



**ARMSTRONG  
PROCEDURAL  
REQUIREMENT (DPR)**

**Directive: DPR-8570.1-001, Baseline  
Effective Date: July 7, 2016  
Expiration Date: July 1, 2021**

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**SUBJECT:  
Energy and Water Conservation**

**RESPONSIBLE OFFICE:  
F / Facilities Engineering and Asset Management**

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## PREFACE

### P.1 Purpose

a. The purpose of this directive is to minimize the use of electricity, natural gas, and water. Conservation is required to address increasing utility costs and decreasing operating budgets, and reduce the associated budget risk to the Center's mission of flight research.

### P.2 Applicability

a. This directive is applicable to all facilities and employees at the Armstrong Flight Research Center (AFRC - herein referred to as the Center).

### P.3 Authority

- a. NPD 8500.1, NASA Environmental Management
- b. NPR 8553.1, NASA Environmental Management System
- c. NPR 8570.1, NASA Energy Management Program
- d. DPD 8570.1-001, Energy and Water Conservation Policy

### P.4 Applicable Documents and Forms

- a. DPL 8570.1-001, Energy and Water Conservation Plan
- b. AFRC 10117, Waiver Request and Authorization

### P.5 Measurement/Verification

- a. Compliance with this directive will be measured against annual reductions in Center energy and water intensity relative to Executive Order 13693 requirements.
- b. NASA Headquarters Environmental Management Division will verify compliance with this directive through energy and water performance data in the NASA Environmental Tracking System and triennial Environmental and Energy Functional Reviews.

### P.6 Cancellation

None.

  
\_\_\_\_\_  
Director for Mission Support

  
\_\_\_\_\_  
Date

## CHAPTER 1: RESPONSIBILITIES

### 1.1 Employees

1.1.1 Employees have the responsibility to:

- a. When available, purchase energy-consuming products/equipment that are Energy Star rated and/or designated by the Department of Energy-Federal Energy Management Program as energy efficient. Products/equipment should use one watt or less of energy when operating in standby mode.
- b. Remove office equipment (e.g., copiers, printers, scanners, faxes) from individual workspaces (contact the Armstrong Help Desk (x 6163) to schedule removals).
- c. Use shared multifunction devices located in designated areas.
- d. Remove kitchen appliances (e.g., refrigerators, microwaves, coffee pots, hot water makers, toasters, toaster ovens) from individual workspaces.
- e. Use shared (Energy Star rated) kitchen appliances located in designated break rooms.

NOTE: The Center Energy and Water Conservation Program (EWCP) Manager is authorized to replace old kitchen appliances with new Energy Star rated models.

- f. Remove space heaters and fans from individual workspaces.

NOTE: The Center EWCP Manager may approve individual (Energy Star rated) space heaters and/or fans where the HVAC (heating, ventilation, and air conditioning) system cannot eliminate areas that are significantly warmer or colder than approved temperatures. Requests shall be submitted to the EWCP Manager via email. Approved heaters/fans will be tagged for identification.

- g. Shut off desktop IT peripherals (i.e., monitors and speakers, but NOT the computers themselves) over nights, off Fridays, weekends, and holidays.
- h. Shut off lights and other energy-consuming equipment in your work area when not in use.

### 1.2 Center Director

1.2.1 The Center Director has the responsibility to:

- a. Guide energy and water conservation efforts through an annual review of the Center's Environmental Management System.

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- b. Ensure the Energy and Water Conservation Program is adequately staffed and funded.
- c. Appoint the Center Energy and Water Conservation Program Manager.
- d. Appoint the Center Sustainability Officer.
- e. Approve the Center Energy and Water Conservation Plan for submission to NASA Headquarters.

### **1.3 Executive Leadership Team**

1.3.1 The Executive Leadership Team has the responsibility to:

- a. Resolve mission and organizational conflicts with energy and water conservation requirements.

### **1.4 Director for Mission Support**

1.4.1 The Director for Mission Support has the responsibility to:

- a. Provide program oversight.
- b. Identify Center funding for energy and water conservation measures.

### **1.5 Center Sustainability Officer**

1.5.1 The Center Sustainability Officer has the responsibility to:

- a. Seek Agency support and funding for energy and water conservation measures that enable the Center to conduct its mission in a more sustainable manner.

NOTE: Sustainable actions enable the Center to use fiscal resources more efficiently, reduce its impact on the natural environment, and improve the work environment to foster greater employee productivity.

### **1.6 Center Energy and Water Conservation Program Manager**

1.6.1 The Center Energy and Water Conservation Program Manager has the responsibility to:

- a. Develop and implement energy and water conservation policy, plans, and initiatives to meet the requirements of Congress, the President, and NASA.
- b. Enforce the Center energy and water conservation policy (DPD 8570.1-001).

- c. Prepare and update (every 2 years) the Center Energy and Water Conservation Plan (DPL 8570.1-001).
- d. Communicate energy and water conservation requirements and compliance status with Center management and staff.
- e. Communicate energy and water conservation training opportunities with Center management and staff.
- f. Ensure periodic assessment of Center facilities to identify energy and water conservation measures.
- g. Advocate funding to implement energy and water conservation measures.
- h. Work with Facility Managers and building occupants to identify and implement energy and water conservation measures.
- i. Ensure energy and water conservation requirements are captured in facility construction, modification, and repair projects.
- j. Enter, track, and trend energy and water performance data in the NASA Environmental Tracking System.
- k. Serve as the Center member of the NASA Energy Efficiency Panel.
- l. Prepare documentation for the Acquisition Management Office (Code A) to establish utility supply agreements for electricity, natural gas, potable water, and waste water treatment.

## **1.7 Facility Review Board**

1.7.1 The Facility Review Board has the responsibility to:

- a. Ensure building and infrastructure projects enable progress toward energy and water conservation requirements and sustainability goals.
- b. Prioritize the demolition of older, high maintenance, high energy intensity facilities, consistent with the Center's mission requirements.

## **1.8 Energy Efficiency Team**

1.8.1 The Energy Efficiency Team has the responsibility to:

- a. Identify energy and water conservation measures that will be implemented or maintained over the next 10 years.

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- b. Conduct outreach to foster employee involvement in identifying and implementing energy and water conservation measures.
- c. Plan and execute activities and events that provide employees an opportunity to participate in sustainable events (e.g., Earth Day, electronic waste turn-in, household hazardous waste turn-in).
- d. Track the Center's performance against the NASA Strategic Sustainability Performance Plan goals

NOTE: The Energy Efficiency Team accomplishes its responsibilities through the Maintenance and Electricity Savings Team and the Center Sustainability Team.

## **1.9 Office of Facilities Engineering and Asset Management (Code F)**

1.9.1 The Office of Facilities Engineering and Asset Management has the responsibility to:

- a. Advocate and implement Construction of Facilities projects that increase the sustainability of selected Center facilities and demolish older, high maintenance, high energy intensity facilities.
- b. Optimize the performance of existing HVAC systems by recommissioning equipment and upgrading controls.
- c. Coordinate energy and water conservation projects with the Facilities Configuration Control Board.
- d. Ensure energy and water conservation projects are properly staffed and executed.
- e. Ensure the energy and water conservation requirements in the Facility O&M contract Performance Work Statement are implemented.
- f. Review and approve utility bills for payment to verify the charges are appropriate.

## **1.10 Facility Operations and Maintenance Contractor**

1.10.1 The Facility Operations and Maintenance (O&M) Contractor has the responsibility to:

- a. Set HVAC thermostats to maintain temperatures no higher than 68 °F in the winter and no lower than 78 °F in the summer.

NOTE: Specialized areas (e.g., computer data centers) with temperature requirements documented in an industry or Agency standard may be exempted from

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this requirement. Email the exemption request, with the documented standard, to the EWCP Manager.

b. Program HVAC systems to shut down from 5:00 PM weeknights to 5:00 AM weekdays and remain off during weekends, off Fridays, and holidays (IT services are available at all times for teleworking employees).

NOTE: This requirement may be waived to allow use of specific areas for mission-critical requirements that can only be met after hours or on a weekend, off Friday, or holiday. Form AFRC 10117, Waiver Request and Authorization, shall be signed in the "AUTHORIZED BY" block by the Executive Leadership Team member in your organizational chain. Submit the completed form (including facility support requirements) to the Lead Facility Operations Specialist (Code F) no less than three working days prior to the required support day. Copy the AFRC 10117 submission to the EWCP Manager.

c. Optimize chiller system set points for energy efficiency in the energy management control system (Siemens Insight<sup>®</sup>).

d. Minimize energy and water use through the timely performance of facility/equipment maintenance and repair requirements.

e. Repair or replace failed equipment/components with products that comply with Federal guidelines for energy and water efficiency.

f. Develop and implement the facility O&M Energy Efficiency and Sustainability Best Practices Plan as required by the contract Performance Work Statement.

## **1.11 Facility Managers**

1.11.1 Facility Managers have the responsibility to:

a. Work with the EWCP Manager to identify and implement energy and water conservation measures in your building(s).

## **Appendix A: Definitions**

**Energy Efficiency Panel.** An Agency-level forum that supports development of Agency energy efficiency policy and leadership strategy; recommends energy efficiency and conservation initiatives; supports Center Directors in implementing NASA energy efficiency and conservation policies through shared innovations and use of Energy Savings Performance Contracts, Utility Energy Services Contracts, Enhanced Use Leasing, and other alternative financing; develops consensus positions on energy efficiency and conservation priorities, practices, and issues across Agency and Mission Directorate activities; and sponsors or conducts studies and assessments of energy efficiency and conservation issues affecting NASA Programs and activities.

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Environmental and Energy Functional Review. Headquarters Environmental Management Division's analysis of a Center's compliance with environmental, energy, and water requirements and the management systems in place to ensure that risks are identified and mitigated.

NASA Environmental Tracking System. A NASA developed, internet accessible database designed to meet reporting requirements of the Office of Management and Budget and other agencies. Centers enter energy and water use data and report progress against established metrics for energy and water conservation and use of renewable energy.

Sustainable Facility. A facility that is designed, constructed, operated, and ultimately deconstructed and reused in a manner that minimizes its life-cycle cost, minimizes its impact on the natural environment, and maximizes the productivity of the employee work environment.

### **Appendix B: Reference Documents**

- a. Energy Independence and Security Act of 2007
- b. Energy Policy Act of 2005
- c. National Energy Conservation Policy Act of 2005
- d. EO 13693, Planning for Federal Sustainability in the Next Decade
- e. Office of Management and Budget Memorandum M-12-12 Section 3: Reduce the Footprint

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- New Document