver Certification in Healthcare.
 - E. Shall identify opportunities to improve energy efficiency during the design phase.
 - F. Shall implement identified opportunities that meet program goals.
 - G. Shall not value engineer identified opportunities that meet program goals solely on the basis of initial cost.

PROGRAM STRATEGIES

1. All building envelope components shall meet or exceed the minimum requirements prescribed in ASHRAE 90.1.
 - A. A cost proposal shall be submitted for achieving the applicable envelope component goal listed in the ASHRAE/DOE Advanced Energy Design Guide.
 - B. The effectiveness of the building envelope shall be verified by thermal imaging and carbon dioxide monitoring.
2. Lighting power density shall not exceed the minimum levels prescribed in ASHRAE 90.1 and lumen levels shall meet IESNA RP 29-6. Please refer to NYP's Lighting Guidelines.
 - A. Down lights, spotlights and decorative lighting shall use an LED source from an approved vendor.
 - B. Area lights shall use an F28T8, T5 or LED source from an approved vendor.
 - C. High bay lights shall be approved on a case by case basis.
 - D. Occupancy sensors and controls shall be incorporated.
3. Renewable Energy should be considered for all projects, this includes thin-film solar photovoltaic (PV), solar thermal, combined heat and power and wind. A life cycle cost analysis shall be performed for all new footprint projects that include first cost, potential grants/utility incentives, energy cost and maintenance/operational costs from both an ownership and power purchase agreement for third party ownership perspective.
4. Energy Modeling & Analysis: An energy analysis shall be submitted at the end of schematic design and design development and shall include the following:

- A. Narrative describing ASHRAE Cost Budget Building assumptions including schedules for thermostats, people, lighting miscellaneous/plug loads and HVAC equipment.
 - B. Narrative describing energy conservation opportunities evaluated along with first cost impact and life cycle cost analysis.
 - C. Modeling archive file used to model energy consumption.
5. Commissioning will be required for all projects including projects not pursuing LEED.
- A. Develop a commissioning plan, as outlined LEED version 3.0 Energy and Atmosphere credits EA-pr1: Fundamental Building System Commissioning and EA –c3: Enhanced Commissioning.
 - B. Commissioning is a systematic process ensuring all building systems perform interactively according to the design intent and the owner’s operational need.
 - C. Commissioning during this construction of this project is intended to achieve the following objectives: Quality, Value, Comfort, Energy Efficiency, Serviceability and Sustainability.
 - D. Refer to NYP’s Commissioning Plan
6. Retro-Commissioning will include identification of system operating, control, and maintenance issues; reduction of maintenance cost and equipment failures; reduction of energy cost and waste; documentation of building systems; training operating staff; and data for long term planning and maintenance budgeting.
- A. Level II ASHRAE Energy Audits shall be performed for all buildings on per NYC Local Law 87 requirements. Identified energy conservations measures will be evaluated and prioritized.
 - B. Data from utilities meters and monitoring systems as well as from building automation systems shall be reviewed in order to identify and correct issues.

PROCEDURE:

1. Energy Savings Guidelines

A. PURPOSE:

These Guidelines will help NYP employees play a role in promoting efficient, reduced energy use.

B. GUIDELINES:

- 1) Where individual controls are available on HVAC units, the Office of Facilities Operations will set thermostats according to the table below. During the winter heating season, where individual occupants can control temperature settings, thermostats should be set at 70°F during the day and should be set back to 60°F before the end of each business day and through the weekend. During the summer cooling season, temperatures should be set at 75°F during the day, turned off at the end of each business day, and set at 85°F over the weekend.
- 2) The Office of Facilities Operations will utilize the night setback features of the Building Management System (BMS) to set building heating season temperature to 60° at night and on weekends, except in research facilities.
- 3) The use of space heaters is NOT permitted in NYP facilities because they are grossly inefficient and may pose a significant fire hazard. **(Refer to Fire Safety Policy)** NYP employees who feel that their work environment is too cold should contact the Office of Facilities Operations. An exemption request will need to be submitted to the Office of Facilities Operations to evaluate conditioned space and approve or disapprove of radiant heater. Facilities Operations will need to review requests with NYP's Environmental Health and Safety and Regulatory Compliance units to evaluate individual concerns.
- 4) NYP employees are encouraged to engage in routine practices to reduce energy consumption. While administrative areas, laboratories, and other work areas must be adequately lit, lights that are not needed should be turned off. When rooms or buildings

- are unoccupied, lights not needed for safety and security purposes should be turned off.
- 5) Computers and other equipment should be set on energy saving settings, such as “sleep mode” and should be ENERGY STAR rated.
 - 6) Copiers that do not automatically turn off after a period of inactivity should be turned off at night and during the weekend.
 - 7) All persons using research equipment that requires water for cooling and other similar purposes should minimize water use, as possible, and shut off the water supply when equipment is not in use.
 - 8) The Office of Facilities Operations will work to reduce lighting levels in all corridors per New York City’s Energy Code. NYP will maintain adequate lighting for security and safety requirements and in line with NYP’s Lighting Guidelines.
 - 9) Water leaks and dripping faucets should be reported immediately to the Office of Facilities Operations for prompt repair.
 - 10) Windows should be firmly closed and locked to prevent leakage of conditioned air. Doors should be closed when rooms are not in use.
 - 11) Employees are encouraged to contact the Office of Facilities Operations at WCMC (212) 746-1920, CUMC (212) 305-5175, TAH (212) 932-5032, WD (917) 997-5701 regarding temperature control problems, lighting, and/or water leaks.
 - 12) Incandescent bulbs must be replaced with compact fluorescent light bulbs or equivalent LED sources.
 - 13) All plug-in devices, including chargers for mobile phones, PDA’s and other devices, should be unplugged when not in use.
 - 14) Be proactive and aware of energy waste. If you see energy inefficiencies around you, contact the Office of Facilities Operations or the Energy Program Manager to report the problem keb9039@nyp.org.

- 15) Help your colleagues to be energy efficient. Please visit the NYPGreen site on the Infonet, or speak to the Sustainability Officer or the 'Green Champion' in your unit. Obtain NYP's Green Workspace Certification for your department/unit.

2. Building Operations Standards

A. GUIDELINES:

- 1) Interior lighting shall be specified and deployed per the fixture selections, energy efficiency ratings, and lamp types defined in NYP's Lighting Guidelines. New energy saving fixtures, lamps and/or ballasts will be used to replace less efficient lighting whenever economically feasible. Lighting levels shall be designed and maintained per the Illuminating Engineering Society, 90.1 Standards.
- 2) Where feasible and cost effective, occupancy/motion sensors (ultrasonic/infrared) shall be installed to automatically reduce or turn off lights in unoccupied areas (i.e. administrative areas, individual offices, conference rooms, locker rooms, pantries, restrooms, etc.)
- 3) NYP shall establish energy efficiency standards for all IT equipment connected to NYP's IT network and energy distribution systems.
- 4) The Office of Facilities Operations shall assure that all equipment operates at peak efficiency levels and complies with energy consumption benchmarking targets.
- 5) The Office of Facilities Operations shall prepare regular energy audits and/or assessments of all NYP facilities to identify building use, performance and condition; and to identify energy conservation opportunities and facility improvement measures.
- 6) The Office of Facilities Operations shall prioritize facility infrastructure maintenance, repair, retro-commissioning, re-balancing, renovation and/or renewal to meet applicable standards.

- 7) The Office of Facilities Operations shall continue to sub-meter all utilities from consumption to production to distribution. Sub-metering data shall be collected, stored and reported as a tool for identifying potential energy savings projects, and to provide verification of projected energy savings. The Office of Facilities Operations shall install and maintain a metering system and information technology backbone capable of automatic recording of interval data for each utility.

RESPONSIBILITY:

Vice-President, Facilities Operations
Manager, Energy Programs

REFERENCES:

Where referenced below unless noted otherwise, the latest versions of the following standards shall be followed:

- a. ASHRAE 90.1. American Society of Heating Refrigeration and Air Conditioning Engineers Energy Efficiency Standard 90.1 for Non-Residential Buildings.
- b. LEED. Leadership in Environmental and Energy Efficient Design, Healthcare, Existing Building, New Construction and Core and Shell.
- c. International Performance Measurement & Verification Protocol (IPMVP) Volume III: Concepts and Options for Determining Energy Savings in New Construction.
- d. ASHRAE Guideline: The Commissioning Process.
- e. USGBC Treatment of District or Campus Thermal Energy in LEED V2 and LEED 2009 – Design and Construction.
- f. Department of Energy Design Guidelines for Small Hospitals, Large Hospitals and Office Buildings.
- g. Local Law 85: New York City Energy Conservation Code and Greener, Greater Buildings Plan; Local Law 84: Benchmarking Energy and Water Usage, Local Law 87: Energy Audits and Retro Commissioning and Local Law 88: Lighting Upgrades and Sub metering.
- h. NYP's Mechanical, Electrical, Plumbing Standards
- i. NYP's Lighting Guidelines
- j. NYP's Interior Guidelines

POLICY DATES:

Issued: April 2013