

November 30, 2001

Mr. Rick Klimkos
Federal Energy Management Program, EE-90
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585-0121

Dear Mr. Klimkos:

I am responding to a memorandum from Beth Shearer, Director, Federal Energy Management Program, Office of Energy Efficiency and Renewable Energy, regarding "Reporting Guidance for FY 2001 Annual Report on Federal Government Energy Management and Conservation Programs." Enclosed you will find the Nuclear Regulatory Commission's (NRC) FY 2001 Annual Report on Federal Government Energy Management and Conservation Programs (Enclosure 1), the Annual Energy Management Data Report (Enclosure 2), and the FY 2002 Energy Management Implementation Plan (Enclosure 3). In accordance with your instructions to Ken McDow of my staff, the FY 2001 Energy Scorecard will not be submitted until we receive the amended form and reporting requirements which are being developed by the Office of Management and Budget.

If any additional information is needed regarding this submission, please contact Mr. Ken McDow, Facilities Branch, on (301) 415-1712.

Sincerely,

/RA/

Patricia G. Norry
Deputy Executive Director
for Management Services

Enclosures: As stated

cc: Mr. Robert Sandoli, OMB

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Enclosure 1

FY 2001 ANNUAL REPORT ON FEDERAL GOVERNMENT ENERGY MANAGEMENT AND CONSERVATION PROGRAMS

I. MANAGEMENT AND ADMINISTRATION

A. Energy Management Infrastructure

1. Senior Agency Official

Patricia G. Norry, Deputy Executive Director for Management Services, serves as the Senior Energy Official. Mrs. Norry's responsibilities consist of developing policies and procedures for the implementation of Executive Order (E.O.) 13123.

2. Agency Energy Team

An agency energy team was established in FY 2000 consisting of procurement, legal, budget, management, and technical representatives. The team is responsible for expediting and encouraging the Nuclear Regulatory Commission's use of appropriations, Energy-Savings Performance Contracts, and other alternative financing mechanisms necessary to meet the goals and requirements of the E.O. Members of the energy team are as follows:

NAME	OFFICE	RESPONSIBILITY
Thomas Martin	Office of Administration	Management/Technical
Louis Fisher	Office of Administration	Management/Technical
Kenneth McDow	Office of Administration	Management/Technical
William Foster	Office of Administration	Budget
Stephen Pool	Office of Administration	Procurement
James Leuhman	Office of Enforcement	Technical
Ed Williamson	Office of the General Counsel	Legal
John Voglewede	Office of the Chief Information Management Officer	
Larry Pittiglio	Office of Nuclear Material Safety and Safeguards	Technical/Union Representative

B. Management Tools

1. Awards

The Agency's award program will be used to reward exceptional performance in implementing the E.O.

2. Performance Evaluation

Performance plans and evaluations for the Senior Energy Official take into account programmatic responsibility for implementation of the E.O. Position descriptions and performance evaluations for the Facilities/Energy Managers incorporate appropriate provisions for implementation of the E.O. Members of

the energy team who are not Facilities/Energy Managers are serving in an advisory capacity. Therefore, their position descriptions and performance evaluations do not include such provisions. Each member of the team is familiar with the requirements of the E.O. The collective knowledge and expertise of these individuals is helping to ensure successful implementation of the E.O.

3. Training and Education

Members of the energy team attended the Department of Energy's (DOE) Interagency Task Force meetings. A staff member attended the DOE 2001 Energy Efficiency Workshop and Exposition.

4. Showcase Facilities

NRC did not designate any buildings as Showcase Facilities.

II. ENERGY EFFICIENCY PERFORMANCE

A. Energy Reduction Performance

1. Standard Buildings

OWFN gross square footage (GSF) has remained constant at 332,916 since base year FY 1989, the first year of full occupancy. Btu/GSF is as follows:

<u>Base Year (FY 1989)</u>	<u>FY 2000</u>	<u>FY 2001</u>
120,150 Btu/GSF	120,930 Btu/GSF	119,960 Btu/GSF
total kwh: 11,722,807	total kwh: 11,799,649	total kwh: 11,695,841

The Btu/GSF consumption of base year FY 1989 compared to FY 2001 represents a .16 percent decrease.

TWFN gross square footage (GSF) has remained constant at 440,400 since base year FY 1996, the first year of full occupancy. Btu/GSF is as follows:

<u>Base Year (FY 1996)</u>	<u>FY 2000</u>	<u>FY 2001</u>
106,130 Btu/GSF	105,199 Btu/GSF	106,872 Btu/GSF
total kwh: 13,686,249	total kwh: 13,565,046	total kwh: 13,822,560

The Btu/GSF consumption of base year FY 1996 compared to FY 2001 represents a .69 percent increase.

2. Industrial and Laboratory Facilities

NRC is not responsible for energy management programs at industrial and laboratory facilities.

3. Exempt Facilities

NRC is responsible for implementing the E.O. to reduce energy consumption at the OWFN and TWFN buildings. Part 7, Section 704, of the E.O. defines exempt facilities as those in which compliance with the Energy Policy Act or the E.O. is not practical. OWFN and TWFN are not exempt facilities.

4. Tactical Vehicle and Equipment Fuel Use

NRC has no tactical vehicles and equipment in its motor pool fleet.

B. Renewable Energy

1. Self-Generated Renewable Energy

There was no self-generated renewable energy (photovoltaic, winds, solar thermal, geothermal) used at OWFN or TWFN. Energy audits conducted in FY 2000 concluded that self-generated renewable energy production at OWFN and TWFN is not economically feasible.

2. Purchased Renewable Energy

No renewable energy component was purchased under competitive contract. Renewable energy is not commercially available.

3. Million Solar Roofs

No solar roofs were installed.

C. Petroleum

OWFN and TWFN do not use petroleum based fuel.

D. Water Conservation

The following FY 2001 water consumption and cost was obtained from the Washington Suburban Sanitary Commission usage:

<u>Building</u>	<u>Consumption</u>	<u>Cost</u>
OWFN	8,670,000 gals.	\$57,800
TWFN	11,611,000 gals.	\$75,165

III. IMPLEMENTATION STRATEGIES

A. Life-Cycle Cost Analysis

In FY 2000, preliminary energy audits were conducted at OWFN and TWFN to identify potential energy conservation projects. A simple payback analysis was performed to determine if proposed projects warranted further consideration. In

FY 2002, NRC plans to conduct comprehensive, investment grade energy audits to identify energy conservation projects. To determine which proposed projects

are most cost effective, NRC will ensure that the following DOE approved life-cycle analytical software tools are used during the comprehensive audit:

- The Building Life-Cycle Cost Program
- The Facility Energy Decision System
- The Lighting Technology Screening Matrix

B. Facility Energy Audits

In FY 2001, one preliminary energy audit was conducted at OWFN. Comprehensive energy audits for OWFN and TWFN are planned for FY 2002.

C. Financing Mechanisms

In FY 2000, NRC entered into an Interagency Agreement and Memorandum of Understanding with DOE to facilitate the award of a Super-Energy Savings Performance Contract (SESPC). DOE's Mid-Atlantic Region contractor, Environmental Resources, Inc. (ERI), conducted a preliminary energy audit at OWFN, a Federal building, to identify potential energy conservation measures (ECMs). The E.O. prohibits leased buildings from participating in the SESPC program. Therefore, TWFN, a leased building, was excluded from the preliminary audit. ERI identified the following ECMs at OWFN as potential financible projects:

- energy management system upgrade
- lighting upgrade
- plug load management
- water saving toilets
- solar window film

DOE regulations do not permit implementation of water conservation projects under the SESPC program. Therefore, the water savings toilets were deleted from ERI's proposal. The financial analysis of the remaining projects resulted in a 20-year maximum finance term and a negative cash flow each year, making them not self-funding.

ERI was asked to prepare a financial proposal for the lighting upgrade and the plug load management ECMs. The financial analysis of the projects resulted in an 18-year finance term. This long payoff for such a small project was not acceptable to the NRC. Therefore, the Interagency Agreement and Memorandum of Understanding were canceled.

In FY 2001, PEPCO Energy Services, Inc., the GSA Area-Wide Utility Energy Services contractor conducted a preliminary energy audit at TWFN, a leased building, to identify potential ECMs. PEPCO identified the following ECMs as potential financible projects:

-5-

- variable frequency drives on cooling towers
- power improvement devices on motors
- lighting upgrade
- occupancy sensors
- water saving toilets

NRC's FY 2002 strategy is to authorize PEPCO to perform comprehensive energy audits of OWFN and TWFN and implement self-funding projects after the General Services Administration (GSA) and PEPCO finalize the terms and conditions of the GSA area wide utility contract.

D. ENERGY STAR and Other Energy-Efficient Products

NRC is not responsible for the construction of buildings. However, all specifications for renovation projects performed by NRC are developed to ensure that, when applicable, energy efficient equipment and systems are incorporated into the renovation design. Additionally, the building operation and maintenance contract specifications for OWFN and TWFN have been updated to ensure that all building support replacement products and components are energy efficient. The NRC's Affirmative Procurement Program for Recovered Materials provides Internet links to on-line training for Federal purchase card users on ENERGY STAR acquisitions and other energy efficient products.

E. ENERGY STAR Buildings

OWFN and TWFN have not met the ENERGY STAR building criteria.

F. Sustainable Building Design

NRC is not responsible for the design or construction of Federal facilities.

G. Energy Efficiency in Lease Provisions

NRC is not responsible for the formulation or negotiation of leases. GSA serves as the leasing agent for all NRC facilities. However, prior to the execution of new leases, renegotiations, or extension of existing leases, NRC will request the opportunity to review all proposed lease documents to ensure that they are in compliance with the Model Lease Provision of the E.O.

H. Industrial Facility Efficiency Improvements

NRC does not occupy any industrial facilities.

I. Highly Efficient Systems

No combined cooling, heating, and power systems were installed. The unavailability of cost effective technology precludes NRC from implementing this energy conservation strategy. Biomass, geothermal, and other natural energy sources are not available.

J. Off-Grid Generation

No off-grid generation systems were installed. Off-grid generation systems such as solar hot water, solar electric, small wind turbines, and fuel cells were

evaluated during a preliminary energy audit and considered economically unfeasible.

K. Electrical Load Reduction Measures

NRC will continue to participate in the PEPCO Load Curtailment Program. During high demand periods, NRC, at the request of PEPCO, reduces its energy load by securing non-critical building support equipment. Additionally, an employee awareness program is in place which encourages employees to secure extraneous appliances at work stations during high demand periods.

L. Water Conservation

In FY 2001, no activities were undertaken to improve water efficiency. In FY 2002, NRC will consider installing water saving toilets, as recommended in DOE's Water Management Plans and Best Management Practices.

EXECUTIVE ORDER 13123 IMPLEMENTATION PLAN FOR FY 2002
ENERGY MANAGEMENT INFRASTRUCTURE

I. MANAGEMENT AND ADMINISTRATION

A. Energy Management Infrastructure

1. Senior Agency Official

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2. Agency Energy Team

An agency energy team was established in FY 2000 consisting of procurement, legal, budget, management, and technical representatives. As required in E.O. 13123, the team is responsible for expediting and encouraging the Nuclear Regulatory Commission's use of appropriations, Energy-Savings Performance contracts, and other alternative financing mechanisms necessary to meet the goals and requirements of the E.O.

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James Leuhman	Office of Enforcement	Technical
Ed Williamson	Office of the General Counsel	Legal
John Voglewede	Office of the Chief Information Officer	Management
Larry Pittiglio	Office of Nuclear Material Safety and Safeguards	Technical/Union Representative

B. Management Tools

1. Awards (Employee Incentive Program)

Performance awards will be used to reward exceptional performance in implementing the E.O.

2. Performance Evaluation

Performance evaluation plans for facility managers include a performance element for the successful implementation of provisions of the E.O.

3. Training and Education

Facility managers responsible for the implementation of the E.O. will participate in training conducted and sponsored by the Department of Energy's Federal Energy Management Program (FEMP) and the Interagency Energy Management Task Force. The NRC will continue to implement its Affirmative Procurement Program for Recovered Materials. The program, sponsored by the Federal Acquisition Institute, provides Internet links to on-line training for Federal purchase card users on "ENERGY STAR" acquisitions and other energy efficient products.

4. Showcase Facilities

NRC is not responsible for the construction of Federal buildings and no renovations are planned for our facilities.

NRC plans to utilize the General Services Administration (GSA) Area-Wide Utility Service Contract to evaluate potential energy conservation projects. GSA's contractor, PEPCO Energy Services (PEPCO), will conduct a comprehensive audit of TWFN to further evaluate recommendations which were made by PEPCO during a preliminary audit in FY 2001. The recommendations were to install variable drives on cooling tower motors and power improvement devices on pump motors and air handler unit motors. Upon completion of the comprehensive audit, NRC will evaluate PEPCO's proposal to determine the economic feasibility of implementing their recommendations. NRC also plans to use PEPCO in FY 2002 to conduct a preliminary and comprehensive audit of OWFN to identify potential energy conservation projects.

The following energy conservation projects are presently underway and scheduled for completion in FY 2002:

TWFN:

Replace the existing light fixtures in the garage and stairwells with energy efficient fixtures equipped with T-8 tubes and electronic ballasts.

Replace existing fluorescent exit signs with energy efficient LED exit signs.

Install motion sensors to control lighting in private offices, copy rooms, conference rooms, restrooms, coffee stations, and vending rooms.

Install plug load management devices in workstations to control task lights, computer monitors, printers, and small desktop appliances.

OWFN:

Install motion sensors to control lights in private offices and employee lounges.

Install plug load management devices in workstations to control task lights, computer monitors, printers, and small desktop appliances.

Upon completion of these projects, an evaluation of the energy efficiency of the buildings will be conducted to determine if they qualify for ENERGY STAR building certification. If OWFN or TWFN obtains the ENERGY STAR building

certification, NRC will request DOE to designate the building(s) as a showcase facility.

II. IMPLEMENTATION STRATEGIES

A. Life-Cycle Cost Analysis

NRC will conduct comprehensive, investment grade energy audits to identify energy conservation projects. To determine which proposed projects are most cost effective, NRC will ensure that the following DOE approved life-cycle analytical software tools are used during the comprehensive audits:

- The Building Life-Cycle Cost Program
- The Facility Energy Decision System
- The Lighting Technology Screening Matrix

B. Facility Energy Audits

The OWFN and TWFN building will be audited for energy and water efficiency. This represents 100 percent of NRC facilities which require energy audits.

C. Financing Mechanisms

NRC plans to implement energy conservation projects using the GSA Area-Wide Utility Energy Services Contract.

D. ENERGY STAR and Other Energy-Efficient Products

NRC will continue to implement its Affirmative Procurement Program for Recovered Materials, which promotes the acquisition of ENERGY STAR and other energy efficient products. Specifications for renovation projects will include requirements, when applicable, to ensure the installation of energy efficient equipment, systems, and products.

E. ENERGY STAR Buildings

Upon completion of energy conservation projects identified in 1.B.4 which are expected to be completed in FY 2002, NRC will measure the energy consumption performance of OWFN and TWFN to determine if the facilities meet the ENERGY STAR criteria.

F. Sustainable Building Design

NRC is not responsible for the design or construction of buildings.

G. Energy Efficiency in Lease Provisions

NRC is not responsible for the formulation or negotiation of leases. GSA serves as the leasing agent for all NRC facilities. However, prior to the execution of new leases, renegotiations, or extension of existing leases, NRC will request the opportunity to review all proposed lease documents to ensure that they are in compliance with the Model Lease Provision of the E.O.

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