



Smithsonian
Institution

SMITHSONIAN DIRECTIVE 414,

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SI ENERGY MANAGEMENT PROGRAM & WATER SUPPLY EMERGENCY PLAN

SI Energy Management Program

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Part I, SI Energy Management Program

Background

The Office of Facilities Engineering & Operations (OFEO) plans, designs, constructs, operates, maintains, preserves, repairs, renovates and manages most SI owned facilities. These facilities range in age from new to nearly 150 years, of which several have been designated national historic landmarks.

The acquisition and management of energy is fundamental to the mission of the Institution and to providing a constant archival climate for Smithsonian programs and activities. This requires a program that ensures SI facilities are operating, maintaining and repairing components of the utility systems to attain optimum efficiency in energy use.

Purpose

This directive establishes basic Smithsonian energy management policy and assigns responsibility for administering a comprehensive energy management program. This directive combines into one document what was formally SD 414 and SD 415. The program includes all energy use and conservation techniques designed to meet the current and future energy needs of the Smithsonian Institution.

Scope

This directive applies to all Smithsonian units and to all facilities under the control of the Smithsonian Institution in the United States and international locations. There are no exceptions to the provisions of this directive, unless program requirements for disregarding this policy are validated through the review process provided in SD 410, Physical Plant Construction and Improvement Projects.

Definitions

Permanent Buildings are administered on a permanent basis and consist of museums, research facilities, storage and administrative buildings.

Temporary Buildings are non-permanent structures designed for easy erection, dismantling, moving and reuse.

Seasonal use buildings provide temporary needs on an intermittent seasonal basis.

Auxiliary Activities are museum shops, theaters, cafeterias, restaurants, etc. that incur energy costs on Smithsonian property.

**SI Energy
Management Policy**

The purpose of the Energy Management Program is to ensure that appropriate and adequate energy is available to all facilities, and ensure that the facilities are operated in the most efficient and cost-effective manner possible. Facilities included in this responsibility include permanent, temporary and seasonal buildings.

**SI Energy
Management Policy**
(continued)

Objectives of the Energy Management Program are:

- to promote the judicious and pragmatic use of energy procurement, utility management and the efficient use of energy transfer technology while minimizing expenditures
- to provide a secure, reliable, and affordable supply of energy while maintaining the objectives of a controlled, environment for research, museum collections and archival preservation

The Energy Management Program provides:

- structured and accountable energy management practices
- fiscal accountability for energy use and conservation projects
- efficient, collaborative mechanisms for purchasing and delivering energy
- a review of the impact on future utility budgets of planned design, engineering, and construction projects
- collaboration with OFEO engineers, when appropriate, to assist in providing alternative provisions to finance capital improvements, renovations and maintenance of mechanical equipment that demonstrate a positive cash flow on current and future Smithsonian energy costs

Responsibilities

The Director, Office of Facilities Engineering and Operations, is responsible for:

- developing long and short term programs to control energy use in the Smithsonian Institution
- establishing reporting procedures for all energy conservation projects
- developing an annual and long term budget planning effort to support efficient energy use and goals in conjunction with the Office of Planning, Management and Budget
- promoting research for the development of efficient energy strategies
- reporting periodically to the Secretary and Deputy Secretary on energy conservation goals, objectives, and accomplishments
- collecting reimbursement funds from auxiliary activities through the Resource Management Branch, OFEO

The Director, Office of Facilities Engineering and Operations and the Director, Office of Project Management are responsible for:

- keeping current on the development of energy-saving equipment, devices, and systems applicable to the Smithsonian's needs
- establishing long-range plans for conversion of inefficient and outmoded systems in Smithsonian-owned buildings and equipment
- developing designs that incorporate contingency planning to ease the impact of a sudden disruption in supplies of oil-based fuels, natural gas, or electricity

Responsibilities
(continued)

- establishing specific energy standards that will serve as guidelines for architects, engineers, curators, exhibit designers, and others who have a reason to alter lighting, temperature, or humidity levels in Smithsonian facilities
- incorporating energy conservation in all plans and projects subject to the review process in SD 410
- requiring that architectural/engineering firms conducting studies or developing plans for construction or alteration of facilities and utilities systems produce designs or recommendations that are the most energy efficient in HVAC, lighting, building envelope, and incorporate the use of renewable energy where possible

**The Director, Office of Facilities Reliability (OFR),
Energy Management Branch, is responsible for:**

- administering an SI-wide energy management program and water supply emergency program
- collecting and analyzing existing historical energy consumption use in a database
- anticipating changes in the availability and cost of energy sources
- developing contingency planning to ease the impact of a sudden disruption in supplies of fossil fuels, natural gas, or electricity
- tracking energy consumption using an electronic database
- revising and updating the policies of the SI Energy Management Program

Responsibilities
(Continued)

- purchasing energy in a deregulated market through GSA contracts or Defense fuel suppliers
- performing energy audits of all SI facilities every three years
- performing reviews of all SI construction and renovation projects in conjunction with the SD 410 process
- serving as the liaison with utility companies and federal agencies such as the Department of Energy
- determining that HVAC and lighting systems at SI facilities operate at optimum levels
- reviewing and implementing curtailment strategies for limiting energy use in summer and winter to reduce consumption and cost
- forecasting and projecting the utility budget on an annual basis

The Chief Executive Officer, Smithsonian Business Ventures (SBV) is responsible for:

- ensuring that business activities occupying Smithsonian space will cover all heating and cooling costs of their operations
- paying utility costs for SBV-operated concessions, museum shops, theaters and other Smithsonian activities that have utility cost and consumption on or within Smithsonian facilities
- recovering utility costs by real time metering or energy consumption calculations mutually agreed upon by the parties involved

Responsibilities
(continued)

- reviewing, in conjunction with the Deputy Secretary, failure by any SBV-operated activity to pay for its utility usage

Zone Managers are responsible for:

- establishing and conducting an energy conservation plan of action within their areas of jurisdiction, in conjunction with the OFR, Energy Management Branch
- acting as the lead energy conservers for their zones
- recognizing and rewarding energy conservation efforts in specific facilities under their authority that reduce energy costs due to energy-conscious decisions
- coordinating and monitoring the assigned areas for compliance with energy conservation practices

Part II, Water Supply Emergency Plan

Background

The Smithsonian Institution's largest concentration of facilities, including those located in the District of Columbia, Maryland, and Northern Virginia, are supplied water from the Potomac River Basin.

The Smithsonian Institution is a retail customer of the DC Water and Sewer Authority (WASA), Washington Suburban Sanitary Commission (WSSC), Fairfax County Water Authority, New York City Department of Environmental Protection, and the City of Front Royal, Virginia, and is dependent on regional water supplies.

The availability of water for the metropolitan Washington, DC area is determined by a combination of factors, including the amount of regional water reserves, as well as intergovernmental actions of the U.S. Army Corps of Engineers and the states of Maryland and Virginia.

Purpose

This directive establishes a SI Water Supply Emergency Plan designed to address the supply of water for Smithsonian facilities under emergency situations. This plan is consistent with the “draft” Water Supply Emergency Plan for the Washington metropolitan area.

Water Supply Emergency Plan

The purpose of the Water Supply Emergency Plan is to:

- provide a response to conditions announced by the Interstate Committee on the Potomac River Basin Cooperative and other advisory groups that regulate DC WASA, WSSC, Fairfax County Water Authority, or other retail suppliers of water to Smithsonian facilities.

**Water Supply
Emergency Plan**
(continued)

- outline reasonable and prudent procedures in the event of an interdiction or contamination of water supplies and advise responders on the chain of information available to the Institution and possible water resources available in the affected region.
 - coordinate appropriate responses with the Office of Safety and Environmental Management, Office of Protective Services, building managers, and zone liaisons when supplies of drinking water are threatened by internal or external contamination.
 - initiate wise water use policies and execute measures that reduce costs associated with water in Smithsonian facilities.
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Stages of Water Use

For purposes of water supply operations that respond to conditions announced by the Interstate Committee on the Potomac River Basin Cooperative, the following applies:

Normal Condition Status: Wise water use, general information, no alerts and routine reporting. SI will maintain normal water conservation techniques.

Voluntary Water Conservation Status:
Announcement of voluntary water conservation recommendations. SI will request staff to voluntarily conserve water resources.

Voluntary Water Restrictions Status: Announcement of voluntary water restrictions. SI will limit watering for vegetation and irrigation.

Mandatory Water Restrictions Status:
Announcements of mandatory water restrictions. SI will issue instructions to staff outlining areas to be addressed. OFR will be responsible for disseminating such instructions.

Responsibilities

As the office with primary knowledge of the water supply system, the Energy Management Branch, OFR, is the lead office in implementing the Institution's water supply emergency plan.

OFR, through zone managers and building managers, directs and manages the Smithsonian Water Supply Emergency Plan as follows:

- coordinates with the Metropolitan Washington Council of Governments, US Army Corps of Engineers, DC WASA, WSSC, Fairfax Water County Authority, Town of Front Royal Virginia and New York City Department of Environmental Protection on emergency procedures, metering, flow and feed capacity, and water quality for Smithsonian facilities
- maintains and updates contacts with water suppliers, determining resources and obtaining emergency plans as available
- informs building managers, zone managers, the Office of Protective Services, and the Office of Safety and Environmental Management of actions to be implemented in the event of an interdiction or contamination of water supplies and in accordance with conditions announced by the Interstate Committee on the Potomac River Basin Cooperative

CANCELLATION:
INQUIRIES:
RETENTION:

SD 414, May 21, 1992 and SD 415, October 9, 1980
Office of Facilities Engineering and Operations
Indefinite. Subject to review for currency 24 months from date of issue